



# MQS Interconnection for the Automotive Industry

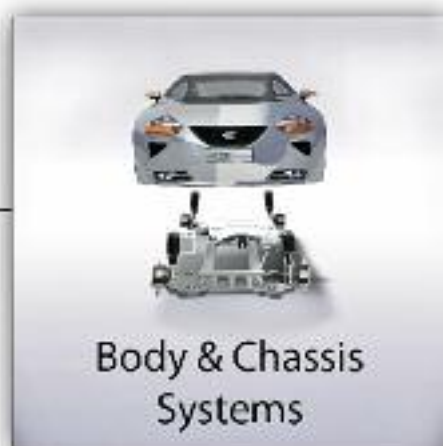




Powertrain  
Systems

## THE 5 APPLICATION AREAS

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## INNOVATIVE TECHNOLOGIES

***TE Automotive – a business segment of TE Connectivity – follows the globalization goals of our customers, speeds up the integration of new technologies and enables our customers access to our vast product portfolio and services.***

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### TERMINALS & CONNECTORS



TE Automotive offers a broad range of high quality terminals and connectors. Our electrical/electronic interconnection products and solutions are used to electrically and mechanically join wires and cables, printed circuit boards, integrated circuit packages and batteries. TE Automotive expanding capabilities include new copper and fiber-optic connectors, wires, cables/cable management systems that are designed to meet automotive industry demands. Our brands encompass the broadest range of connectors in the world, including high-density, high-speed designs for leading-edge communications equipment.

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### HYBRID & ELECTRIC MOBILITY SOLUTIONS



Complete the connections you need to safely, and reliably make hybrid and electric mobility a reality for everyone, everyday. With over 50 years experience in automotive, industrial and energy connectivity, TE is an expert in pushing innovation from one industry to the next. Our portfolio of AMP+ high voltage relays, resistors, AMP+ headers, connectors, IPT/APT and cable assemblies and vehicle charging solutions are designed to connect and protect electric distribution inside and outside of the vehicle.

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### CABLE ASSEMBLY SYSTEMS



TE Automotive is your partner for special cable assemblies. We offer research and development capabilities, prototyping, samples as well as manufacturing facilities for special cable assemblies. This includes overmold technology, semi/fully automatic manufacturing, testing equipment and appliances for handling of high volume production.

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## SENSORS



Contact-less measuring eliminates interference effects, wear and tear, and provides increased reliability. TE Automotive, one of the largest technology providers for the automobile industry, offers contact-less sensors for a variety of applications.

As sensor manufacturer and processing partner, TE Automotive also provides project planning support for new sensor applications, assistance in the selection of the appropriate sensor technology for the respective application, and assistance with defining the corresponding mechanical, electrical and magnetic interface.

TE Automotive has a broad electro-mechanical portfolio that includes robust housing technologies, connector systems, and temperature stable designs based on foil and cable networks. This combination of technologies and experience ensures that reliable and cost effective sensor solutions are available for all application types.

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## INFOTAINMENT



TE Automotive is focused on providing the best in class infotainment technology to support high speed data communication in the automotive industry. Data communication based optical, coaxial as well as shielded electrical physical layers are supported by a wide product portfolio of Automotive grade connector systems.

Through a deep understanding of the technical properties and requirements of signal integrity and combined with our application knowledge both in the vehicle as well as in the logistics chain, TE Automotive is well positioned to offer the right solution for all current and next generation Infotainment Systems.

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## INDUCTIVE COIL SYSTEMS



TE Automotive is your source for interconnection technologies for automotive, truck and off-highway OEMs and Tier 1 suppliers. With our global design center in Belgium and manufacturing sites in all regions, TE Automotive's Inductive Coil Systems (ICS) group is ready to design your next-generation coil modules and provide local production support.

The ICS group maintains a leading market position in braking modules and other automotive coil applications. Through early involvement with you on your next design, TE Automotive can offer the benefits of miniaturization, design-in of platform components and optimized process flow for your standard, hybrid and electric vehicle project needs.

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## TE Automotive Online

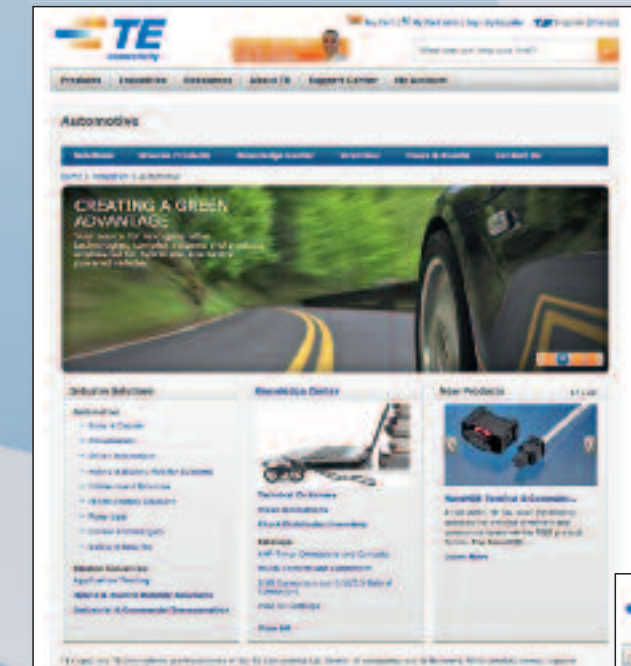
The TE Automotive website is an innovative and interactive source for application information, product updates and technical solutions.

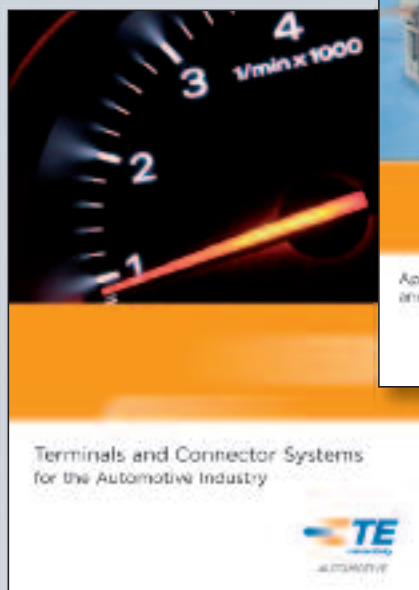
Please contact us at:

[www.te.com/automotive](http://www.te.com/automotive)

## TE Products

[www.te.com/en/products/product-landing.html](http://www.te.com/en/products/product-landing.html)





## Product and Machine Literature

TE Automotive offers a variety of product specific catalogs, brochures and high impact flyers to help better serve you!

For more information on literature for TE Automotive, please contact your local organization or go to [www.te.com/automotive](http://www.te.com/automotive)

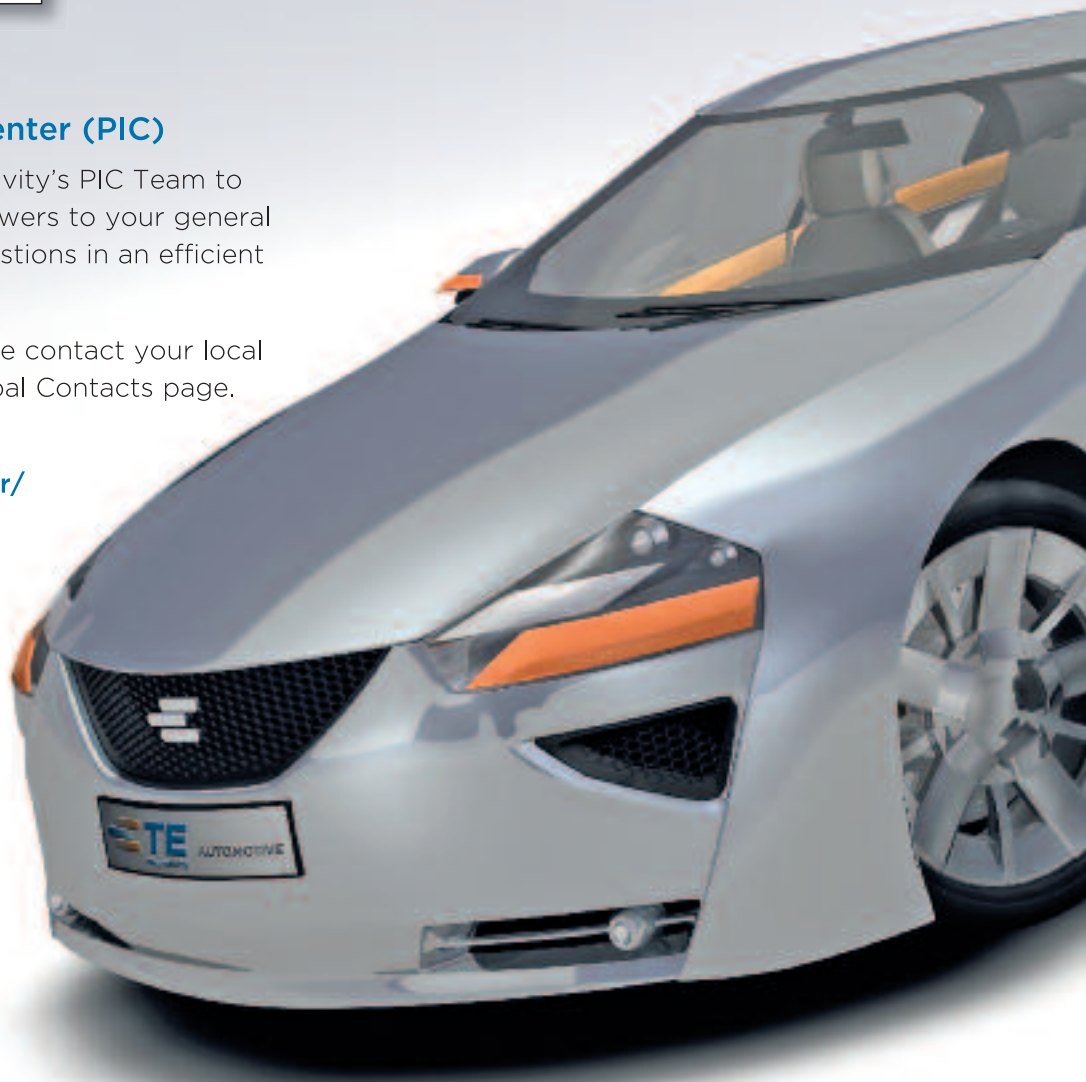
## Product Information Center (PIC)

You can rely on TE Connectivity's PIC Team to provide you support for answers to your general information or technical questions in an efficient and effective manner.

To reach our PIC staff, please contact your local organization or see our Global Contacts page.

Please contact us at:

[www.te.com/support-center/](http://www.te.com/support-center/)



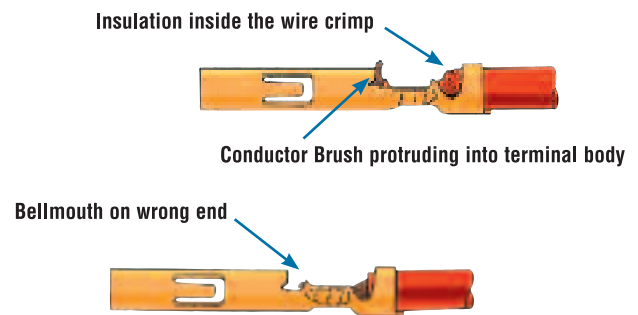
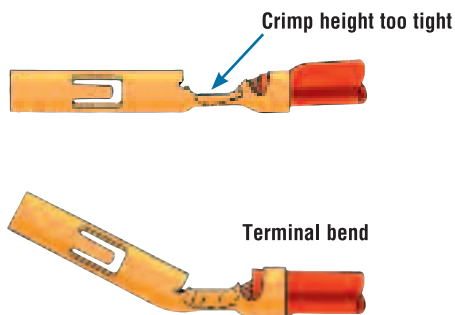
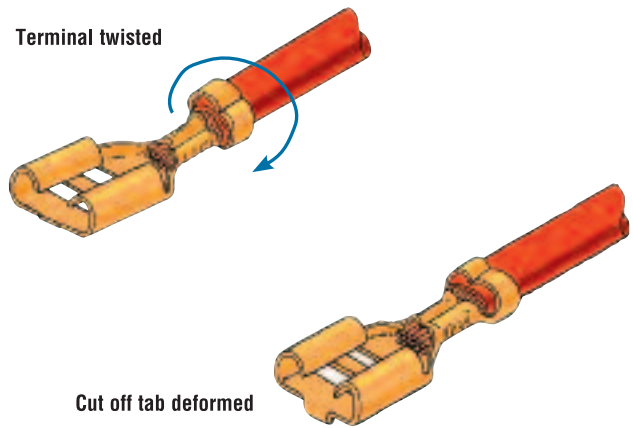
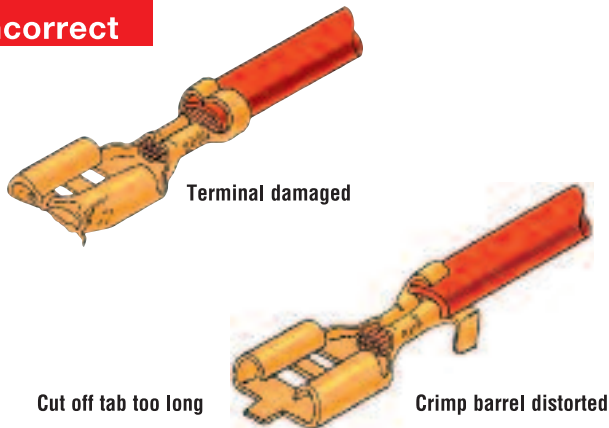
[www.te.com](http://www.te.com)

[www.te.com/automotive](http://www.te.com/automotive)

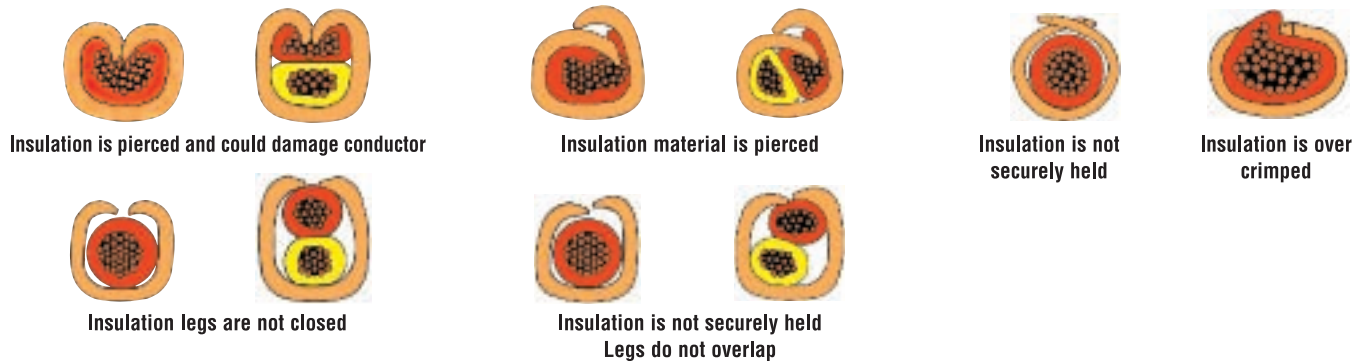
[www.te.com/automotive/most](http://www.te.com/automotive/most)

Quality Guidelines

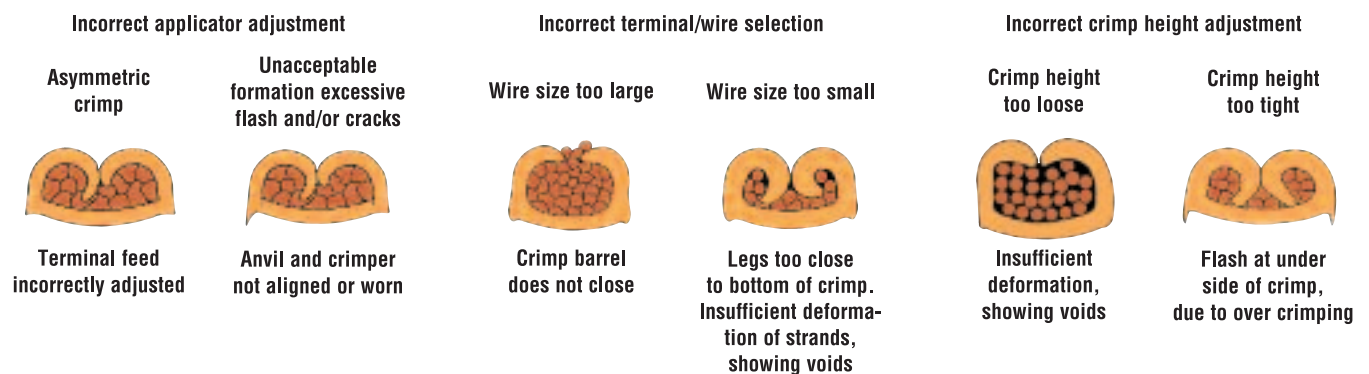
**Incorrect**



**INSULATION CRIMP**



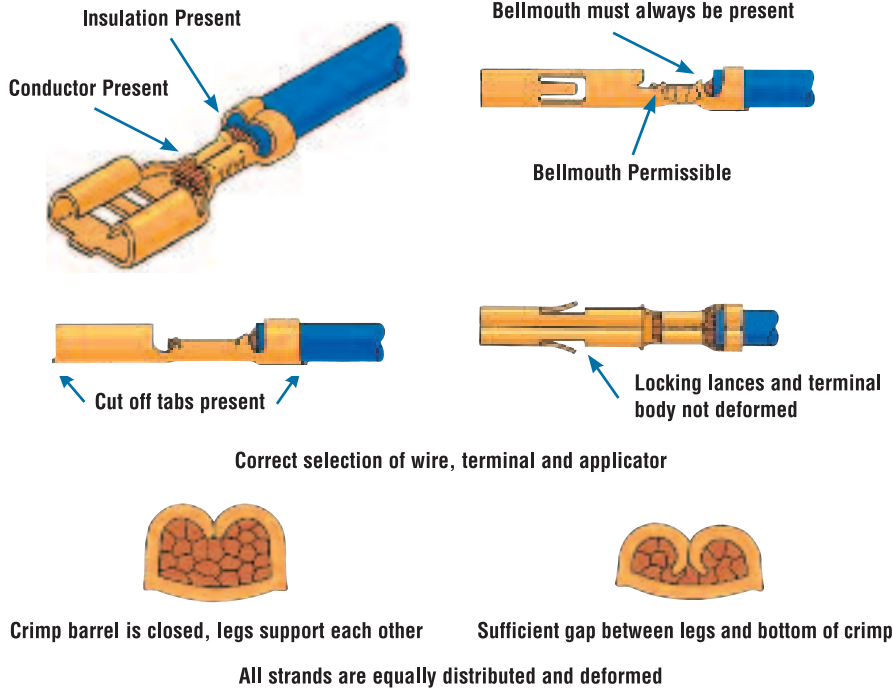
**WIRE CRIMP**



Quality Guidelines

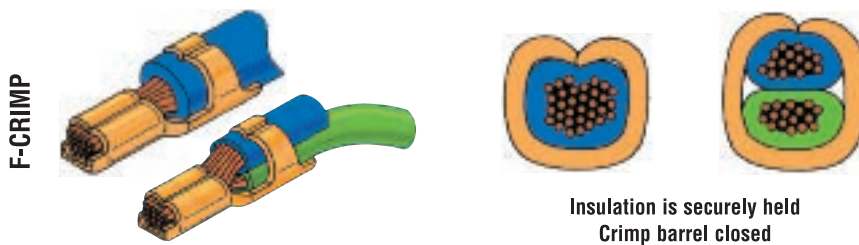
**Correct**

**WIRE CRIMP**

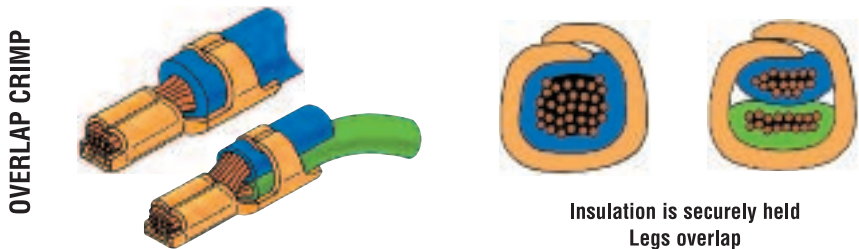


**INSULATION CRIMP**

Correct Insulation Diameter, Applicator and Terminal



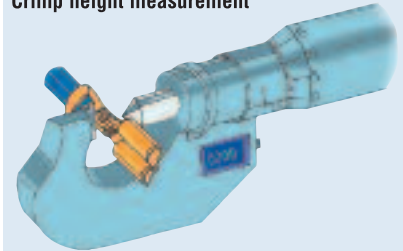
For double wire applications with different size wires always place wire with smallest outer diameter in the bottom



**Test**

**WIRE CRIMP**

Crimp height measurement



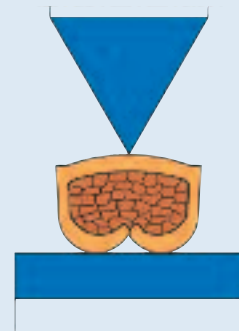
Crimp heights and tolerances

For crimp height tolerances for any given contact, please refer to the relevant application specification.

Examples:

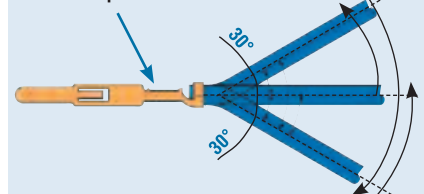
| Con-<br>tact | Part<br>No.      | Wire<br>Range<br>(mm <sup>2</sup> ) | Toler-<br>ance<br>(mm) | Appli-<br>cation<br>Spec. |
|--------------|------------------|-------------------------------------|------------------------|---------------------------|
| MQS          | 962885<br>962886 | 0.2–0.5                             | ±0.03                  | 114-18025                 |
| JPT          | 927775           | 0.5–1.0                             | ±0.05                  | 114-18050                 |
| JPT          | 927773           | 1.5–2.5                             | ±0.05                  | 114-18050                 |

Digital Crimp Height Micrometer  
(0.001 mm increments) acc. to DIN ISO 9001  
Part No. 547203-1

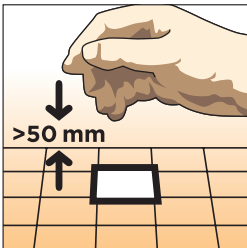
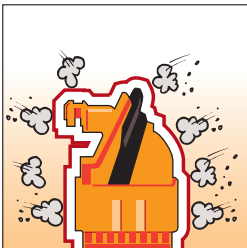
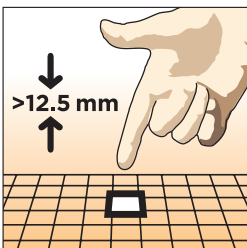
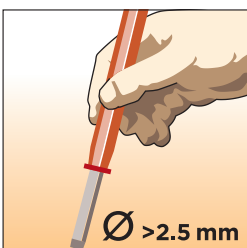
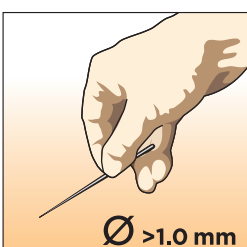


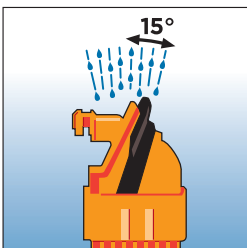
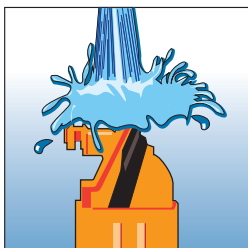
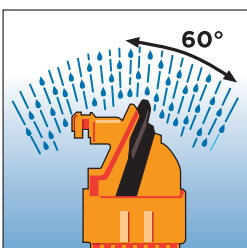
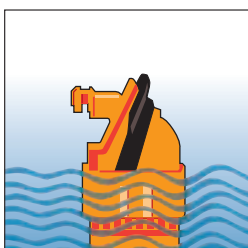
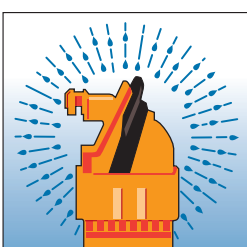
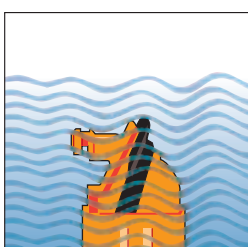
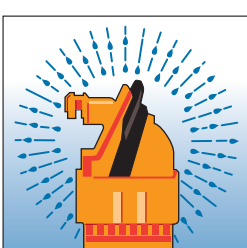
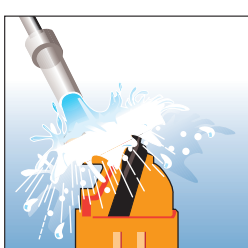
**INSULATION CRIMP**

Wire crimp without conductor



Insulation must be  
securely held  
after bend test

| 1st Digit | Against Foreign Objects (incl. Dust)                                                                                                                            | 1st Digit | Against Foreign Objects (incl. Dust)                                                                      |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------|
| 0         |  <p>Not protected.</p>                                                         | 5K        |  <p>Dust protected.</p> |
| 1         |  <p>Protected against solid objects greater than 50 mm (ex. back of hand).</p> | 6K        |  <p>Dust tight.</p>     |
| 2         |  <p>Protected against solid objects greater than 12.5 mm (ex. finger).</p>    |           |                                                                                                           |
| 3         |  <p>Protected against solid objects greater than 2.5 mm (ex. tool).</p>      |           |                                                                                                           |
| 4         |  <p>Protected against solid objects greater than 1.0 mm (ex. wire).</p>      |           |                                                                                                           |

| 2nd Digit | Against Water                                                                                                                                         | 2nd Digit | Against Water                                                                                                                                                                          |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0         |  <p>Not protected.</p>                                               | 5         |  <p>Protected against jetting water.</p>                                                             |
| 1         |  <p>Protected against vertically dripping water.</p>                 | 6         |  <p>Protected against powerfully jetting water.</p>                                                  |
| 2         |  <p>Protected against dripping water when tilted up to 15°.</p>     | 6K        |  <p>Protected against powerfully jetting water with increased pressure (Automotive).</p>            |
| 3         |  <p>Protected against spraying water (up to 60° inclination).</p>  | 7         |  <p>Protected against the temporary effects of immersion up to 1 meter.</p>                        |
| 4         |  <p>Protected against splashing water.</p>                         | 8         |  <p>Protected against continuous submersion agreed with customer, but more severe than code 7.</p> |
| 4K        |  <p>Protected against splashing water with increased pressure.</p> | 9K        |  <p>Protected against high-pressure/steam-jet cleaning (Automotive).</p>                           |

## Restriction on the use of Hazardous Substances (RoHS)

### Restriction on the use of Hazardous Substances (RoHS)

At TE Connectivity, we're ready to support your RoHS requirements. We've assessed more than 1.5 million end items/components for RoHS compliance, and issued new part numbers where any change was required to eliminate the restricted materials. Part numbers in this catalog are identified as:

#### RoHS Compliant

Part numbers in this catalog are RoHS Compliant, unless marked otherwise.

These products comply with European Union Directive 2002/95/EC as amended 1 January 2006 that restricts the use of lead, mercury, cadmium, hexavalent chromium, PBB, and PBDE in certain electrical and electronic products sold into the EU as of 1 July 2006.

**Note:** For purposes of this Catalog, included within the definition of RoHS Compliant are products that are clearly "Out of Scope" of the RoHS Directive such as hand tools and other non-electrical accessories.

#### Non-RoHS Compliant

These part numbers are identified with a "◆" symbol. These products do not comply with the material restrictions of the European Union Directive 2002/95/EC.

#### 5 of 6 Compliant

A "●" symbol identifies these part numbers. These products do not fully comply with the European Union Directive 2002/95/EC because they contain lead in solderable interfaces (they do not contain any of the other five restricted substances above allowable limits). However, these products may be suitable for use in RoHS applications where there is an application-based exception for lead in solders, such as the server, storage, or networking infrastructure exemption.

**Note:** Information regarding RoHS compliance is provided based on reasonable inquiry of our suppliers and represents our current actual knowledge based on the information provided by our suppliers. This information is subject to change. For latest compliance status, refer to our website referenced below.

#### Getting the information you need

Our comprehensive on-line RoHS Customer Support Center provides a forum to answer your questions and support your RoHS needs. A RoHS FAQ (Frequently Asked Questions) is available with links to more detailed information. You can also submit RoHS questions and receive a response within 24 hours during a normal work week. The Support Center also provides:

- Cross-Reference from Non-compliant to Compliant Products
- Ability to browse RoHS Compliant Products in our on-line catalog:  
<http://www.te.com/commerce/alt/RohsAltHome.do>
- Downloadable Technical Data Customer Information Presentation
- More detailed information regarding the definitions used above

So whatever your questions when it comes to RoHS, we've got the answers at <http://www.te.com/customersupport/rohssupportcenter/>

RoHS  
Customer  
Support  
Center 

**AWG Conversion Table (Average Value)**

**Conversion Tables**

Most of the wire size ranges are mentioned in mm<sup>2</sup>, as well as the insulation diameters which are in many cases only in mm's.

We therefore included the conversion tables on page X and page XI.

Please note that wire and insulation sizes are for guidance only.

Consult the customer drawing for precise detail.

| AWG Code | Diameter (Inch) | Diameter (mm) | F (mm <sup>2</sup> ) |
|----------|-----------------|---------------|----------------------|
| 000000   | 0.5800          | 14.733        | 170.0                |
| 00000    | 0.5165          | 13.13         | 135.0                |
| 0000     | 0.4600          | 11.684        | 103.8                |
| 000      | 0.4096          | 10.40         | 79.0                 |
| 00       | 0.3648          | 9.27          | 67.5                 |
| 0        | 0.3249          | 8.25          | 53.4                 |
| 1        | 0.2893          | 7.34          | 42.2                 |
| 2        | 0.2576          | 6.55          | 33.7                 |
| 3        | 0.2294          | 5.82          | 26.6                 |
| 4        | 0.2043          | 5.18          | 21.0                 |
| 5        | 0.1819          | 4.62          | 16.9                 |
| 6        | 0.1620          | 4.115         | 13.25                |
| 7        | 0.1443          | 3.66          | 10.25                |
| 8        | 0.1285          | 3.26          | 8.34                 |
| 9        | 0.1144          | 2.90          | 6.6                  |
| 10       | 0.1019          | 2.59          | 5.27                 |
| 11       | 0.0907          | 2.30          | 4.15                 |
| 12       | 0.0808          | 2.05          | 3.3                  |
| 13       | 0.0720          | 1.83          | 2.63                 |
| 14       | 0.0641          | 1.63          | 2.08                 |
| 15       | 0.0571          | 1.45          | 1.65                 |
| 16       | 0.0508          | 1.29          | 1.305                |
| 17       | 0.0453          | 1.14          | 1.01                 |
| 18       | 0.0403          | 1.02          | 0.79                 |
| 19       | 0.0359          | 0.91          | 0.65                 |
| 20       | 0.0320          | 0.81          | 0.51                 |
| 21       | 0.0285          | 0.72          | 0.407                |
| 22       | 0.0253          | 0.64          | 0.32                 |
| 23       | 0.0226          | 0.57          | 0.255                |
| 24       | 0.0201          | 0.51          | 0.205                |
| 25       | 0.0179          | 0.455         | 0.162                |
| 26       | 0.0159          | 0.40          | 0.125                |
| 27       | 0.0142          | 0.36          | 0.102                |
| 28       | 0.0126          | 0.320         | 0.08                 |
| 29       | 0.0113          | 0.287         | 0.0646               |
| 30       | 0.0100          | 0.254         | 0.0516               |
| 31       | 0.0089          | 0.226         | 0.04                 |
| 32       | 0.0080          | 0.203         | 0.0324               |
| 33       | 0.0071          | 0.180         | 0.0255               |
| 34       | 0.0063          | 0.160         | 0.02                 |
| 35       | 0.0056          | 0.142         | 0.0158               |
| 36       | 0.0050          | 0.127         | 0.0127               |
| 37       | 0.0045          | 0.114         | 0.01                 |
| 38       | 0.0040          | 0.101         | 0.008                |
| 39       | 0.0035          | 0.089         | 0.0062               |
| 40       | 0.0031          | 0.079         | 0.0049               |
| 41       | 0.0028          | 0.071         | 0.00395              |
| 42       | 0.0025          | 0.064         | 0.00321              |
| 43       | 0.0022          | 0.056         | 0.00246              |
| 44       | 0.00198         | 0.050         | 0.00196              |
| 45       | 0.00176         | 0.045         |                      |
| 46       | 0.00157         | 0.040         |                      |
| 47       | 0.00140         | 0.036         |                      |
| 48       | 0.00124         | 0.031         |                      |
| 49       | 0.00110         | 0.028         |                      |
| 50       | 0.00099         | 0.025         |                      |

**FLK/FLR Cable**

FLK and FLR stand for German DIN (72551) abbreviations.

**FLK means:**

In German:

- Fahrzeug Leitung Kunststoff

In English:

- Vehicle Cable Plastic

**FLR means:**

In German:

- Fahrzeug Leitung Reduziert

In English:

- Thin Walled Cable (reduced insulation thickness)

**Remark:** Starting from 0.03 mm<sup>2</sup> (AWG 32) a wire can be crimped.

**Conversion Table – Inch/mm**

| <b>Inch</b> | <b>0</b> | <b>0.001</b> | <b>0.002</b> | <b>0.003</b> | <b>0.004</b> | <b>0.005</b> | <b>0.006</b> | <b>0.007</b> | <b>0.008</b> | <b>0.009</b> |
|-------------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 0           | 0        | 0.0254       | 0.0508       | 0.0762       | 0.1016       | 0.1270       | 0.1524       | 0.1778       | 0.2032       | 0.2286       |
| 0.010       | 0.2540   | 0.2794       | 0.3048       | 0.3302       | 0.3556       | 0.3810       | 0.4064       | 0.4318       | 0.4572       | 0.4826       |
| 0.020       | 0.5080   | 0.5334       | 0.5588       | 0.5842       | 0.6096       | 0.6350       | 0.6604       | 0.6858       | 0.7112       | 0.7366       |
| 0.030       | 0.7620   | 0.7874       | 0.8128       | 0.8382       | 0.8636       | 0.8890       | 0.9144       | 0.9398       | 0.9652       | 0.9906       |
| 0.040       | 1.0160   | 1.0414       | 1.0668       | 1.0922       | 1.1176       | 1.1430       | 1.1684       | 1.1938       | 1.2192       | 1.2446       |
| 0.050       | 1.2700   | 1.2954       | 1.3208       | 1.3462       | 1.3716       | 1.3970       | 1.4224       | 1.4478       | 1.4732       | 1.4986       |
| 0.060       | 1.5240   | 1.5494       | 1.5748       | 1.6002       | 1.6256       | 1.6510       | 1.6764       | 1.7018       | 1.7272       | 1.7526       |
| 0.070       | 1.7780   | 1.8034       | 1.8288       | 1.8542       | 1.8796       | 1.9050       | 1.9304       | 1.9558       | 1.9812       | 2.0066       |
| 0.080       | 2.0320   | 2.0574       | 2.0828       | 2.1062       | 2.1336       | 2.1590       | 2.1844       | 2.2098       | 2.2352       | 2.2606       |
| 0.090       | 2.2860   | 2.3114       | 2.3368       | 2.3622       | 2.3876       | 2.4130       | 2.4384       | 2.4638       | 2.4892       | 2.5146       |
| 0.100       | 2.5400   | 2.5654       | 2.5908       | 2.6162       | 2.6416       | 2.6670       | 2.6924       | 2.7178       | 2.7432       | 2.7686       |
| 0.110       | 2.7940   | 2.8194       | 2.8448       | 2.8702       | 2.8956       | 2.9210       | 2.9464       | 2.9718       | 2.9972       | 3.0226       |
| 0.120       | 3.0480   | 3.0734       | 3.0988       | 3.1242       | 3.1496       | 3.1750       | 3.2004       | 3.2258       | 3.2512       | 3.2766       |
| 0.130       | 3.3020   | 3.3274       | 3.3528       | 3.3782       | 3.4036       | 3.4290       | 3.4544       | 3.4798       | 3.5052       | 3.5306       |
| 0.140       | 3.5560   | 3.5814       | 3.6068       | 3.6322       | 3.6576       | 3.6830       | 3.7084       | 3.7338       | 3.7592       | 3.7846       |
| 0.150       | 3.8100   | 3.8354       | 3.8608       | 3.8862       | 3.9116       | 3.9370       | 3.9624       | 3.9878       | 4.0132       | 4.0386       |
| 0.160       | 4.0640   | 4.0894       | 4.1148       | 4.1402       | 4.1656       | 4.1910       | 4.2164       | 4.2418       | 4.2672       | 4.2926       |
| 0.170       | 4.3180   | 4.3434       | 4.3688       | 4.3942       | 4.4196       | 4.4450       | 4.4704       | 4.4958       | 4.5212       | 4.5466       |
| 0.180       | 4.5720   | 4.5974       | 4.6228       | 4.6482       | 4.6736       | 4.6990       | 4.7244       | 4.7498       | 4.7752       | 4.8006       |
| 0.190       | 4.8260   | 4.8514       | 4.8768       | 4.9022       | 4.9276       | 4.9530       | 4.9784       | 5.0038       | 5.0292       | 5.0546       |
| 0.200       | 5.0800   | 5.1054       | 5.1308       | 5.1562       | 5.1816       | 5.2070       | 5.2324       | 5.2578       | 5.2832       | 5.3086       |
| 0.210       | 5.3340   | 5.3594       | 5.3848       | 5.4102       | 5.4356       | 5.4610       | 5.4864       | 5.5118       | 5.5372       | 5.5626       |
| 0.220       | 5.5880   | 5.6134       | 5.6388       | 5.6642       | 5.6896       | 5.7150       | 5.7404       | 5.7658       | 5.7912       | 5.8166       |
| 0.230       | 5.8420   | 5.8674       | 5.8928       | 5.9182       | 5.9436       | 5.9690       | 5.9944       | 6.0198       | 6.0452       | 6.0706       |
| 0.240       | 6.0960   | 6.1214       | 6.1468       | 6.1722       | 6.1976       | 6.2230       | 6.2484       | 6.2738       | 6.2992       | 6.3246       |
| 0.250       | 6.3500   | 6.3754       | 6.4008       | 6.4262       | 6.4516       | 6.4770       | 6.5024       | 6.5278       | 6.5532       | 6.5786       |
| 0.260       | 6.6040   | 6.6294       | 6.6548       | 6.6802       | 6.7056       | 6.7310       | 6.7564       | 6.7818       | 6.8072       | 6.8326       |
| 0.270       | 6.8580   | 6.8834       | 6.9088       | 6.9342       | 6.9596       | 6.9850       | 7.0104       | 7.0358       | 7.0612       | 7.0866       |
| 0.280       | 7.1120   | 7.1374       | 7.1628       | 7.1882       | 7.2136       | 7.2390       | 7.2644       | 7.2898       | 7.3152       | 7.3406       |
| 0.290       | 7.3660   | 7.3914       | 7.4168       | 7.4422       | 7.4676       | 7.4930       | 7.5184       | 7.5438       | 7.5692       | 7.5946       |
| 0.300       | 7.6200   | 7.6454       | 7.6708       | 7.6962       | 7.7216       | 7.7470       | 7.7724       | 7.7978       | 7.8232       | 7.8486       |
| 0.310       | 7.8740   | 7.8994       | 7.9248       | 7.9502       | 7.9756       | 8.0010       | 8.0264       | 8.0518       | 8.0772       | 8.1026       |
| 0.320       | 8.1280   | 8.1534       | 8.1788       | 8.2042       | 8.2296       | 8.2550       | 8.2804       | 8.3058       | 8.3312       | 8.3566       |
| 0.330       | 8.3820   | 8.4074       | 8.4328       | 8.4582       | 8.4836       | 8.5090       | 8.5344       | 8.5598       | 8.5852       | 8.6106       |
| 0.340       | 8.6360   | 8.6614       | 8.6868       | 8.7122       | 8.7376       | 8.7630       | 8.7884       | 8.8138       | 8.8392       | 8.8646       |
| 0.350       | 8.8900   | 8.9154       | 8.9408       | 8.9662       | 8.9916       | 9.0170       | 9.0424       | 9.0678       | 9.0932       | 9.1186       |
| 0.360       | 9.1440   | 9.1694       | 9.1948       | 9.2202       | 9.2456       | 9.2710       | 9.2964       | 9.3218       | 9.3472       | 9.3726       |
| 0.370       | 9.3980   | 9.4234       | 9.4488       | 9.4742       | 9.4996       | 9.5250       | 9.5504       | 9.5758       | 9.6012       | 9.6266       |
| 0.380       | 9.6520   | 9.6774       | 9.7028       | 9.7282       | 9.7536       | 9.7790       | 9.8044       | 9.8298       | 9.8552       | 9.8806       |
| 0.390       | 9.9060   | 9.9314       | 9.9568       | 9.9822       | 10.0076      | 10.0330      | 10.0584      | 10.0838      | 10.1092      | 10.1346      |
| 0.400       | 10.1600  | 10.1854      | 10.2108      | 10.2362      | 10.2616      | 10.2870      | 10.3124      | 10.3378      | 10.3632      | 10.3886      |
| 0.410       | 10.4140  | 10.4394      | 10.4648      | 10.4902      | 10.5156      | 10.5410      | 10.5664      | 10.5918      | 10.6172      | 10.6426      |
| 0.420       | 10.6680  | 10.6934      | 10.7188      | 10.7442      | 10.7696      | 10.7950      | 10.8204      | 10.8458      | 10.8712      | 10.8966      |
| 0.430       | 10.9220  | 10.9474      | 10.9728      | 10.9982      | 11.0236      | 11.0490      | 11.0744      | 11.0998      | 11.1252      | 11.1506      |
| 0.440       | 11.1760  | 11.2014      | 11.2268      | 11.2522      | 11.2776      | 11.3030      | 11.3284      | 11.3538      | 11.3792      | 11.4046      |
| 0.450       | 11.4300  | 11.4554      | 11.4808      | 11.5062      | 11.5316      | 11.5510      | 11.5824      | 11.6078      | 11.6332      | 11.6586      |
| 0.460       | 11.6840  | 11.7094      | 11.7348      | 11.7602      | 11.7856      | 11.8110      | 11.8364      | 11.8618      | 11.8872      | 11.9126      |
| 0.470       | 11.9380  | 11.9634      | 11.9888      | 12.0142      | 12.0396      | 12.0650      | 12.0904      | 12.1158      | 12.1412      | 12.1666      |
| 0.480       | 12.1920  | 12.2174      | 12.2428      | 12.2682      | 12.2936      | 12.3190      | 12.3444      | 12.3698      | 12.3952      | 12.4206      |
| 0.490       | 12.4460  | 12.4714      | 12.4968      | 12.5222      | 12.5476      | 12.5730      | 12.5984      | 12.6238      | 12.6492      | 12.6746      |
| 0.500       | 12.7000  |              |              |              |              |              |              |              |              |              |
| <b>Inch</b> | <b>0</b> | <b>0.001</b> | <b>0.002</b> | <b>0.003</b> | <b>0.004</b> | <b>0.005</b> | <b>0.006</b> | <b>0.007</b> | <b>0.008</b> | <b>0.009</b> |

**Conversion Table – Inch/mm (continued)**

| <b>Inch</b> | <b>0</b> | <b>0.001</b> | <b>0.002</b> | <b>0.003</b> | <b>0.004</b> | <b>0.005</b> | <b>0.006</b> | <b>0.007</b> | <b>0.008</b> | <b>0.009</b> |
|-------------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 0.500       | 12.7000  | 12.7254      | 12.7508      | 12.7762      | 12.8016      | 12.8270      | 12.8524      | 12.8778      | 12.9032      | 12.9286      |
| 0.510       | 12.9540  | 12.9794      | 13.0048      | 13.0302      | 13.0556      | 13.0810      | 13.1064      | 13.1318      | 13.1572      | 13.1826      |
| 0.520       | 13.2080  | 13.2334      | 13.2588      | 13.2842      | 13.3096      | 13.3350      | 13.3604      | 13.3858      | 13.4112      | 13.4366      |
| 0.530       | 13.4620  | 13.4874      | 13.5128      | 15.5382      | 13.5636      | 13.5890      | 13.6144      | 13.6398      | 13.6652      | 13.6906      |
| 0.540       | 13.7160  | 13.7414      | 13.7668      | 13.7922      | 13.8176      | 13.8430      | 13.8684      | 13.8938      | 13.9192      | 13.9446      |
| 0.550       | 13.9700  | 13.9954      | 14.0208      | 14.0462      | 14.0716      | 14.0970      | 14.1224      | 14.1478      | 14.1732      | 14.1986      |
| 0.560       | 14.2240  | 14.2494      | 14.2748      | 14.3002      | 14.3256      | 14.3510      | 14.3764      | 14.4018      | 14.4272      | 14.4526      |
| 0.570       | 14.4780  | 14.5034      | 14.5288      | 14.5542      | 14.5796      | 14.6050      | 14.6304      | 14.6558      | 14.6812      | 14.7066      |
| 0.580       | 14.7320  | 14.7574      | 14.7828      | 14.8082      | 14.8336      | 14.8590      | 14.8844      | 14.9098      | 14.9352      | 14.9606      |
| 0.590       | 14.9860  | 15.0114      | 15.0368      | 15.0622      | 15.0876      | 15.1130      | 15.1384      | 15.1638      | 15.1892      | 15.2146      |
| 0.600       | 15.2400  | 15.2654      | 15.2908      | 15.3162      | 15.3416      | 15.3670      | 15.3924      | 15.4178      | 15.4432      | 15.4686      |
| 0.610       | 15.4940  | 15.5194      | 15.5448      | 15.5702      | 15.5956      | 15.6210      | 15.6464      | 15.6718      | 15.6972      | 15.7226      |
| 0.620       | 15.7480  | 15.7734      | 15.7988      | 15.8242      | 15.8496      | 15.8750      | 15.9004      | 15.9258      | 15.9512      | 15.9766      |
| 0.630       | 16.0020  | 16.0274      | 16.0528      | 16.0782      | 16.1036      | 16.1290      | 16.1544      | 16.1798      | 16.2052      | 16.2306      |
| 0.640       | 16.2560  | 16.2814      | 16.3068      | 16.3322      | 16.3576      | 16.3830      | 16.4084      | 16.4338      | 16.4592      | 16.4846      |
| 0.650       | 16.5100  | 16.5354      | 16.5608      | 16.5862      | 16.6116      | 16.6370      | 16.6624      | 16.6878      | 16.7132      | 16.7386      |
| 0.660       | 16.7640  | 16.7894      | 16.8148      | 16.8402      | 16.8656      | 16.8910      | 16.9164      | 16.9418      | 16.9672      | 16.9926      |
| 0.670       | 17.0180  | 17.0434      | 17.0688      | 17.0942      | 17.1196      | 17.1450      | 17.1704      | 17.1958      | 17.2212      | 17.2466      |
| 0.680       | 17.2720  | 17.2974      | 17.3228      | 17.3482      | 17.3736      | 17.3990      | 17.4244      | 17.4498      | 17.4752      | 17.5006      |
| 0.690       | 17.5260  | 17.5514      | 17.5768      | 17.6022      | 17.6276      | 17.6530      | 17.6784      | 17.7038      | 17.7292      | 17.7546      |
| 0.700       | 17.7800  | 17.8054      | 17.8308      | 17.8562      | 17.8816      | 17.9070      | 17.9324      | 17.9528      | 17.9832      | 18.0086      |
| 0.710       | 18.0340  | 18.0594      | 18.0848      | 18.1102      | 18.1356      | 18.1610      | 18.1864      | 18.2118      | 18.2372      | 18.2626      |
| 0.720       | 18.2880  | 18.3134      | 18.3388      | 18.3642      | 18.3896      | 18.4150      | 18.4404      | 18.4658      | 18.4912      | 19.5166      |
| 0.730       | 18.5420  | 18.5674      | 18.5928      | 18.6182      | 18.6436      | 18.6690      | 18.6944      | 18.7198      | 18.7452      | 18.7706      |
| 0.740       | 18.7960  | 18.8214      | 18.8468      | 18.8722      | 18.8976      | 18.9230      | 18.9484      | 18.9738      | 18.9992      | 19.0246      |
| 0.750       | 19.0500  | 19.0754      | 19.1008      | 19.1262      | 19.1516      | 19.1170      | 19.2024      | 19.2278      | 19.2532      | 19.2786      |
| 0.760       | 19.3040  | 19.3294      | 19.3548      | 19.3802      | 19.4056      | 19.4310      | 19.4564      | 19.4818      | 19.5072      | 19.5326      |
| 0.770       | 19.5580  | 19.5834      | 19.6088      | 19.6342      | 19.6596      | 19.6850      | 19.7104      | 19.7358      | 19.7612      | 19.7866      |
| 0.780       | 19.8120  | 19.8374      | 19.8628      | 19.8882      | 19.9136      | 19.9390      | 19.9644      | 19.9898      | 20.0152      | 20.0406      |
| 0.790       | 20.0660  | 20.0914      | 20.1168      | 20.1422      | 20.1676      | 20.1930      | 20.2184      | 20.2438      | 20.2692      | 20.2946      |
| 0.800       | 20.3200  | 20.3454      | 20.3708      | 20.3962      | 20.4216      | 20.4470      | 20.4724      | 20.4978      | 20.5232      | 20.5486      |
| 0.810       | 20.5740  | 20.5994      | 20.6248      | 20.6502      | 20.6756      | 20.7010      | 20.7264      | 20.7518      | 20.7772      | 20.8026      |
| 0.820       | 20.8280  | 20.8534      | 20.8788      | 20.9042      | 20.9296      | 20.9550      | 20.9804      | 21.0058      | 21.0312      | 21.0566      |
| 0.830       | 21.0820  | 21.1074      | 21.1328      | 21.1582      | 21.1836      | 21.2090      | 21.2344      | 21.2598      | 21.2852      | 21.3106      |
| 0.840       | 21.3360  | 21.3614      | 21.3868      | 21.4122      | 21.4376      | 21.4630      | 21.4884      | 21.5138      | 21.5392      | 21.5646      |
| 0.850       | 21.5900  | 21.6154      | 21.6408      | 21.6662      | 21.6916      | 21.7170      | 21.7424      | 21.7678      | 21.7932      | 21.8186      |
| 0.860       | 21.8440  | 21.8694      | 21.8948      | 21.9202      | 21.9456      | 21.9710      | 21.9964      | 22.0218      | 22.0472      | 22.0726      |
| 0.870       | 22.0980  | 22.1234      | 22.1488      | 22.1742      | 22.1996      | 22.2250      | 22.2504      | 22.2758      | 22.3012      | 22.3266      |
| 0.880       | 22.3520  | 22.3774      | 22.4028      | 22.4282      | 22.4536      | 22.4790      | 22.5044      | 22.5298      | 22.5552      | 22.5806      |
| 0.890       | 22.6060  | 22.6314      | 22.6568      | 22.6822      | 22.7076      | 22.7330      | 22.7584      | 22.7838      | 22.8092      | 22.8346      |
| 0.900       | 22.8600  | 22.8854      | 22.9108      | 22.9362      | 22.9616      | 22.9870      | 23.0124      | 23.0378      | 23.0632      | 23.0886      |
| 0.910       | 23.1140  | 23.1394      | 23.1648      | 23.1902      | 23.2156      | 23.2410      | 23.2664      | 23.2918      | 23.3172      | 23.3426      |
| 0.920       | 23.3680  | 23.3934      | 23.4188      | 23.4442      | 23.4696      | 23.4950      | 23.5204      | 23.5458      | 23.5712      | 23.5966      |
| 0.930       | 23.6220  | 23.6474      | 23.6728      | 23.6982      | 23.7236      | 23.7490      | 23.7744      | 23.7998      | 23.8252      | 23.8506      |
| 0.940       | 23.8760  | 23.9014      | 23.9268      | 23.9522      | 23.9776      | 24.0030      | 24.0284      | 24.0538      | 24.0792      | 24.1046      |
| 0.950       | 24.1300  | 24.1554      | 24.1808      | 24.2062      | 24.2316      | 24.2570      | 24.2824      | 24.3078      | 24.3332      | 24.3586      |
| 0.960       | 24.3840  | 24.4094      | 24.4348      | 24.4602      | 24.4856      | 24.5110      | 24.5364      | 24.5618      | 24.5812      | 24.6126      |
| 0.970       | 24.6380  | 24.6634      | 24.6888      | 24.7142      | 24.7396      | 24.7650      | 24.7904      | 24.8158      | 24.8412      | 24.8666      |
| 0.980       | 24.8920  | 24.9174      | 24.9428      | 24.9682      | 24.9936      | 25.0190      | 25.0444      | 25.0698      | 25.0952      | 25.1206      |
| 0.990       | 25.1460  | 25.1714      | 25.1968      | 25.2222      | 25.2476      | 25.2730      | 25.2984      | 25.3228      | 25.3492      | 25.3746      |
| 1.000       | 25.4000  |              |              |              |              |              |              |              |              |              |
| <b>Inch</b> | <b>0</b> | <b>0.001</b> | <b>0.002</b> | <b>0.003</b> | <b>0.004</b> | <b>0.005</b> | <b>0.006</b> | <b>0.007</b> | <b>0.008</b> | <b>0.009</b> |

| <b>MQS Interconnection</b>          |         |  |
|-------------------------------------|---------|--|
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|                                     |         |  |

## THE PRODUCTS



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|                                     | Receptacle Housings | Pin Housings | Printed Circuit Board Headers |
|-------------------------------------|---------------------|--------------|-------------------------------|
| <b>MQS Interconnection</b>          |                     |              |                               |
| Introduction                        |                     | 2-1          |                               |
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| 40 Positions                        | 5-38 – 5-39         | –            | 5-40 – 5-43                   |
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| 50 Positions                        | 5-48                | –            | –                             |

## THE PRODUCTS

[illegible]

|                                          |            | Receptacle Housings | Pin Housings | Printed Circuit Board Headers |
|------------------------------------------|------------|---------------------|--------------|-------------------------------|
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| <b>NanoMQS Sealed Housings</b>           |            |                     |              |                               |
| 2 Positions                              |            | 6-1                 | –            | –                             |
| 4 Positions                              |            | 6-2                 | –            | –                             |
| 2-6 Positions                            |            | 6-3                 | –            | –                             |
| 8 Positions                              |            | 6-4                 | –            | –                             |
| <b>Sealed MQS Housings</b>               |            |                     |              |                               |
| 2 Positions                              |            | 6-5 – 6-8           | 6-9          | –                             |
| 3 Positions                              |            | 6-10 – 6-13         | –            | –                             |
| 4 Positions                              |            | 6-14 – 6-15         | 6-16 – 6-17  | 6-18 – 6-19                   |
| 6 Positions                              |            | 6-20 – 6-21         | 6-22         | –                             |
| 8 Positions                              |            | 6-23                | –            | –                             |
| 30 Positions                             |            | 7-1                 | –            | –                             |
| 40 Positions                             |            | 7-2 – 7-7           | –            | –                             |
| 60 Positions                             |            | 7-5 – 7-7           | –            | –                             |
| 64 Positions                             |            | 7-8 – 7-9           | –            | –                             |
| 81 Positions                             |            | 7-10 – 7-13         | –            | –                             |
| 94 Positions                             |            | 7-14 – 7-15         | –            | –                             |
| <b>Application and Tooling</b>           | 8-1 – 8-36 |                     |              |                               |
| <b>Numerical Index</b>                   | 9-1 – 9-7  |                     |              |                               |
| <b>Disclaimer and Trademarks</b>         | 10-1       |                     |              |                               |

## THE PRODUCTS

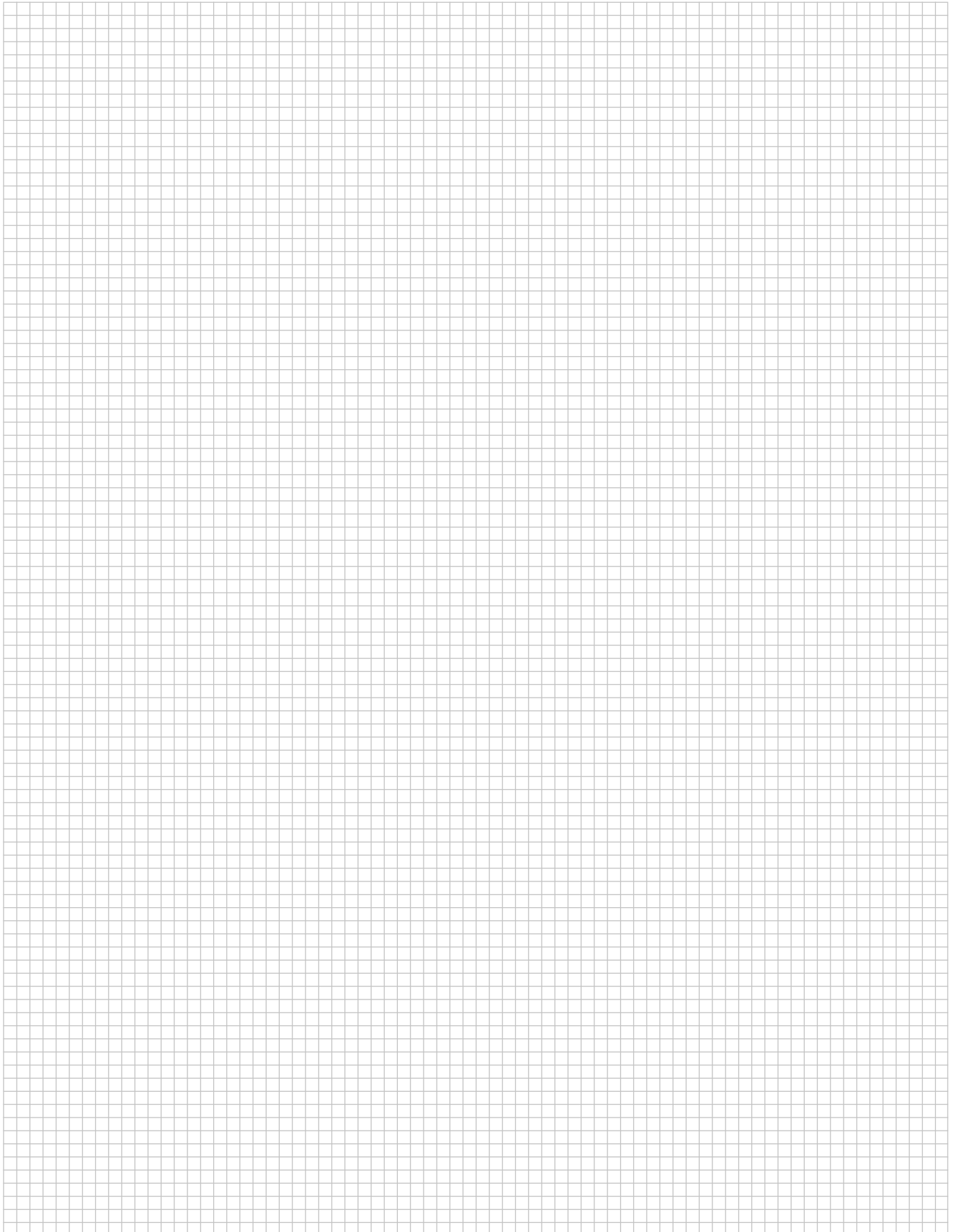


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Engineering Notes

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## Introduction



**MQS Interconnection offers high packing density, robust construction and highest functional requirements.**



### Product Description

The MQS interconnection combines the features of high packing density, robust construction and high functional requirements.

In spite of its miniaturized design, it fulfills all requirements for a contact system suitable for use in automobiles and covers a wide range of application sectors in both waterproof and non-waterproof areas.

The electrical contact is made by a square pin with an edge length of 0.63 mm. The receptacle contact has four contact points and the electrical contact is made with all four surfaces of the pin.

The special feature of the MQS contact is the separation of the main functions; the internal contact body provides all electrical and electro-mechanical functions, while the superimposed steel cantilever spring protects and retains the contact.

### Application

The MQS contact is designed for electronic and electrical applications in motor vehicles, where vibration and mechanical stress can, in the long-term, affect the quality of conventional contact systems.

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Engineering Notes

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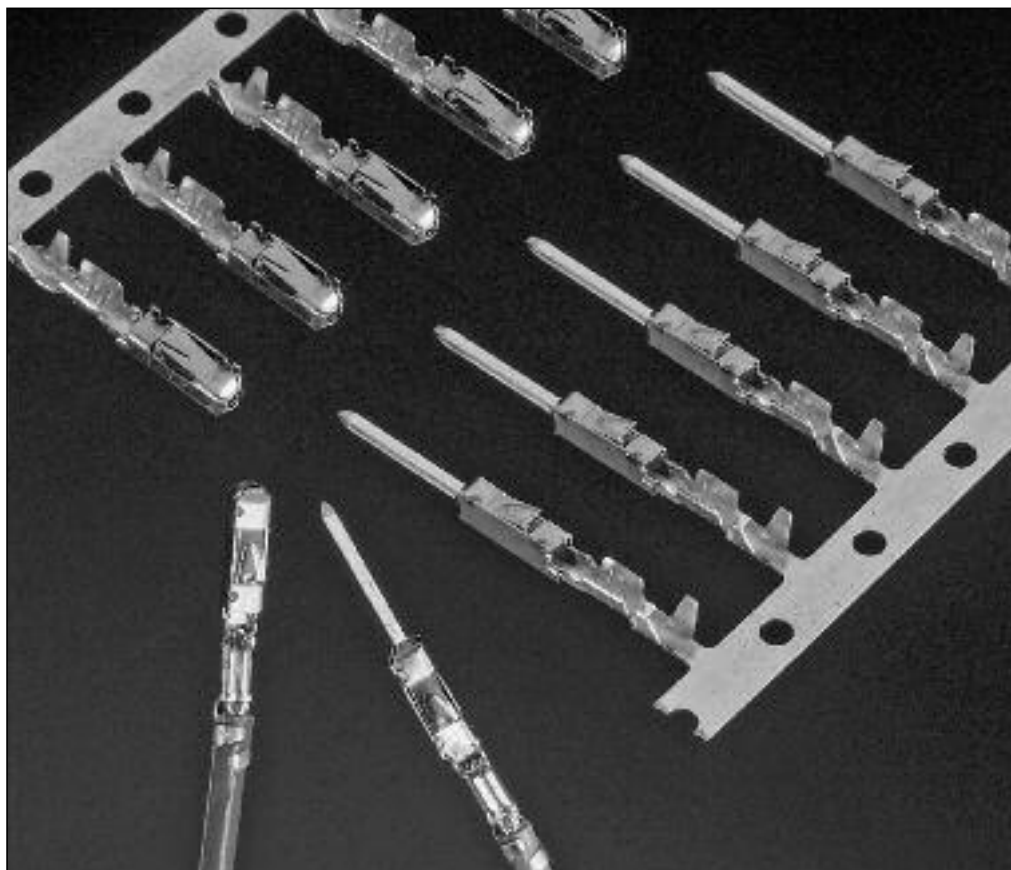
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## Introduction



1



With the design of the MQS interconnection in the centerline 2.54 mm, we developed a new automobile suitable contact system. The positive features of existing contact systems – high packing density and at the same time high load of current carrying capacity, robust design and safe handling – were consistently implemented. Consequently, the receptacle contact and pin contact are able to be inserted safely into the contact cavity and latch in with a clear click.

The receptacle contacts with four contact points on a 0.63 x 0.63 mm pin contact and reaches at this point a max. load of current carrying capacity of up to 7.5 A at 80 °C.

Based on the plug uniform base centerline of 2.54 mm, the MQS interconnection ranges from MQS and Micro Power Quadlok to Power Quadlok which can be subjected to more stress. With the whole number multiplication of the centerline from 2.54 mm, the circuit board designer achieves a high level of freedom on designing the layout.

## Receptacle Contacts

### Technical Features

**Contact Material:**  
CuNiSi/CuSn

**Surface Contact Area:**  
Tin plated: 0.8–2.2  $\mu\text{m}$  Sn  
Silver plated: 1.8–5  $\mu\text{m}$  Ag

**Wire Size Range:**  
0.13–0.35  $\text{mm}^2$

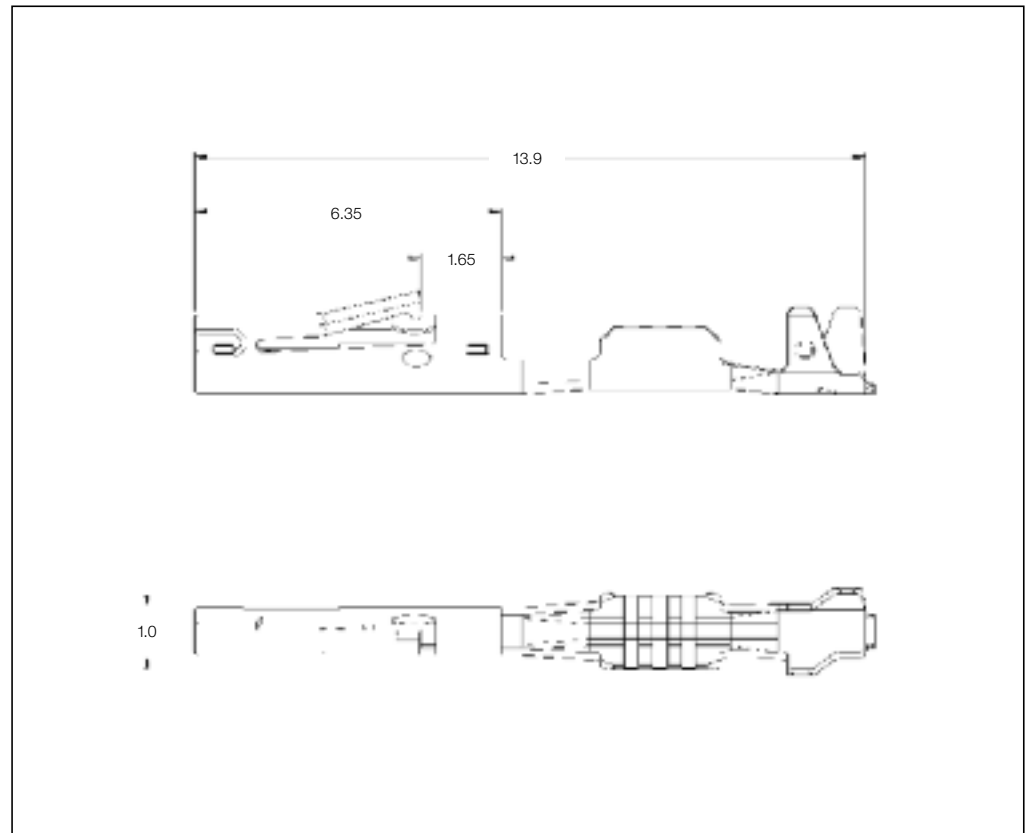
**Current Carrying Capacity:**  
Up to 3 A at 90 °C

**Temperature Range:**  
–40 °C ... +105 °C (tin plated)  
–40 °C ... +170 °C (silver plated)

**Cycles:**  
20 tin plated  
50 silver plated

**Application Specification:**  
114-18858

**Product Specification:**  
108-94099



### Receptacle Contacts

| Wire Size Range<br>( $\text{mm}^2$ ) | Insulation Diameter<br>(mm) | Material and Finish   | Part Numbers |                  |             |                  | Applicator                    | Hand Tool with Die Set |
|--------------------------------------|-----------------------------|-----------------------|--------------|------------------|-------------|------------------|-------------------------------|------------------------|
|                                      |                             |                       | Strip Form   | Package Quantity | Loose-Piece | Package Quantity |                               |                        |
| 0.13-0.22                            | max 1.2                     | CuNiSi, silver plated | 1-1703930-2  | –                | 1-2112449-2 | –                | –                             | 1976156-1              |
|                                      |                             | CuSn, tin plated      | 1-1703930-1  | –                | 1-2112449-1 | –                |                               |                        |
| 0.35                                 | max 1.4                     | CuNiSi, silver plated | 2-1703930-2  | –                | 2-2112449-2 | –                | See Application Specification | 1976157-1              |
|                                      |                             | CuSn, tin plated      | 2-1703930-1  | –                | 2-2112449-1 | –                |                               |                        |

Receptacle Contacts

**Technical Features**

**Material**

Contact: CuNiSi  
Pin Contact: Copper-Alloy  
Cantilever Spring: Stainless Steel

**Contact Finish:**

Pre-tin plated, silver plated,  
gold plated

**Conductor Binding:**

Crimp Technology/FFC

**Wire Size Range:**

0.08–0.75 mm<sup>2</sup> Single  
Wires (FLR)/AWG 18–22

**Current Carrying Capacity:**

Up to 7.5 A at 80 °C

**Temperature Range:**

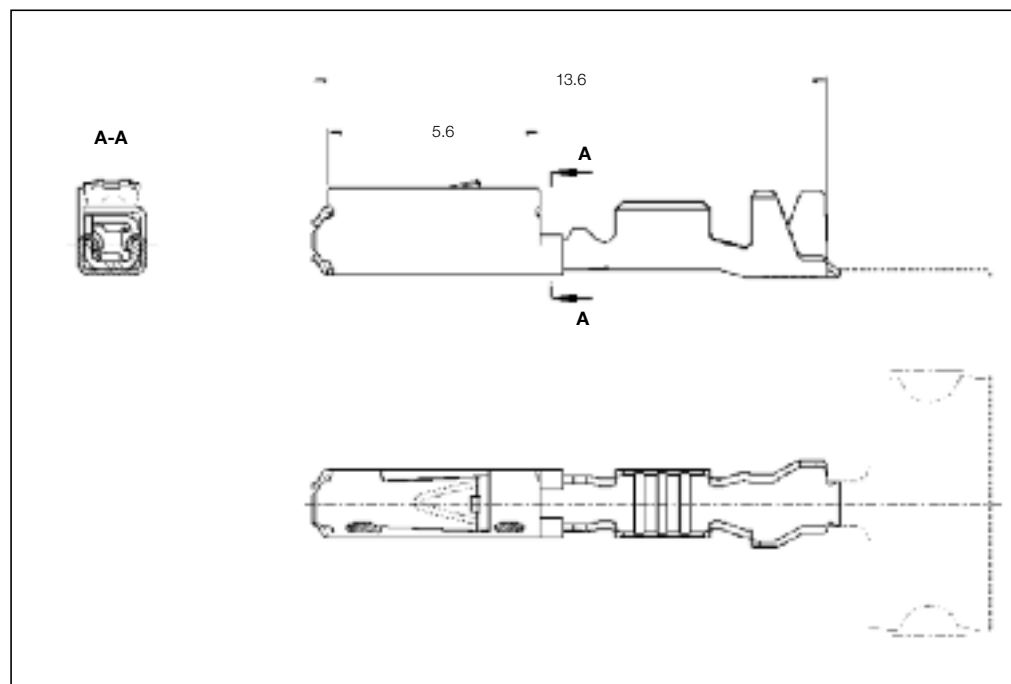
–40 °C ... +120 °C (tin plated)  
–40 °C ... +130 °C (silver plated)  
–40 °C ... +140 °C (gold plated)

**Centerline:**

2.54 x 2.54 mm Standard  
4.0 x 4.0 mm SWS Standard  
4.0 x 3.5 mm SWS Staggered

**Mating Cycles:**

20 tin plated  
20 silver plated  
100 gold plated



**Special Applications:**

Inmoldable Pin Contact,  
Receptacle Contact,  
Receptacle Contact with  
Short Circuit Area

**Table Drawings:**

929454 (Receptacle Contact)  
929453 (Pin Contact)

**Application Specification:**

114-18021 Standard  
114-18025 SWS System

**Product Specification:**

108-18030

**Extraction Tools:**

Part No. **6-1579007-0** Clean Body  
Part No. **6-1579007-1** Standard

**Standard Receptacle Contacts**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter |          | Material and Finish | Strip Form | Package Quantity | Part Numbers |           |             |
|------------------------------------|---------------------|----------|---------------------|------------|------------------|--------------|-----------|-------------|
|                                    | FLK (mm)            | FLR (mm) |                     |            |                  | Applicator   | Hand Tool | Die Set     |
| 0.14–0.22                          | –                   | 0.9–1.2  | pre-tin plated      | 1355717-1  | 13,000           | 2151265      | 539635-1  | 5-1578001-2 |
|                                    |                     |          | gold plated         | 1355717-5  | 13,000           |              |           |             |
| 0.25–0.35                          | –                   | 0.9–1.6  | pre-tin plated      | 5-928999-1 | 13,000           | 2151493      | 539635-1  | 539682-2    |
|                                    |                     |          | gold plated         | 5-928999-5 | 13,000           |              |           |             |
|                                    |                     |          | silver plated       | 5-928999-6 | 13,000           |              |           |             |
| 0.50–0.75                          | –                   | 1.4–1.9  | pre-tin plated      | 5-963715-1 | 10,000           | 2151491      | 539635-1  | 3-1579001-5 |
|                                    |                     |          | gold plated         | 5-963715-5 | 10,000           |              |           |             |
|                                    |                     |          | silver plated       | 5-963715-6 | 10,000           |              |           |             |

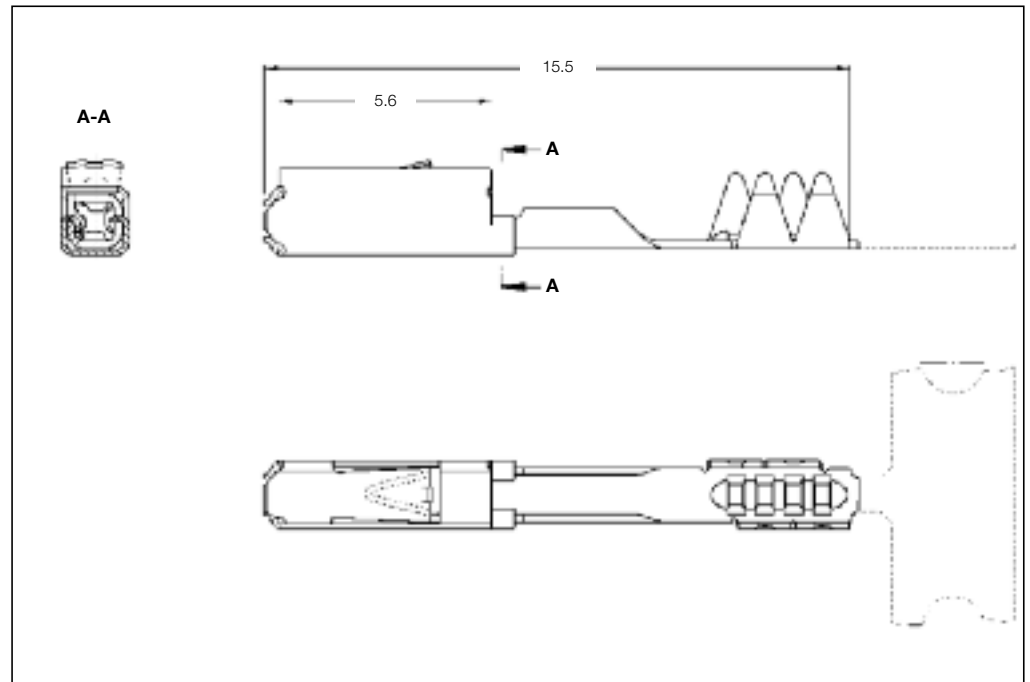
**Single Wire Sealing System**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter |          | Material and Finish | Strip Form | Package Quantity | Part Numbers |           |             |
|------------------------------------|---------------------|----------|---------------------|------------|------------------|--------------|-----------|-------------|
|                                    | FLK (mm)            | FLR (mm) |                     |            |                  | Applicator   | Hand Tool | Die Set     |
| 0.25–0.35                          | –                   | 0.9–1.6  | pre-tin plated      | 5-962885-1 | 9,000            | 2151104      | 539635-1  | 539685-2    |
|                                    |                     |          | gold plated         | 5-962885-5 | 9,000            |              |           |             |
|                                    |                     |          | silver plated       | 5-962885-6 | 9,000            |              |           |             |
| 0.50–0.75                          | –                   | 1.4–1.9  | pre-tin plated      | 5-965906-1 | 9,000            | 2151038      | 539635-1  | 5-1579001-1 |
|                                    |                     |          | gold plated         | 5-965906-5 | 9,000            |              |           |             |
|                                    |                     |          | silver plated       | 5-965906-6 | 9,000            |              |           |             |

Receptacle Contacts (continued)

1

**MQS Flexible Flat Cable (FFC) Receptacle Contacts**



**MQS Flexible Flat Cable (FFC) Receptacle Contacts**

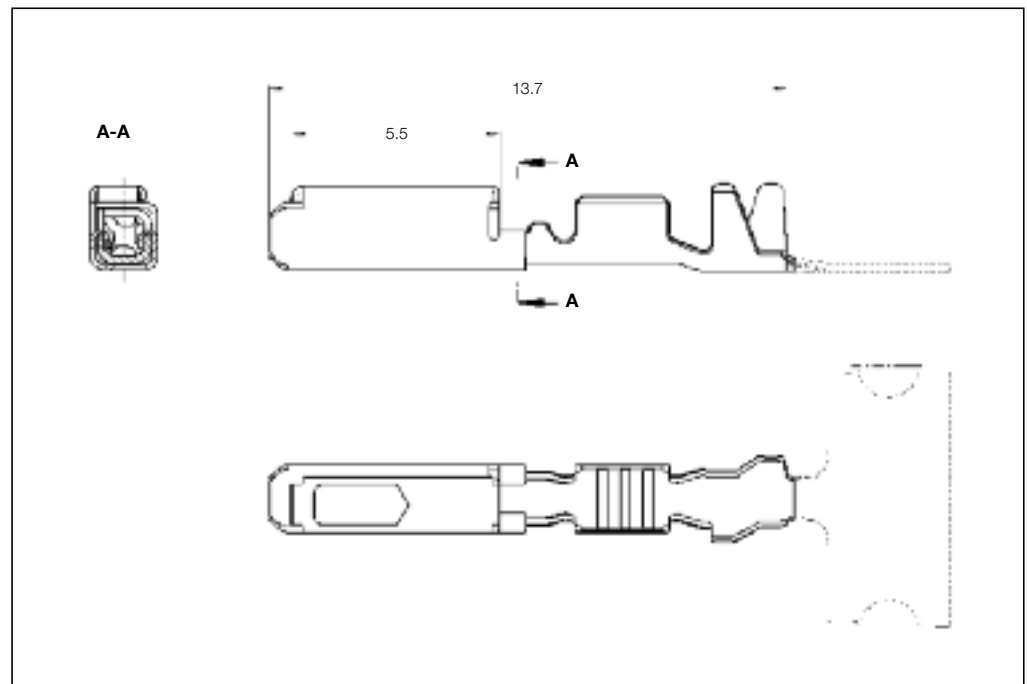
| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter |          | Material and Finish | Part Numbers |                  |            |                        |
|------------------------------------|---------------------|----------|---------------------|--------------|------------------|------------|------------------------|
|                                    | FLK (mm)            | FLR (mm) |                     | Strip Form   | Package Quantity | Applicator | Hand Tool with Die Set |
| –                                  | –                   | –        | pre-tin plated      | 929387-1     | 12,500           | –          | 1579001-4              |
| –                                  | –                   | –        | pre-tin plated      | 968987-1 **  | 14,000           |            |                        |

\*) Depending on Foil  
\*\*) Special Application: Short Components

Insertion and Extraction Tools are available upon request.  
They depend on the number of positions and the housing version.

Receptacle Contacts (continued)

**MQS Clean Body  
Receptacle Contacts**



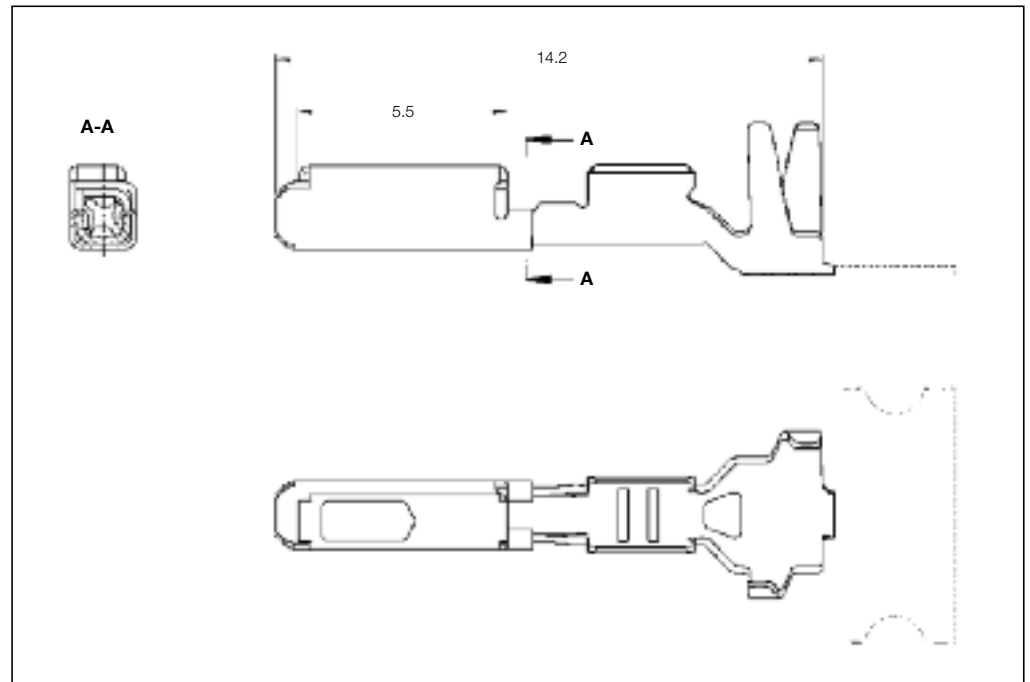
**MQS Clean Body Receptacle Contacts**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter |             | Material<br>and Finish | Part Numbers  |                     |            |           |             |
|------------------------------------------|---------------------|-------------|------------------------|---------------|---------------------|------------|-----------|-------------|
|                                          | FLK<br>(mm)         | FLR<br>(mm) |                        | Strip<br>Form | Package<br>Quantity | Applicator | Hand Tool | Die Set     |
| 0.20–0.35                                | –                   | 0.9–1.6     | pre-tin plated         | 5-968220-1    | 12,000              | 2151493    | 539635-1  | 539682-2    |
|                                          |                     |             | gold plated            | 5-968220-5    | 12,000              |            |           |             |
|                                          |                     |             | silver plated          | 968220-6      | 12,000              |            |           |             |
| 0.50–0.75                                | –                   | 1.4–1.9     | pre-tin plated         | 5-968221-1    | 10,000              | 2151491    | 539635-1  | 3-1579001-5 |
|                                          |                     |             | gold plated            | 5-968221-5    | 10,000              |            |           |             |
|                                          |                     |             | silver plated          | 968221-6      | 10,000              |            |           |             |

Receptacle Contacts (continued)

1

**MQS Clean Body Receptacle Contacts**



**MQS Clean Body Receptacle Contacts with Single Wire Sealing System**

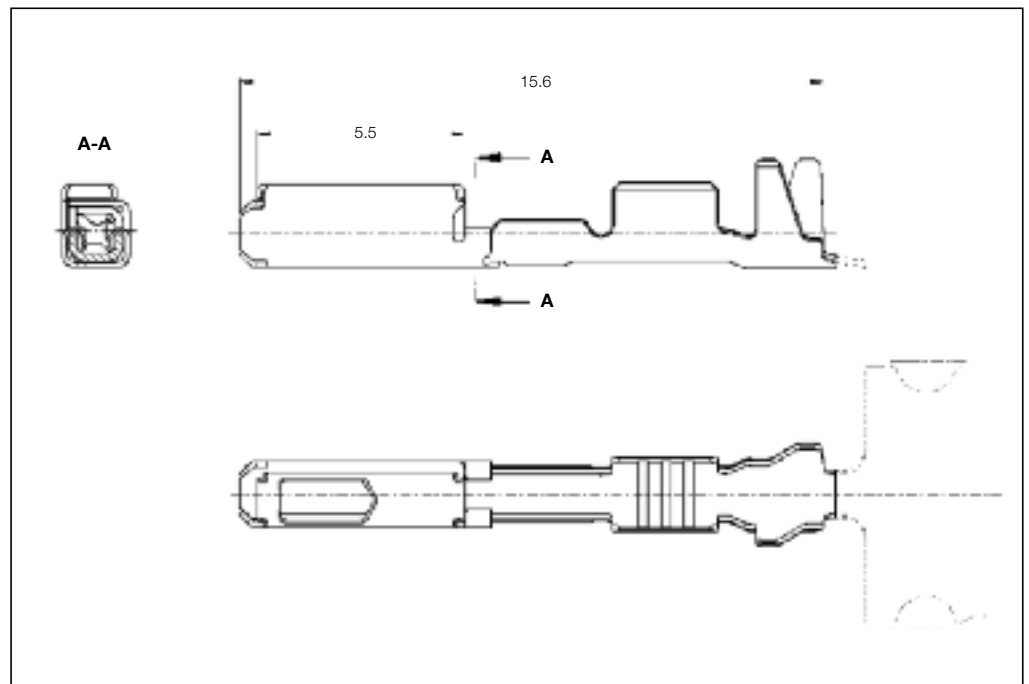
| Wire Size Range    |       | Insulation Diameter (mm) | Material and Finish | Part Numbers |                  |            |           |
|--------------------|-------|--------------------------|---------------------|--------------|------------------|------------|-----------|
| (mm <sup>2</sup> ) | (AWG) |                          |                     | Strip Form   | Package Quantity | Applicator | Hand Tool |
| 0.50–0.75          | –     | 1.4–2.0                  | pre-tin plated      | 1703032-1    | 8,500            | on request | –         |
|                    |       |                          | gold plated         | 1703032-5    | 8,500            |            |           |

**MQS Clean Body Receptacle Contacts for AWG**

| Wire Size Range    |         | Insulation Diameter (mm) | Material and Finish | Part Numbers |                  |            |           |
|--------------------|---------|--------------------------|---------------------|--------------|------------------|------------|-----------|
| (mm <sup>2</sup> ) | (AWG)   |                          |                     | Strip Form   | Package Quantity | Applicator | Hand Tool |
| 0.79–1.00          | 18      | 1.4–2.0                  | pre-tin plated      | 1719532-1    | 10,000           | –          | 2151775   |
|                    |         |                          | gold plated         | 1719532-5    | 10,000           |            |           |
| 0.32–0.52          | 20 + 22 | 1.50–1.85                | pre-tin plated      | 1719545-1    | 10,000           | –          | 2151776   |
|                    |         |                          | gold plated         | 1719545-5    | 10,000           |            |           |

Receptacle Contacts (continued)

**MQS Clean Body  
Receptacle Contacts  
with Short Circuit Area**



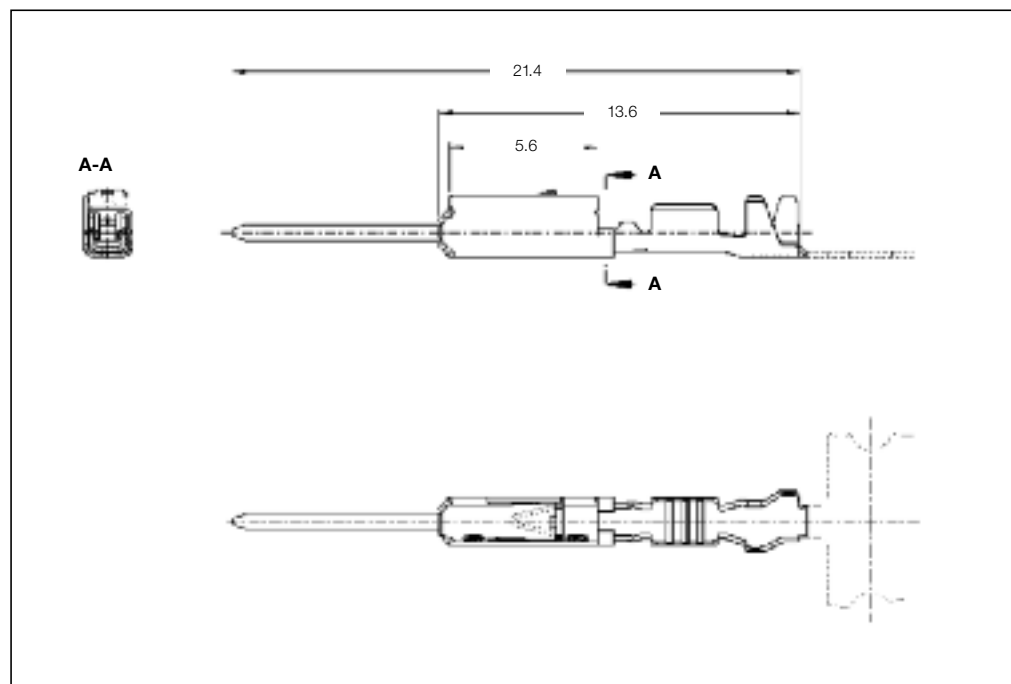
**MQS Clean Body Receptacle Contacts with Short Circuit Area**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter |             | Material<br>and Finish | Part Numbers  |                     |            |           |          |
|------------------------------------------|---------------------|-------------|------------------------|---------------|---------------------|------------|-----------|----------|
|                                          | FLK<br>(mm)         | FLR<br>(mm) |                        | Strip<br>Form | Package<br>Quantity | Applicator | Hand Tool | Die Set  |
| 0.20–0.35                                | –                   | 0.9–1.6     | gold plated            | 5-1241918-1   | 13,000              | 2151493    | 539635-1  | 539682-2 |
| 0.50–0.75                                | –                   | 1.4–1.9     | gold plated            | 5-1241920-1   | 10,000              | 2151491    |           |          |

Pin Contacts

1

**Pin 0.63 x 0.63 mm,  
Mates with MQS**



**Standard Pin Contacts**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter |             | Material<br>and Finish | Strip<br>Form | Package<br>Quantity | Part Numbers |           |             |
|------------------------------------------|---------------------|-------------|------------------------|---------------|---------------------|--------------|-----------|-------------|
|                                          | FLK<br>(mm)         | FLR<br>(mm) |                        |               |                     | Applicator   | Hand Tool | Die Set     |
| 0.14–0.22                                | –                   | 0.9–1.2     | pre-tin plated         | 1355719-1     | 13,000              | 2151265      | 539635-1  | 5-1579001-2 |
|                                          |                     |             | gold plated            | 1355719-2     | 13,000              |              |           |             |
| 0.25–0.35                                | –                   | 0.9–1.6     | pre-tin plated         | 6-928918-1    | 13,000              | 2151493      | 539635-1  | 539682-2    |
|                                          |                     |             | gold plated            | 6-928918-2    | 13,000              |              |           |             |
| 0.50–0.75                                | –                   | 1.6–1.9     | pre-tin plated         | 5-963716-1    | 10,000              | 2151491      | –         | –           |
|                                          |                     |             | gold plated            | 5-963716-2    | 10,000              |              |           |             |

**Single Wire Sealing System**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter |             | Material<br>and Finish | Strip<br>Form | Package<br>Quantity | Part Numbers |           |             |
|------------------------------------------|---------------------|-------------|------------------------|---------------|---------------------|--------------|-----------|-------------|
|                                          | FLK<br>(mm)         | FLR<br>(mm) |                        |               |                     | Applicator   | Hand Tool | Die Set     |
| 0.25–0.35                                | –                   | 0.9–1.6     | pre-tin plated         | 5-962886-1    | 10,000              | 2151104      | 539635-1  | 539685-2    |
|                                          |                     |             | gold plated            | 5-962886-2    | 10,000              |              |           |             |
| 0.50–0.75                                | –                   | 1.6–1.9     | pre-tin plated         | 5-965908-1    | 10,000              | 2151038      | 539635-1  | 5-1579001-1 |
|                                          |                     |             | gold plated            | 5-965908-2    | 10,000              |              |           |             |

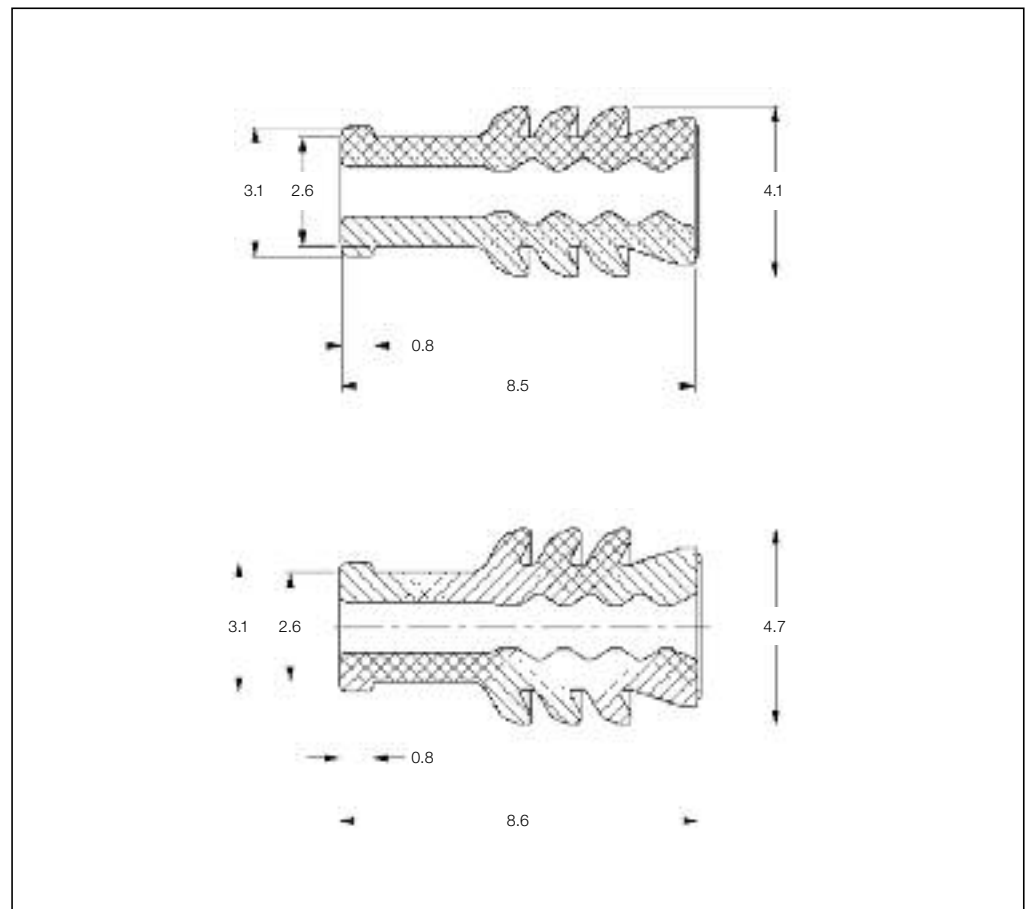
**MQS Flexible Flat Cable (FFC) Pin Contacts**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter |             | Material<br>and Finish | Strip<br>Form | Package<br>Quantity | Part Numbers |           |
|------------------------------------------|---------------------|-------------|------------------------|---------------|---------------------|--------------|-----------|
|                                          | FLK<br>(mm)         | FLR<br>(mm) |                        |               |                     | Applicator   | Hand Tool |
| –                                        | –                   | –           | pre-tin plated         | 1452128-1     | 13,000              | –            | **        |

\*\*) Part No. **2-1579004-9** Copper 35–100 μm, Foil 130–260 μm  
Part No. **3-1579004-0** Copper 100–200 μm, Foil 270–380 μm

Single Wire Seals and Sealing Plugs

**Single Wire Seals  
and Sealing Plugs  
for MQS**



**Cavity Diameter 3.45 mm**

| Insulation Diameter |          | Color  | Part Number | Package Quantity |
|---------------------|----------|--------|-------------|------------------|
| FLK (mm)            | FLR (mm) |        |             |                  |
| –                   | 0.9–1.3  | Yellow | 967067-2    | 20,000           |
| –                   | 1.4–1.9  | Green  | 967067-1    | 20,000           |
| Sealing Plug        |          | Blue   | 967056-1    | 5,000            |

**Cavity Diameter 4.0 mm**

| Insulation Diameter |          | Color | Part Number | Package Quantity |
|---------------------|----------|-------|-------------|------------------|
| FLK (mm)            | FLR (mm) |       |             |                  |
| –                   | 0.9–1.3  | Gray  | 963142-2    | 20,000           |
| –                   | 1.4–1.9  | Black | 963142-1    | 20,000           |
| Sealing Plug        |          | White | 963143-1    | 20,000           |

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Engineering Notes

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## Introduction

### Technical Features

#### Material

Contact: CuNiSi  
Pin Contact: Copper-Alloy  
Cantilever Spring: Stainless Steel

#### Contact Finish:

Tin plated

#### Conductor Binding:

Crimp Technology

#### Wire Size Range:

0.35 mm<sup>2</sup> up to 0.5 mm<sup>2</sup>  
0.75 mm<sup>2</sup> up to 1.5 mm<sup>2</sup>

#### Current Carrying Capacity:

Up to 10 A at 80 °C

#### Temperature Range:

-40 °C ... +120 °C (tin plated)

#### Centerline:

- 3.5 x 2.54 mm (unsealed)
- 4.0 x 4.0 mm (wire size equal or less than 0.75 mm<sup>2</sup>, sealed)
- 4.5 x 4.5 mm (wire size 1.0-1.5 mm<sup>2</sup>, sealed)

#### Mating Cycles:

20 tin plated

#### Special Applications:

Receptacle Contact  
Clean Body

#### Extraction Tool:

Part No. **6-1579007-2**

#### Table Drawings:

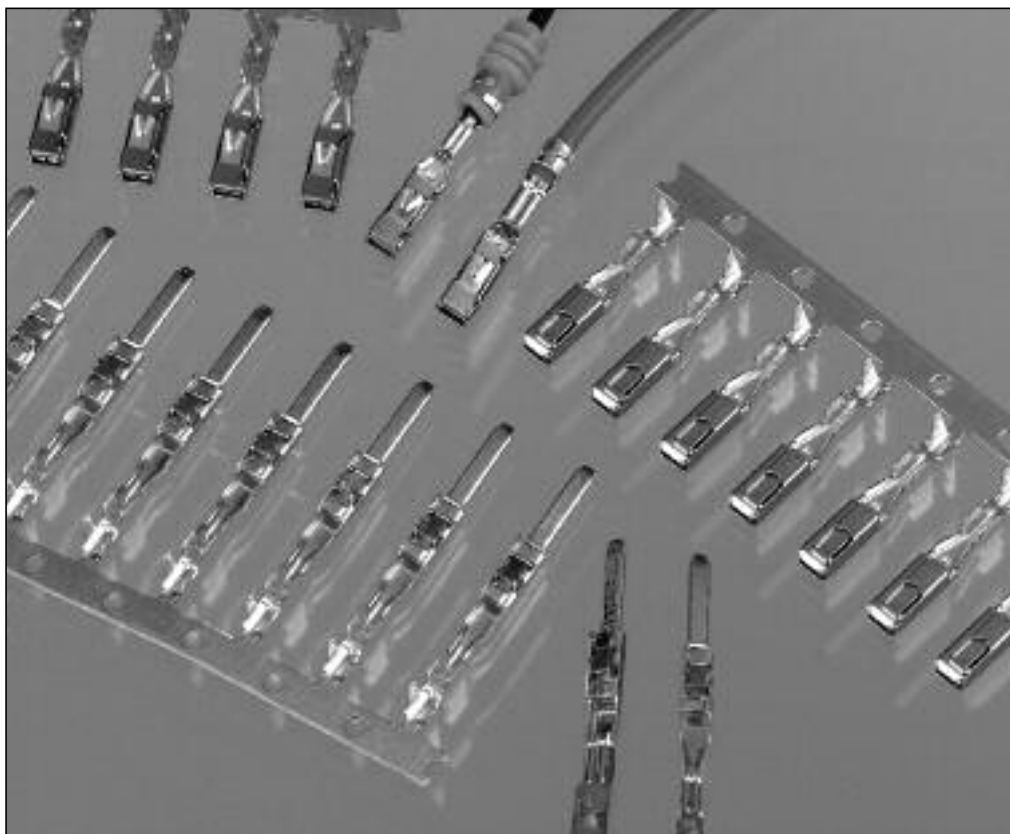
1241611  
1241612 (Clean Body)  
1452079

#### Product Specification:

108-18030

#### Application Specification:

114-18286



### Product Description

Next to the well known MQS contact, we offer an additional MQS 1.5 mm contact. Available as male and female receptacle. The new terminal absolutely supplements the product range. All the advantages are designed in.

It is suitable for sealed and unsealed applications. Single wire sealing or the clean body version can give you high ability on the connector design.

In combination with the MQS, Micro Power Quadlok and Power Quadlok you have the benefit to have the secondary locking on a common level.

Mounting and dismounting of the terminals still ensures the retention function. On the pin header side you can use a pin with higher rigidity.

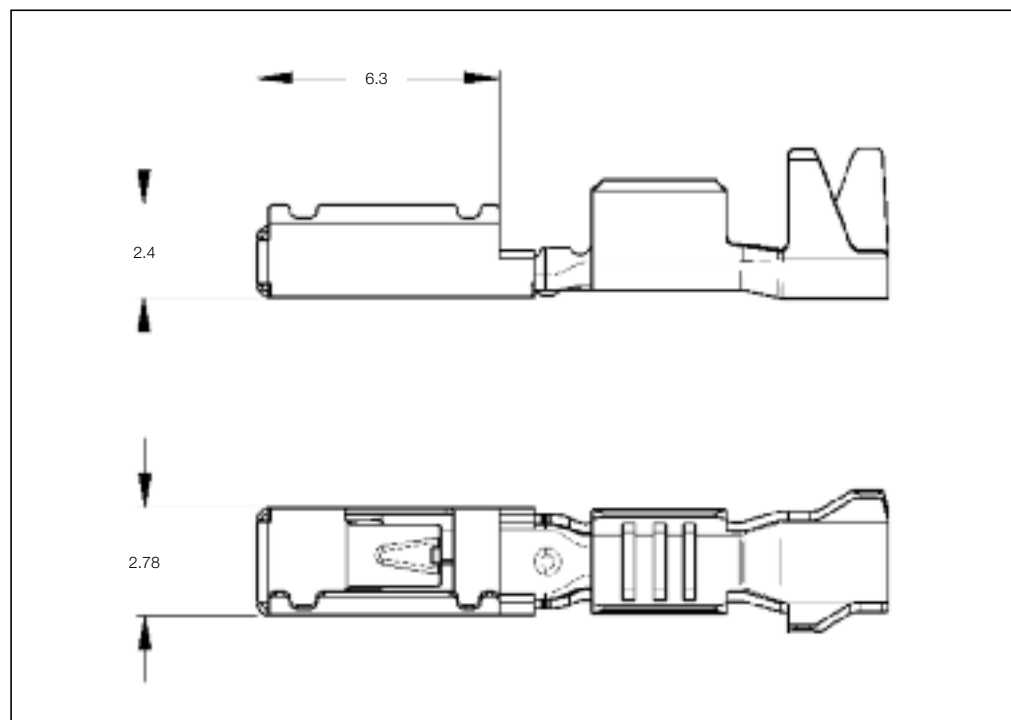
With the two piece design electrical and mechanical functions are separated. Polarization and the two independent lockings bring together a safe and easy handling at the harness maker.

The normal contact force achieves without assisting cantilever spring. Four independent contact points assure a perfect current carry which you can use to contact stamped lead frames.

Receptacle Contacts

1

**Receptacle**  
**1.5 x 0.63 mm,**  
**Mates with MQS 1.5**



**Standard Receptacle Contacts**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter |          | Material and Finish | Part Numbers |                  |            |           |          |
|------------------------------------|---------------------|----------|---------------------|--------------|------------------|------------|-----------|----------|
|                                    | FLK (mm)            | FLR (mm) |                     | Strip Form   | Package Quantity | Applicator | Hand Tool | Die Set  |
| 0.35–0.50                          | –                   | 1.1–1.6  | tin plated          | 1355556-1    | 11,000           | 2151252    | 539635-1  | 539692-2 |
| 0.75–1.50                          | –                   | 1.7–2.4  | tin plated          | 1355553-1    | 8,500            | 2151066    |           |          |

**Single Wire Sealing System**

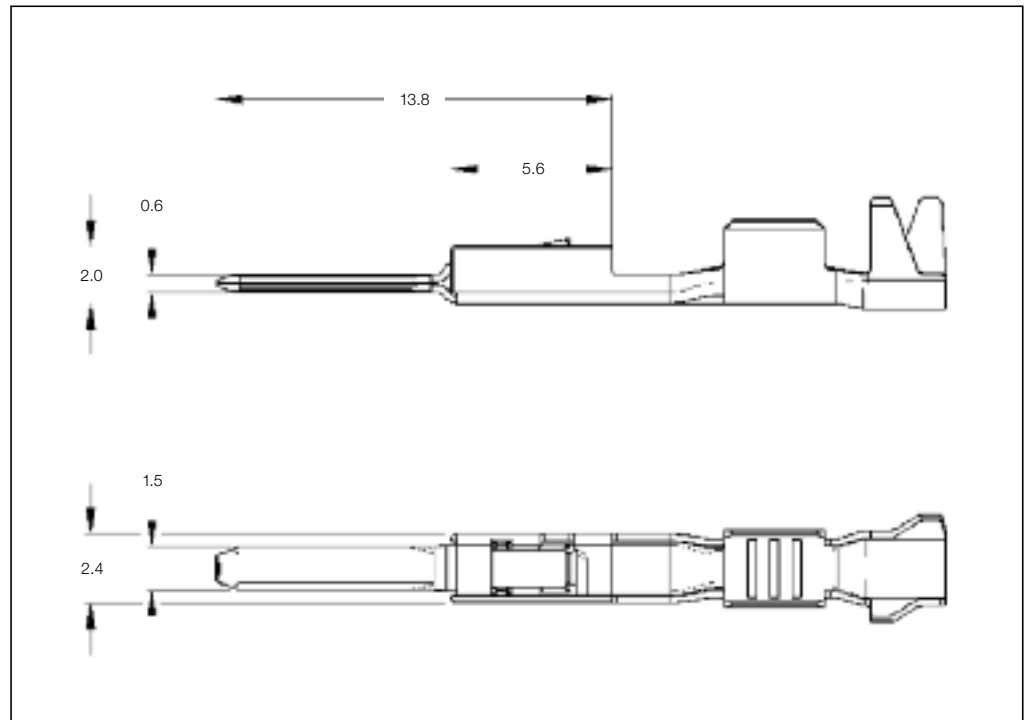
| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter |          | Material and Finish | Part Numbers |                  |            |           |          |
|------------------------------------|---------------------|----------|---------------------|--------------|------------------|------------|-----------|----------|
|                                    | FLK (mm)            | FLR (mm) |                     | Strip Form   | Package Quantity | Applicator | Hand Tool | Die Set  |
| 0.35–0.50                          | –                   | 1.1–1.6  | tin plated          | 1241603-1    | 8,500            | 2151035    | 539635-1  | 539693-2 |
| 0.75–1.50                          | –                   | 1.7–2.4  | tin plated          | 1241605-1    | 8,500            | 2151575    |           |          |

**Clean Body**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter |          | Material and Finish | Part Numbers |                  |            |           |          |
|------------------------------------|---------------------|----------|---------------------|--------------|------------------|------------|-----------|----------|
|                                    | FLK (mm)            | FLR (mm) |                     | Strip Form   | Package Quantity | Applicator | Hand Tool | Die Set  |
| 0.35–0.50                          | –                   | 1.1–1.6  | tin plated          | 1452158-1    | 12,000           | 2151252    | 539635-1  | 539692-2 |
| 0.75–1.50                          | –                   | 1.7–2.4  | tin plated          | 1241608-1    | 8,500            | 2151066    |           |          |

Pin Contacts

**Pin 1.5 x 0.63 mm,  
Mates with MQS 1.5**



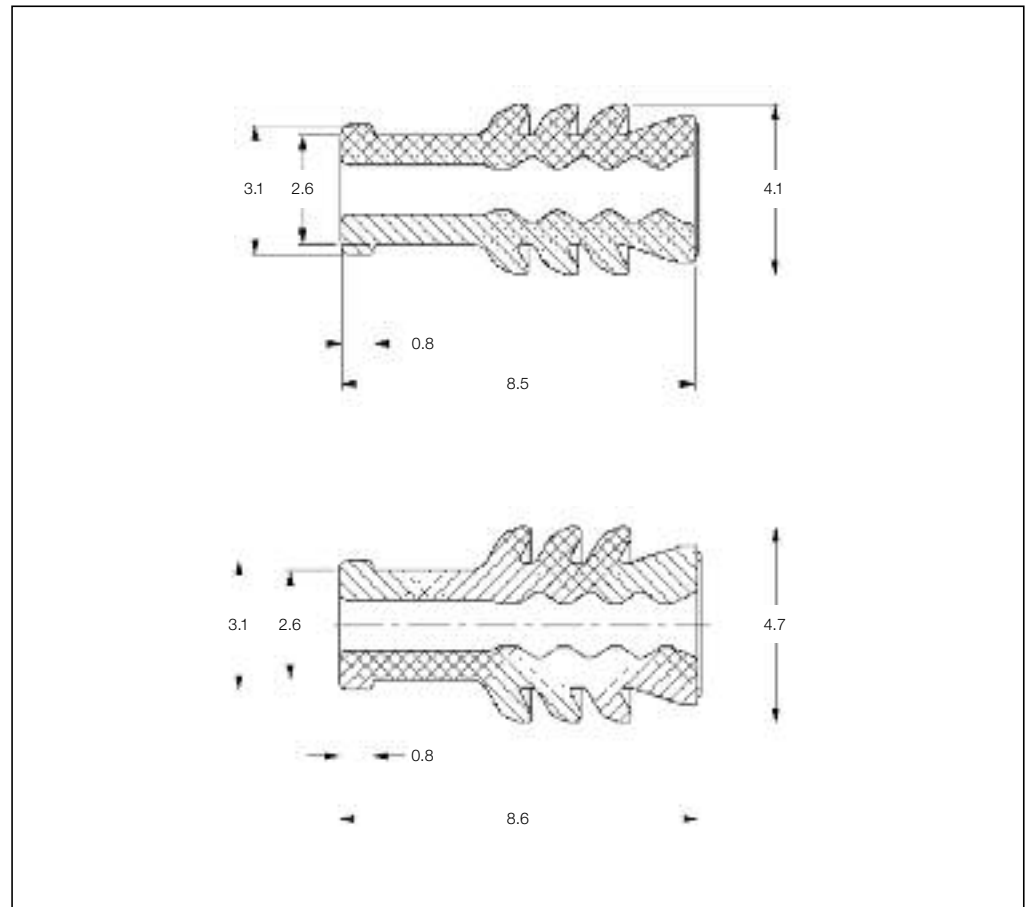
**Standard Pin Contacts**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter |             | Material<br>and Finish | Part Numbers  |                     |            |           |          |
|------------------------------------------|---------------------|-------------|------------------------|---------------|---------------------|------------|-----------|----------|
|                                          | FLK<br>(mm)         | FLR<br>(mm) |                        | Strip<br>Form | Package<br>Quantity | Applicator | Hand Tool | Die Set  |
| 0.35–0.50                                | –                   | 1.1–1.6     | tin plated             | 1-1452350-1   | 13,000              | 2151252    | 339635-1  | 539692-2 |
| 0.75–1.50                                | –                   | 1.7–2.4     | tin plated             | 1-1452058-1   | 8,000               | 2151066    |           |          |

Single Wire Seals and Sealing Plugs

1

**Single Wire Seals  
and Sealing Plugs  
for MQS 1.5**



**Cavity Diameter 3.6 mm**

| Insulation Diameter |          | Color  | Part Number | Package Quantity |
|---------------------|----------|--------|-------------|------------------|
| FLK (mm)            | FLR (mm) |        |             |                  |
| –                   | 1.1–1.3  | Yellow | 967067-2    | 20,000           |
| –                   | 1.4–1.9  | Green  | 967067-1    | 20,000           |
| Sealing Plug        |          | Blue   | 967056-1    | 5,000            |

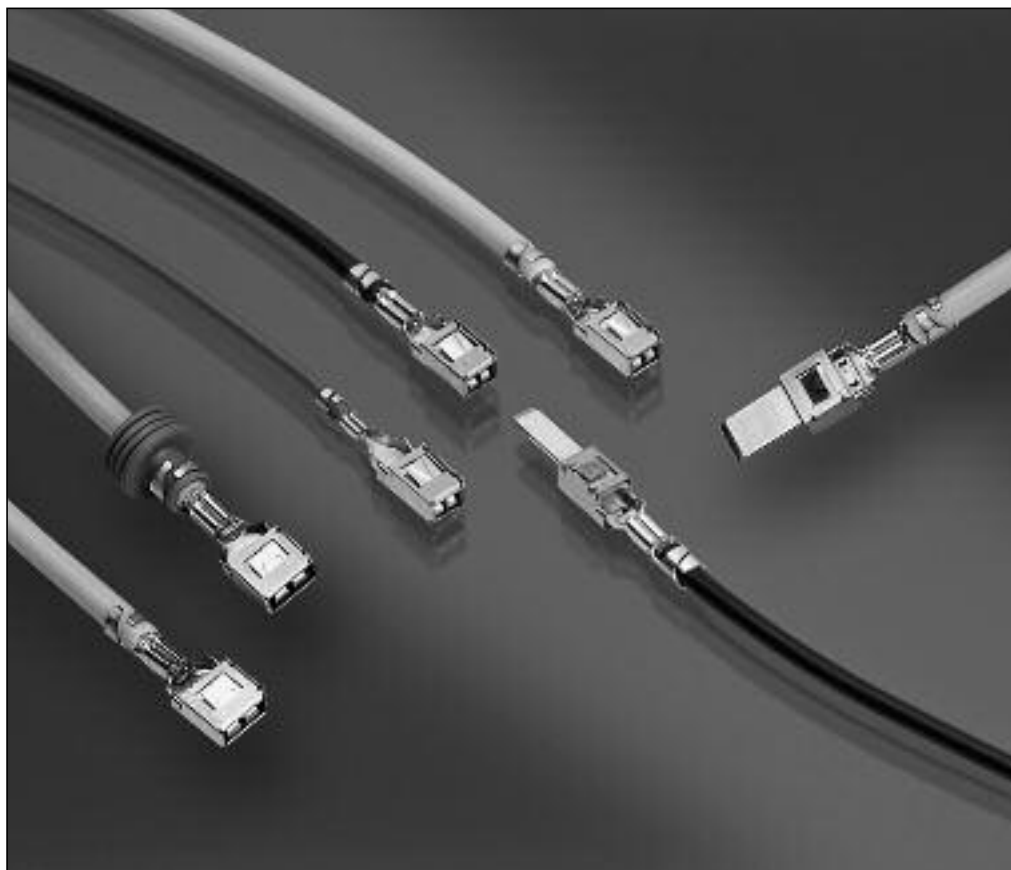
**Cavity Diameter 4.0 mm**

| Insulation Diameter |          | Color | Part Number | Package Quantity |
|---------------------|----------|-------|-------------|------------------|
| FLK (mm)            | FLR (mm) |       |             |                  |
| –                   | 1.1–1.3  | Gray  | 963142-2    | 20,000           |
| –                   | 1.4–1.9  | Black | 963142-1    | 20,000           |
| –                   | 1.9–2.4  | Black | 963142-1    | 20,000           |
| Sealing Plug        |          | White | 963143-1    | 20,000           |

## Introduction



The contact system is designed for electronic and electrical applications in motor vehicles, where vibration and mechanical stress can, in the long-term, affect the quality of conventional contact systems.



## Product Description

Resting upon the standard centerline 2.54 mm Micro Power Quadlok enlarges the MQS contact family in the centreline 5.08 of average and Power Quadlok in the centerline 7.62 of the high capacity. The product family allows a space saving combination of signal- and high current contacts and provides through the standard contact size for a flexible system structure.

The contact system is designed for electronic and electrical applications in motor vehicles, where vibration and mechanical stress can, in the long-term, affect the quality of conventional contact systems.

Receptacle Contacts

**Technical Features**

**Material**

Receptacle Contact: CuNiSi  
Tab Contact: CuSn  
Cantilever Spring: Stainless Steel

**Contact Finish:**

Tin plated, selective gold plated,  
Paladium Nickel plated

**Wire Size Range:**

>0.35–0.5 mm<sup>2</sup>  
>0.5–1.0 mm<sup>2</sup>  
>1.0–2.5 mm<sup>2</sup>  
stranded cable (FLR)

**Current Carrying Capacity:**

34 A (20 °C)  
25 A (80 °C)

**Temperature Range:**

–40 °C ... +130 °C (tin plated)  
–40 °C ... +150 °C (gold plated)

**Centerline**

Standard: 5.08 x 5.08 mm  
Single Wire Sealing System:  
7.0 x 7.0 mm

**Extraction Tool:**

Part No. **6-1579007-3**

**Chart Drawings**

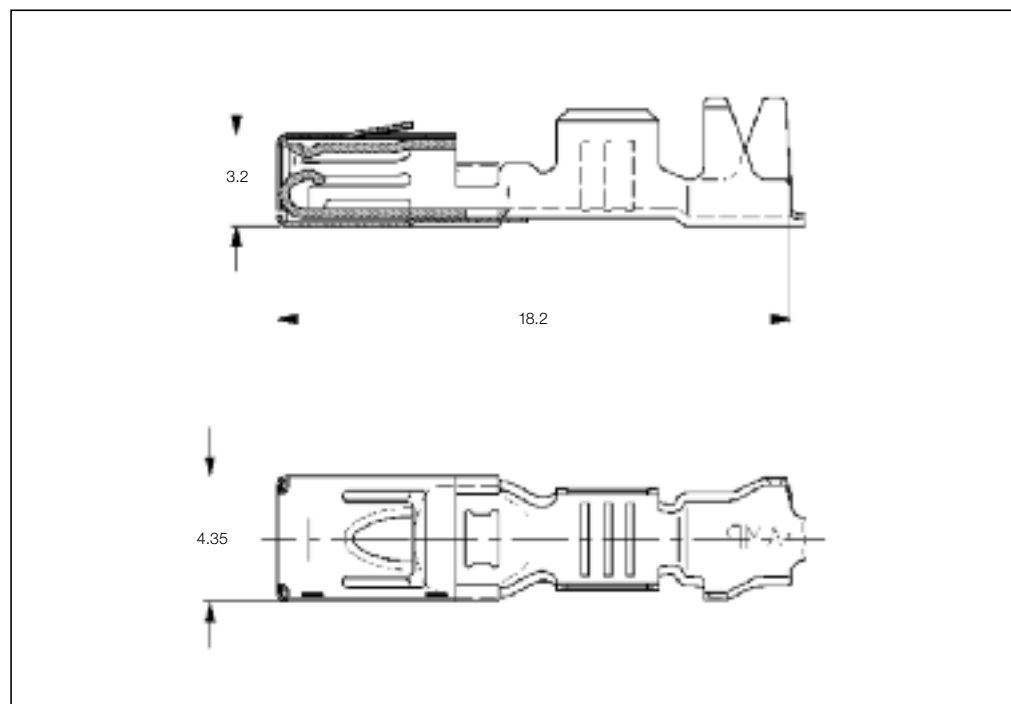
Receptacle Contact: 1355934  
Tab Contact: 1355933

**Product Specification:**

108-18476-1

**Application Specification:**

114-18141-1



**Standard Receptacle Contacts**

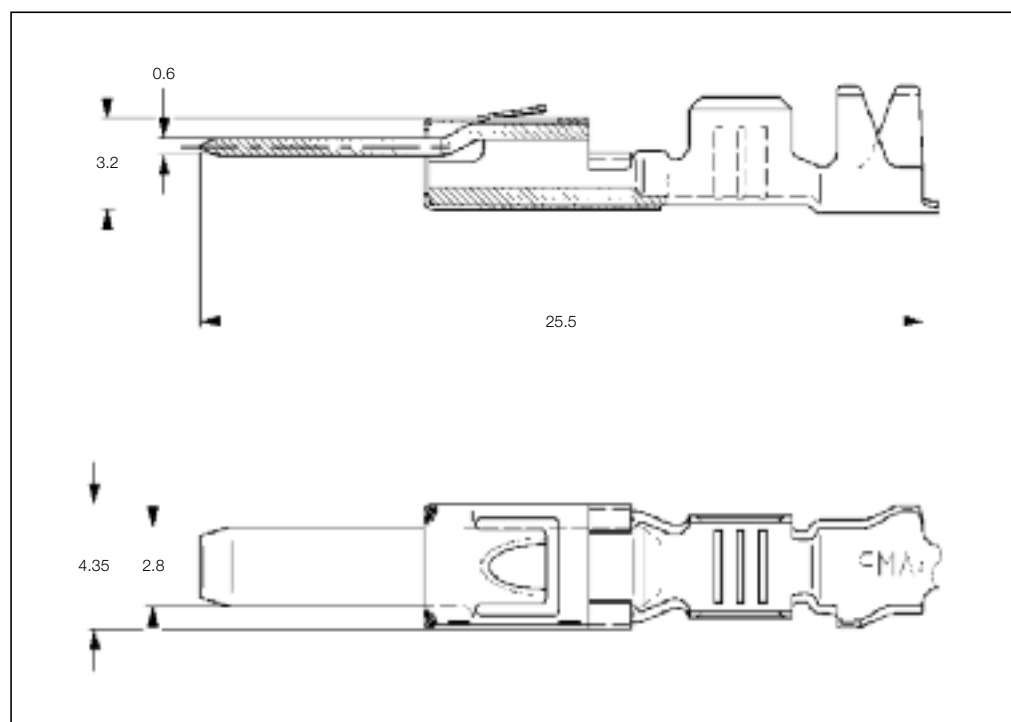
| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter |          | Material and Finish | Part Numbers |                  |            |           |
|------------------------------------|---------------------|----------|---------------------|--------------|------------------|------------|-----------|
|                                    | FLK (mm)            | FLR (mm) |                     | Strip Form   | Package Quantity | Applicator | Hand Tool |
| 0.35–0.5                           | –                   | 1.2–1.6  | tin plated          | 968678-2     | 5,000            | 2151045    | 539711-1  |
|                                    |                     |          | gold plated         | 968678-5     | 5,000            |            |           |
| >0.5–1.0                           | –                   | 1.7–2.1  | tin plated          | 968074-2     | 5,000            | 2151039    | 58589-1   |
|                                    |                     |          | gold plated         | 968074-5     | 5,000            |            |           |
| >1.0–2.5                           | –                   | 2.2–3.0  | tin plated          | 968075-2     | 4,000            | 2151067    | 58590-1   |
|                                    |                     |          | gold plated         | 968075-5     | 4,000            |            |           |
| 4.0                                | –                   | 3.4–3.7  | tin plated          | 1355950-2    | 3,000            | 2151051    | –         |

**Single Wire Sealing System**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter |          | Material and Finish    | Part Numbers |                  |            |           |
|------------------------------------|---------------------|----------|------------------------|--------------|------------------|------------|-----------|
|                                    | FLK (mm)            | FLR (mm) |                        | Strip Form   | Package Quantity | Applicator | Hand Tool |
| 0.35–0.5                           | –                   | 1.2–1.6  | tin plated             | 968680-2     | 3,300            | 2151692    | 539712-1  |
|                                    |                     |          | gold plated            | 968680-5     | 3,300            |            |           |
| >0.5–1.0                           | –                   | 1.7–2.1  | tin plated             | 968119-2     | 3,000            | 2151556    | 58591-1   |
|                                    |                     |          | gold plated            | 968119-5     | 3,000            |            |           |
|                                    |                     |          | Paladium nickel plated | 968119-4     | –                |            |           |
| >1.0–2.5                           | –                   | 2.2–3.0  | tin plated             | 968120-2     | 3,000            | 2151577    | –         |
|                                    |                     |          | gold plated            | 968120-5     | 3,000            |            |           |

Pin Contacts

**Pin 2.8 x 0.63 mm,  
Mates with  
Micro Power Quadlok**



**Standard Pin Contacts**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter |             | Material<br>and Finish | Strip<br>Form | Package<br>Quantity | Part Numbers |             | Hand Tool |
|------------------------------------------|---------------------|-------------|------------------------|---------------|---------------------|--------------|-------------|-----------|
|                                          | FLK<br>(mm)         | FLR<br>(mm) |                        |               |                     | Standard     | Fine Adjust |           |
| 0.35–0.5                                 | –                   | 1.2–1.6     | tin plated             | 968679-2      | 5,000               | –            | 2151045     | 539711-1  |
|                                          |                     |             | gold plated            | 968679-5      | 5,000               |              |             |           |
| >0.5–1.0                                 | –                   | 1.7–2.1     | tin plated             | 968136-2      | 5,000               | –            | 2151039     | 58589-1   |
|                                          |                     |             | gold plated            | 968136-5      | 5,000               |              |             |           |
| >1.0–2.5                                 | –                   | 2.2–3.0     | tin plated             | 968137-2      | 4,000               | 1426259      | 2151067     | 58590-1   |
|                                          |                     |             | gold plated            | 968137-5      | 4,000               |              |             |           |
| 4.0                                      | –                   | 3.4–3.7     | tin plated             | 1355964-2     | 3,000               | –            | 2151051     | –         |

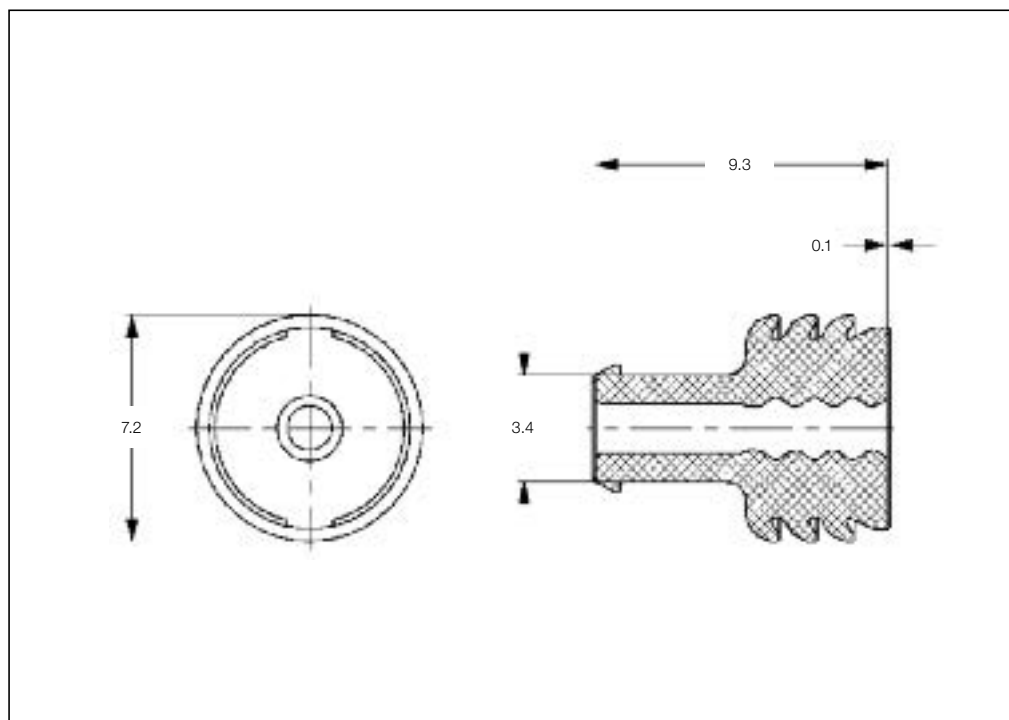
**Single Wire Sealing System**

| Wire Size<br>Range<br>(mm <sup>2</sup> ) | Insulation Diameter |             | Material<br>and Finish | Strip<br>Form | Package<br>Quantity | Part Numbers |           |
|------------------------------------------|---------------------|-------------|------------------------|---------------|---------------------|--------------|-----------|
|                                          | FLK<br>(mm)         | FLR<br>(mm) |                        |               |                     | Applicator   | Hand Tool |
| 0.35–0.5                                 | –                   | 1.2–1.6     | tin plated             | 968681-2      | 3,500               | 2151692      | 539712-1  |
|                                          |                     |             | gold plated            | 968681-5      | 3,500               |              |           |
| >0.5–1.0                                 | –                   | 1.7–2.1     | tin plated             | 968138-2      | 3,000               | 2151556      | 58591-1   |
|                                          |                     |             | gold plated            | 968138-5      | 3,000               |              |           |
| >1.0–2.5                                 | –                   | 2.2–3.0     | tin plated             | 968139-2      | 3,000               | 2151577      | 58591-1   |
|                                          |                     |             | gold plated            | 968139-5      | 3,000               |              |           |

Single Wire Seals and Sealing Plugs

1

**Single Wire Seals  
and Sealing Plugs  
for Micro Power Quadlok**



| Insulation Diameter |          | Color       | Part Number | Package Quantity |
|---------------------|----------|-------------|-------------|------------------|
| FLK (mm)            | FLR (mm) |             |             |                  |
| –                   | 1.2–2.1  | Gray        | 967610-1    | 5,000            |
| –                   | 2.2–3.0  | Yellow      | 967609-1    | 5,000            |
| Sealing Plug        |          | Transparent | 967653-1    | 5,000            |

Receptacle Contacts

**Technical Features**

**Material**

Receptacle Contact: CuNiSi  
Tab Contact: CuSn  
Cantilever Spring: Stainless Steel

**Contact Finish:**

Pre-tin plated,  
Paladium Nickel plated

**Wire Size Range:**

>1.0–6.0 mm<sup>2</sup> Single Wires  
(Single Wire Sealing System)

**Current Carrying Capacity:**

4.0 mm<sup>2</sup> (free in air/RT)  
45 A (20 °C)  
30 A (80 °C)

**Temperature Range:**

–40 °C to +130 °C (tin plated)

**Centerline:**

“Pitch 7” Version:  
7.62 x 7.0 mm (Standard)

“Pitch 6” Version:  
7.62 x 6.0 mm (Standard)

9.1 x 9.1 mm  
(Single Wire Sealing System)

**Extraction Tool:**

Part No. **6-1579007-4**

**Chart Drawings:**

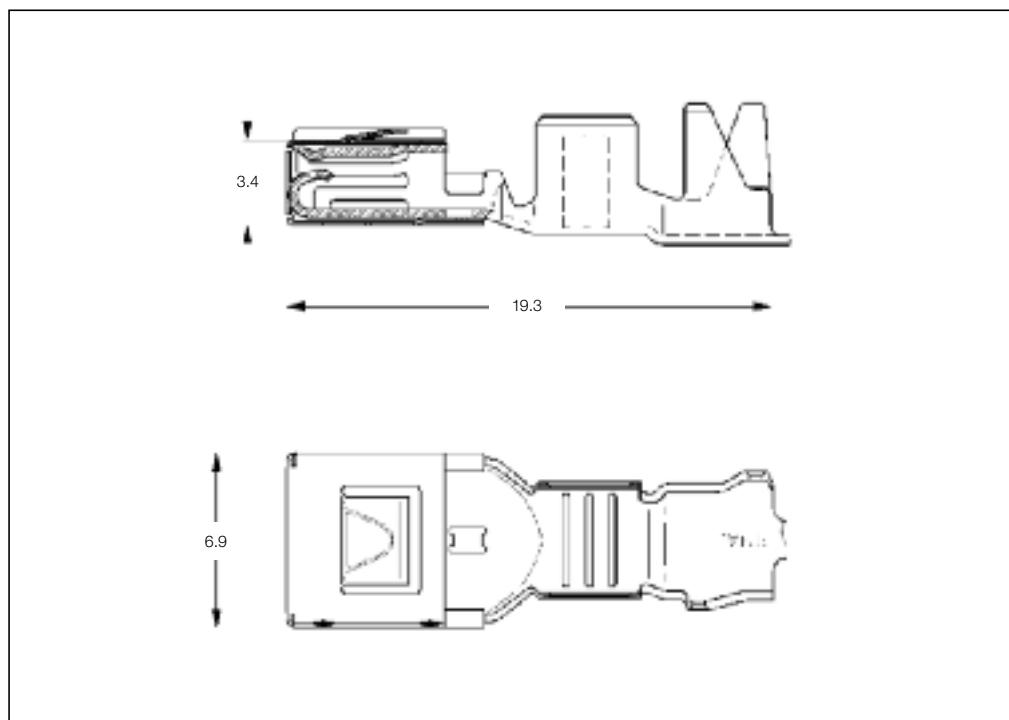
Receptacle Contact: 1241638  
Tab Contact: 1241639

**Product Specification:**

108-18476-1

**Application Specification:**

114-18141-1



**Standard Receptacle Contacts**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter |          | Material and Finish | Part Numbers |                  |            |           |
|------------------------------------|---------------------|----------|---------------------|--------------|------------------|------------|-----------|
|                                    | FLK (mm)            | FLR (mm) |                     | Strip Form   | Package Quantity | Applicator | Hand Tool |
| >1.0–2.5                           | –                   | 2.2–3.0  | pre-tin plated      | 968072-2*    | 2,800            | 2151047    | 58593-1   |
|                                    |                     |          |                     | 1241601-2**  | 2,500            |            |           |
| >2.5–4.0                           | –                   | 3.4–3.7  | pre-tin plated      | 968073-2*    | 2,300            | 2151579    | 58594-1   |
|                                    |                     |          |                     | 1241602-2**  | 2,400            |            |           |

\* “Pitch 7” Version

\*\* “Pitch 6” Version

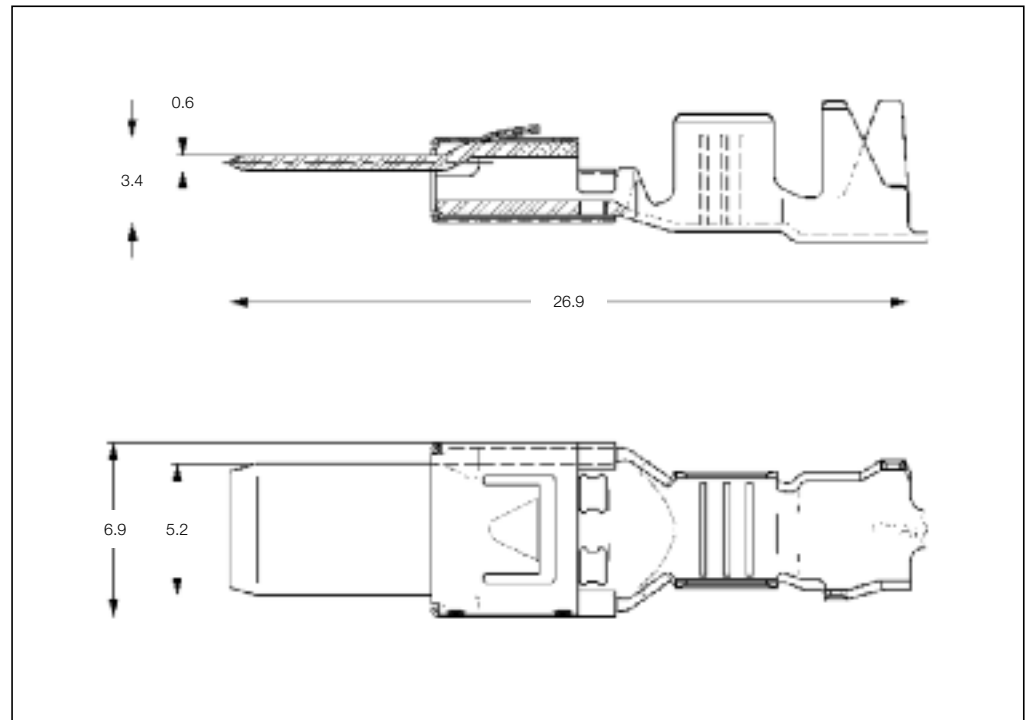
**Single Wire Sealing System**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter |          | Material and Finish    | Part Numbers |                  |            |           |
|------------------------------------|---------------------|----------|------------------------|--------------|------------------|------------|-----------|
|                                    | FLK (mm)            | FLR (mm) |                        | Strip Form   | Package Quantity | Applicator | Hand Tool |
| >1.0–2.5                           | –                   | 2.2–3.0  | pre-tin plated         | 968121-2     | 1,800            | 2151576    | 58595-1   |
|                                    |                     |          | Paladium nickel plated | 968121-4     | –                |            |           |
| >2.5–4.0                           | –                   | 3.4–3.7  | pre-tin plated         | 968122-2     | 1,800            | 2151574    | 58596-1   |
|                                    |                     |          | Paladium nickel plated | 968122-4     | –                |            |           |

Pin Contacts

1

**Pin 5,2 x 0.63 mm,  
Mates with  
Power Quadlok**



**Standard Pin Contacts**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter |          | Material and Finish | Part Numbers |                  |            |           |
|------------------------------------|---------------------|----------|---------------------|--------------|------------------|------------|-----------|
|                                    | FLK (mm)            | FLR (mm) |                     | Strip Form   | Package Quantity | Applicator | Hand Tool |
| >1.0–2.5                           | –                   | 2.2–3.0  | pre-tin plated      | 968131-2*    | 3,000            | 2151047    | 58593-1   |
|                                    |                     |          |                     | 1241614-2**  | 3,000            |            |           |
| >2.5–4.0                           | –                   | 3.4–3.7  | pre-tin plated      | 968132-2*    | 2,300            | 2151579    | 58594-1   |
|                                    |                     |          |                     | 1241615-2**  | 2,300            |            |           |

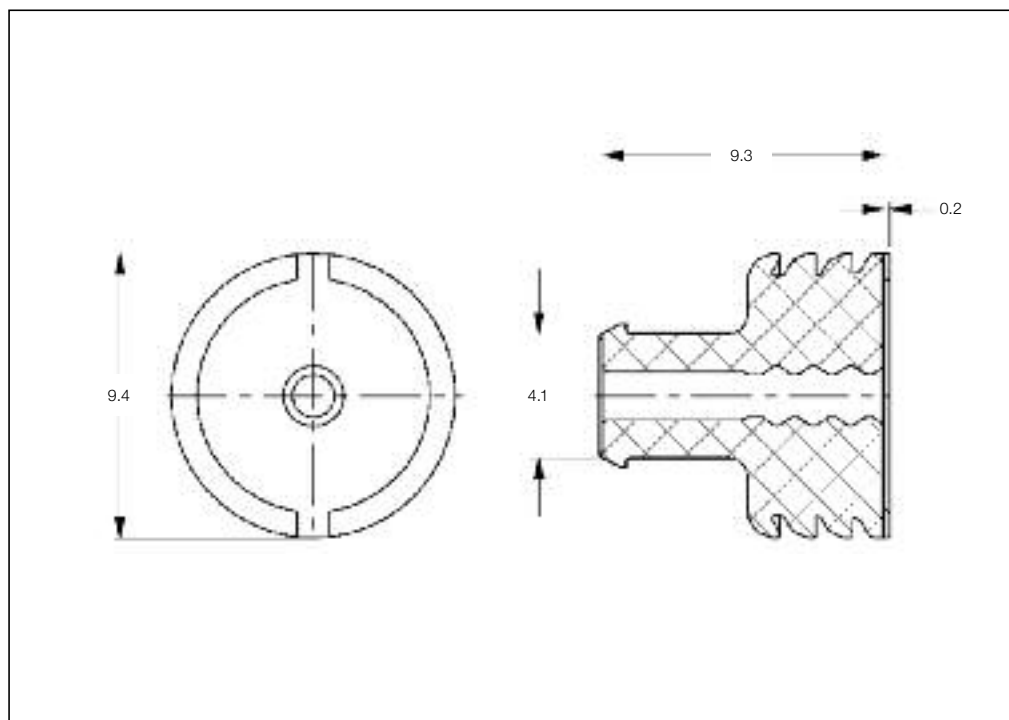
\* "Pitch 7" Version  
\*\* "Pitch 6" Version

**Single Wire Sealing System**

| Wire Size Range (mm <sup>2</sup> ) | Insulation Diameter |          | Material and Finish | Part Numbers |                  |            |           |
|------------------------------------|---------------------|----------|---------------------|--------------|------------------|------------|-----------|
|                                    | FLK (mm)            | FLR (mm) |                     | Strip Form   | Package Quantity | Applicator | Hand Tool |
| >1.0–2.5                           | –                   | 2.2–3.0  | pre-tin plated      | 968133-2     | 2,000            | 2151576    | 58595-1   |
| >2.5–4.0                           | –                   | 3.4–3.7  | pre-tin plated      | 968134-2     | 2,000            | 2151574    | 58596-1   |

Single Wire Seals and Sealing Plugs

**Single Wire Seals  
and Sealing Plugs  
for Power Quadlok**



| Insulation Diameter |          | Color       | Part Number | Package Quantity |
|---------------------|----------|-------------|-------------|------------------|
| FLK (mm)            | FLR (mm) |             |             |                  |
| –                   | 2.2–3.0  | Yellow      | 967607-1    | 3,000            |
| –                   | 3.4–3.7  | Green       | 967608-1    | 3,000            |
| Sealing Plug        |          | Transparent | 967652-1    | 20,000           |

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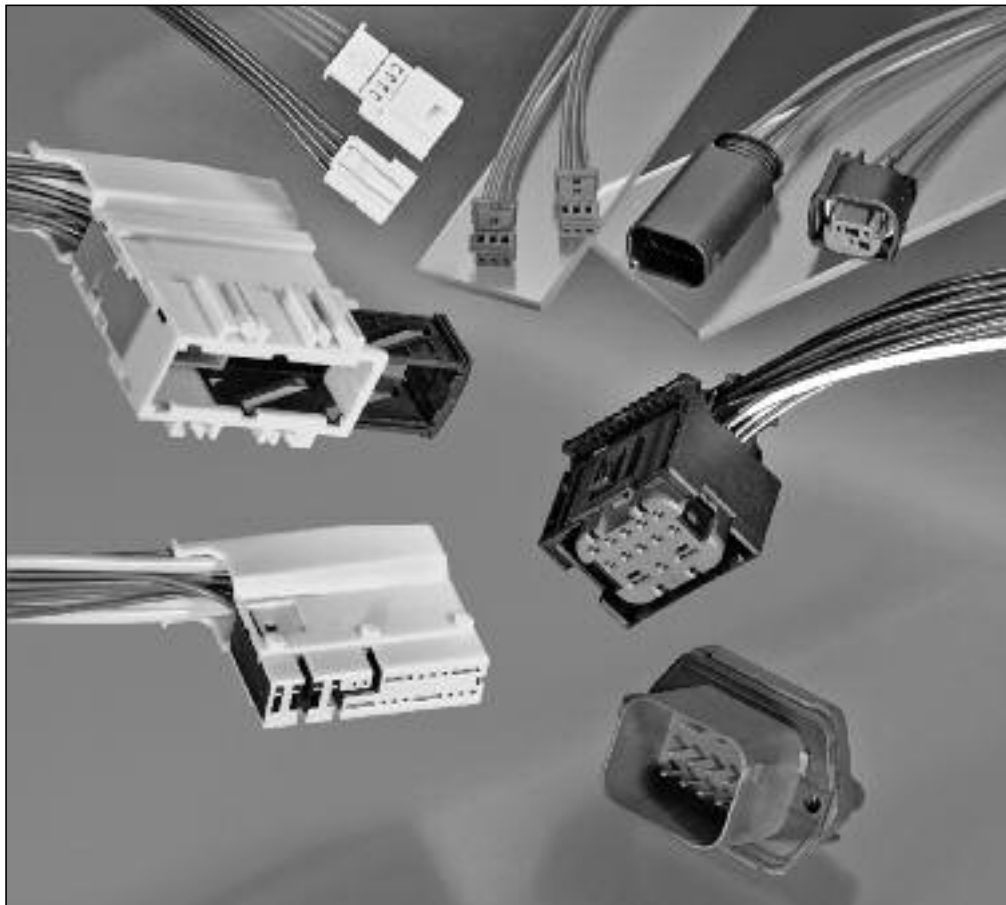
Engineering Notes

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1

A large grid of graph paper for engineering notes, consisting of 30 columns and 40 rows of small squares.

## Introduction



The MQS interconnection offers one of the most compact packages available today with capability for waterproofing and resistance to conditions of extreme vibration.

Waterproofing is achieved with individual wire seals that can be automatically applied during the crimping process. Interfacial sealing is achieved by radial sealing of a multiple ridge design.

Vibration resistance is achieved with a four beam, four contact point system.

A high primary terminal locking force, for such a small size system, is achieved by the use of a stainless steel metal locking lance.

The stainless steel jacket also helps to prevent damage to the small contacts and allows selection of a more optimal material for electro-mechanical performance of the contact beams.

Secondary locking is provided by a pre-assembled plastic device.

Printed Circuit Board Headers

**Technical Features**

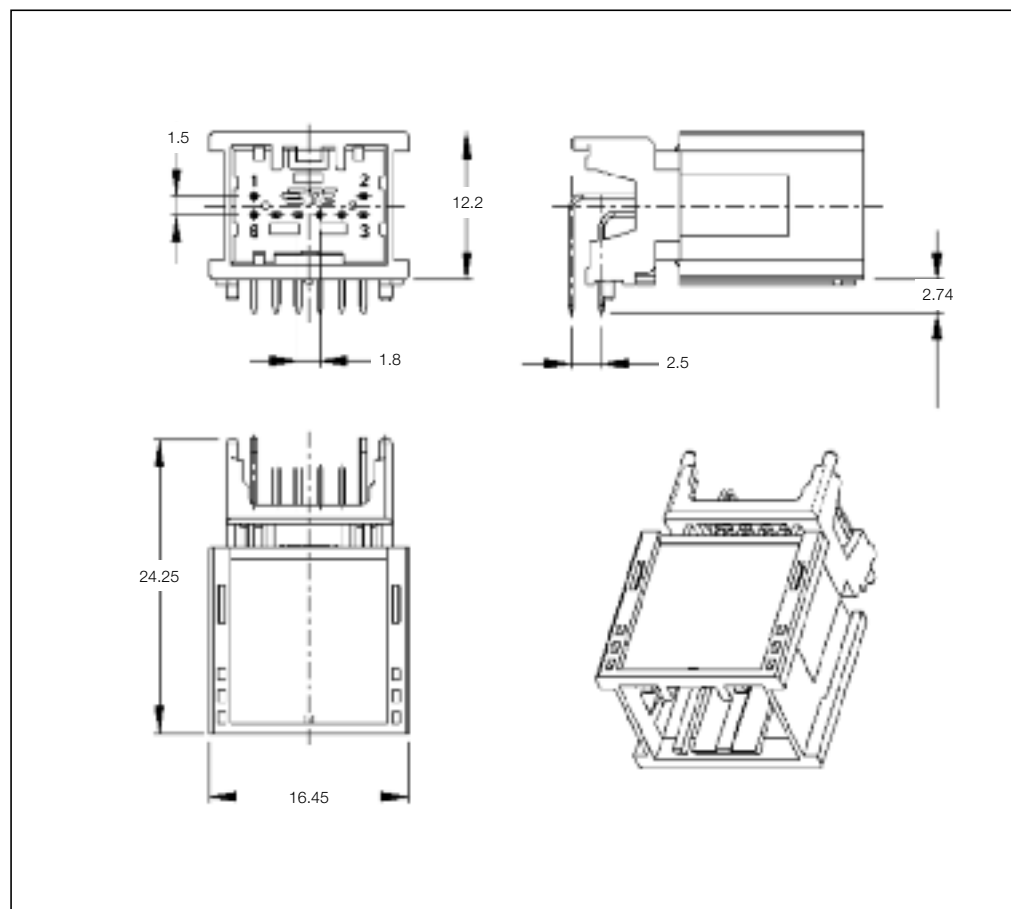
**No. of Positions:**  
8 Positions

**Housing Material:**  
LCP, Glas fibre reinforced

**Material and Finish:**  
CuMg01, Sn over Ni

**Product Specification:**  
108-94313

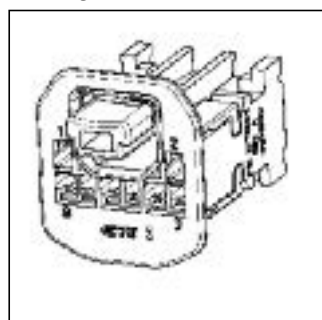
**Application Specification:**  
114-94160



**Printed Circuit Board Headers**

| No. of Positions | Keying Options | Housing Color | Part Numbers           |       |       |                   |                            |
|------------------|----------------|---------------|------------------------|-------|-------|-------------------|----------------------------|
|                  |                |               | PCB Header Right Angle | Cover | Lever | Retainer Housings | Mating Receptacle Housings |
| 8 pos.           | Coding A       | Black         | 0-2177372-3            | N/A   | N/A   | N/A               | 2177586-1                  |
| 8 pos.           | Coding B       | Black         | 1-2177372-3            | N/A   | N/A   | N/A               | 2177586-2                  |
| 8 pos.           | Coding C       | Black         | 2-2177372-3            | N/A   | N/A   | N/A               | 2177586-3                  |
| 8 pos.           | Coding D       | Black         | 3-2177372-3            | N/A   | N/A   | N/A               | 2177586-4                  |

**Mating Receptacle Housing**  
See Page 2-10



Printed Circuit Board Headers (continued)

**Technical Features**

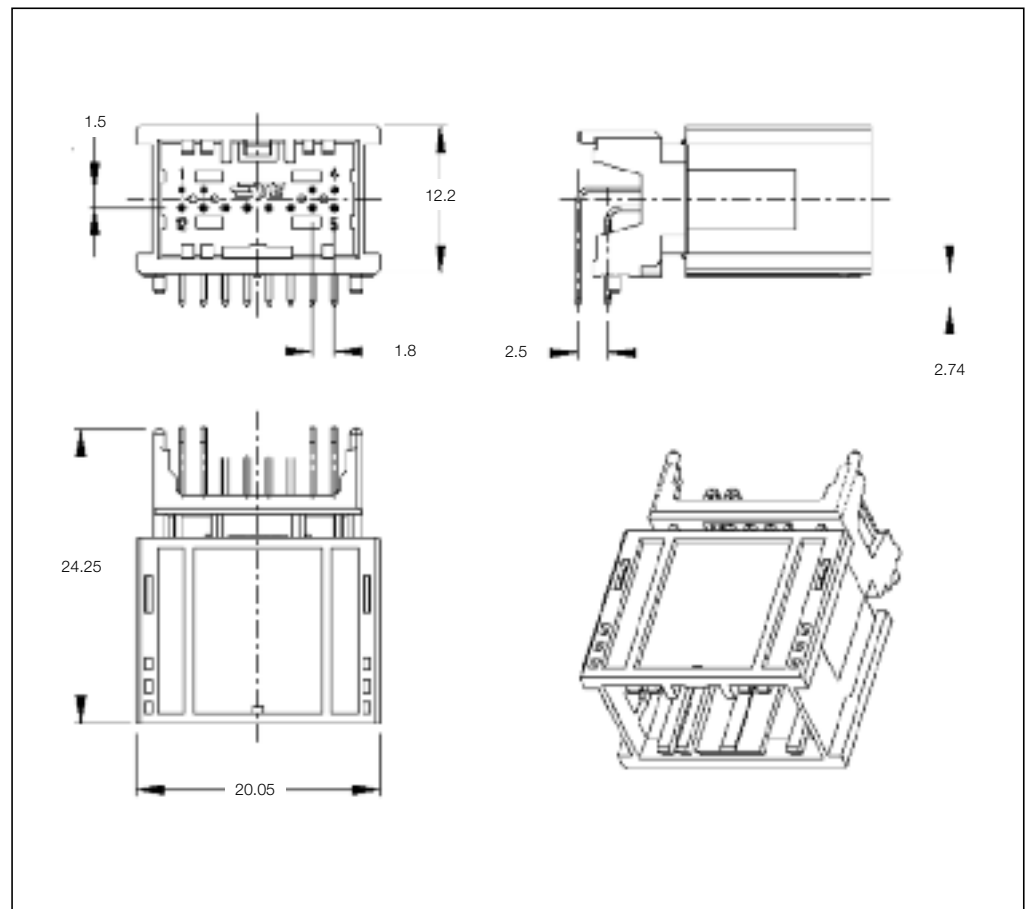
**No. of Positions:**  
12 Positions

**Housing Material:**  
LCP, Glas fibre reinforced

**Material and Finish:**  
CuMg01, Sn over Ni

**Product Specification:**  
108-94313

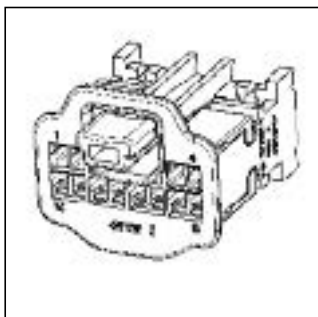
**Application Specification:**  
114-94160



**Printed Circuit Board Headers**

| No. of Positions | Keying Options | Housing Color | Part Numbers           |       |       |                   |                            |
|------------------|----------------|---------------|------------------------|-------|-------|-------------------|----------------------------|
|                  |                |               | PCB Header Right Angle | Cover | Lever | Retainer Housings | Mating Receptacle Housings |
| 12 pos.          | Coding A       | Black         | 0-2177370-3            | N/A   | N/A   | N/A               | 2177587-1                  |
| 12 pos.          | Coding B       | Black         | 1-2177370-3            | N/A   | N/A   | N/A               | 2177587-2                  |
| 12 pos.          | Coding C       | Black         | 2-2177370-3            | N/A   | N/A   | N/A               | 2177587-3                  |
| 12 pos.          | Coding D       | Black         | 3-2177370-3            | N/A   | N/A   | N/A               | 2177587-4                  |

**Mating Receptacle Housing**  
See Page 2-11



Printed Circuit Board Headers (continued)

**Technical Features**

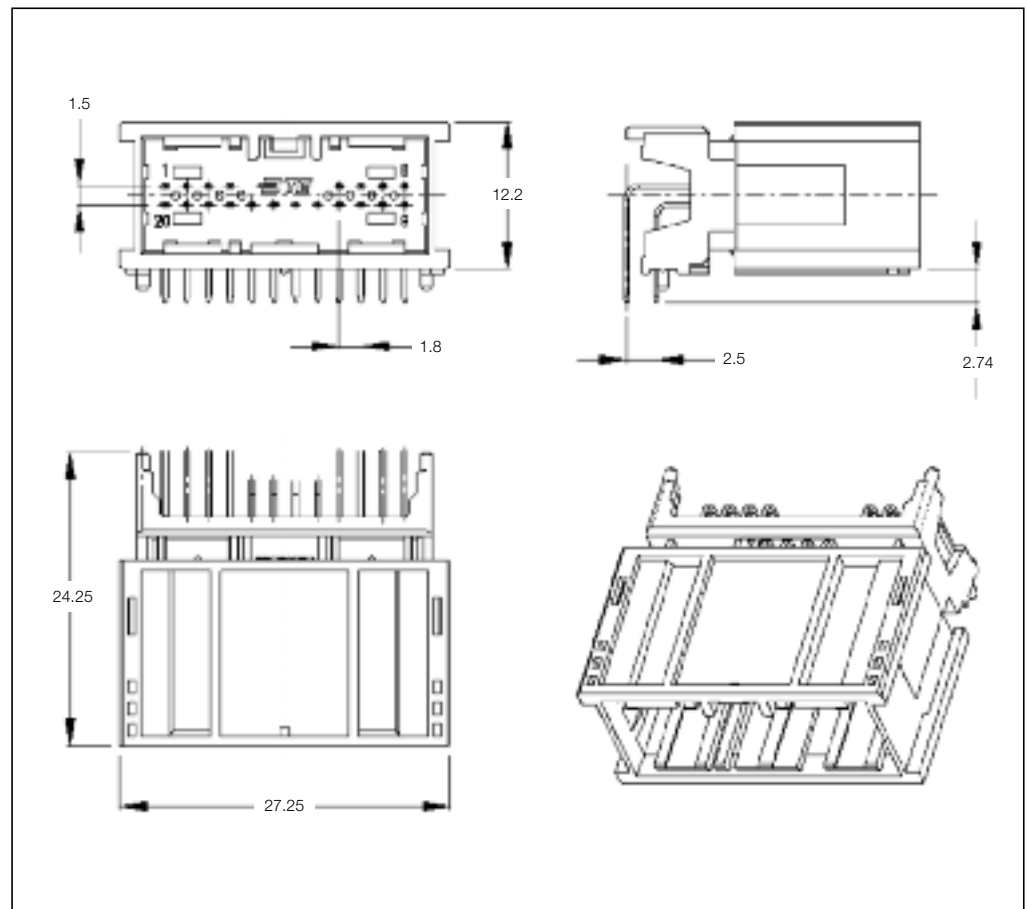
**No. of Positions:**  
20 Positions

**Housing Material:**  
LCP, Glas fibre reinforced

**Material and Finish:**  
CuMg01, Sn over Ni

**Product Specification:**  
108-94313

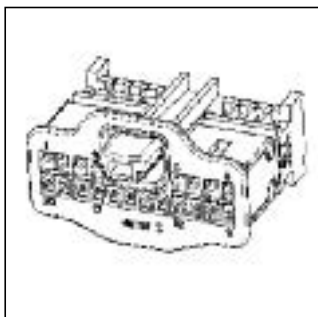
**Application Specification:**  
114-94160



**Printed Circuit Board Headers**

| No. of Positions | Keying Options | Housing Color | Part Numbers           |       |       |                   |                            |
|------------------|----------------|---------------|------------------------|-------|-------|-------------------|----------------------------|
|                  |                |               | PCB Header Right Angle | Cover | Lever | Retainer Housings | Mating Receptacle Housings |
| 20 pos.          | Coding A       | Black         | 0-2177367-3            | N/A   | N/A   | N/A               | 2177588-1                  |
| 20 pos.          | Coding B       | Black         | 1-2177367-3            | N/A   | N/A   | N/A               | 2177588-2                  |
| 20 pos.          | Coding C       | Black         | 2-2177367-3            | N/A   | N/A   | N/A               | 2177588-3                  |
| 20 pos.          | Coding D       | Black         | 3-2177367-3            | N/A   | N/A   | N/A               | 2177588-4                  |

**Mating Receptacle Housing**  
See Page 2-12



Printed Circuit Board Headers (continued)

**Technical Features**

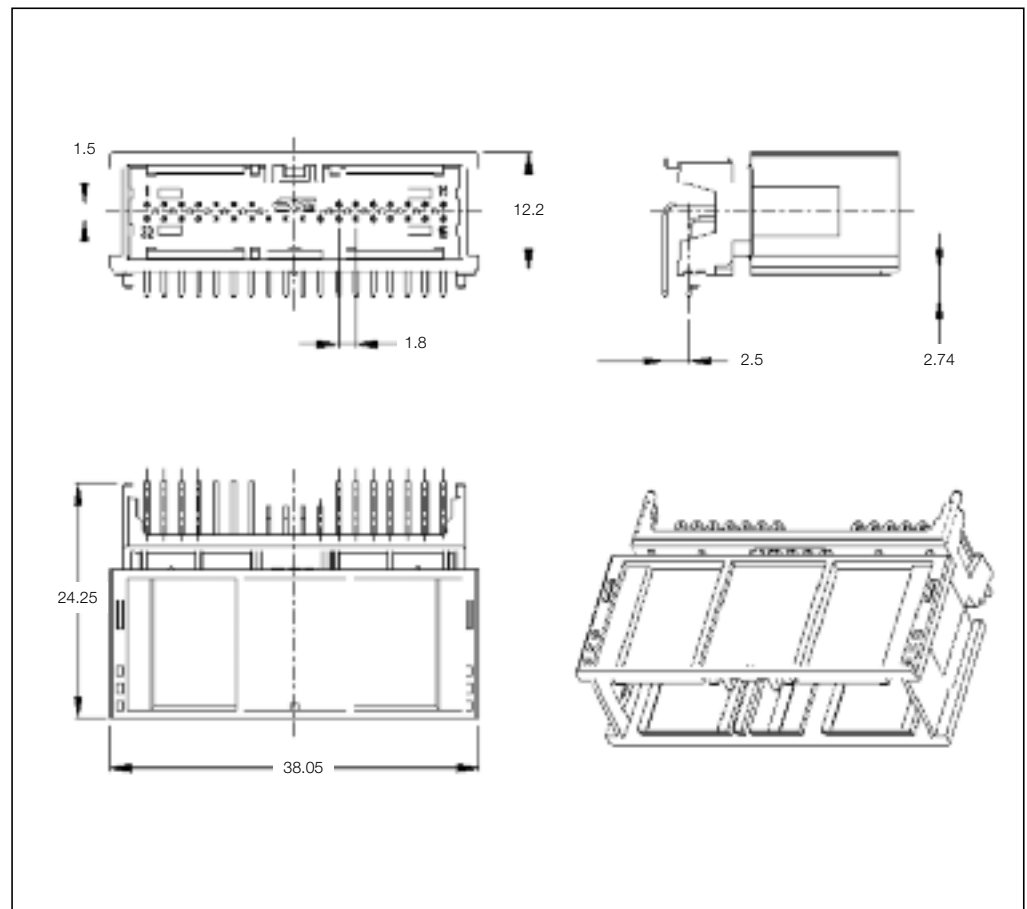
**No. of Positions:**  
32 Positions

**Housing Material:**  
LCP, Glas fibre reinforced

**Material and Finish:**  
CuMg01, Sn over Ni

**Product Specification:**  
108-94313

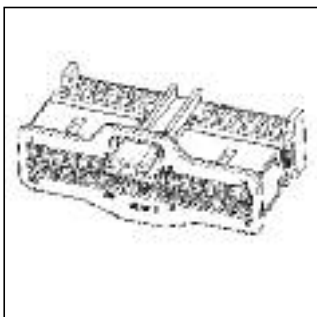
**Application Specification:**  
114-94160



**Printed Circuit Board Headers**

| No. of Positions | Keying Options | Housing Color | Part Numbers           |       |       |                   |                            |
|------------------|----------------|---------------|------------------------|-------|-------|-------------------|----------------------------|
|                  |                |               | PCB Header Right Angle | Cover | Lever | Retainer Housings | Mating Receptacle Housings |
| 32 pos.          | Coding A       | Black         | 0-2177419-3            | N/A   | N/A   | N/A               | 2141576-1                  |
| 32 pos.          | Coding B       | Black         | 1-2177419-3            | N/A   | N/A   | N/A               | 2141576-2                  |
| 32 pos.          | Coding C       | Black         | 2-2177419-3            | N/A   | N/A   | N/A               | 2141576-3                  |
| 32 pos.          | Coding D       | Black         | 3-2177419-3            | N/A   | N/A   | N/A               | 2141576-4                  |

**Mating Receptacle Housing**  
See Page 2-13



Printed Circuit Board Headers (continued)

**Technical Features**

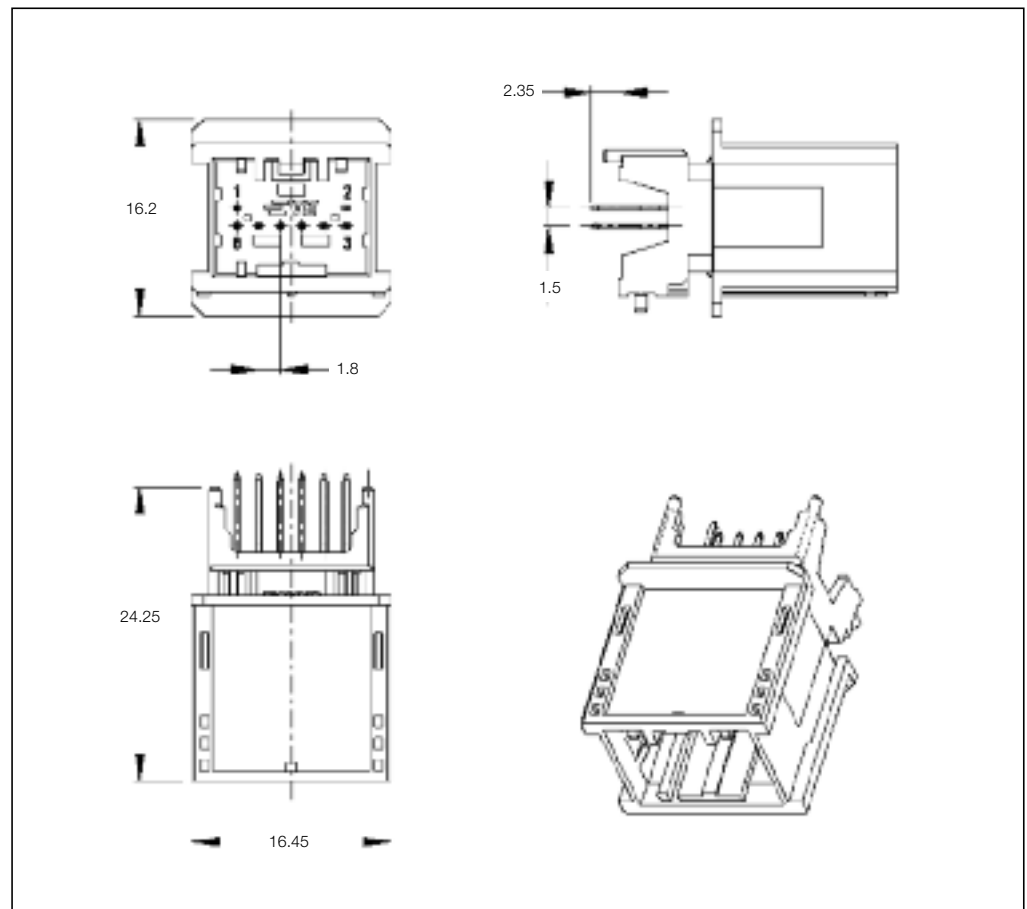
**No. of Positions:**  
8 Positions

**Housing Material:**  
LCP, Glas fibre reinforced

**Material and Finish:**  
CuMg01, Sn over Ni

**Product Specification:**  
108-94313

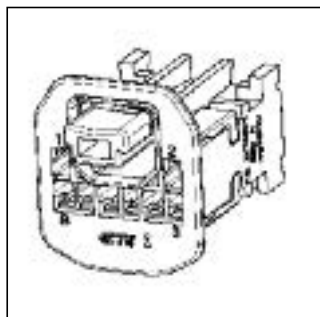
**Application Specification:**  
114-94160



**Printed Circuit Board Headers**

| No. of Positions | Keying Options | Housing Color | Part Numbers        |       |       |                   |                            |
|------------------|----------------|---------------|---------------------|-------|-------|-------------------|----------------------------|
|                  |                |               | PCB Header Vertical | Cover | Lever | Retainer Housings | Mating Receptacle Housings |
| 8 pos.           | Coding A       | Black         | 0-2177768-3         | N/A   | N/A   | N/A               | 2177586-1                  |
| 8 pos.           | Coding B       | Black         | 1-2177768-3         | N/A   | N/A   | N/A               | 2177586-2                  |
| 8 pos.           | Coding C       | Black         | 2-2177768-3         | N/A   | N/A   | N/A               | 2177586-3                  |
| 8 pos.           | Coding D       | Black         | 3-2177768-3         | N/A   | N/A   | N/A               | 2177586-4                  |

**Mating Receptacle Housing**  
See Page 2-10



Printed Circuit Board Headers (continued)

**Technical Features**

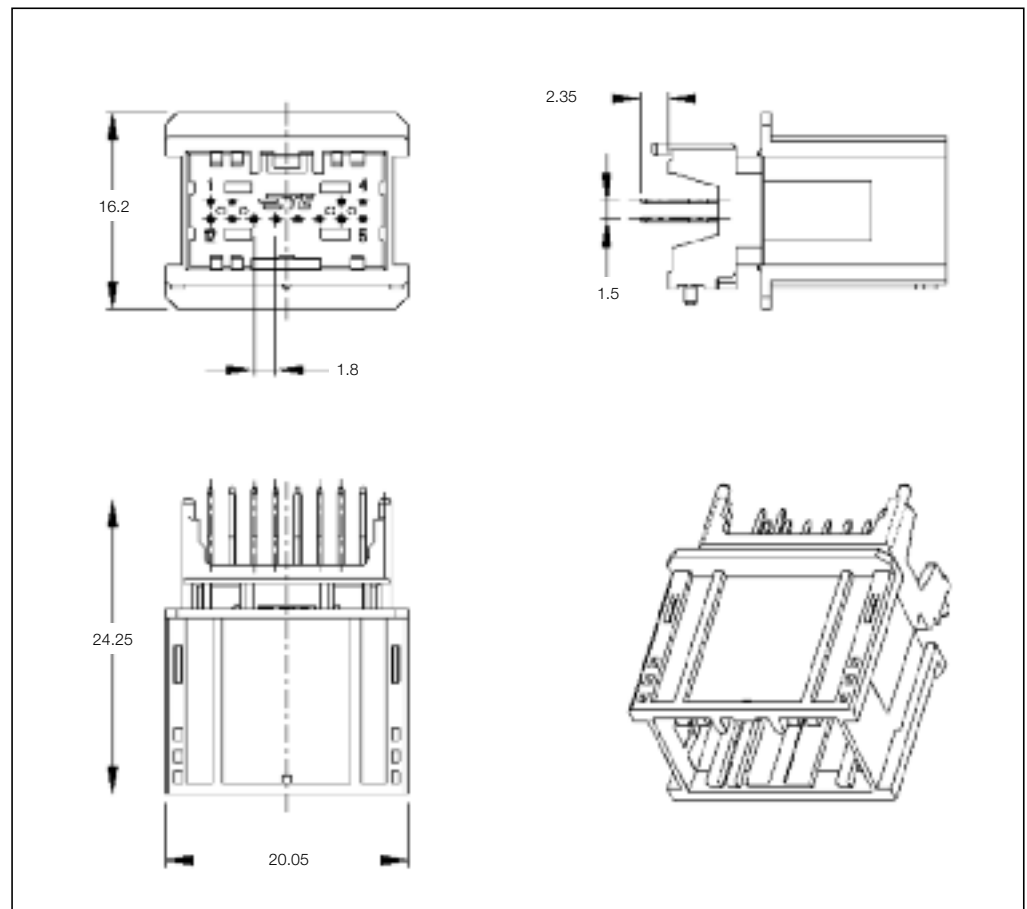
**No. of Positions:**  
12 Positions

**Housing Material:**  
LCP, Glas fibre reinforced

**Material and Finish:**  
CuMg01, Sn over Ni

**Product Specification:**  
108-94313

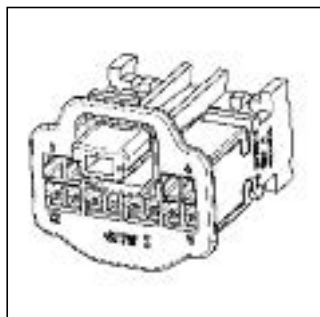
**Application Specification:**  
114-94160



**Printed Circuit Board Headers**

| No. of Positions | Keying Options | Housing Color | Part Numbers        |       |       |                   |                            |
|------------------|----------------|---------------|---------------------|-------|-------|-------------------|----------------------------|
|                  |                |               | PCB Header Vertical | Cover | Lever | Retainer Housings | Mating Receptacle Housings |
| 12 pos.          | Coding A       | Black         | 0-2177767-3         | N/A   | N/A   | N/A               | 2177587-1                  |
| 12 pos.          | Coding B       | Black         | 1-2177767-3         | N/A   | N/A   | N/A               | 2177587-2                  |
| 12 pos.          | Coding C       | Black         | 2-2177767-3         | N/A   | N/A   | N/A               | 2177587-3                  |
| 12 pos.          | Coding D       | Black         | 3-2177767-3         | N/A   | N/A   | N/A               | 2177587-4                  |

**Mating Receptacle Housing**  
See Page 2-11



Printed Circuit Board Headers (continued)

**Technical Features**

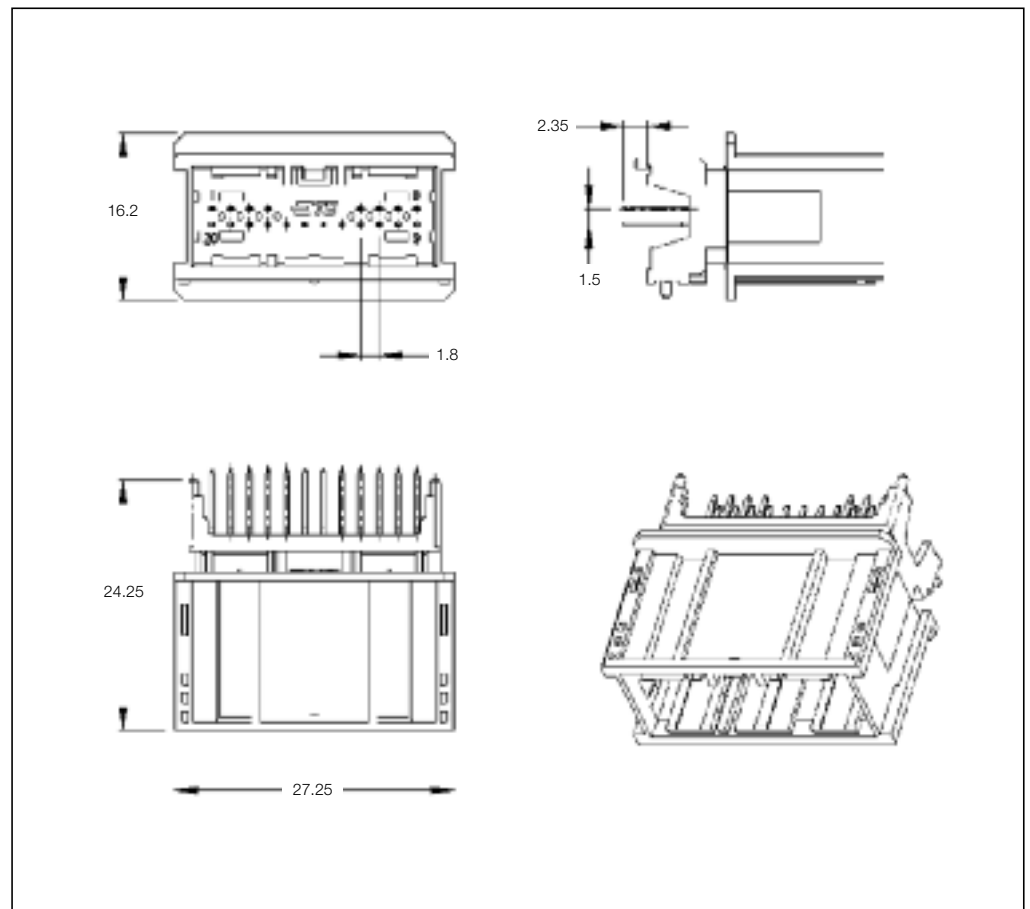
**No. of Positions:**  
20 Positions

**Housing Material:**  
LCP, Glas fibre reinforced

**Material and Finish:**  
CuMg01, Sn over Ni

**Product Specification:**  
108-94313

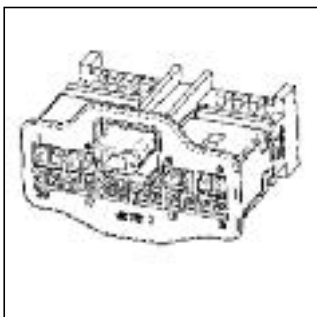
**Application Specification:**  
114-94160



**Printed Circuit Board Headers**

| No. of Positions | Keying Options | Housing Color | Part Numbers        |       |       |                   |                            |
|------------------|----------------|---------------|---------------------|-------|-------|-------------------|----------------------------|
|                  |                |               | PCB Header Vertical | Cover | Lever | Retainer Housings | Mating Receptacle Housings |
| 20 pos.          | Coding A       | Black         | 0-2177766-3         | N/A   | N/A   | N/A               | 2177588-1                  |
| 20 pos.          | Coding B       | Black         | 1-2177766-3         | N/A   | N/A   | N/A               | 2177588-2                  |
| 20 pos.          | Coding C       | Black         | 2-2177766-3         | N/A   | N/A   | N/A               | 2177588-3                  |
| 20 pos.          | Coding D       | Black         | 3-2177766-3         | N/A   | N/A   | N/A               | 2177588-4                  |

**Mating Receptacle Housing**  
See Page 2-12



Printed Circuit Board Headers (continued)

**Technical Features**

**No. of Positions:**

32 Positions

**Housing Material:**

LCP-GF30 / LCP-GF35

**Material and Finish:**

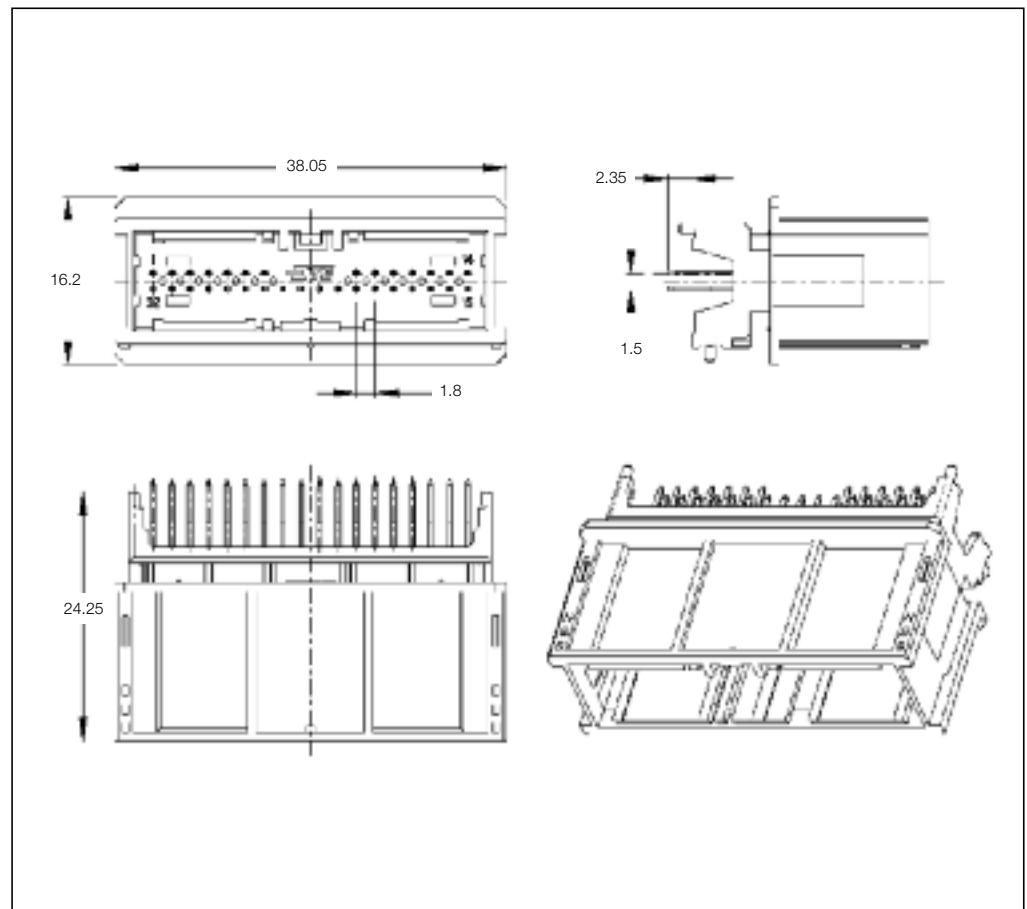
CuMg01, Sn over NiMating

**Product Specification:**

108-94313

**Application Specification:**

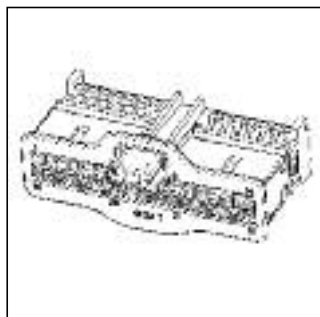
114-94160



**Printed Circuit Board Headers**

| No. of Positions | Keying Options | Housing Color | Part Numbers        |       |       |                   |                            |
|------------------|----------------|---------------|---------------------|-------|-------|-------------------|----------------------------|
|                  |                |               | PCB Header Vertical | Cover | Lever | Retainer Housings | Mating Receptacle Housings |
| 32 pos.          | Coding A       | Black         | 0-2177748-3         | N/A   | N/A   | N/A               | 2141576-1                  |
| 32 pos.          | Coding B       | Black         | 1-2177748-3         | N/A   | N/A   | N/A               | 2141576-2                  |
| 32 pos.          | Coding C       | Black         | 2-2177748-3         | N/A   | N/A   | N/A               | 2141576-3                  |
| 32 pos.          | Coding D       | Black         | 3-2177748-3         | N/A   | N/A   | N/A               | 2141576-4                  |

**Mating Receptacle Housing**  
See Page 2-13



Receptacle Housings

**Technical Features**

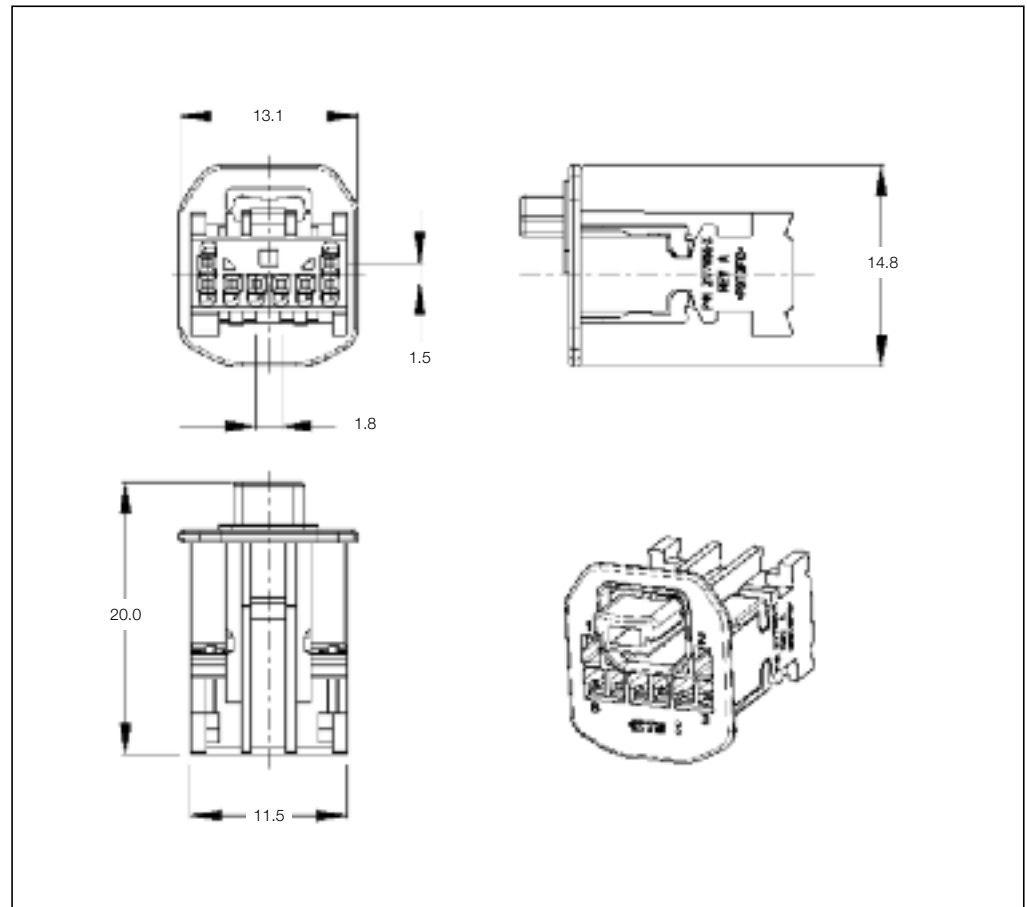
**No. of Positions:**  
8 Positions

**Housing Material:**  
PBT Glas fibre reinforced

**Wire Size Range:**  
0.13–0.35 mm<sup>2</sup>

**Product Specification:**  
108-94315

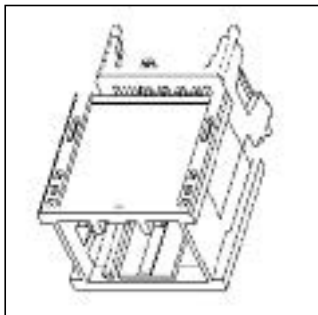
**Application Specification:**  
114-94160



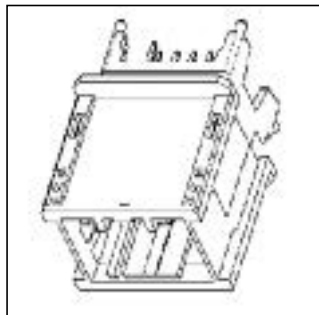
**Receptacle Housings**

| No. of Positions | Keying Options | Housing Color | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Part Numbers       |             |
|------------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|--------------------|-------------|
|                  |                |               |                    |       |                |                 |                    | Mating PCB Headers |             |
|                  |                |               |                    |       |                |                 |                    | Right Angle        | Vertical    |
| 8 pos.           | Coding A       | Black         | 2177586-1          | N/A   | N/A            | N/A             | N/A                | 0-2177372-3        | 0-2177768-3 |
| 8 pos.           | Coding B       | Black         | 2177586-2          | N/A   | N/A            | N/A             | N/A                | 1-2177372-3        | 1-2177768-3 |
| 8 pos.           | Coding C       | Black         | 2177586-3          | N/A   | N/A            | N/A             | N/A                | 2-2177372-3        | 2-2177768-3 |
| 8 pos.           | Coding D       | Black         | 2177586-4          | N/A   | N/A            | N/A             | N/A                | 3-2177372-3        | 3-2177768-3 |

**Mating Receptacle Housing**  
Right Angle See Page 2-2



**Mating Receptacle Housing**  
Vertical See Page 2-6



Receptacle Housings (continued)

**Technical Features**

**No. of Positions:**

12 Positions

**Housing Material:**

PBT Glas fibre reinforced

**Wire Size Range:**

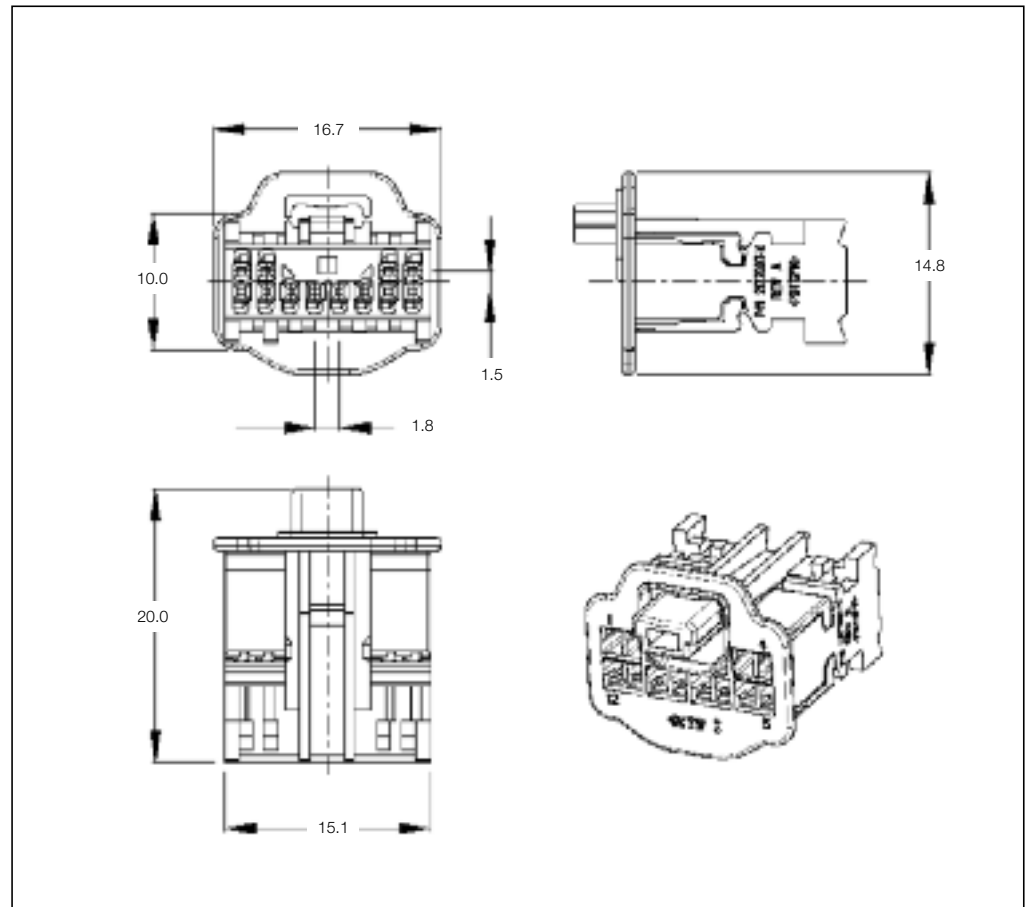
0.13–0.35 mm<sup>2</sup>

**Product Specification:**

108-94315

**Application Specification:**

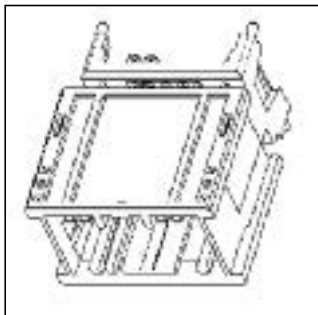
114-94160



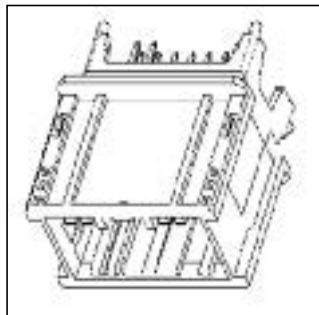
**Receptacle Housings**

| No. of Positions | Keying Options | Housing Color | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Part Numbers       |             |
|------------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|--------------------|-------------|
|                  |                |               |                    |       |                |                 |                    | Mating PCB Headers |             |
|                  |                |               |                    |       |                |                 |                    | Right Angle        | Vertical    |
| 12 pos.          | Coding A       | Black         | 2177587-1          | N/A   | N/A            | N/A             | N/A                | 0-2177370-3        | 0-2177767-3 |
| 12 pos.          | Coding B       | Black         | 2177587-2          | N/A   | N/A            | N/A             | N/A                | 1-2177370-3        | 1-2177767-3 |
| 12 pos.          | Coding C       | Black         | 2177587-3          | N/A   | N/A            | N/A             | N/A                | 2-2177370-3        | 2-2177767-3 |
| 12 pos.          | Coding D       | Black         | 2177587-4          | N/A   | N/A            | N/A             | N/A                | 3-2177370-3        | 3-2177767-3 |

**Mating Receptacle Housing**  
Right Angle See Page 2-3



**Mating Receptacle Housing**  
Vertical See Page 2-9



Receptacle Housings (continued)

**Technical Features**

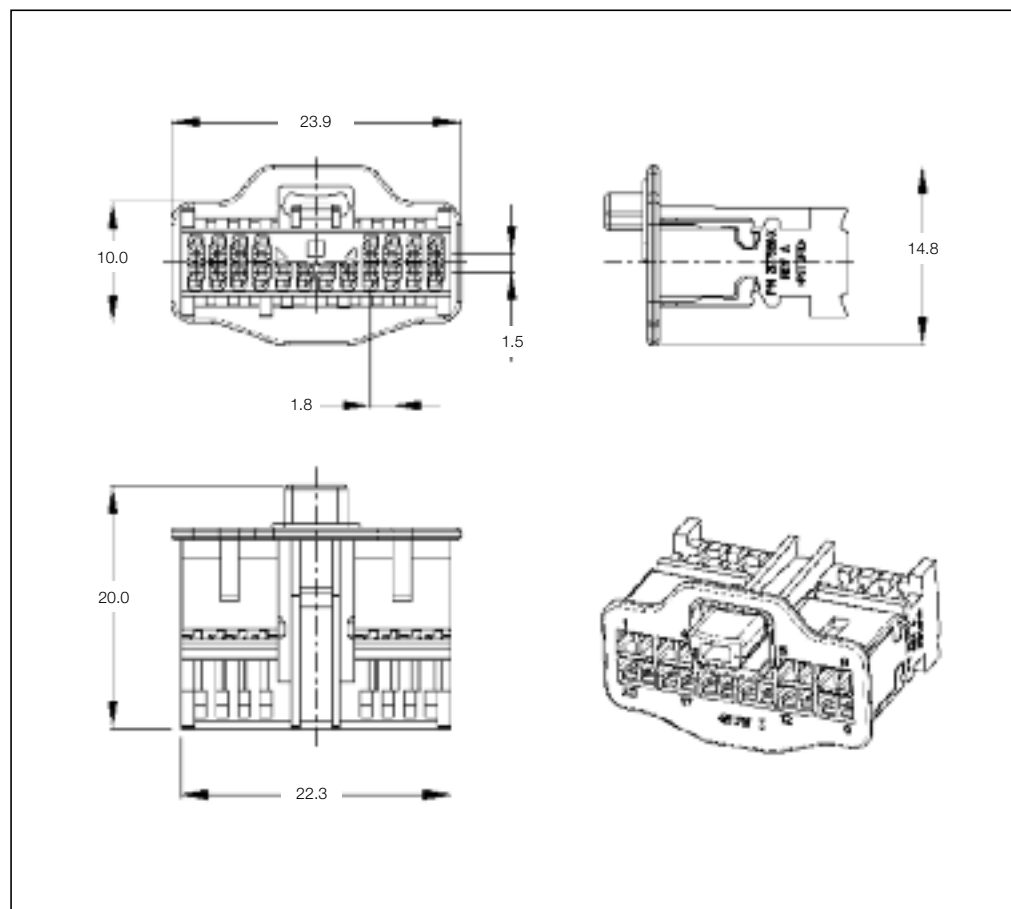
**No. of Positions:**  
20 Positions

**Housing Material:**  
PBT Glas fibre reinforced

**Material and Finish:**  
CuMg01, Sn over NiMating

**Product Specification:**  
108-94313

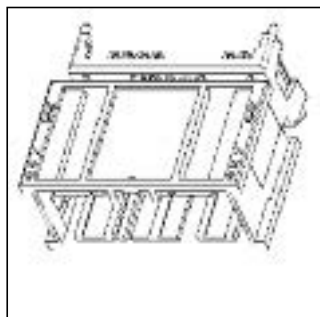
**Application Specification:**  
114-94160



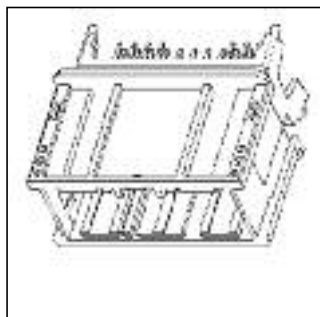
**Receptacle Housings**

| No. of Positions | Keying Options | Housing Color | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Part Numbers       |             |
|------------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|--------------------|-------------|
|                  |                |               |                    |       |                |                 |                    | Mating PCB Headers |             |
|                  |                |               |                    |       |                |                 |                    | Right Angle        | Vertical    |
| 20 pos.          | Coding A       | Black         | 2177588-1          | N/A   | N/A            | N/A             | N/A                | 0-2177367-3        | 0-2177766-3 |
| 20 pos.          | Coding B       | Black         | 2177588-2          | N/A   | N/A            | N/A             | N/A                | 1-2177367-3        | 1-2177766-3 |
| 20 pos.          | Coding C       | Black         | 2177588-3          | N/A   | N/A            | N/A             | N/A                | 2-2177367-3        | 2-2177766-3 |
| 20 pos.          | Coding D       | Black         | 2177588-4          | N/A   | N/A            | N/A             | N/A                | 3-2177367-3        | 3-2177766-3 |

**Mating Receptacle Housing Right Angle**  
See Page 2-4



**Mating Receptacle Housing Vertical**  
See Page 2-8



Receptacle Housings (continued)

**Technical Features**

**No. of Positions:**

32 Positions

**Housing Material:**

PBT Glas fibre reinforced

**Material and Finish:**

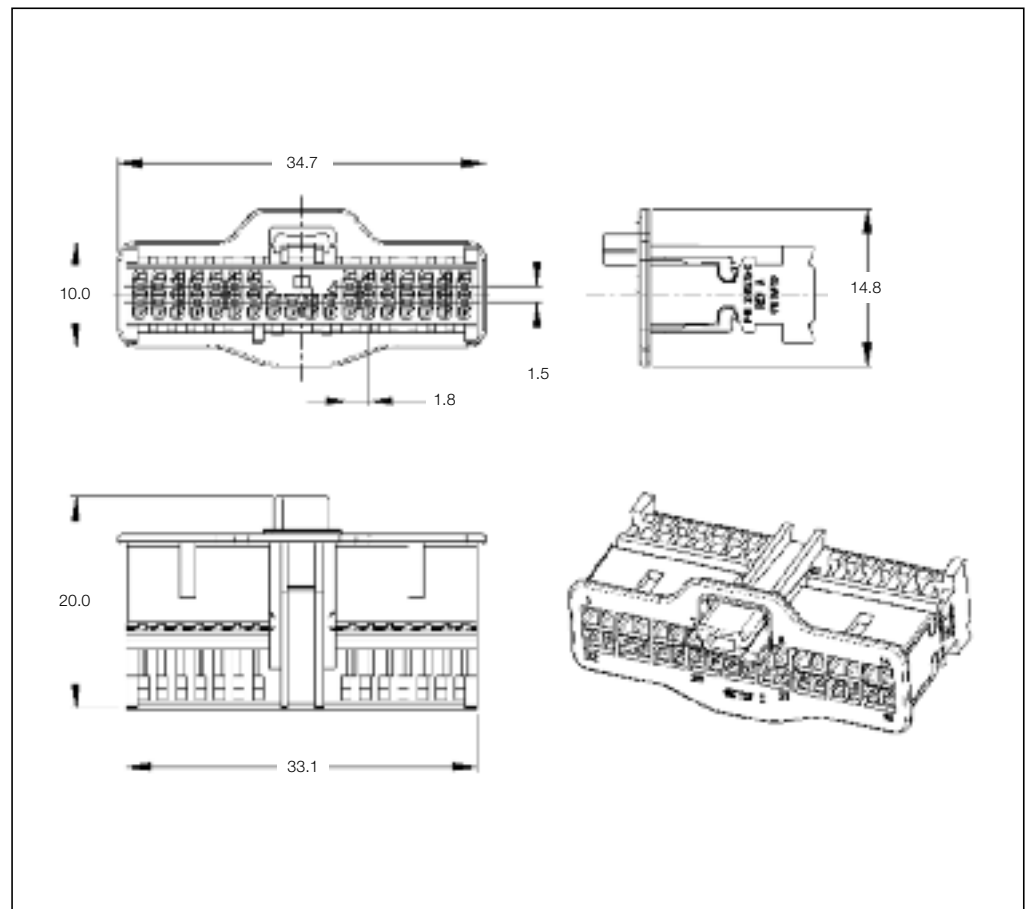
CuMg01, Sn over NiMating

**Product Specification:**

108-94313

**Application Specification:**

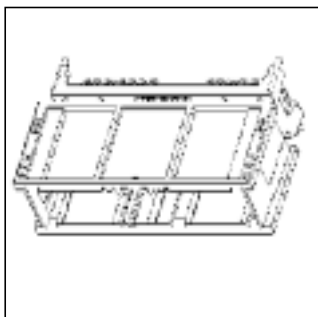
114-94160



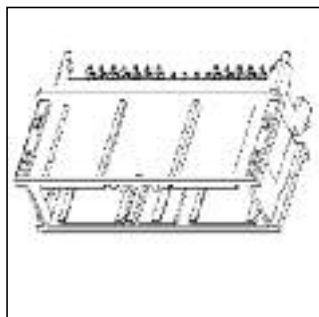
**Receptacle Housings**

| No. of Positions | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                    |             |
|------------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|--------------------|-------------|
|                  |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers |             |
|                  |                |               |                    |       |                |                 |                    | Right Angle        | Vertical    |
| 32 pos.          | Coding A       | Black         | 2141576-1          | N/A   | N/A            | N/A             | N/A                | 0-2177419-3        | 0-2177748-3 |
| 32 pos.          | Coding B       | Black         | 2141576-2          | N/A   | N/A            | N/A             | N/A                | 1-2177419-3        | 1-2177748-3 |
| 32 pos.          | Coding C       | Black         | 2141576-3          | N/A   | N/A            | N/A             | N/A                | 2-2177419-3        | 2-2177748-3 |
| 32 pos.          | Coding D       | Black         | 2141576-4          | N/A   | N/A            | N/A             | N/A                | 3-2177419-3        | 3-2177748-3 |

**Mating Receptacle Housing Right Angle**  
See Page 2-5



**Mating Receptacle Housing Vertical**  
See Page 2-9



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Engineering Notes

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2

A large grid of graph paper for engineering notes, consisting of 20 columns and 40 rows of small squares.

## Receptacle Housings

### Technical Features

**No. of Positions:**

2 Positions

**Housing Material:**

PBT GF10

**Wire Size Range:**

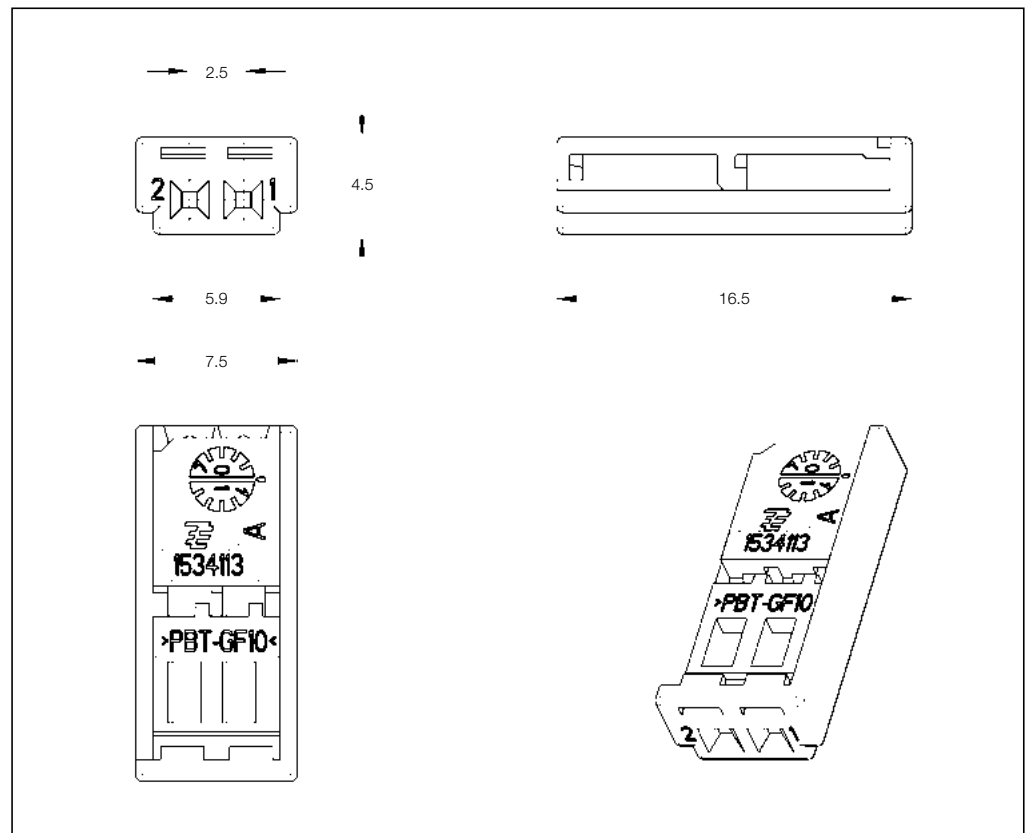
0.14–0.75 mm<sup>2</sup>

**Product Specification:**

118-18924

**Application Specification:**

114-18630

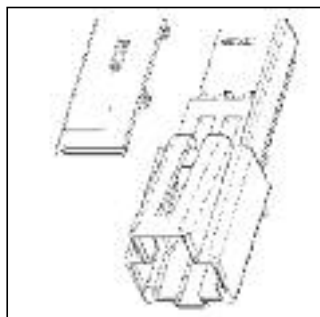


### 2 Position Receptacle Housings

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                         |                               |          |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|-------------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing      | Mating PCB Header Right-Angle | Vertical |
| 2           | –              | Black         | 1-1534113-1        | –     | –              | –               | 1534112-1        | 1-1534155-1 & 1534027-1 | –                             | –        |

### Mating Pin Housing

See Page 3-3



Receptacle Housings

**Technical Features**

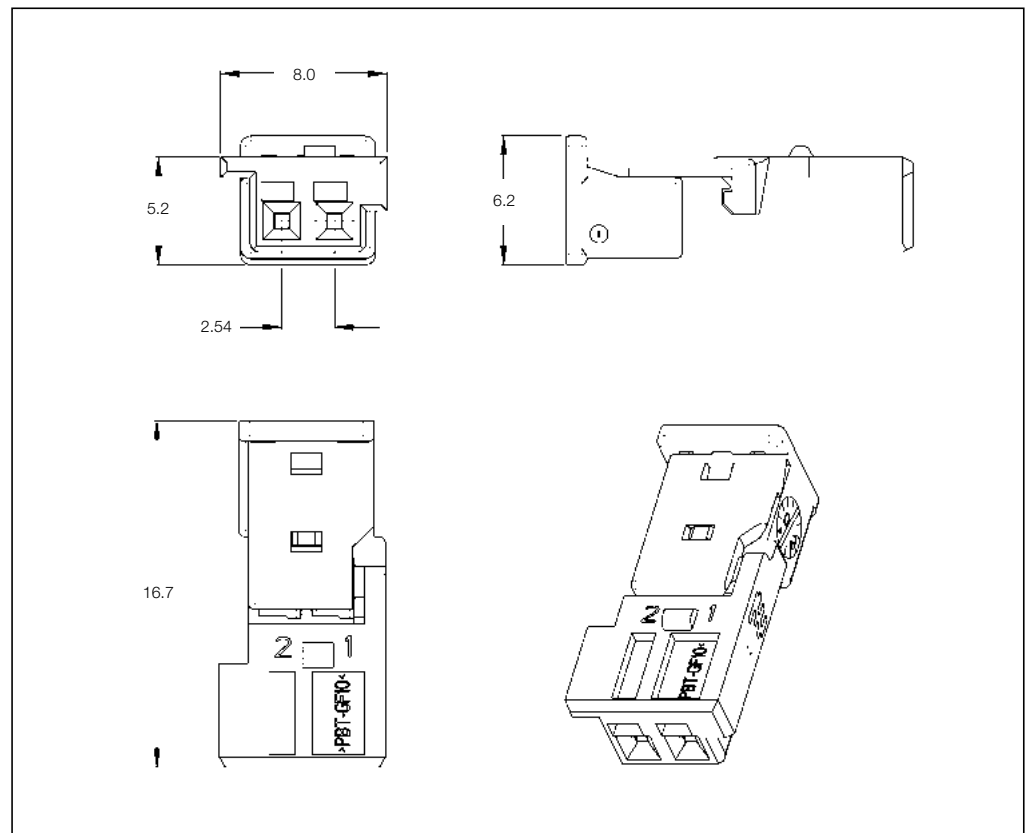
**No. of Positions:**  
2 Positions

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

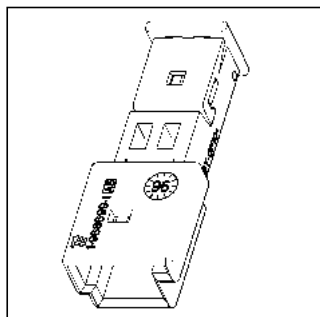
**Application Specification:**  
—



**2 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                          |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing       | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | A              | Black         | 1-1718333-1        |       |       |                  |                          |                               |                            |
|             | B              | Natural       | 2-1718333-1        |       |       |                  |                          |                               |                            |
|             | C              | Blue          | 3-1718333-1        | —     | —     | —                | 1-968699-1<br>2-968699-1 | —                             | —                          |
|             | D              | Claret Violet | 4-1718333-1        |       |       |                  |                          |                               |                            |
|             | Z              | Water Blue    | 9-1718333-1        |       |       |                  |                          |                               |                            |

**Mating Pin Housing**  
See Page 3-4



Pin Housings

**Technical Features**

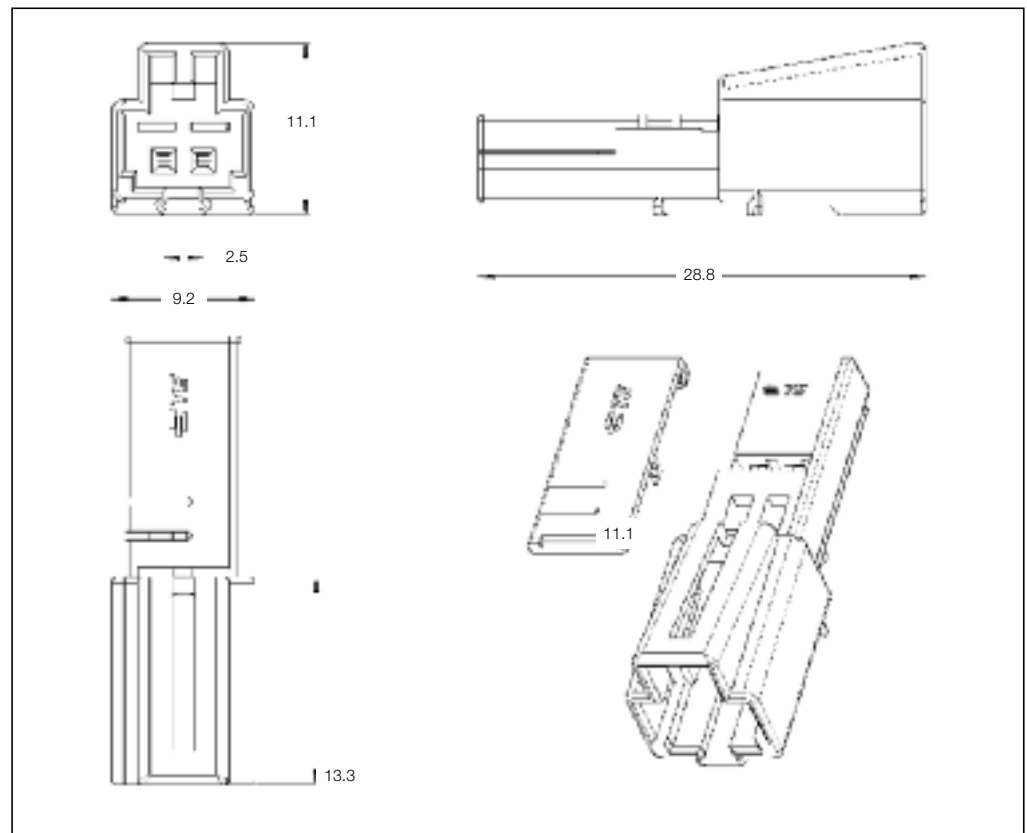
**No. of Positions:**  
2 Positions

**Housing Material:**  
PBT GF

**Wire Size Range:**  
0.14–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18924

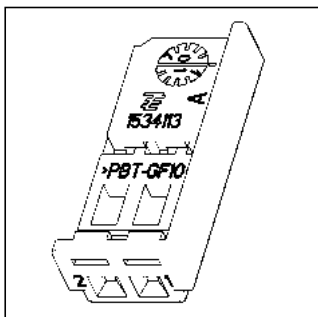
**Application Specification:**  
114-18630



**2 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 2           | –              | Black         | 1-1534155-1  | –     | –              | –               | 1534027-1        | 1-1534113-1 & 1534112-1   |

**Mating Receptacle Housing**  
See Page 3-1



Pin Housings

**Technical Features**

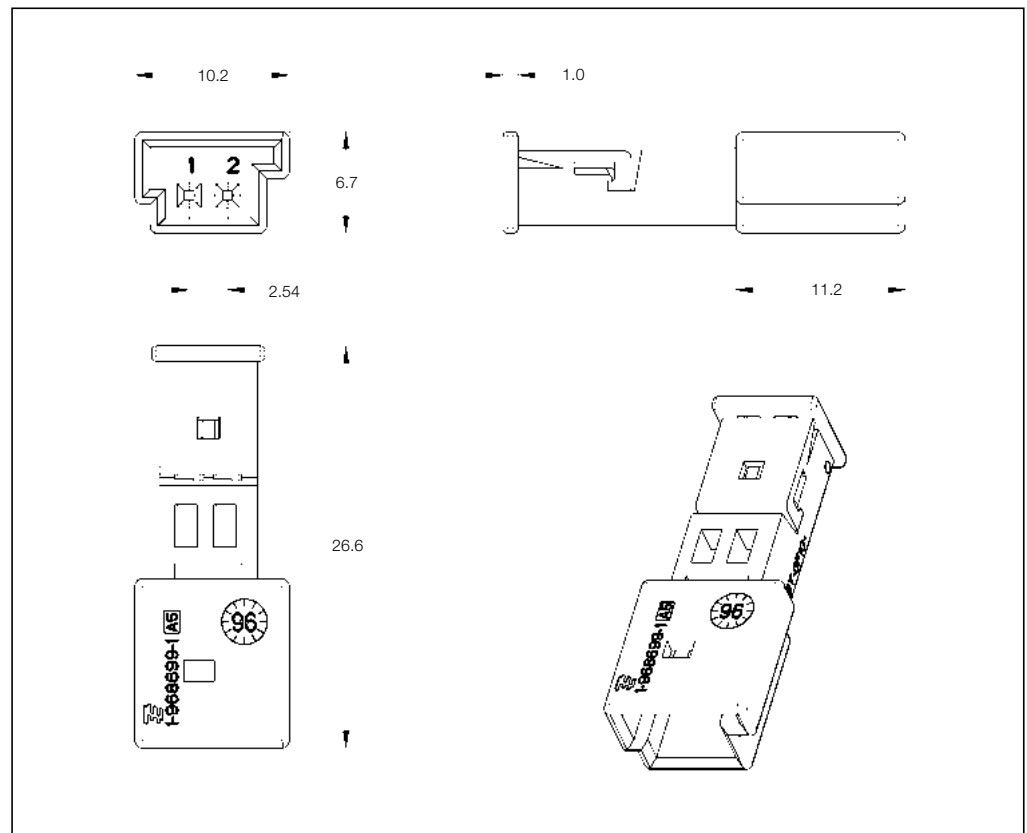
**No. of Positions:**  
2 Positions

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.2–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18590-0

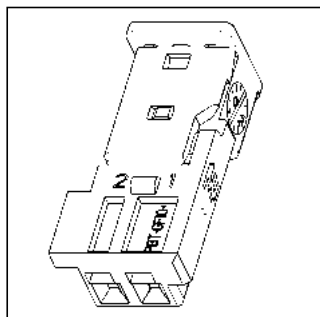
**Application Specification:**  
114-18225



**2 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 2           | A              | Black         | 1-968699-1   | —     | —              | —               | —                | 1-1718333-1               |
|             | B              | Natural       | 2-968699-1   | —     | —              | —               | —                | 2-1718333-1               |

**Mating Pin Housing**  
See Page 3-3



Receptacle Housings

**Technical Features**

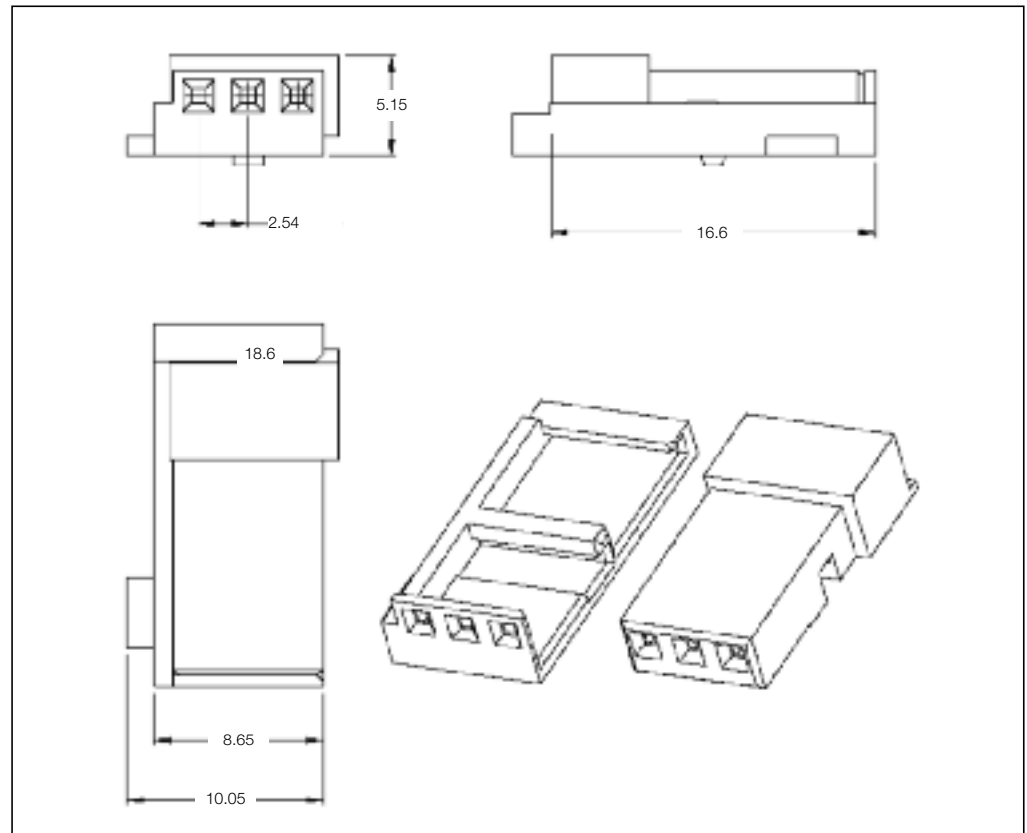
**No. of Positions:**  
3 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.20–0.60 mm<sup>2</sup>

**Product Specification:**  
108-15132

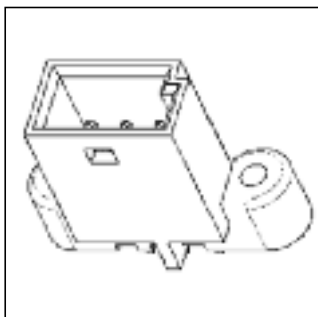
**Application Specification:**  
411-15553



**3 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                  |                    |                               |                 |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|------------------|--------------------|-------------------------------|-----------------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Header Vertical |
| 3           | –              | Black         | 185309-1           | 185308-1 | –              | –               | –                | –                  | –                             | 185730-1        |
|             |                | Natural       | –                  | 185308-2 | –              | –               | –                | –                  | –                             | –               |
|             |                | Blue          | –                  | 185308-3 | –              | –               | –                | –                  | –                             | –               |
|             |                | Yellow        | –                  | 185308-4 | –              | –               | –                | –                  | –                             | –               |

**Mating Pin Housing**  
See Page 3-12



Receptacle Housings

**Technical Features**

**No. of Positions:**

3 Positions  
(Positive Mate Locking)

**Housing Material:**

PBT GF20

**Wire Size Range:**

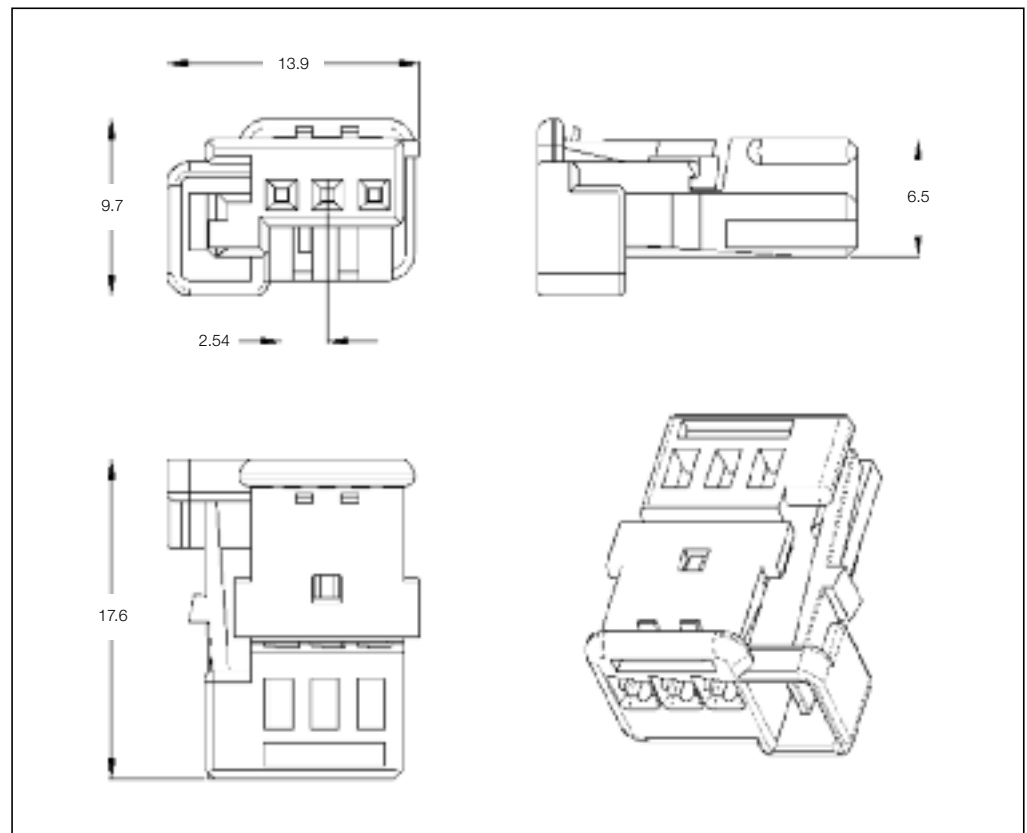
0.35–0.75 mm<sup>2</sup>

**Product Specification:**

108-15236

**Application Specification:**

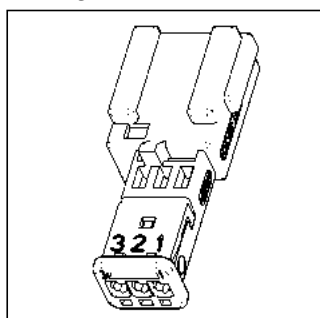
411-15526



**3 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                                        |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|----------------------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle Vertical |
| 3           | -              | Black         | 953697-1           |       |                |                 |                  | 953698-1           |                                        |
|             |                | White         | 953697-2           |       |                |                 |                  | 953698-2           |                                        |
|             |                | Blue          | 953697-3           |       |                |                 |                  | 953698-3           |                                        |
|             |                | Yellow        | 953697-4           | -     | -              | -               | -                | 953698-4           | -                                      |
|             |                | Gray          | 953697-5           |       |                |                 |                  | 953698-5           |                                        |
|             |                | Brown         | 953697-6           |       |                |                 |                  | 953698-6           |                                        |

**Mating Pin Housing**  
See Page 3-9



Receptacle Housings

**Technical Features**

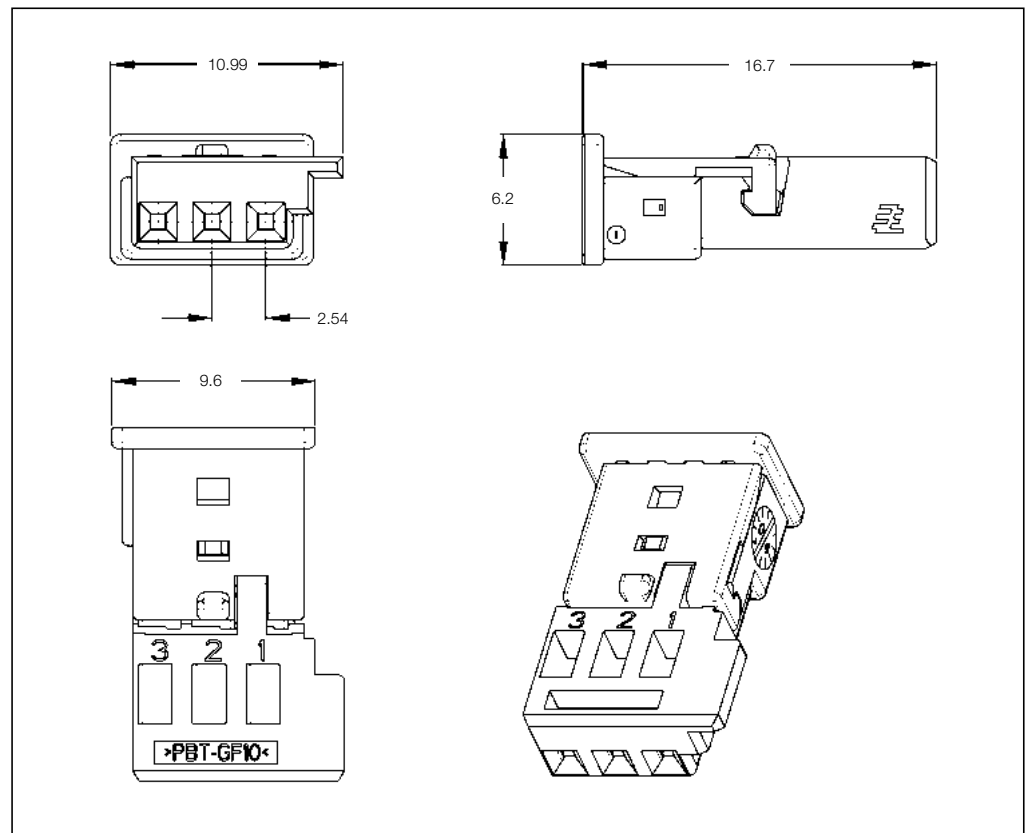
**No. of Positions:**  
3 Positions

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18590-0

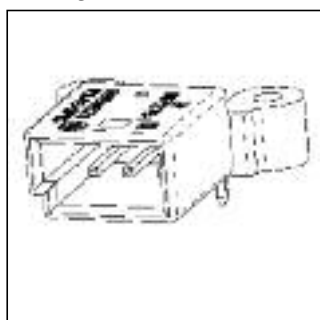
**Application Specification:**  
114-18225



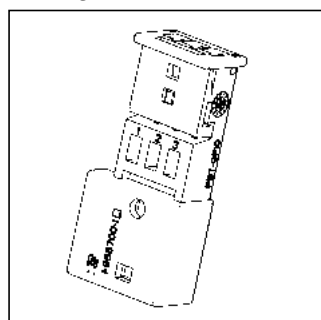
**3 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 3           | A              | Black         | 1-1718346-1        |       |       |                  | 1-968700-1         | 967279-1                      |                            |
|             | B              | Natural       | 2-1718346-1        |       |       |                  | 2-968700-1         | –                             |                            |
|             | C              | Light Blue    | 3-1718346-1        |       |       |                  | 3-968700-1         | –                             |                            |
|             | D              | Violet        | 4-1718346-1        | –     | –     | –                | –                  | 967279-4                      | –                          |
|             | Z              | Water Blue    | 9-1718346-1        |       |       |                  | –                  | –                             |                            |
|             | A              | Ivory         | 1-1718346-3        |       |       |                  | –                  | –                             |                            |

**Mating Pin Housing**  
See Page 3-11



**Mating Header**  
See Page 3-10



Receptacle Housings

**Technical Features**

**No. of Positions:**

3 Positions

**Housing Material:**

PBT GF10

**Wire Size Range:**

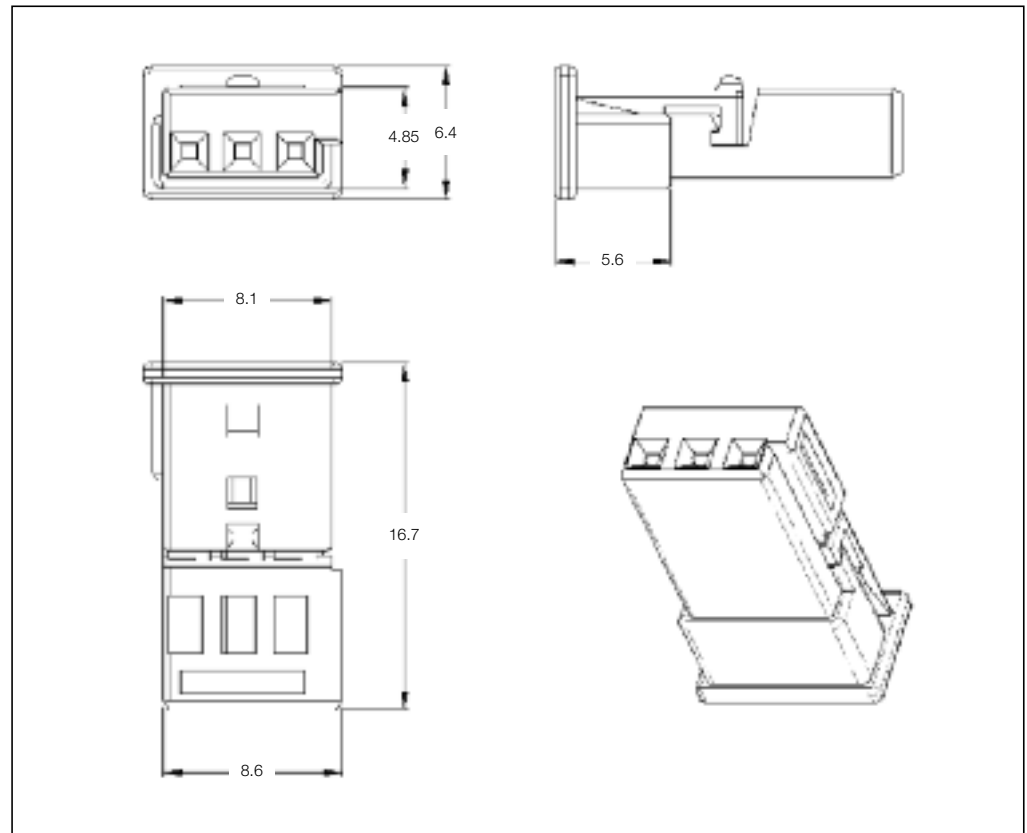
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**3 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 3           | A              | Natural       | 1743164-1          | —     | —     | —                | —                  | —                             | —                          |
|             | B              | Black         | 1743164-2          | —     | —     | —                | —                  | —                             | —                          |

Pin Housings

**Technical Features**

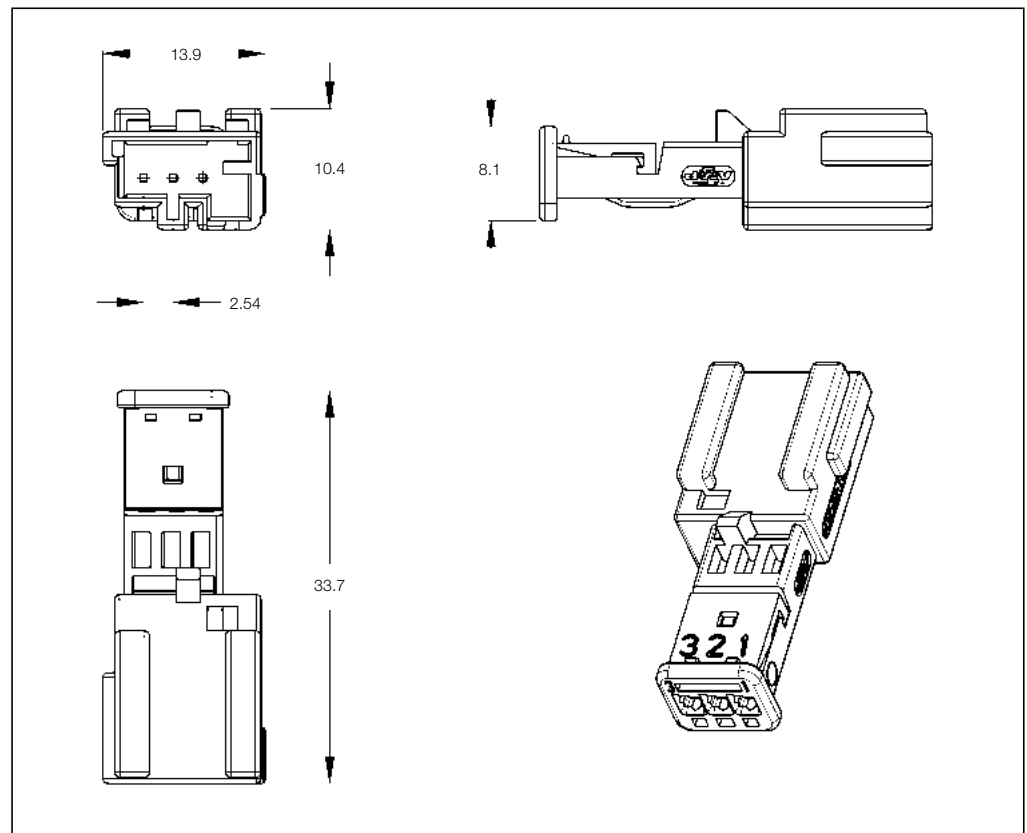
**No. of Positions:**  
3 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-15236

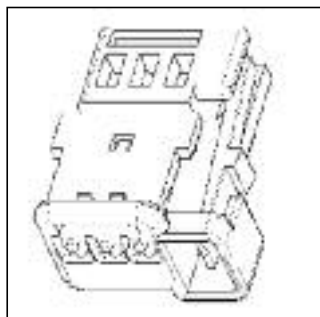
**Application Specification:**  
411-15526



**3 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 3           | —              | Black         | 953698-1     | —     | —              | —               | —                | 953697-1                  |
|             |                | White         | 953698-2     |       |                |                 |                  | 953697-2                  |
|             |                | Blue          | 953698-3     |       |                |                 |                  | 953697-3                  |
|             |                | Yellow        | 953698-4     |       |                |                 |                  | 953697-4                  |
|             |                | Gray          | 953698-5     |       |                |                 |                  | 953697-5                  |
|             |                | Brown         | 953698-6     |       |                |                 |                  | 953697-6                  |

**Mating Receptacle Housing**  
See Page 3-6



Pin Housings

**Technical Features**

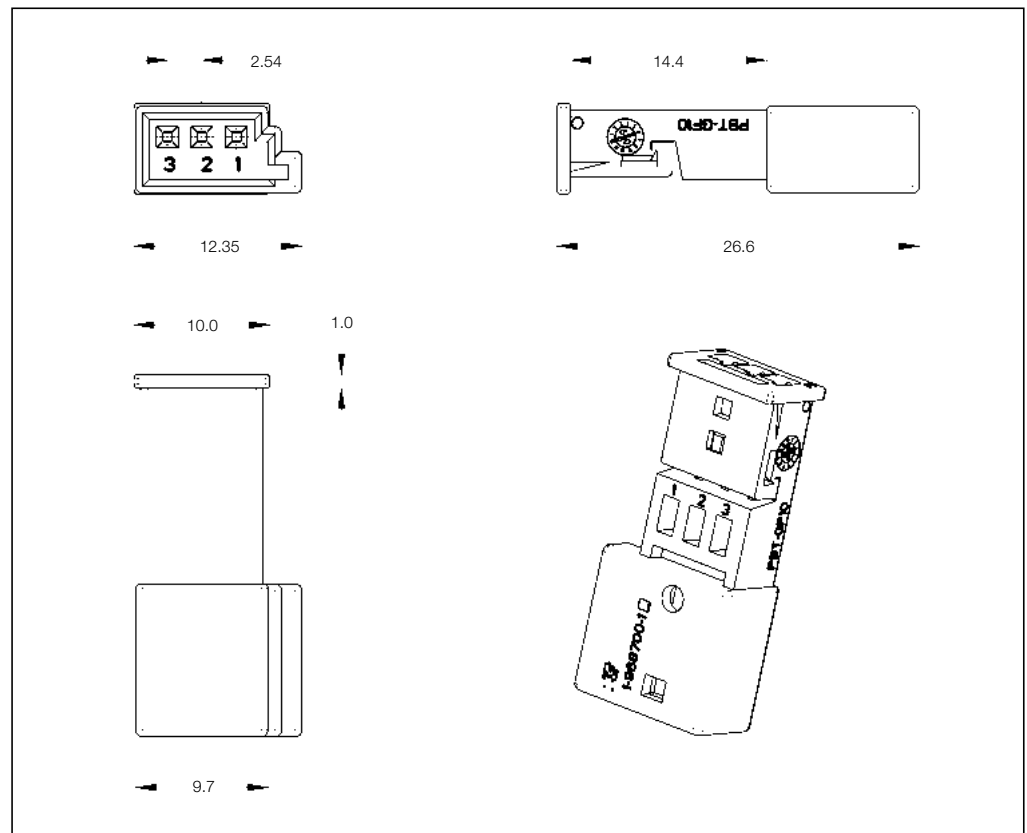
**No. of Positions:**  
3 Positions

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18590-0

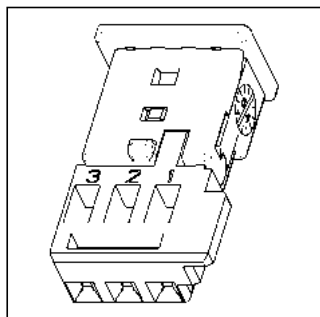
**Application Specification:**  
114-18225



**3 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 3           | A              | Black         | 1-968700-1   | –     | –              | –               | –                | 1-1718346-1               |
|             | B              | Natural       | 2-968700-1   |       |                |                 |                  | 2-1718346-1               |
|             | C              | Blue          | 3-968700-1   |       |                |                 |                  | 3-1718346-1               |

**Mating Receptacle Housing**  
See Page 3-7



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

3 Positions

**Housing Material:**

PA66 GF15

**Material and Finish:**

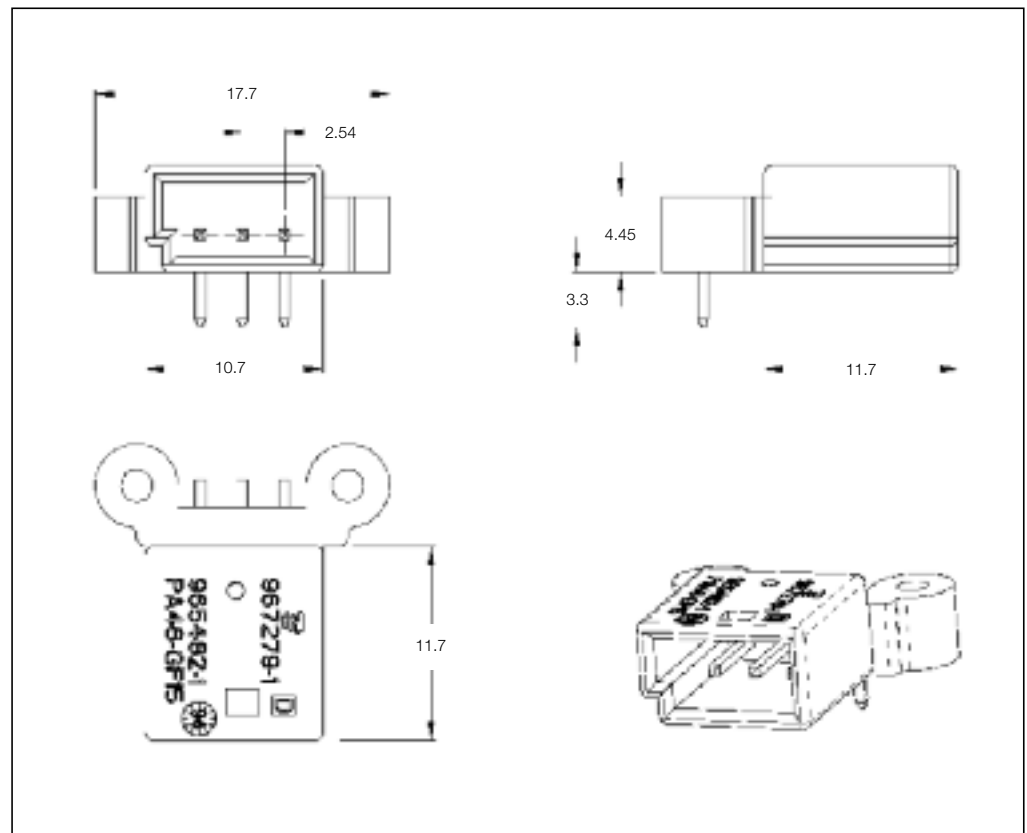
CuFe2, tin plated

**Product Specification:**

—

**Application Specification:**

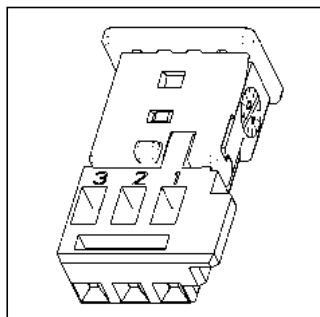
—



**3 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 3           | A              | Black         | 967279-1               | —                   | —     | —               | —                | 1-1718346-1               |
|             | D              | Black         | 967279-4               | —                   | —     | —               | —                | 4-1718346-1               |

**Mating Receptacle Housing**  
See Page 3-7



Printed Circuit Board Headers

**Technical Features**

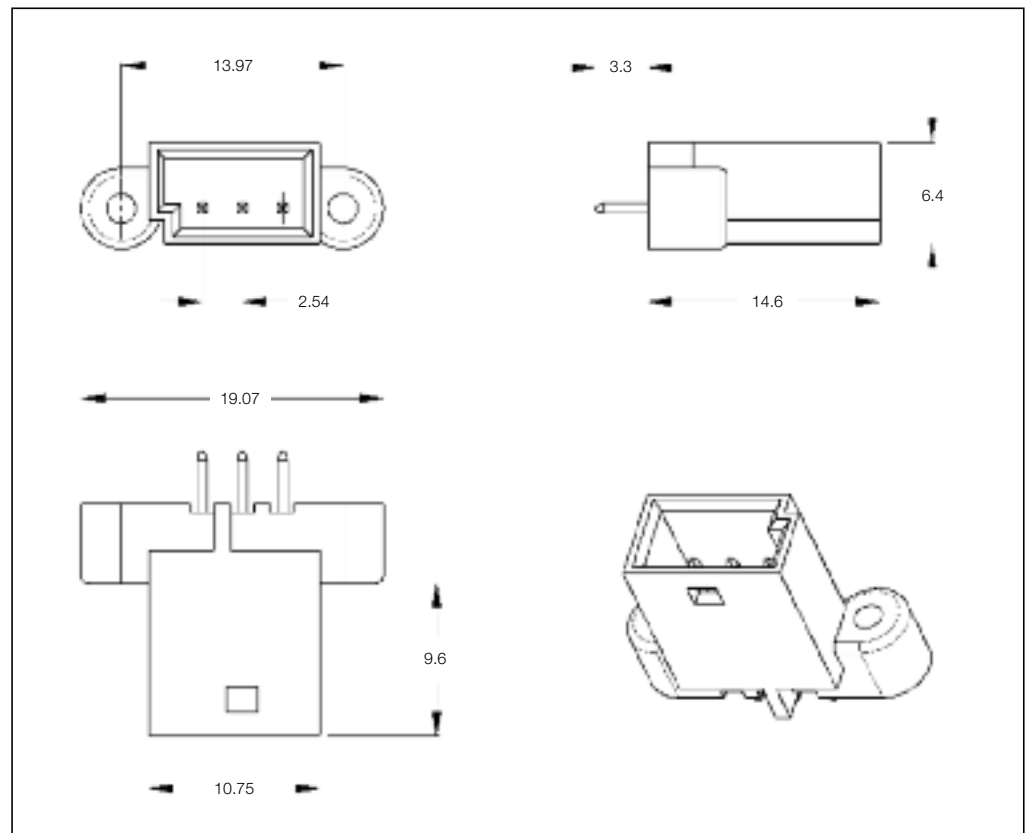
**No. of Positions:**  
3 Positions

**Housing Material:**  
PBT CV 15%

**Material and Finish:**  
CuSn, post tin plated

**Product Specification:**  
108-15156

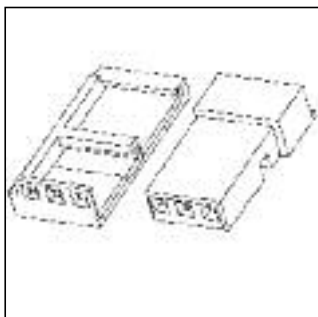
**Application Specification:**  
411-15579



**3 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                 |                  |                     |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-----------------|------------------|---------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing | Mating Counter Part |
| 3           | –              | Black         | –                         | 185730-1               | –     | –               | –                | 185309-1            |

**Mating Receptacle Housing**  
See Page 3-5



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

3 Position Assembly

**Housing Material:**

PBT GF20

**Material and Finish:**

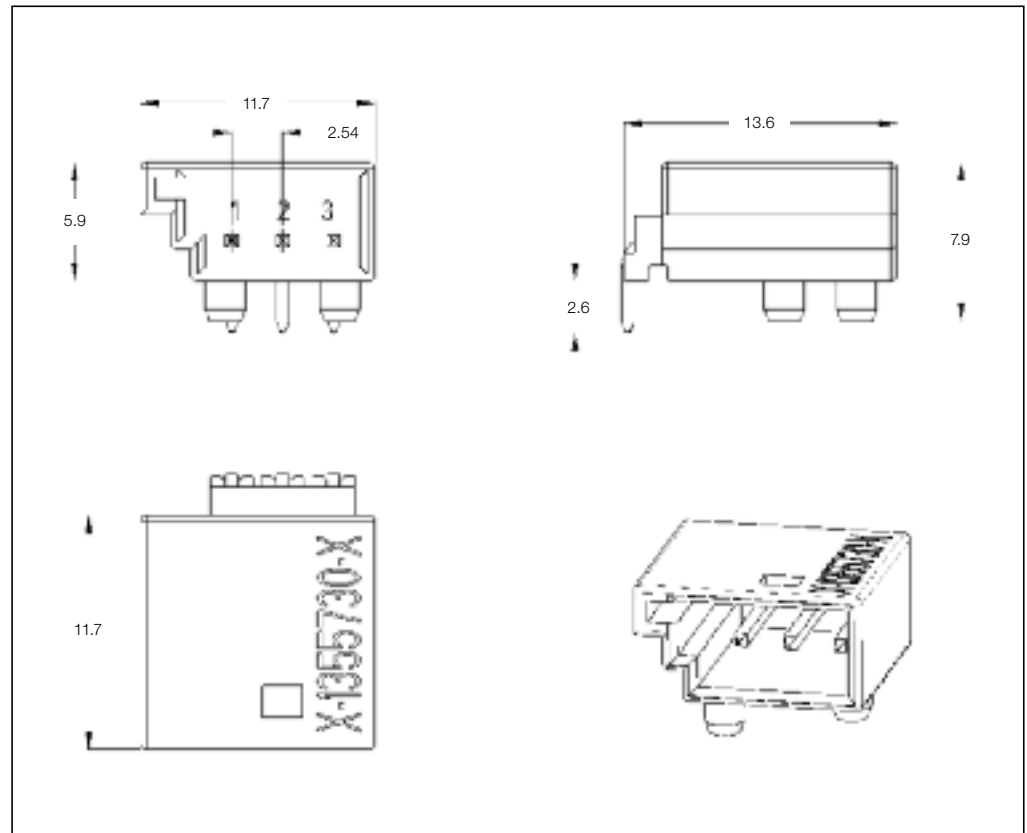
CuSn, pre-tin plated

**Product Specification:**

108-18030

**Application Specification:**

114-18021



**3 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 3           | E              | Black         | 5-1355730-1            | —                   | —     | —               | —                | —                         |

Printed Circuit Board Headers

**Technical Features**

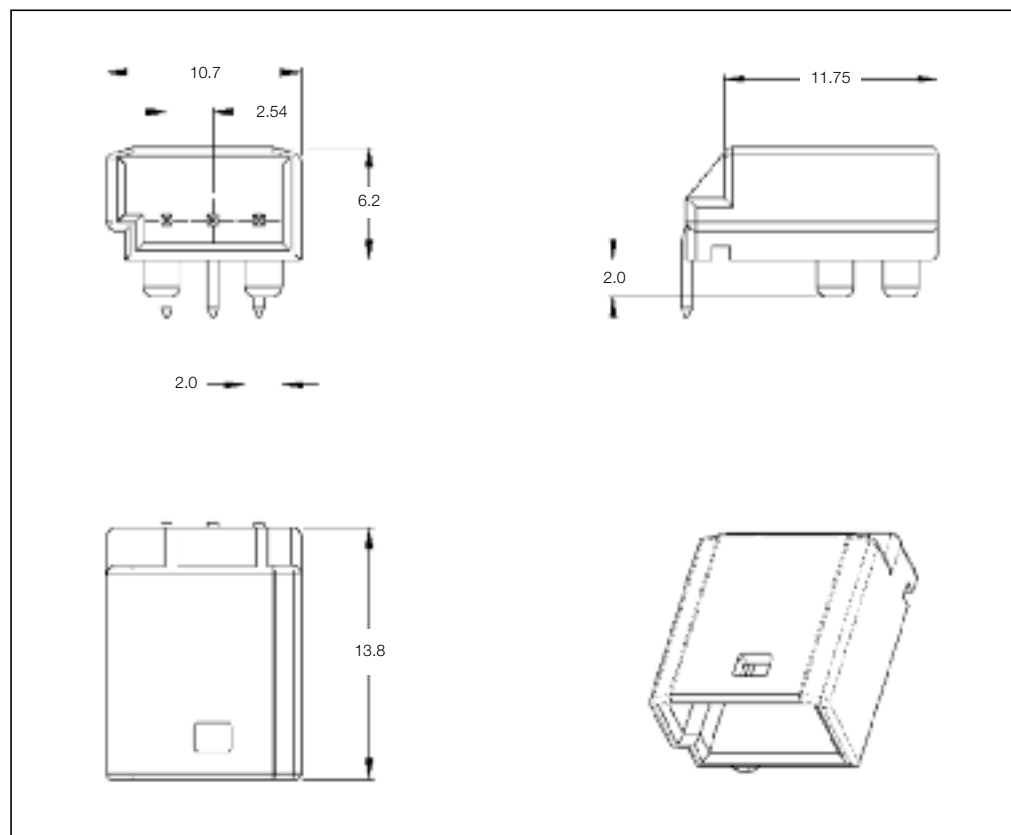
**No. of Positions:**  
3 Position Assembly

**Housing Material:**  
PBT GF15

**Material and Finish:**  
CuSn, tin plated

**Product Specification:**  
108-61038

**Application Specification:**  
114-18021



**3 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                 |                  |                           |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 3           | –              | Black         | 368312-1                  | –                      | –     | –               | –                | –                         |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

3 Positions

**Housing Material:**

PBT GF15

**Material and Finish:**

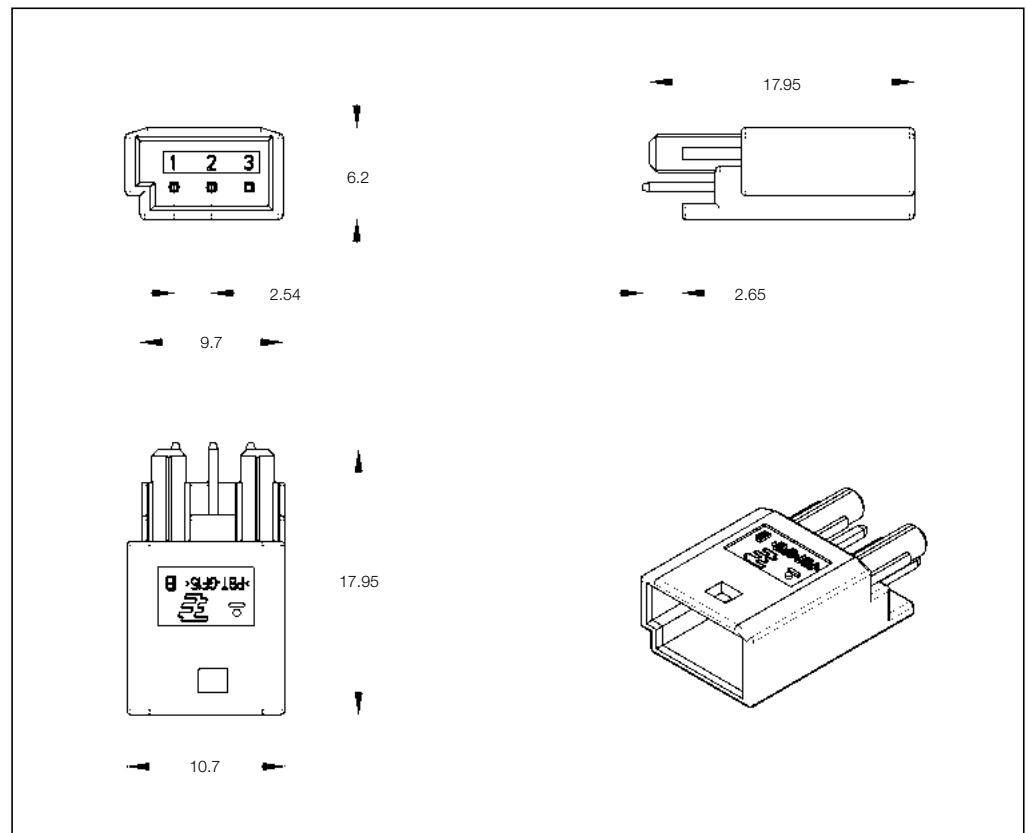
Bronze, tinned

**Product Specification:**

108-15267

**Application Specification:**

411-15635



**3 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 3           | -              | Natural       | -                      | 1743156-1           | -     | -     | -                | -                         |
|             |                | Black         | -                      | 1743156-2           | -     | -     | -                | -                         |

Receptacle Housings

**Technical Features**

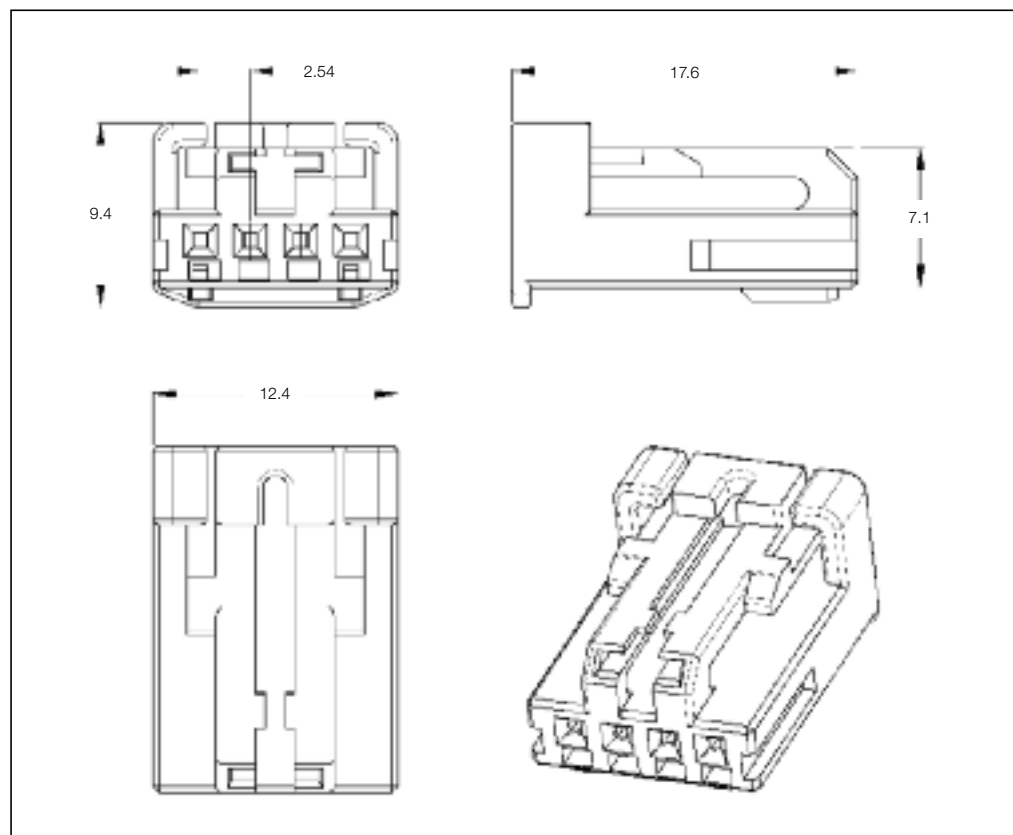
**No. of Positions:**  
4 Position Assembly

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18030

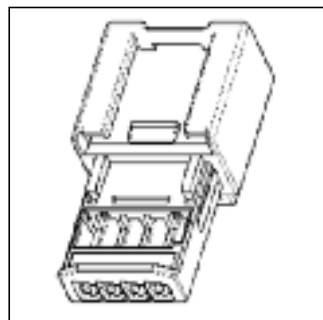
**Application Specification:**  
114-18021



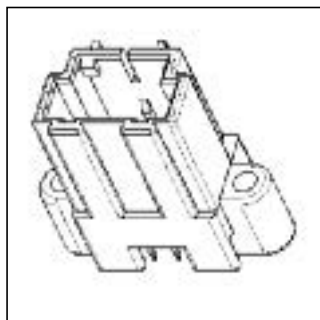
**4 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                                        |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|----------------------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle Vertical |
| 4           | –              | Black         | 936119-1           | –     | –              | –               | –                | 936121-1           | –                                      |
|             |                | Yellow        | 936119-2           | –     | –              | –               | –                | 936121-2           | –                                      |

**Mating Pin Housing**  
See Page 3-22



**Mating Header**  
See Page 3-25



Receptacle Housings

**Technical Features**

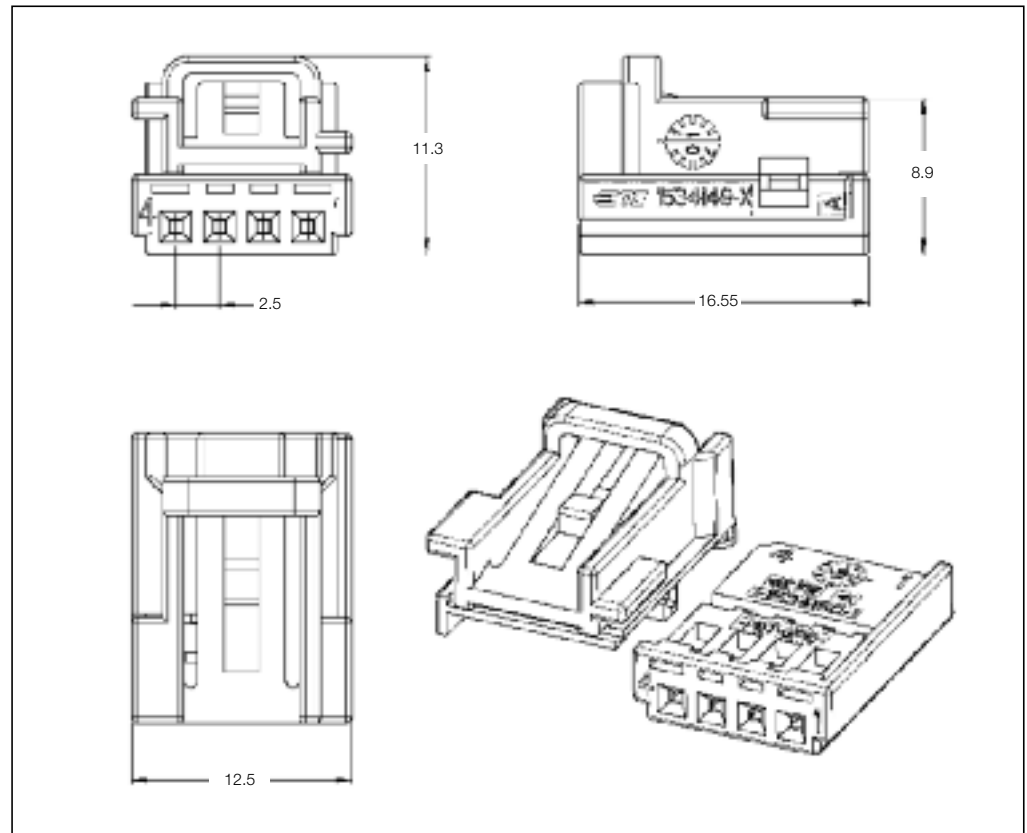
**No. of Positions:**  
4 Positions

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.14–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18924

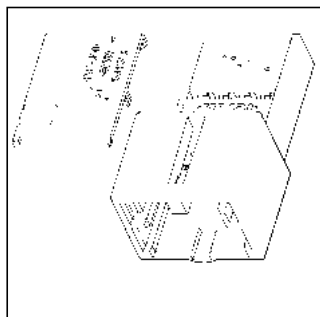
**Application Specification:**  
114-18630



**4 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                         |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|-------------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing      | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | –              | Black         | 1-1534150-1        | –     | –              | –               | 1534149-1        | 1-1534157-1 & 1534131-1 | –                             | –                          |

**Mating Pin Housing**  
See Page 3-23



Receptacle Housings

**Technical Features**

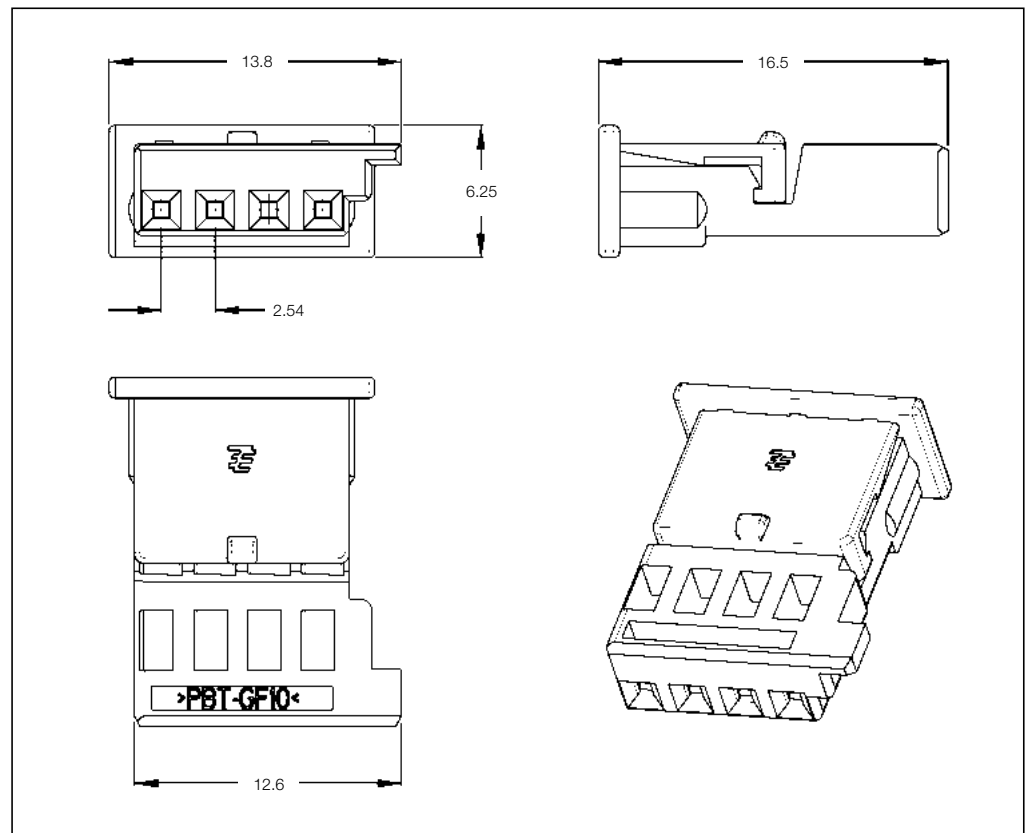
**No. of Positions:**  
4 Positions

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

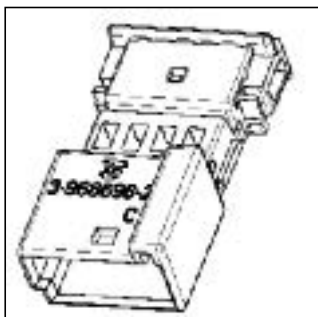
**Application Specification:**  
—



**4 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | C              | Blue          | 3-1355397-3        | —     | —     | —                | 3-968696-2         | —                             | —                          |
|             | E              | Green         | 5-1355397-3        | —     | —     | —                | 4-968696-3         | —                             | —                          |

**Mating Pin Housing**  
See Page 3-21



Receptacle Housings

**Technical Features**

**No. of Positions:**

4 Positions

**Housing Material:**

PA66

**Wire Size Range:**

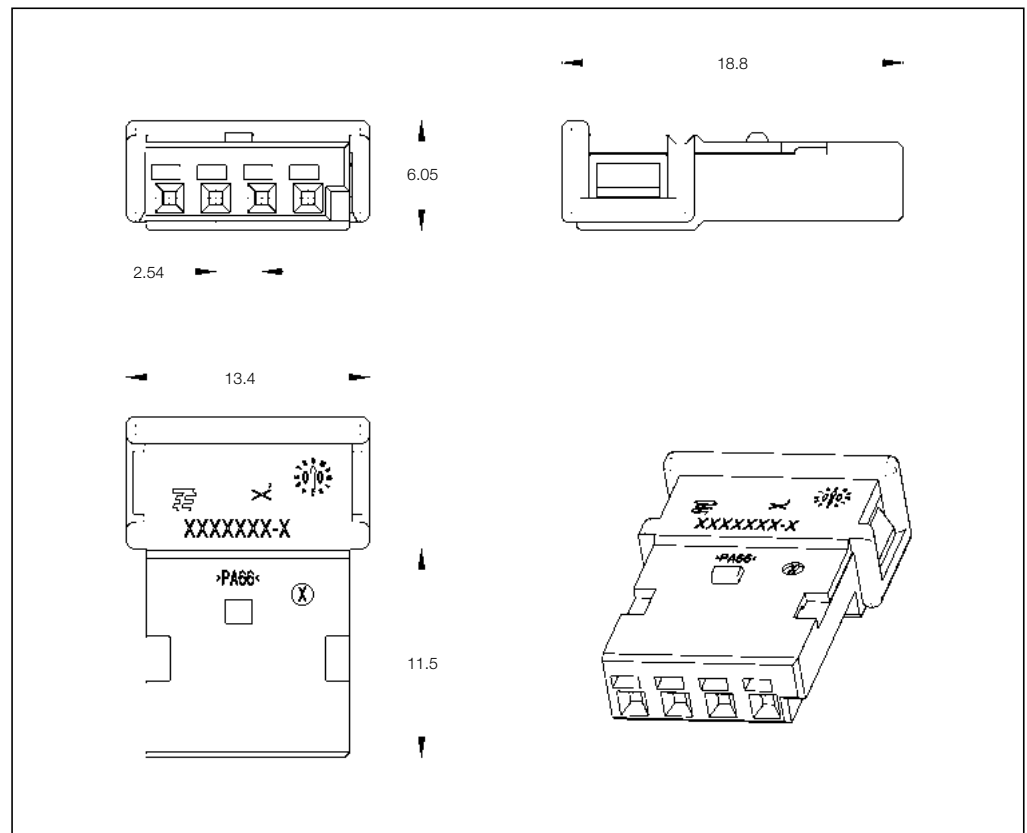
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-18597-1

**Application Specification:**

114-18223-1



**4 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 4           | Z              | Black         | 1241634-1          |       |                |                 |                  |                    |                               |          |
|             | B              | Black         | 1241634-2          | –     | –              | –               | –                | –                  | –                             | –        |
|             | C              | Black         | 1241634-3          |       |                |                 |                  |                    |                               |          |

Receptacle Housings

**Technical Features**

**No. of Positions:**

4 Positions  
(Positive Mate Locking)

**Housing Material:**

PBT GF20

**Wire Size Range:**

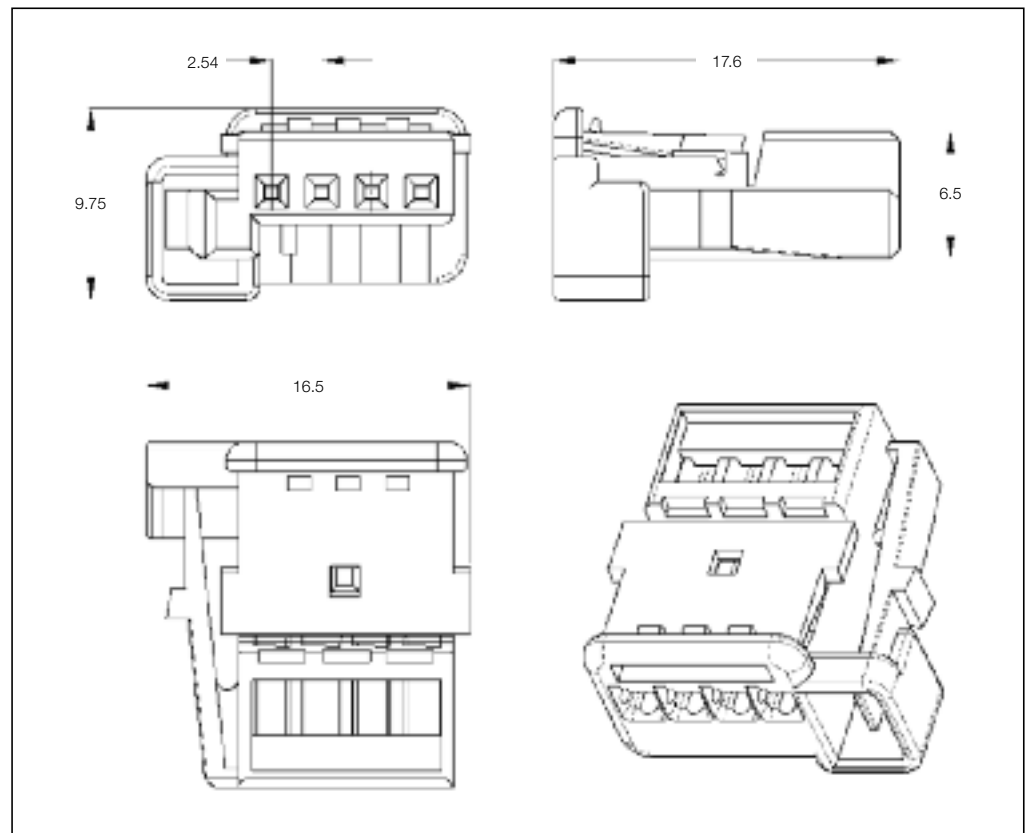
0.35–0.75 mm<sup>2</sup>

**Product Specification:**

108-15236

**Application Specification:**

411-15635



**4 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | –              | Black         | 1379029-1          |       |                |                 |                  |                    |                               |                            |
|             |                | White         | 1379029-2          |       |                |                 |                  |                    |                               |                            |
|             |                | Blue          | 1379029-3          |       |                |                 |                  |                    |                               |                            |
|             |                | Yellow        | 1379029-4          | –     | –              | –               | –                | –                  | –                             | –                          |
|             |                | Gray          | 1379029-5          |       |                |                 |                  |                    |                               |                            |
|             |                | Brown         | 1379029-6          |       |                |                 |                  |                    |                               |                            |

Pin Housings

**Technical Features**

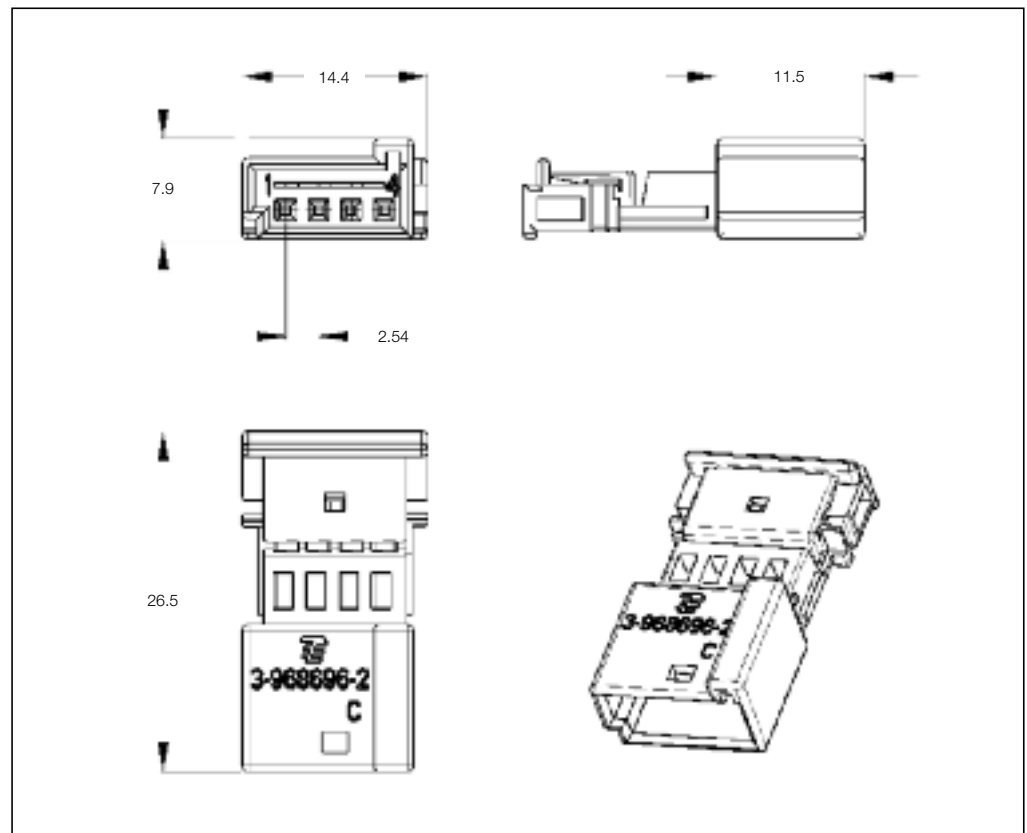
**No. of Positions:**  
4 Positions

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18510-1

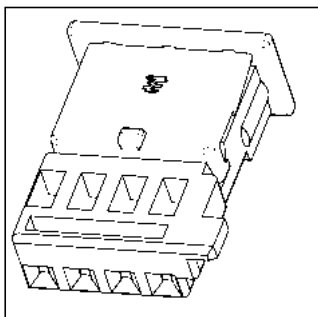
**Application Specification:**  
114-18166-1



**4 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 4           | A              | Black         | 1-968696-3   | –     | –     | –                | –                         |
| 4           | B              | Nature        | 2-968696-3   | –     | –     | –                | –                         |
| 4           | C              | Blue          | 3-968696-2   | –     | –     | –                | 3-1355397-3               |
| 4           | D              | Violet        | 4-968696-3   | –     | –     | –                | –                         |
| 4           | E              | Green         | 5-968696-3   | –     | –     | –                | 5-1355397-3               |

**Mating Receptacle Housing**  
See Page 3-18



Pin Housings

**Technical Features**

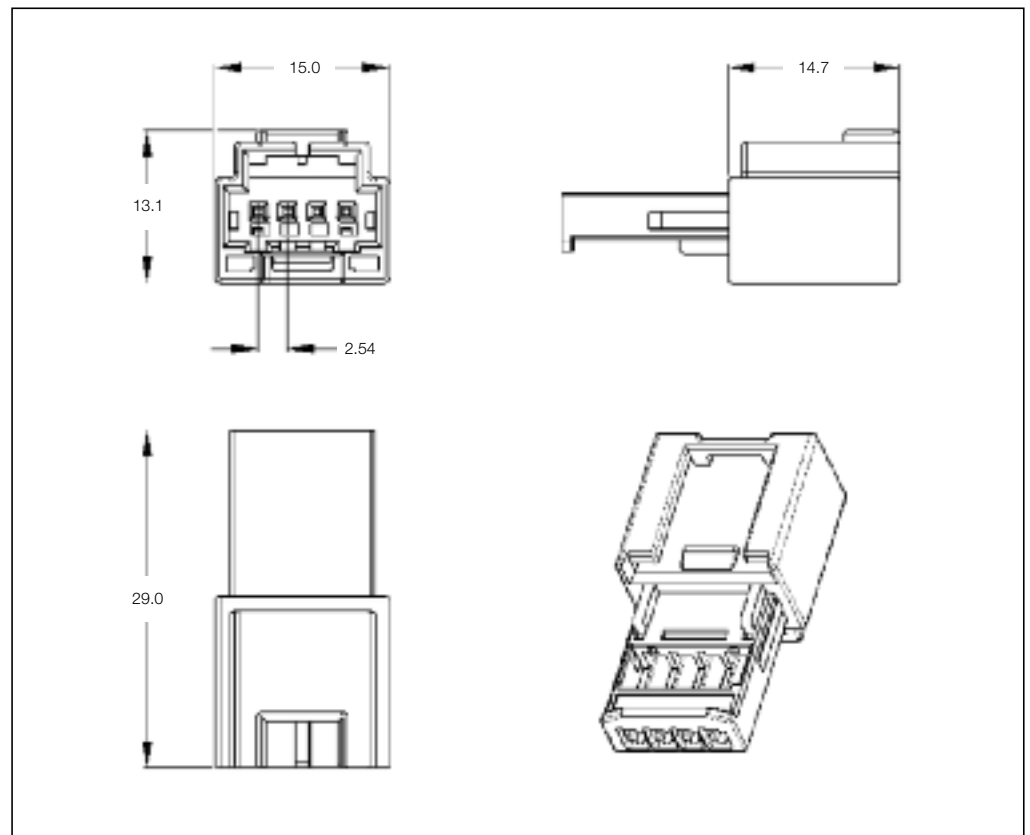
**No. of Positions:**  
4 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.25–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18030

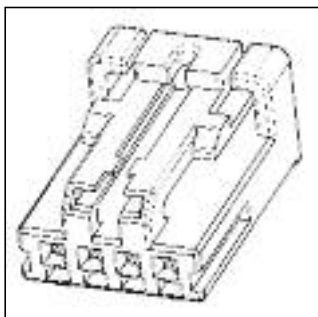
**Application Specification:**  
114-18021



**4 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 4           | –              | Black         | 936121-1     | –     | –              | –               | –                | 936119-1                  |
|             |                | Yellow        | 936121-2     | –     | –              | –               | –                | 936119-2                  |

**Mating Receptacle Housing**  
See Page 3-16



Pin Housings

**Technical Features**

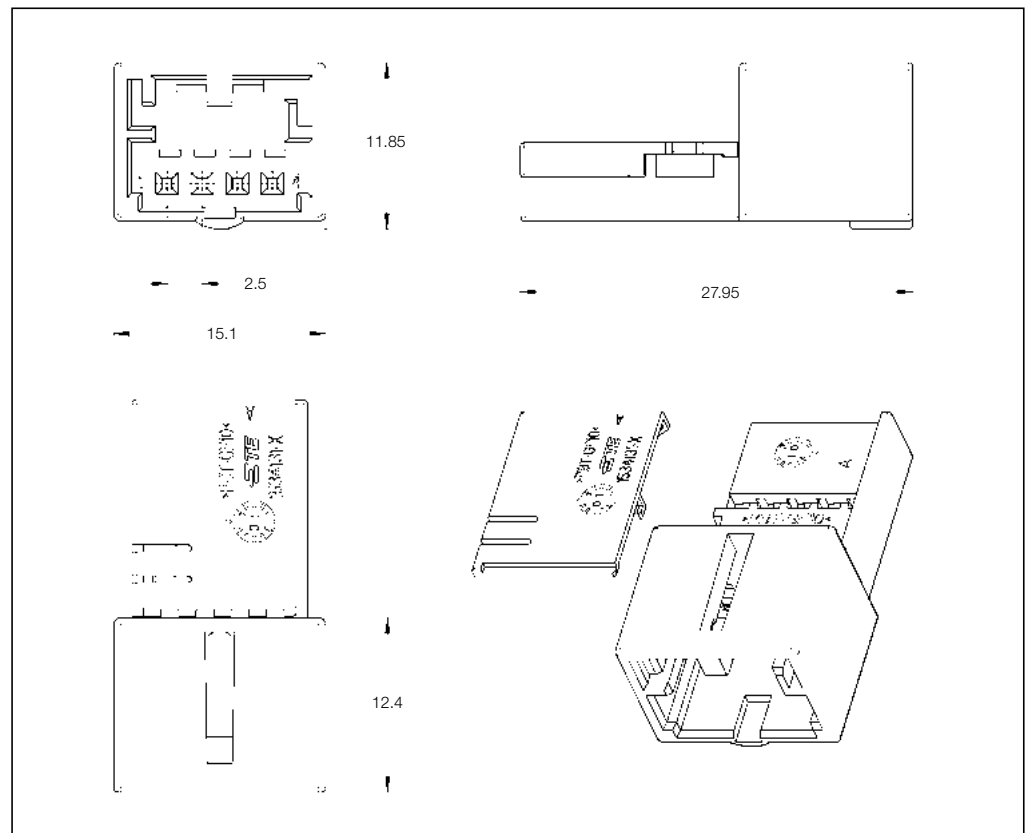
**No. of Positions:**  
4 Positions

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.14–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18924

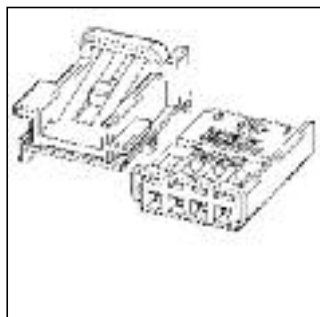
**Application Specification:**  
114-18630



**4 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 4           | –              | Black         | 1-1534157-1  | –     | –              | –               | 1534131-1        | 1-1534150-1 & 1534149-1   |

**Mating Receptacle Housing**  
See Page 3-17



Pin Housings

**Technical Features**

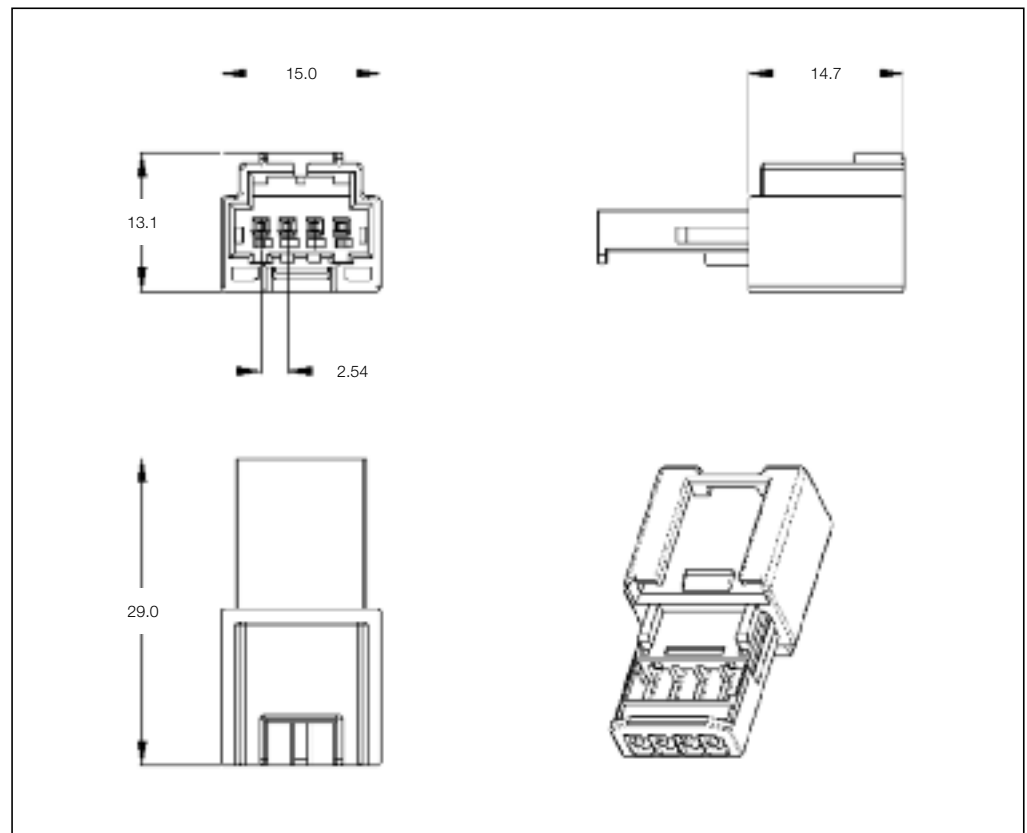
**No. of Positions:**  
4 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**4 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 4           | —              | Black         | 936121-1     | —     | —     | —                | —                         |
|             |                | Yellow        | 936121-2     |       |       |                  |                           |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

4 Position Assembly

**Housing Material:**

PBT GF20

**Material and Finish:**

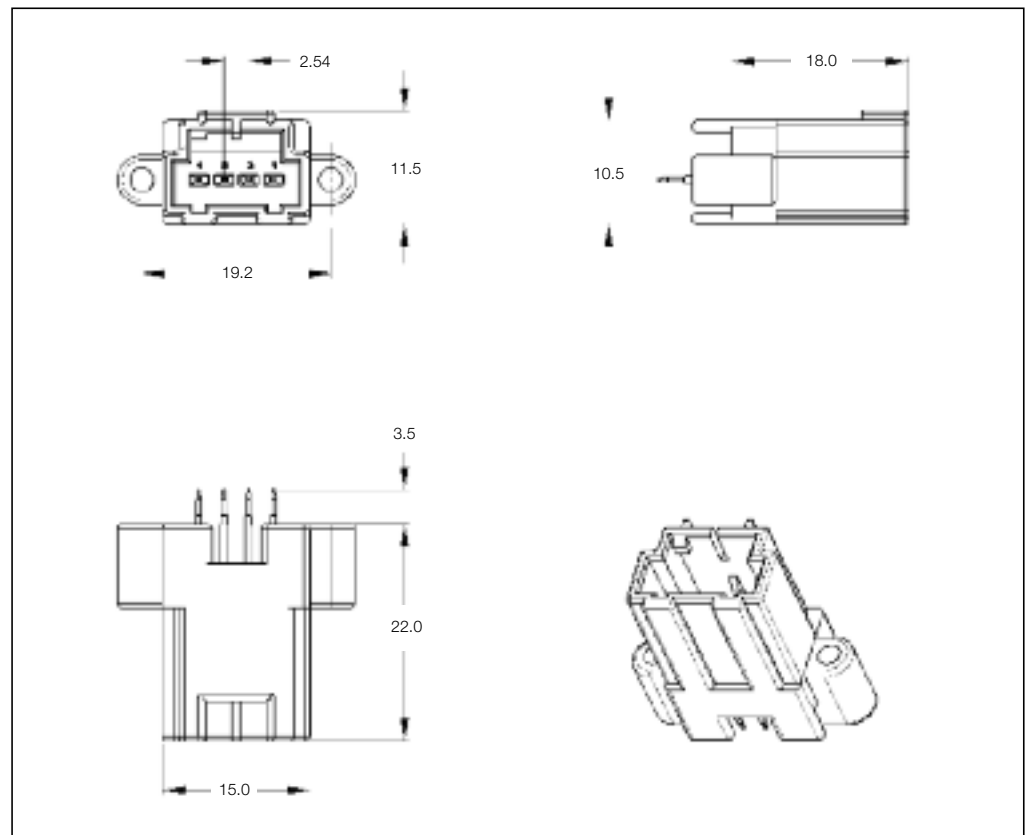
CuZn, tin plated

**Product Specification:**

108-18030

**Application Specification:**

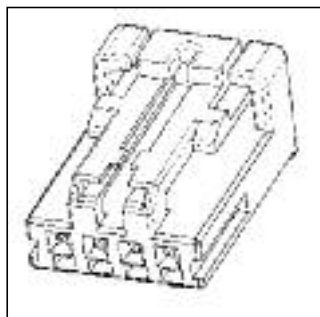
114-18021



**4 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                 |                  |                           |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 4           | -              | Natural       | -                         | 936399-1               | -     | -               | -                | 936119-1                  |
|             |                | Yellow        | -                         | 936399-5               | -     | -               | -                | 936119-2<br>1-936119-2    |

**Mating Receptacle Housing**  
See Page 3-16



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

4 Positions

**Housing Material:**

PBT GF15

**Wire Size Range:**

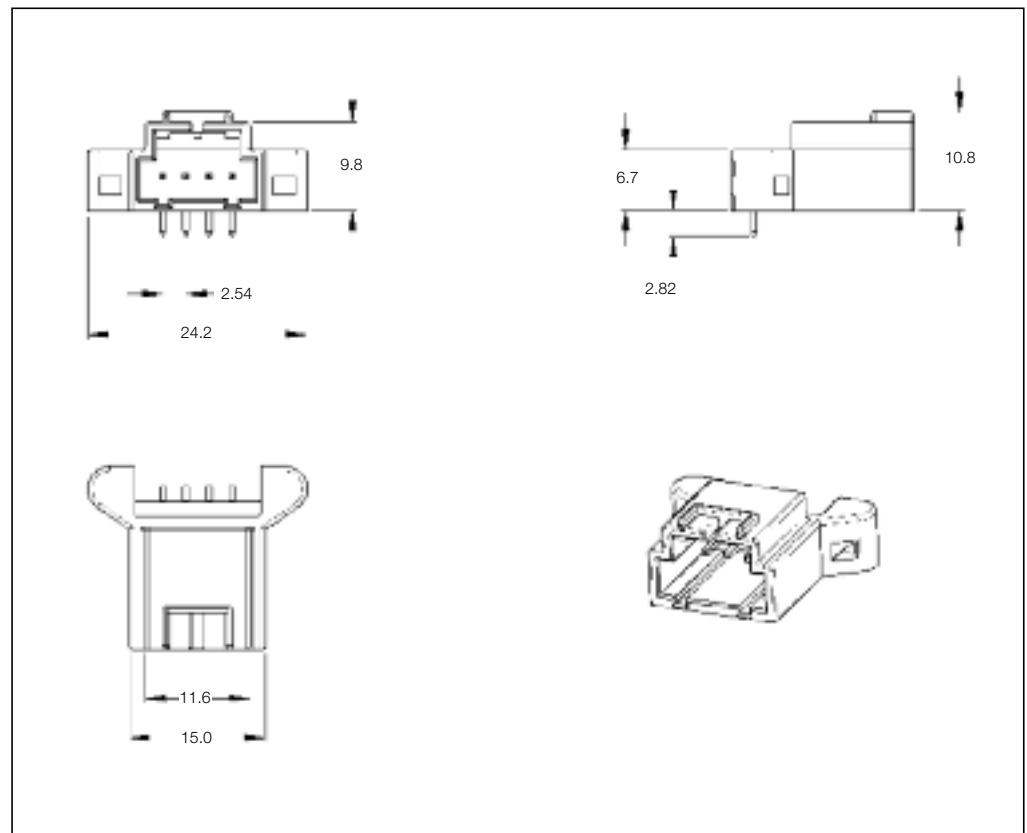
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**4 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 4           | —              | Yellow        | 1743218-5    | —     | —     | —                | —                         |
|             |                | Dark Gray     | 1-1743218-3  |       |       |                  |                           |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

4 Positions

**Housing Material:**

PCT GF30

**Material and Finish:**

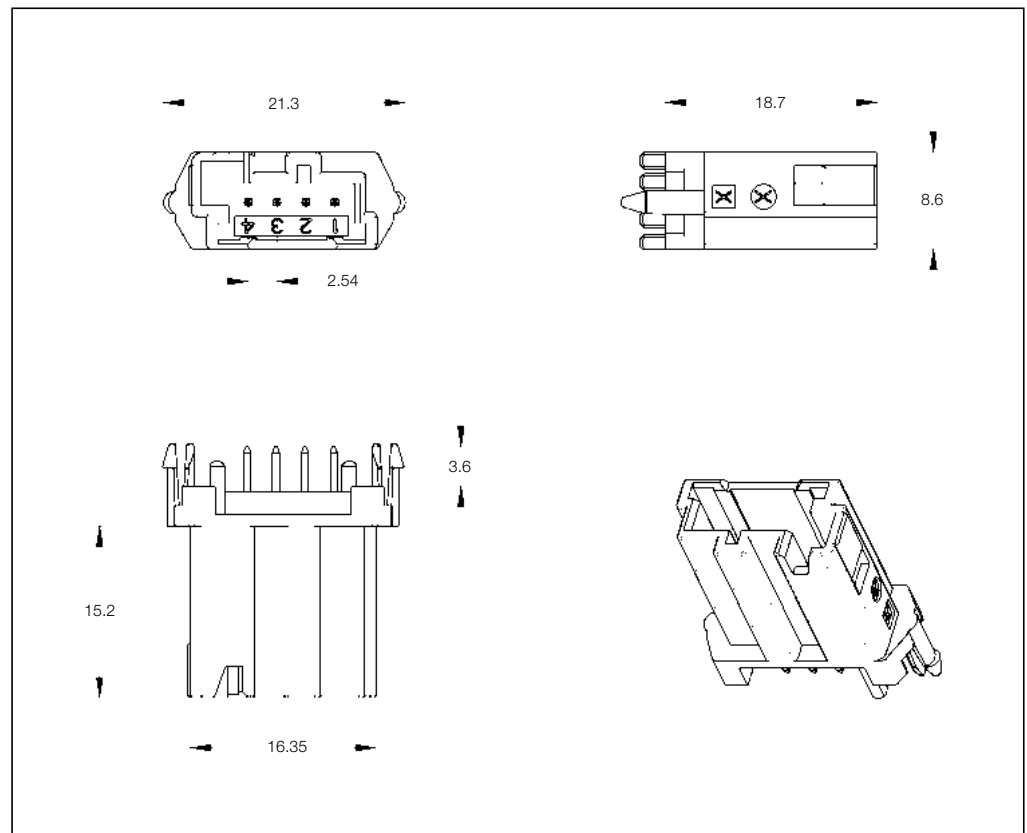
CuSn6

**Product Specification:**

108-15267

**Application Specification:**

411-15635



**4 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color        | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|----------------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |                      | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 4           | -              | See customer drawing | -                      | 1379165-1           | -     | -     | -                | -                         |
|             |                |                      | -                      | 1379165-3/-7        |       |       |                  |                           |
|             |                |                      | -                      | 1-1379165-3         |       |       |                  |                           |
|             |                |                      | -                      | 1-1379165-5         |       |       |                  |                           |
|             |                |                      | -                      | 1-1379165-6         |       |       |                  |                           |

Printed Circuit Board Headers

**Technical Features**

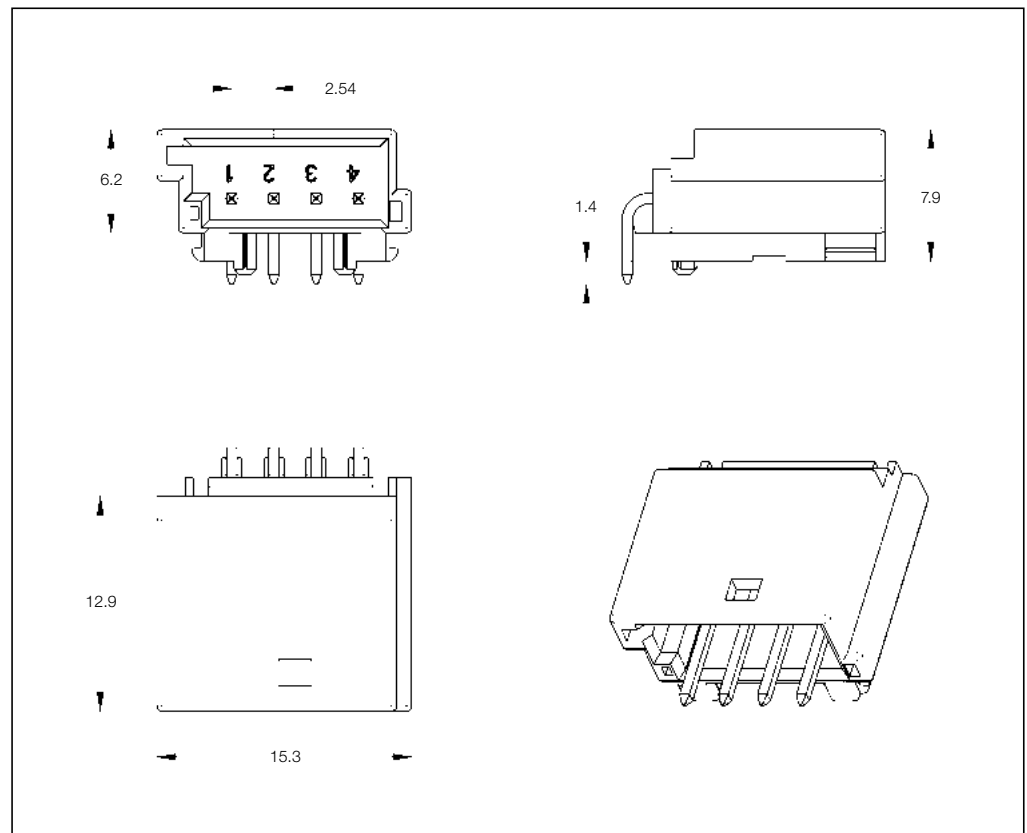
**No. of Positions:**  
4 Positions

**Housing Material:**  
PA66 GF25

**Material and Finish:**  
CuMg 0.1

**Product Specification:**  
—

**Application Specification:**  
—



**4 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |       |                     |                              |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-------|---------------------|------------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer<br>Housing | Mating<br>Receptacle Housing |
| 4           | —              | Black         | 1-1355897-1               | —                      | —     | —     | —                   | —                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

5 Positions  
(3 Pos. MQS + 2 Pos. MPQ)

**Housing Material:**

PBT GF10

**Wire Size Range:**

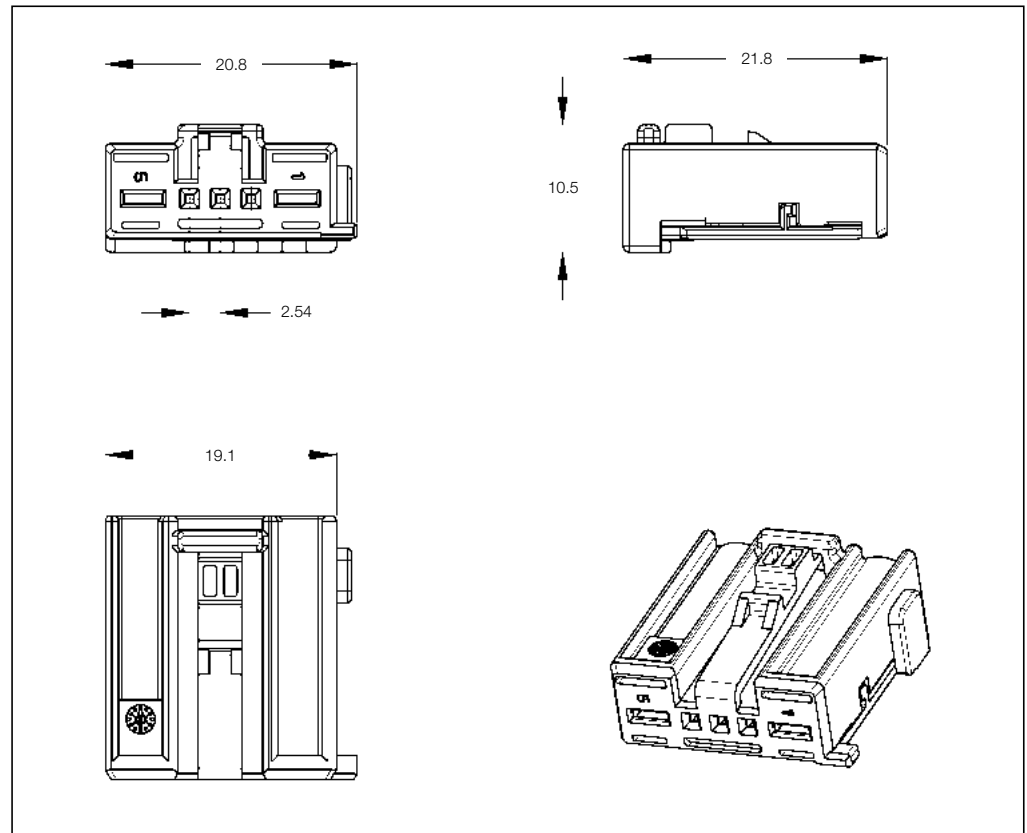
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-15315

**Application Specification:**

—



**5 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 5           | Z              | Black         | 1438992-1          |       |       |                  |                    |                               |                            |
|             | Z              | White         | 1438992-2          |       |       |                  |                    |                               |                            |
|             | A              | Black         | 1438992-3          | —     | —     | —                | —                  | —                             | —                          |
|             | B              | White         | 1438992-4          |       |       |                  |                    |                               |                            |
|             | C              | Blue          | 1438992-5          |       |       |                  |                    |                               |                            |

Receptacle Housings

**Technical Features**

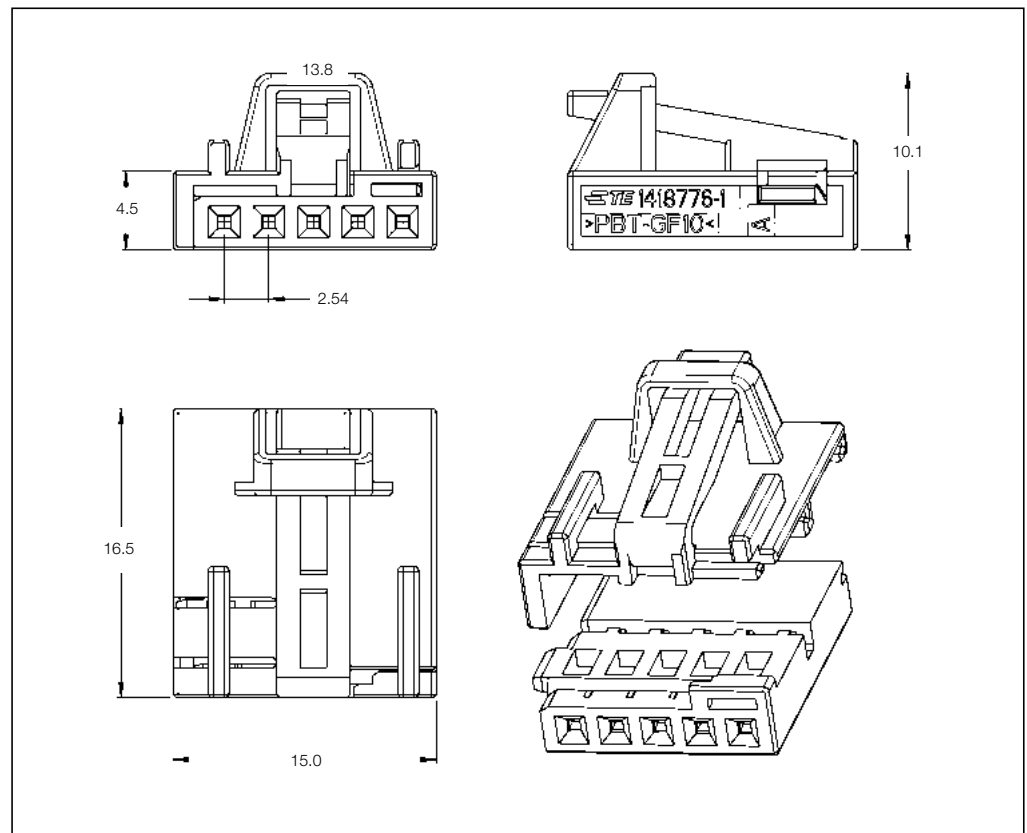
**No. of Positions:**  
5 Positions

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18924

**Application Specification:**  
114-18630



**5 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |                        |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|------------------------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover                  | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 5           | –              | Brown         | 1-1418775-1        | 1418776-1<br>1418776-2 | –     | –                | –                  | –                             | –                          |

Pin Housings

**Technical Features**

**No. of Positions:**

5 Positions

**Housing Material:**

PBT GF10

**Wire Size Range:**

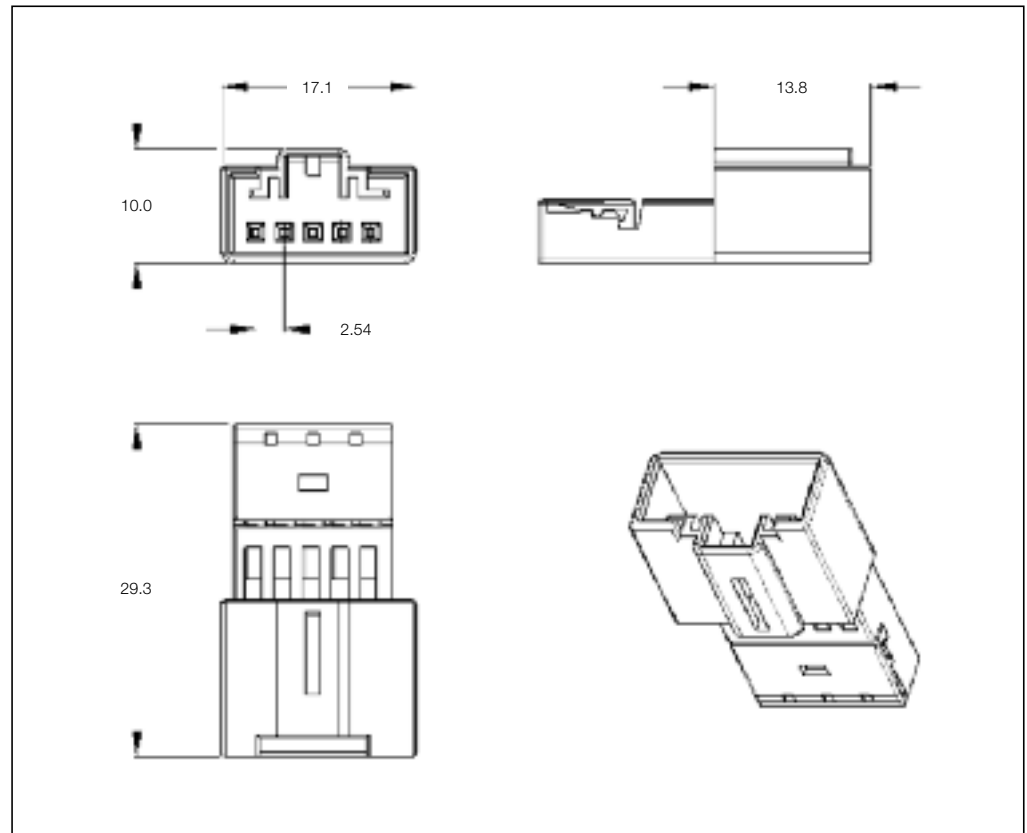
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-18294

**Application Specification:**

114-18630



**5 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 5           | A              | Brown         | 1-1418778-1  | –     | –     | –                | –                         |

Receptacle Housings

**Technical Features**

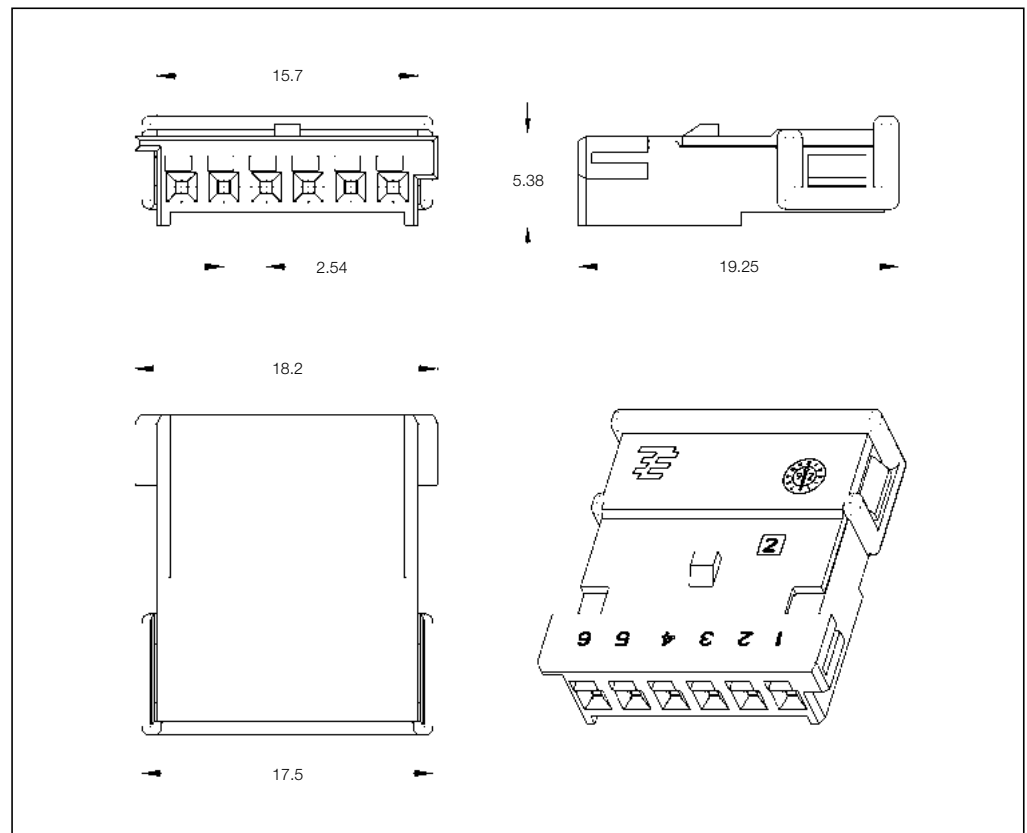
**No. of Positions:**  
6 Positions

**Housing Material:**  
PBT

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-61030

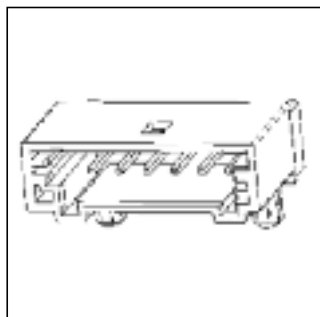
**Application Specification:**  
114-18030



**6 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 6           | Z              | Black         | 936289-2           | –     | –              | –               | –                | –                  | 936287-2                      | –                          |
|             |                | Natural       | 936289-5           | –     | –              | –               | –                | –                  |                               |                            |

**Mating Header**  
See Page 3-43



Receptacle Housings

**Technical Features**

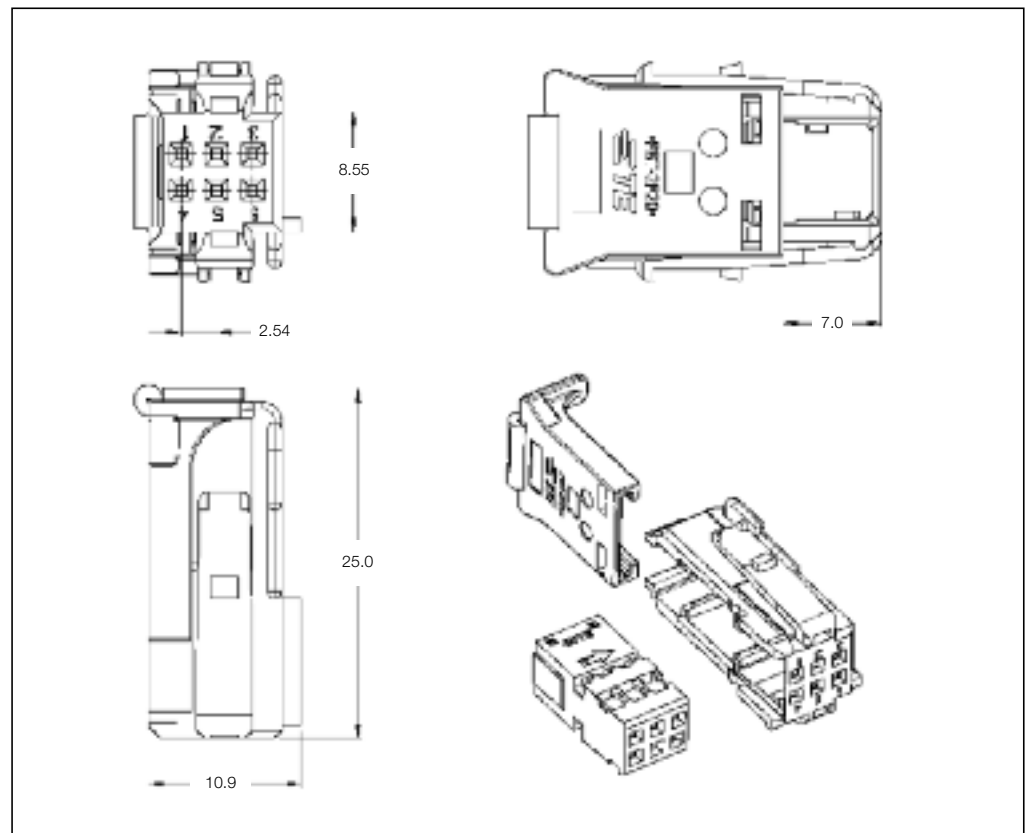
**No. of Positions:**  
6 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.35–0.75 mm<sup>2</sup>

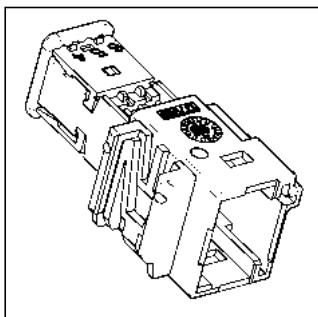
**Product Specifications:**  
108-15142 Receptacle Housing  
108-15192 Cover and Locking

**Application Specifications:**  
411-15567 Receptacle Housing  
411-15608 Cover and Locking



**6 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                  |                    |                    | Mating PCB Header Vertical |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|------------------|--------------------|--------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating Right-Angle |                            |
| 6           | -              | Black         | 185311-1           | 953382-1 | 953381-1       | -               | -                | 1379118-1          | 953440-1           | 953363-1<br>1379816-1      |
|             |                |               |                    |          |                |                 |                  |                    | 953442-1           |                            |
|             |                |               |                    |          |                |                 |                  |                    | 953444-1           |                            |
|             |                | White         | -                  | 953382-2 | -              | -               | -                | 1379118-2          | 953440-2           | -                          |
|             |                |               |                    |          |                |                 |                  |                    | 953442-2           |                            |
|             |                | Green         | -                  | 953382-3 | -              | -               | -                | 1379118-3          | 953440-4           | 1379816-3                  |
|             |                |               |                    |          |                |                 |                  |                    | 953442-4           |                            |
|             |                | Brown         | -                  | 953382-4 | -              | -               | -                | 1379118-4          | 953440-3           | 953363-3<br>1379816-4      |
|             |                |               |                    |          |                |                 |                  |                    | 953442-3           |                            |
|             |                |               |                    |          |                |                 |                  |                    | -                  |                            |



**Mating Header**  
See Page 3-44–3-49

Receptacle Housings

**Technical Features**

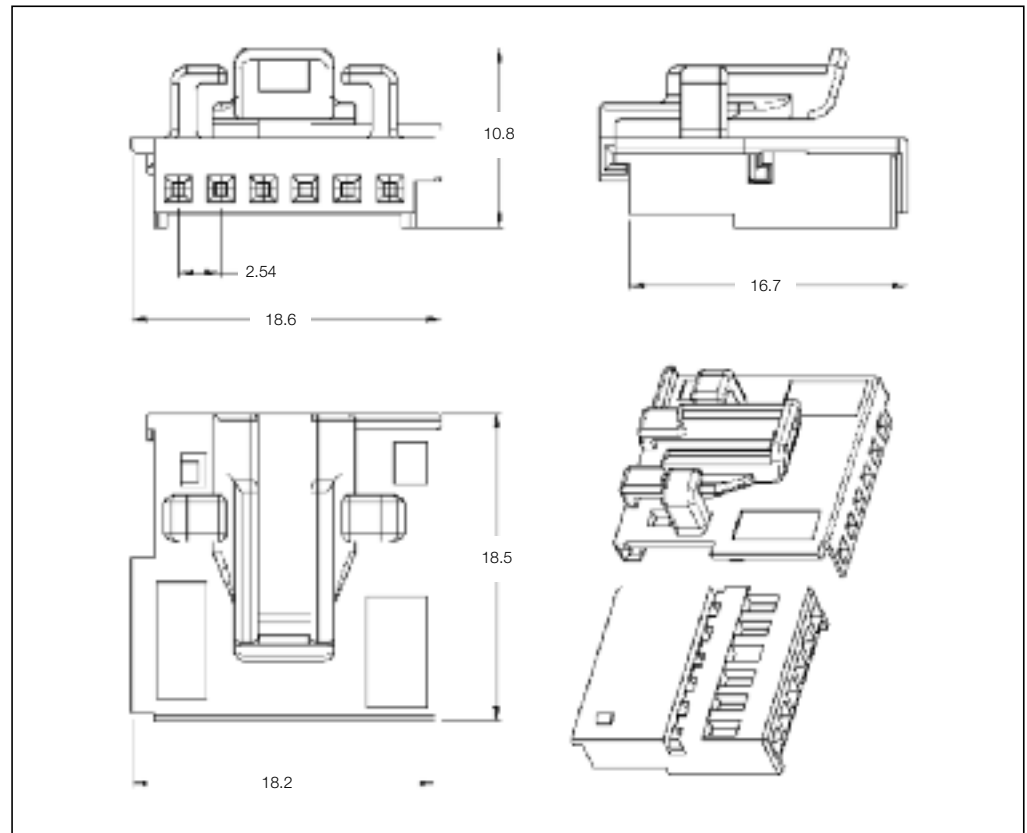
**No. of Positions:**  
6 Position Kit

**Housing Material:**  
PBT GF/PA66 GF

**Wire Size Range:**  
0.35–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**6 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 6           | A              | Black         | 284802-1           | —     | —              | —               | —                | —                  | —                             | —        |
|             | B              | Brown         | 284802-2           | —     | —              | —               | —                | —                  | —                             | —        |

Receptacle Housings

**Technical Features**

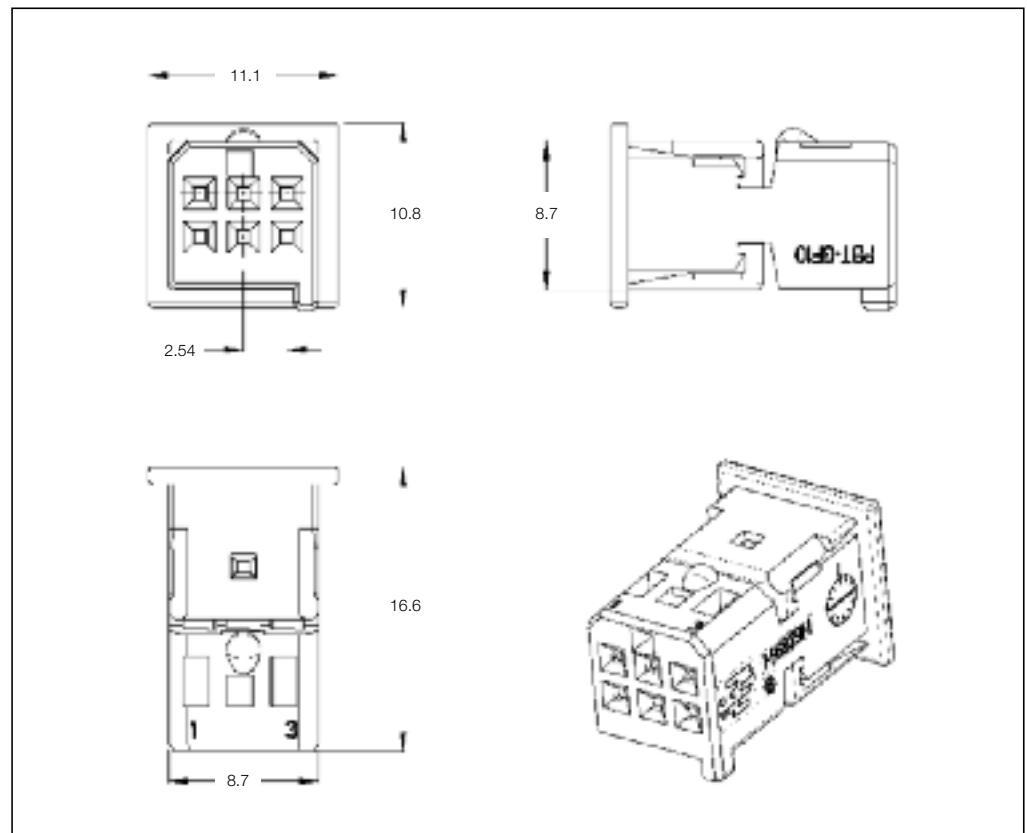
**No. of Positions:**  
6 Positions (2 × 3)

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.35–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18507-0

**Application Specification:**  
—



**6 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 6           | A              | Black         | 1-968291-2         | —     | —              | —               | —                | —                  | —                             | —        |
|             | B              | Natural       | 2-968291-2         | —     | —              | —               | —                | —                  | —                             | —        |

Receptacle Housings

**Technical Features**

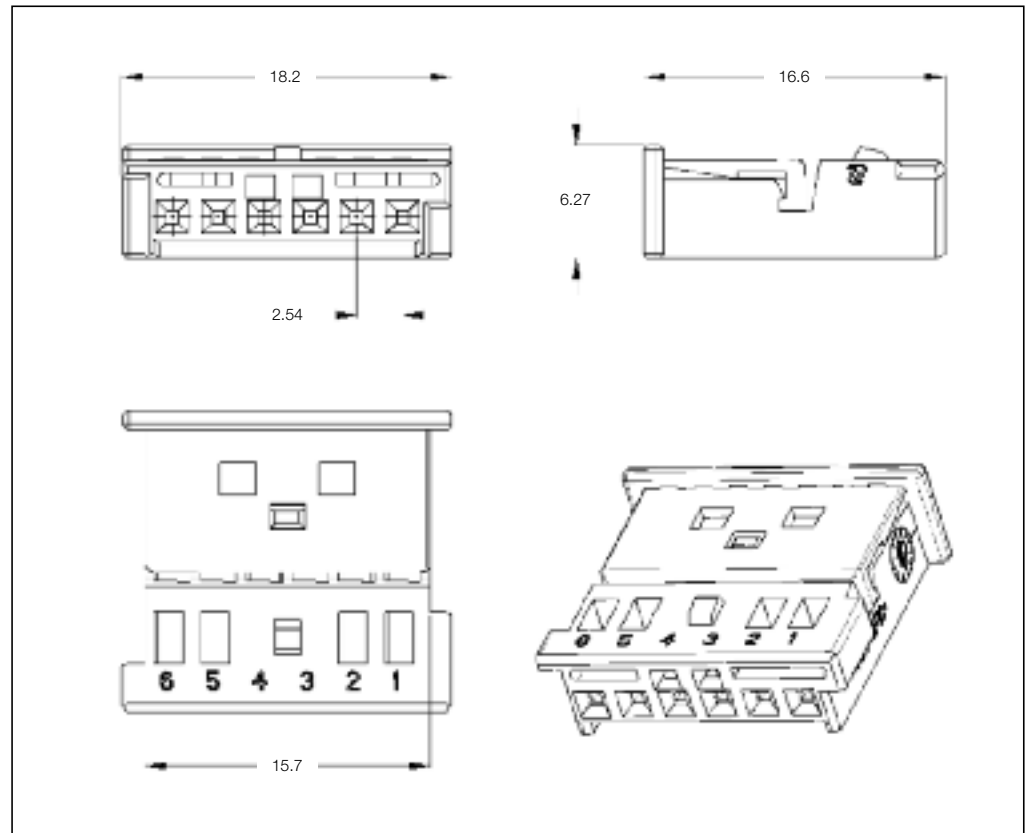
**No. of Positions:**  
6 Positions

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**6 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 6           | A              | Black         | 1-1241370-3        | —     | —     | —                | —                  | —                             | —                          |
|             | B              | Natural       | 2-1241370-3        | —     | —     | —                | —                  | —                             | —                          |

Receptacle Housings

**Technical Features**

**No. of Positions:**

6 Positions

**Housing Material:**

PBT GF20

**Wire Size Range:**

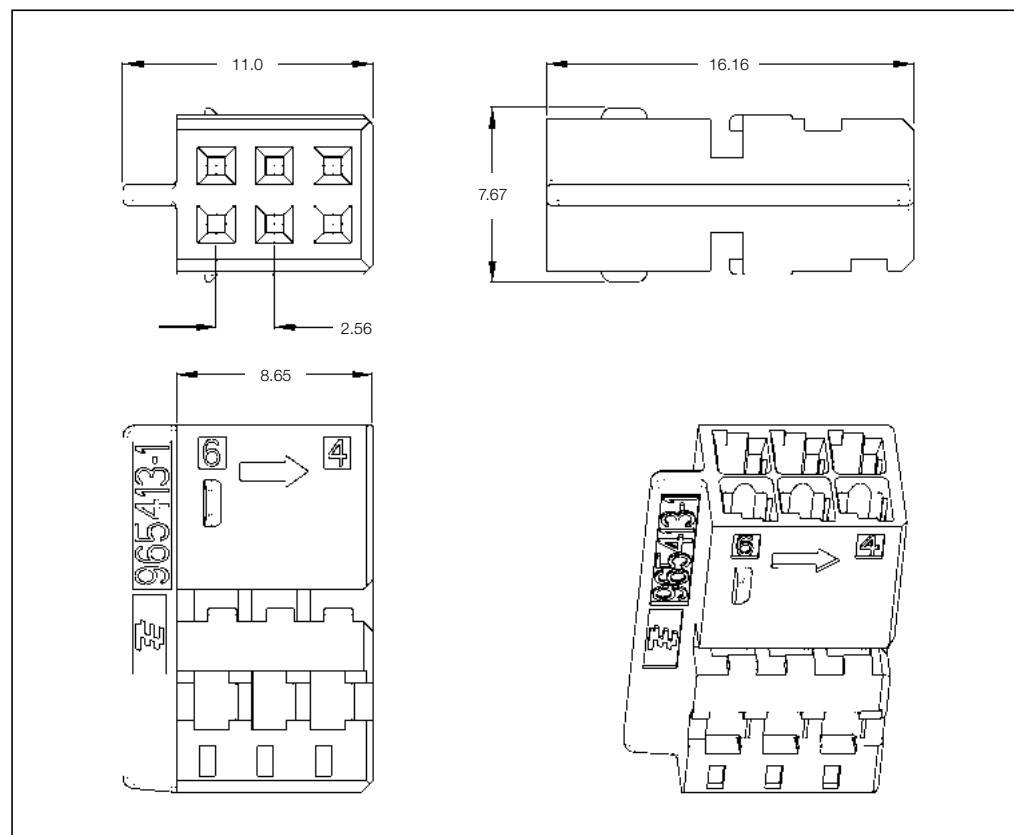
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**6 Position Receptacle Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 6           | —              | Black         | 965413-1           | —     | —     | —                | —                  | —                             | —                          |

Receptacle Housings

**Technical Features**

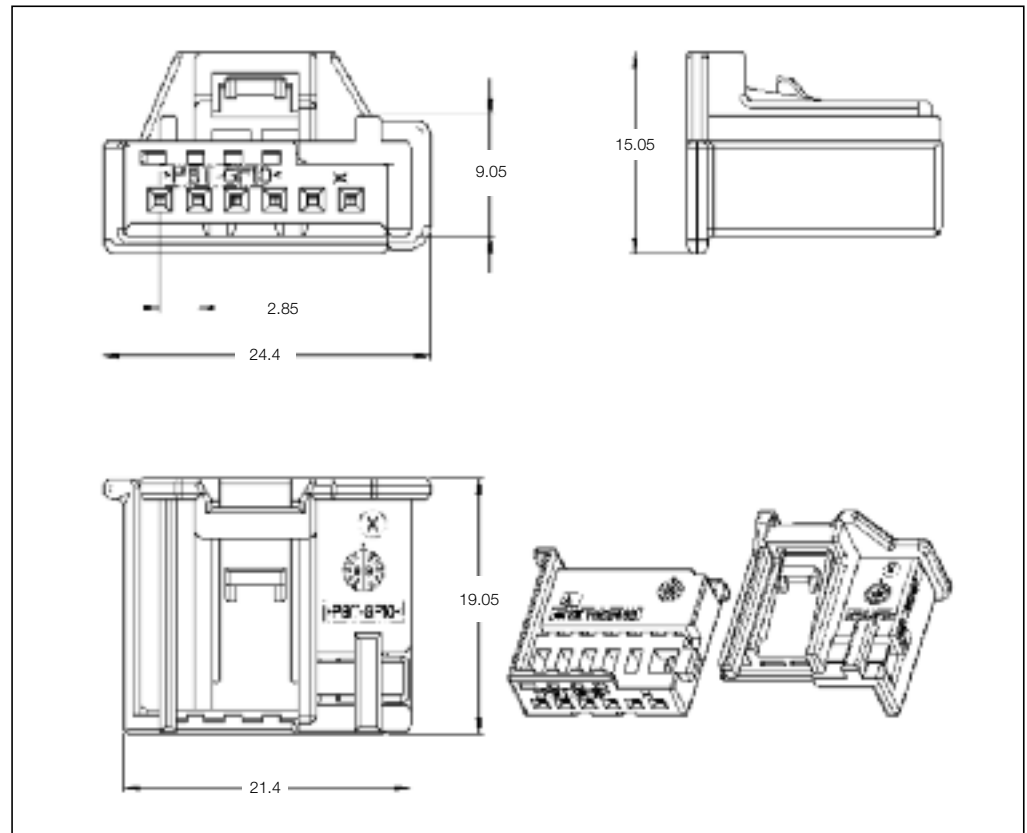
**No. of Positions:**  
6 Positions (2 × 3)

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**6 Position Receptacle Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 6           | A              | Black         | 1355082-1          | —     | —     | 1355081-1        | —                  | —                             | —                          |
|             |                | Brown         | 1355082-2          |       |       | 1355081-2        |                    |                               |                            |
|             |                | White         | 1355082-3          |       |       | 1355081-3        |                    |                               |                            |
|             |                | Blue          | 1355082-4          |       |       | 1355081-4        |                    |                               |                            |
|             |                | White         | 1355082-5          |       |       | —                |                    |                               |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

6 Positions kit

**Housing Material:**

PBT GF

**Wire Size Range:**

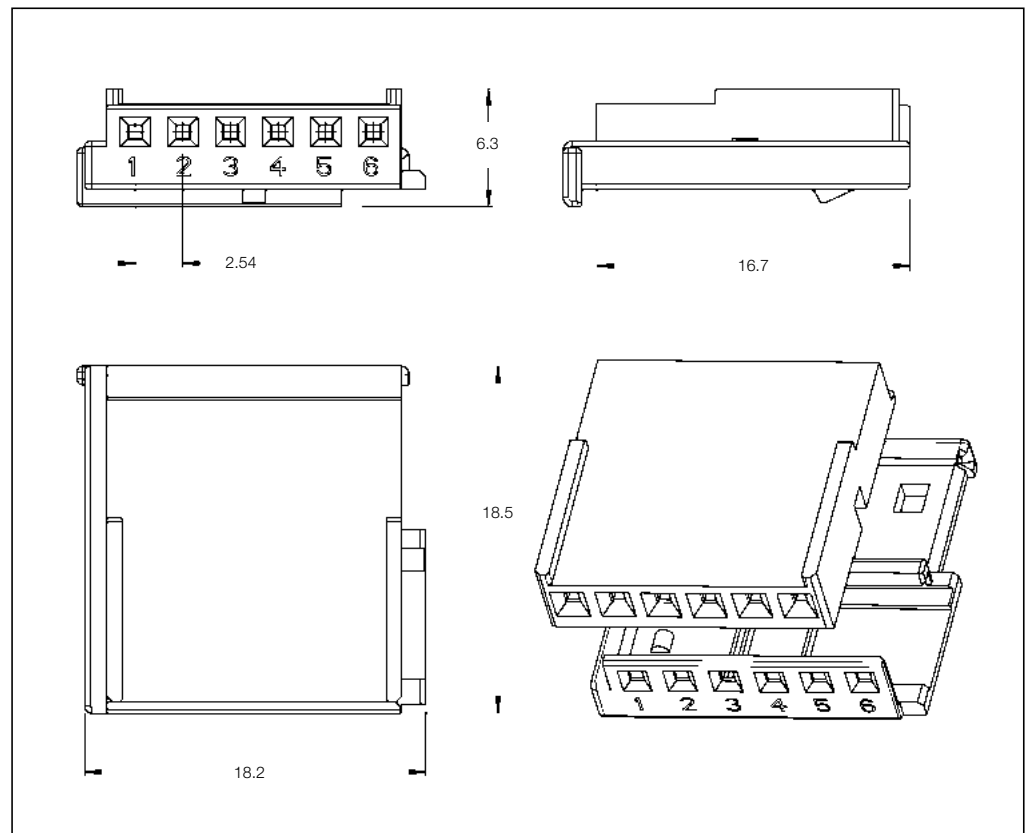
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**6 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 6           | A              | Black         | 1394005-1          | —     | —     | —                | —                  | —                             | —                          |

Pin Housings

**Technical Features**

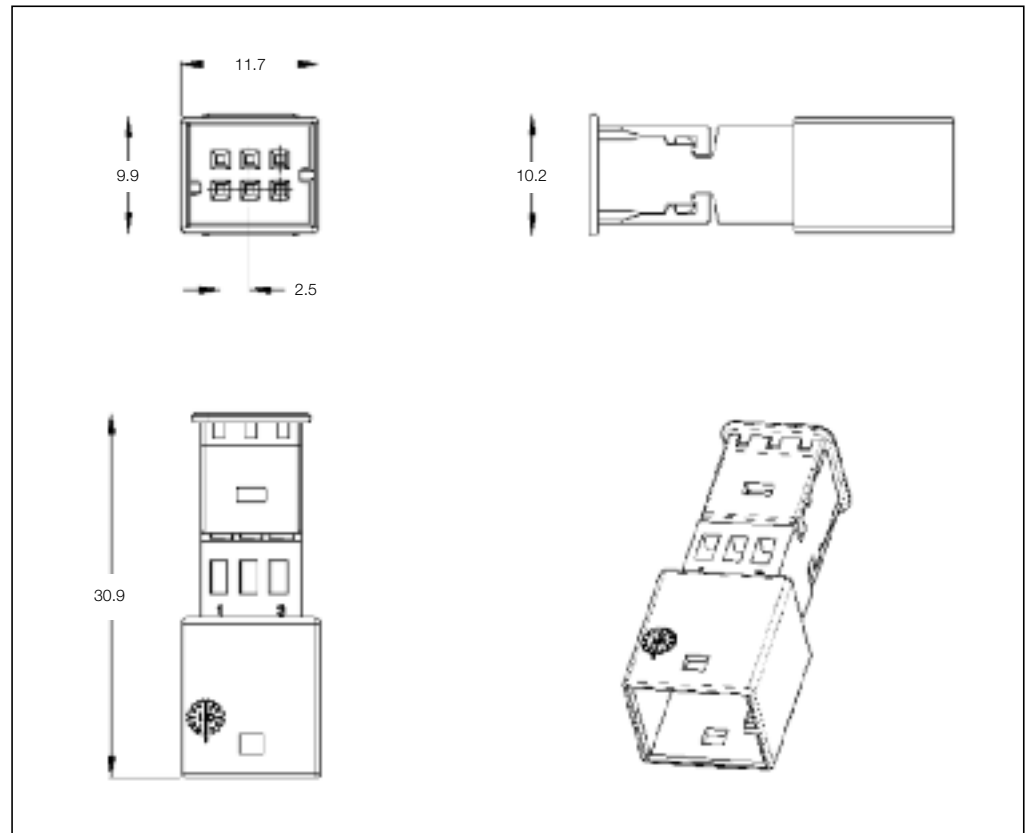
**No. of Positions:**  
6 Positions (2 × 3)

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**6 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 6           | —              | Gray          | 1-1418784-1  | —     | —     | —                | —                         |

Pin Housings

**Technical Features**

**No. of Positions:**

6 Positions  
for Flex Foil Application

**Housing Material:**

PBT GF10

**Wire Size Range:**

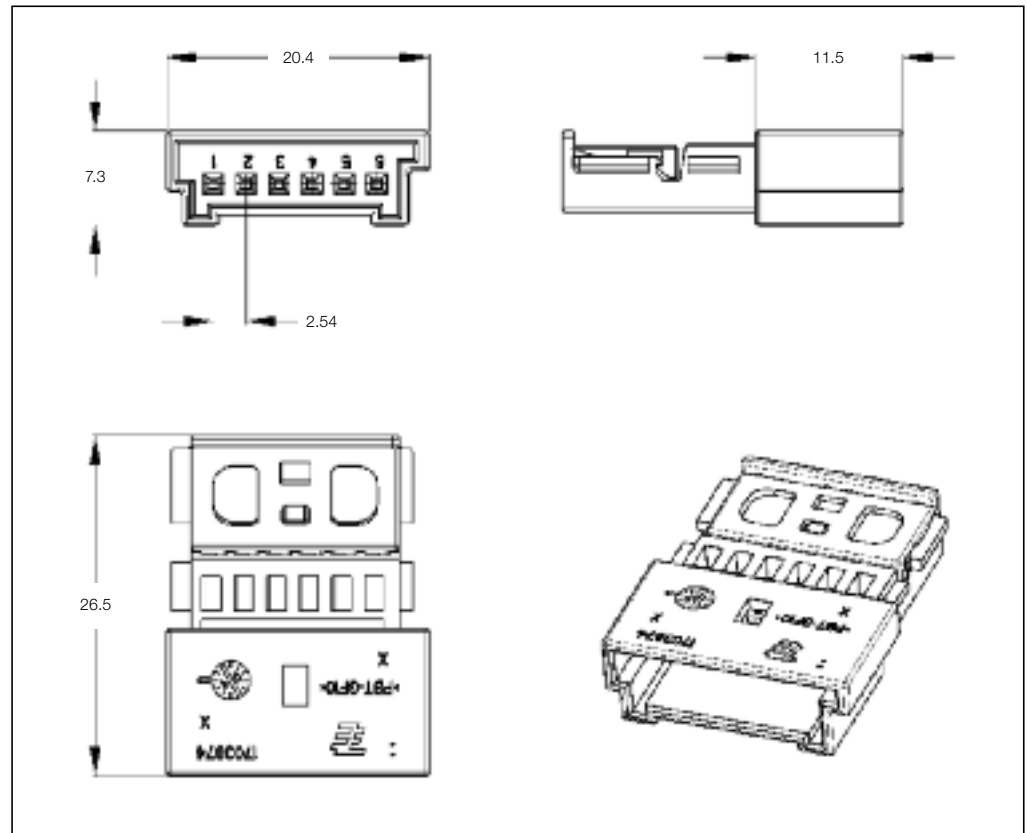
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-18620

**Application Specification:**

—



**6 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 6           | A              | Black         | 1703874-1    | —     | —     | —                | —                         |

Pin Housings

**Technical Features**

**No. of Positions:**

6 Positions  
for Flex Foil Application

**Housing Material:**

PBT GF10

**Wire Size Range:**

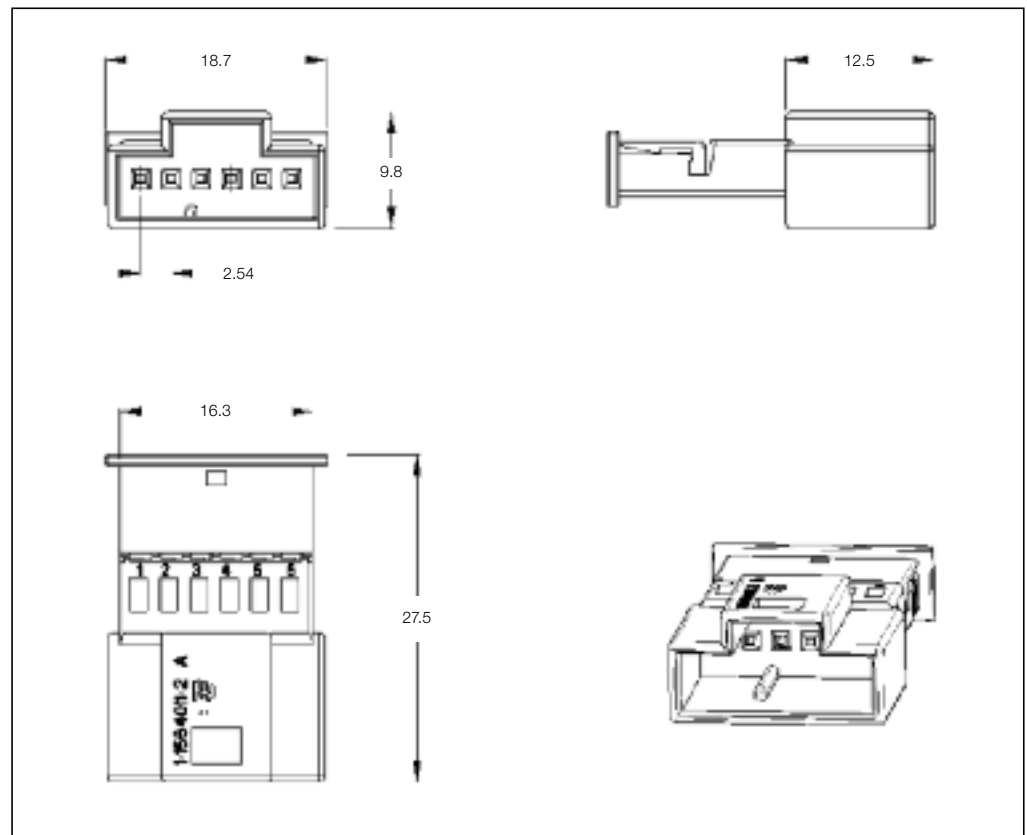
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-18620

**Application Specification:**

—



**6 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 6           | A              | Black         | 1-1564011-2  | —     | —     | —                | —                         |
|             | B              | Natural       | 2-1564011-2  | —     | —     | —                | —                         |

Pin Housings

**Technical Features**

**No. of Positions:**

6 Position Assembly

**Housing Material:**

PBT GF20

**Material and Finish:**

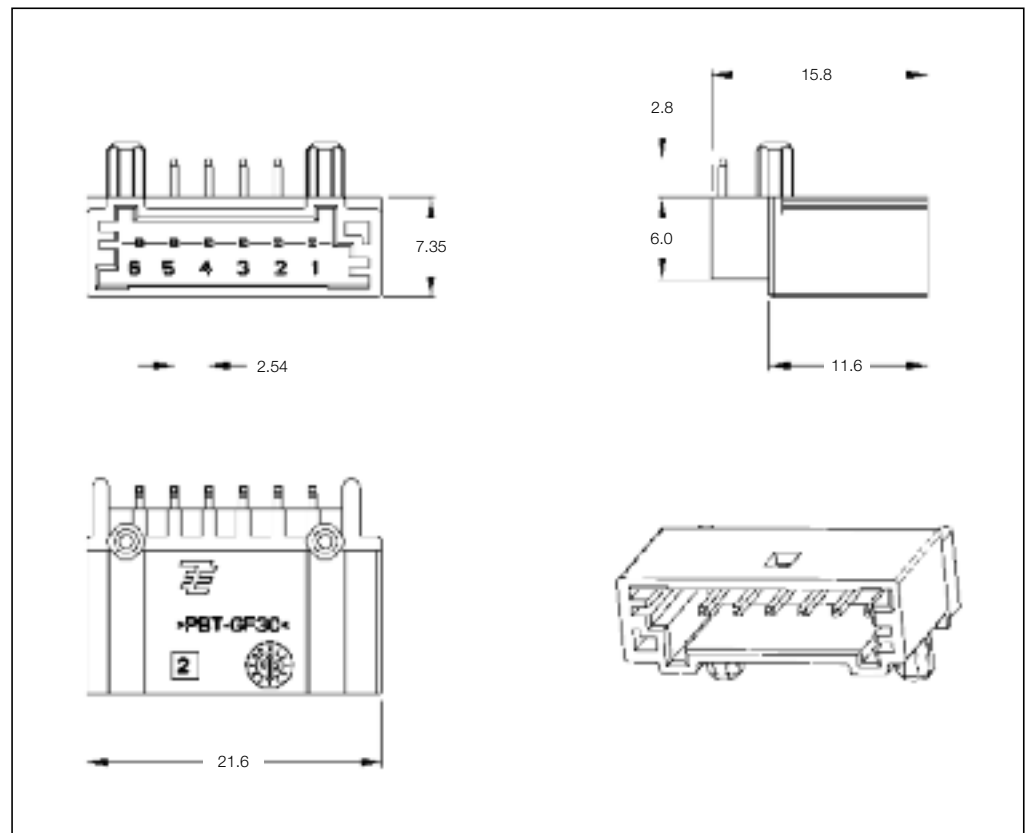
CuSn, tin-lead plated

**Product Specification:**

108-18030

**Application Specification:**

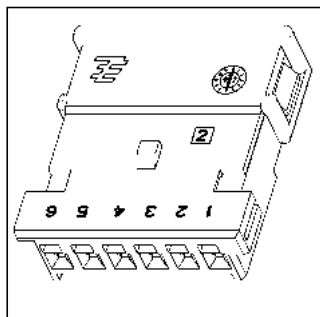
114-18021



**6 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 6           | B              | Natural       | 936287-2               | —                   | —     | —               | —                | 936289-5                  |

**Mating Receptacle Housing**  
See Page 3-32



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

6 Positions

**Housing Material:**

PBT GF20

**Wire Size Range:**

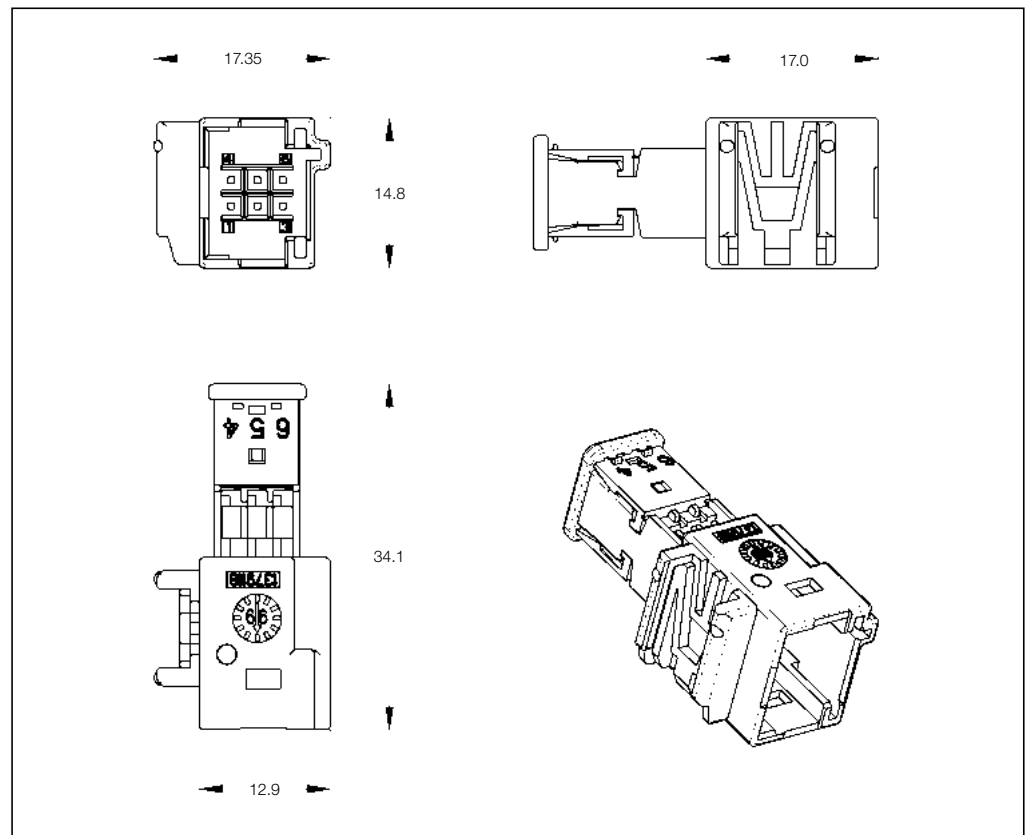
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-15311

**Application Specification:**

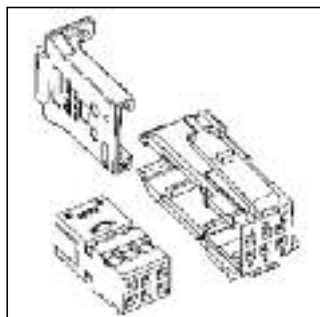
411-15526



**6 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                     |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Counter Part |
| 6           | –              | Black         | 1379118-1    | –     | –              | –               | –                | 185311-1            |
|             |                | White         | 1379118-2    | –     | –              | –               | –                | –                   |
|             |                | Green         | 1379118-3    | –     | –              | –               | –                | –                   |
|             |                | Brown         | 1379118-4    | –     | –              | –               | –                | –                   |

**Mating Receptacle Housing**  
See Page 3-33



Printed Circuit Board Headers

**Technical Features**

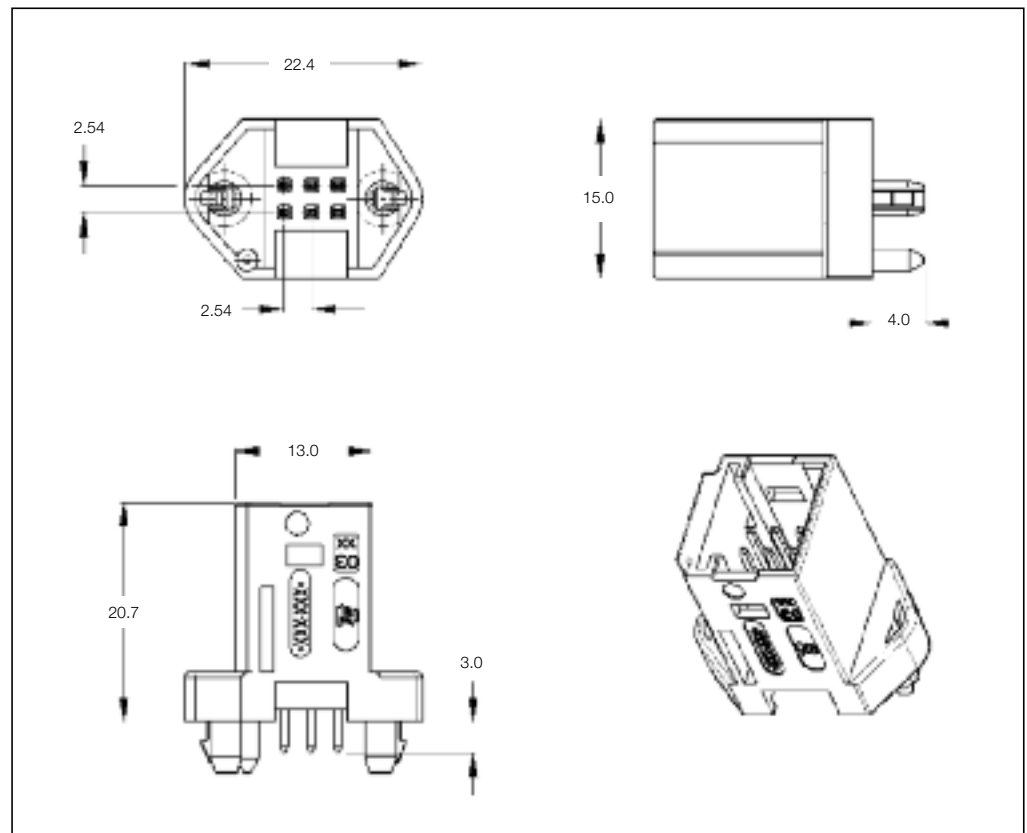
**No. of Positions:**  
6 Positions with Board Locks

**Housing Material:**  
SPS GF20

**Material and Finish:**  
CuSn6, pre-tin plated

**Product Specification:**  
108-15329

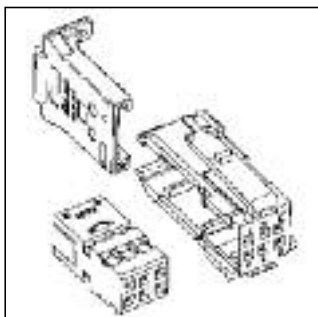
**Application Specification:**  
—



**6 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  | Mating Counter Part |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|---------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing |                     |
| 6           | —              | Black         | —                      | 1379816-1           | —     | —               | —                | 185311-1 and 953382 |
|             |                | Green         | —                      | 1379816-3           |       |                 |                  |                     |
|             |                | Brown         | —                      | 1379816-4           |       |                 |                  |                     |

**Mating Receptacle Housing**  
See Page 3-33



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

6 Positions with Ears

**Housing Material:**

PBT GF20

**Material and Finish:**

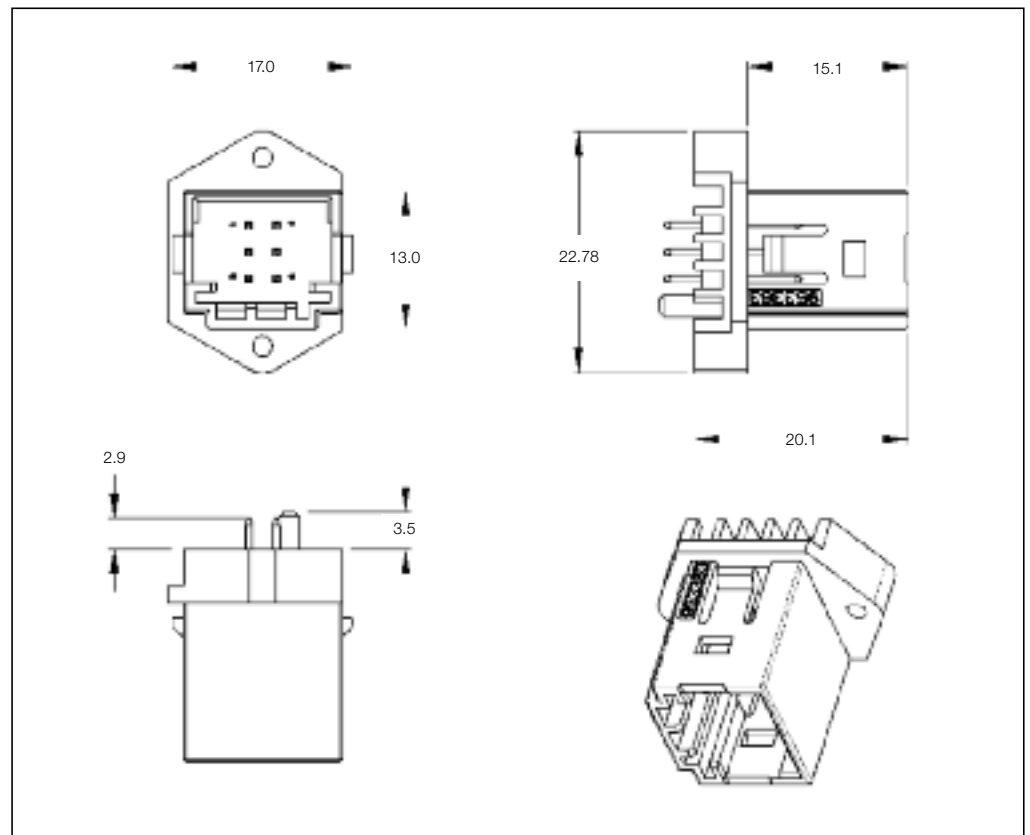
CuSn, post tin plated

**Product Specification:**

108-15199

**Application Specification:**

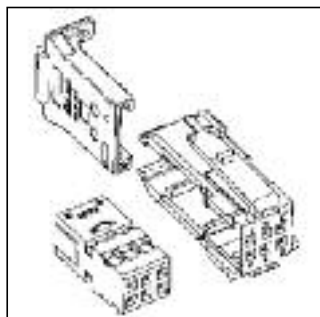
—



**6 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                 |                  |                        |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-----------------|------------------|------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing | Mating Counter Part    |
| 6           | -              | Black         | -                         | 953363-1               | -     | -               | -                | 185311-1 and<br>953382 |
|             |                | White         | -                         | 953363-2               |       |                 |                  |                        |
|             |                | Brown         | -                         | 953363-3               |       |                 |                  |                        |
|             |                | Green         | -                         | 953363-4               |       |                 |                  |                        |

**Mating Receptacle Housing**  
See Page 3-33



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

6 Positions with Ears

**Housing Material:**

PBT GF20

**Material and Finish:**

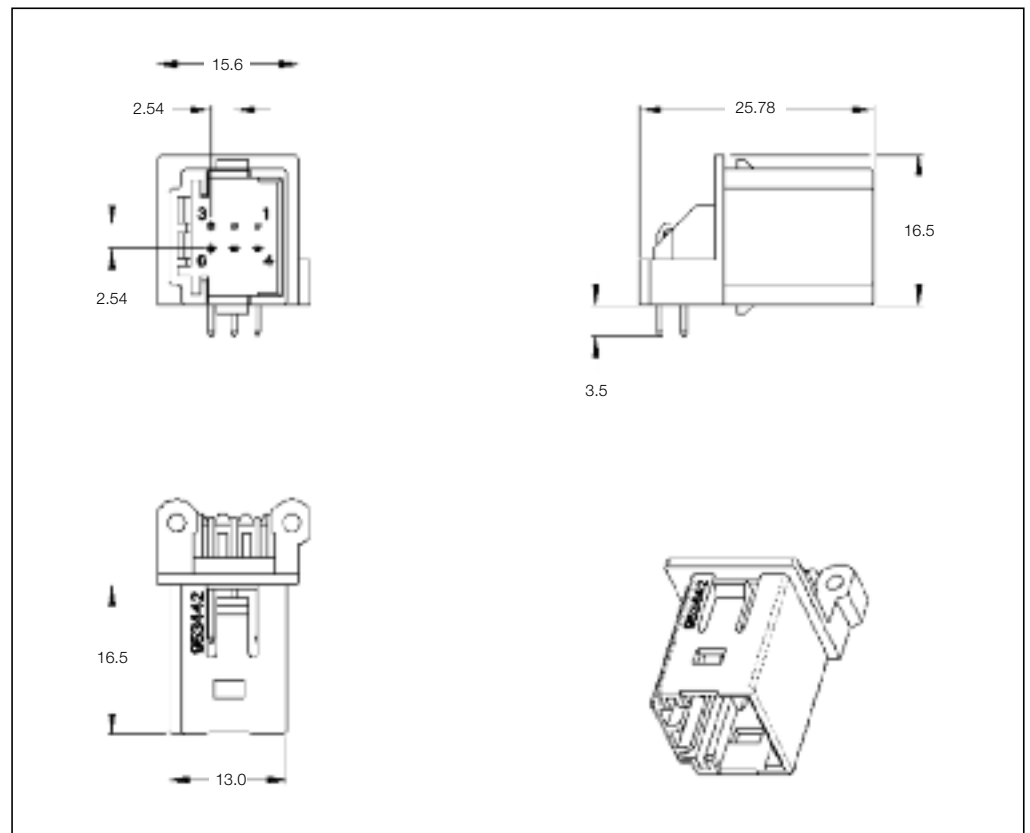
CuSn6, tin plated

**Product Specification:**

108-15150

**Application Specification:**

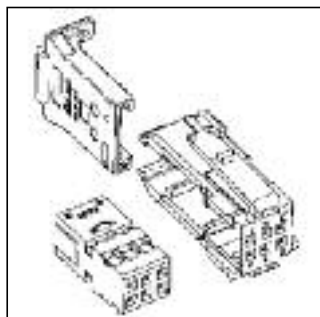
—



**6 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  | Mating Counter Part |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|---------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing |                     |
| 6           | —              | Black         | 953442-1               | —                   | —     | —               | —                | 185311-1 and 953382 |
|             |                | White         | 953442-2               | —                   |       |                 |                  |                     |
|             |                | Brown         | 953442-3               | —                   |       |                 |                  |                     |
|             |                | Green         | 953442-4               | —                   |       |                 |                  |                     |

**Mating Receptacle Housing**  
See Page 3-33



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

6 Positions with 1 Pin

**Housing Material:**

PBT GF20

**Material and Finish:**

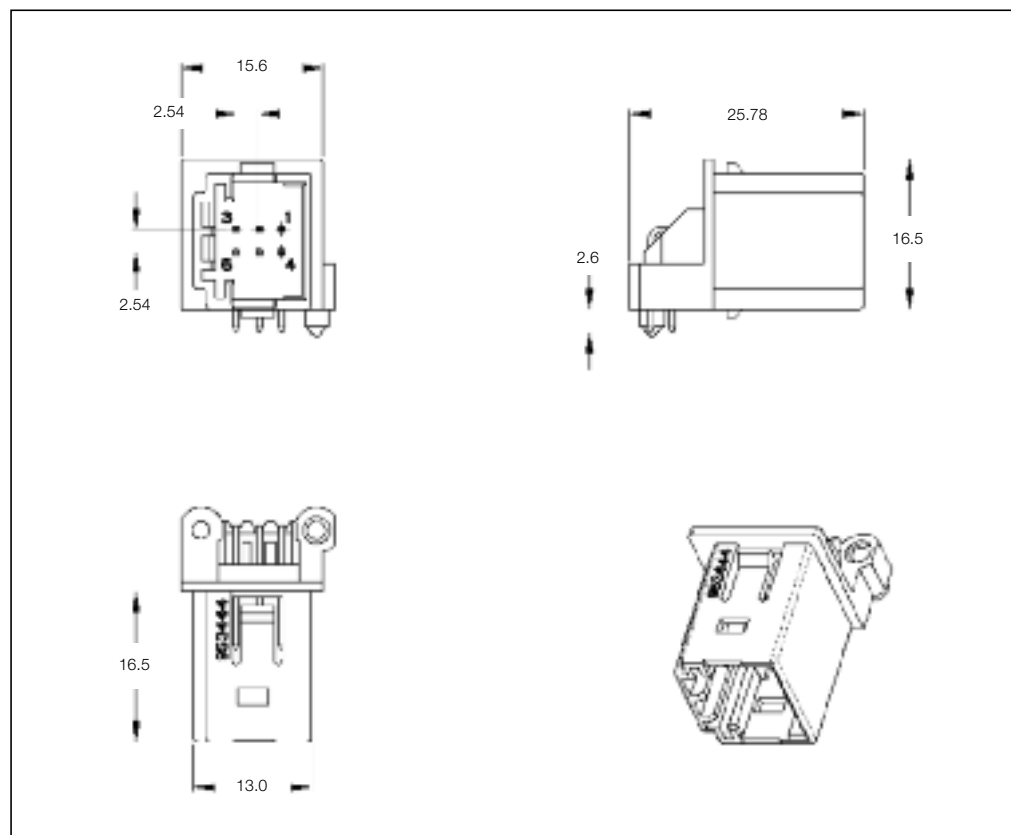
CuSn6, post tin plated

**Product Specification:**

108-15150

**Application Specification:**

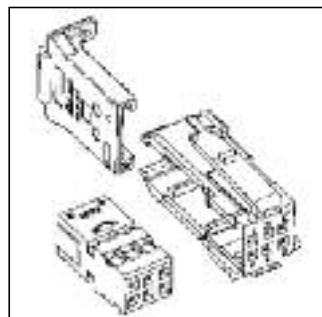
—



**6 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  |                     |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|---------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing | Mating Counter Part |
| 6           | —              | Black         | 953444-1               | —                   | —     | —               | —                | 185311-1 and 953382 |
|             |                | Brown         | 953444-2               | —                   | —     | —               | —                |                     |

**Mating Receptacle Housing**  
See Page 3-33



Printed Circuit Board Headers

**Technical Features**

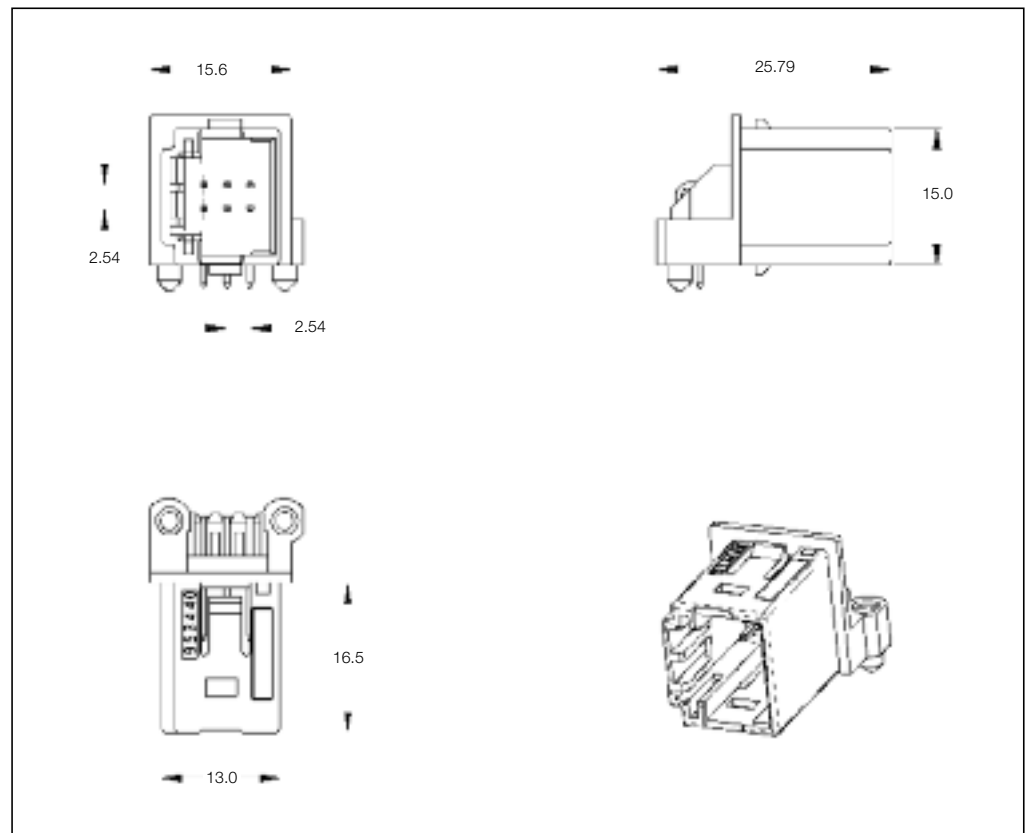
**No. of Positions:**  
6 Positions with 2 Pins

**Housing Material:**  
PBT GF20

**Material and Finish:**  
CuSn6, post tin plated

**Product Specification:**  
108-15150

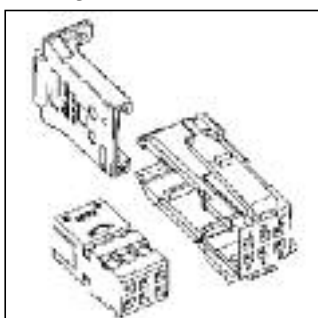
**Application Specification:**  
—



**6 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  | Mating Counter Part |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|---------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing |                     |
| 6           | —              | Black         | 953440-1               | —                   | —     | —               | —                | 185311-1 and 953382 |
|             |                | White         | 953440-2               | —                   |       |                 |                  |                     |
|             |                | Brown         | 953440-3               | —                   |       |                 |                  |                     |
|             |                | Green         | 953440-4               | —                   |       |                 |                  |                     |

**Mating Receptacle Housing**  
See Page 3-33



Printed Circuit Board Headers

**Technical Features**

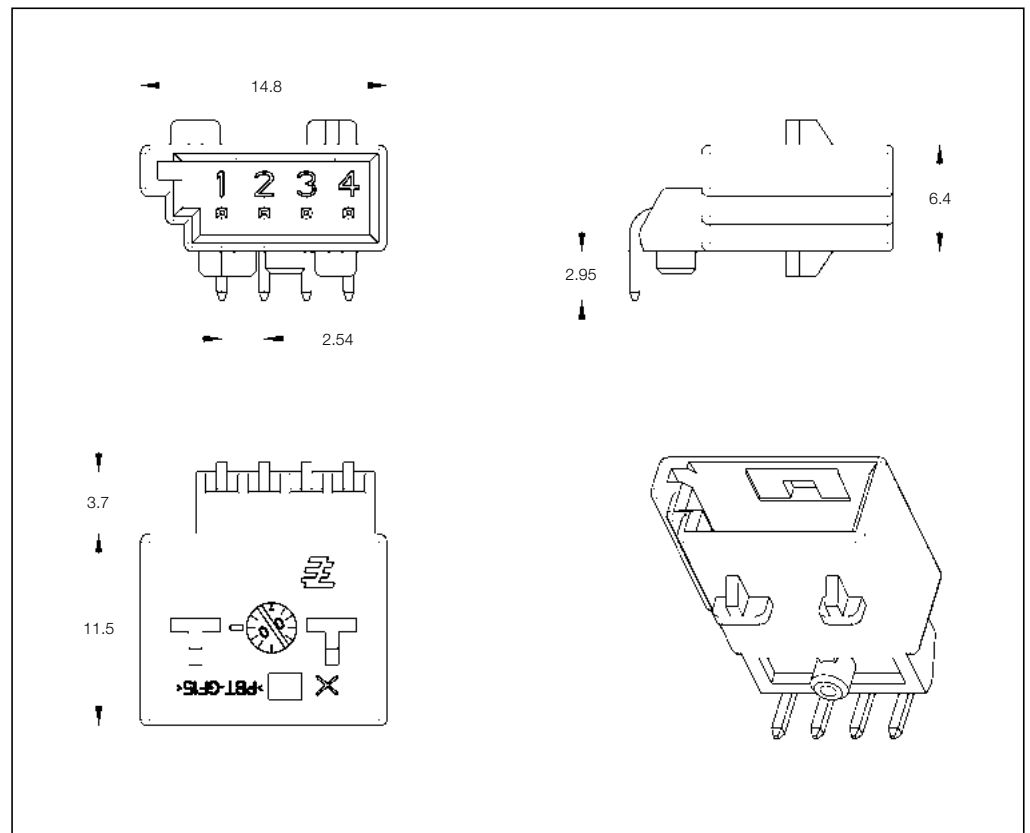
**No. of Positions:**  
6 Positions

**Housing Material:**  
PBT GF15

**Material and Finish:**  
CuMg 0.1, pre tinned

**Product Specification:**  
—

**Application Specification:**  
—



**6 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 6           | —              | Black         | 1-1394172-1            | —                   | —     | —     | —                | —                         |

Printed Circuit Board Headers

**Technical Features**

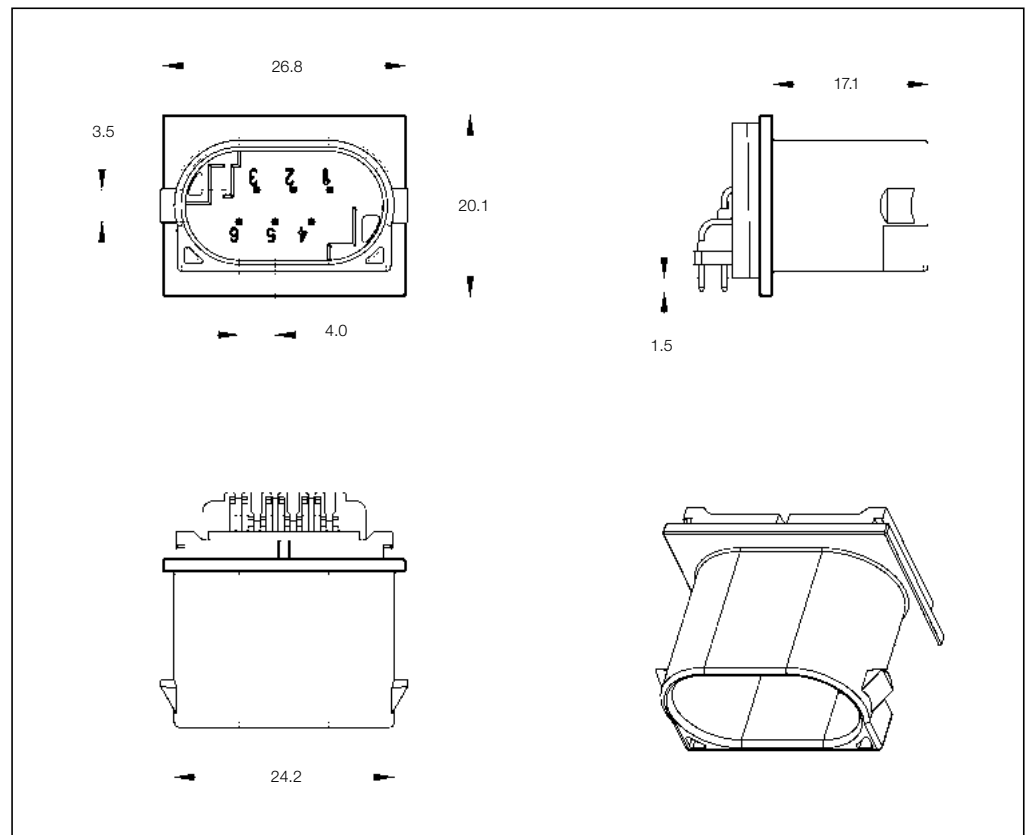
**No. of Positions:**  
6 Positions

**Housing Material:**  
PBT GF15

**Material and Finish:**  
CuMg 0.1, pre tinned

**Product Specification:**  
—

**Application Specification:**  
—



**6 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 6           | —              | Black         | 1241637-1              | —                   | —     | —     | —                | —                         |
|             |                | Black         | 1241637-2              | —                   | —     | —     | —                | —                         |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

6 Positions

**Housing Material:**

PBT GF20

**Material and Finish:**

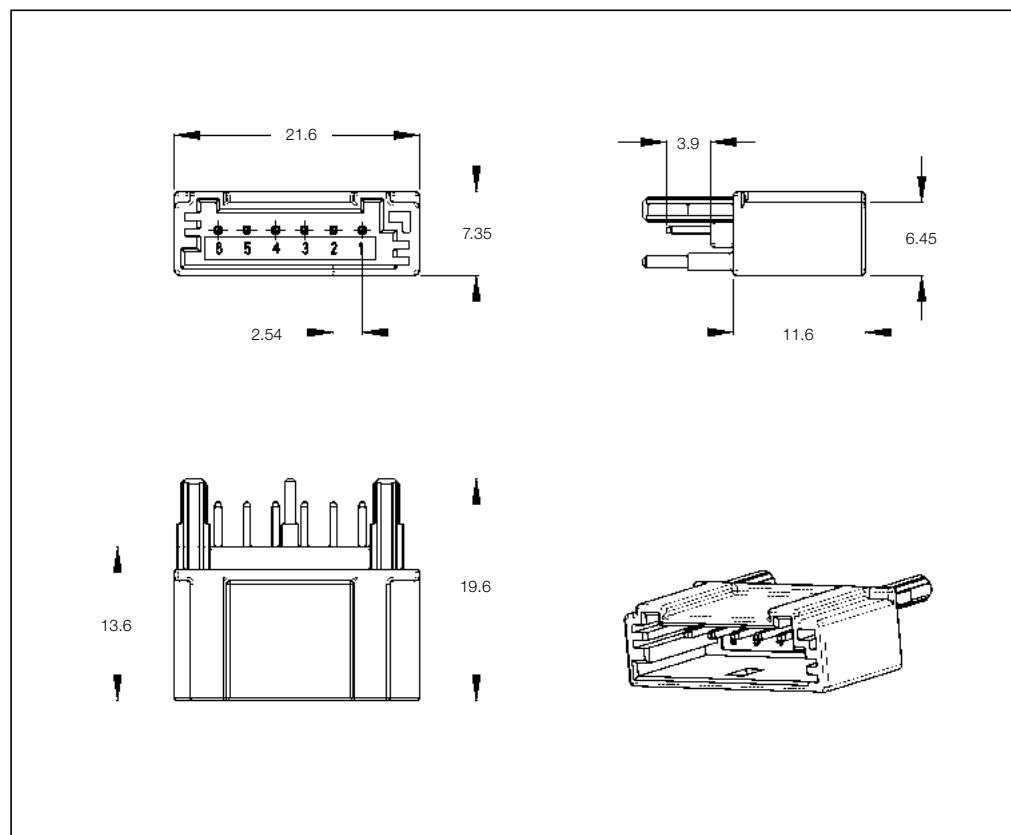
Bronze, tinned

**Product Specification:**

—

**Application Specification:**

—



**6 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |          |       |       |                  |                           |
|-------------|----------------|---------------|--------------|----------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |          | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical |       |       |                  |                           |
| 6           | —              | Black         | —            | 936640-2 | —     | —     | —                | —                         |
|             |                | Gray          | —            | 936640-3 |       |       |                  |                           |

Printed Circuit Board Headers

**Technical Features**

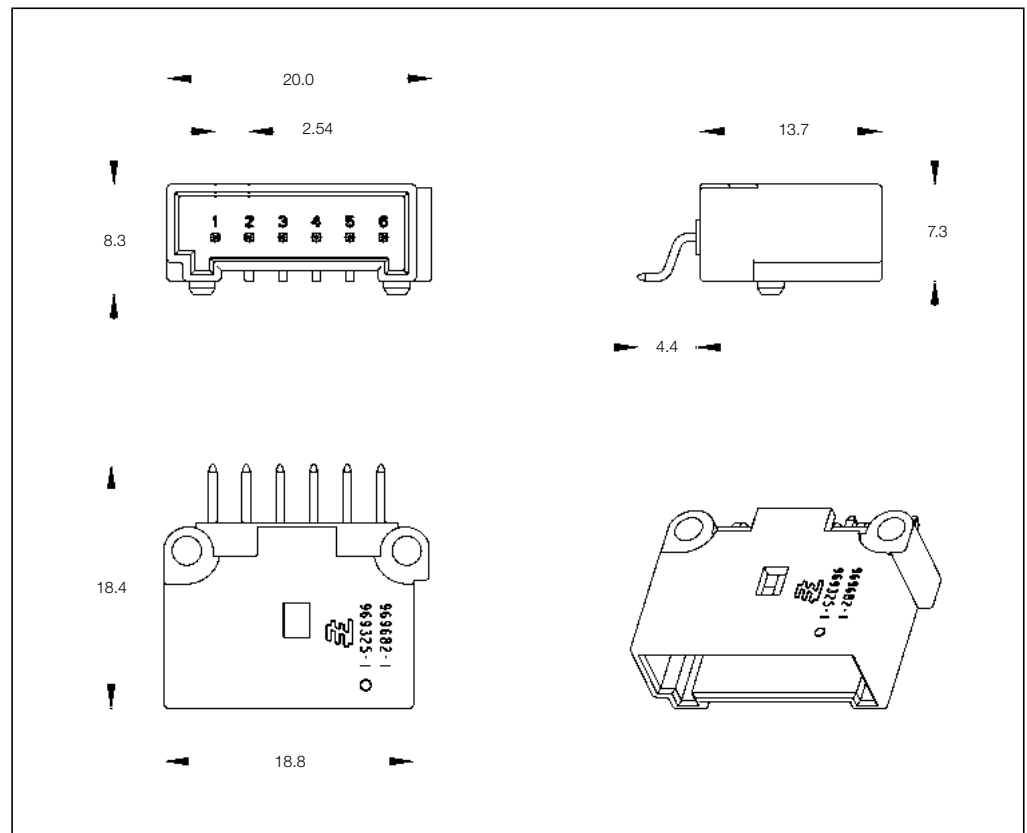
**No. of Positions:**  
6 Position SMT

**Housing Material:**  
PCT GF20

**Material and Finish:**  
CuFe2, tinned

**Product Specification:**  
—

**Application Specification:**  
—



**6 Position PCB Header SMT**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 6           | —              | Black         | —                      | 969682-1            | —     | —     | —                | —                         |

Receptacle Housings

**Technical Features**

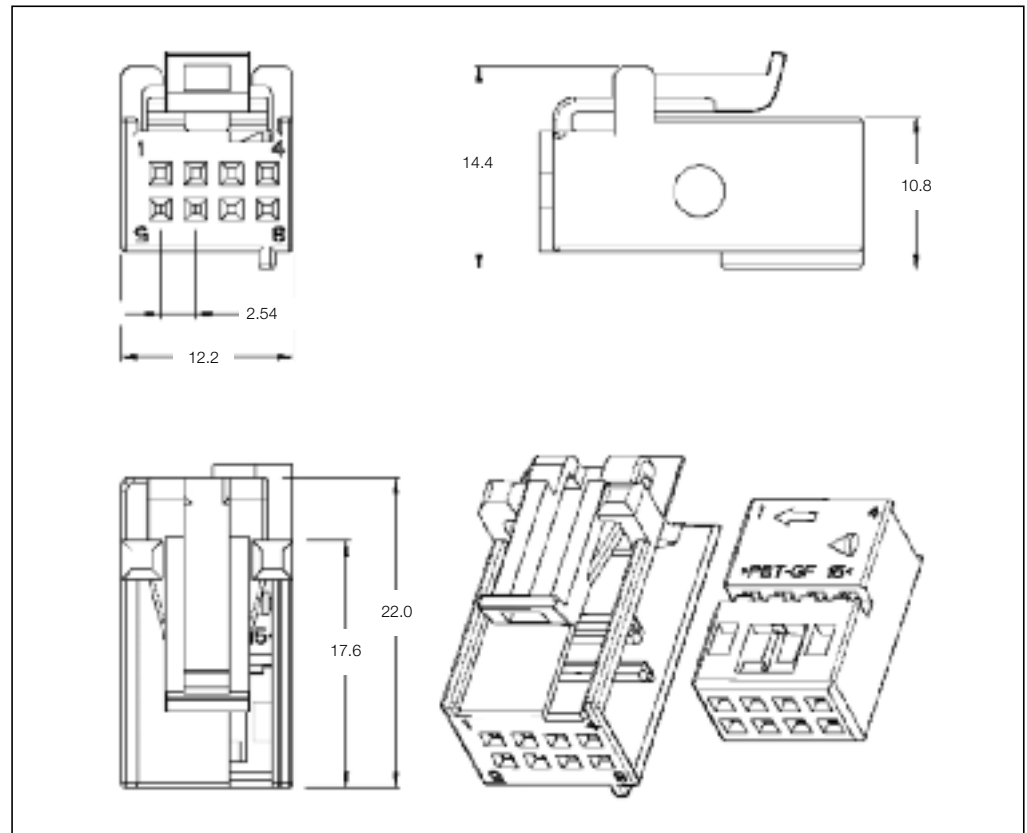
**No. of Positions:**  
8 Position Kit

**Housing Material:**  
PA66 GF/PBT GF

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-20245

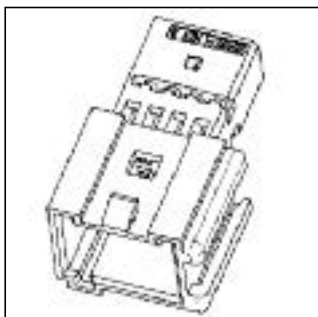
**Application Specification:**  
—



**8 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 8           | —              | Black         | 1745000-3          | —     | —              | —               | —                | 284869-1           | —                             | —        |
|             |                |               | 1745000-4          |       |                |                 |                  |                    |                               |          |

**Mating Pin Housing**  
See Page 3-58



Receptacle Housings

**Technical Features**

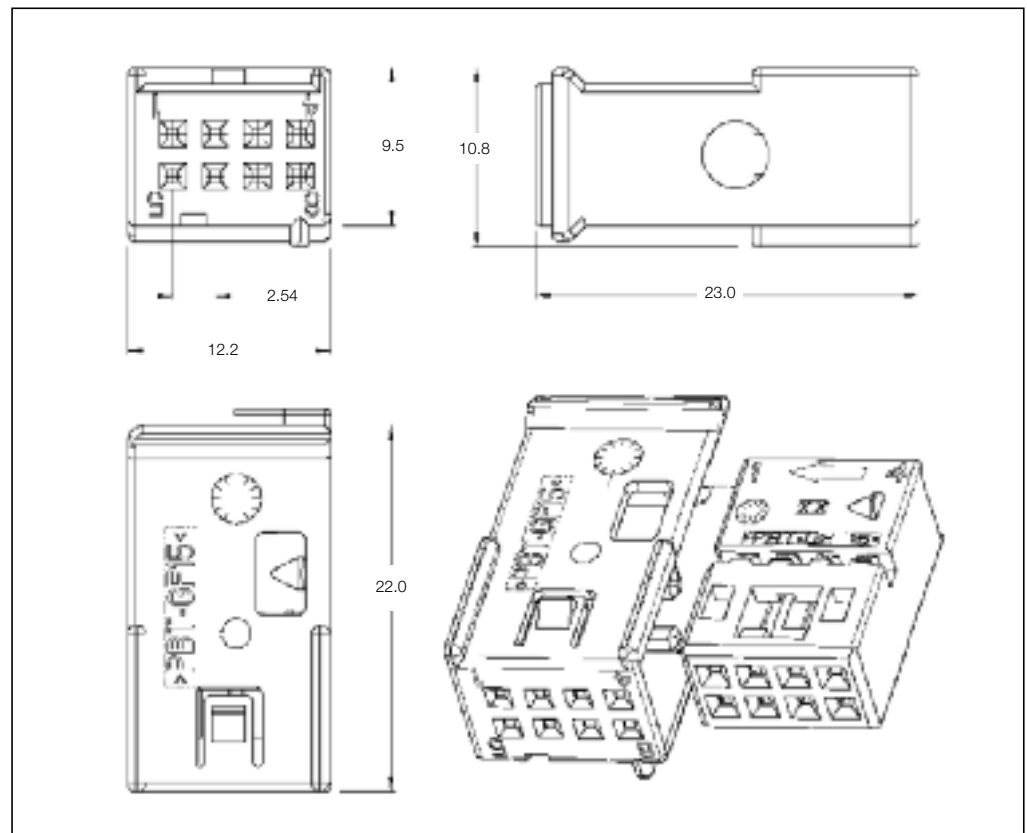
**No. of Positions:**  
8 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

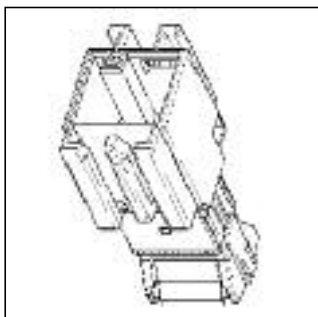
**Application Specification:**  
—



**8 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |             |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover       | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 8           | —              | Black         | 965601-2           | 1-1534013-1 | —     | —                | 1-1564012-3        | —                             | —                          |

**Mating Pin Housing**  
See Page 3-59



Receptacle Housings

**Technical Features**

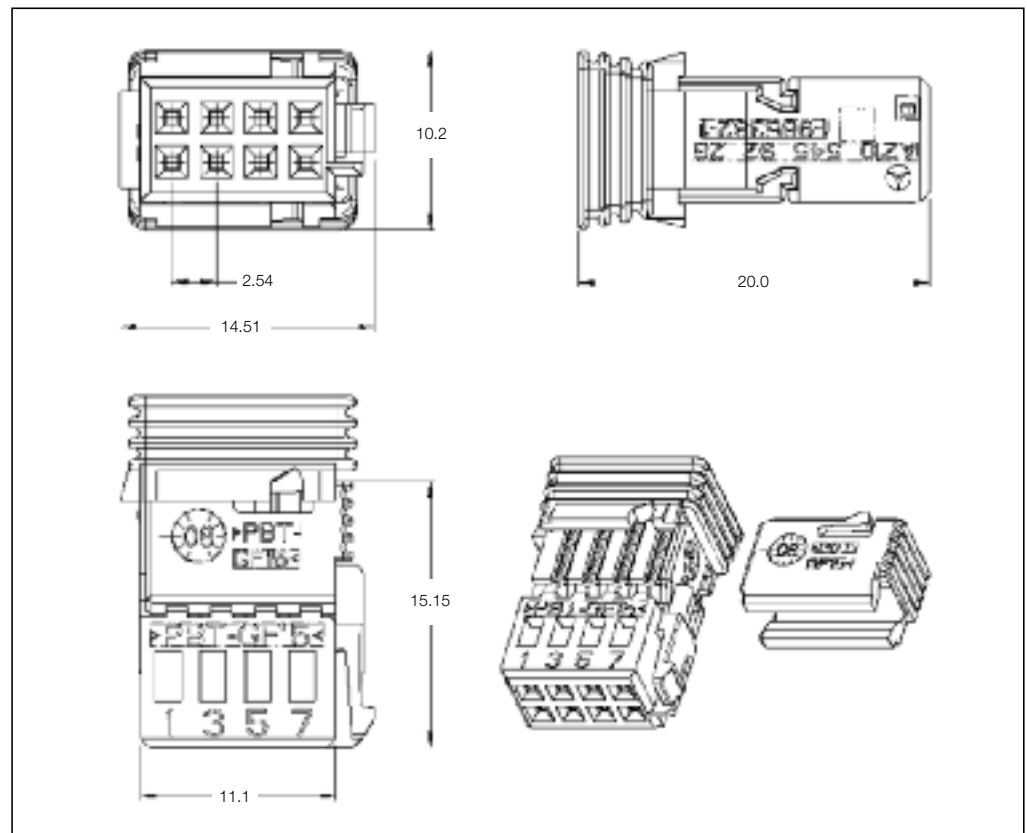
**No. of Positions:**  
8 Positions (2 × 4)

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.35–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18411-1

**Application Specification:**  
—



**8 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 8           | Z              | Dark Blue     | 9-965382-2         | —     | 965383-1       | —               | —                | —                  | —                             | —        |

Receptacle Housings

**Technical Features**

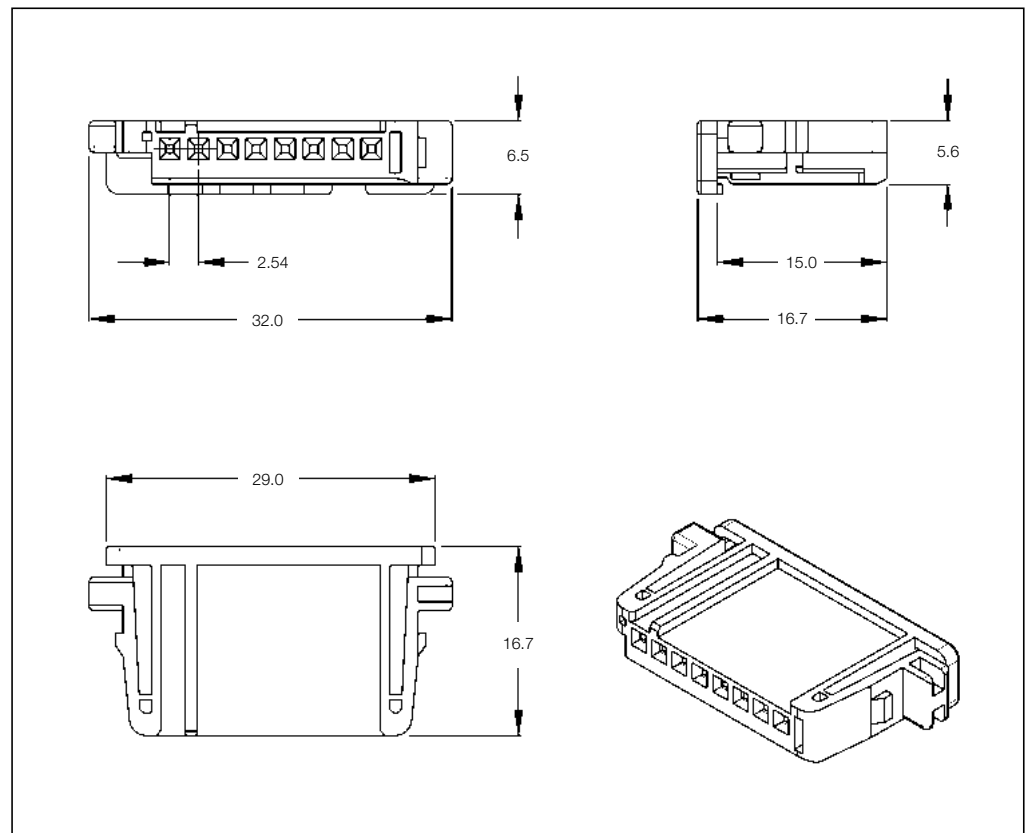
**No. of Positions:**  
8 Positions

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**8 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 8           | A              | Natural       | 1743282-1          |       |       |                  |                    |                               |                            |
|             | B              | Black         | 1-1743282-2        |       |       |                  |                    |                               |                            |
|             | B              | Gray          | 1-1743282-3        | —     | —     | —                | —                  | —                             | —                          |
|             | B              | Red           | 1-1743282-6        |       |       |                  |                    |                               |                            |

Pin Housings

**Technical Features**

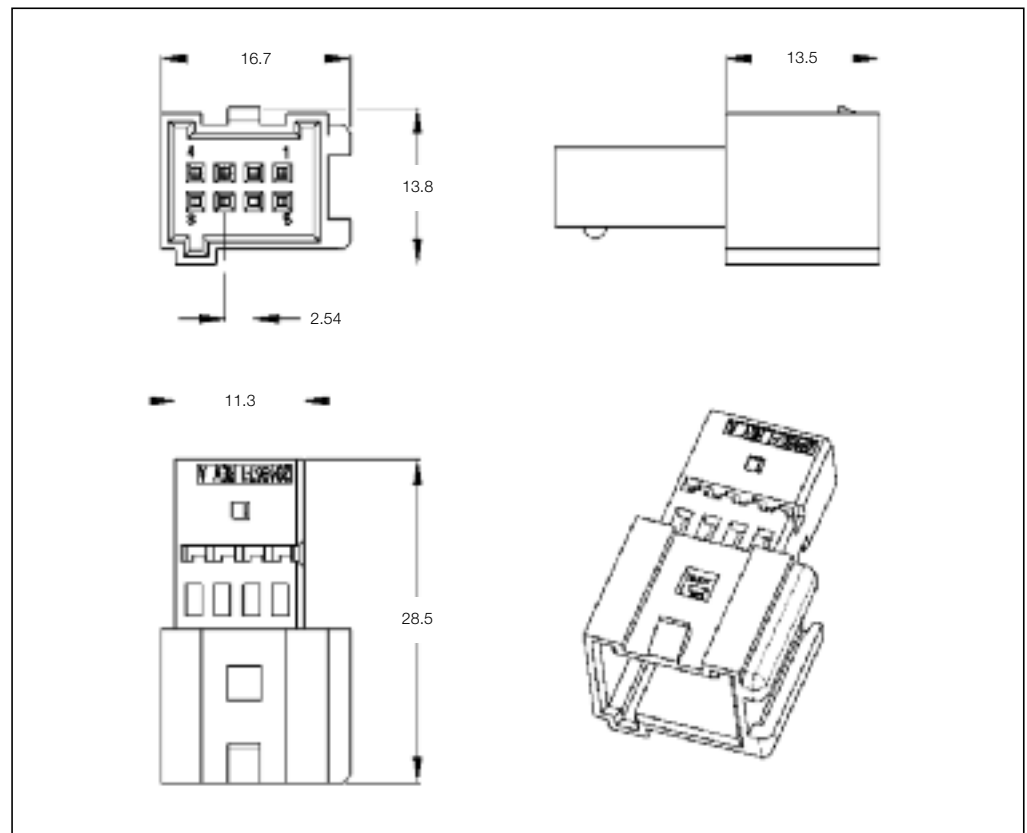
**No. of Positions:**  
8 Position Kit

**Housing Material:**  
PBT GF

**Wire Size Range:**  
0.75 mm<sup>2</sup> FR Max.

**Product Specification:**  
—

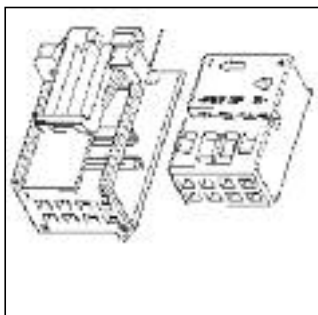
**Application Specification:**  
—



**8 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 8           | —              | Black         | 284869-1     | —     | —              | —               | —                | 1745000-1                 |

**Mating Receptacle Housing**  
See Page 3-54



Pin Housings

**Technical Features**

**No. of Positions:**

8 Positions  
for Flex Foil Application

**Housing Material:**

PBT GF10

**Wire Size Range:**

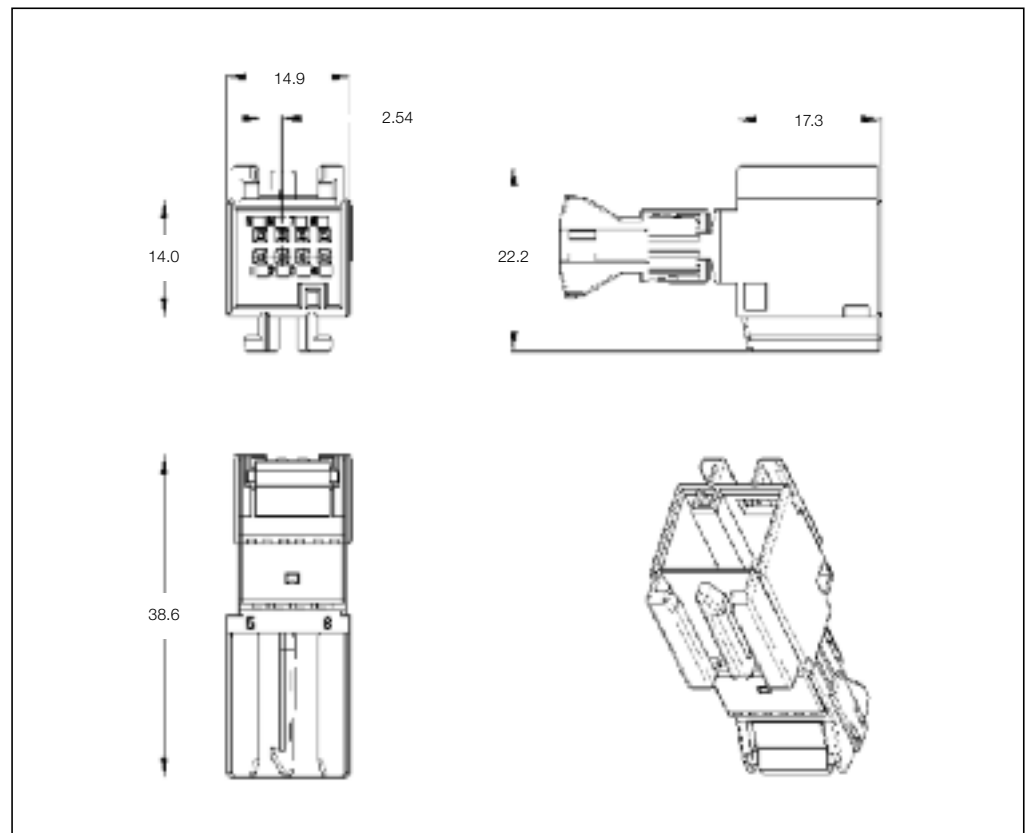
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-18808-1

**Application Specification:**

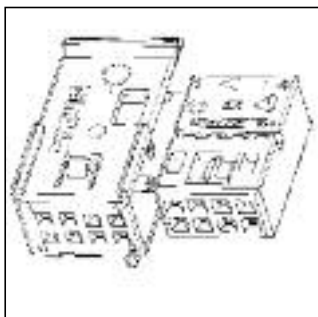
—



**8 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 8           | —              | Black         | 1-1564012-3  | —     | —     | —                | 965601-2<br>1-1564013-1   |

**Mating Receptacle Housing**  
See Page 3-55



Printed Circuit Board Headers

**Technical Features**

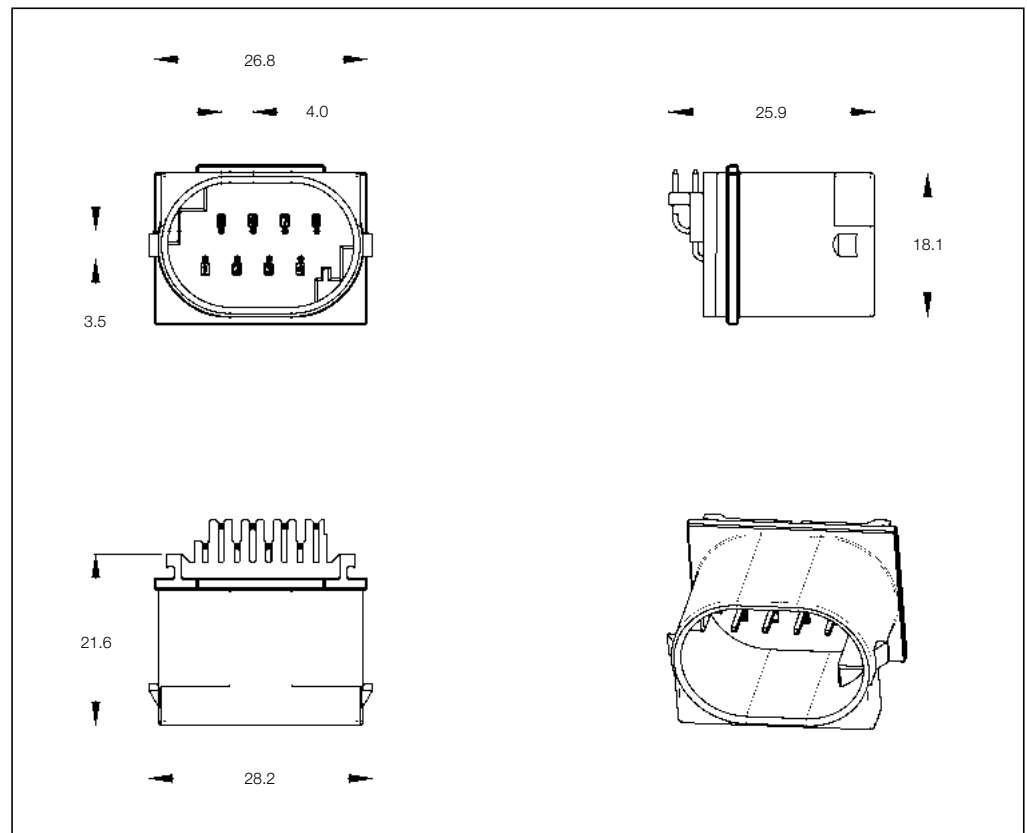
**No. of Positions:**  
8 Positions

**Housing Material:**  
PBT GF20

**Material and Finish:**  
CuFe2, tinned

**Product Specification:**  
—

**Application Specification:**  
—



**8 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 8           | —              | Black         | 1-967658-1             | —                   | —     | —     | —                | —                         |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

8 Positions

**Housing Material:**

PBT GF15

**Material and Finish:**

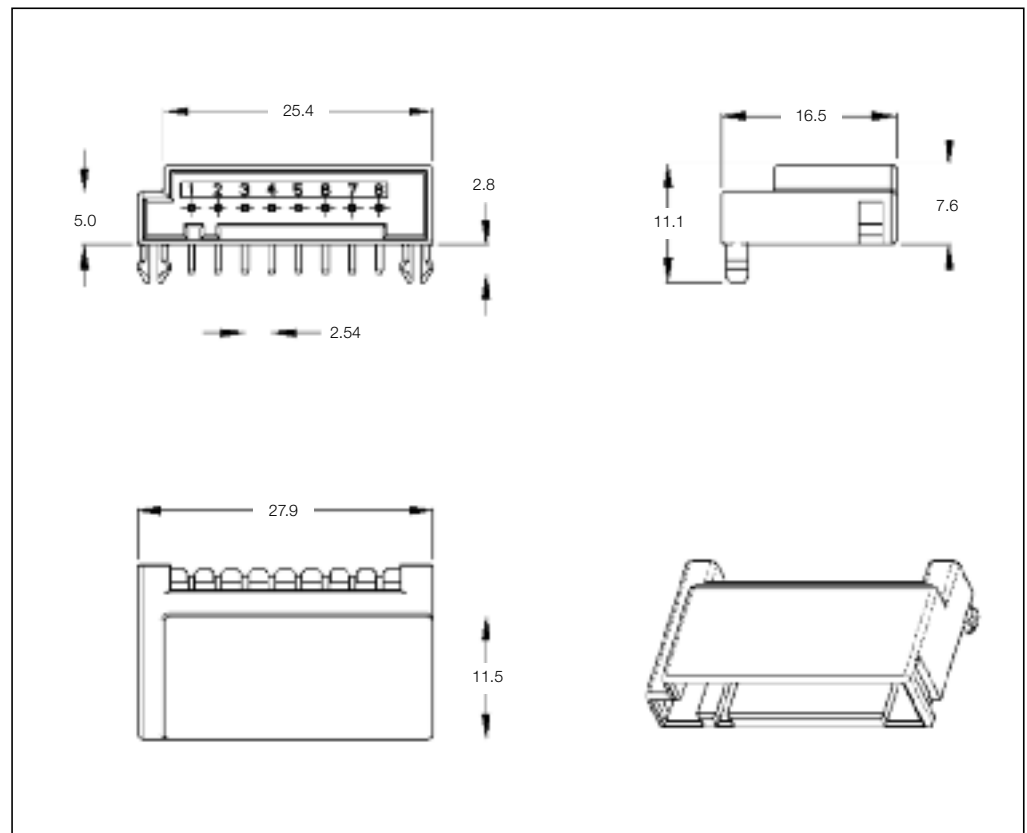
Copper Alloy, tinned

**Product Specification:**

—

**Application Specification:**

—



**8 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 8           | —              | Natural       | 1743284-1              | —                   | —     | —     | —                | —                         |
|             |                | Black         | 1-1743284-2            | —                   |       |       |                  |                           |
|             |                | Gray          | 1-1743284-3            | —                   |       |       |                  |                           |
|             |                | Red           | 1-1743284-6            | —                   |       |       |                  |                           |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

8 Positions

**Housing Material:**

PBT GF15

**Material and Finish:**

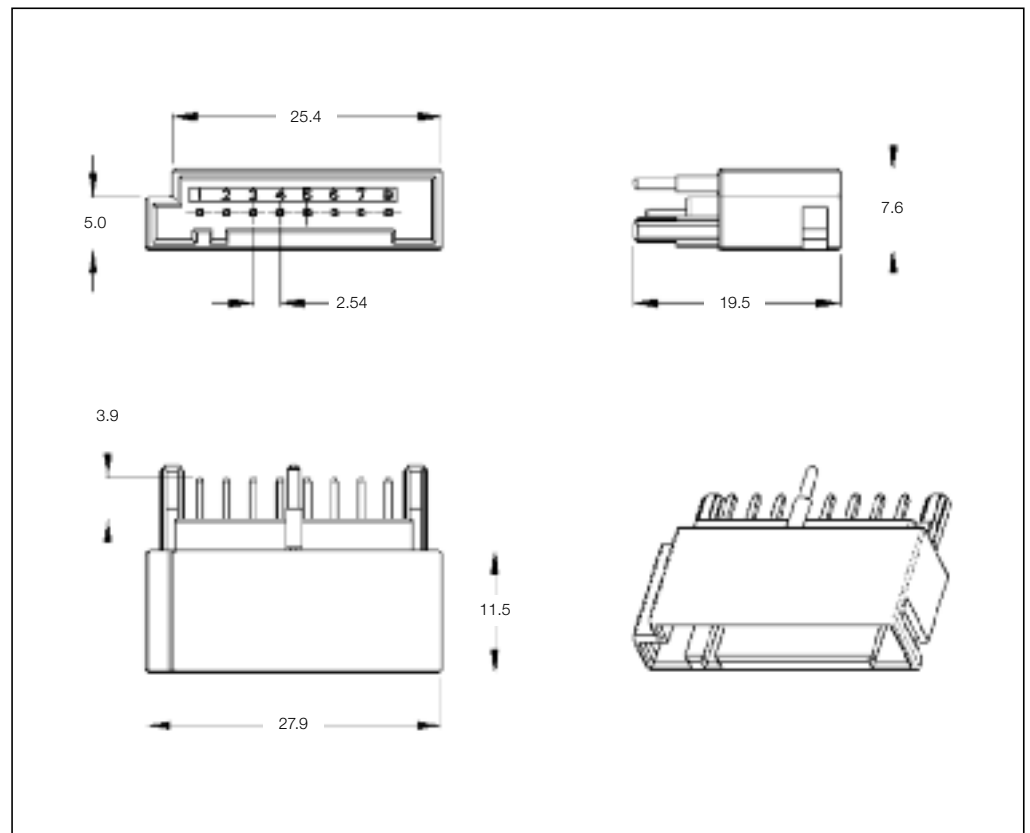
Bronze, tinned

**Product Specification:**

—

**Application Specification:**

—



**8 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 8           | —              | Natural       | —                      | 1743386-1           | —     | —     | —                | —                         |
|             |                | Black         | —                      | 1-1743386-2         |       |       |                  |                           |
|             |                | Gray          | —                      | 1-1743386-3         |       |       |                  |                           |
|             |                | Red           | —                      | 1-1743386-6         |       |       |                  |                           |

Pin Housings

**Technical Features**

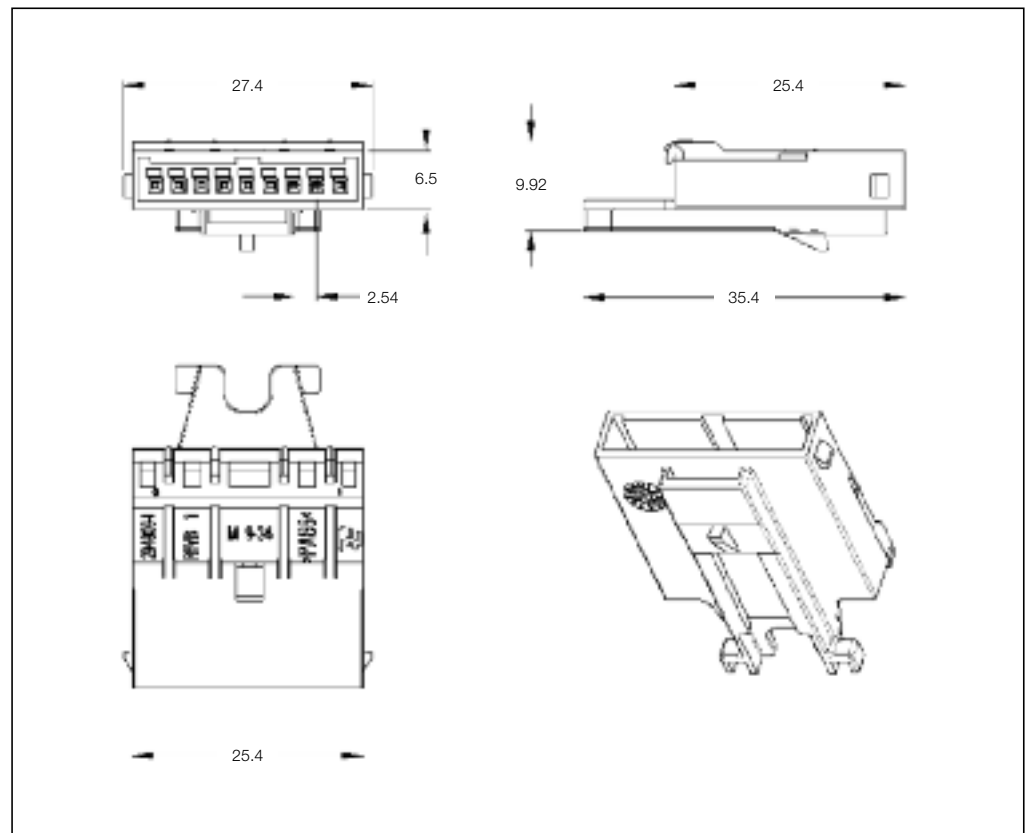
**No. of Positions:**  
9 Positions

**Housing Material:**  
PA66

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**9 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 9           | —              | Black         | 284803-1     | —     | —     | —                | —                         |

Receptacle Housings

**Technical Features**

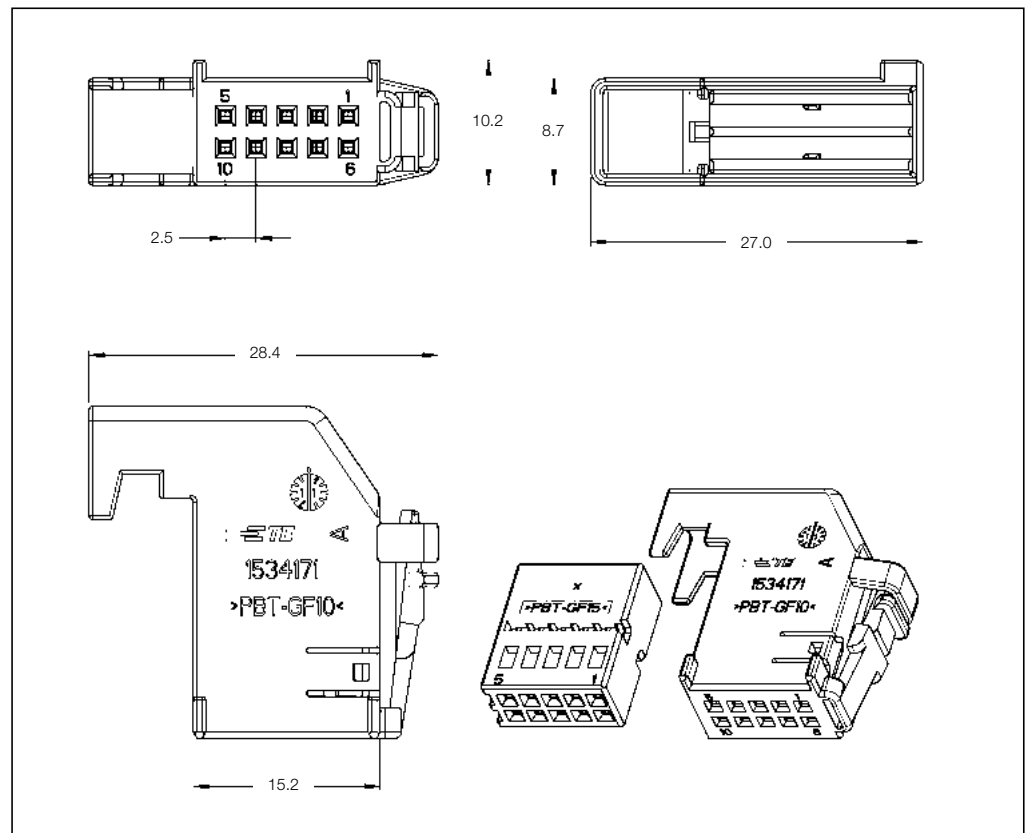
**No. of Positions:**  
10 Positions (2 × 5)

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.14–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18924

**Application Specification:**  
114-18630



**10 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |             |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-------------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover       | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 10          | –              | Black         | 1534125-1          | 1-1534171-1 | –              | –               | –                | –                  | –                             | 969587-1 |

Receptacle Housings

**Technical Features**

**No. of Positions:**

10 Position for Header  
with Shorting Bars

**Housing Material:**

PBT GF10

**Wire Size Range:**

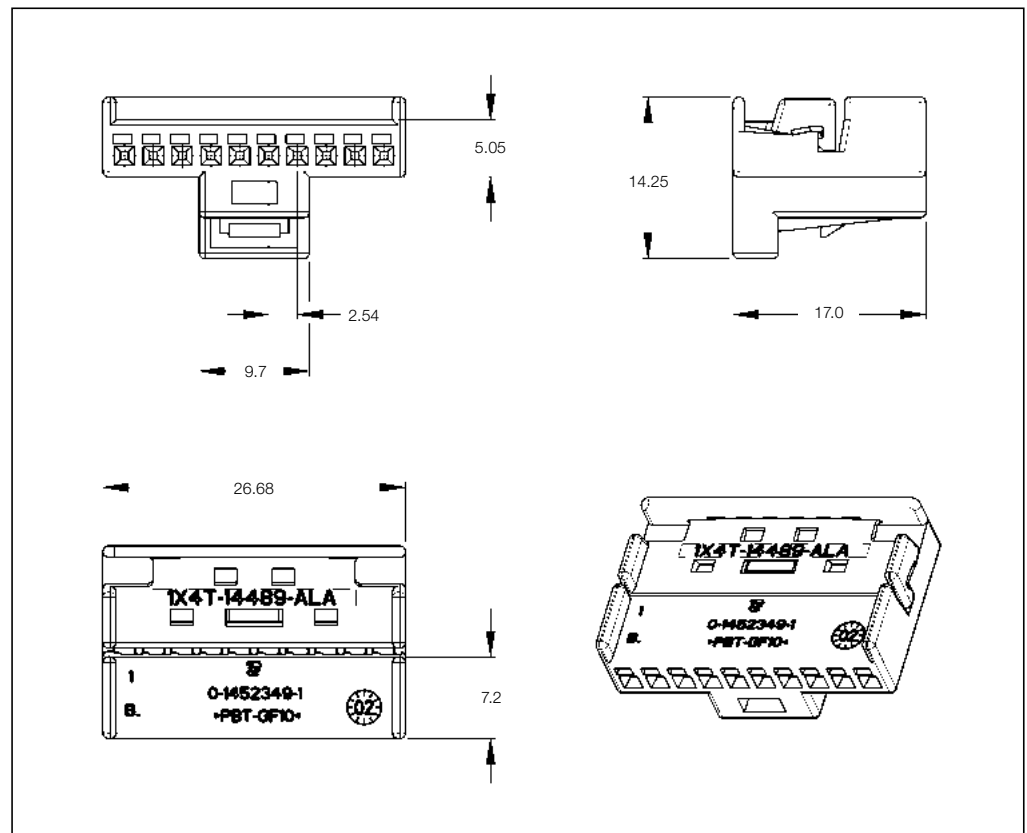
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**10 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 10          | —              | Natural       | 1452349-1          | —     | —     | —                | —                  | —                             | —                          |

Receptacle Housings

**Technical Features**

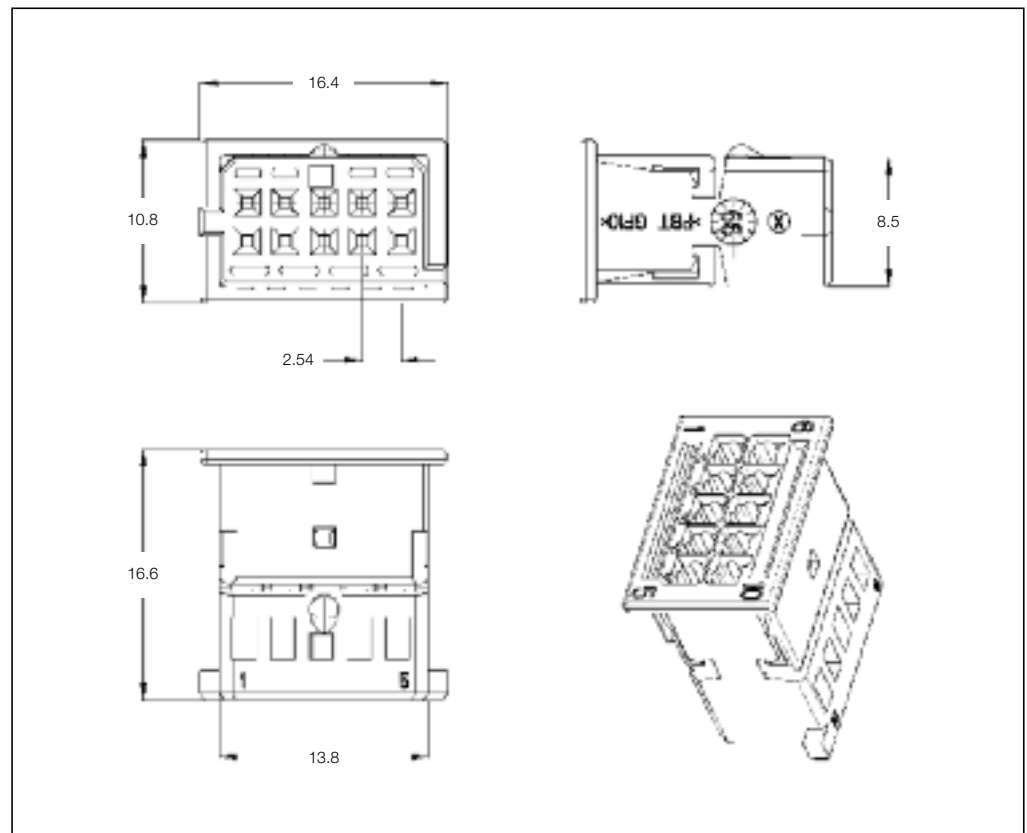
**No. of Positions:**  
10 Positions

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18507

**Application Specification:**  
—



**10 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 10          | A              | Black         | 1-968636-2         | —     | —     | —                | —                  | —                             | —                          |
|             | B              | Natural       | 2-968636-2         |       |       |                  |                    |                               |                            |
|             | C              | Blue          | 3-968636-2         |       |       |                  |                    |                               |                            |
|             | D              | Violet        | 4-968636-2         |       |       |                  |                    |                               |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

10 Positions (2 × 5)

**Housing Material:**

PBT GF15

**Wire Size Range:**

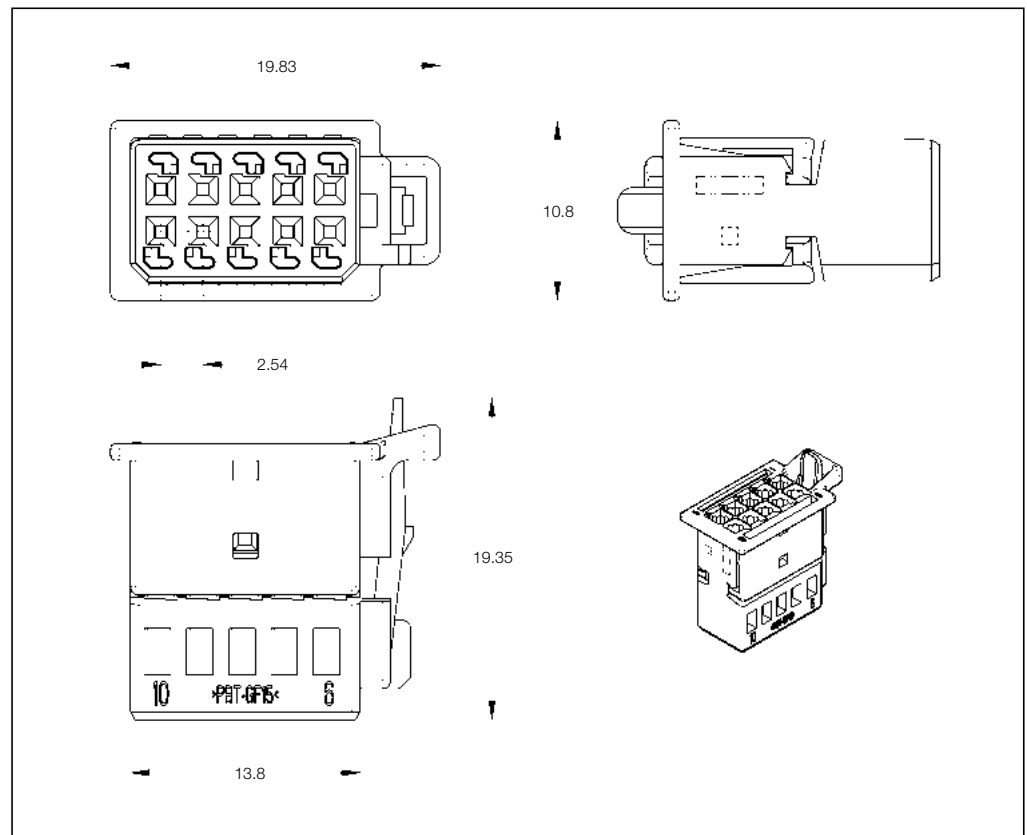
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-18590-0

**Application Specification:**

114-13143



**10 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 10          | A              | Black         | 1488973-1          | —     | —     | —                | —                  | —                             | —                          |
|             | B              | Black         | 1488973-2          | —     | —     | —                | —                  | —                             | —                          |

Printed Circuit Board Headers

**Technical Features**

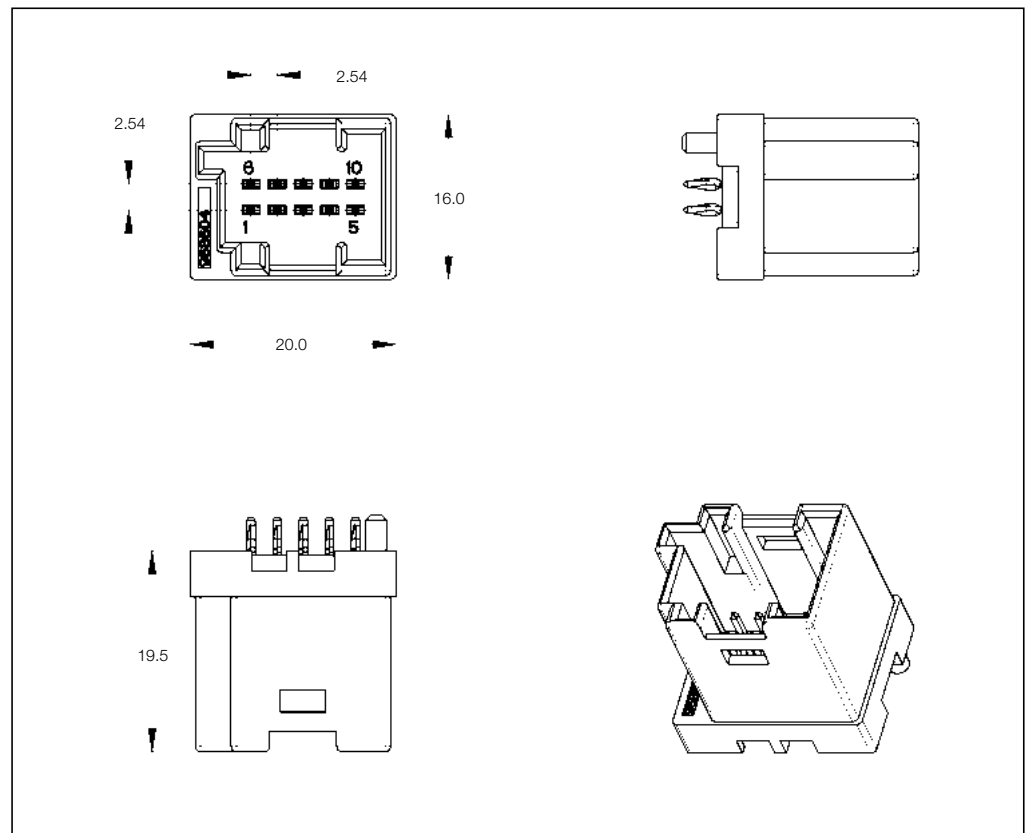
**No. of Positions:**  
10 Positions with ACTION PIN

**Housing Material:**  
PET GF30

**Material and Finish:**  
CuNiSi, tinned

**Product Specification:**  
—

**Application Specification:**  
—



**10 Position PCB Header with ACTION PIN**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 10          | —              | Black         | —                      | 967741-1            | —     | —     | —                | —                         |
|             |                | Natural       | —                      | 967741-2            |       |       |                  |                           |

Receptacle Housings

**Technical Features**

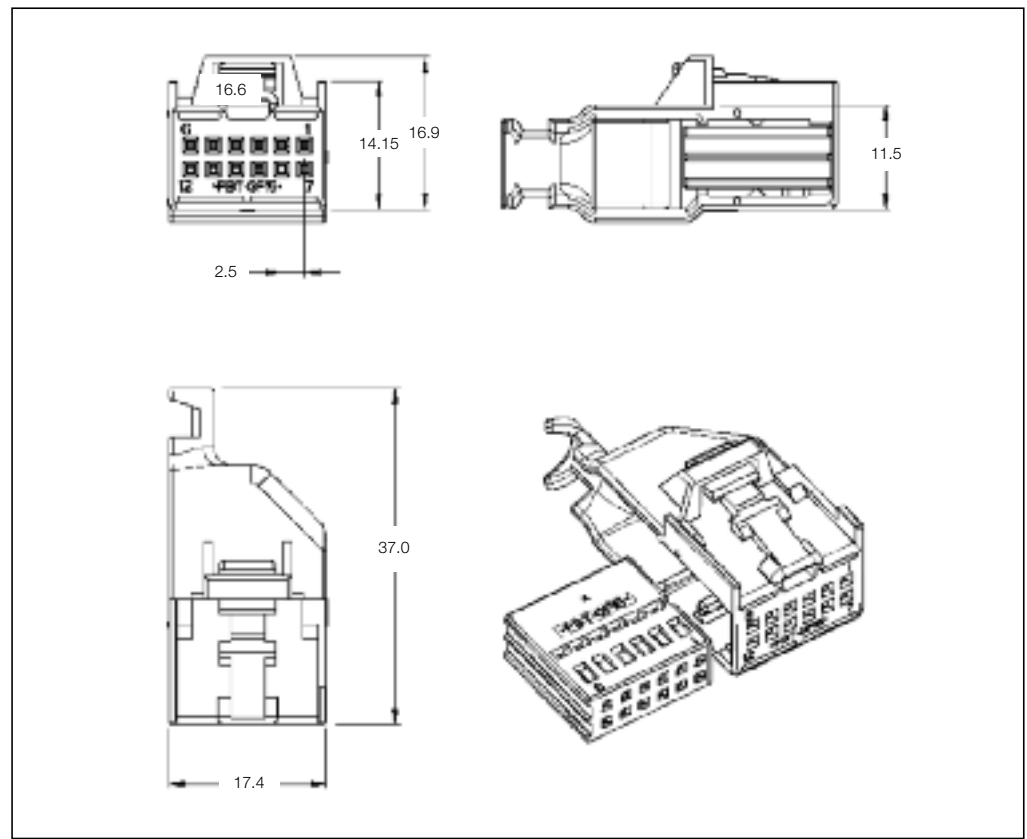
**No. of Positions:**  
12 Positions (2 × 6)

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.14–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18924

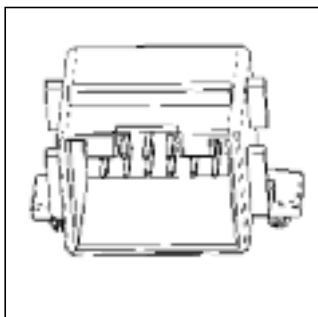
**Application Specification:**  
114-18630



**12 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |                           |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|---------------------------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover                     | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 12          | A              | Black         | 1534100-1          | 1-1534096-1 (Cod A black) | –              | –               | –                | –                  | 967250-1                      | –        |
|             |                |               |                    | 1-1534096-2 (Cod B brown) |                |                 |                  |                    | –                             |          |

**Mating Header**  
See Page 4-8



Receptacle Housings

**Technical Features**

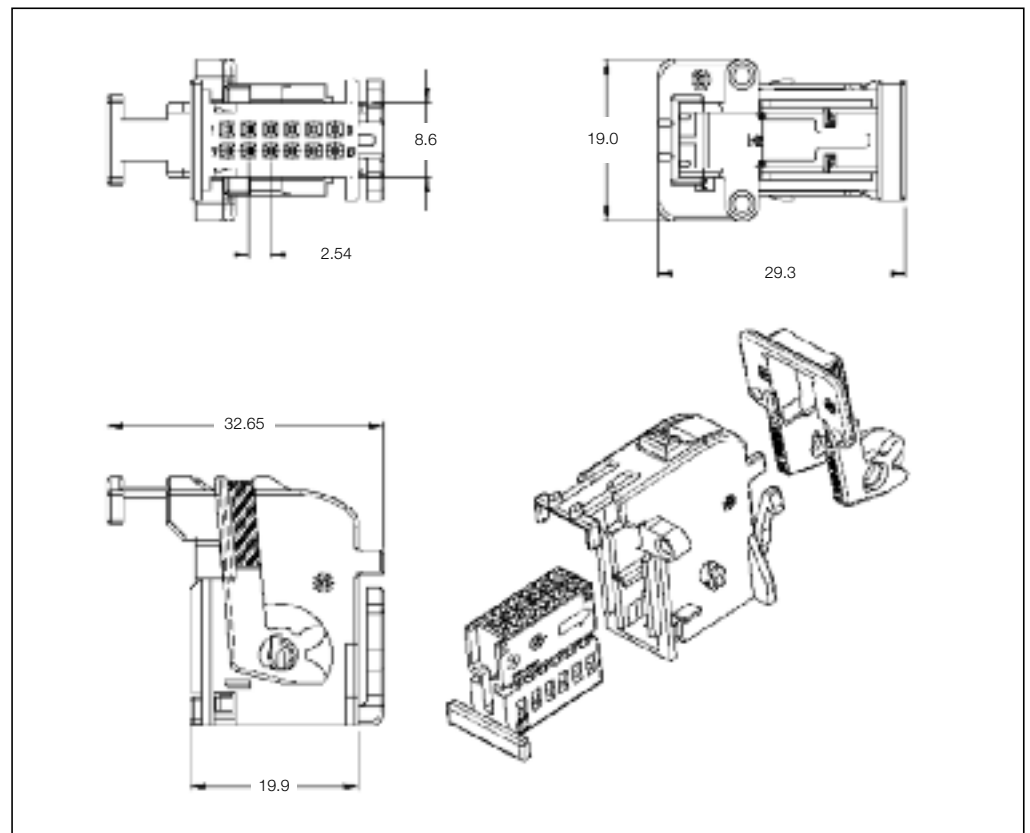
**No. of Positions:**  
12 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18546-0

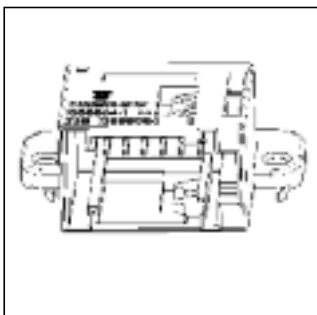
**Application Specification:**  
114-18173-0



**12 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                                           |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header<br>Right-Angle Vertical |
| 12          | –              | Black         | 968473-1           | –     | –              | 929051-1        | –                | –                  | 1355505-1                                 |

**Mating Header**  
See Page 4-9



Receptacle Housings

**Technical Features**

**No. of Positions:**

12 Positions (2<sup>nd</sup> Generation)

**Housing Material:**

PBT GF20

**Wire Size Range:**

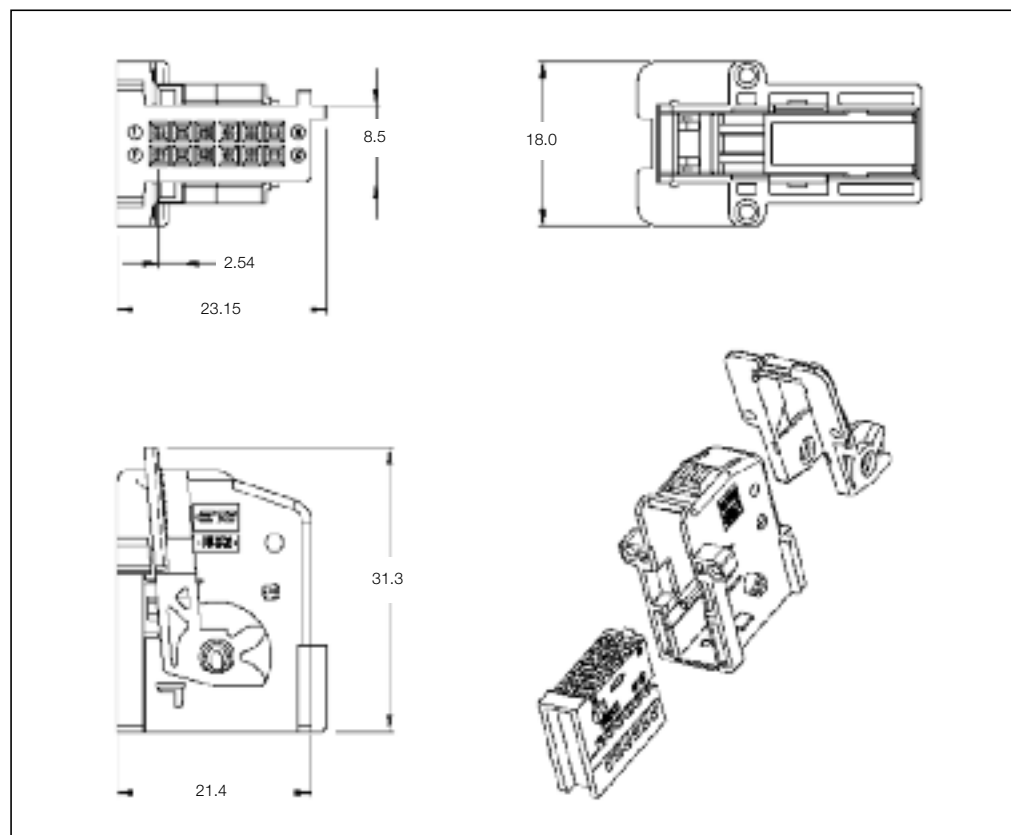
0.35–0.75 mm<sup>2</sup>

**Product Specification:**

108-15261 Receptacle Housing  
108-15039 } Cover and Lever  
108-15139 }

**Application Specification:**

411-15653 Receptacle Housing  
411-15554 } Cover and Lever  
411-15565 }



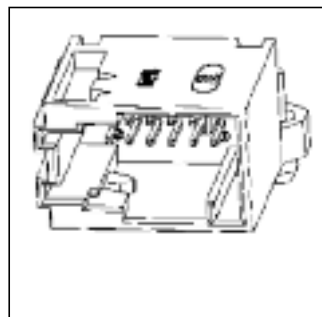
**12 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                                   |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------------------------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever                   | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 12          | —              | Black         | 1379219-1          | —     | —              | 1379095-1 (Brown)                 | —                | —                  | 185740-1<br>1379030-1         | 953130-1<br>1379114-1      |
|             |                |               |                    |       |                | 1379095-2 (Blue)                  |                  |                    |                               |                            |
|             |                |               |                    |       |                | 1379096-3 (Black)                 |                  |                    |                               |                            |
|             |                |               |                    |       |                | 1379096-1 (Brown/Wire Output 90°) |                  |                    |                               |                            |
|             |                |               |                    |       |                | 1379096-2 (Blue/Wire Output 90°)  |                  |                    |                               |                            |
|             |                |               |                    |       |                | 1379096-3 (Black/Wire Output 90°) |                  |                    |                               |                            |

For application  
see customer drawing

**Mating Header**

See Page 4-10–4-13



Receptacle Housings

**Technical Features**

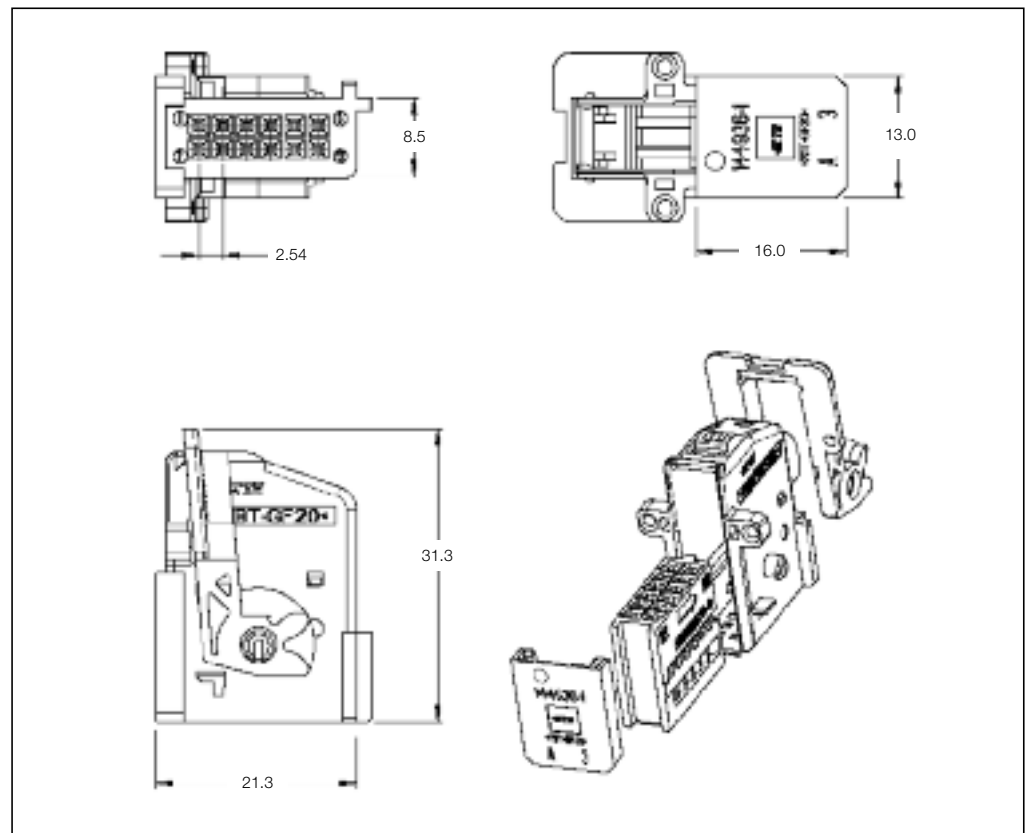
**No. of Positions:**  
12 Positions (1<sup>st</sup> Generation)

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.35–0.75 mm<sup>2</sup>

**Product Specification:**  
108-15139

**Application Specification:**  
411-15565

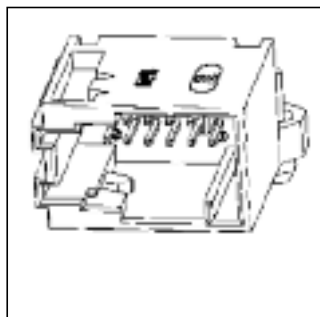


**12 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                            |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|----------------------------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever            | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 12          | –              | Black         | 185300-1           | –     | 144936-1       | –                          | –                | –                  | 185740-1                      | 953130-1<br>1379114-1      |
|             |                | Brown         | –                  | –     | –              | 185341-1 (Wire Output 0°)  |                  |                    |                               |                            |
|             |                | Blue          | –                  | –     | –              | 185341-2 (Wire Output 0°)  |                  |                    |                               |                            |
|             |                | Brown         | –                  | –     | –              | 185343-1 (Wire Output 90°) |                  |                    |                               |                            |
|             |                | Blue          | –                  | –     | –              | 185343-2 (Wire Output 90°) |                  |                    |                               |                            |

For application see customer drawing

**Mating Header**  
See Page 4-10–4-13



Receptacle Housings

**Technical Features**

**Application:**

Steering Switch

**No. of Positions:**

12 Positions

**Housing Material:**

PA66 GF13

**Wire Size Range:**

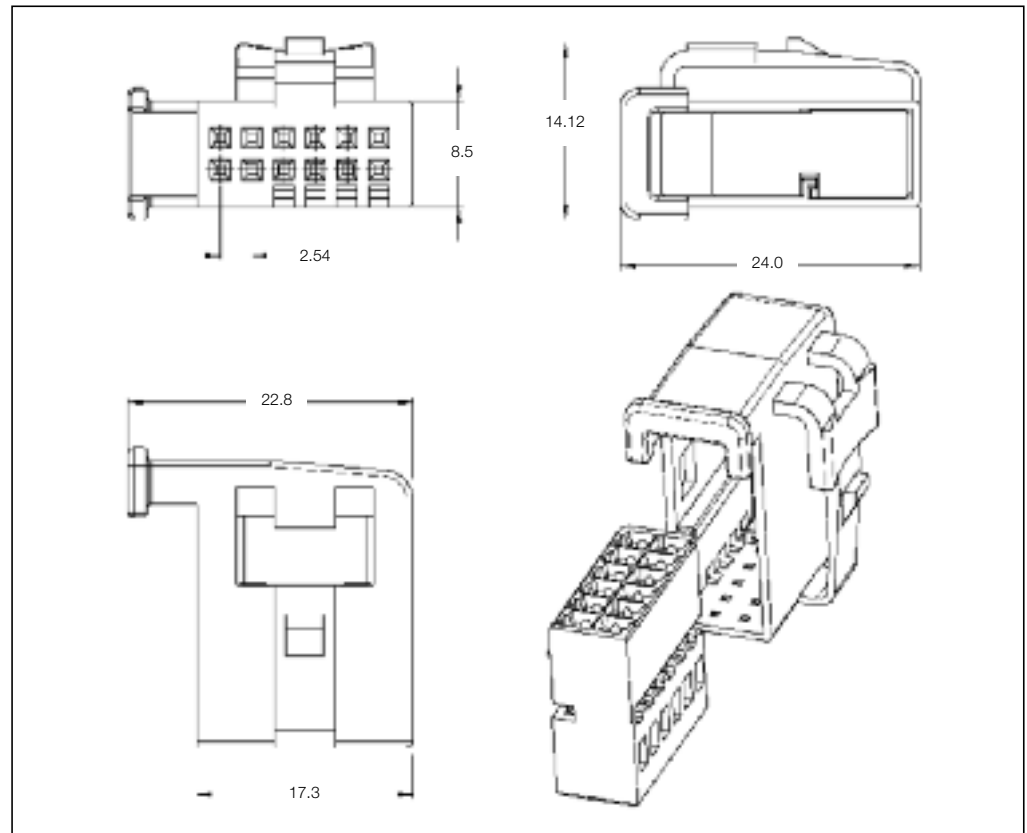
0.35–0.75 mm<sup>2</sup>

**Product Specification:**

108-20221

**Application Specification:**

—



**12 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 12          | —              | Black         | 284322-1           | 284321-1 | —              | —               | —                | —                  | —                             | —                          |

Receptacle Housings

**Technical Features**

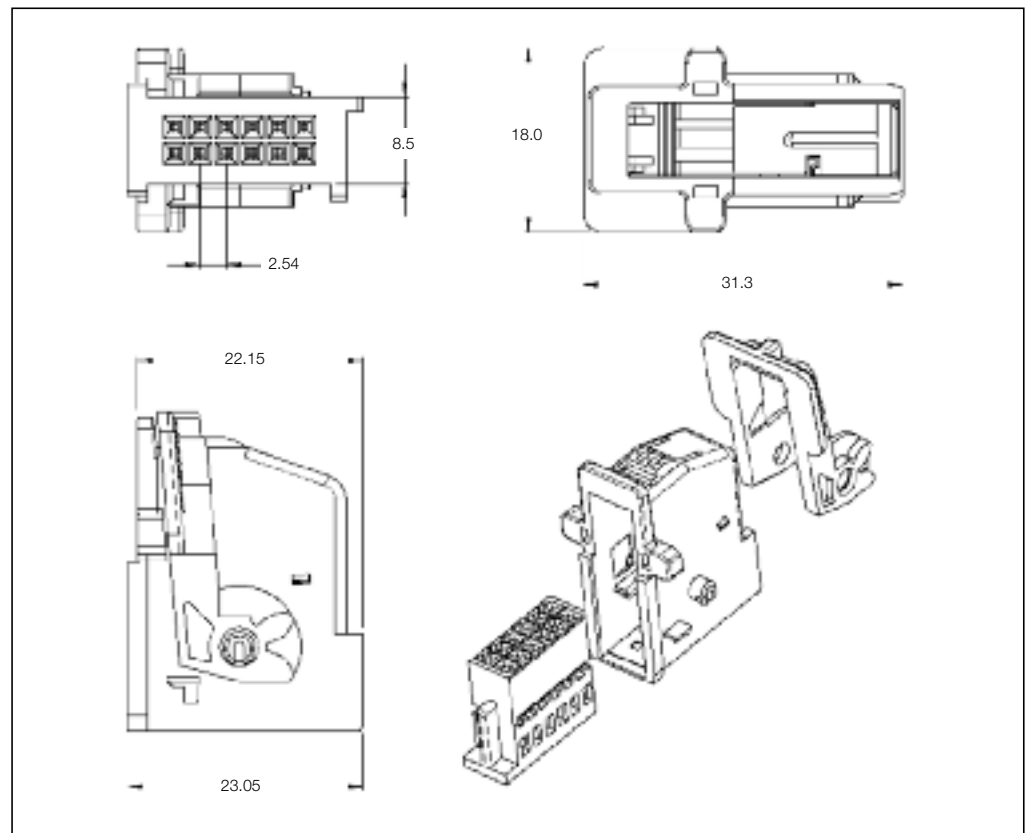
**No. of Positions:**  
12 Positions

**Housing Material:**  
PA66 GF

**Wire Size Range:**  
0.35–0.75 mm<sup>2</sup>

**Product Specification:**  
108-20222

**Application Specification:**  
411-15565



**12 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 12          | 1              | Black         | 284442-1           | –     | –              | 284443-1 & -4   |                  |                    |                               |                            |
|             | 2              | Blue          | –                  | –     | –              | 284443-2 & -5   | –                | –                  | –                             | –                          |
|             | 3              | Brown         | –                  | –     | –              | 284443-3 & -6   |                  |                    |                               |                            |

Pin Housings

**Technical Features**

**No. of Positions:**  
12 Positions

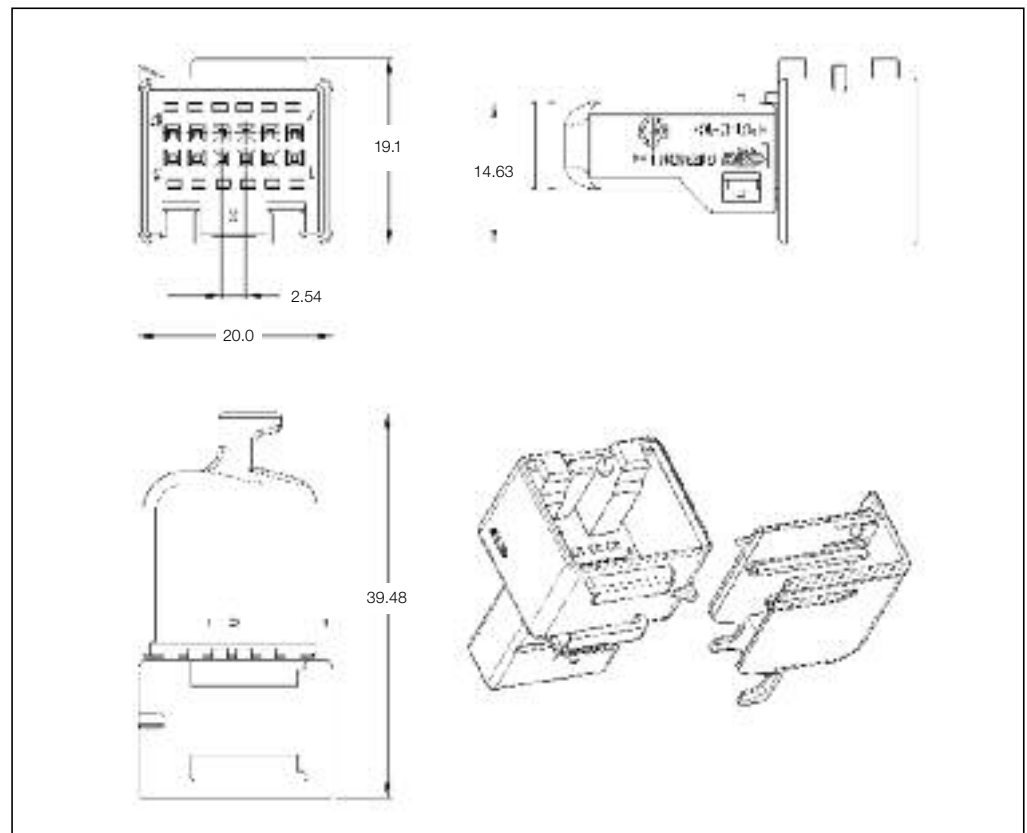
**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—

**Product Drawing:**  
1534842



**12 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |           |       |                  |                                      |
|-------------|----------------|---------------|--------------|-----------|-------|------------------|--------------------------------------|
|             |                |               | Pin Housing  | Cover     | Lever | Retainer Housing | Mating Receptacle Housing            |
| 12          | A              | Black         | 1-1534840-1  | 1534841-1 | —     | —                | 1534100-1 +<br>1534193 or<br>1534196 |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

12 Position Assembly (2 × 6)

**Housing Material:**

PBT GF15

**Material and Finish:**

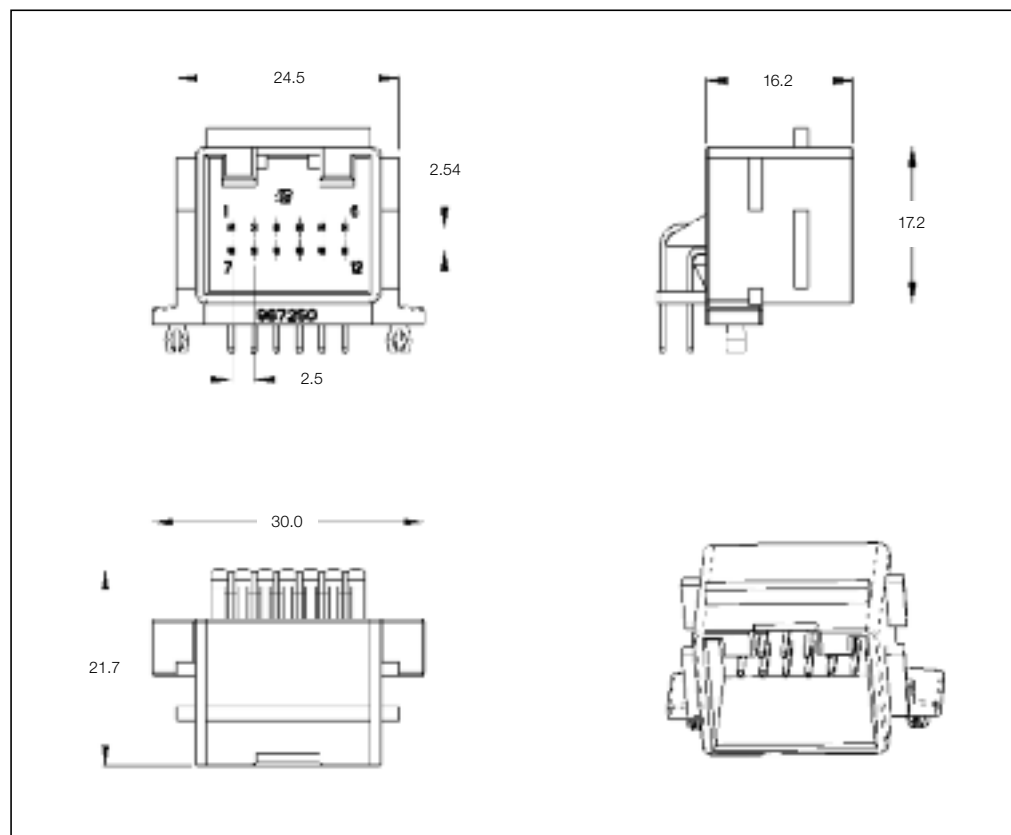
CuSn, tin plated

**Product Specification:**

108-18692-0

**Application Specification:**

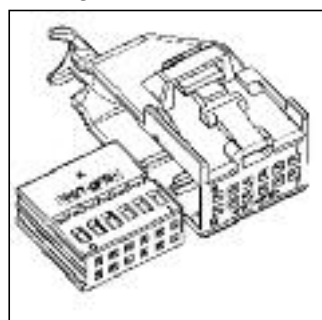
—



**12 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 12          | —              | Black         | 967250-1               | —                   | —     | —               | —                | 1534100-1                 |

**Mating Receptacle Housing**  
See Page 4-1



Printed Circuit Board Headers

**Technical Features**

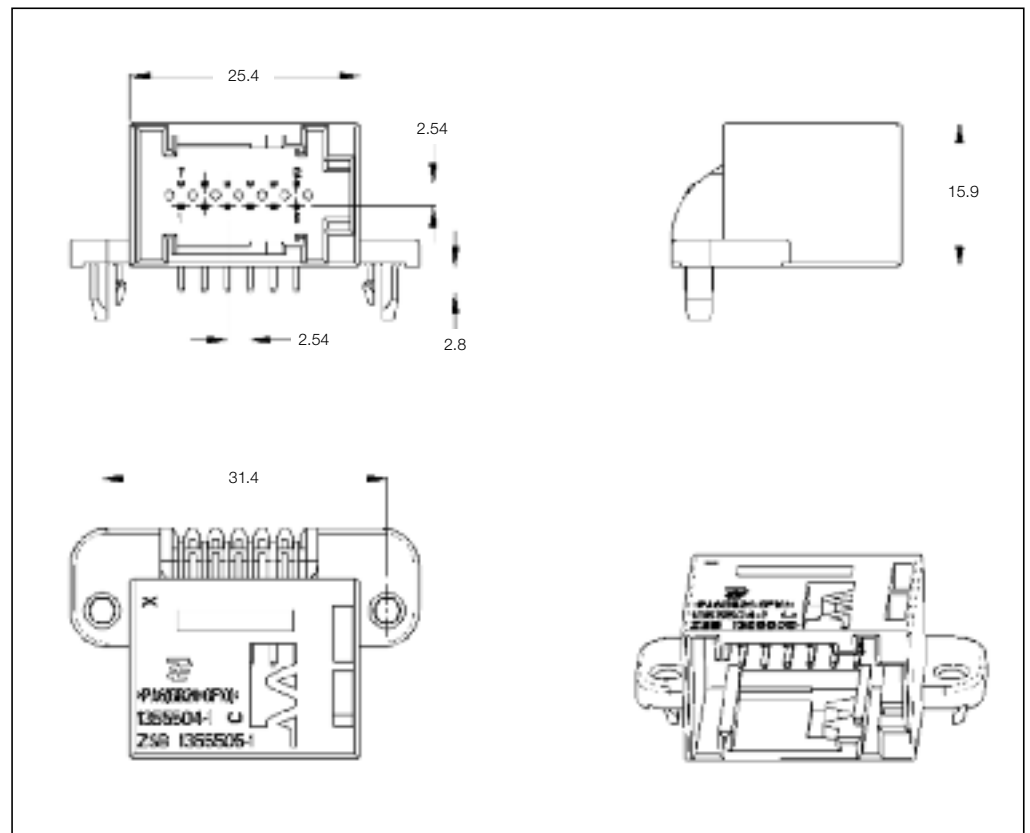
**No. of Positions:**  
12 Positions

**Housing Material:**  
PA66 GF10 + GF20

**Material and Finish:**  
CuSn, tin plated

**Product Specification:**  
108-18671-0

**Application Specification:**  
114-18314-0

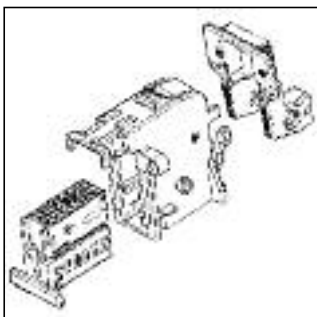


**12 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                 |                  |                           |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 12          | Z              | Black         | 1355505-1                 | —                      |       |                 |                  |                           |
|             | B              | Light-Gray    | 1355505-3                 | —                      | —     | —               | —                | 968473-1                  |
|             | B              | Light-Gray    | 1355505-4 *               | —                      |       |                 |                  |                           |

\*) Material: CuSn + CuFe.

**Mating Receptacle Housing**  
See Page 4-2



Printed Circuit Board Headers

**Technical Features**

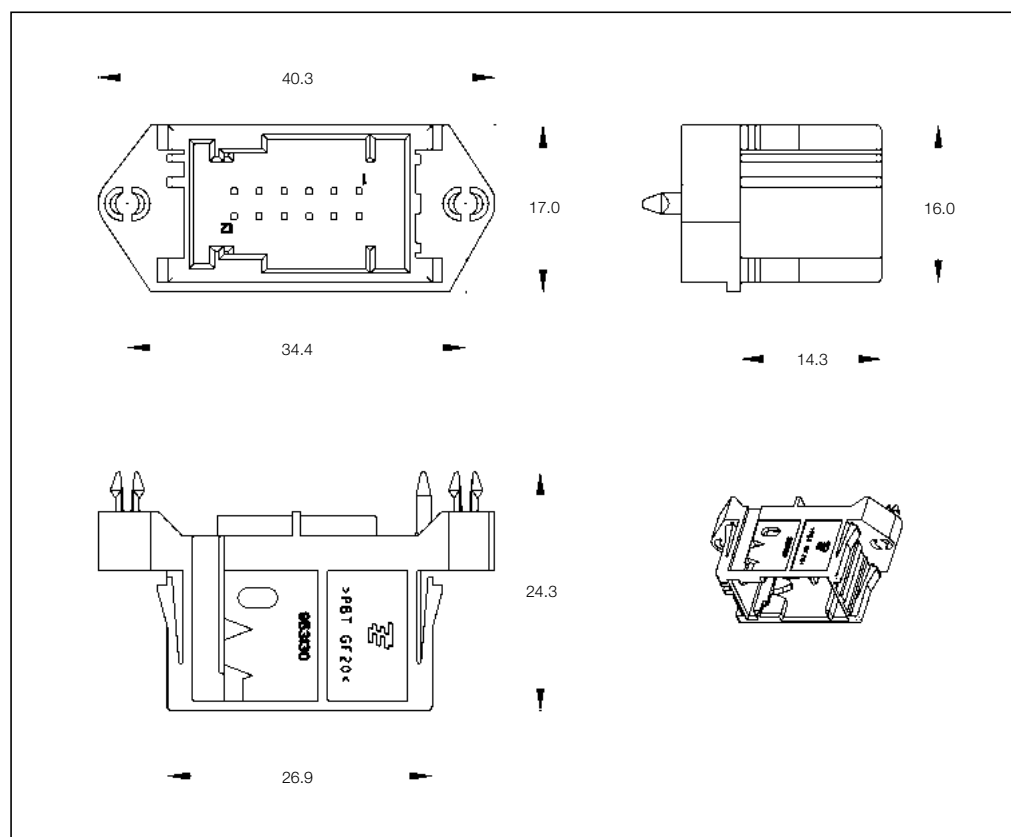
**No. of Positions:**  
12 Positions with Board Locks

**Housing Material:**  
PBT GF20

**Material and Finish:**  
CuSn6, post tin

**Product Specification:**  
108-15180

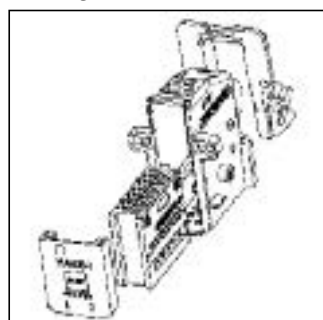
**Application Specification:**  
—



**12 Position PCB Header with Board Locks**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 12          | —              | Black         | —                      | 953130-1            | —     | —     | —                | 185300-1 or 1379219-1     |
|             |                | Blue          | —                      | 953130-2            |       |       |                  |                           |
|             |                | Brown         | —                      | 953130-3            |       |       |                  |                           |

**Mating Receptacle Housing**  
See Page 4-3-4-4



Printed Circuit Board Headers

**Technical Features**

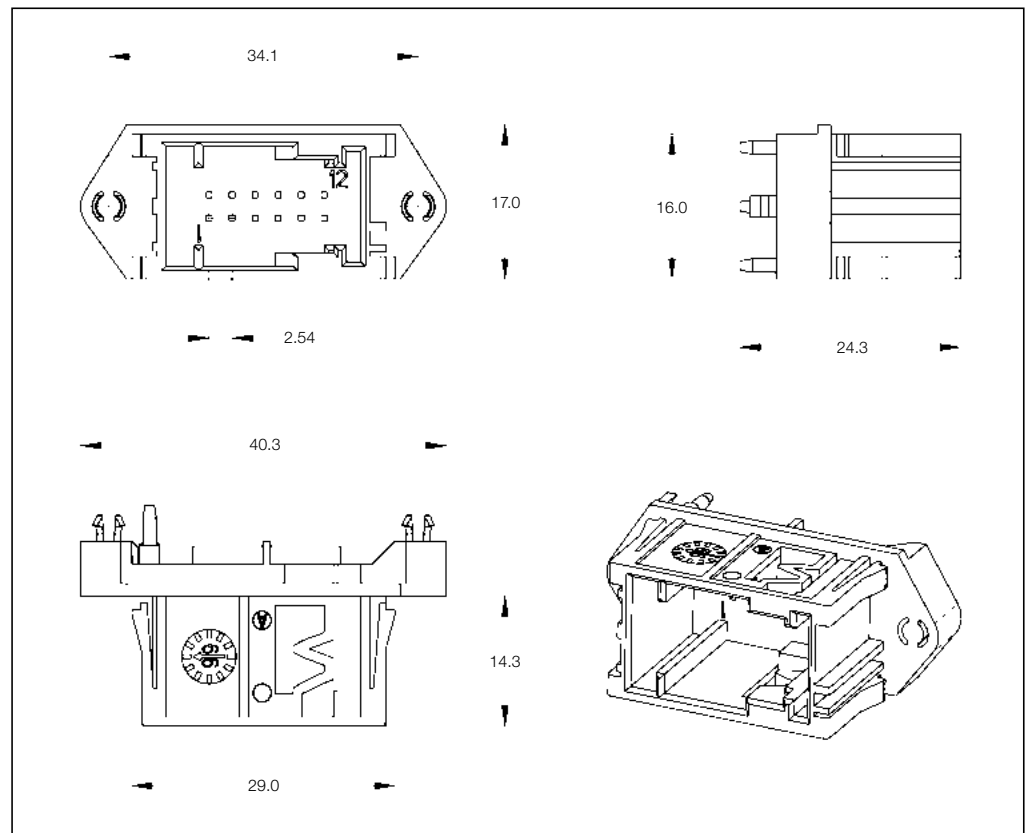
**No. of Positions:**  
12 Positions

**Housing Material:**  
SPS GF20

**Material and Finish:**  
CuSn6, post tin

**Product Specification:**  
108-15180

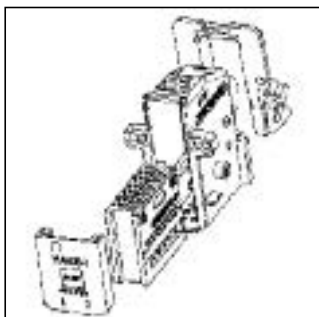
**Application Specification:**  
—



**12 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |           |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-----------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |           | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical  |       |       |                  |                           |
| 12          | —              | Black         | —            | 1379114-1 | —     | —     | —                | 185300-1 or<br>1379219-1  |
|             |                | Blue          | —            | 1379114-2 |       |       |                  |                           |
|             |                | Brown         | —            | 1379114-3 |       |       |                  |                           |

**Mating Receptacle Housing**  
See Page 4-3-4-4



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

12 Positions with Board Locks

**Housing Material:**

SPS GF20

**Material and Finish:**

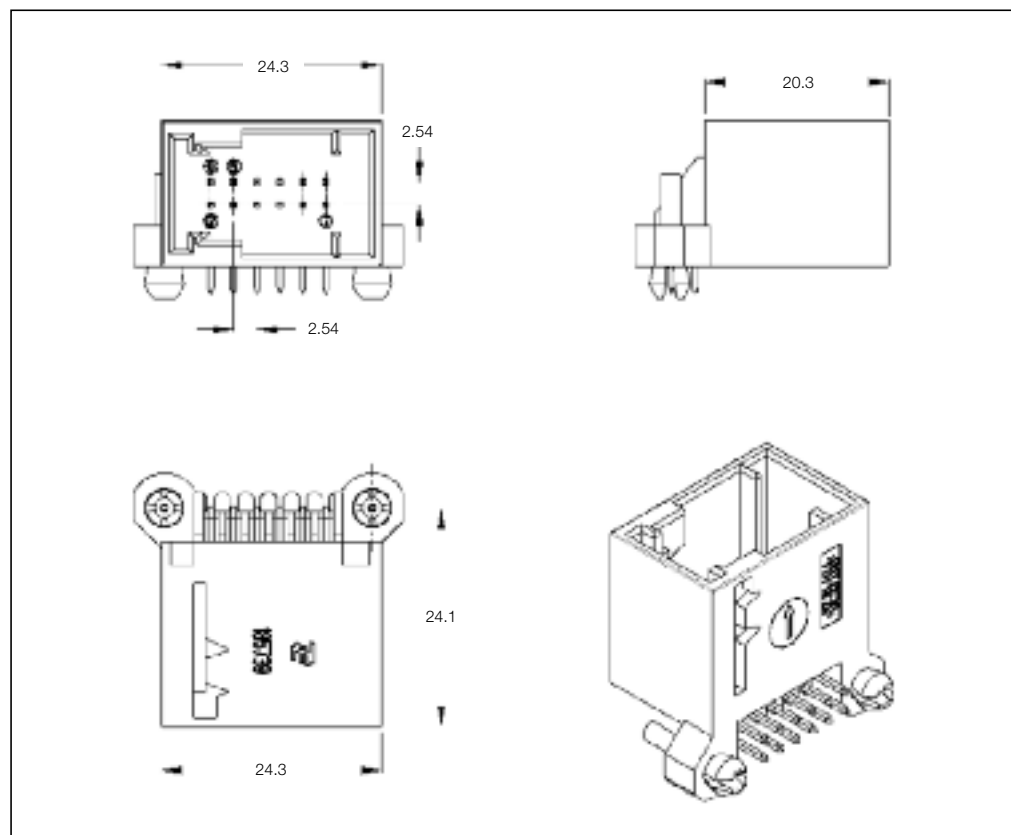
See customer drawing

**Product Specification:**

—

**Application Specification:**

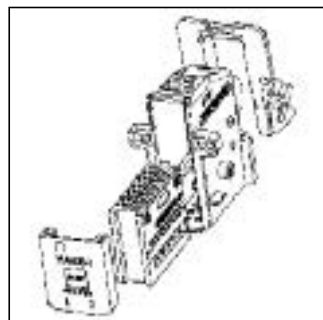
—



**12 Position PCB Header with Board Locks**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |       |                  |                           |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 12          | —              | Black         | 185740-1                  | —                      | —     | —     | —                | 185300-1 or<br>1379219-1  |
|             |                | Blue          | 185740-2                  | —                      |       |       |                  |                           |
|             |                | Brown         | 185740-3                  | —                      |       |       |                  |                           |
|             |                | Blue          | 1-185740-2                | —                      |       |       |                  |                           |

**Mating Receptacle Housing**  
See Page 4-3-4-4



Printed Circuit Board Headers

**Technical Features**

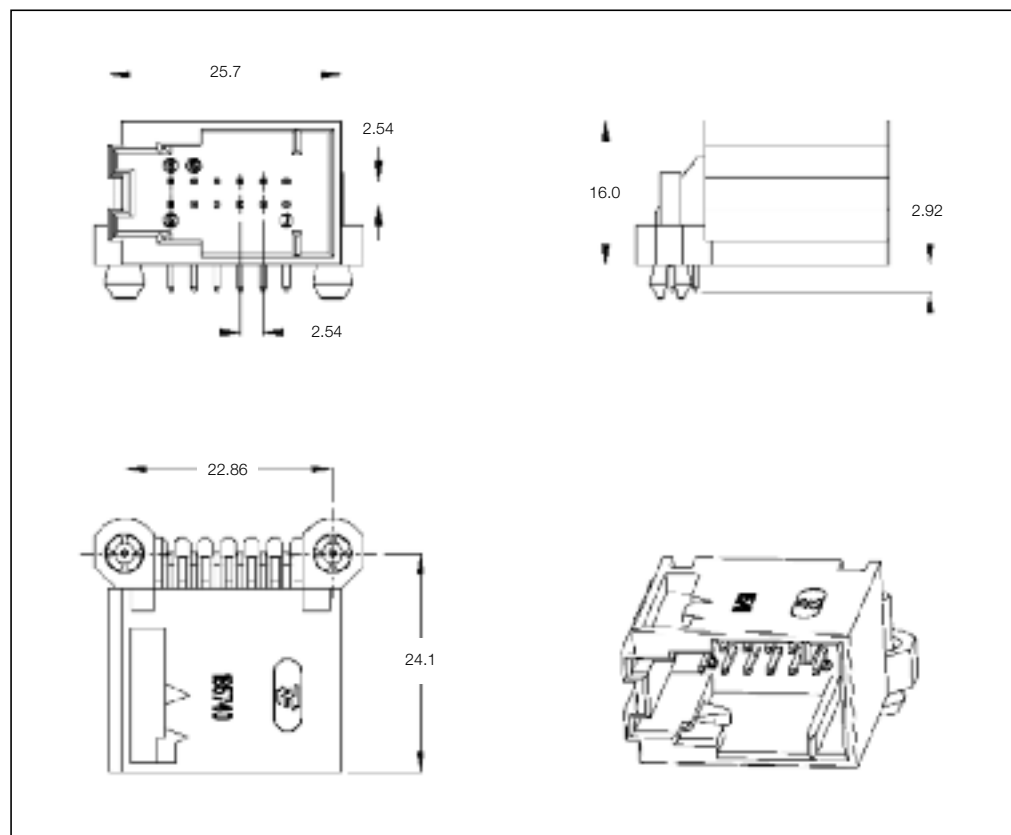
**No. of Positions:**  
12 Positions

**Housing Material:**  
PBT GF20

**Material and Finish:**  
CuSn6, post tin plated

**Product Specification:**  
108-15159

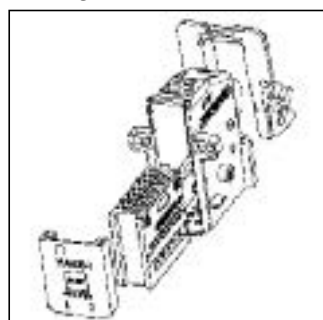
**Application Specification:**  
—



**12 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                 |                  | Mating Counter Part      |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-----------------|------------------|--------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing |                          |
| 12          | —              | Blue          | 1379030-1                 | —                      | —     | —               | —                | 185300-1 or<br>1379219-1 |
|             |                | Brown         | 1379030-3                 | —                      | —     | —               | —                |                          |

**Mating Receptacle Housing**  
See Page 4-3-4-4



Pin Housings

**Technical Features**

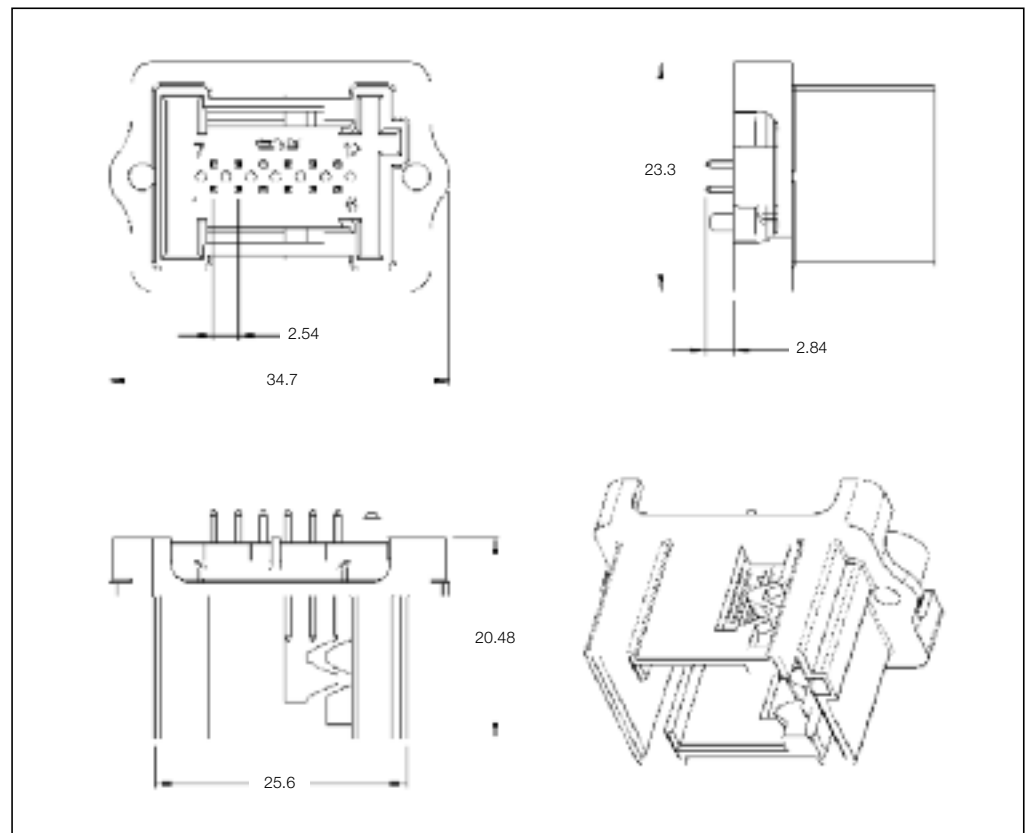
**No. of Positions:**  
12 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**12 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 12          | —              | Natural       | 967289-1     | —     | —     | —                | —                         |

Printed Circuit Board Headers

**Technical Features**

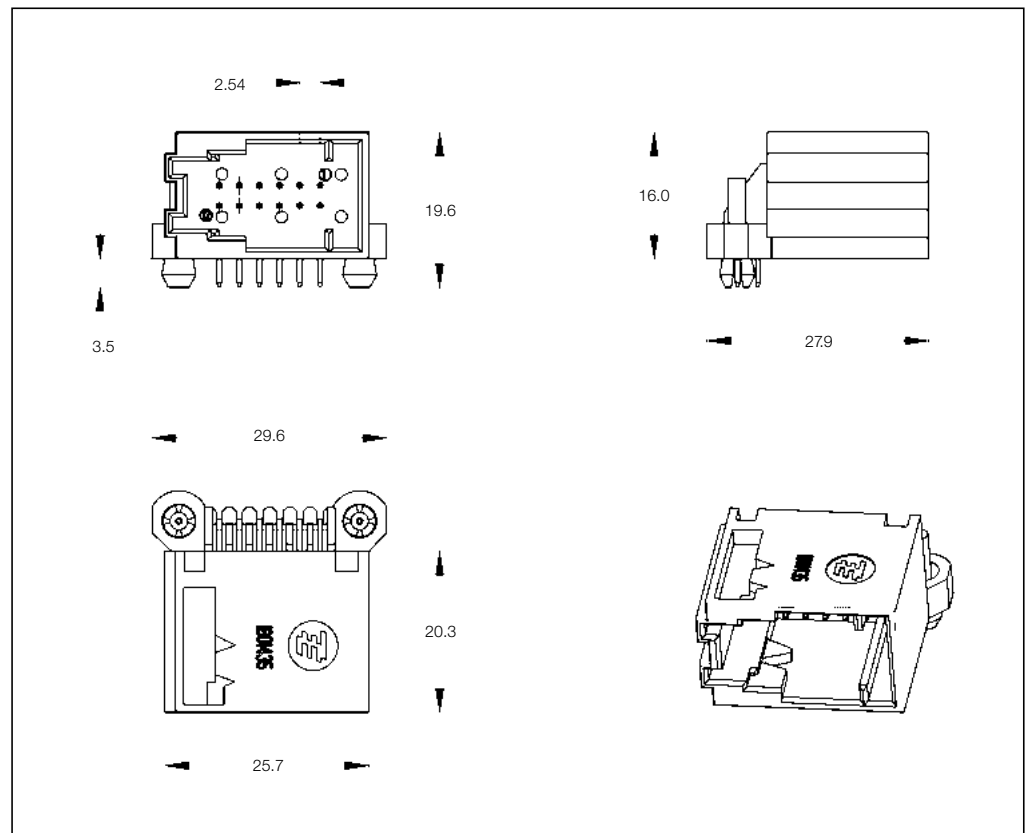
**No. of Positions:**  
12 Positions with Board Locks

**Housing Material:**  
PCT GF30

**Material and Finish:**  
CuSn6, post tin

**Product Specification:**  
108-15388

**Application Specification:**  
—



**12 Position PCB Header with Board Locks**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 12          | —              | Black         | 1801434-1              | —                   | —     | —     | —                | —                         |
|             |                | Brown         | 1801434-2              | —                   | —     | —     | —                | —                         |

Printed Circuit Board Headers

**Technical Features**

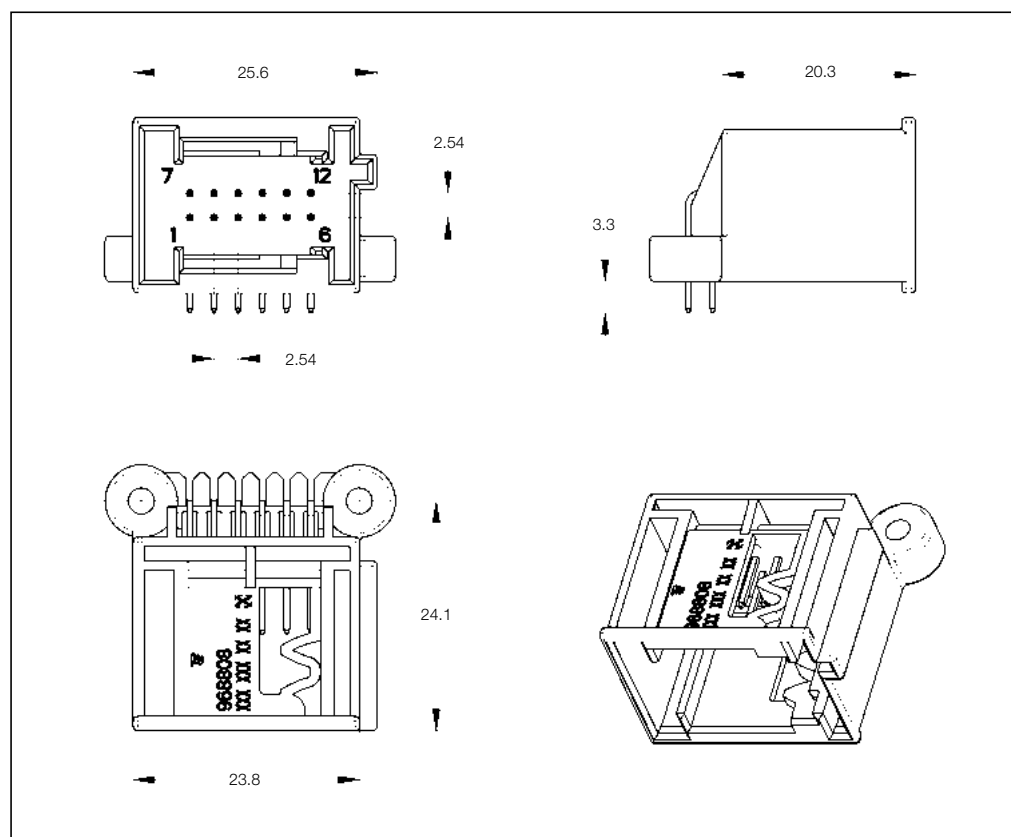
**No. of Positions:**  
12 Positions

**Housing Material:**  
PBT GF15

**Material and Finish:**  
CuFe2, tinned

**Product Specification:**  
—

**Application Specification:**  
—



**12 Position PCB Header with Board Locks**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |       |                     |                              |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-------|---------------------|------------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer<br>Housing | Mating<br>Receptacle Housing |
| 12          | A              | Black         | —                         | 1-967582-1             | —     | —     | —                   | —                            |

Printed Circuit Board Headers

**Technical Features**

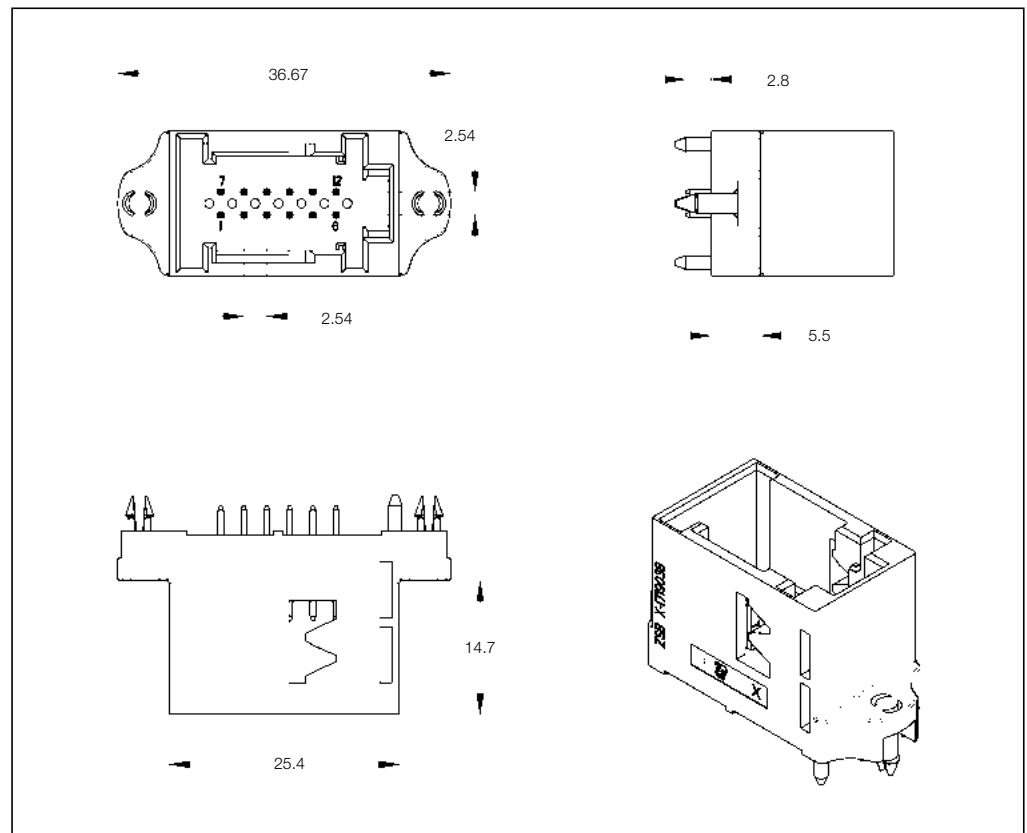
**No. of Positions:**  
12 Position MODU II Header

**Housing Material:**  
PPA GF25

**Material and Finish:**  
CuSn6, tinned

**Product Specification:**  
108-18983

**Application Specification:**  
—



**12 Position PCB Header MODU II**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 12          | A              | Black         | —                      | 1-1719039-7         | —     | —     | —                | —                         |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

12 Position MODU II

**Housing Material:**

PA66 GF30

**Material and Finish:**

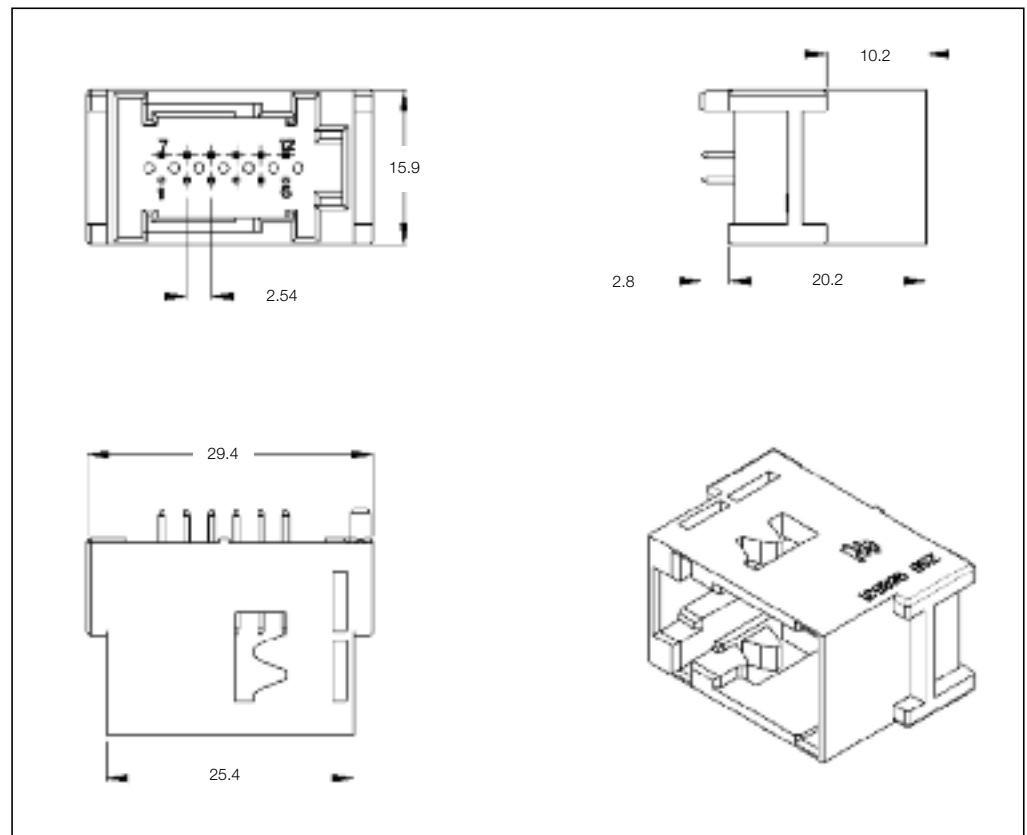
See customer drawing

**Product Specification:**

108-20206

**Application Specification:**

—



**12 Position PCB Header MODU II**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |       |                  |                           |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 12          | A              | Black         | —                         | 967646-1               | —     | —     | —                | —                         |
|             | B              | Green         | —                         | 967646-2               |       |       |                  |                           |
|             | C              | Blue          | —                         | 967646-3               |       |       |                  |                           |
|             | C              | Blue          | —                         | 967646-6               |       |       |                  |                           |
|             | C              | Gray          | —                         | 967646-9               |       |       |                  |                           |
|             | A              | Black         | —                         | 1-967646-1             |       |       |                  |                           |

Printed Circuit Board Headers

**Technical Features**

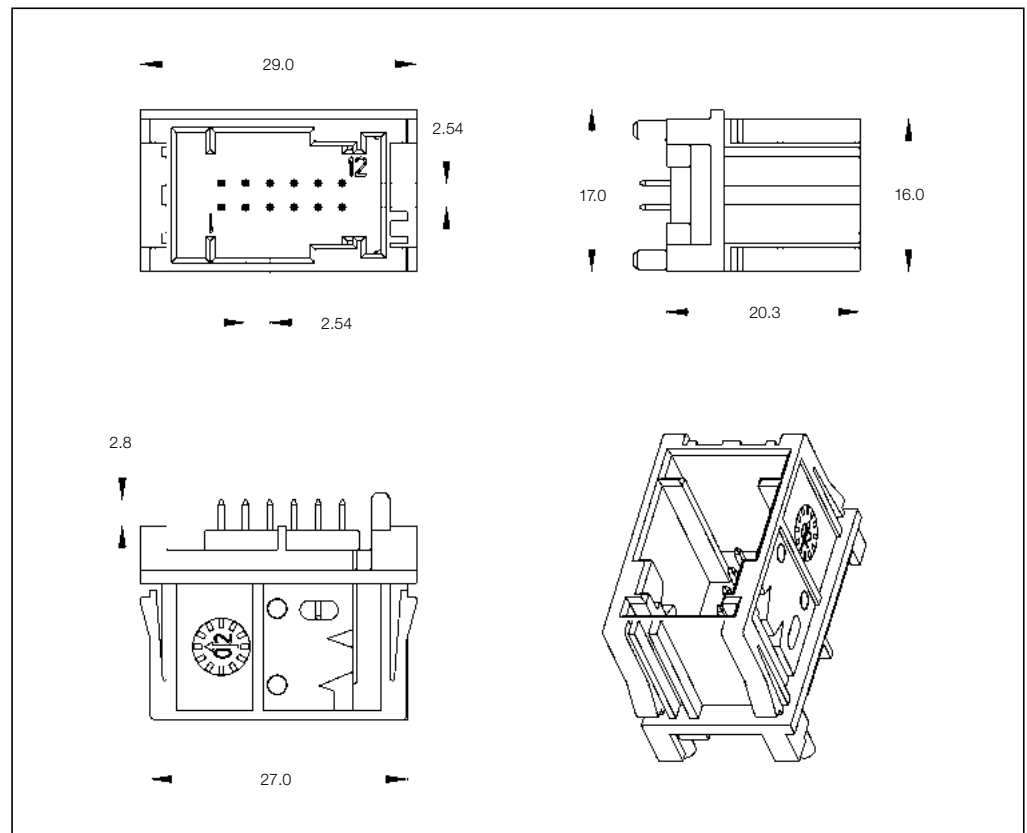
**No. of Positions:**  
12 Positions

**Housing Material:**  
PBT GF20

**Material and Finish:**  
CuSn6, post tin

**Product Specification:**  
—

**Application Specification:**  
—



**12 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |           |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-----------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |           | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical  |       |       |                  |                           |
| 12          | —              | Blue          | —            | 1379640-2 | —     | —     | —                | —                         |
|             |                | Brown         | —            | 1379640-3 |       |       |                  |                           |

Printed Circuit Board Headers

**Technical Features**

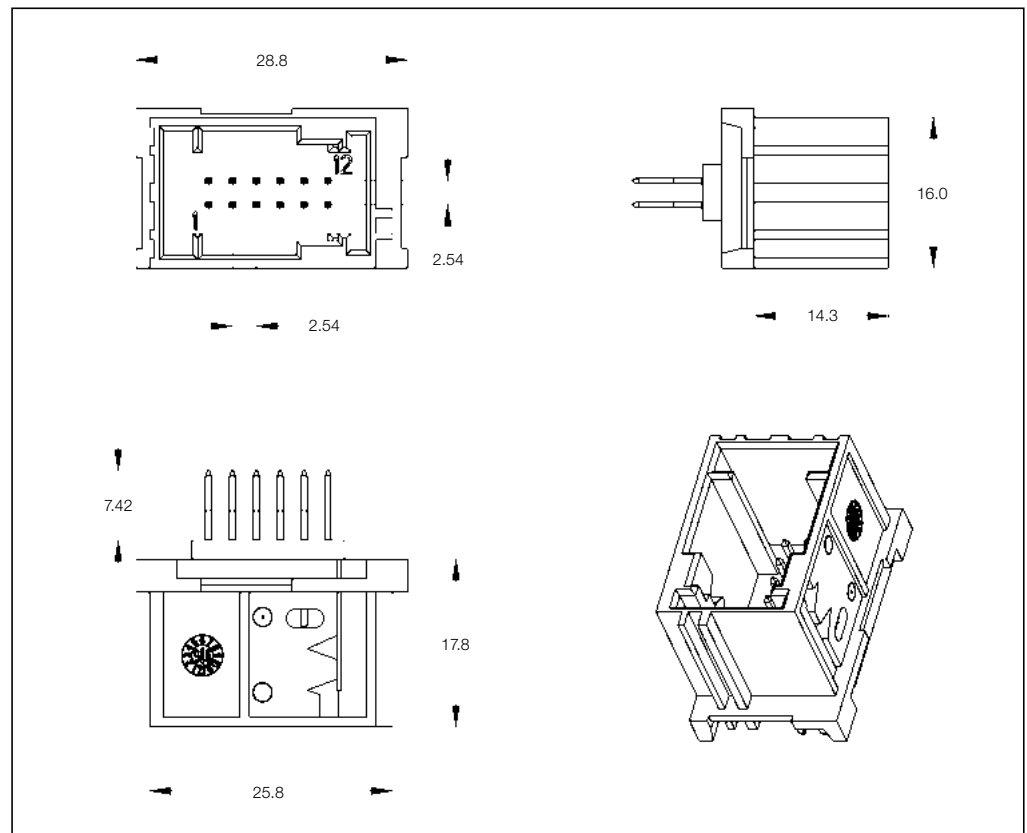
**No. of Positions:**  
12 Positions

**Housing Material:**  
PBT GF20

**Material and Finish:**  
CuSn6, post tin

**Product Specification:**  
—

**Application Specification:**  
—



**12 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |          |       |       |                  |                           |
|-------------|----------------|---------------|--------------|----------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |          | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical |       |       |                  |                           |
| 12          | —              | Black         | —            | 185526-1 | —     | —     | —                | —                         |
|             |                | Blue          | —            | 185526-2 |       |       |                  |                           |
|             |                | Brown         | —            | 185526-3 |       |       |                  |                           |

Receptacle Housings

**Technical Features**

**No. of Positions:**

14 Position Assembly

**Housing Material:**

PBT GF15

**Wire Size Range:**

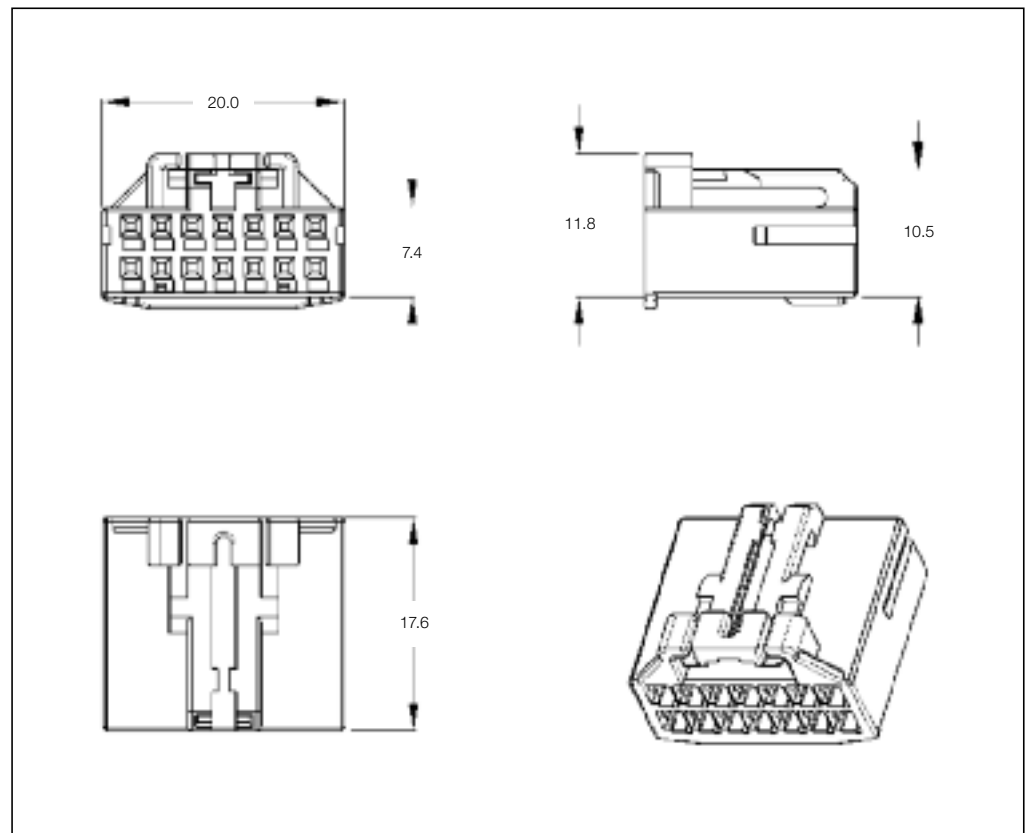
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-61052

**Application Specification:**

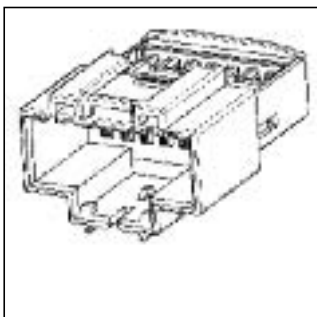
114-18021



**14 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                    | Mating PCB Header Vertical |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|--------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating Right-Angle |                            |
| 14          | –              | Black         | 936124-1           | –     | –              | –               | –                | 936126-1           | –                  | –                          |
|             |                | Yellow        | 936124-2           |       |                |                 |                  | 936126-2           |                    |                            |
|             |                | Yellow        | 1-936124-2         |       |                |                 |                  | –                  |                    |                            |

**Mating Pin Housing**  
See Page 4-22



Pin Housings

**Technical Features**

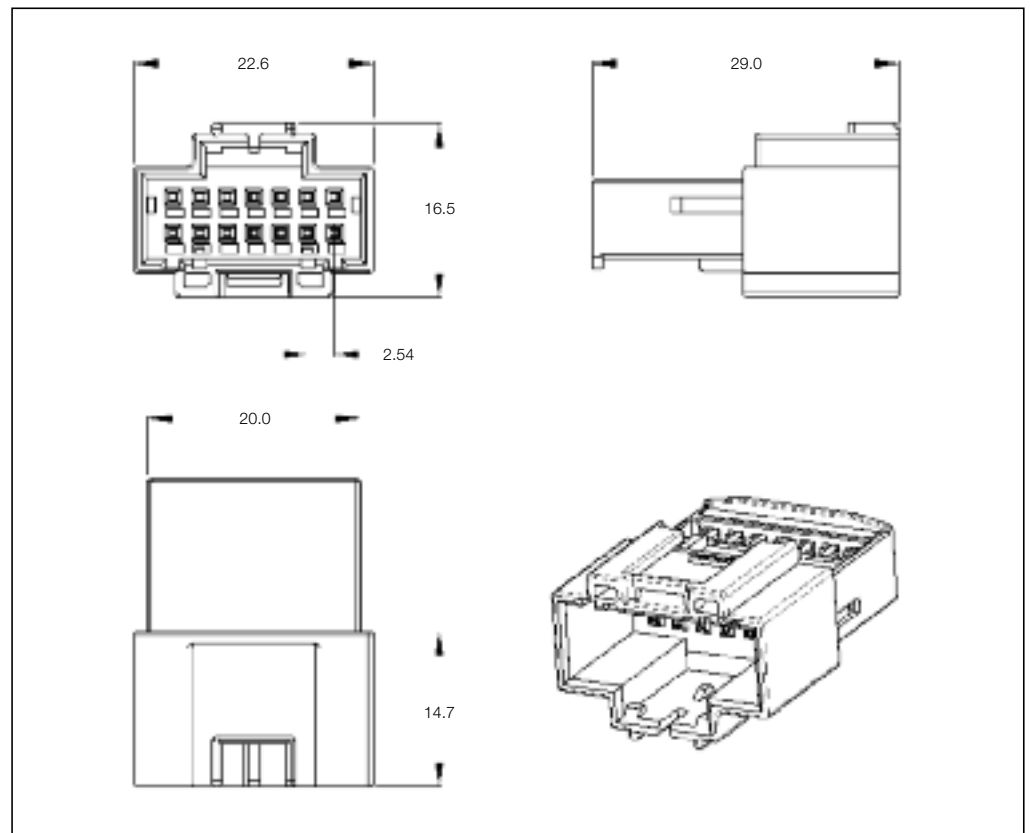
**No. of Positions:**  
14 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.25–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18030

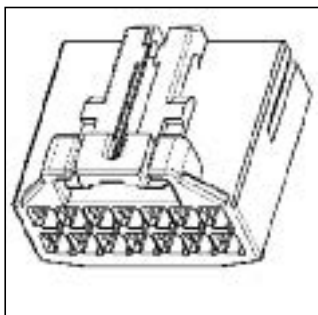
**Application Specification:**  
114-18021



**14 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 14          | –              | Black         | 936126-1     | –     | –              | –               | –                | 936124-1                  |
|             |                | Yellow        | 936126-2     | –     | –              | –               | –                | 936124-2                  |

**Mating Receptacle Housing**  
See Page 4-21



Receptacle Housings

**Technical Features**

**No. of Positions:**

16 Position or  
8 Position + 4 Shorting Bars

**Housing Material:**

PBT GF10

**Wire Size Range:**

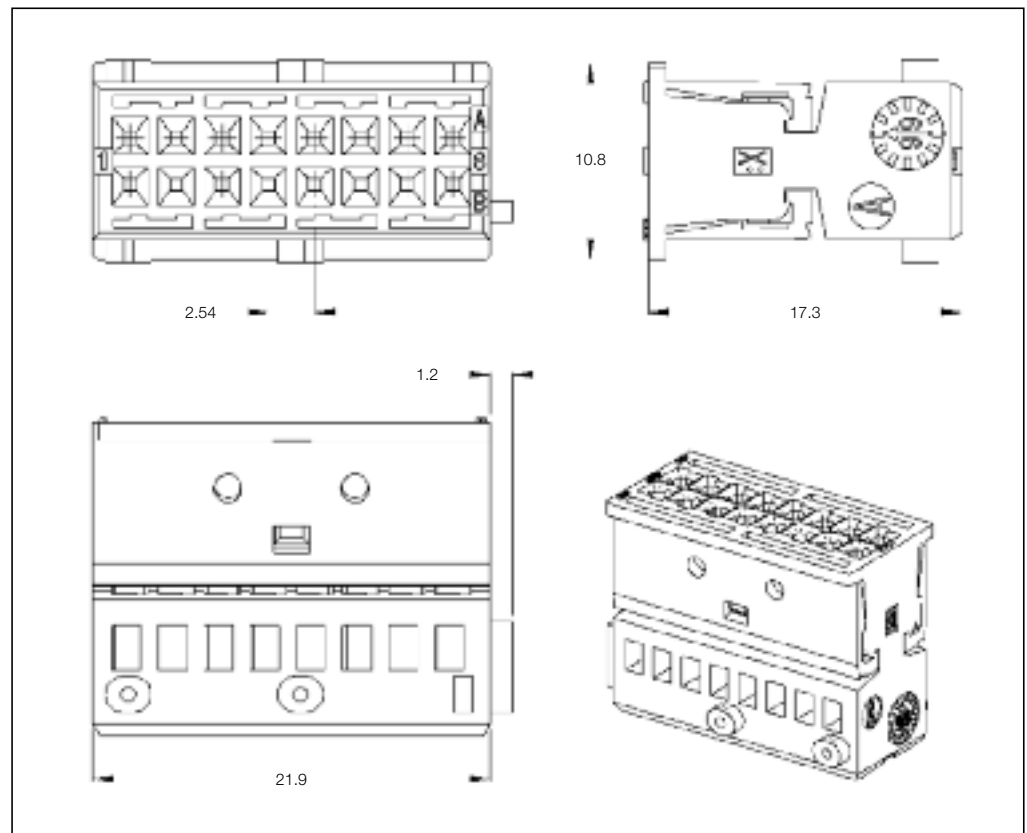
0.35–0.75 mm<sup>2</sup>

**Product Specification:**

108-15308

**Application Specification:**

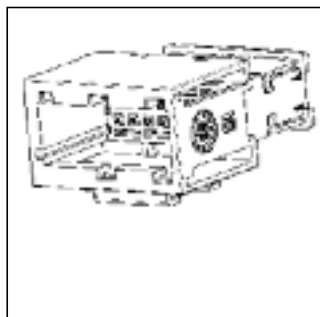
411-15629



**16 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                                           |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header<br>Right-Angle Vertical |
| 16          | –              | Green         | 953892-1           | –     | –              | –               | –                | 953893-1           | –                                         |
|             |                | Gray          | 1-953892-1         |       |                |                 |                  | 1-953893-1         |                                           |
|             |                | Black         | 2-953892-1         |       |                |                 |                  | 2-953893-1         |                                           |
|             |                | Brown         | 3-953892-1         |       |                |                 |                  | 3-953893-1         |                                           |
|             |                | Blue          | 4-953892-1         |       |                |                 |                  | 4-953893-1         |                                           |

**Mating Pin Housing**  
See Page 4-25



Receptacle Housings

**Technical Features**

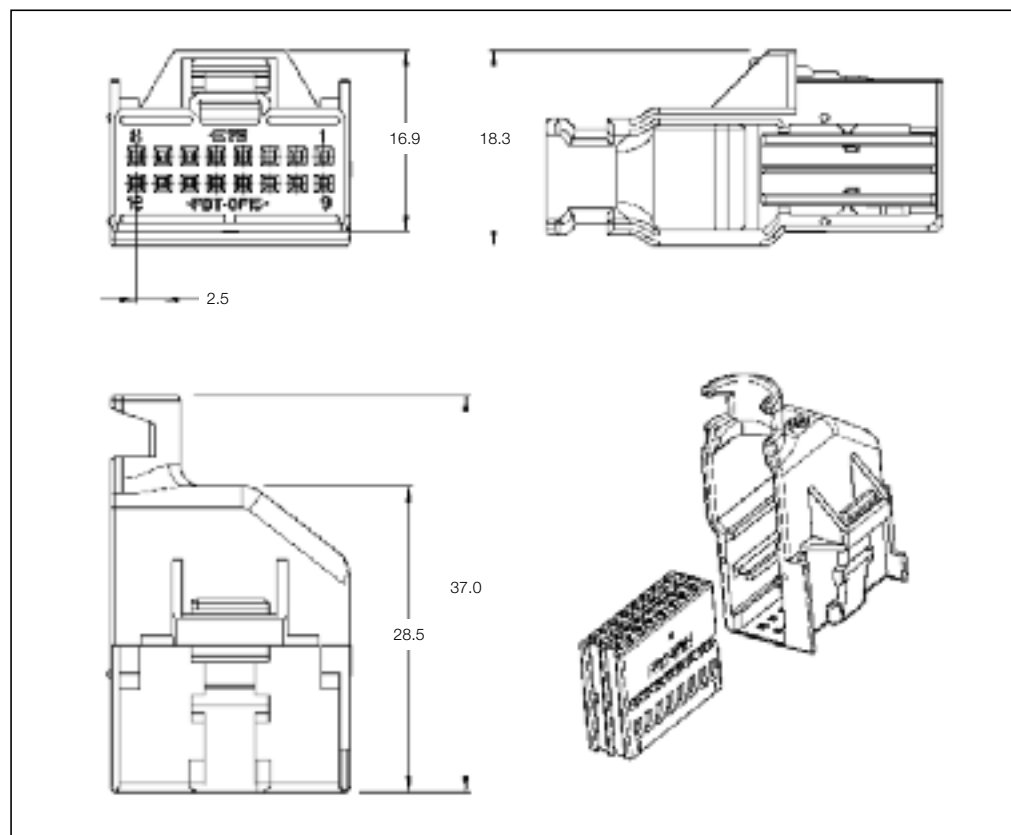
**No. of Positions:**  
16 Positions (2 × 8)

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.14–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18924

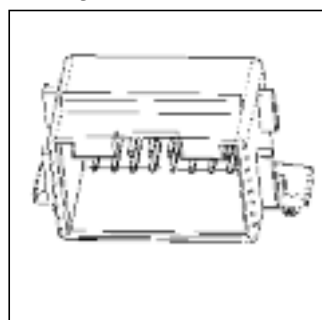
**Application Specification:**  
114-18630



**16 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |                           |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|---------------------------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover                     | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 16          | B              | Black         | 1534101-1          | 1-1534097-2 (Cod B black) | —              | —               | —                | —                  | 966870-1                      | —        |
|             |                |               |                    | 1-1534097-1 (Cod A brown) | —              | —               | —                | —                  |                               |          |

**Mating Header**  
See Page 4-26



Pin Housings

**Technical Features**

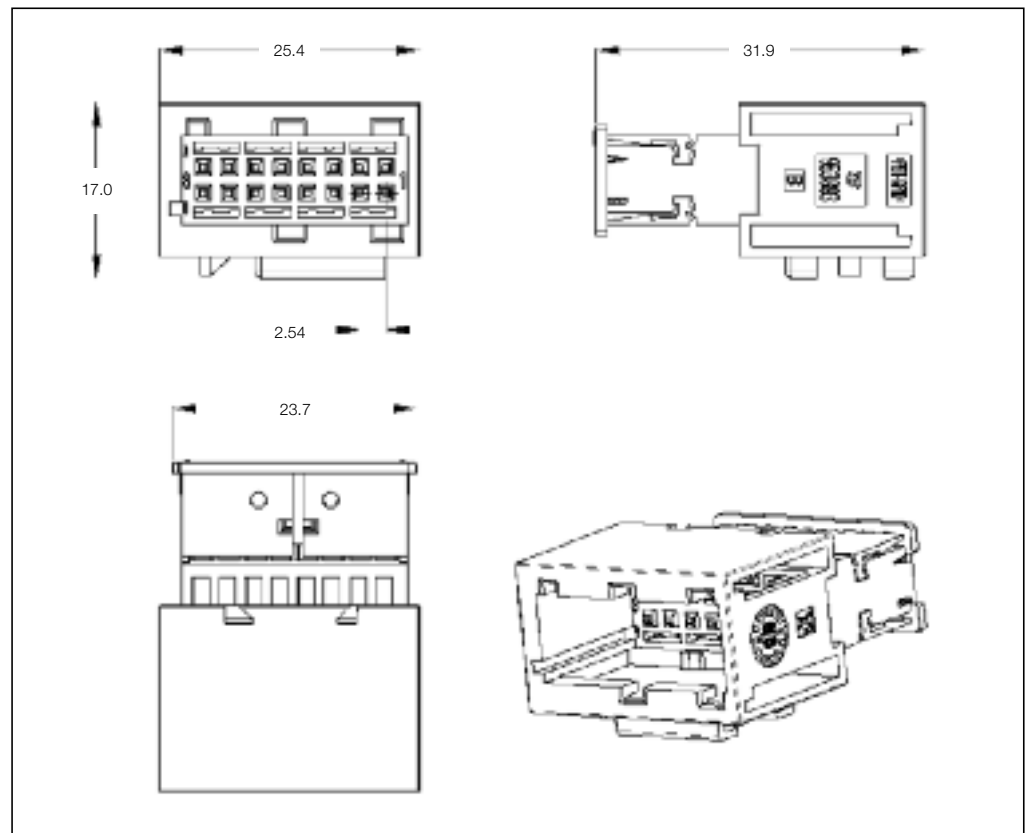
**No. of Positions:**  
16 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-15308

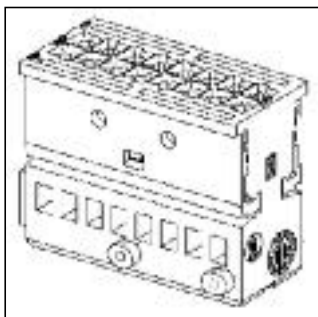
**Application Specification:**  
411-15629



**16 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                     |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Counter Part |
| 16          | –              | Green         | 953893-1     | –     | –              | –               | –                | 953892-1            |
|             |                | Gray          | 1-953893-1   |       |                |                 |                  | 1-953892-1          |
|             |                | Black         | 2-953893-1   |       |                |                 |                  | 2-953892-1          |
|             |                | Brown         | 3-953893-1   |       |                |                 |                  | 3-953892-1          |
|             |                | Blue          | 4-953893-1   |       |                |                 |                  | 4-953892-1          |

**Mating Receptacle Housing**  
See Page 4-23



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

16 Position Assembly (2 × 8)

**Housing Material:**

PBT GF15

**Material and Finish:**

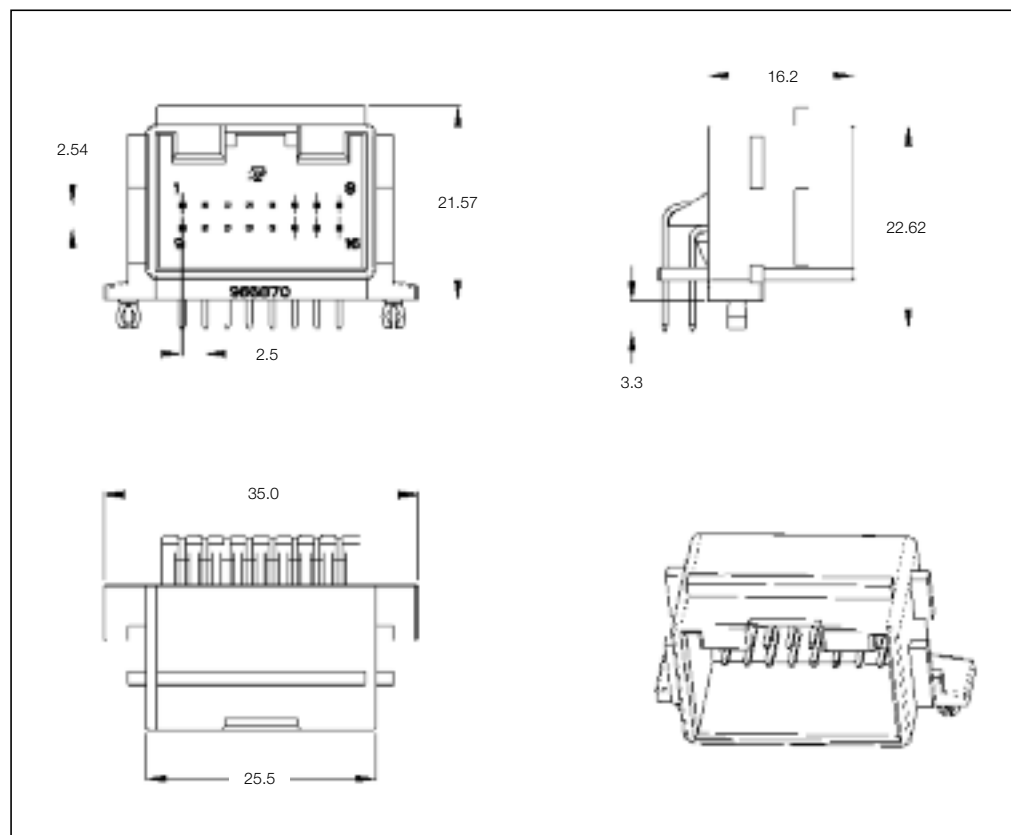
CuSn, tin plated

**Product Specification:**

108-18692-0

**Application Specification:**

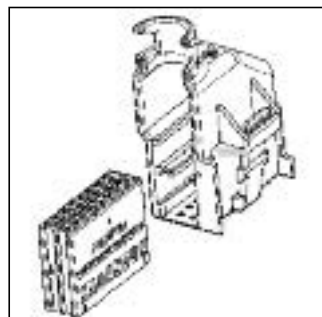
—



**16 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 16          | —              | Black         | 966870-1               | —                   | —     | —               | —                | 1534101-1                 |

**Mating Receptacle Housing**  
See Page 4-24



Printed Circuit Board Headers

**Technical Features**

**Application:**

Body Computer

**No. of Positions:**

16 Positions

**Housing Material:**

PA66 GF30

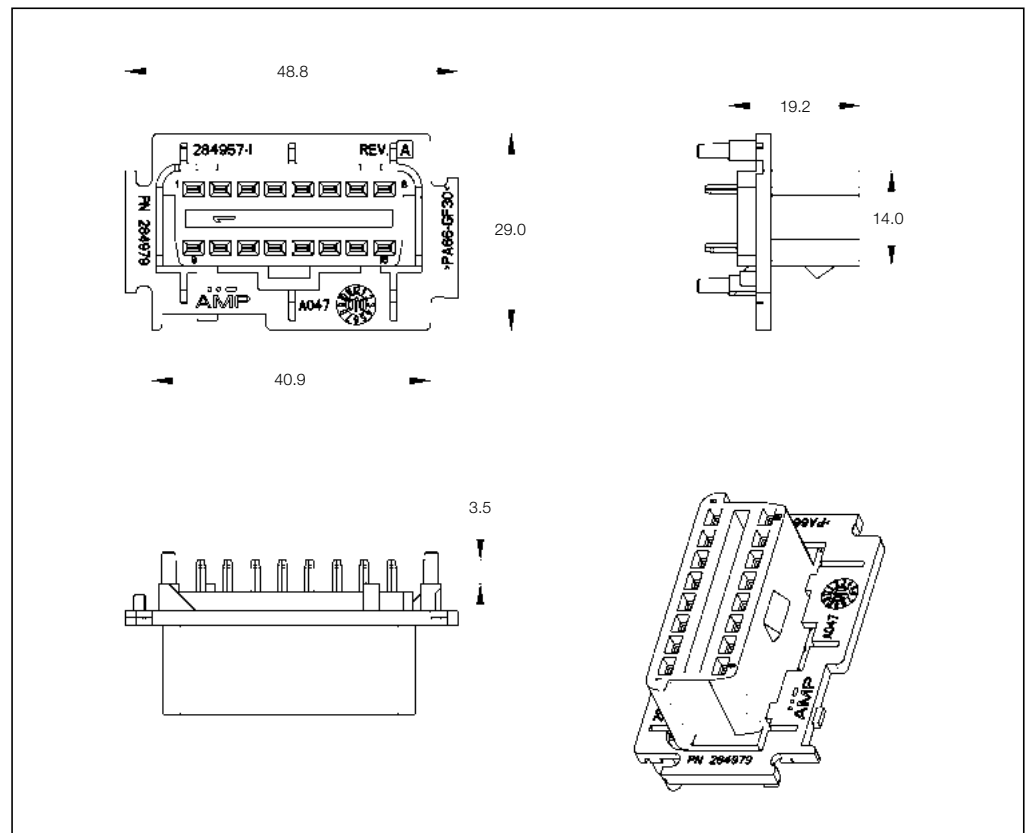
**Material and Finish:**

CuSn4, tin plated

**Product Specification:**

108-20206

**Application Specification:**



**16 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |          |       |       |                  |                           |
|-------------|----------------|---------------|--------------|----------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |          | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical |       |       |                  |                           |
| 16          | —              | Black         | —            | 284979-1 | —     | —     | —                | —                         |

Printed Circuit Board Headers

**Technical Features**

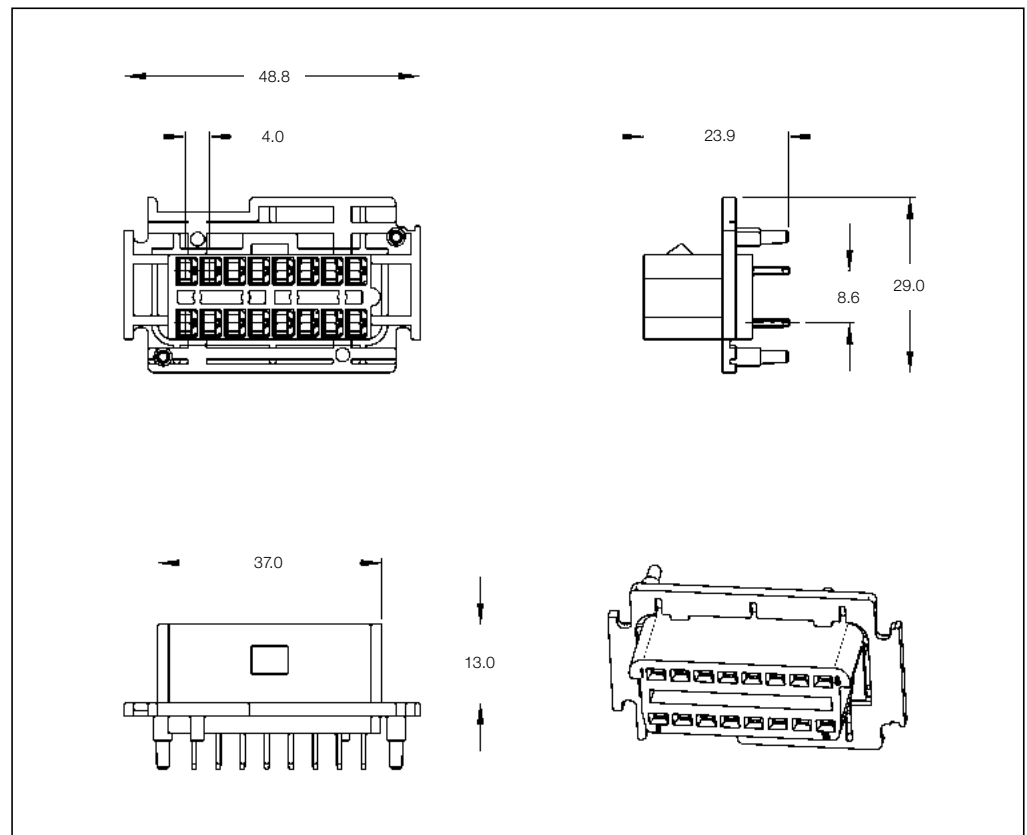
**No. of Positions:**  
16 Positions

**Housing Material:**  
PA66 GF30

**Material and Finish:**  
Copper Alloy, tinned

**Product Specification:**  
108-20206

**Application Specification:**  
—



**16 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |           |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-----------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |           | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical  |       |       |                  |                           |
| 16          | —              | Black         | —            | 1599644-1 | —     | —     | —                | —                         |

Receptacle Housings

**Technical Features**

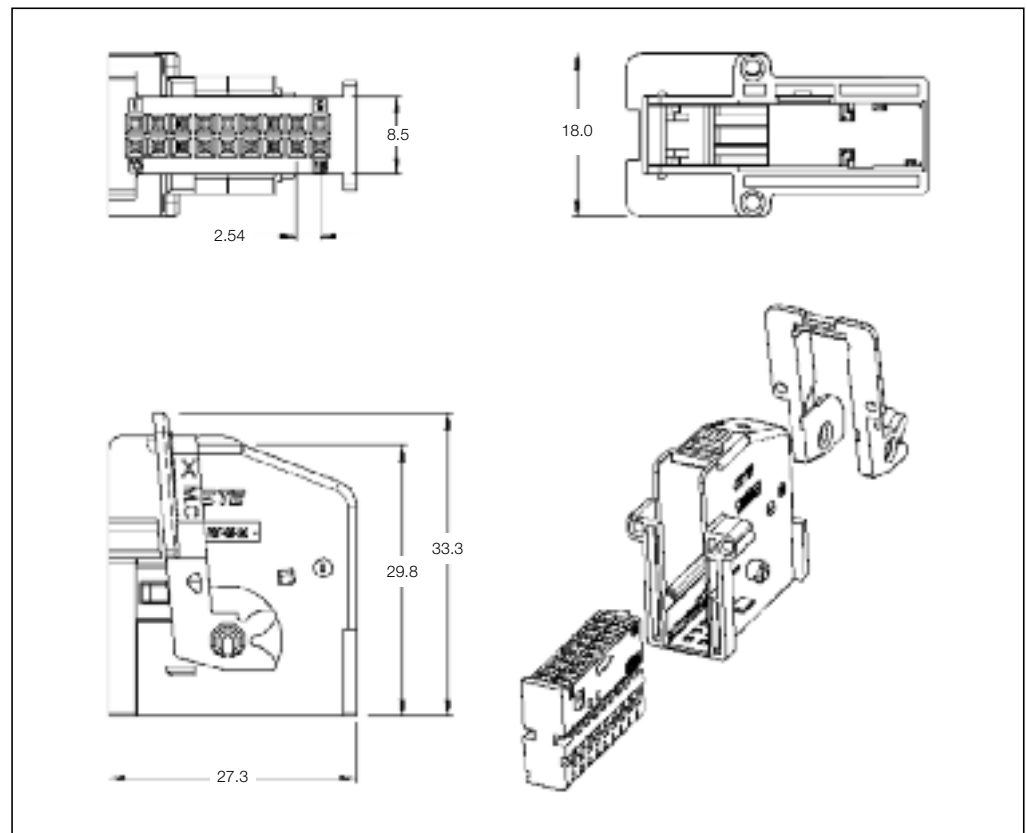
**No. of Positions:**  
18 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.35–0.75 mm<sup>2</sup>

**Product Specification:**  
108-15134

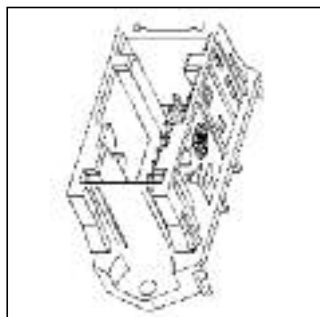
**Application Specification:**  
411-15554



**18 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                       |                  |                    |                                      |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------------|------------------|--------------------|--------------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever       | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle        | Mating PCB Header Vertical |
| 18          | –              | Black         | 1379102-1          | –     | –              | –                     | –                | –                  | 185683-1                             | 185458-1                   |
|             |                |               | –                  | –     | –              | 1379100-1 (0°) black  |                  |                    | 185680-1                             | 953302-1                   |
|             |                |               | –                  | –     | –              | 1379100-2 (0°) white  |                  |                    | 1379731-1                            | 953264-1                   |
|             |                |               | –                  | –     | –              | 1379101-1 (90°) black |                  |                    | For application see customer drawing |                            |
|             |                |               | –                  | –     | –              | 1379101-2 (90°) white |                  |                    |                                      |                            |

**Mating Headers**  
See Page 4-24–4-26



Receptacle Housings

**Technical Features**

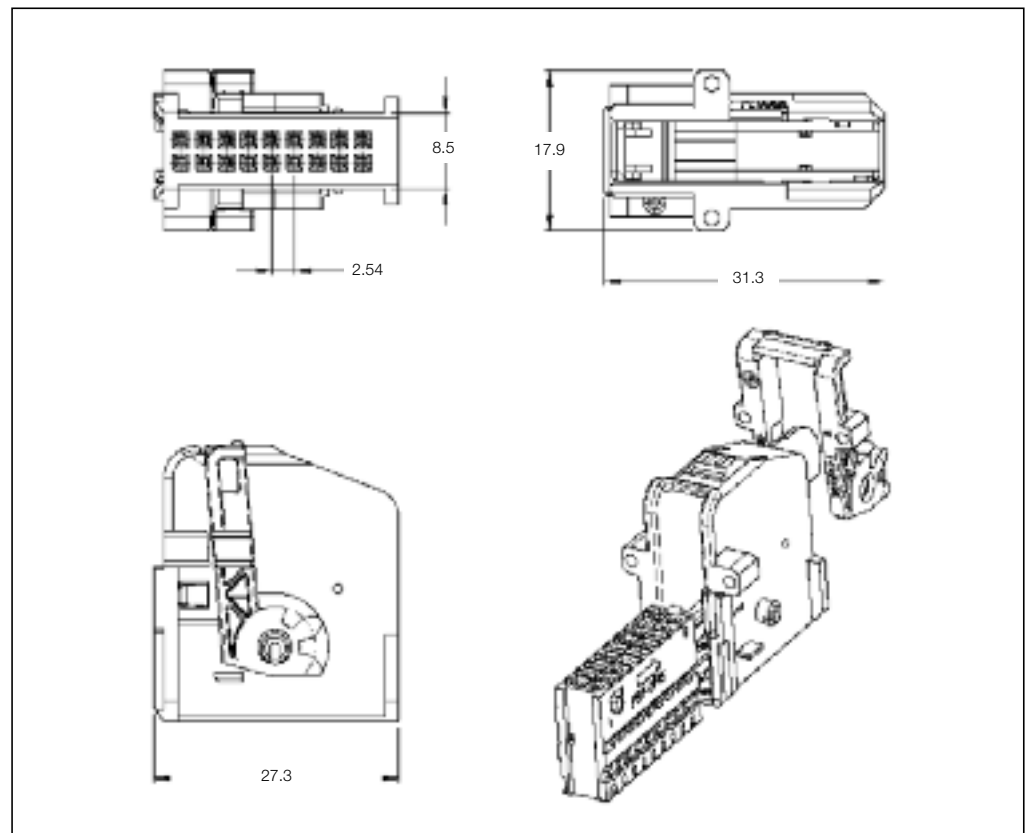
**No. of Positions:**  
18 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.75 mm<sup>2</sup> Max.

**Product Specification:**  
108-18157-1

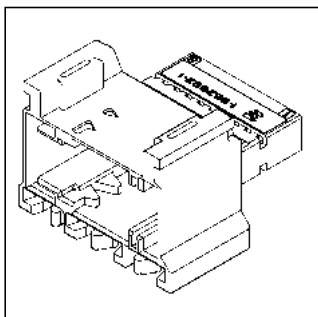
**Application Specification:**  
114-18021



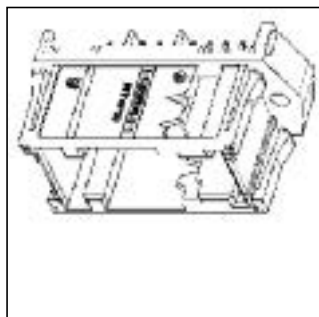
**18 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                             |                  |                    |                                        |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------------------|------------------|--------------------|----------------------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever             | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle Vertical |
| 18          | -              | Black         | 1355348-1          | -     | -              | 1-1355350-1 (Cod B; black)  | -                | 1-962692-2         | 1-963539-1 1-1355154-1                 |
|             |                |               |                    |       |                | 2-1355350-1 (Cod B; nature) | -                | 2-962692-2         | - 2-1355154-1 3-1355154-1              |

**Mating Pin Housing**  
See Page 4-33



**Mating Headers**  
See Pages 4-37-4-38



Receptacle Housings

**Technical Features**

**No. of Positions:**

18 Positions (2 x 9 Pos.)

**Housing Material:**

PA66 GF13

**Wire Size Range:**

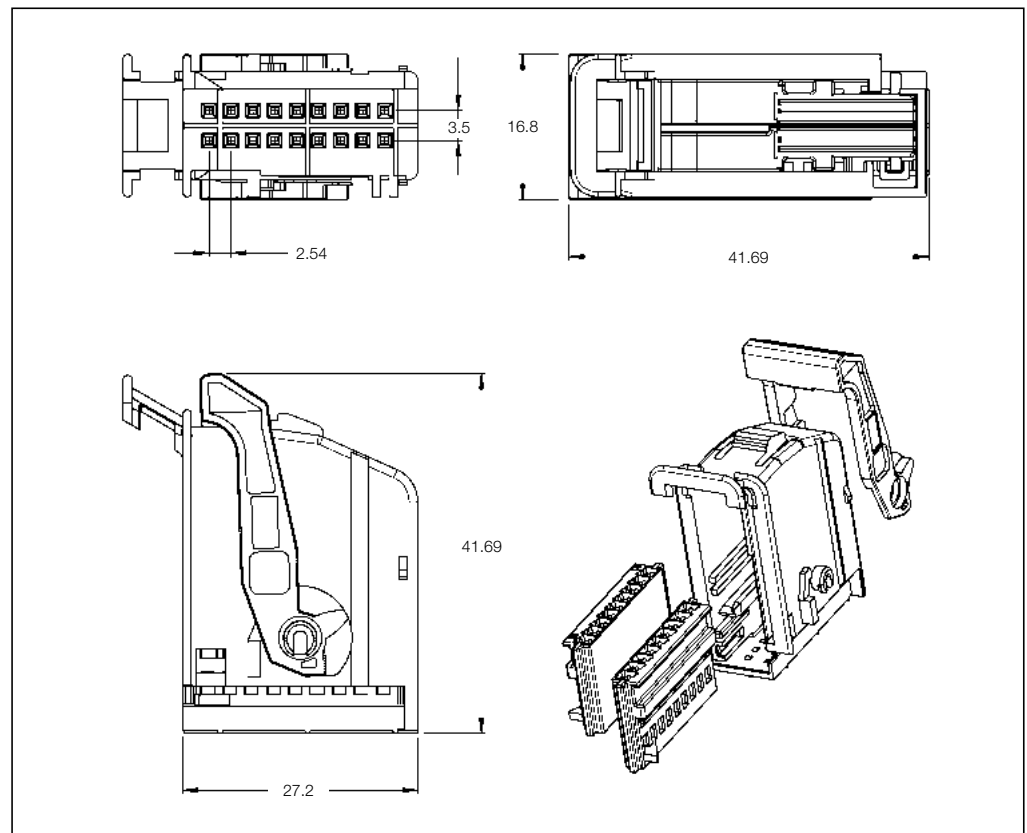
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—

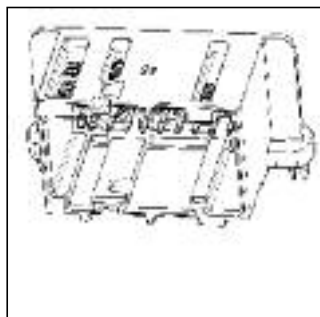


**18 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color        | Part Numbers       |                  |       |                  |                    |                               |                            |
|-------------|----------------|----------------------|--------------------|------------------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |                      | Receptacle Housing | Cover            | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 18          | —              | See customer drawing | 284134-X           | 284136-1 (black) | —     | —                | —                  | —                             | 953466-1                   |
|             |                |                      |                    | 284136-2 (gray)  |       |                  |                    |                               | 953466-2                   |

**Mating Headers**

See Pages 4-39–4-40



Receptacle Housings

**Technical Features**

**No. of Positions:**

18 Position + 6 Shorting Bars

**Housing Material:**

PBT GF20

**Wire Size Range:**

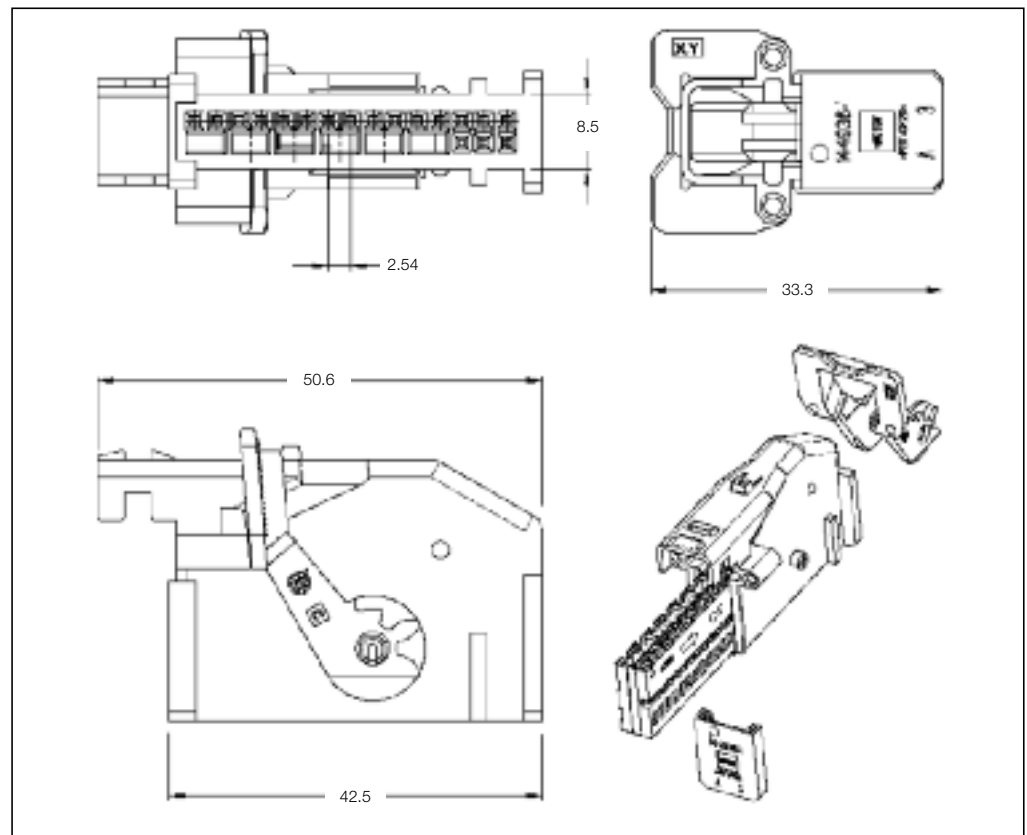
0.2–0.6 mm<sup>2</sup>

**Product Specification:**

108-15111

**Application Specification:**

411-15533



**18 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                                              |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|----------------------------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header<br>Right-Angle    Vertical |
| 18          | –              | Black         | 144952-1           | –     | 144936-1       | –               |                  |                    |                                              |
|             |                | Orange        | –                  | –     | –              | 144951-1        |                  |                    | 144950-1                                     |
|             |                | Yellow        | –                  | –     | –              | 144951-2        | –                | –                  | 185180-1                                     |
|             |                | Red           | –                  | –     | –              | 144951-3        |                  |                    | For application<br>see customer drawing      |
|             |                | Green         | –                  | –     | –              | 144951-4        |                  |                    |                                              |

Pin Housings

**Technical Features**

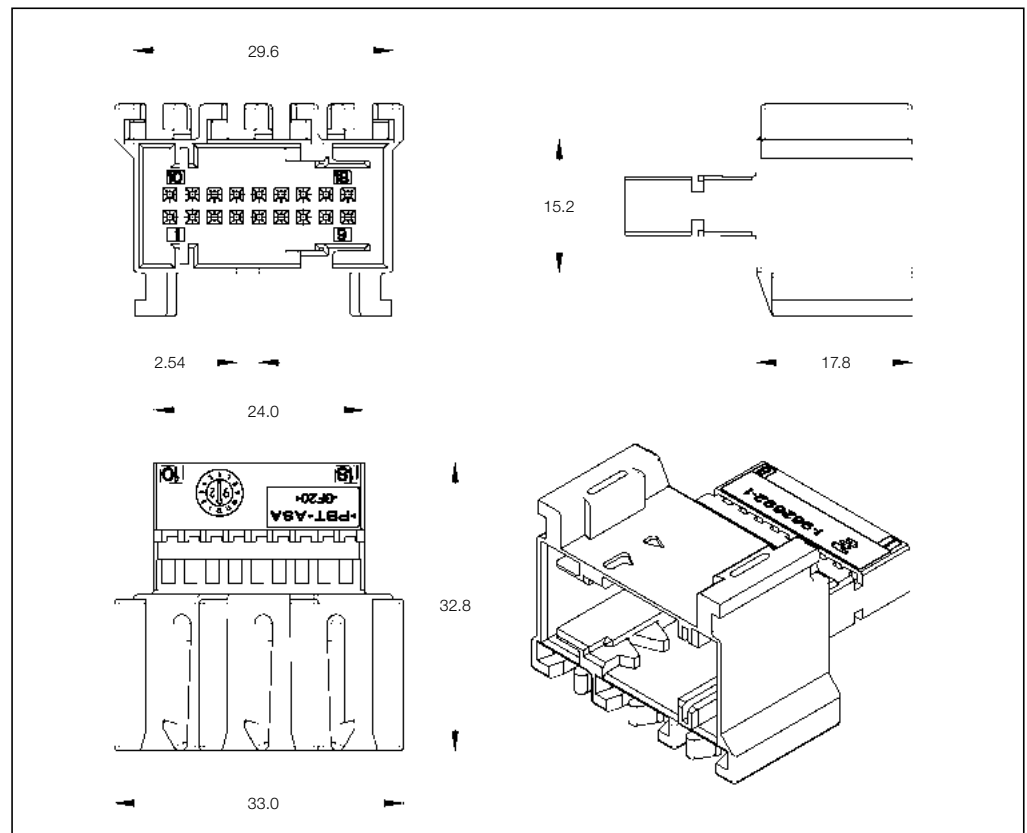
**No. of Positions:**  
18 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.75 mm<sup>2</sup> Max.

**Product Specification:**  
108-18517

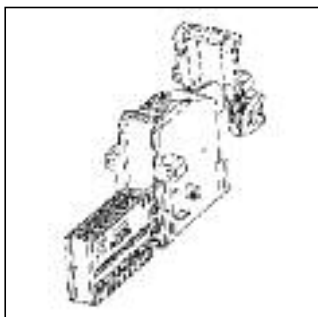
**Application Specification:**  
—



**18 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 18          | A              | Black         | 1-962692-2   | —     | —              | —               | —                | 1355348-1                 |
|             | B              | Natural       | 2-962692-2   | —     | —              | —               | —                |                           |

**Mating Receptacle Housing**  
See Page 4-30



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

18 Positions with Ears

**Housing Material:**

PBT GF20

**Material and Finish:**

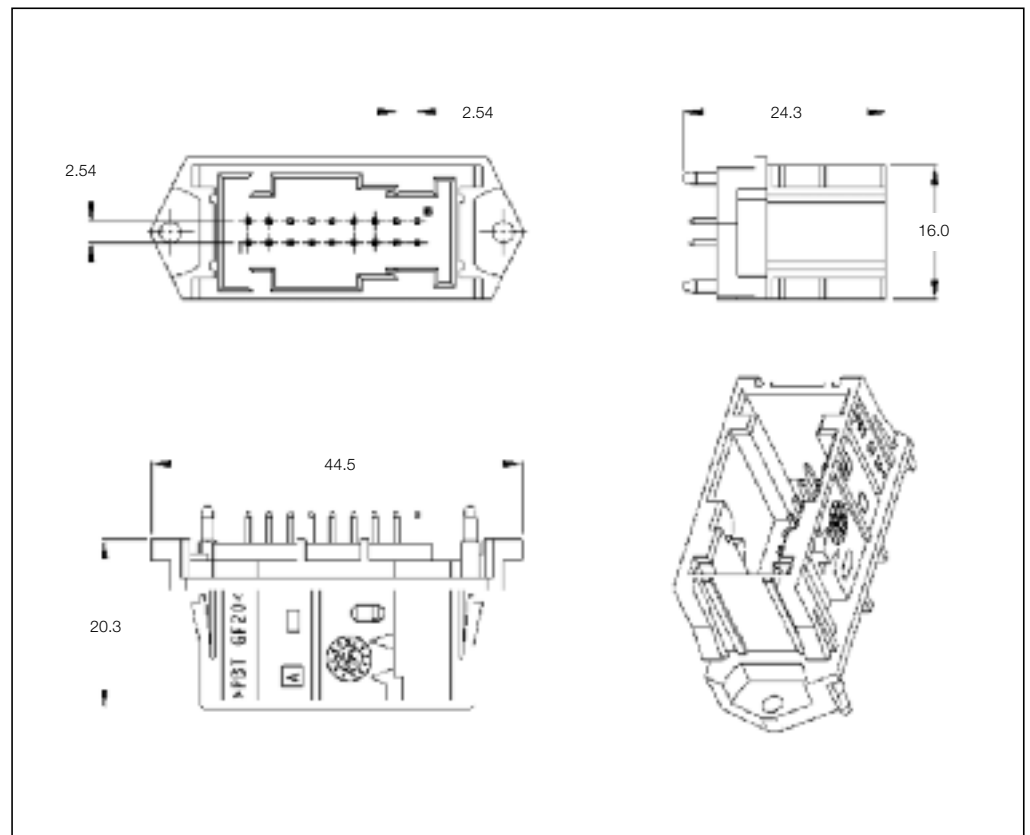
CuSn6, post tin plated

**Product Specification:**

108-15146

**Application Specification:**

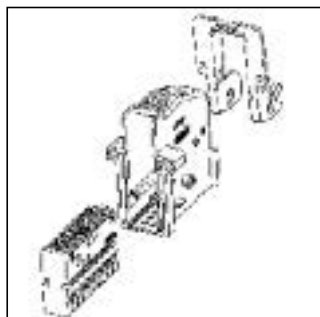
—



**18 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                 |                  |                     |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-----------------|------------------|---------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing | Mating Counter Part |
| 18          | —              | Black         | —                         | 953302-1               | —     | —               | —                | 1379102-1           |
|             |                | White         | —                         | 953302-2               |       |                 |                  |                     |
|             |                | Blue          | —                         | 953302-3               |       |                 |                  |                     |

**Mating Receptacle Housing**  
See Page 4-29



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**  
18 Positions

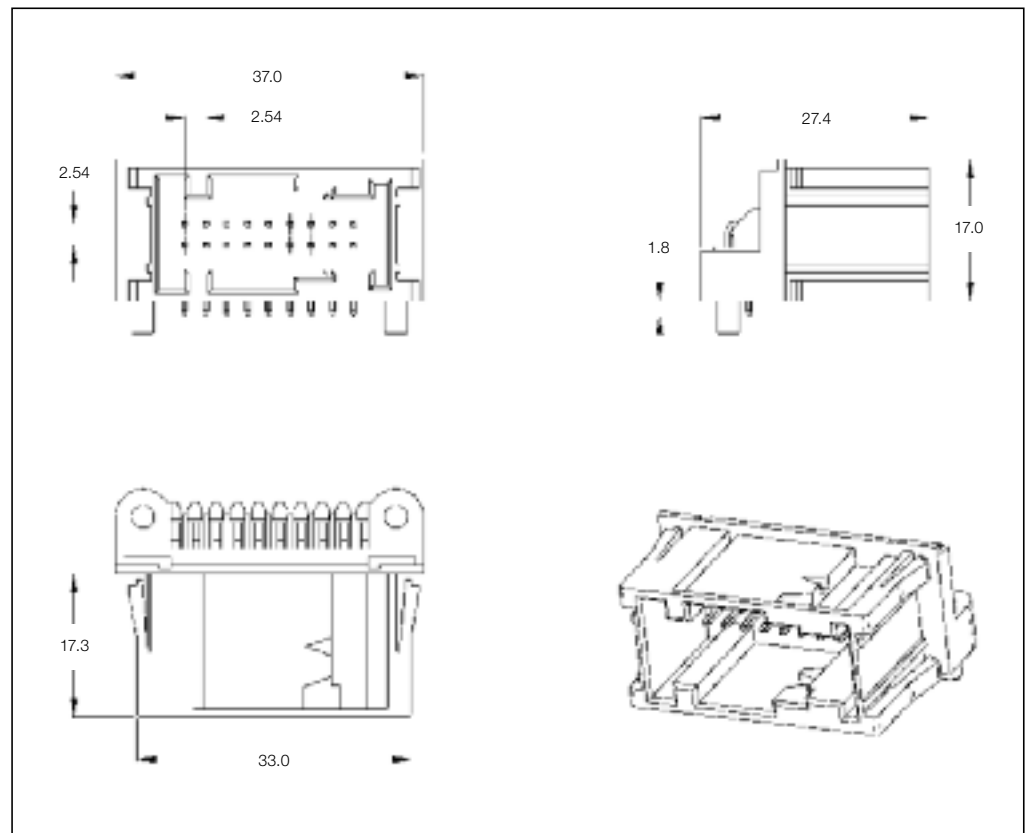
**Housing Material:**  
PCT GF30

**Material and Finish:**  
CuSn6, post tin plated

**Product Specification:**  
108-15151

**Product Drawing:**  
185680

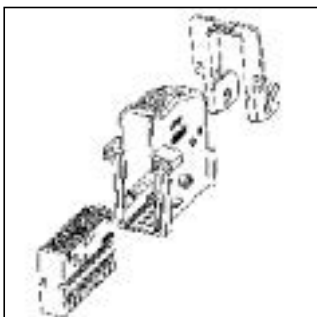
**Application Specification:**  
—



**18 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color  | Part Numbers |   |       |                 |                  |                     |
|-------------|----------------|----------------|--------------|---|-------|-----------------|------------------|---------------------|
|             |                |                | PCB Header   |   | Cover | Cover and Lever | Retainer Housing | Mating Counter Part |
| Right-Angle | Vertical       |                |              |   |       |                 |                  |                     |
| 18          | -              | Black (Trays)  | 1379731-1    | - | -     | -               | -                | 1379102-1           |
|             |                | White (Trays)  | 1379731-2    | - |       |                 |                  |                     |
|             |                | Blue (Trays)   | 1379731-3    | - |       |                 |                  |                     |
|             |                | Black (Sticks) | 6-1379731-1  | - |       |                 |                  |                     |
|             |                | White (Sticks) | 6-1379731-2  | - |       |                 |                  |                     |

**Mating Receptacle Housing**  
See Page 4-29



Printed Circuit Board Headers

**Technical Features**

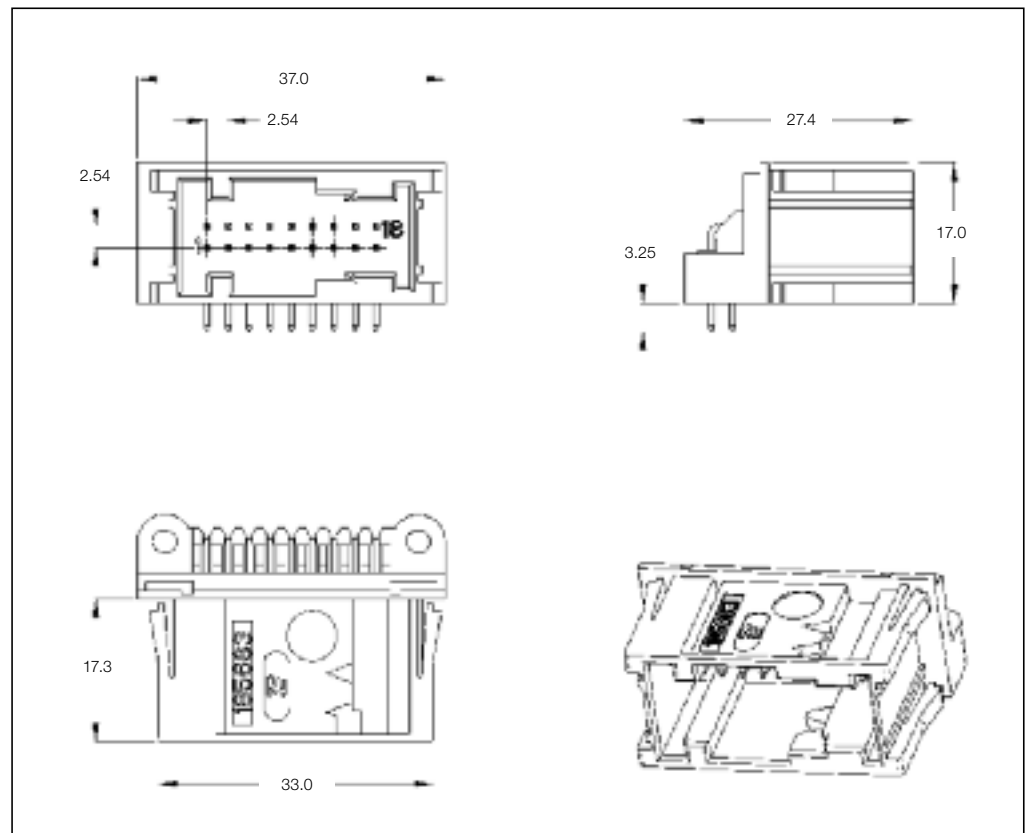
**No. of Positions:**  
18 Positions with Ears

**Housing Material:**  
PBT GF20

**Material and Finish:**  
CuSn6, post tin plated

**Product Specification:**  
108-15151

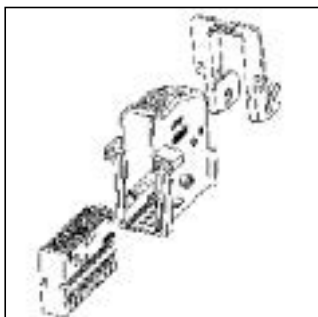
**Application Specification:**  
—



**18 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |          |       |                 |                  |                     |
|-------------|----------------|---------------|--------------|----------|-------|-----------------|------------------|---------------------|
|             |                |               | PCB Header   |          | Cover | Cover and Lever | Retainer Housing | Mating Counter Part |
|             |                |               | Right-Angle  | Vertical |       |                 |                  |                     |
| 18          | —              | Black         | 185683-1     | —        | —     | —               | —                | 1379102-1           |
|             |                | White         | 185683-2     | —        |       |                 |                  |                     |

**Mating Receptacle Housing**  
See Page 4-29



Printed Circuit Board Headers

**Technical Features**

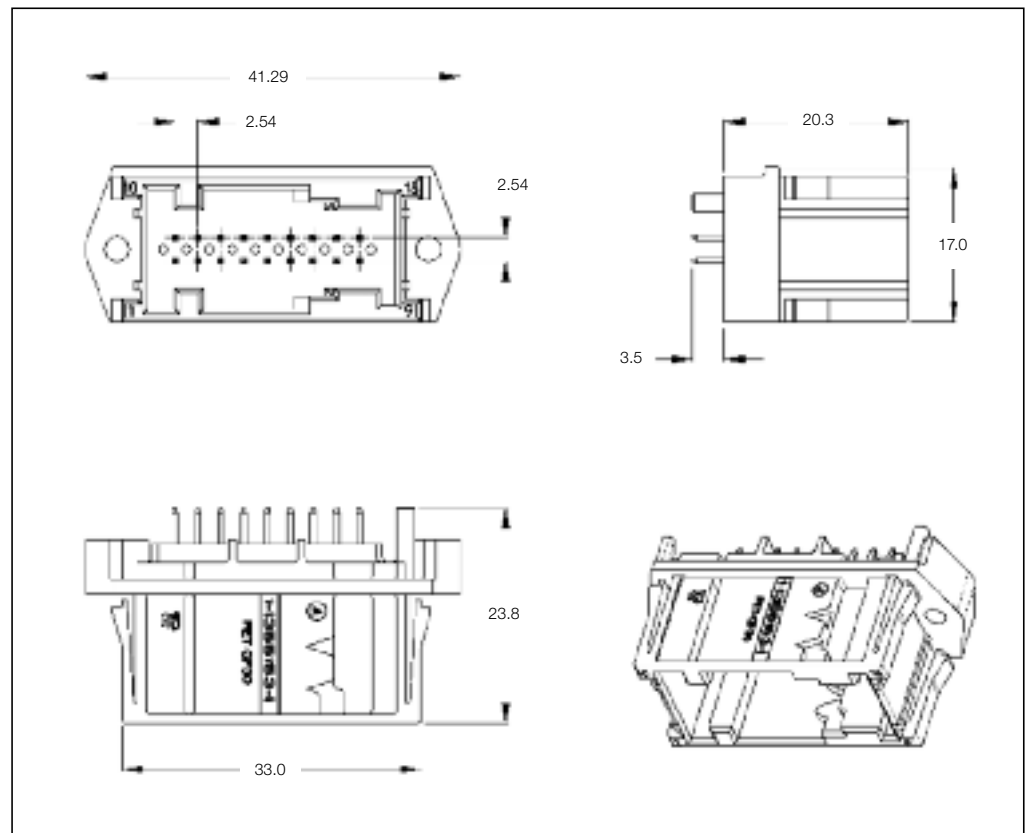
**No. of Positions:**  
18 Positions

**Housing Material:**  
PET GF30

**Material and Finish:**  
Sn over Ni, tin plated

**Product Specification:**  
108-18030

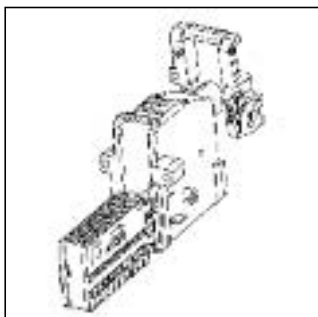
**Application Specification:**  
114-18021



**18 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                 |                  |                           |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 18          | A              | Black         | –                         | 1-1355154-1            |       |                 |                  |                           |
|             | B              | Natural       | –                         | 2-1355154-1            | –     | –               | –                | 1355348-1                 |
|             | B              | Natural       | –                         | 3-1355154-1            |       |                 |                  |                           |

**Mating Receptacle Housing**  
See Page 4-30



Printed Circuit Board Headers

**Technical Features**

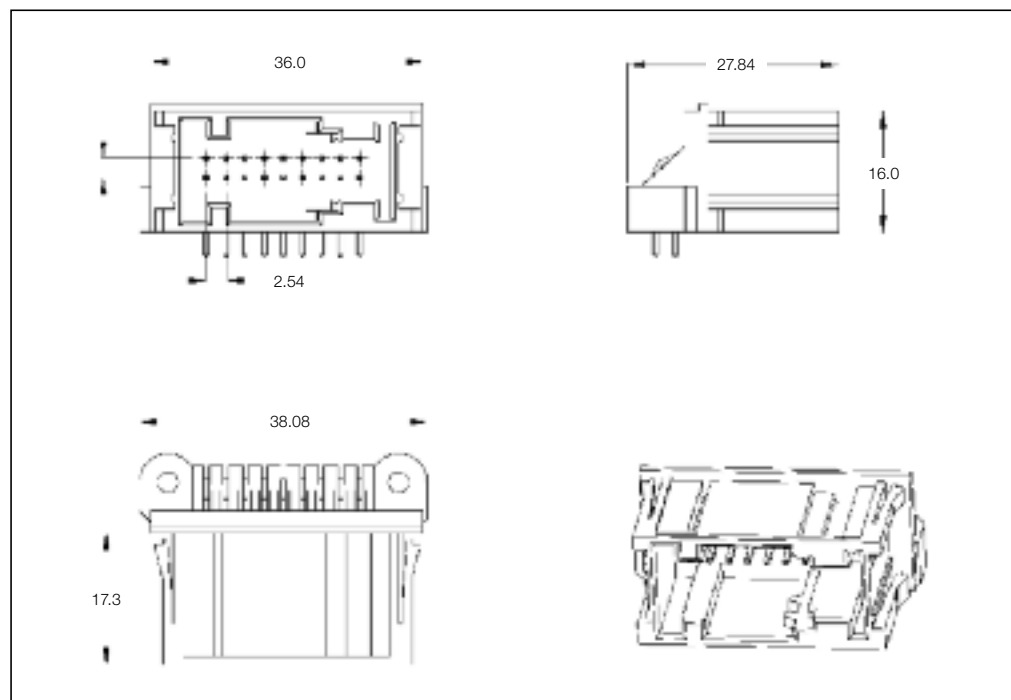
**No. of Positions:**  
18 Positions

**Housing Material:**  
PBT GF30

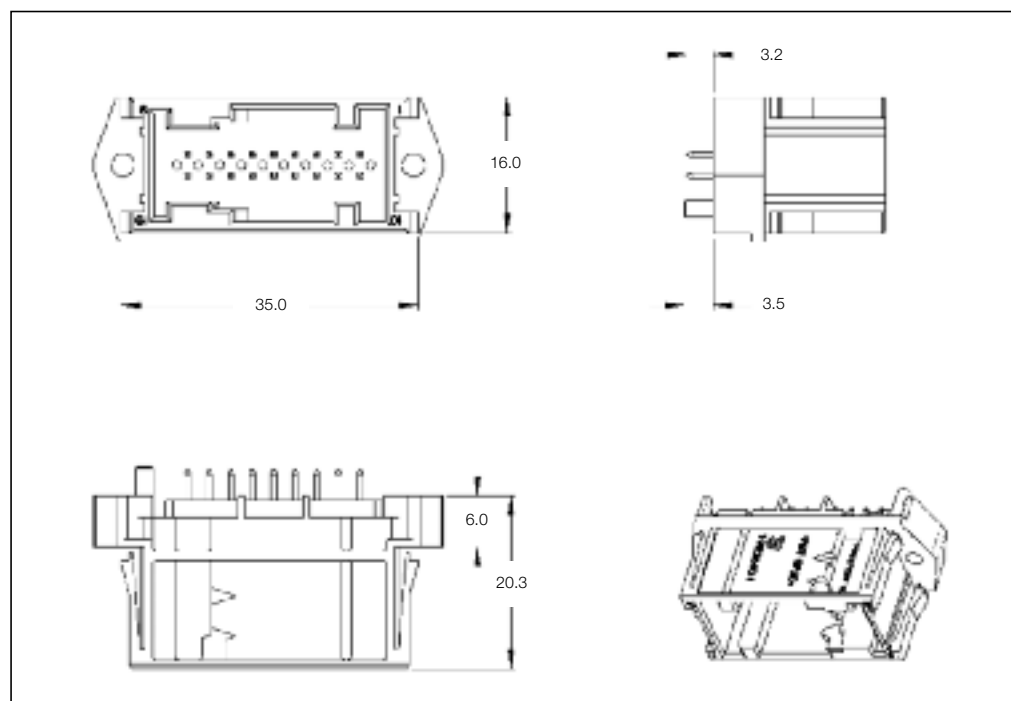
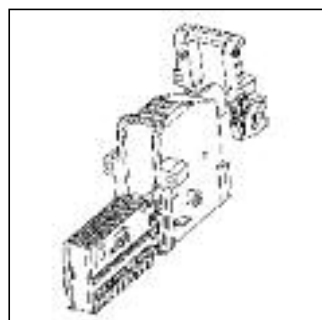
**Material and Finish:**  
CuFe, tin plated

**Product Specification:**  
108-18214

**Application Specification:**  
—



**Mating Header**  
See Page 4-30



**18 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 18          | F              | Black         | 1-963539-1             | 1-963540-1          | —     | —               | —                | 1355348-1                 |
|             |                |               | 1-963539-2             | —                   |       |                 |                  |                           |

Printed Circuit Board Headers

**Technical Features**

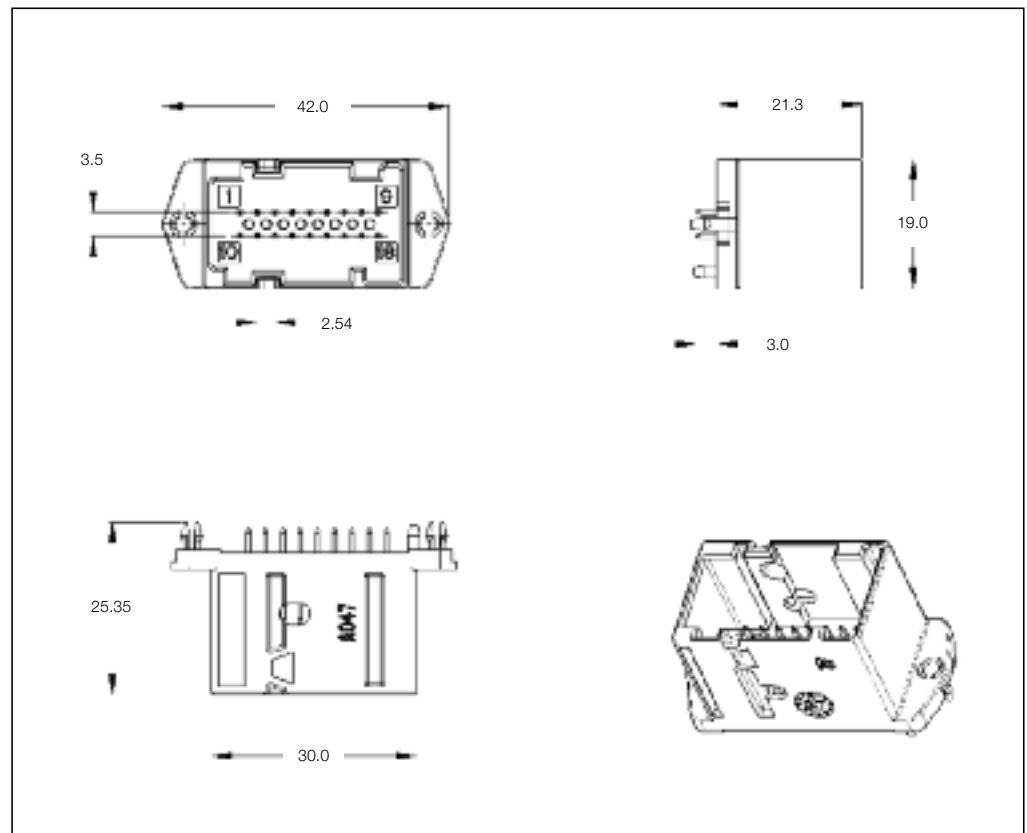
**No. of Positions:**  
18 Positions

**Housing Material:**  
PBT GF30

**Material and Finish:**  
CuZn, tin plated

**Product Specification:**  
—

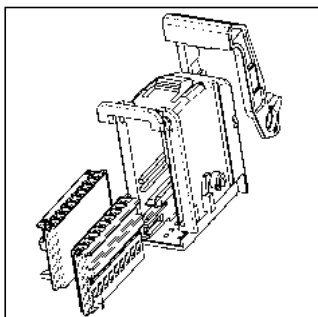
**Application Specification:**  
—



**18 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                 |                  |                              |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-----------------|------------------|------------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing | Mating<br>Receptacle Housing |
| 18          | —              | Black         | —                         | 953466-1               | —     | —               | —                | 284134-1                     |
|             |                | Gray          | —                         | 953466-2               |       |                 |                  |                              |

**Mating Receptacle Housing**  
See Page 4-31



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

18 Position Assembly

**Housing Material:**

PBT GF15

**Material and Finish:**

CuZn, tin plated

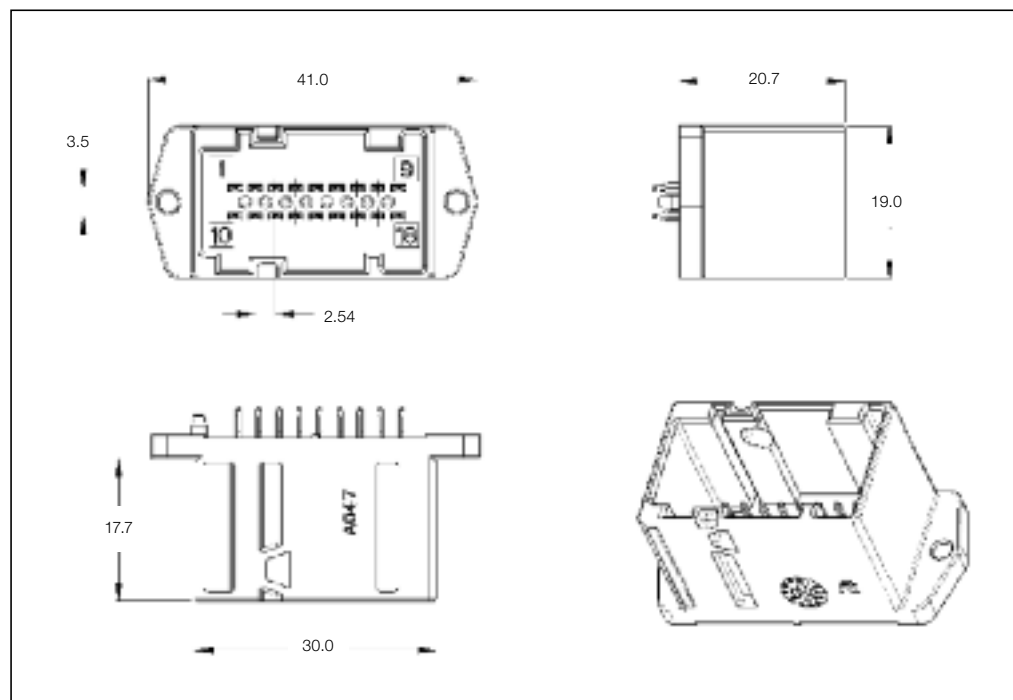
**Product Specification:**

108-20220

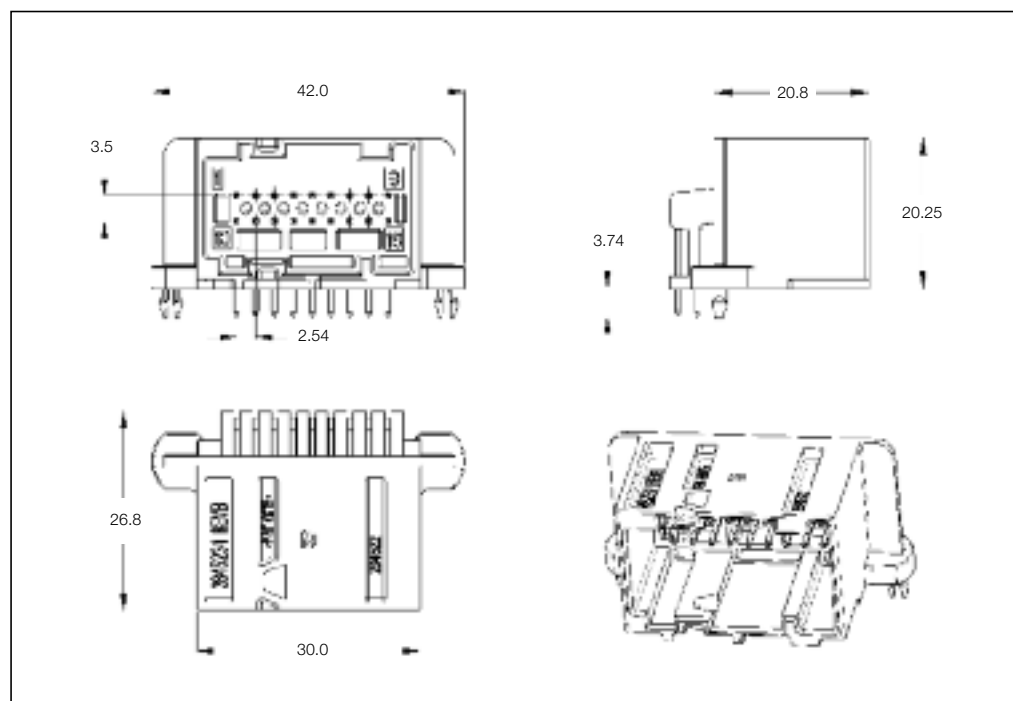
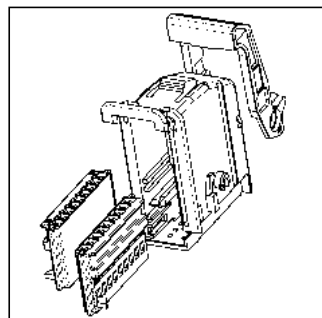
108-20224

**Application Specification:**

411-20056



**Mating Receptacle Housing**  
See Page 4-31



**18 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                                    |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing                   |
| 18          | —              | Black         | 284522-1               | 284582-1            | —     | —               | —                                  |
|             |                |               |                        |                     |       |                 | Mating Receptacle Housing 284134-1 |

Printed Circuit Board Headers

**Technical Features**

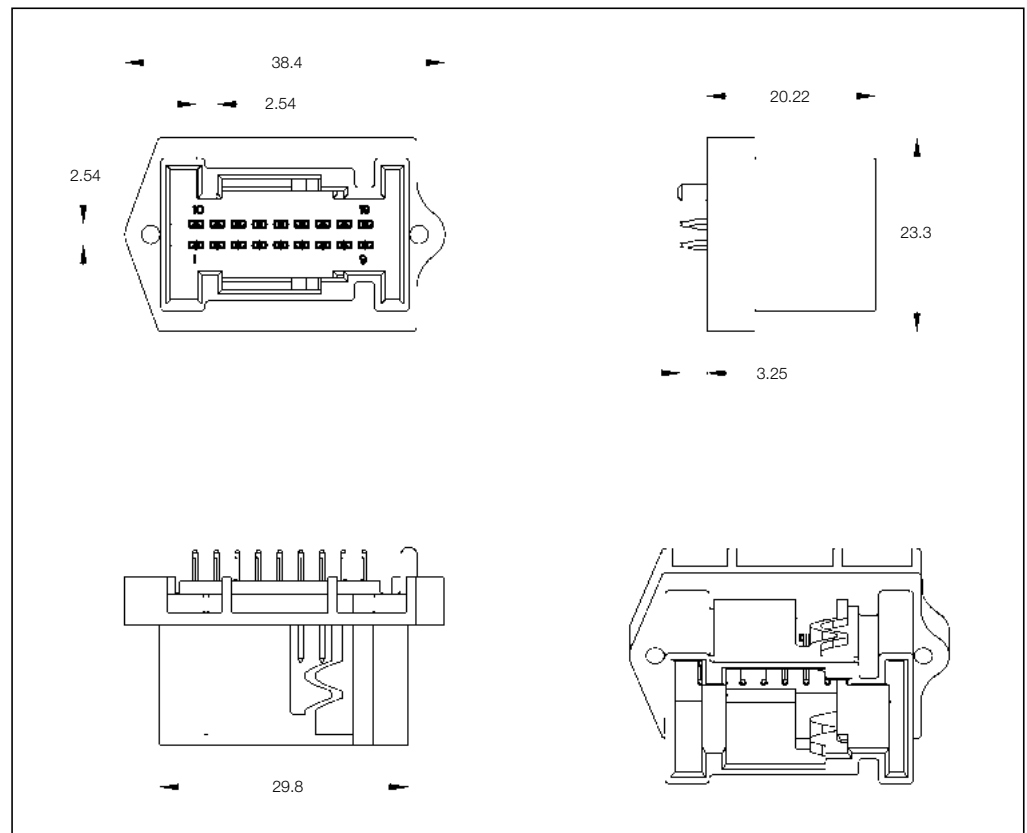
**No. of Positions:**  
18 Position ACTION PIN

**Housing Material:**  
PET GF30

**Material and Finish:**  
CuNiSi, tinned

**Product Specification:**  
108-15210

**Application Specification:**  
—



**18 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |       |                     |                              |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-------|---------------------|------------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer<br>Housing | Mating<br>Receptacle Housing |
| 18          | —              | Natural       | —                         | 967321-1               | —     | —     | —                   | —                            |

Printed Circuit Board Headers

**Technical Features**

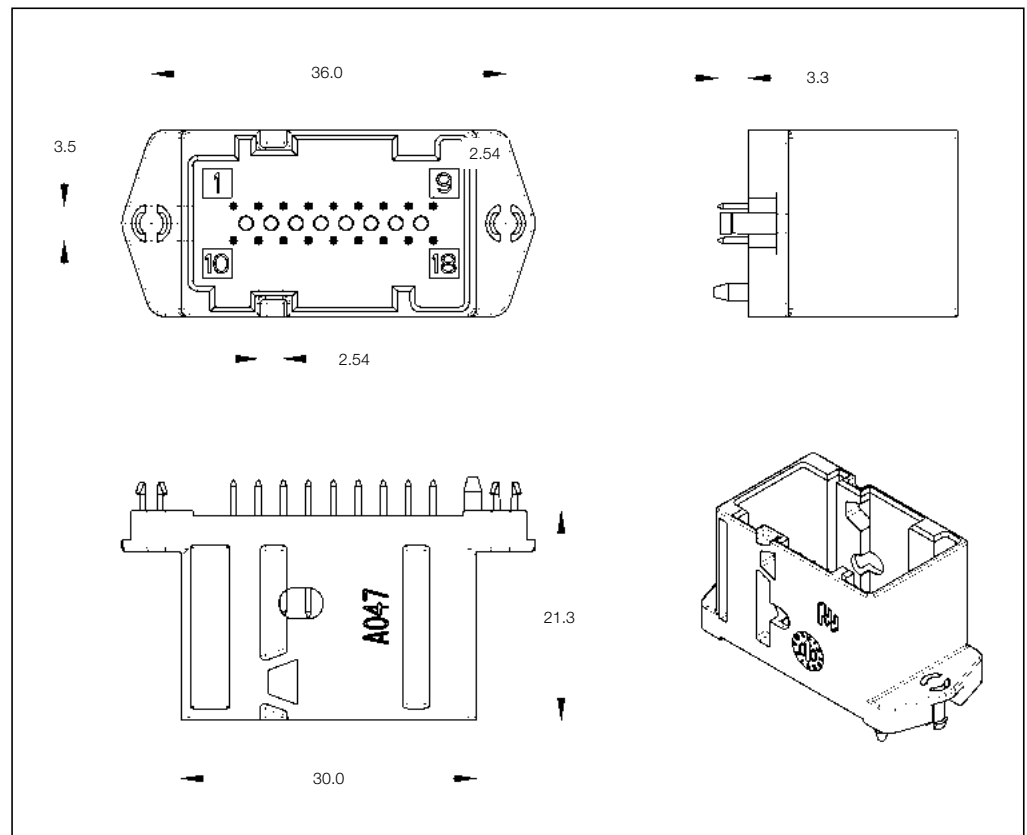
**No. of Positions:**  
18 Positions

**Housing Material:**  
SPS GF

**Material and Finish:**  
Bronze, tin plated

**Product Specification:**  
108-15210

**Application Specification:**  
—



**18 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |       |                     |                              |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-------|---------------------|------------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer<br>Housing | Mating<br>Receptacle Housing |
| 18          | —              | Black         | —                         | 1379040-1              | —     | —     | —                   | —                            |

Printed Circuit Board Headers

**Technical Features**

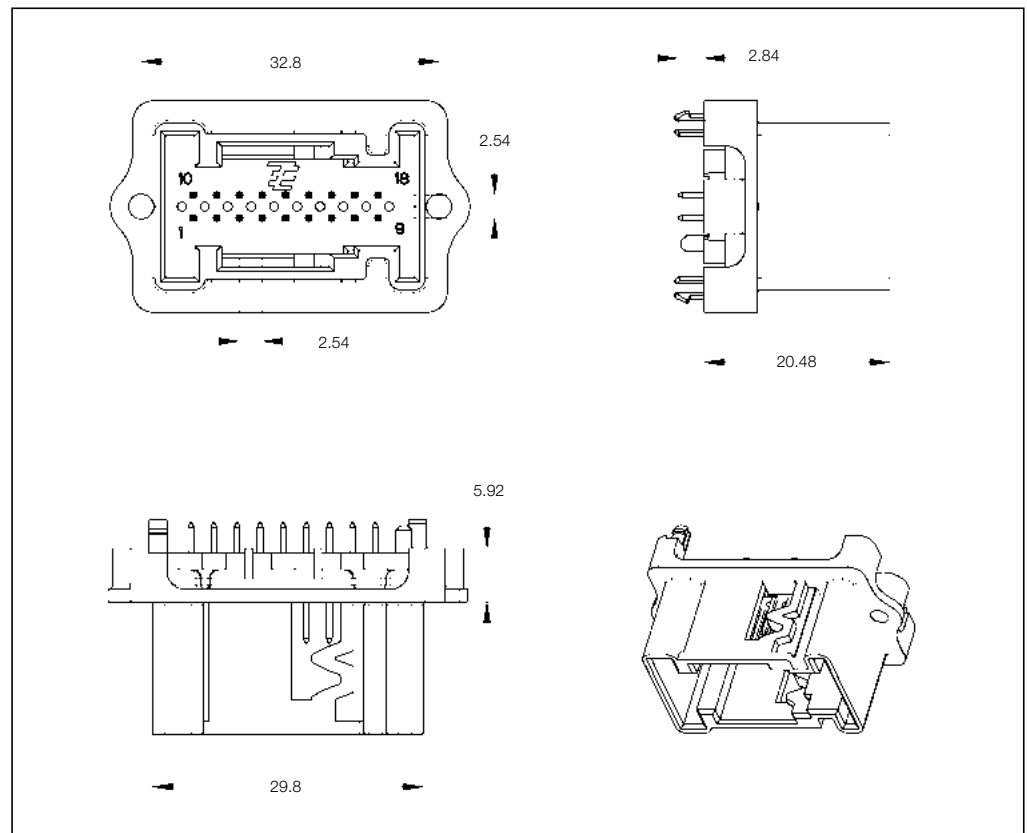
**No. of Positions:**  
18 Positions

**Housing Material:**  
PBT GF20

**Material and Finish:**  
Copper Alloy, tinned

**Product Specification:**  
—

**Application Specification:**  
—



**18 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |       |                  |                           |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 18          | A              | Black         | —                         | 967618-1               | —     | —     | —                | —                         |
|             | B              | Natural       | —                         | 967618-2               |       |       |                  |                           |
|             | A              | Black         | —                         | 967618-3               |       |       |                  |                           |
|             | B              | Natural       | —                         | 967618-4               |       |       |                  |                           |
|             | C              | Blue          | —                         | 3-967618-1             |       |       |                  |                           |
|             | C              | Blue          | —                         | 3-967618-2             |       |       |                  |                           |

Printed Circuit Board Headers

**Technical Features**

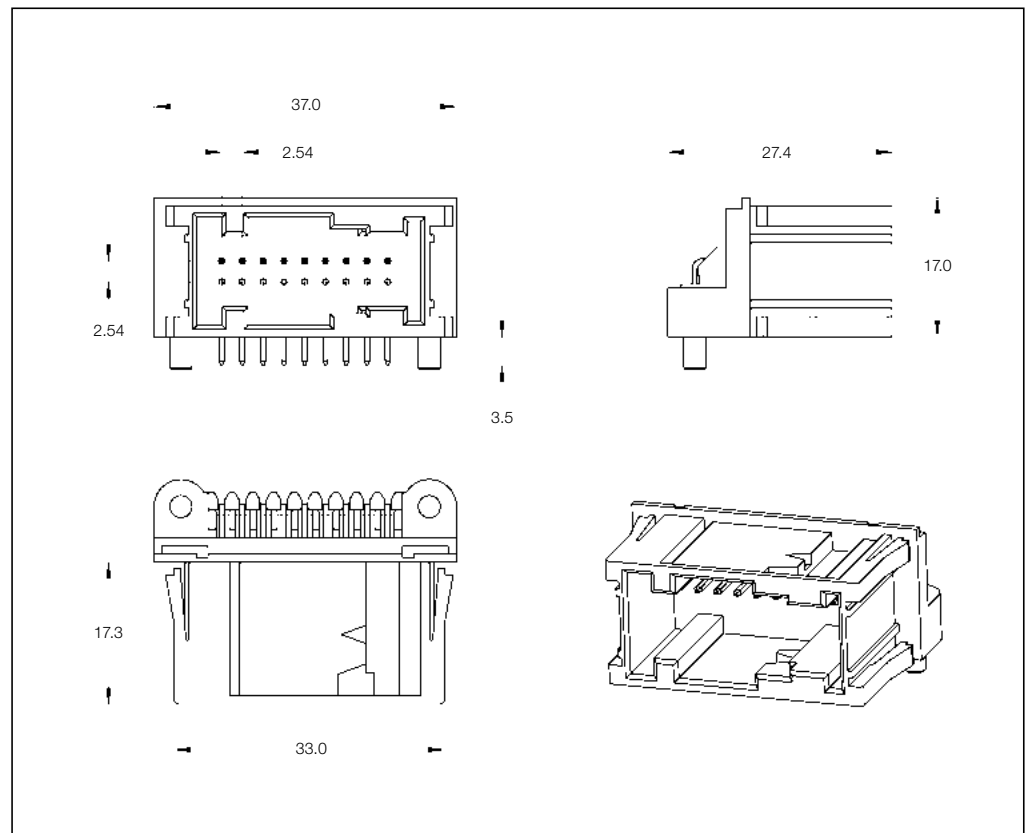
**No. of Positions:**  
18 Positions

**Housing Material:**  
PCT GF30

**Material and Finish:**  
Copper Alloy, tinned

**Product Specification:**  
—

**Application Specification:**  
—



**18 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |   |       |       |                  |                           |
|-------------|----------------|---------------|--------------|---|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |   | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| Right-Angle | Vertical       |               |              |   |       |       |                  |                           |
| 18          | -              | Black         | 1801065-1    | - | -     | -     | -                | -                         |
|             |                | White         | 1801065-2    | - |       |       |                  |                           |
|             |                | Black         | 1-1801065-1  | - |       |       |                  |                           |
|             |                | White         | 1-1801065-2  | - |       |       |                  |                           |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

18 Positions with Board Locks

**Housing Material:**

PET GF30

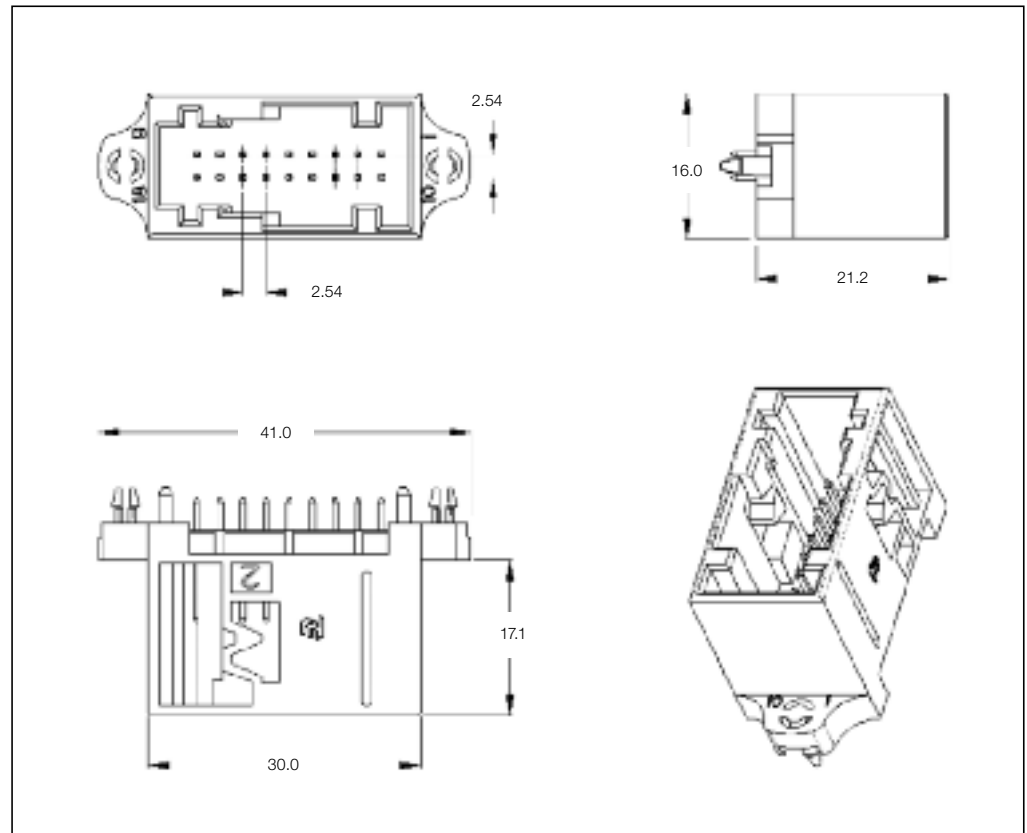
**Material and Finish:**

CuSn6, post tin plated

**Product Specification:**

108-15195

**Application Specification:**



**18 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color                | Part Numbers |            |       |                 |                  |                     |
|-------------|----------------|------------------------------|--------------|------------|-------|-----------------|------------------|---------------------|
|             |                |                              | PCB Header   |            | Cover | Cover and Lever | Retainer Housing | Mating Counter Part |
| Right-Angle | Vertical       |                              |              |            |       |                 |                  |                     |
| 18          | -              | White<br>(post no selective) | -            | 953264-1   | -     | -               | -                | -                   |
|             |                | White<br>(post selective)    | -            | 1-953264-1 |       |                 |                  |                     |
|             |                | Black<br>(post no selective) | -            | 953264-2   |       |                 |                  |                     |
|             |                | Black<br>(post selective)    | -            | 1-953264-2 |       |                 |                  |                     |

Printed Circuit Board Headers

**Technical Features**

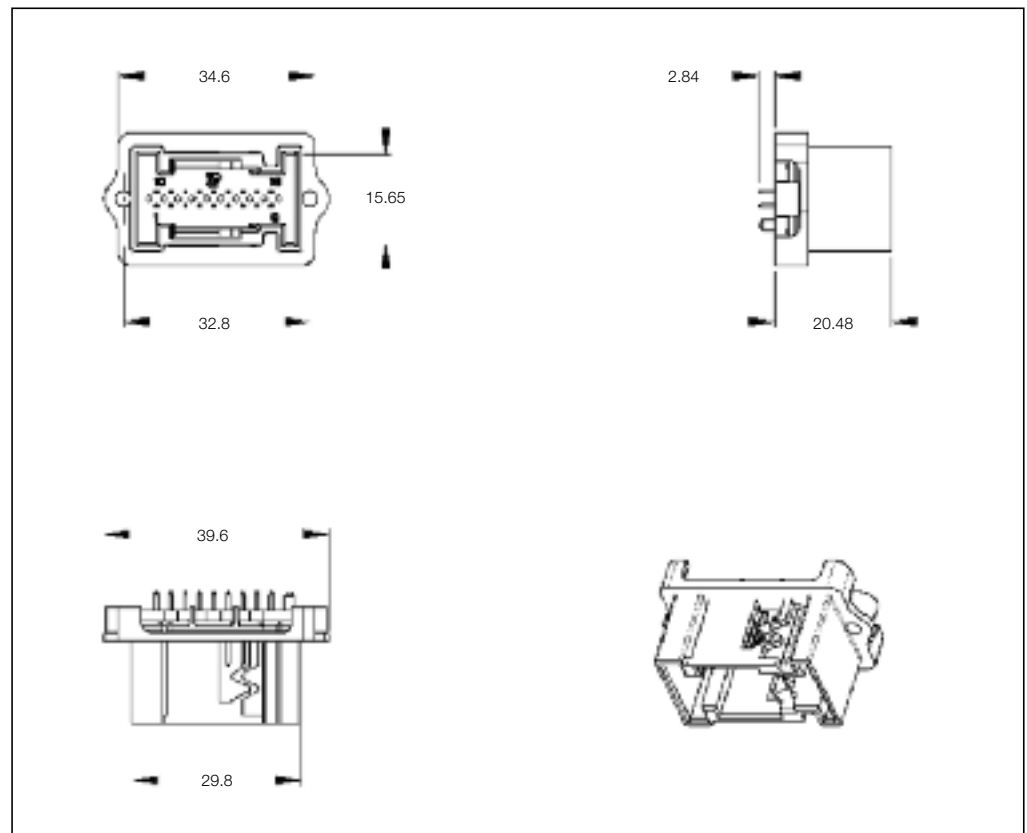
**No. of Positions:**  
18 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**18 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 18          | A              | Natural       | 967290-1     | —     | —     | —                | —                         |
|             | B              | Black         | 967290-2     | —     | —     | —                | —                         |

Receptacle Housings

**Technical Features**

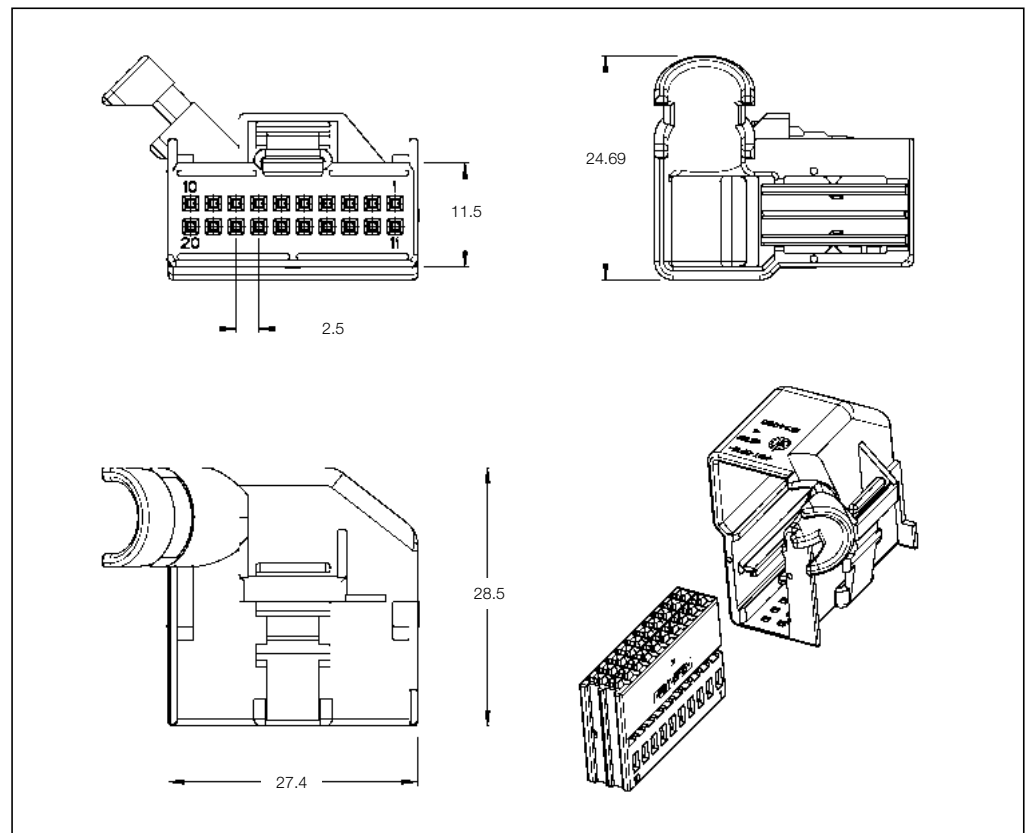
**No. of Positions:**  
20 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**20 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |                    |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|--------------------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover              | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 20          | —              | Black         | 1534102-1          | —                  | —     | —                | —                  | —                             | —                          |
|             | A              | Red           | —                  | 45°<br>1-1534095-1 | —     | —                | —                  | —                             | —                          |
|             | A              | Black         | —                  | 90°<br>1-1534099-1 | —     | —                | —                  | —                             | —                          |

Pin Housings

**Technical Features**

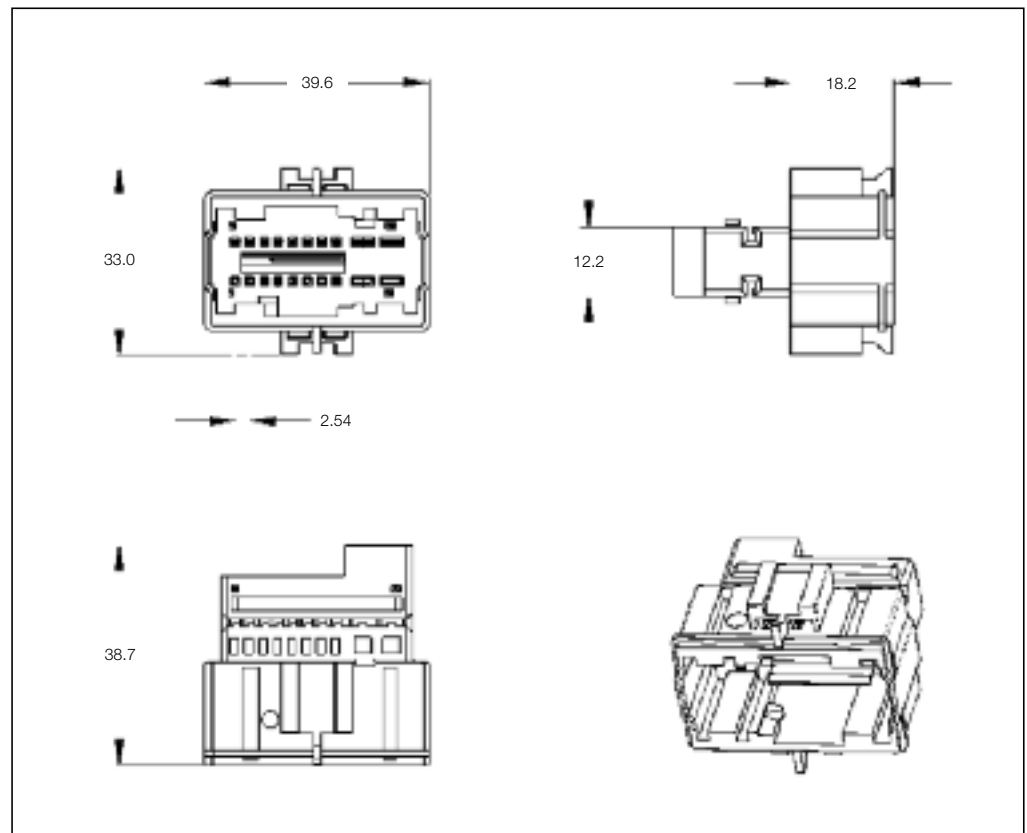
**No. of Positions:**  
20 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-15343

**Application Specification:**  
411-15698



**20 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 20          | –              | Yellow        | 1379913-1    | –     | –     | –                | –                         |
|             |                | Orange        | 1379913-2    |       |       |                  |                           |
|             |                | Yellow        | 1-1379913-1  |       |       |                  |                           |
|             |                | Orange        | 1-1379913-2  |       |       |                  |                           |

Pin Housings

**Technical Features**

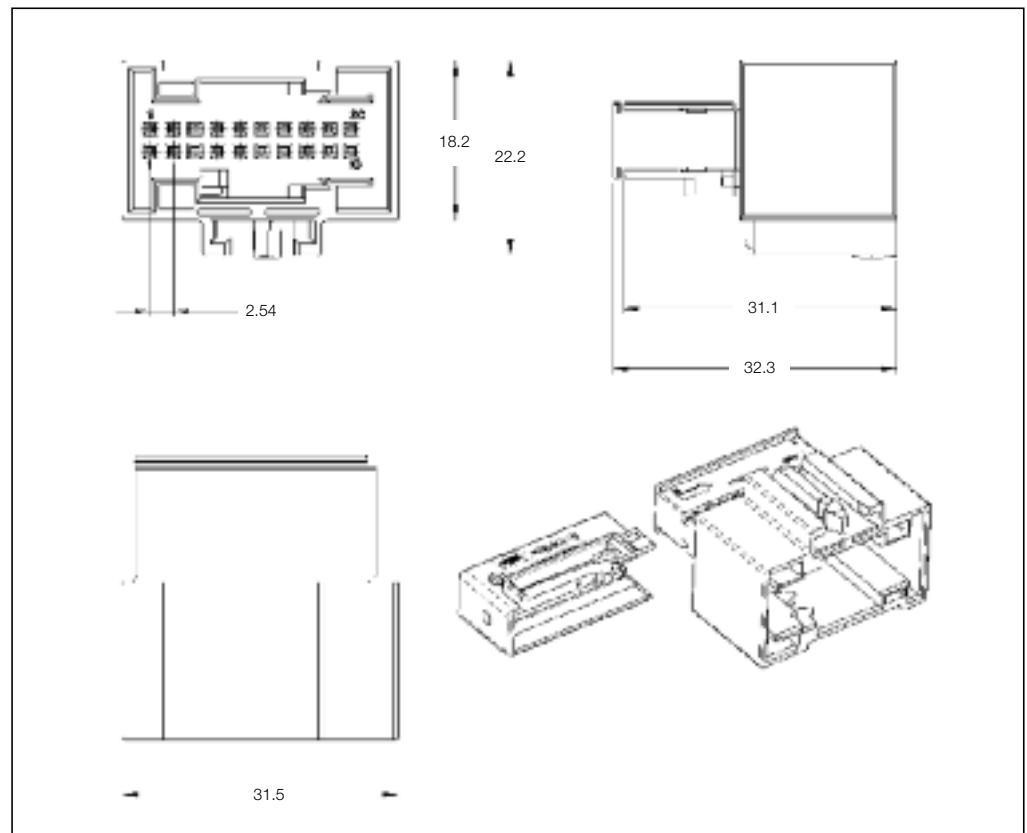
**No. of Positions:**  
20 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18267

**Application Specification:**  
—



**20 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |          |       |                  |                           |
|-------------|----------------|---------------|--------------|----------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover    | Lever | Retainer Housing | Mating Receptacle Housing |
| 20          | A              | Black         | 1-968684-1   | 968685-1 | —     | —                | —                         |

Pin Housings

**Technical Features**

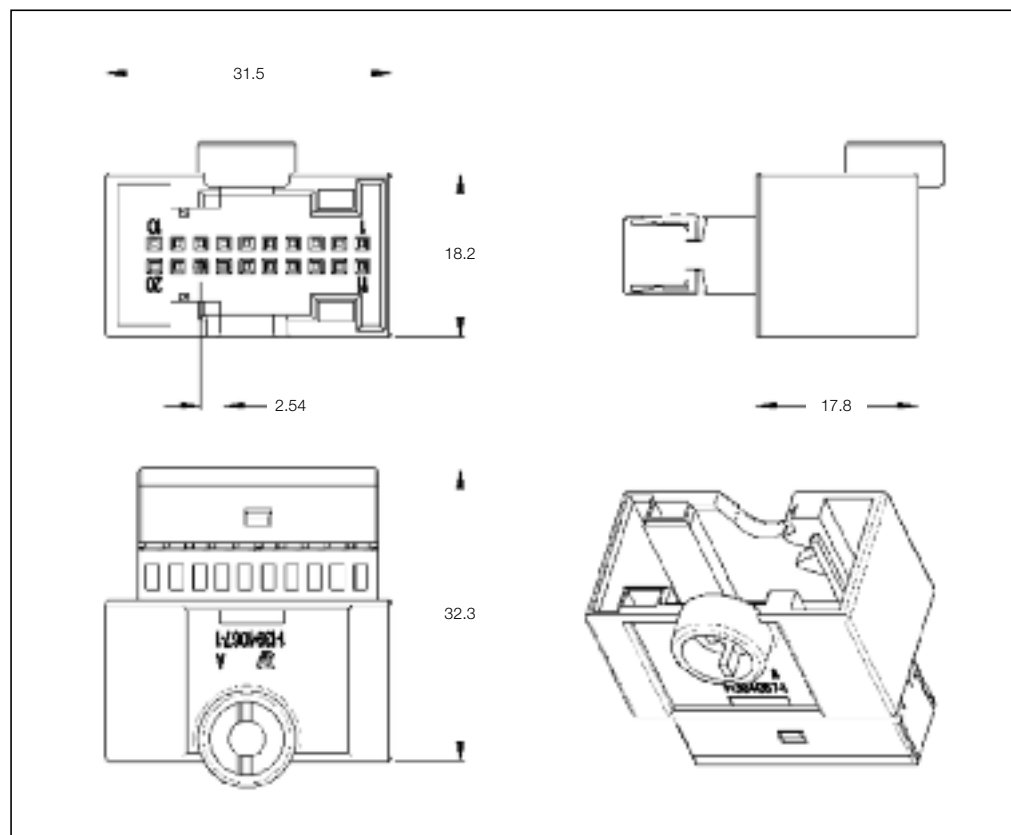
**No. of Positions:**  
20 Positions

**Housing Material:**  
PA66 GF13

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18267

**Application Specification:**  
—



**20 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 20          | —              | Black         | 1-1394067-1  | —     | —     | —                | —                         |
|             |                |               | 2-1394067-1  |       |       |                  |                           |

Printed Circuit Board Headers

**Technical Features**

**Application:**

Body Computer

**No. of Positions:**

20 Positions

**Housing Material:**

PA66 GF30

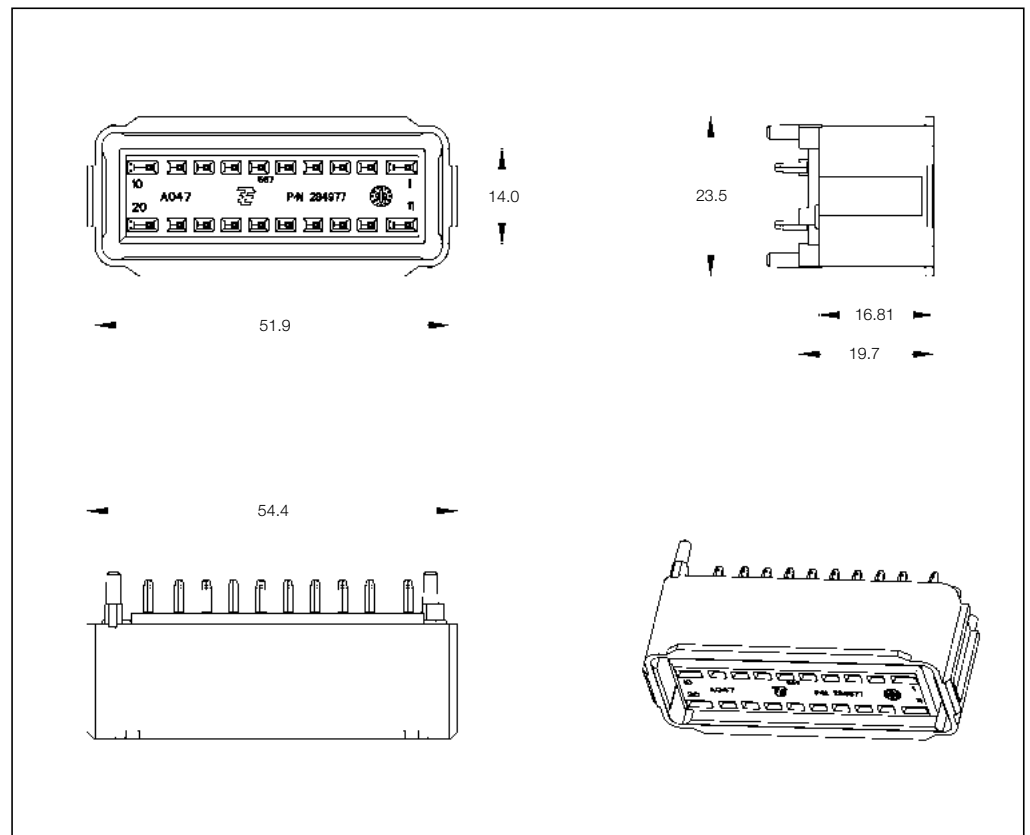
**Material and Finish:**

CuSn4, tin plated

**Product Specification:**

108-20206

**Application Specification:**



**20 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |       |                  |                           |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 20          | —              | Black         | —                         | 284977-1               | —     | —     | —                | —                         |

Printed Circuit Board Headers

**Technical Features**

**Application:**

Body Computer

**No. of Positions:**

20 Positions

**Housing Material:**

PA66 GF30

**Material and Finish:**

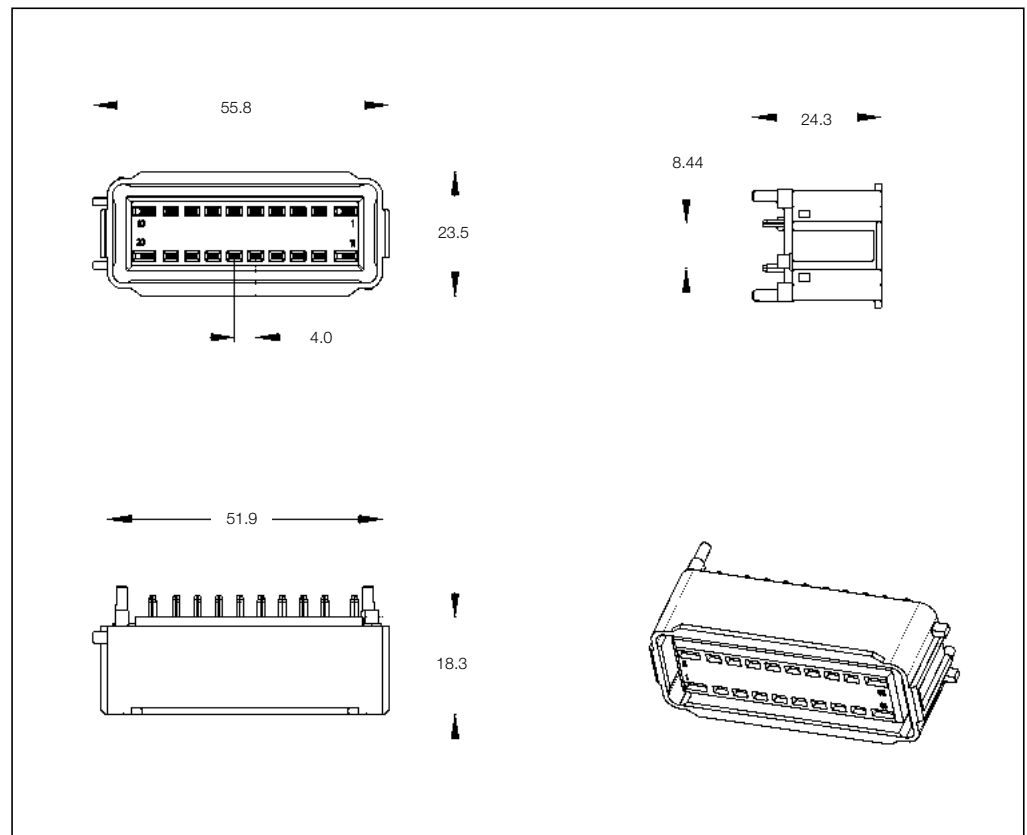
Cu Alloy, tin plated

**Product Specification:**

108-20208

**Application Specification:**

—



**20 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 20          | —              | Black         | —                      | 1599178-1           | —     | —     | —                | —                         |

Receptacle Housings

**Technical Features**

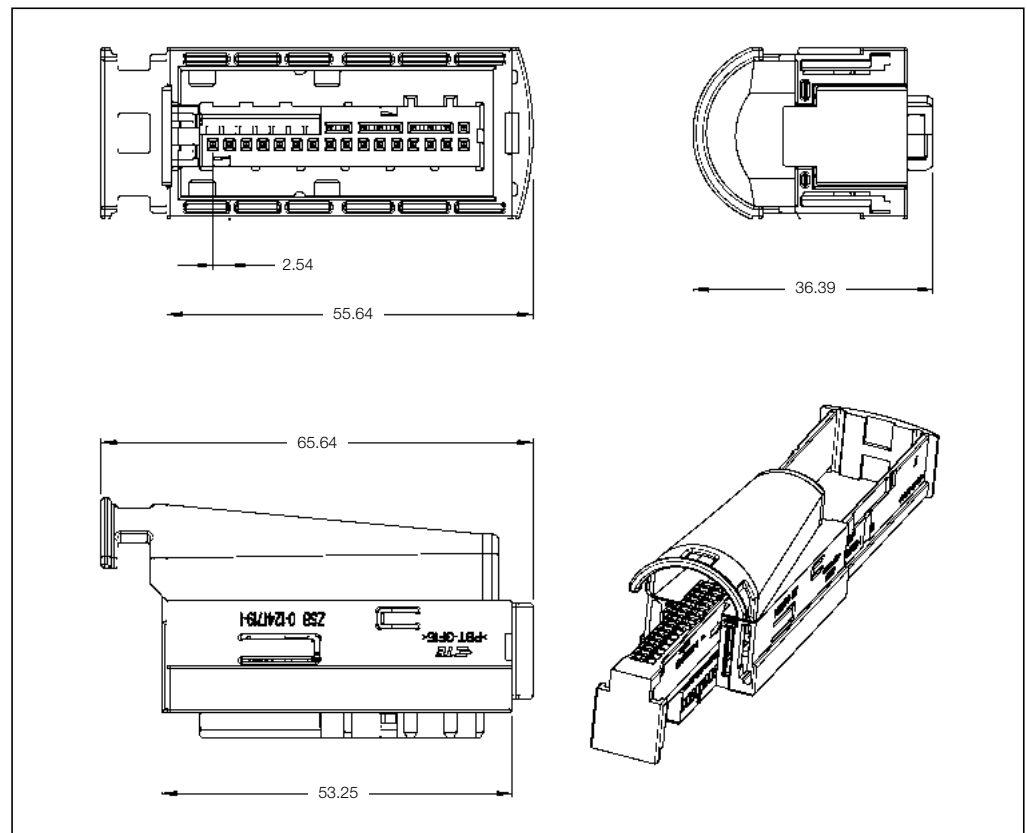
**No. of Positions:**  
22 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**22 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |           |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-----------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover     | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 22          | —              | Yellow        | 1241726-1          | —         | —     | —                | —                  | —                             | —                          |
|             |                | Black         | —                  | 1241719-1 | —     | —                | —                  | —                             | —                          |

Receptacle Housings

**Technical Features**

**Application:**  
Airbag

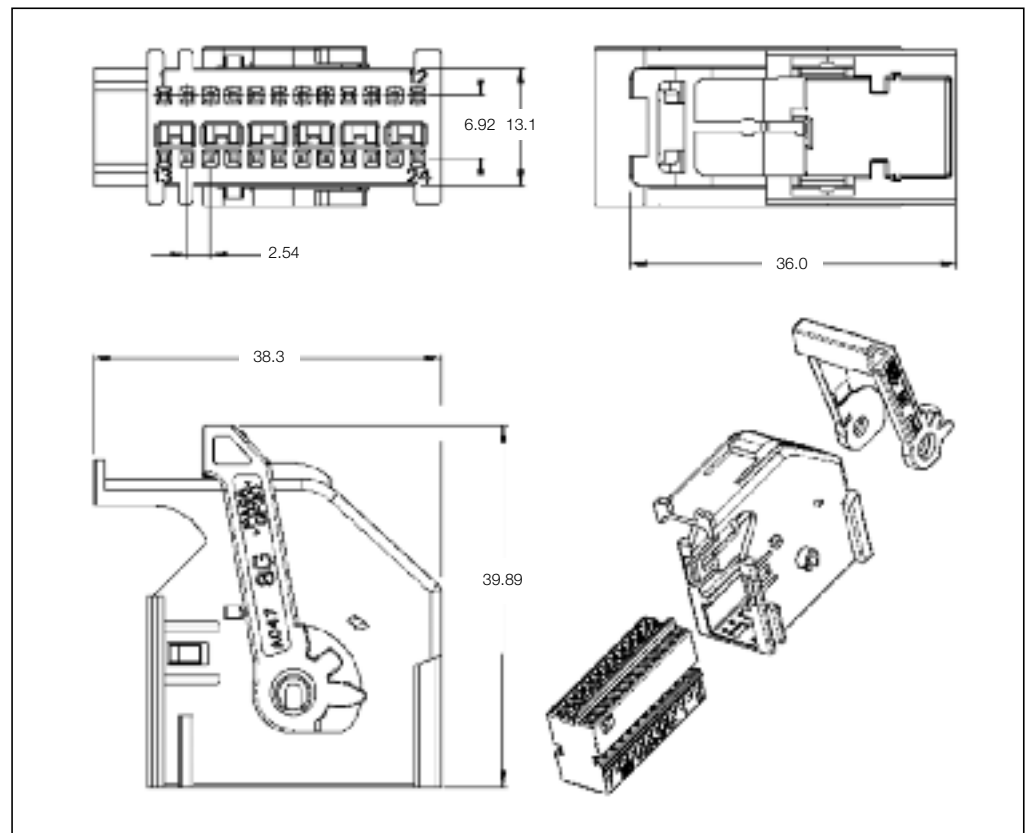
**No. of Positions:**  
24 Position Assembly

**Housing Material:**  
PA66 GF13

**Wire Size Range:**  
0.35–0.5 mm<sup>2</sup>

**Product Specification:**  
108-20202

**Application Specification:**  
411-20054



**24 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 24          | A              | Black         | 284223-4           |       |                |                 |                  |                    |                               |          |
|             | B              | Gray          | 284223-3           |       |                |                 |                  |                    |                               |          |
|             | C              | Brown         | 284223-5           | –     | –              | –               | –                | –                  | –                             | –        |
|             | D              | Blue          | 284223-6           |       |                |                 |                  |                    |                               |          |
|             | AD-Ab          | White         | 284223-7           |       |                |                 |                  |                    |                               |          |

Receptacle Housings

**Technical Features**

**Application:**  
Airbag

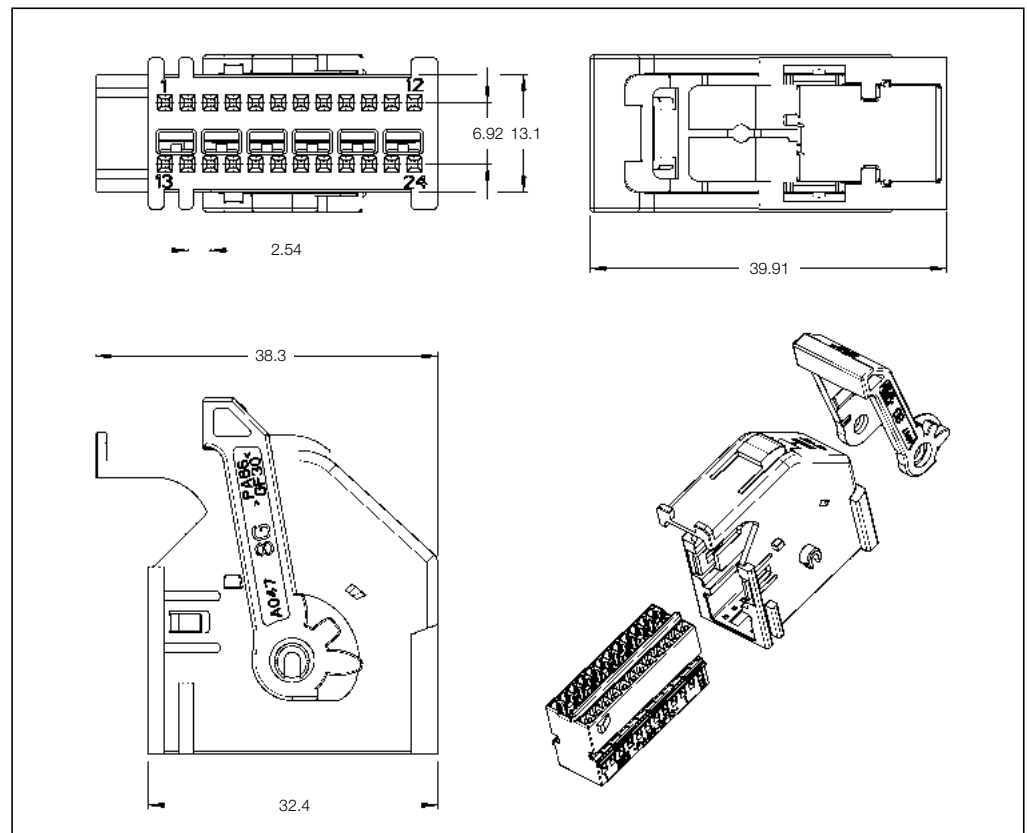
**No. of Positions:**  
24 Positions

**Housing Material:**  
PA66 GF13

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-20202

**Application Specification:**  
114-15077



**24 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|----------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover    | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 24          | –              | Gray          | 284224-1           | 284714-1 | –     | –                | –                  | –                             | –                          |
|             |                | Black         | 284224-2           | 284714-2 |       |                  |                    |                               |                            |
|             |                | Brown         | 284224-5           | 284714-3 |       |                  |                    |                               |                            |
|             |                | Blue          | 284224-6           | 284714-4 |       |                  |                    |                               |                            |

Receptacle Housings

**Technical Features**

**Application:**  
Airbag Kit

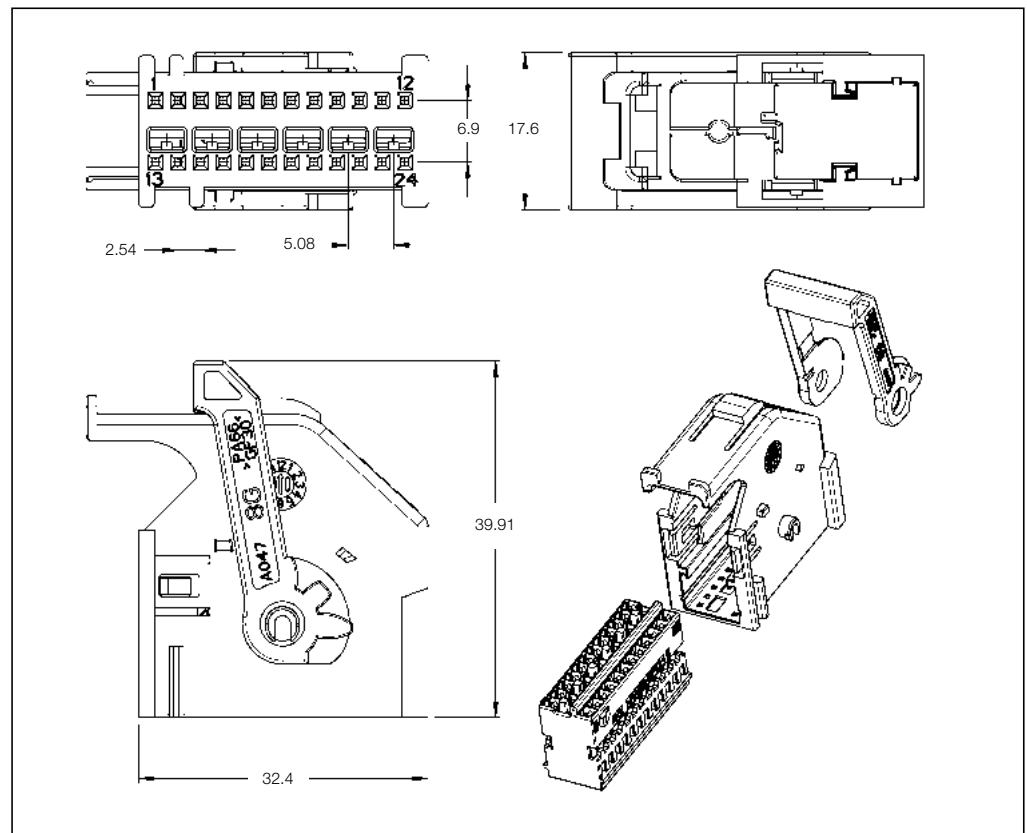
**No. of Positions:**  
24 Positions

**Housing Material:**  
PA66 GF13

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-20202

**Application Specification:**  
114-15077



**24 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 24          | –              | Green         | 1745034-1          | –     | –     | –                | –                  | –                             | –                          |
|             |                | Orange        | 1745034-2          |       |       |                  |                    |                               |                            |
|             |                | Violet        | 1745034-3          |       |       |                  |                    |                               |                            |
|             |                | Yellow        | 1745034-4          |       |       |                  |                    |                               |                            |
|             |                | Pink          | 1745034-5          |       |       |                  |                    |                               |                            |

Printed Circuit Board Headers

**Technical Features**

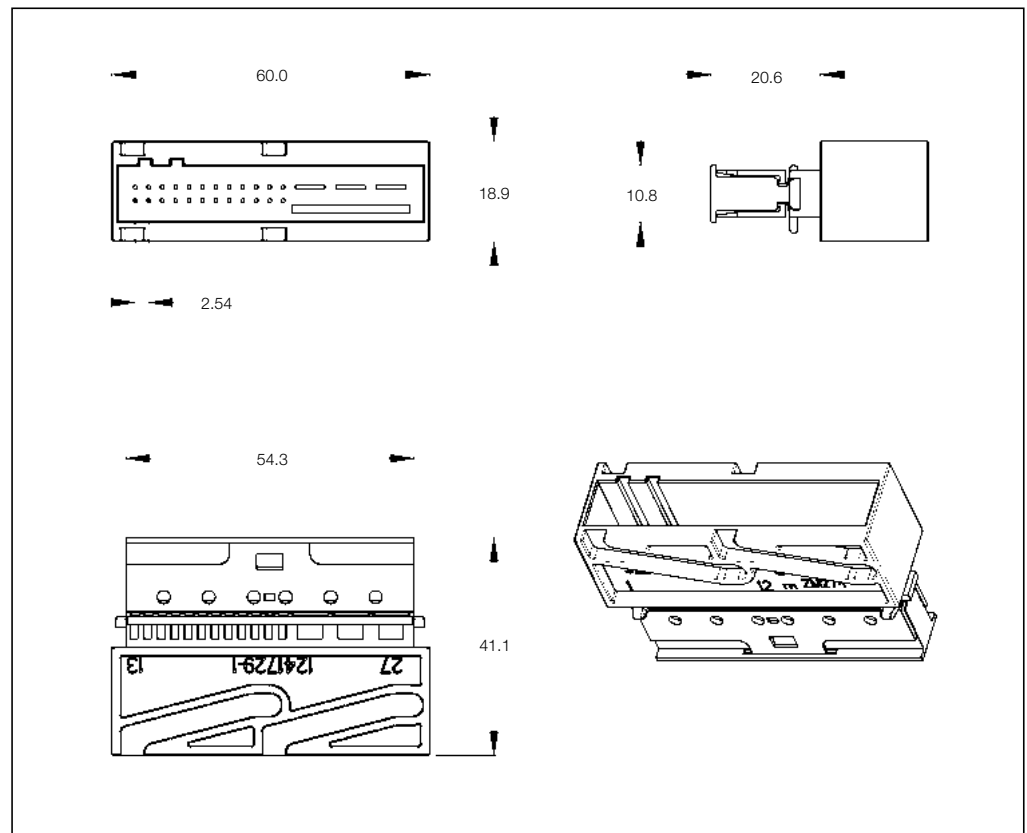
**No. of Positions:**  
24 Positions

**Housing Material:**  
PA66 GF13

**Material and Finish:**  
See customer drawing

**Product Specification:**  
—

**Application Specification:**  
—



**24 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |           |                             |       |                  |                           |
|-------------|----------------|---------------|--------------|-----------|-----------------------------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |           | Cover                       | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical  |                             |       |                  |                           |
| 24          | —              | Black         | —            | 1241729-1 | Cable out 90°<br>1452690-1  | —     | —                | —                         |
|             |                |               |              |           | Cable out 180°<br>1355543-1 |       |                  |                           |

Receptacle Housings

**Technical Features**

**No. of Positions:**

26 Positions (1<sup>st</sup> Generation)

**Housing Material:**

PBT GF20

**Wire Size Range:**

0.35–0.75 mm<sup>2</sup>

**Product Specifications:**

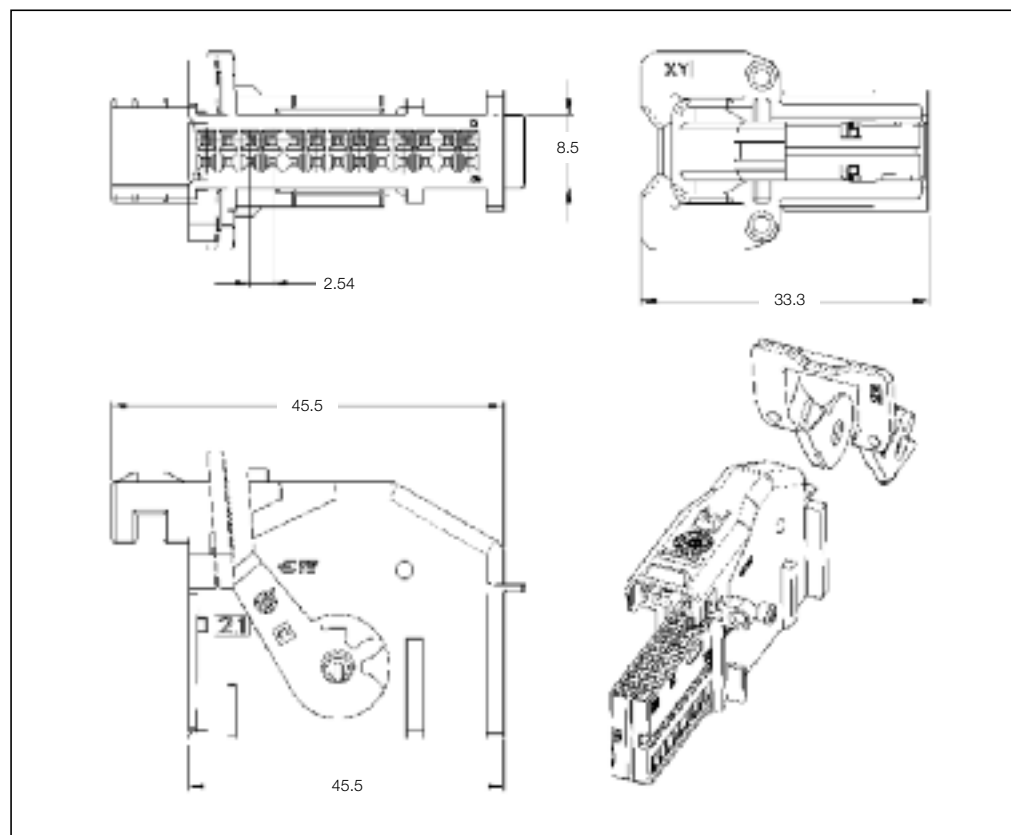
108-15090 Cover + Rec. Housing

108-15134 Locking Device

**Application Specifications:**

411-15511 Receptacle Housing

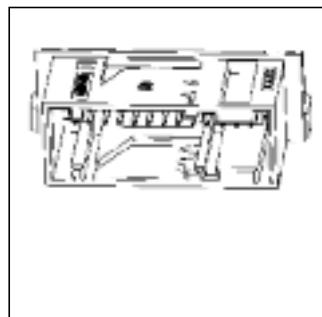
411-15554 Locking Device



**26 Position Receptacle Housings**

| No. of Pos.                          | Keying Options | Housing Color | Part Numbers       |          |                |                 |                  |                    |                               |                            |  |
|--------------------------------------|----------------|---------------|--------------------|----------|----------------|-----------------|------------------|--------------------|-------------------------------|----------------------------|--|
|                                      |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |  |
| 26                                   | –              | Black         | 144935-1           | –        | 144936-1       | –               | –                | 953736-1           | 185890-1                      | 185226-1                   |  |
|                                      |                | Yellow        | –                  | 144934-1 | –              | –               | –                | –                  | 185534-1                      | 185454-1                   |  |
|                                      |                | Blue          | –                  | 144934-2 | –              | –               | –                | –                  | 185904-1                      | 144930-1                   |  |
|                                      |                |               |                    |          |                |                 |                  |                    |                               | 953236-1                   |  |
|                                      |                |               |                    |          |                |                 |                  |                    |                               | 953472-1                   |  |
| For application see customer drawing |                |               |                    |          |                |                 |                  |                    |                               |                            |  |

**Mating Headers**  
See Page 5-14–5-19



Receptacle Housings

**Technical Features**

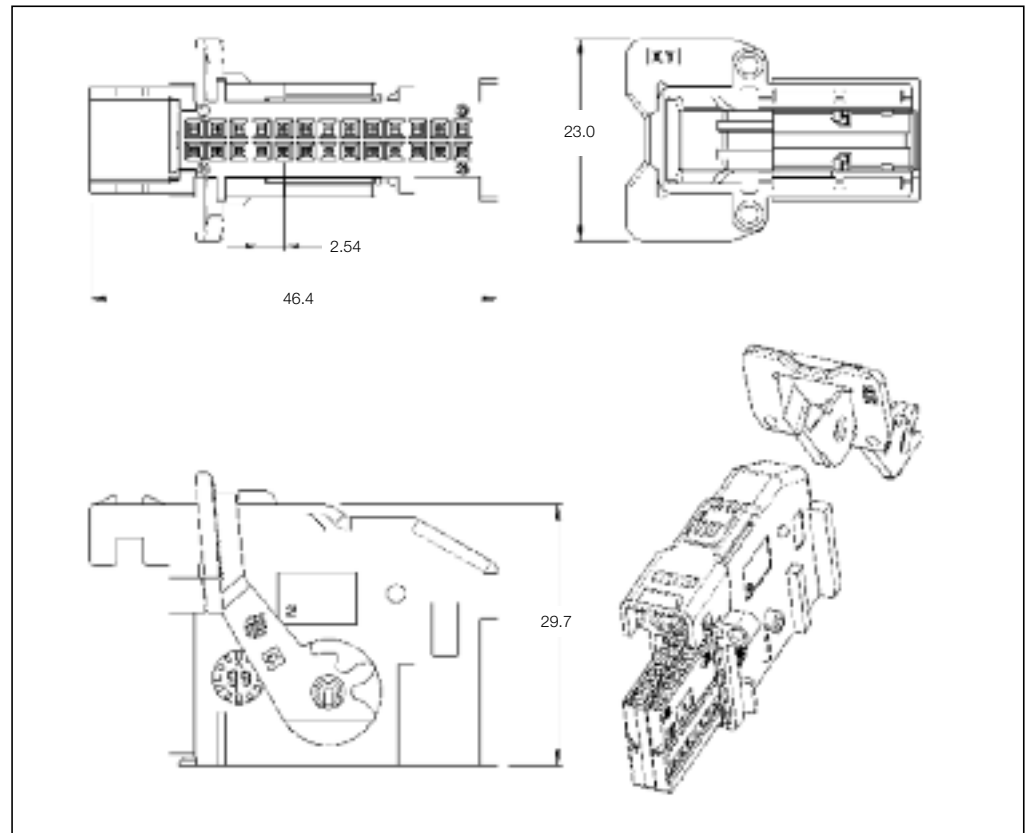
**No. of Positions:**  
26 Positions (2<sup>nd</sup> Generation)

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.35–0.75 mm<sup>2</sup>

**Product Specification:**  
108-15158

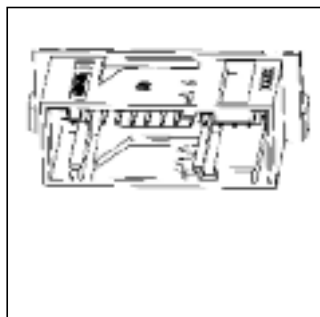
**Application Specification:**  
411-15581



**26 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                  |                    |                                      | Mating PCB Header Right-Angle | Header Vertical |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|------------------|--------------------|--------------------------------------|-------------------------------|-----------------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing |                                      |                               |                 |
| 26          | –              | Black         | 185875-1           | –        | –              | –               | –                | –                  | 185890-1                             | 185454-1                      |                 |
|             |                | Yellow        | –                  | 185879-1 | –              | –               | –                | 953736-1           | 185534-1                             | 144930-1                      |                 |
|             |                | Blue          | –                  | 185879-2 | –              | –               | –                | 953736-2           | 185904-1                             | 953236-1                      |                 |
|             |                | Red           | –                  | 185879-3 | –              | –               | –                | 953736-3           |                                      | 953472-1                      |                 |
|             |                | Green         | –                  | 185879-4 | –              | –               | –                | 953736-4           | For application see customer drawing |                               |                 |

**Mating Headers**  
See Page 5-14–5-19



Receptacle Housings

**Technical Features**

**No. of Positions:**

26 Positions  
for MQS / AMP MCP 2.8

**Housing Material:**

PA6/GB20 GF10

**Wire Size Range:**

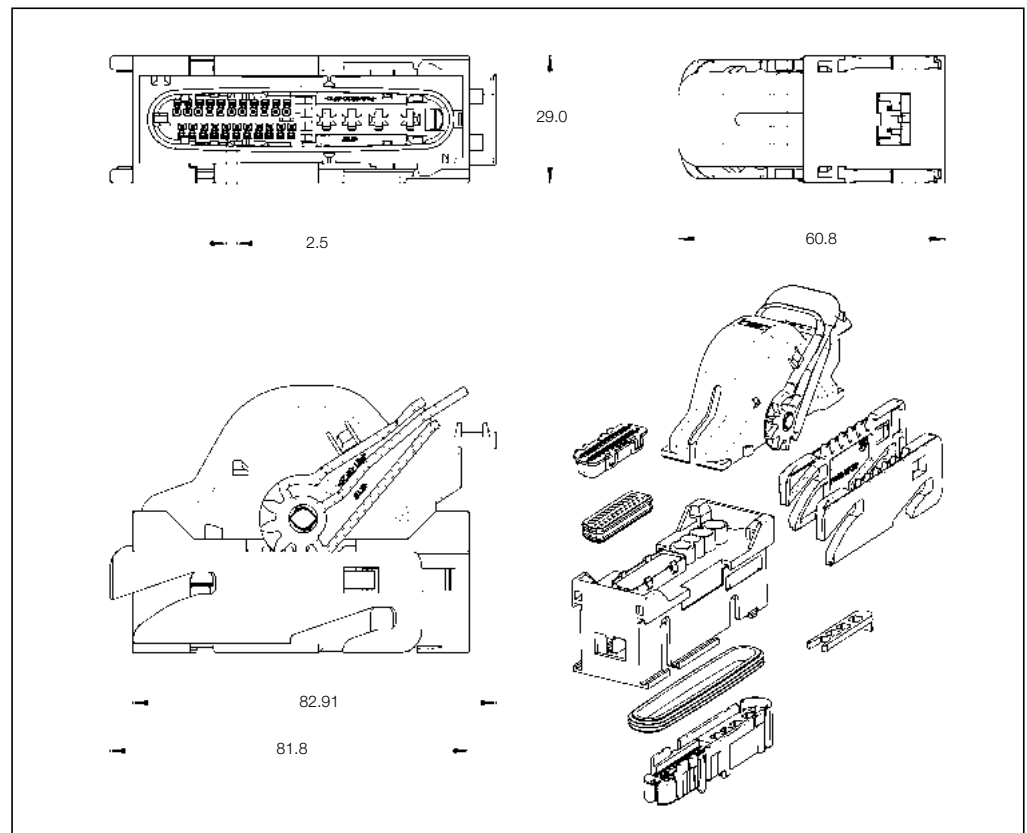
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**26 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |           |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-----------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover     | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 26          | —              | Black         | 1897344-2          | 1897352-2 | —     | 1897355-3        | —                  | —                             | —                          |

Receptacle Housings

**Technical Features**

**No. of Positions:**

52 Positions (2 x 26)

**Housing Material:**

PBT GF15

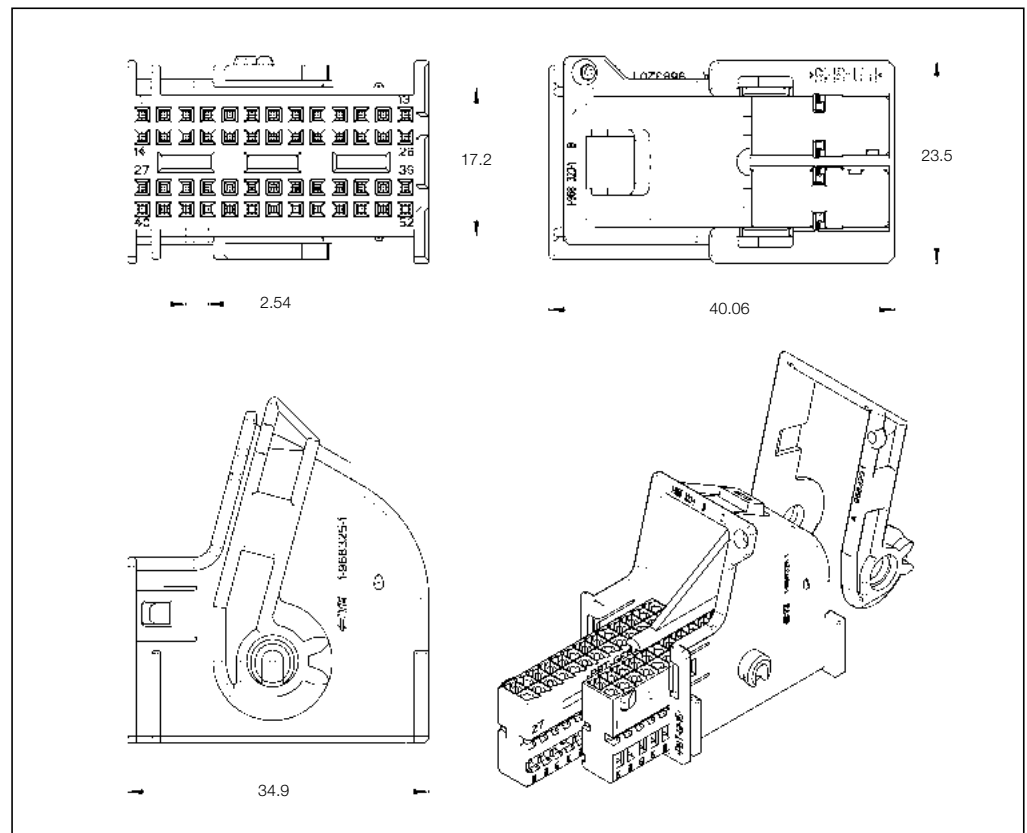
**Wire Size Range:**

0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-18400

**Application Specification:**



**26 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |            |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|------------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover      | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 26          | —              | Black         | 1-968326-1         | 1-968325-3 | —     | —                | —                  | —                             | —                          |
| 26          | —              | Gray          | 2-968326-1         | —          | —     | —                | —                  | —                             | —                          |

Receptacle Housings

**Technical Features**

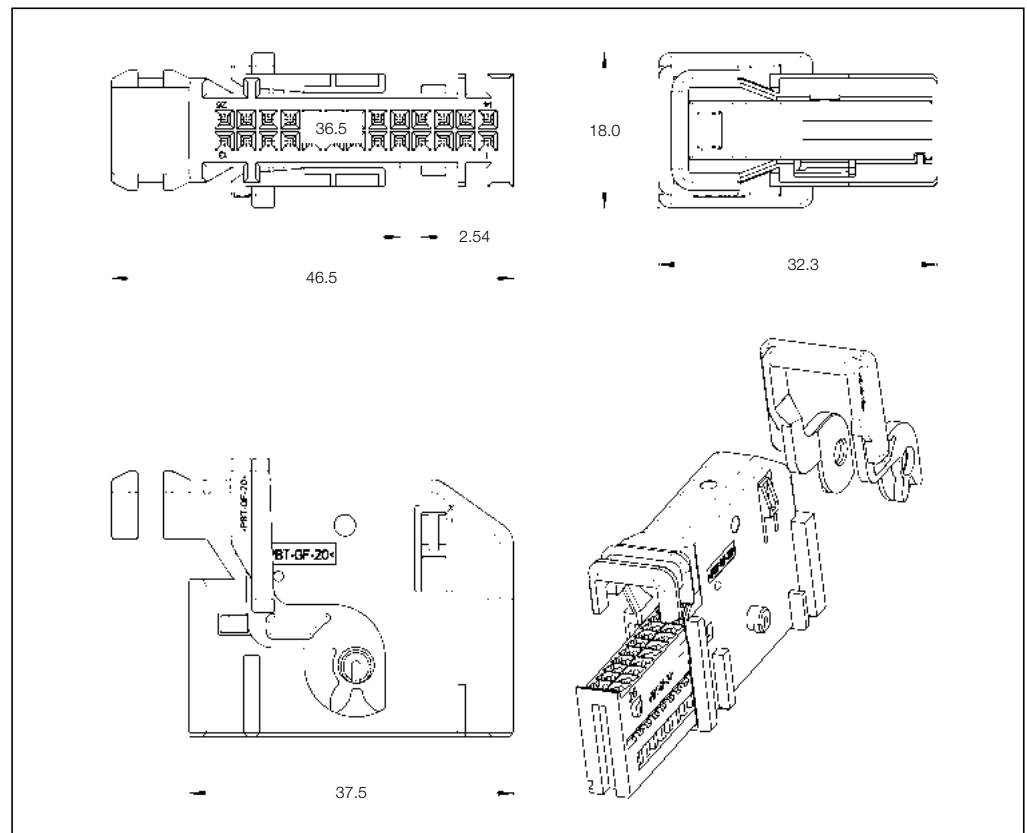
**No. of Positions:**  
26 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**26 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |           |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-----------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover     | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 26          | —              | Black         | 1801040-1          | 1801041-1 | —     | —                | —                  | —                             | —                          |

Pin Housings

**Technical Features**

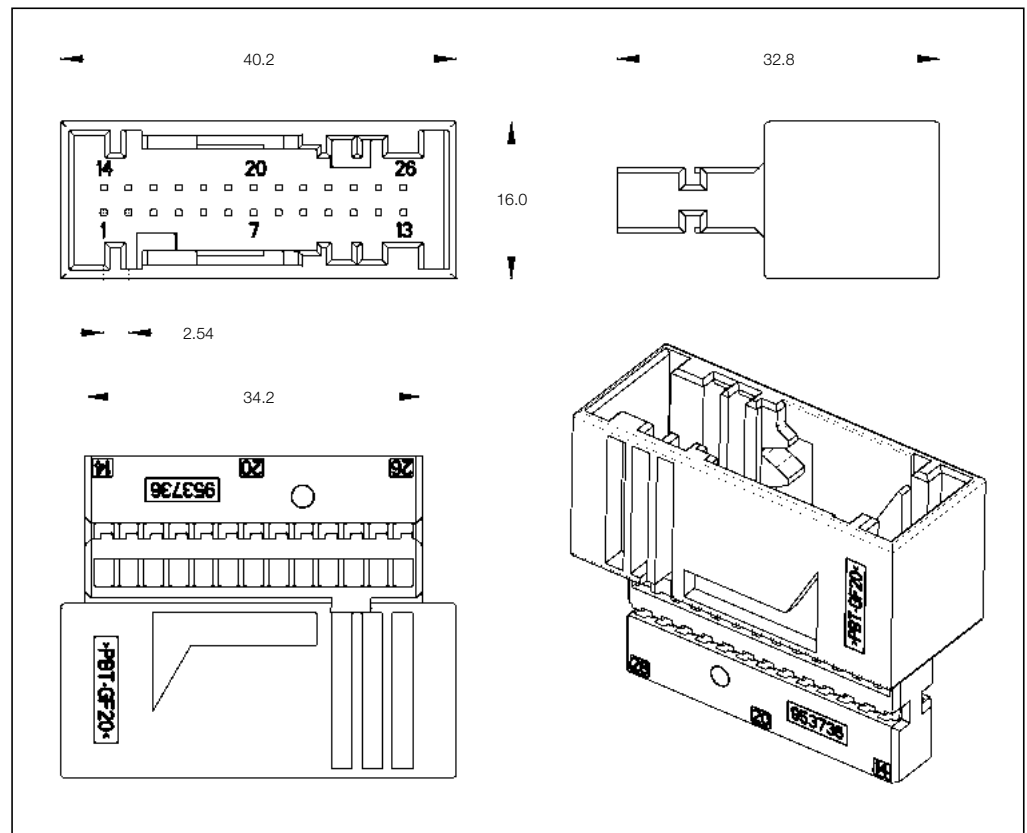
**No. of Positions:**  
26 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.35–0.50 mm<sup>2</sup>

**Product Specification:**  
108-15220

**Application Specification:**  
411-15622



**26 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                     |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Counter Part |
| 26          | –              | Black         | –            | –     | –              | –               | –                | 144935-1            |
|             |                | Yellow        | 953736-1     | –     | –              | –               | –                | –                   |
|             |                | Blue          | 953736-2     | –     | –              | –               | –                | –                   |
|             |                | Red           | 953736-3     | –     | –              | –               | –                | –                   |
|             |                | Green         | 953736-4     | –     | –              | –               | –                | –                   |
|             |                | Purple        | 953736-5     | –     | –              | –               | –                | –                   |

**Mating Receptacle Housing**  
See Page 5-6



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

26 Positions

**Housing Material:**

PBT GF20

**Material and Finish:**

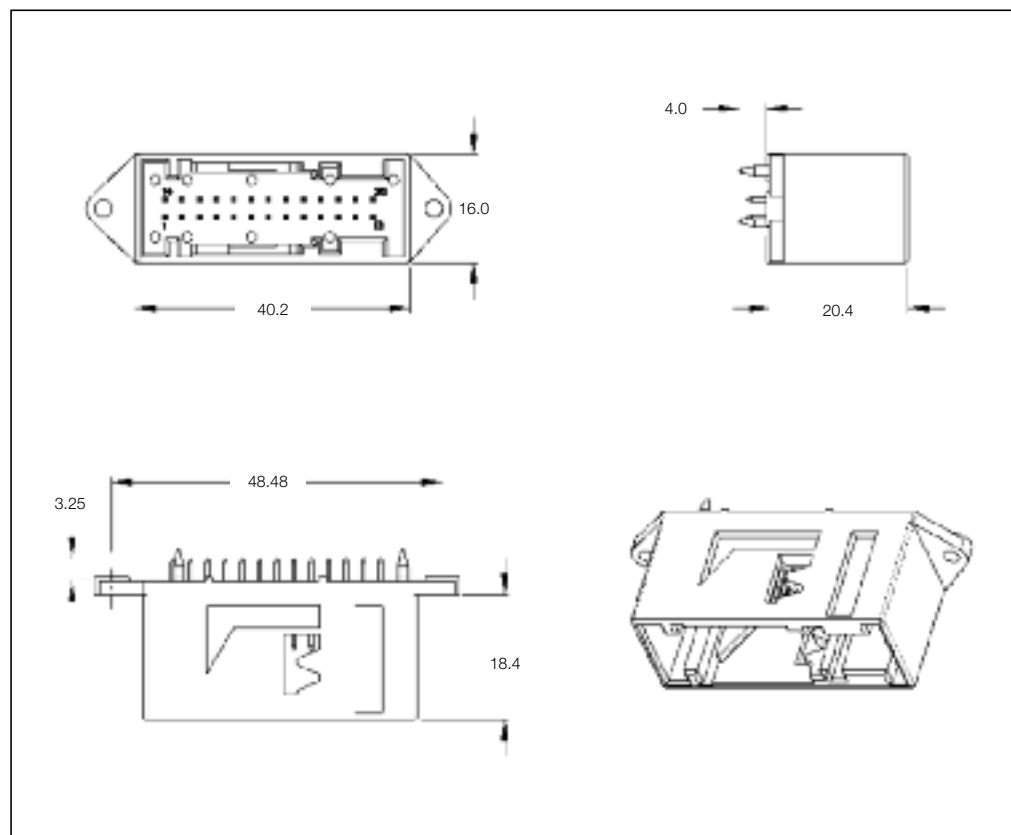
Tin, Gold over Nickel

**Product Specification:**

108-15106

**Application Specification:**

—

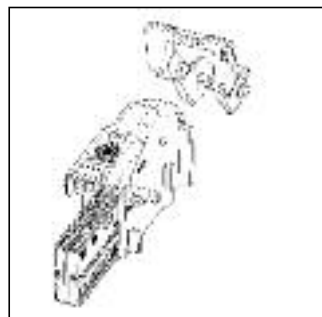


**26 Position PCB Header**

| No. of Pos. | Keying Options * | Housing Color | Part Numbers |            |       |                 |                  |                         |
|-------------|------------------|---------------|--------------|------------|-------|-----------------|------------------|-------------------------|
|             |                  |               | PCB Header   |            | Cover | Cover and Lever | Retainer Housing | Mating Counter Part     |
| Right-Angle | Vertical         |               |              |            |       |                 |                  |                         |
| 26          | A-E              | Yellow        | —            | 185226-1   | —     | —               | —                | 144935-1 or<br>185875-1 |
|             | B-F              | Blue          | —            | 185226-2   |       |                 |                  |                         |
|             | A-E              | Black         | —            | 185226-3   |       |                 |                  |                         |
|             | B-F              | White         | —            | 185226-4   |       |                 |                  |                         |
|             | A-E              | Black         | —            | 1-185226-3 |       |                 |                  |                         |
|             | B-F              | White         | —            | 1-185226-4 |       |                 |                  |                         |

\*) For details, see drawing.

**Mating Receptacle Housing**  
See Page 5-6-5-7



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

26 Positions with Board Locks

**Housing Material:**

PBT GF20

**Material and Finish:**

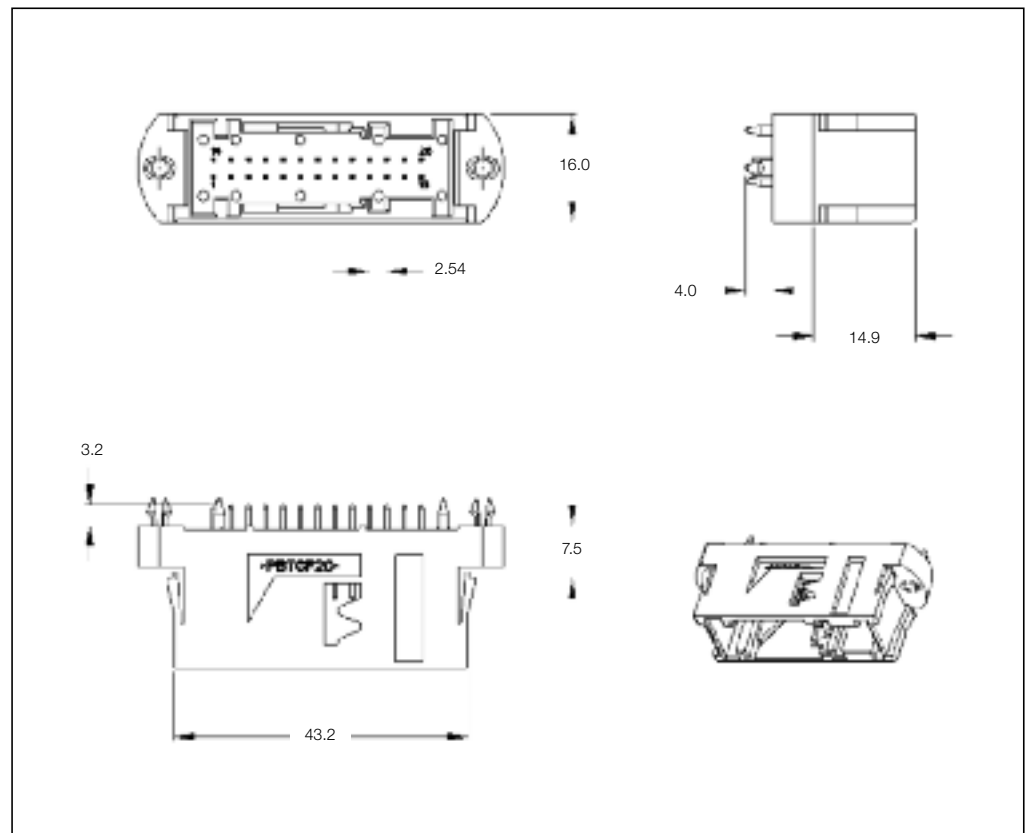
CuSn6, post tin plated

**Product Specification:**

108-15181

**Application Specification:**

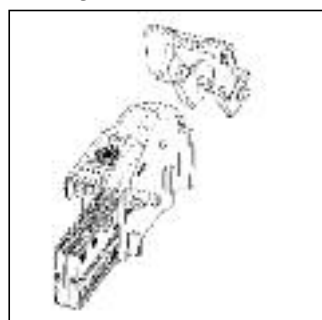
—



**26 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  | Mating Counter Part  |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|----------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing |                      |
| 26          | —              | Yellow        | —                      | 953236-1            | —     | —               | —                | 144935-1 or 185875-1 |
|             |                | Blue          | —                      | 953236-2            | —     | —               | —                |                      |

**Mating Receptacle Housing**  
See Page 5-6-5-7



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

26 Positions

**Housing Material:**

PBT GF20

**Material and Finish:**

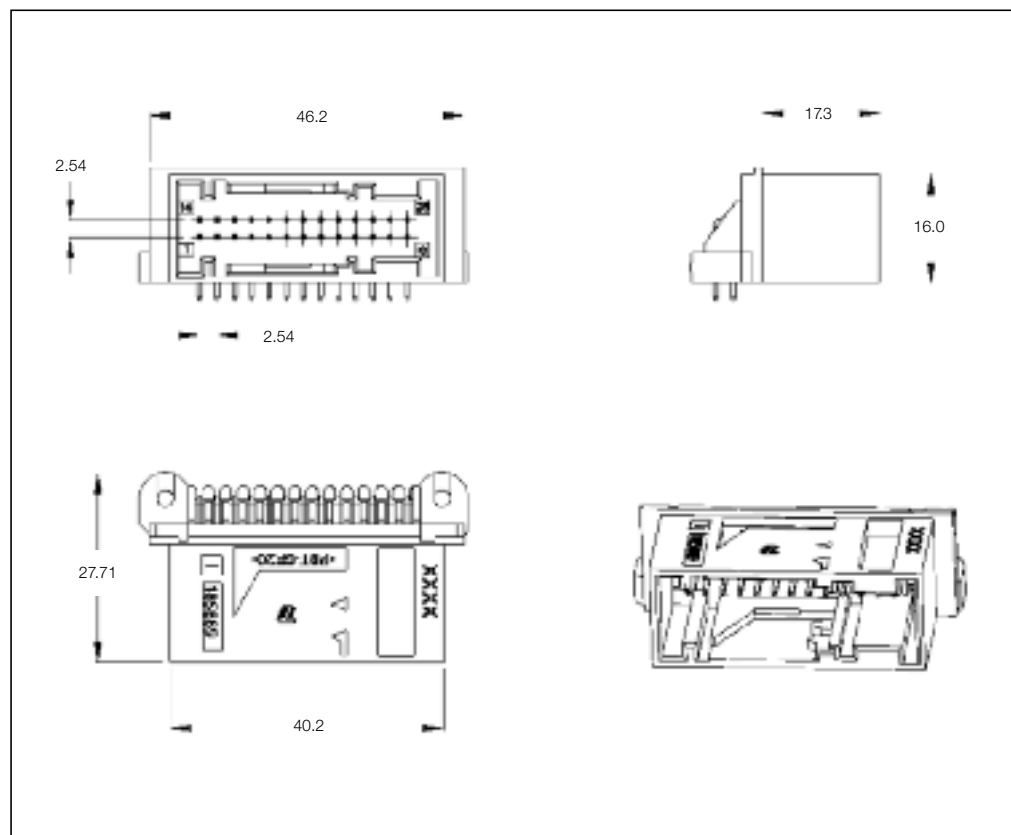
CuSn6, post tin plated

**Product Specification:**

108-15140

**Application Specification:**

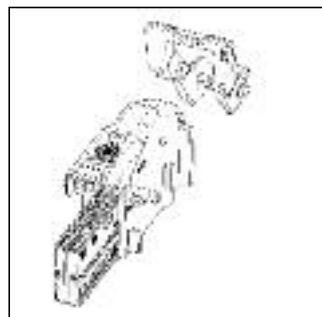
—



**26 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  | Mating Counter Part  |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|----------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing |                      |
| 26          | —              | Yellow        | 185890-1               | —                   | —     | —               | —                | 144935-1 or 185875-1 |
|             |                | Blue          | 185890-2               | —                   | —     | —               | —                |                      |

**Mating Receptacle Housing**  
See Page 5-6-5-7



Printed Circuit Board Headers

**Technical Features**

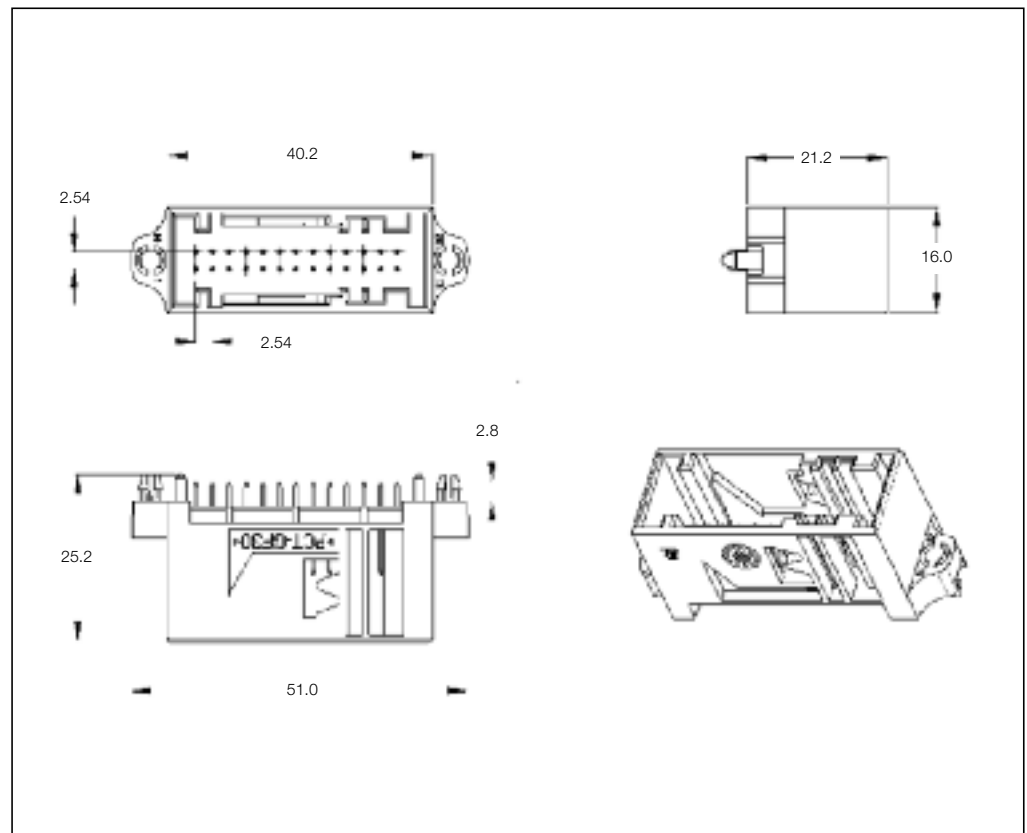
**No. of Positions:**  
26 Positions

**Housing Material:**  
PCT GF30

**Material and Finish:**  
CuSn6, post tin plated

**Product Specification:**  
108-15215

**Application Specification:**  
—



**26 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color                 | Part Numbers              |                        |       |                 |                  |                         |
|-------------|----------------|-------------------------------|---------------------------|------------------------|-------|-----------------|------------------|-------------------------|
|             |                |                               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing | Mating Counter Part     |
| 18          | —              | Yellow<br>(post no selective) | —                         | 953472-1               | —     | —               | —                | 144935-1 or<br>185875-1 |
|             |                | Yellow<br>(post selective)    | —                         | 1-953472-1             |       |                 |                  |                         |
|             |                | Blue<br>(post no selective)   | —                         | 953472-2               |       |                 |                  |                         |
|             |                | Blue<br>(post selective)      | —                         | 1-953472-2             |       |                 |                  |                         |

**Mating Receptacle Housing**  
See Page 5-6-5-7



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

26 Positions with Board Locks

**Housing Material:**

PBT GF20

**Material and Finish:**

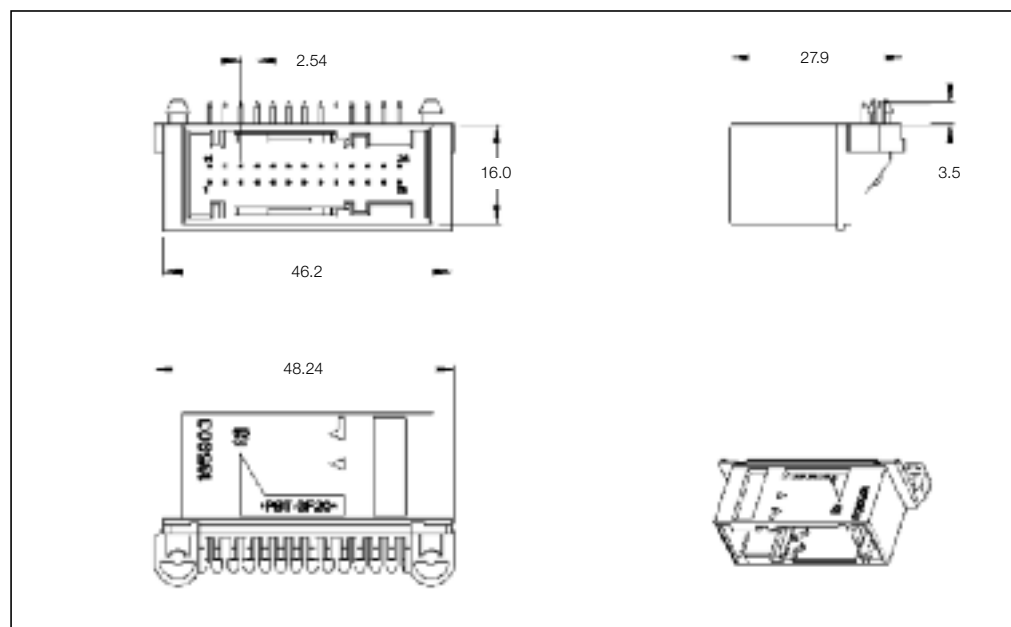
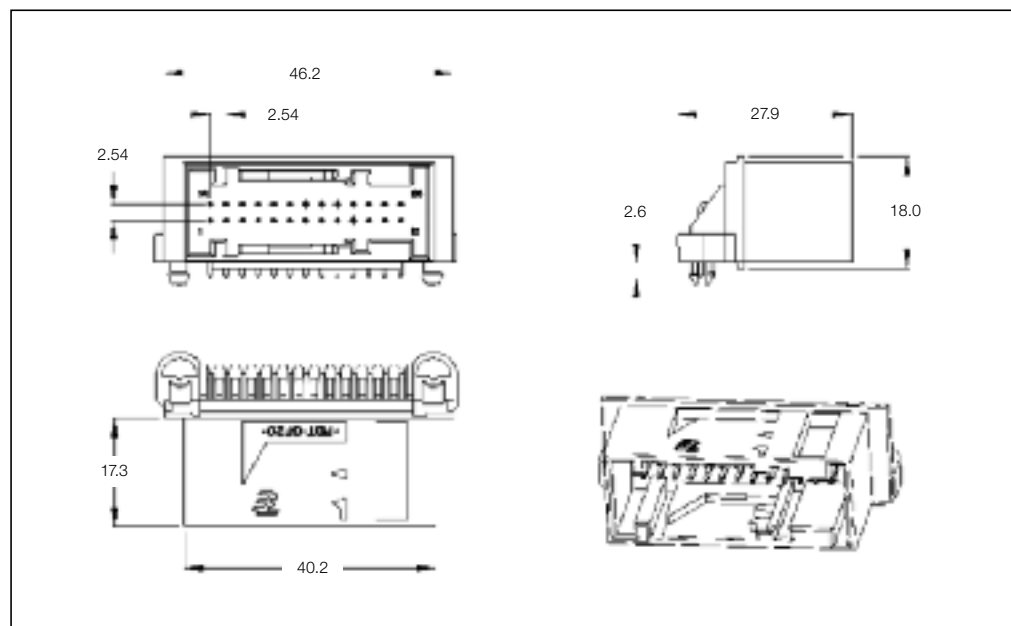
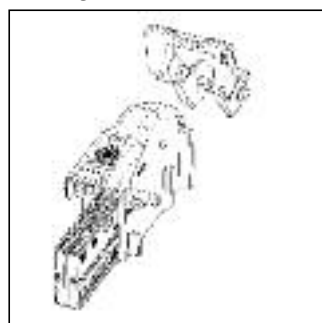
CuSn6, post tin plated

**Product Specification:**

108-15140

**Application Specification:**

**Mating Receptacle Housing**  
See Page 5-6-5-7



**26 Position PCB Header**

| No. of Pos. | Keying Options  | Housing Color | Part Numbers           |                     |       |                 | Retainer Housing | Mating Receptacle Housing |
|-------------|-----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|---------------------------|
|             |                 |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever |                  |                           |
| 26          | -               | Yellow        | 185534-1               | -                   | -     | -               | -                | 144935-1 or 185875-1      |
|             |                 | Blue          | 185534-2               | -                   |       |                 |                  |                           |
|             |                 | Yellow        | 185534-3               | -                   |       |                 |                  |                           |
|             |                 | Blue          | 185534-4               | -                   |       |                 |                  |                           |
|             | reverse version | Yellow        | 185904-1               | -                   |       |                 |                  |                           |
|             |                 | Blue          | 185904-2               | -                   |       |                 |                  |                           |
|             |                 | Black         | 185904-3               | -                   |       |                 |                  |                           |
|             |                 | Blue          | 1-185904-2             | -                   |       |                 |                  |                           |

Printed Circuit Board Headers

**Technical Features**

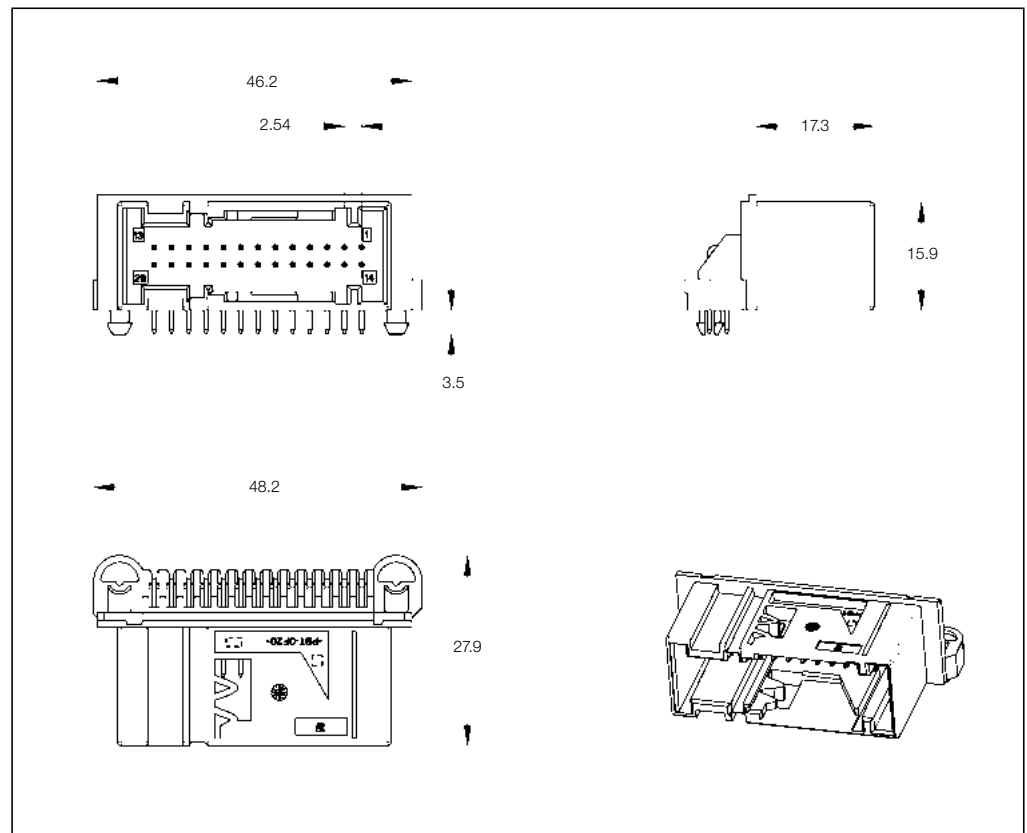
**No. of Positions:**  
26 Positions

**Housing Material:**  
PBT GF20

**Material and Finish:**  
CuSn, tinned

**Product Specification:**  
—

**Application Specification:**  
—



**26 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |          |       |       |                  |                           |
|-------------|----------------|---------------|--------------|----------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |          | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical |       |       |                  |                           |
| 26          | AE             | Black         | 1456736-1    | —        | —     | —     | —                | —                         |
|             | BF             | Black         | 1456736-2    | —        |       |       |                  |                           |
|             | BF             | Blue          | 1456736-3    | —        |       |       |                  |                           |

Printed Circuit Board Headers

**Technical Features**

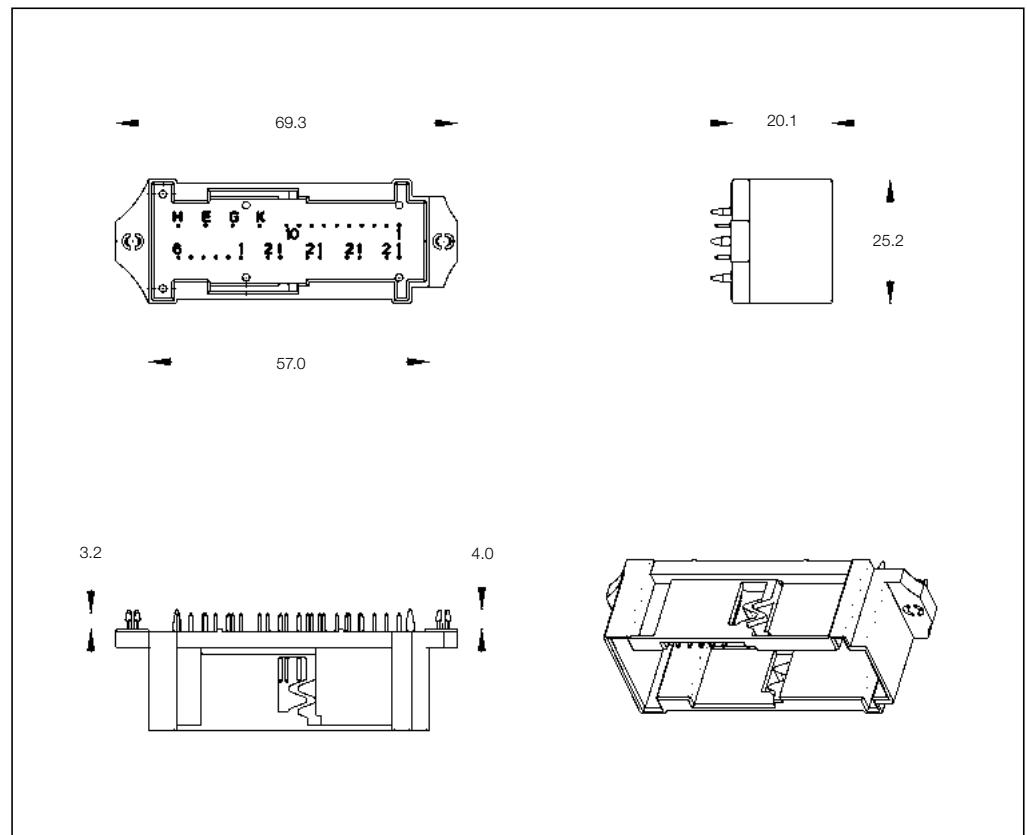
**No. of Positions:**  
28 Positions

**Housing Material:**  
PBT GF20

**Material and Finish:**  
CuSn, tinned

**Product Specification:**  
108-15167

**Application Specification:**  
—



**28 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |       |                     |                              |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-------|---------------------|------------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer<br>Housing | Mating<br>Receptacle Housing |
| 28          | —              | Black         | —                         | 953002-1               | —     | —     | —                   | —                            |

Printed Circuit Board Headers

**Technical Features**

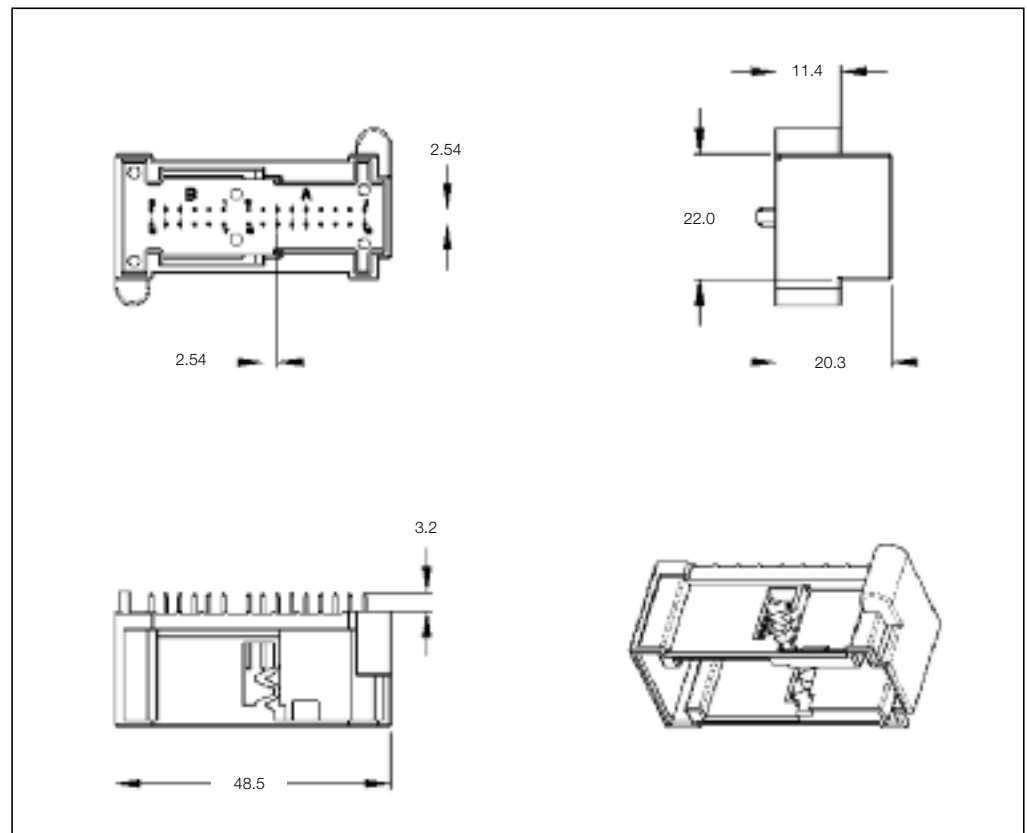
**No. of Positions:**  
30 Positions

**Housing Material:**  
PET GF30

**Material and Finish:**  
CuFe, tin plated

**Product Specification:**  
108-18030

**Application Specification:**  
114-18021



**30 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                    |                     |                              |
|-------------|----------------|---------------|---------------------------|------------------------|-------|--------------------|---------------------|------------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover<br>and Lever | Retainer<br>Housing | Mating<br>Receptacle Housing |
| 30          | —              | —             | —                         | 967267-1               | —     | —                  | —                   | —                            |

Printed Circuit Board Headers

**Technical Features**

**Application:**

Airbag

**No. of Positions:**

30 Position Assembly

**Housing Material:**

PBT GF30

**Material and Finish:**

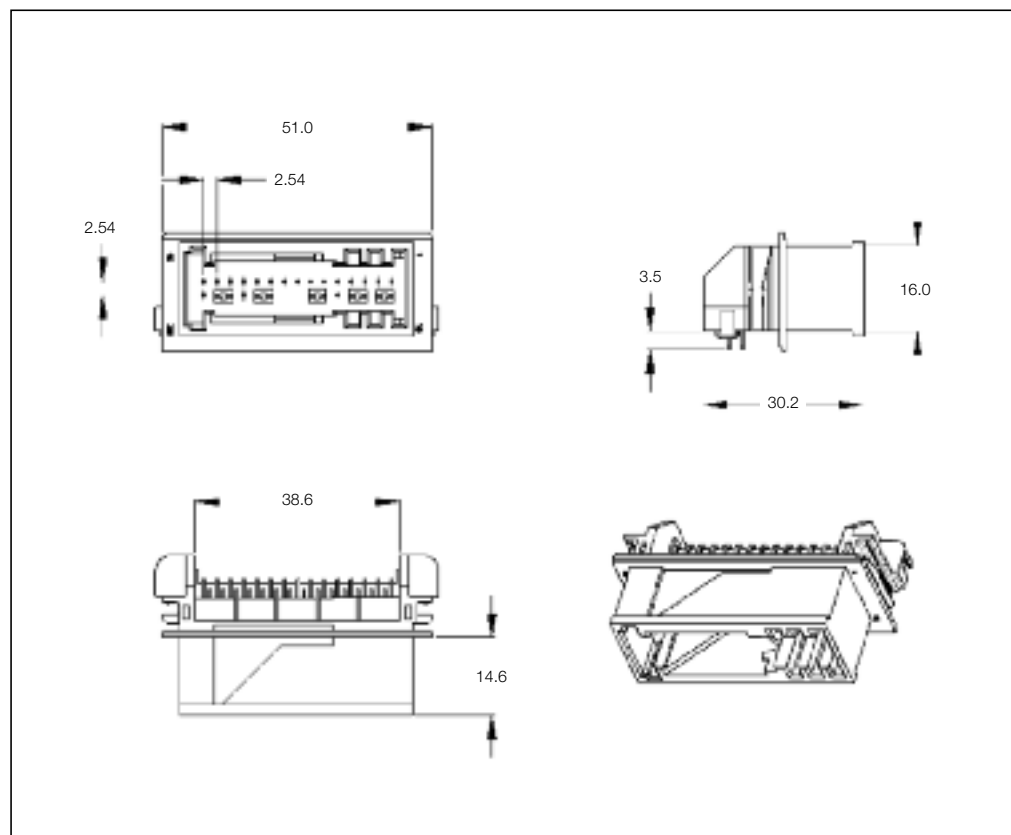
Mating Area Au  
CuSn, tin plated

**Product Specification:**

108-61007

**Application Specification:**

114-18021



**30 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                 |                  |                           |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 30          | See Drawing    | See Drawing   | 85188-1/-9                | —                      | —     | —               | —                | 85189-1                   |
|             |                |               | 1-85188-1/-2              | —                      |       |                 |                  |                           |
|             |                |               | 1-85188-5/-9              | —                      |       |                 |                  |                           |
|             |                |               | 2-85188-1/-9              | —                      |       |                 |                  |                           |

Receptacle Housings

**Technical Features**

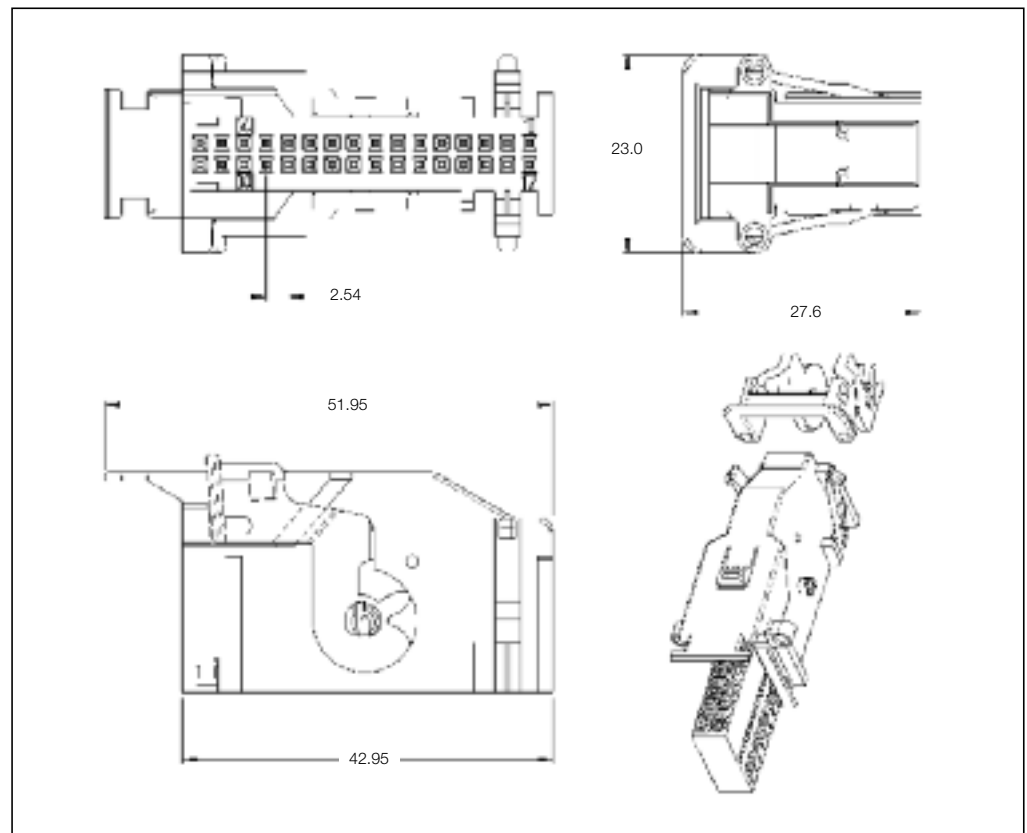
**No. of Positions:**  
32 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18548-0

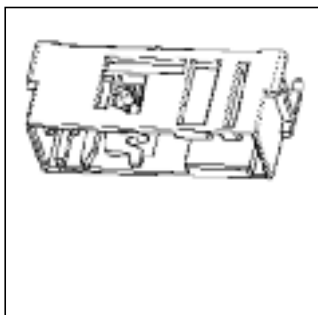
**Application Specification:**  
114-18714-0



**32 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                    |                     |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|--------------------|---------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating Right-Angle | PCB Header Vertical |
| 32          | –              | Black         | 968265-1           | –     | –              | –               | –                | –                  | –                  | 1-967598-5          |
|             |                | Gray          | –                  | –     | –              | 929053-1        | –                | –                  | –                  | –                   |
|             |                | Blue          | –                  | –     | –              | 929053-2        | –                | –                  | –                  | –                   |

**Mating Header**  
See Page 5-27



Receptacle Housings

**Technical Features**

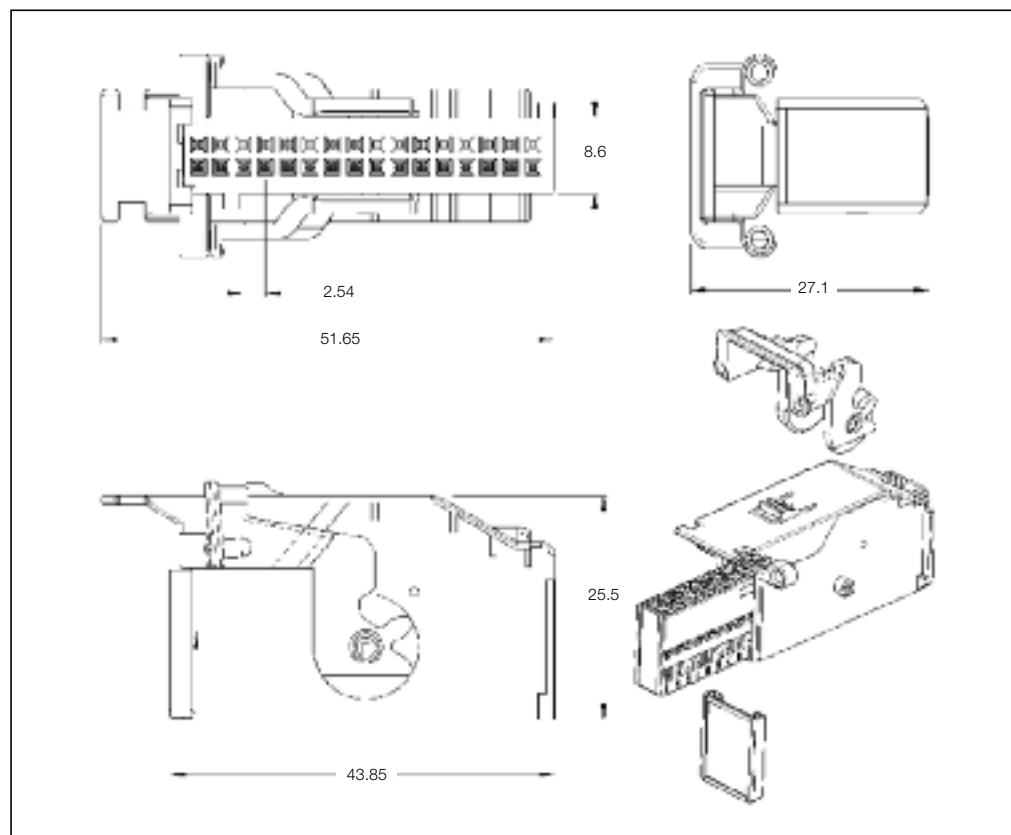
**No. of Positions:**  
32 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.14–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18924

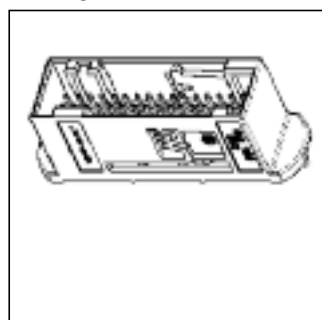
**Application Specification:**  
114-18630



**32 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 32          | A, F           | Green         | 1420000-1          | –     | 1420001-1      | 1534222-1       | –                | –                  | –                             | 966658-1                   |
|             | C, D           | Blue          | 1420000-1          | –     | 1420001-1      | 1534222-2       | –                | –                  | –                             | 966658-2                   |

**Mating Header**  
See Page 5-28



Receptacle Housings

**Technical Features**

**Application:**

Airbag

**No. of Positions:**

32 Position Assembly

**Housing Material:**

PA66 GF13

**Wire Size Range:**

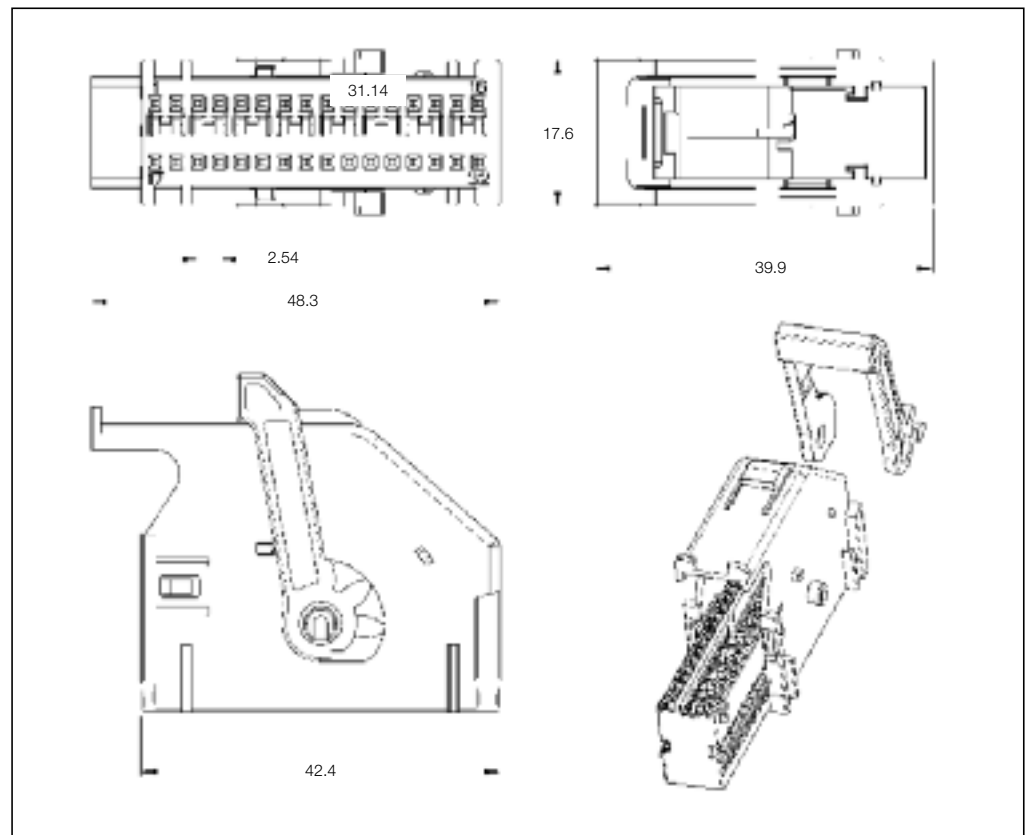
0.35–0.5 mm<sup>2</sup>

**Product Specification:**

108-20223

**Application Specification:**

411-20054



**32 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 32          | B              | Gray          | 284423-3           | –     | –              | –               | –                | –                  | –                             | –        |
|             | A              | Black         | 284423-4           | –     | –              | –               | –                | –                  | 1379046-1                     | –        |
|             | C              | Brown         | 284423-5           | –     | –              | –               | –                | –                  | –                             | –        |
|             | D              | Blue          | 284423-6           | –     | –              | –               | –                | –                  | –                             | –        |
|             | AD-Ab          | White         | 284423-7           | –     | –              | –               | –                | –                  | –                             | –        |

Receptacle Housings

**Technical Features**

**Application:**  
Airbag

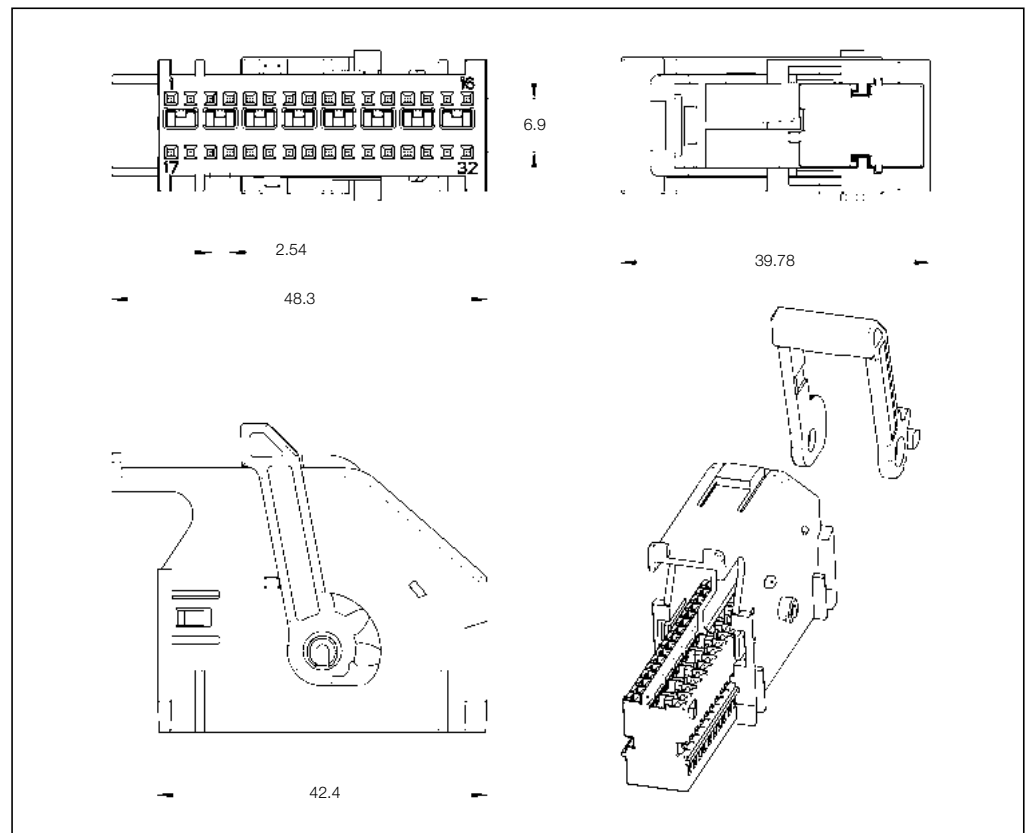
**No. of Positions:**  
32 Positions

**Housing Material:**  
PA66 GF13

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-20223

**Application Specification:**  
114-15077



**32 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 32          | –              | Gray          | 284999-3           | –     | –     | –                | –                  | –                             | –                          |
|             |                | Black         | 284999-4           |       |       |                  |                    |                               |                            |
|             |                | Brown         | 284999-5           |       |       |                  |                    |                               |                            |
|             |                | Blue          | 284999-6           |       |       |                  |                    |                               |                            |
|             |                | White         | 284999-7           |       |       |                  |                    |                               |                            |

Receptacle Housings

**Technical Features**

**Application:**

Airbag

**No. of Positions:**

32 Positions  
(of which 8 Shunts)

**Housing Material:**

PA66 GF

**Wire Size Range:**

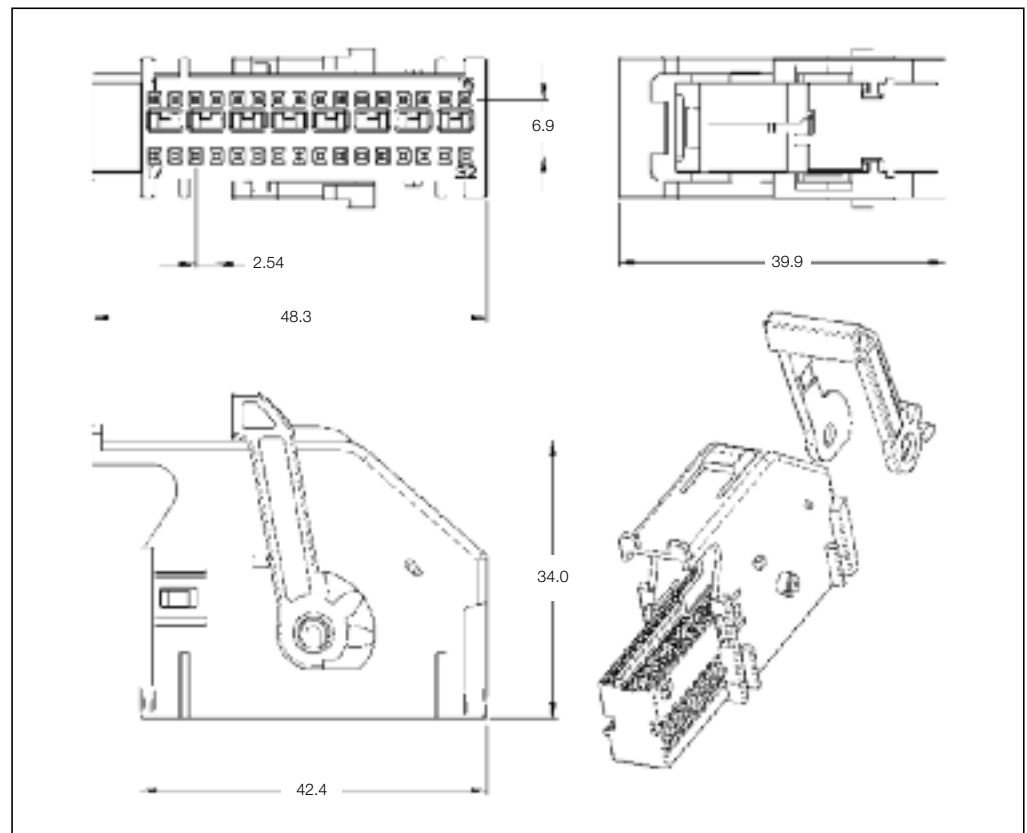
0.35–0.75 mm<sup>2</sup>

**Product Specification:**

108-20223

**Application Specification:**

411-15659



**32 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 32          | –              | Black         | 284422-1           | 284715-1 | –              | –               | –                | –                  | –                             | –        |

Receptacle Housings

**Technical Features**

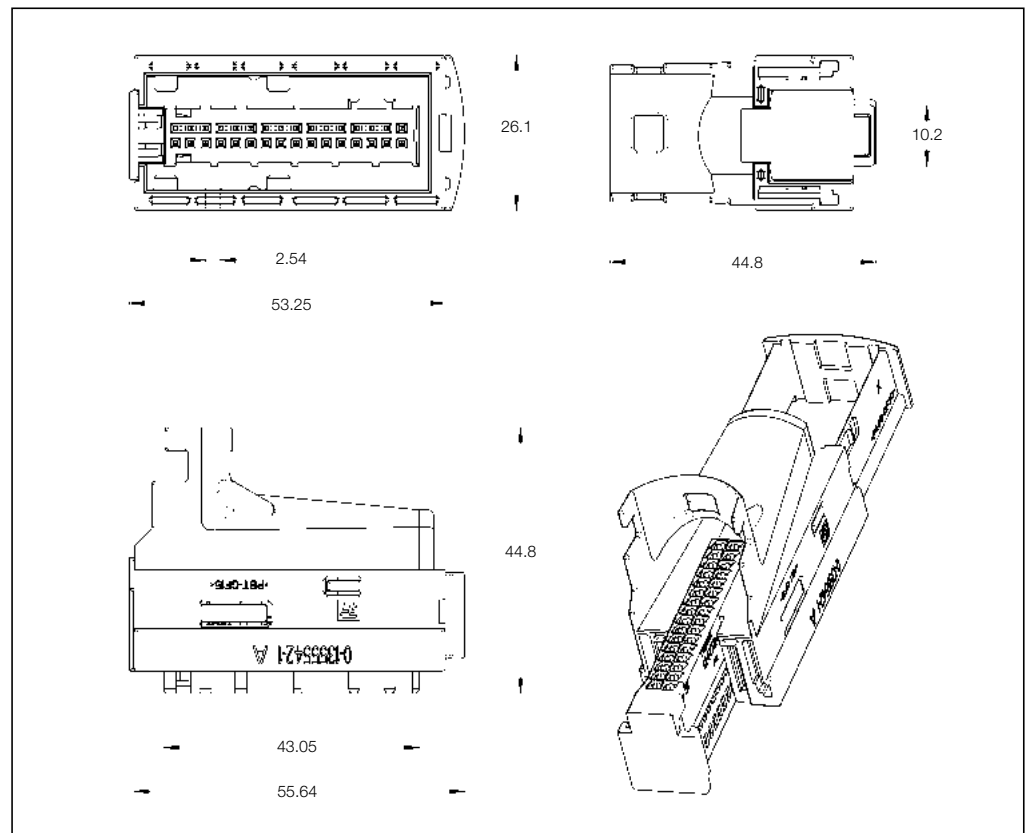
**No. of Positions:**  
32 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18689

**Application Specification:**  
114-18332



**32 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |           |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-----------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover     | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 32          | –              | Black         | 1241724-1          | 1355541-1 | –     | –                | –                  | –                             | –                          |
|             |                | Blue          | 1241724-2          | 1355541-2 |       |                  |                    |                               |                            |

Printed Circuit Board Headers

**Technical Features**

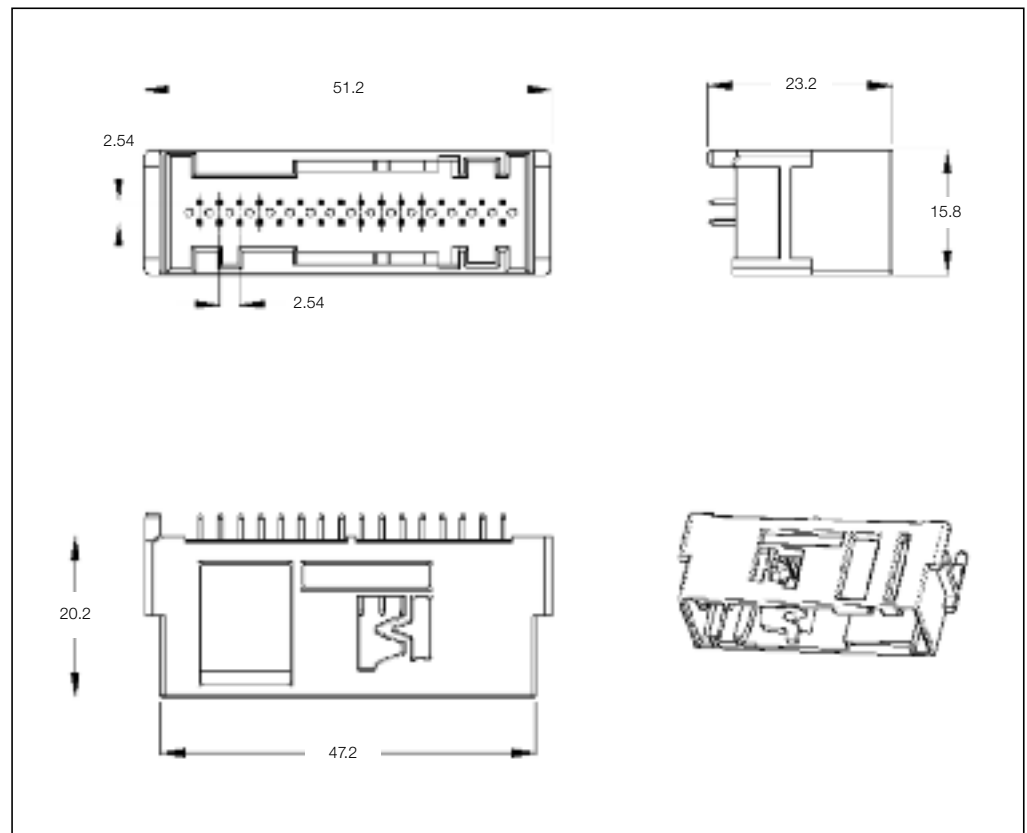
**No. of Positions:**  
32 Positions

**Housing Material:**  
PA66

**Material and Finish:**  
CuSn, pre-tin plated

**Product Specification:**  
108-18547-0

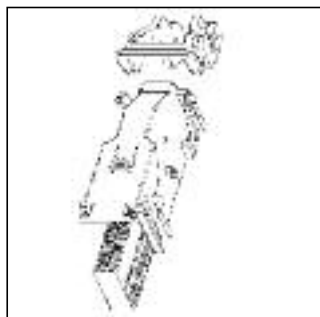
**Application Specification:**  
114-18174-0



**32 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 32          | A              | Gray          | –                      | 967598-1            | –     | –               | –                | 968265-1                  |
|             | B              | Blue          | –                      | 967598-4            | –     | –               | –                | –                         |
|             | A              | Gray          | –                      | 1-967598-1          | –     | –               | –                | –                         |
|             | B              | Blue          | –                      | 1-967598-4          | –     | –               | –                | –                         |
|             | C              | Black         | –                      | 1-967598-5          | –     | –               | –                | –                         |

**Mating Receptacle Housing**  
See Page 5-21



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

32 Position Assembly (2 × 16)

**Housing Material:**

PBT GF15

**Material and Finish:**

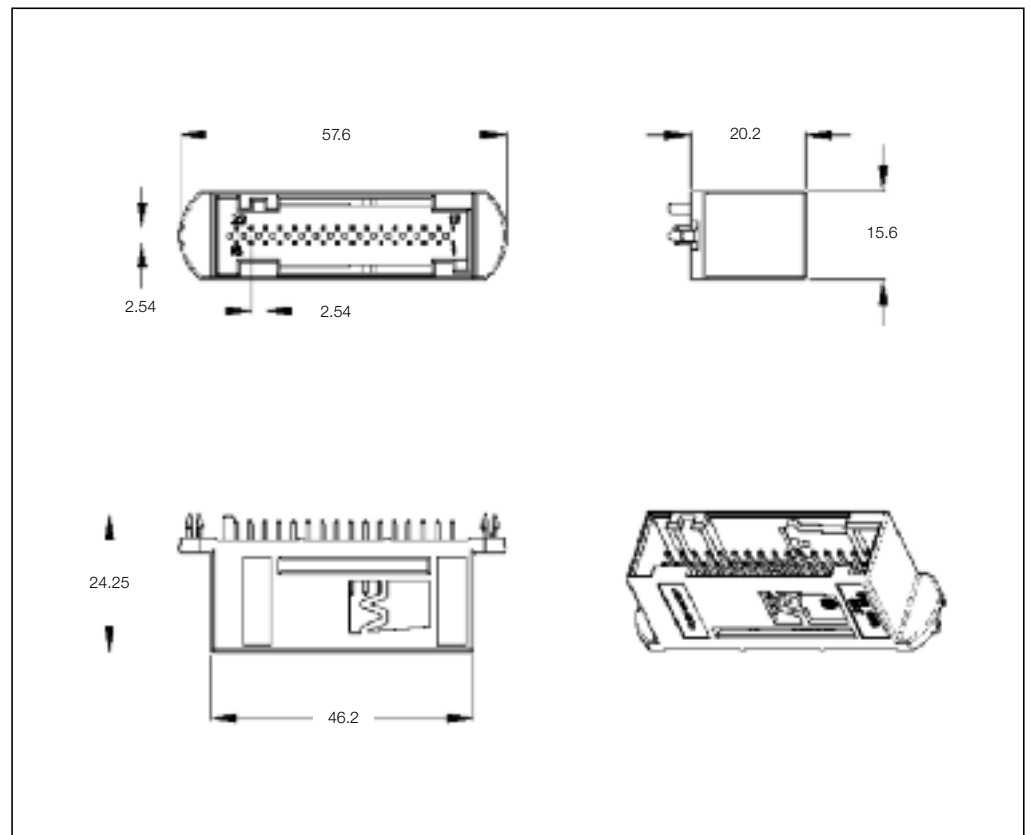
CuSn, tin plated

**Product Specification:**

108-18692-0

**Application Specification:**

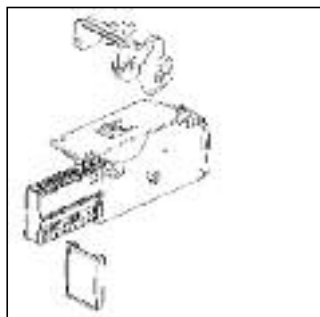
—



**32 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  |                                    |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|------------------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing          |
| 32          | A-F            | Green         | —                      | 966658-1            | —     | —               | —                | 1420000-1<br>1420001-1 & 1534222-1 |
|             | C-D            | Blue          | —                      | 966658-2            | —     | —               | —                | 1420000-1<br>1420001-1 & 1534222-2 |

**Mating Receptacle Housing**  
See Page 5-25



Printed Circuit Board Headers

**Technical Features**

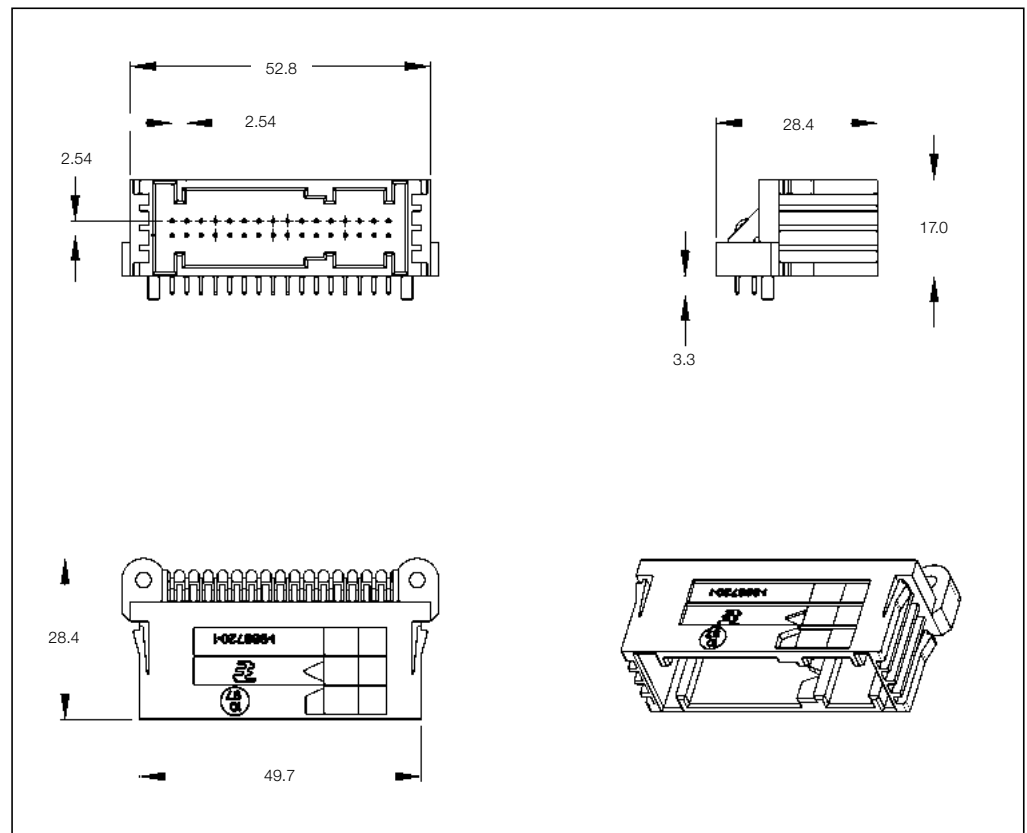
**No. of Positions:**  
32 Positions

**Housing Material:**  
PBT GF20/30

**Material and Finish:**  
See customer drawing

**Product Specification:**  
108-18214

**Application Specification:**  
—



**32 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |       |                  |                              |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-------|------------------|------------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer Housing | Mating<br>Receptacle Housing |
| 32          | —              | Black         | 1-968720-1                | —                      | —     | —     | —                | —                            |
|             |                | Black         | 1-968720-2                | —                      |       |       |                  |                              |
|             |                | Black         | 1-968720-3                | —                      |       |       |                  |                              |
|             |                | Natural       | 2-968720-2                | —                      |       |       |                  |                              |
|             |                | Water Blue    | 9-968720-1                | —                      |       |       |                  |                              |

Printed Circuit Board Headers

**Technical Features**

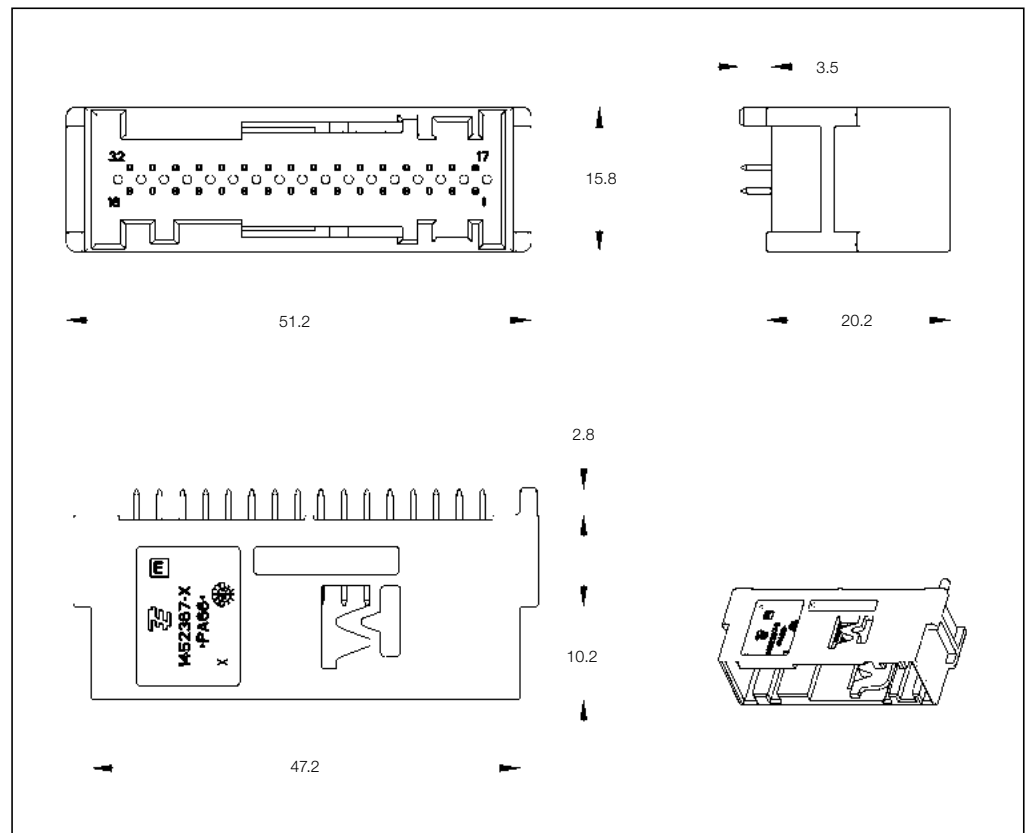
**No. of Positions:**  
32 Positions for MODU II

**Housing Material:**  
PBT GF30

**Material and Finish:**  
CuSn6, pre tinned

**Product Specification:**  
108-18547-0

**Application Specification:**  
114-18174-0



**32 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |             |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |             | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical    |       |       |                  |                           |
| 32          | A              | Gray          | —            | 1452368-1   | —     | —     | —                | —                         |
|             | A              | Gray          | —            | 1-1452368-1 |       |       |                  |                           |
|             | B              | Blue          | —            | 1-1452368-4 |       |       |                  |                           |

Printed Circuit Board Headers

**Technical Features**

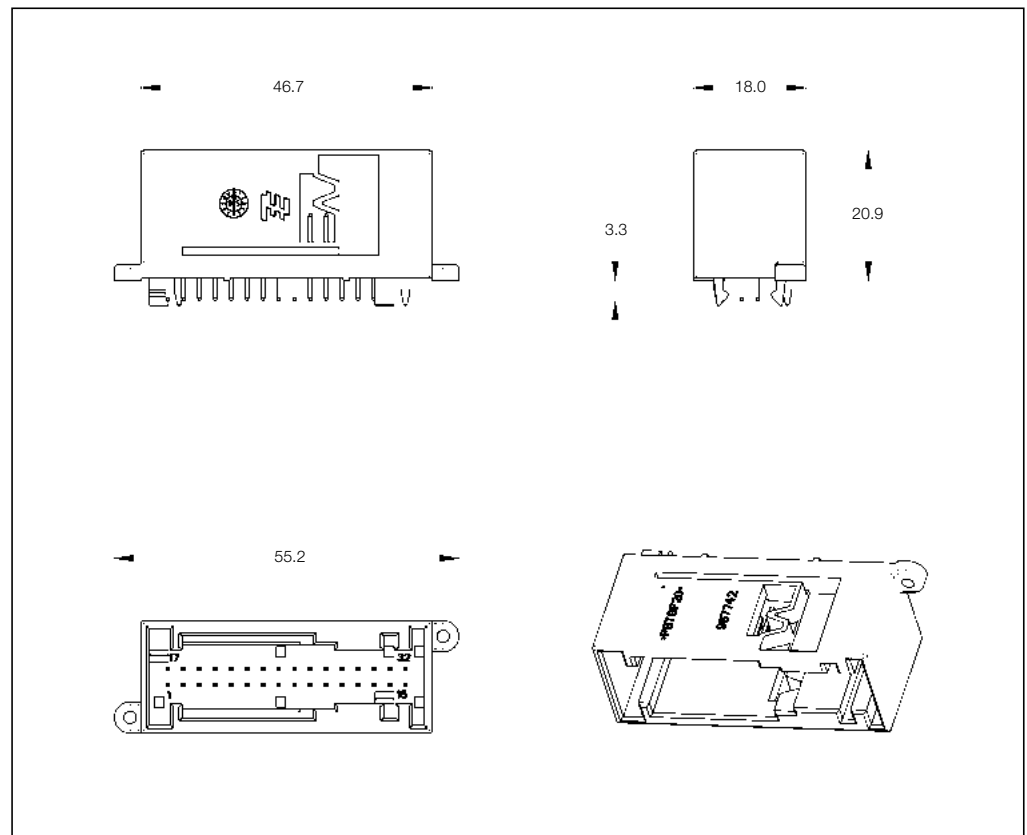
**No. of Positions:**  
32 Positions

**Housing Material:**  
PBT GF20

**Material and Finish:**  
CuFe2, pre tinned

**Product Specification:**  
108-18214

**Application Specification:**  
—



**32 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |            |       |       |                  |                           |
|-------------|----------------|---------------|--------------|------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |            | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical   |       |       |                  |                           |
| 32          | —              | Black         | —            | 1-967742-1 | —     | —     | —                | —                         |

Printed Circuit Board Headers

**Technical Features**

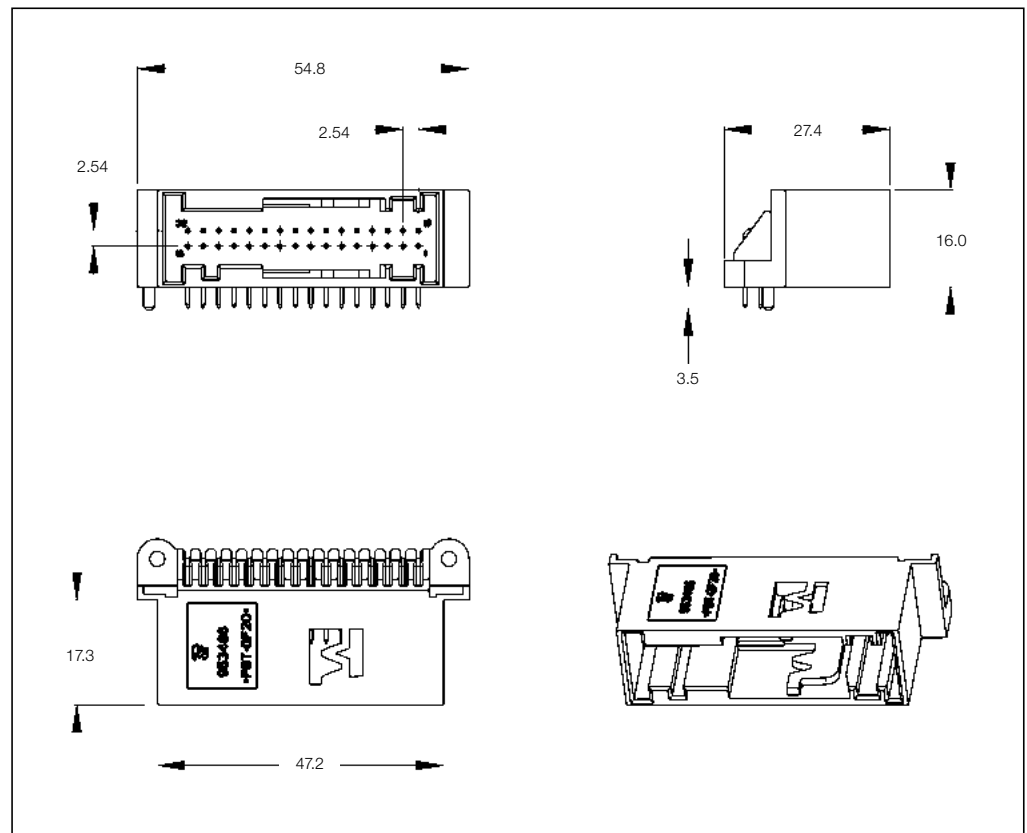
**No. of Positions:**  
32 Position Header with Ears

**Housing Material:**  
PBT GF20

**Material and Finish:**  
CuSn6, post tin

**Product Specification:**  
108-15211

**Application Specification:**  
—



**32 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 32          | B              | Gray          | 953486-1               | —                   | —     | —     | —                | —                         |
|             |                | Blue          | 953486-2               | —                   | —     | —     | —                | —                         |

Receptacle Housings

**Technical Features**

**No. of Positions:**

34 Positions + 8 Shorting Bars

**Housing Material:**

PBT GF20

**Wire Size Range:**

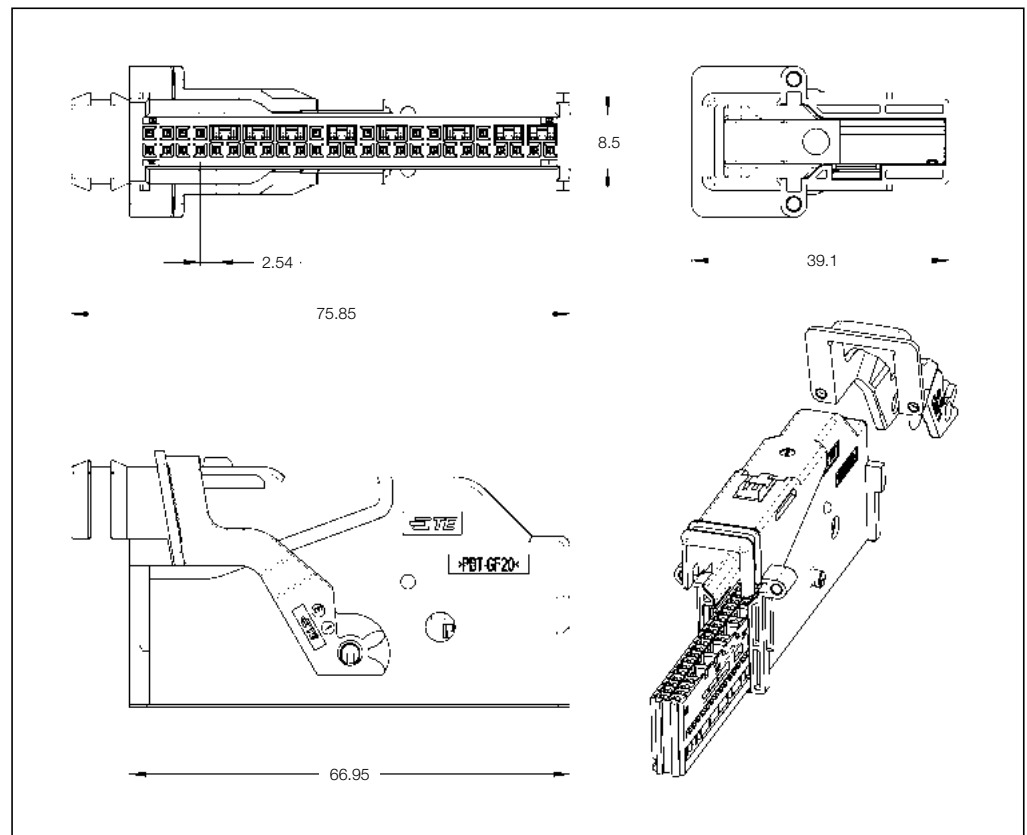
0.35–0.75 mm<sup>2</sup>

**Product Specification:**

108-15188

**Application Specification:**

411-15601



**34 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 34          | –              | Black         | 953222-1           | –     | –              | –               | –                | –                  | –                             | –        |
|             |                | Orange        | –                  | –     | –              | 953221-1        | –                | –                  | –                             | –        |

Receptacle Housings

**Technical Features**

**No. of Positions:**

36 Positions (9 + 18 + 9)

**Housing Material:**

PA66 GF

**Wire Size Range:**

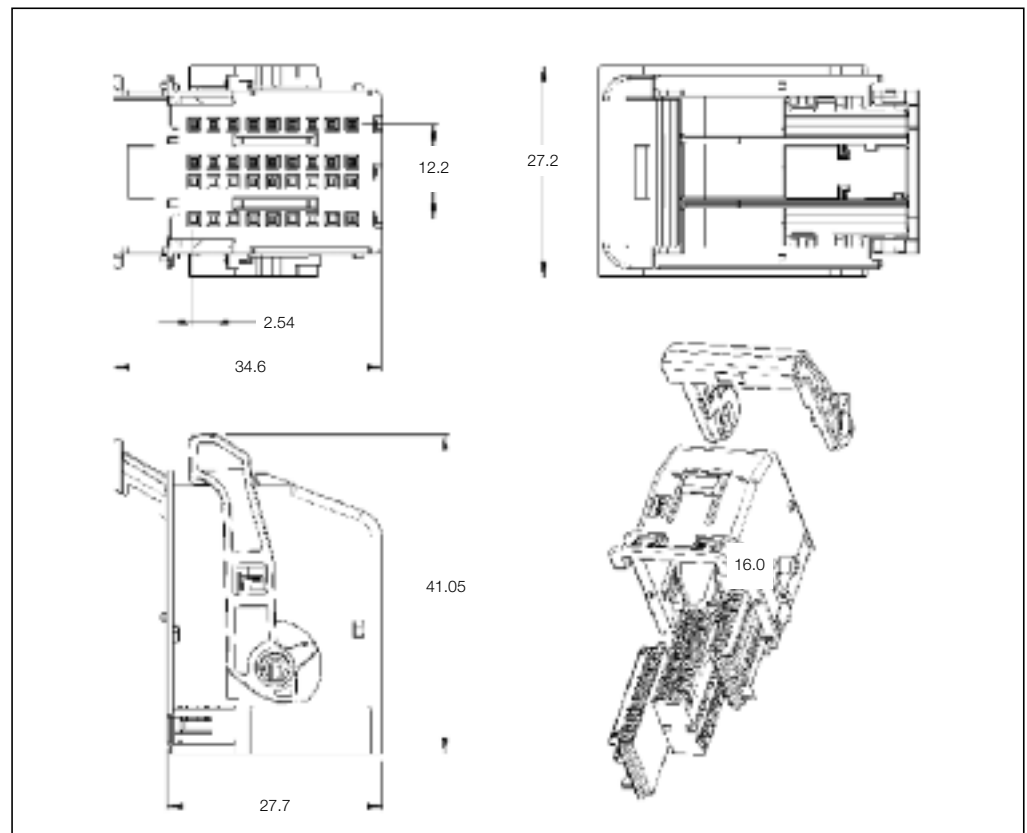
0.35–0.75 mm<sup>2</sup>

**Product Specification:**

108-20182

**Application Specification:**

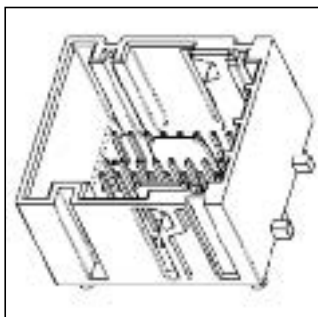
411-20056



**36 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                                        |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|----------------------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle Vertical |
| 36          | –              | Blue (Frame)  | –                  | –     | –              | 284438-1        | –                | –                  | 284520-1<br>284317-1<br>284317-2       |
|             |                | Green         | 284134-5           | –     | –              | –               |                  |                    |                                        |
|             |                | White         | 284134-6 (9 Pos.)  | –     | –              | –               |                  |                    |                                        |
|             |                | Black         | 953599-1 (18 Pos.) | –     | –              | –               |                  |                    |                                        |

**Mating Header**  
See Page 5-35



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

36 Position Assembly

**Housing Material:**

PBT GF

**Material and Finish:**

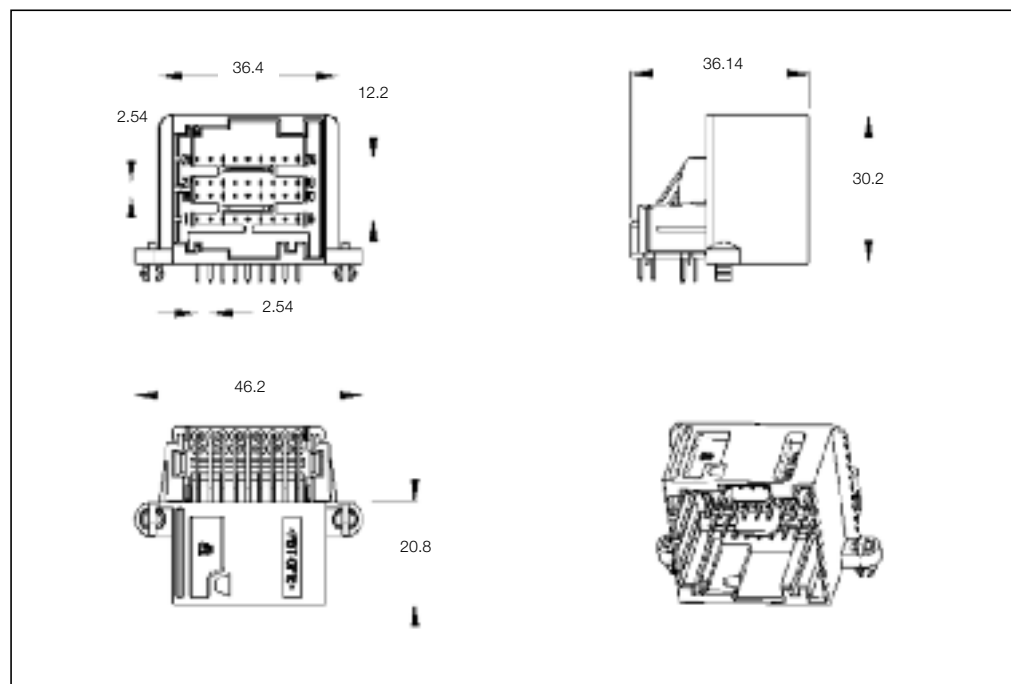
CuZn, tin plated

**Product Specification:**

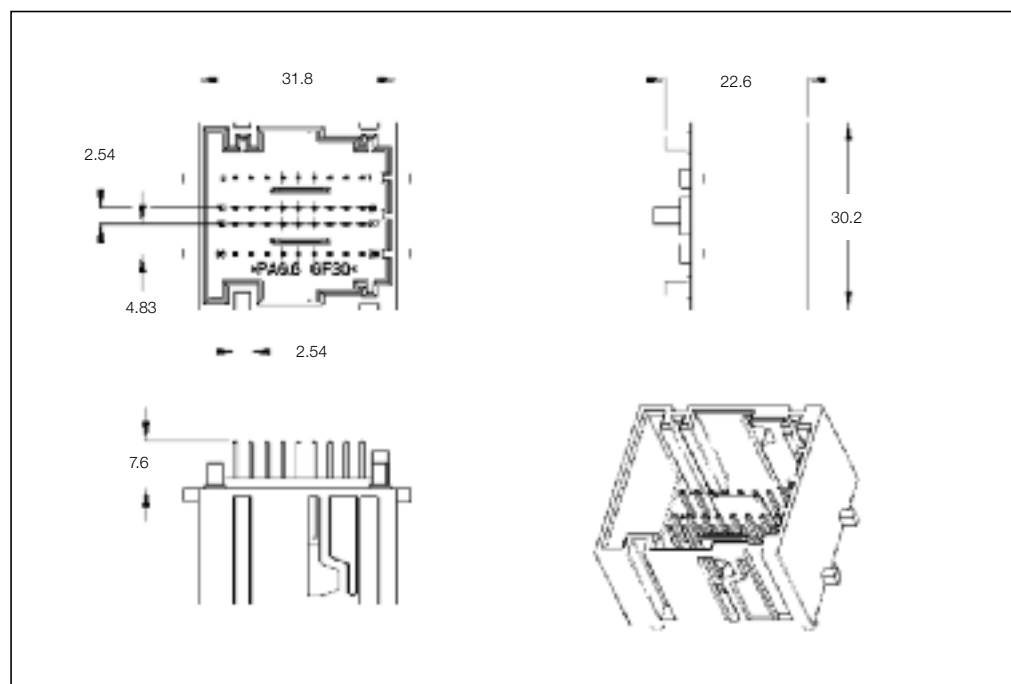
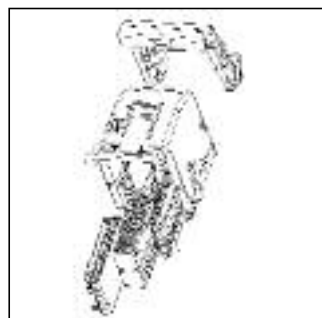
108-20220

**Application Specification:**

411-20056



**Mating Receptacle Housing**  
See Page 5-34



**36 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                 |                  |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-----------------|------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing |
| 36          | —              | Black         | 284520-1                  | 284317-1<br>284317-2   | —     | —               | —                |
|             |                |               |                           |                        |       |                 | 953599-1         |

Printed Circuit Board Headers

**Technical Features**

**Application:**

Body Computer

**No. of Positions:**

36 Positions

**Housing Material:**

PA66 GF30

**Material and Finish:**

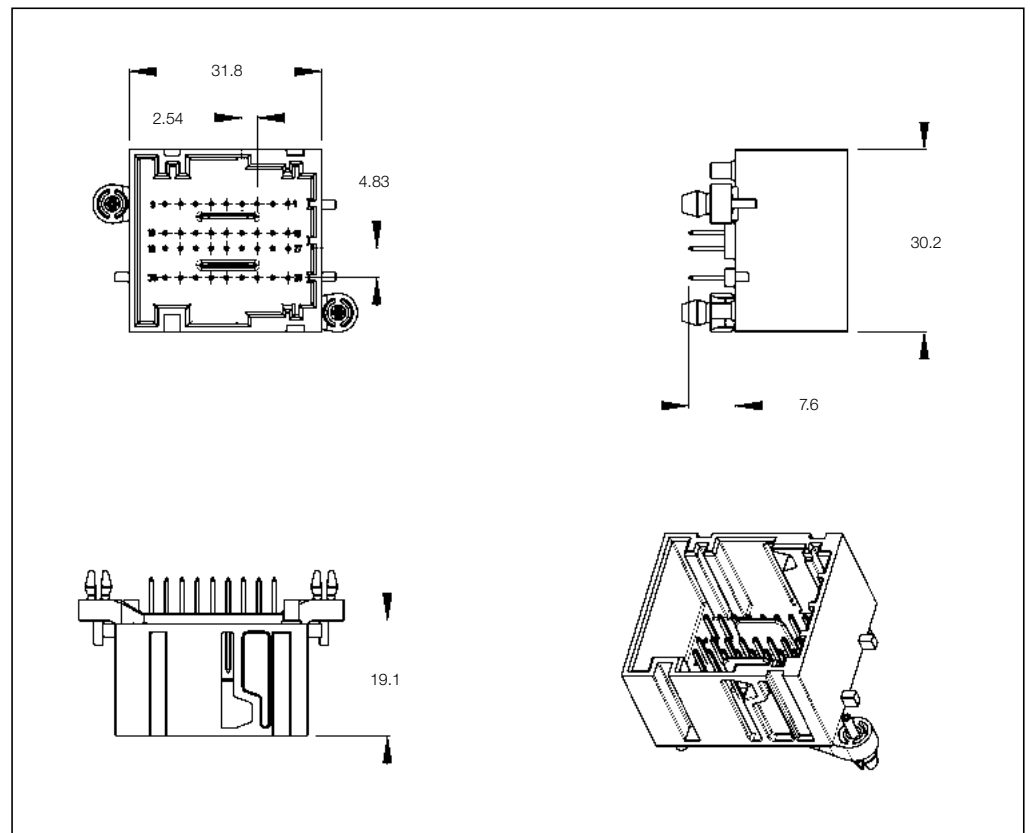
CuSn, tin plated

**Product Specification:**

108-20206

**Application Specification:**

—



**36 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing |                           |
| 36          | —              | Black         | —                      | 1599180-1           | —     | —     | —                | 284137-1                  |
|             |                |               |                        |                     |       |       |                  | 284126-1                  |
|             |                |               |                        |                     |       |       |                  | 284126-2                  |
|             |                |               |                        |                     |       |       |                  | 953599-1                  |

Printed Circuit Board Headers

**Technical Features**

**Application:**

Body Computer

**No. of Positions:**

36 Positions

**Housing Material:**

PA66 GF30

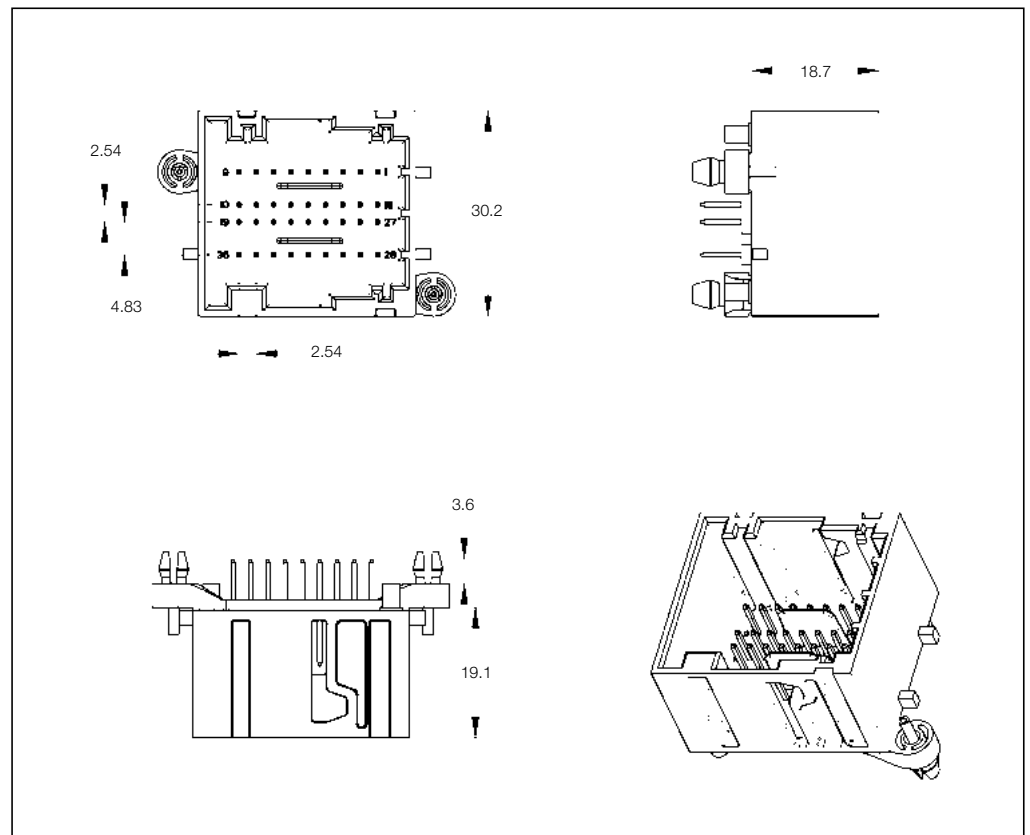
**Material and Finish:**

CuFe2, tin plated

**Product Specification:**

108-20206

**Application Specification:**



**36 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |       |                  | Mating Receptacle Housing |
|-------------|----------------|---------------|------------------------|---------------------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Lever | Retainer Housing |                           |
| 36          | -              | Black         | -                      | 284976-1            | -     | -     | -                | 284137-1                  |
|             |                |               |                        |                     |       |       |                  | 284126-1                  |
|             |                |               |                        |                     |       |       |                  | 284126-2                  |
|             |                |               |                        |                     |       |       |                  | 953599-1                  |

Receptacle Housings

**Technical Features**

**No. of Positions:**

40 Positions (20 + 20)

**Housing Material:**

PBT GF20

**Wire Size Range:**

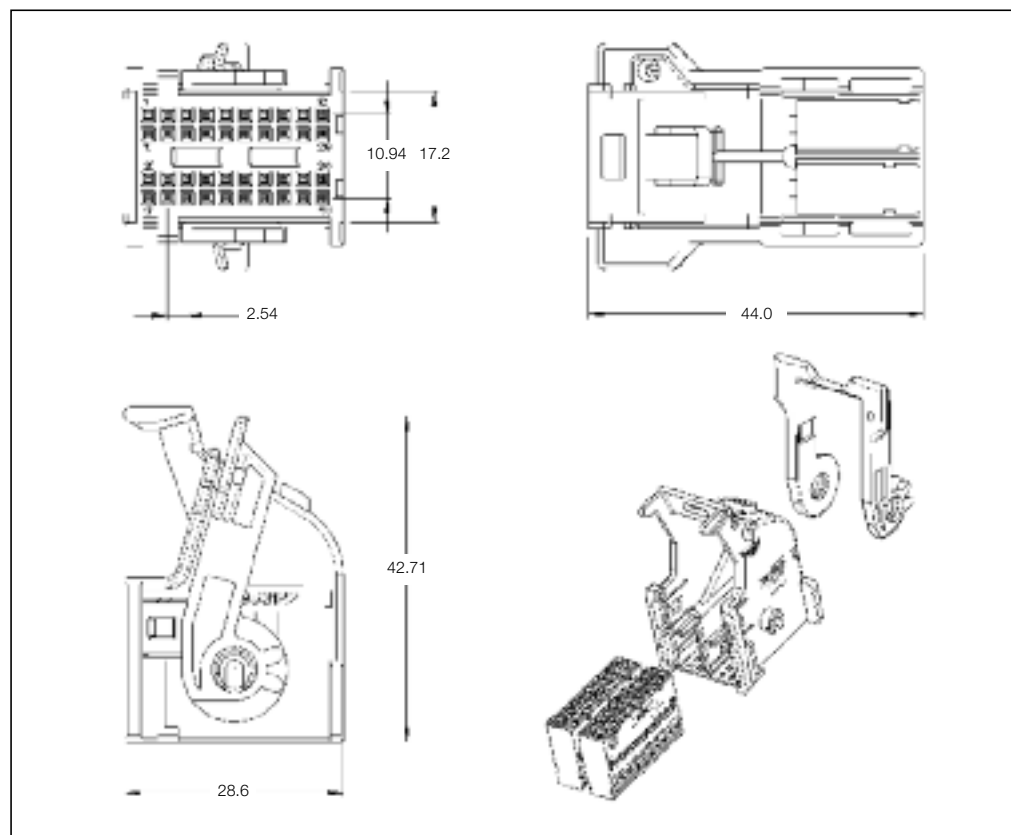
0.35–0.75 mm<sup>2</sup>

**Product Specification:**

108-15178

**Application Specification:**

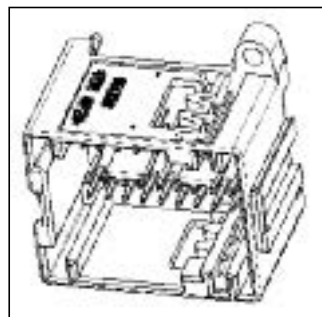
411-15597



**40 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                      |                  |                    |                               |            |
|-------------|----------------|---------------|--------------------|-------|----------------|----------------------|------------------|--------------------|-------------------------------|------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever      | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical   |
| 40          | –              | Black         | –                  | –     | –              | 953122-1 or 953122-5 |                  |                    |                               |            |
|             |                | Gray          | –                  | –     | –              | 953122-2 or 953122-6 | –                | –                  | –                             | –          |
|             |                | White         | –                  | –     | –              | 953122-3 or 953122-7 |                  |                    |                               |            |
|             |                | Blue          | –                  | –     | –              | 953122-4 or 953122-8 | –                | –                  | –                             | 1-953118-4 |
|             |                | Green         | 953119-1           |       |                |                      |                  |                    |                               |            |
|             |                | Brown         | 953119-2           |       |                |                      |                  |                    |                               |            |
|             |                | Black         | 1-953119-3         | –     | –              | –                    | –                | –                  | –                             | –          |
|             |                | White         | 1-953119-4         |       |                |                      |                  |                    |                               |            |

**Mating Header**  
See Page 5-40



Receptacle Housings

**Technical Features**

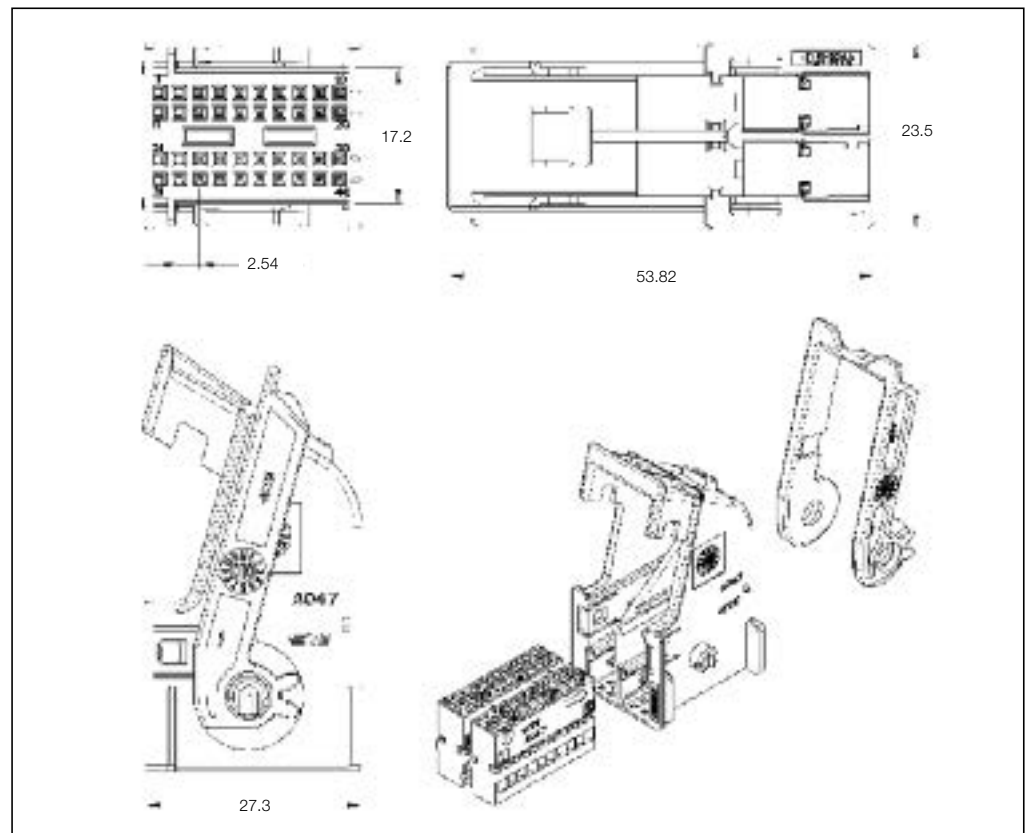
**No. of Positions:**  
40 Positions (20 + 20 Kit)

**Housing Material:**  
PA66 GF

**Wire Size Range:**  
0.35–0.5 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**40 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 40          | A              | Black         | 284229-1           | 284152-1 | —              | —               | —                | —                  | —                             | 284316-1                   |
|             | B              | Blue          | 284229-2           | 284152-2 | —              | —               | —                | —                  | —                             | —                          |

Printed Circuit Board Headers

**Technical Features**

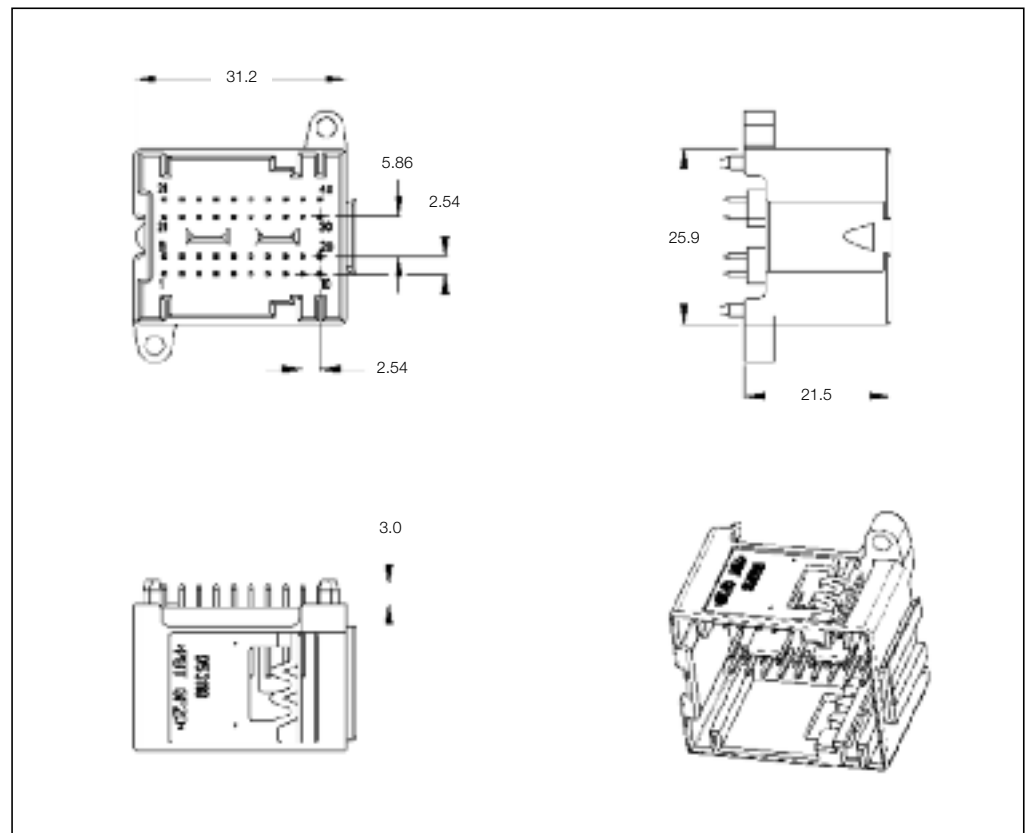
**No. of Positions:**  
40 Positions

**Housing Material:**  
PBT GF20

**Material and Finish:**  
See customer drawings

**Product Specification:**  
108-15214

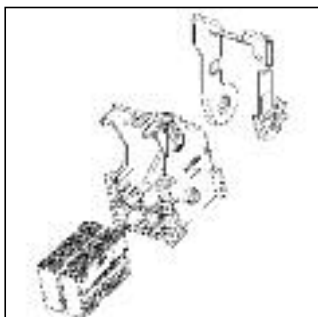
**Application Specification:**  
—



**40 Position PCB Header**

| No. of Pos. | Keying Options       | Housing Color        | Part Numbers              |                        |       |       |                                               |
|-------------|----------------------|----------------------|---------------------------|------------------------|-------|-------|-----------------------------------------------|
|             |                      |                      | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer Housing<br>Mating Receptacle Housing |
| 40          | See customer drawing | See customer drawing | —                         | 953118-1/-8            | —     | —     | 1-953119-3                                    |
|             |                      |                      | —                         | 1-953118-3             | —     |       | 1-953119-4                                    |
|             |                      |                      | —                         | 1-953118-4             | —     |       | —                                             |

**Mating Receptacle Housing**  
See Page 5-38



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

40 Positions

**Housing Material:**

PA66 GF30

**Material and Finish:**

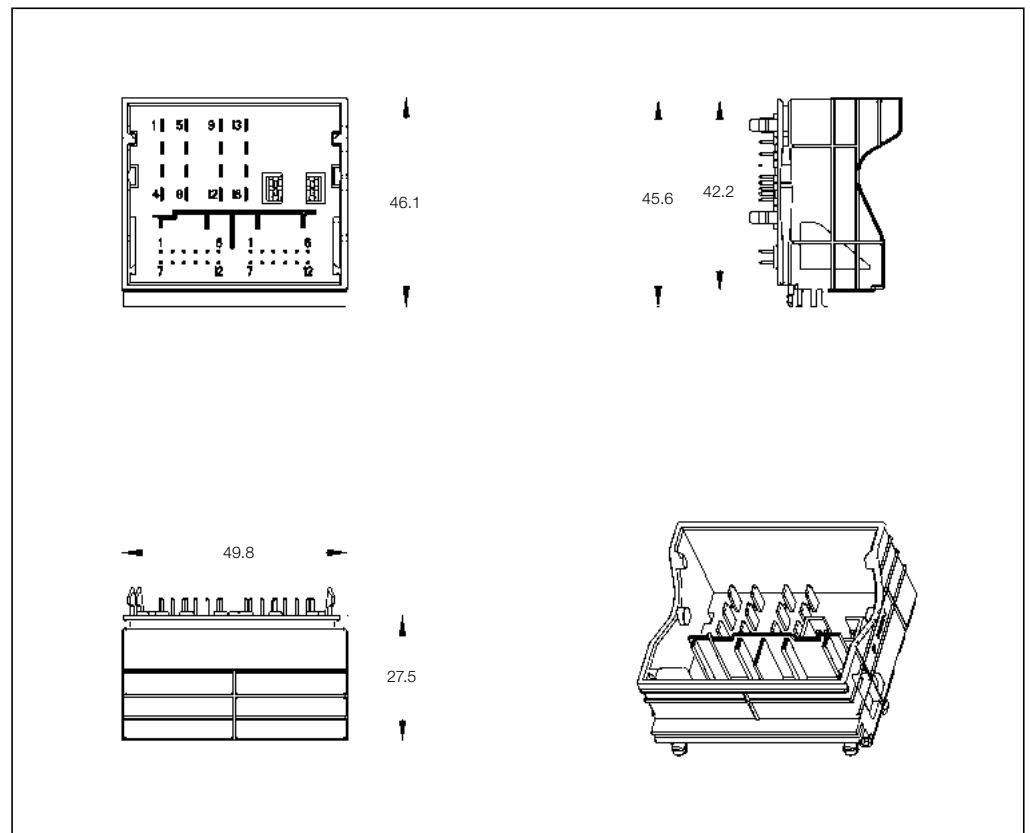
CuSn, tinned

**Product Specification:**

108-20206

**Application Specification:**

—



**40 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |           |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-----------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |           | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical  |       |       |                  |                           |
| 40          | —              | Black         | —            | 1718162-1 | —     | —     | —                | 1241765-2                 |
|             |                |               | —            | 1718162-3 |       |       |                  | 1-1355035-1               |

Printed Circuit Board Headers

**Technical Features**

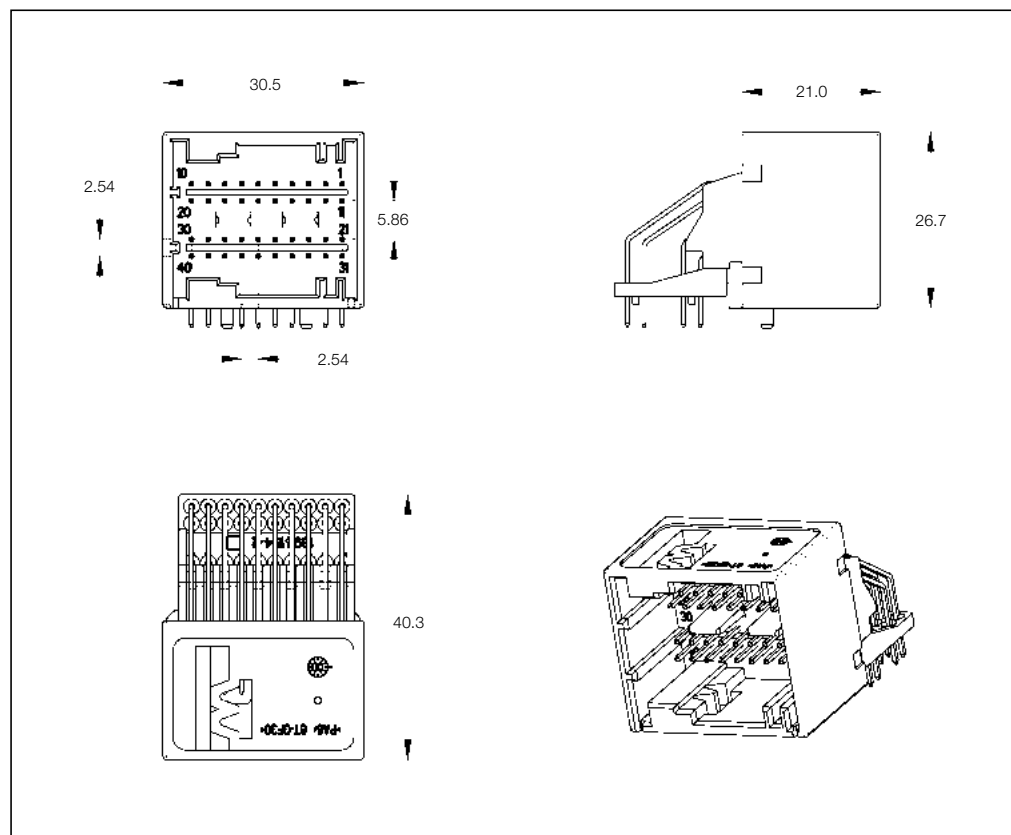
**No. of Positions:**  
40 Positions

**Housing Material:**  
PA66 GF30

**Material and Finish:**  
CuSn, tinned

**Product Specification:**  
108-15214

**Application Specification:**  
—



**40 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |       |                  |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-------|------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer Housing |
| 40          | —              | Black         | 1-1394155-4               | —                      | —     | —     | 1-968322-1       |
|             |                |               |                           |                        |       |       | 2-968322-1       |

Printed Circuit Board Headers

**Technical Features**

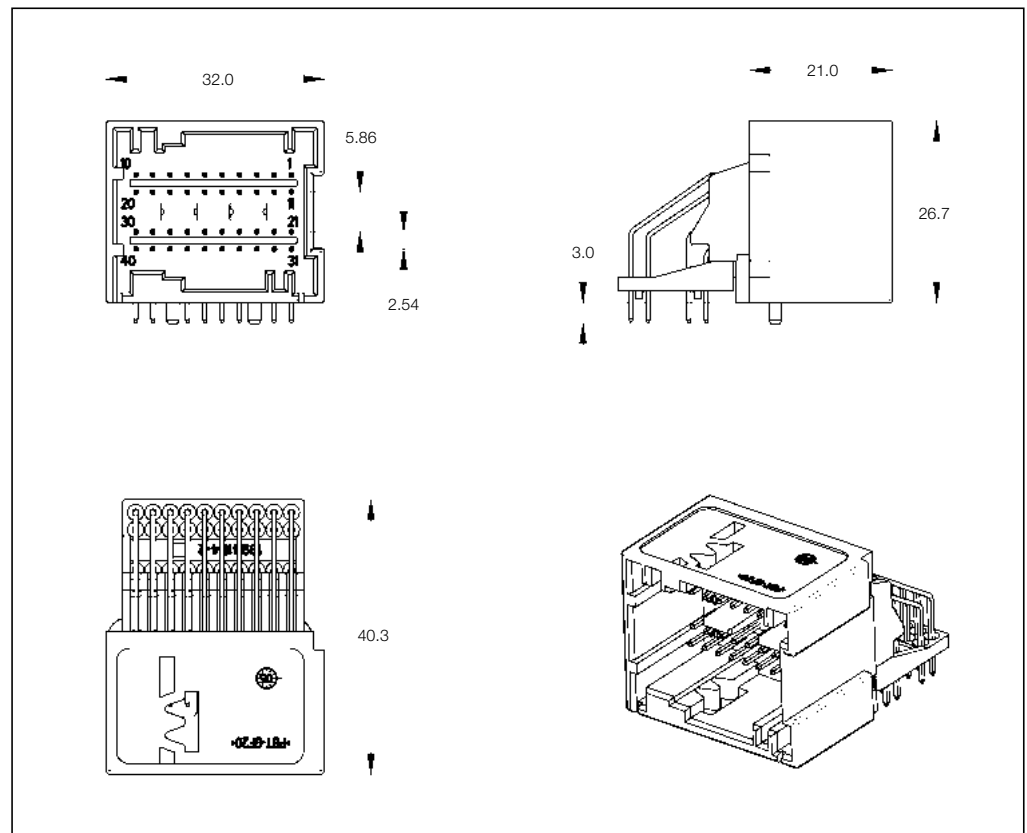
**No. of Positions:**  
40 Positions

**Housing Material:**  
PBT GF

**Material and Finish:**  
See customer drawing

**Product Specification:**  
108-15214

**Application Specification:**  
—



**40 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |   |       |       |                  |                           |
|-------------|----------------|---------------|--------------|---|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |   | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| Right-Angle | Vertical       |               |              |   |       |       |                  |                           |
| 40          | —              | Gray          | 1745060-1    | — | —     | —     | —                | —                         |

Receptacle Housings

**Technical Features**

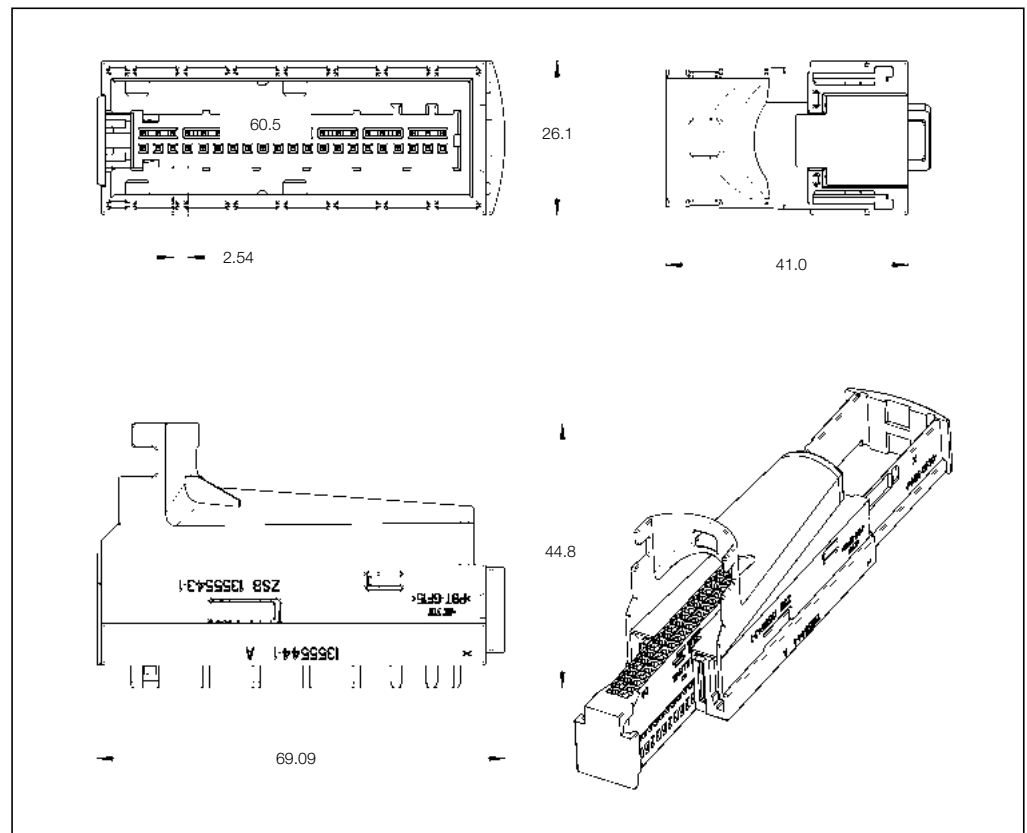
**No. of Positions:**  
42 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18685-1

**Application Specification:**  
114-18332-1



**42 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |                          |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|--------------------------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover                    | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 42          | —              | Black         | 1241727-1          | 1355543-1 (Cod B, blue)  | —     | —                | —                  | —                             | 1534346-1                  |
|             |                |               |                    | 1355543-2 (Cod A, black) |       |                  |                    |                               | 1534346-2                  |
|             |                |               |                    |                          |       |                  |                    |                               | 1534346-3                  |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

48 Positions (24 + 24)

**Housing Material:**

PBT GF10

**Material and Finish:**

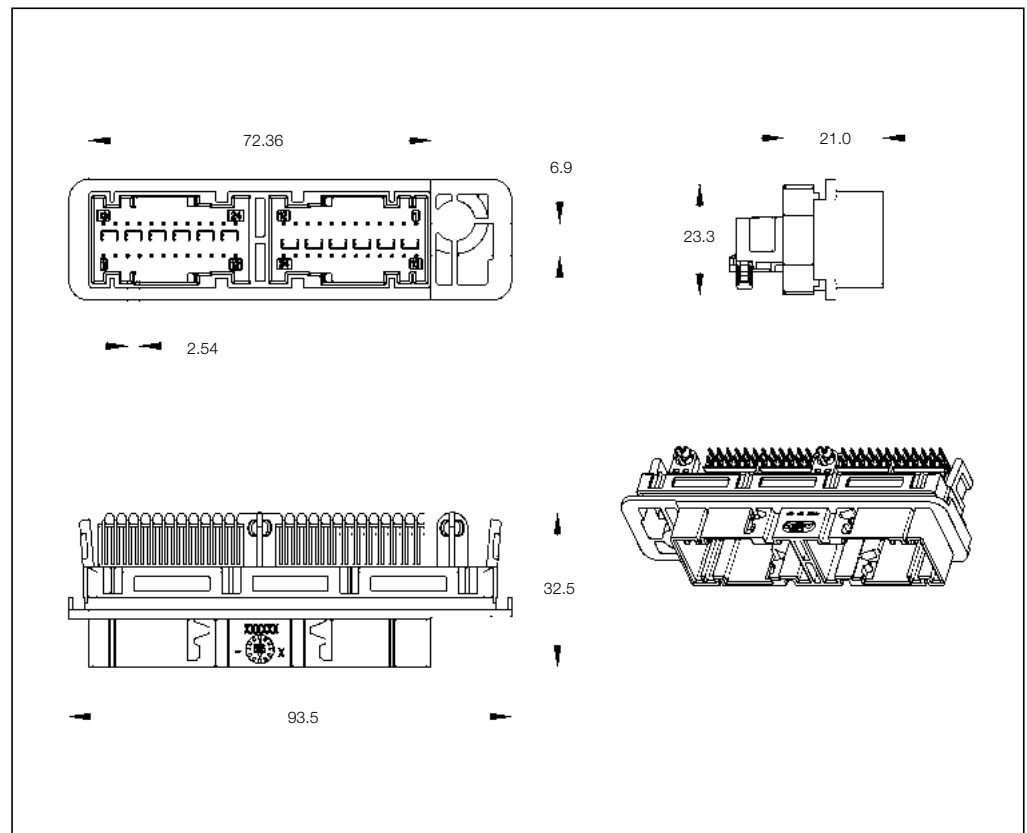
CuSn6, gold plated /  
tin at soldering area

**Product Specification:**

108-15214

**Application Specification:**

—



**48 Position PCB Header**

| No. of Pos. | Keying Options       | Housing Color        | Part Numbers              |                        |       |       |                     |                              |
|-------------|----------------------|----------------------|---------------------------|------------------------|-------|-------|---------------------|------------------------------|
|             |                      |                      | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer<br>Housing | Mating<br>Receptacle Housing |
| 48          | See customer drawing | See customer drawing | 1801317-1/-4              | —                      | —     | —     | —                   | —                            |
|             |                      |                      | 1801317-6/-9              | —                      | —     | —     | —                   | —                            |

Receptacle Housings

**Technical Features**

**Application:**

Airbag

**No. of Positions:**

50 Position Assembly

**Housing Material:**

PBT GF20

**Wire Size Range:**

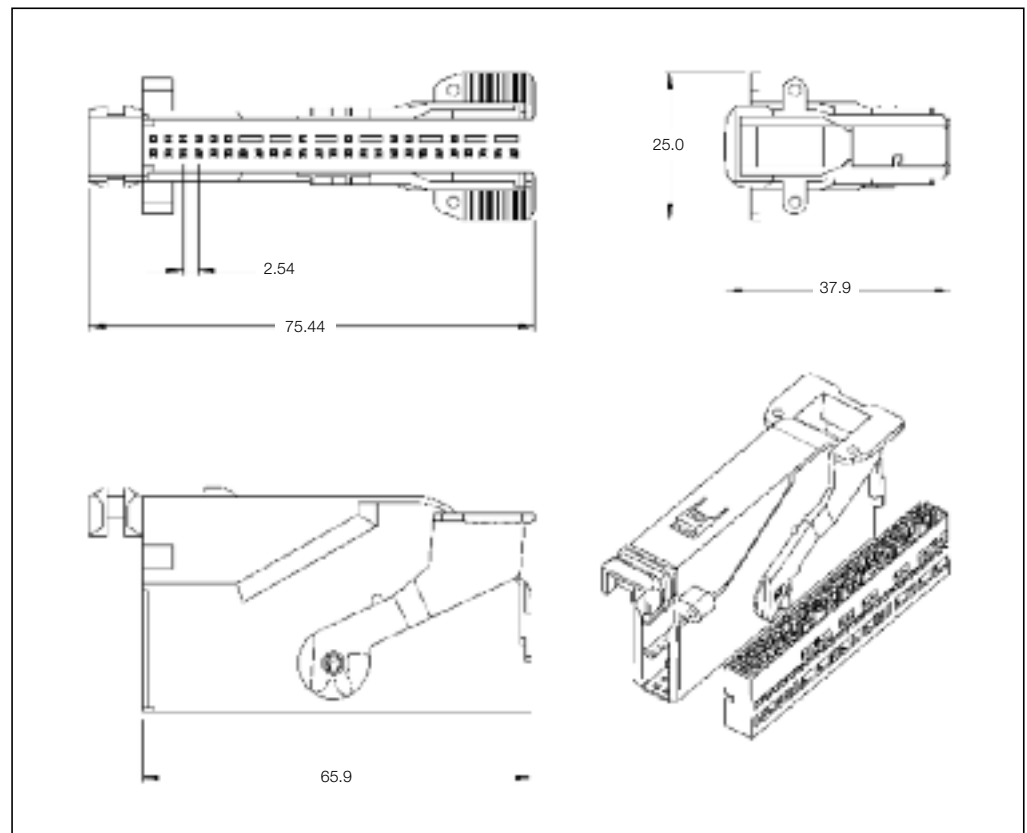
0.25–0.75 mm<sup>2</sup>

**Product Specification:**

108-61031

**Application Specification:**

114-18021



**50 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |                 |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|-----------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Header Vertical |
| 50          | –              | Black         | 368233-1           | –     | –              | 368231-1/-5     | –                | –                  | 368213-1/-5                   | –               |
|             |                |               |                    |       |                | 1-368231-2/-9   | –                | –                  | 1-368213-2/-9                 | –               |

Receptacle Housings

**Technical Features**

**Application:**

Body Computer

**No. of Positions:**

52 Position Assembly

**Housing Material:**

PA66 GF13

**Wire Size Range:**

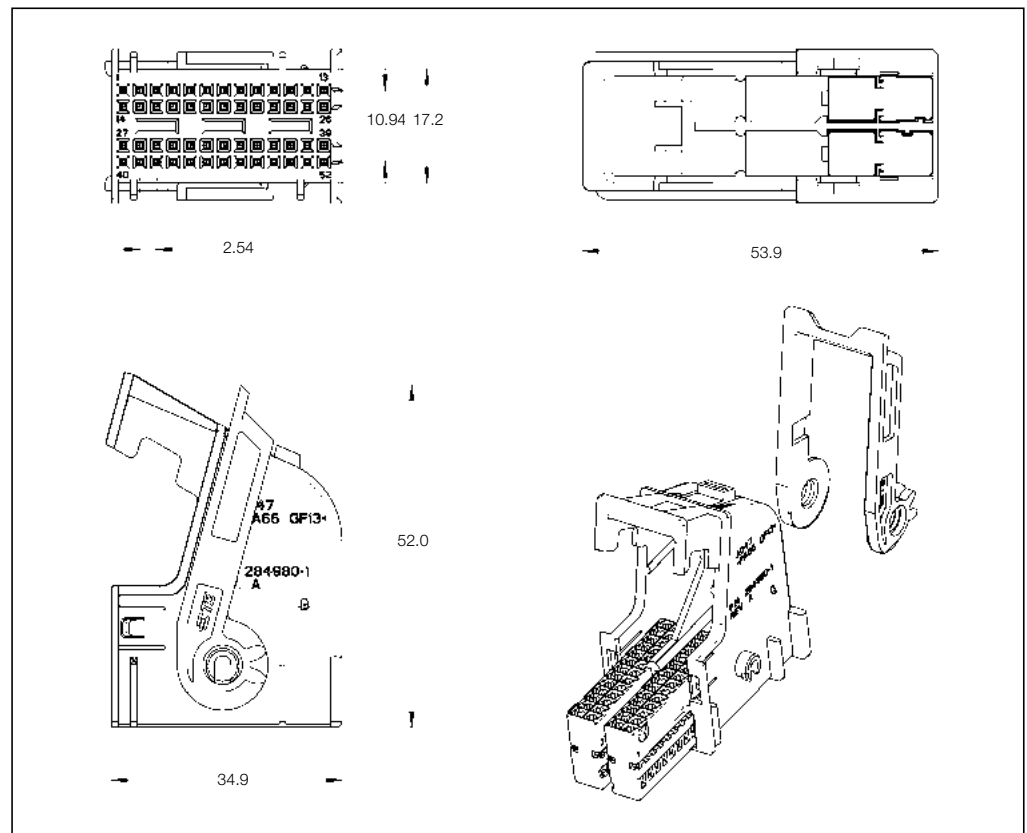
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

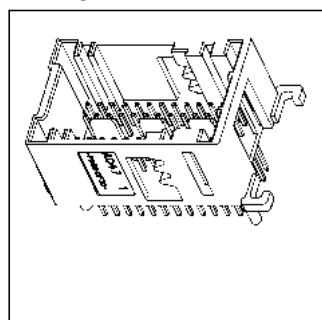
—



**52 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 52          | —              | Black         | 284972-1           | —     | —     | —                | —                  | 284975-1                      | —                          |
|             |                | Blue          | 284972-2           |       |       |                  |                    | 284975-2                      |                            |

**Mating Header**  
See Page 5-48



Printed Circuit Board Headers

**Technical Features**

**Application:**

Body Computer

**No. of Positions:**

52 Positions

**Housing Material:**

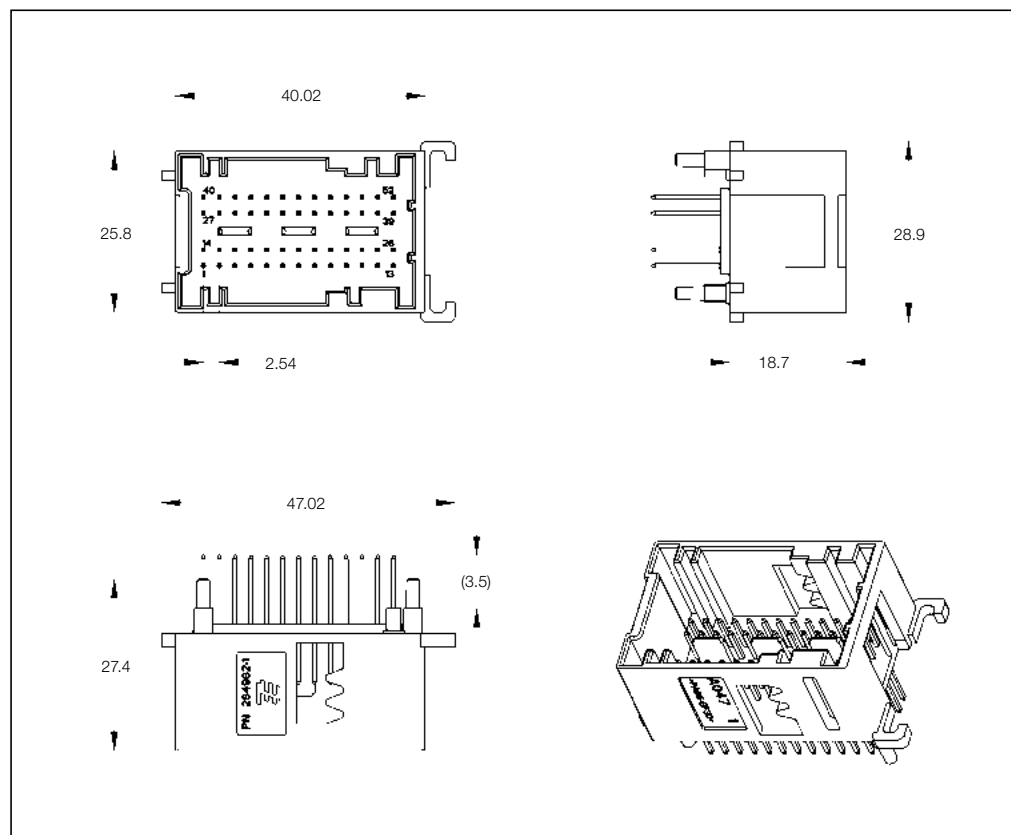
PA66

**Material and Finish:**

CuFe2 tin plated

**Product Specification:**

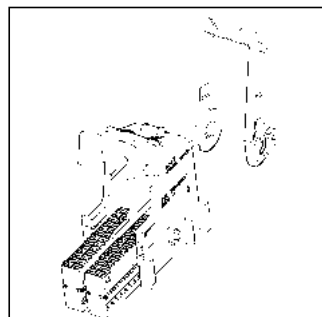
**Application Specification:**



**52 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |       |                     |                              |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-------|---------------------|------------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever | Retainer<br>Housing | Mating<br>Receptacle Housing |
| 52          | -              | Black         | -                         | 284975-1               | -     | -     | -                   | 284972-1                     |
|             |                |               | -                         | 294975-2               |       |       |                     | 284972-2                     |

**Mating Receptacle Housing**  
See Page 5-47



Printed Circuit Board Headers

**Technical Features**

**Application:**

Airbag

**No. of Positions:**

56 Position Assembly

**Housing Material:**

PBT GF30

**Wire Size Range:**

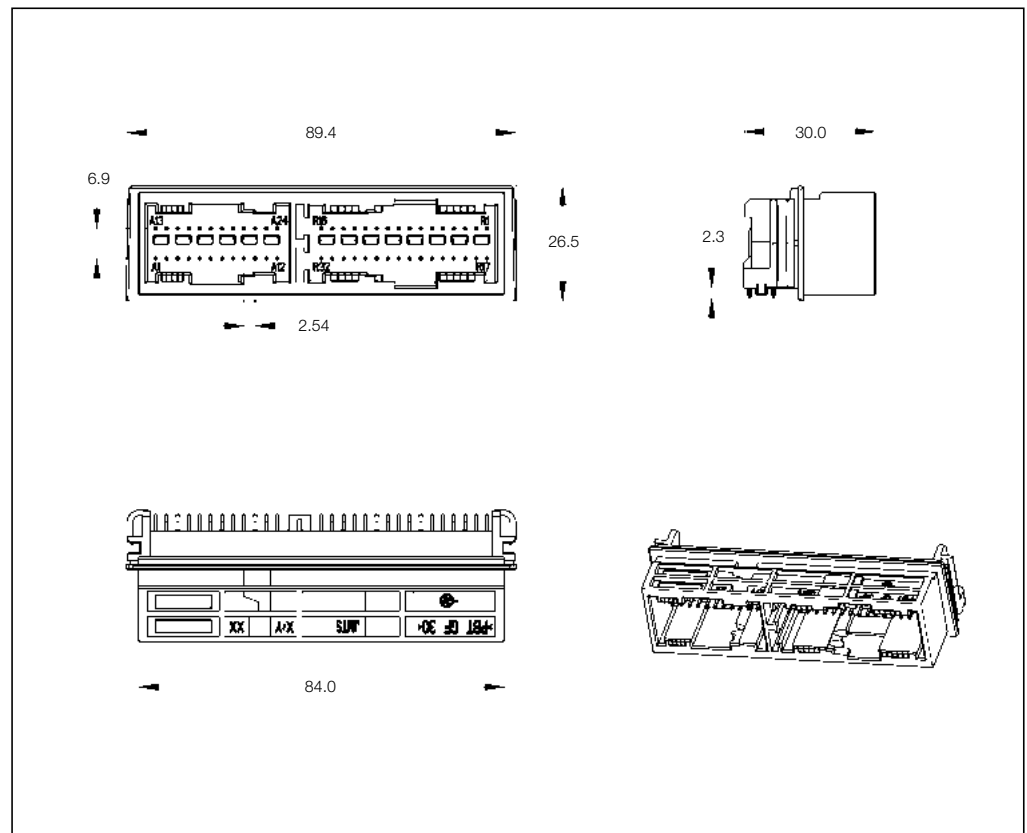
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

—

**Application Specification:**

—



**56 Position Receptacle Housings**

| No. of Pos. | Keying Options       | Housing Color        | Part Numbers       |       |       |                  |                      |                               |                            |
|-------------|----------------------|----------------------|--------------------|-------|-------|------------------|----------------------|-------------------------------|----------------------------|
|             |                      |                      | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing   | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 56          | See customer drawing | See customer drawing | 1418939-1/-9       | —     | —     | —                | see customer drawing | —                             | —                          |
|             |                      |                      | 1-1418939-1/-9     |       |       |                  |                      |                               |                            |
|             |                      |                      | 2-1418939-1/-9     |       |       |                  |                      |                               |                            |
|             |                      |                      | 3-1418939-1/-9     |       |       |                  |                      |                               |                            |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

56 (24 + 32) Positions Mixed

**Housing Material:**

PBT GF20

**Material and Finish:**

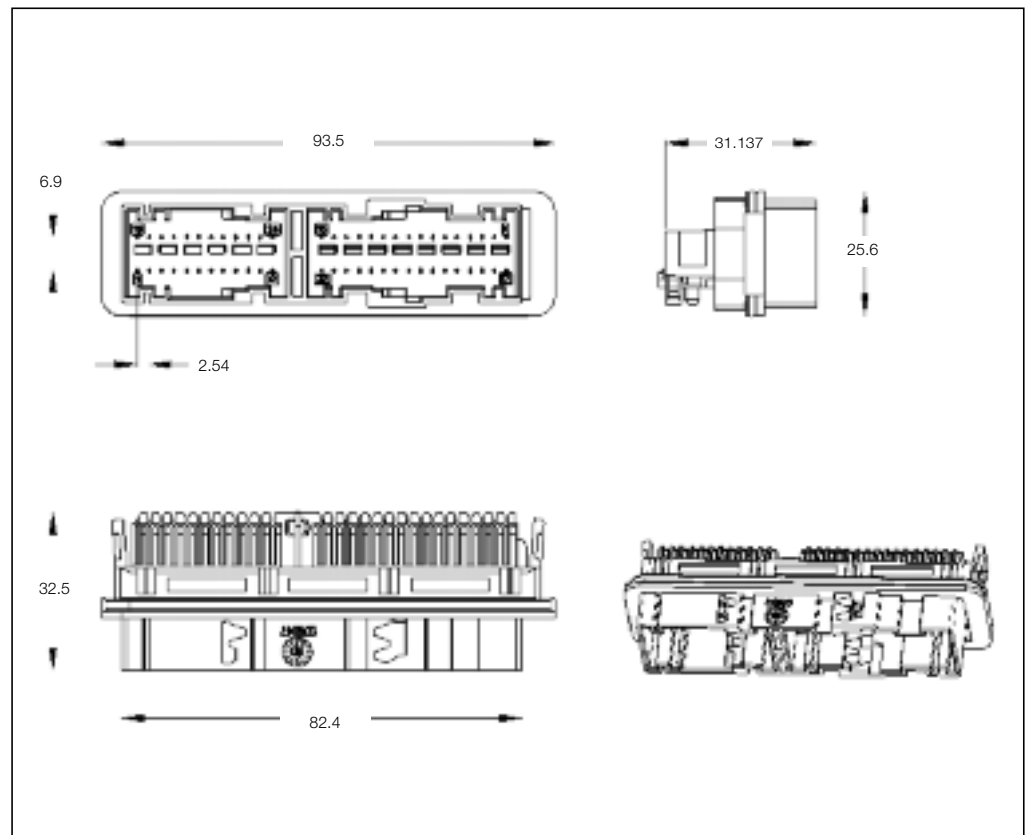
CuSn, post tin plated

**Product Specification:**

108-15312

**Application Specification:**

—



**56 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                 |                  |                     |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-----------------|------------------|---------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing | Mating Counter Part |
| 56          | A-A            | Black         | 1379046-1                 | —                      |       |                 |                  |                     |
|             | B-A            | Black         | 1379046-2                 | —                      |       |                 |                  |                     |
|             | B-B            | Black         | 1379046-3                 | —                      | —     | —               | —                | —                   |
|             | B-C            | Black         | 1379046-4                 | —                      |       |                 |                  |                     |
|             | A-E            | Black         | 1379046-5                 | —                      |       |                 |                  |                     |

Receptacle Housings

**Technical Features**

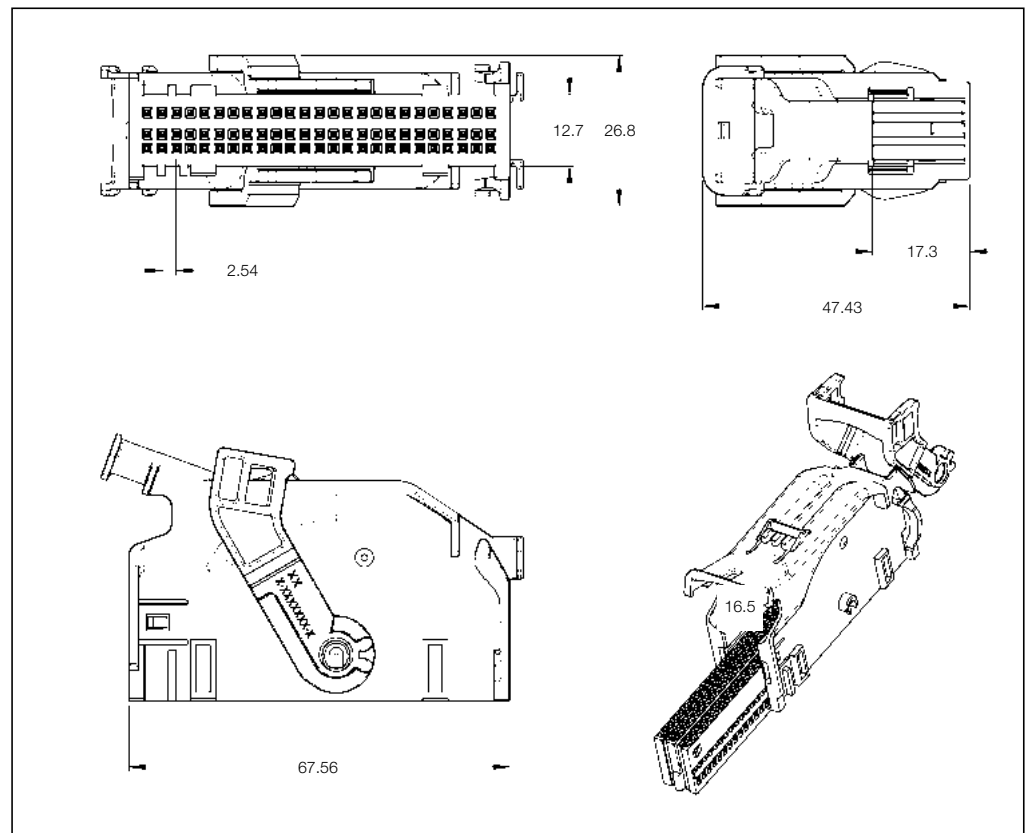
**No. of Positions:**  
75 Positions

**Housing Material:**  
PA66 GF15

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**25 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |             |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover       | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 50          | D-H            | Black         | 1-1703941-1        | 1-1703938-1 | —     | —                | —                  | —                             | —                          |
| 25          |                | Gray          | 1-1703942-1        |             |       |                  |                    |                               |                            |
| 50          | C-H            | Blue          | 2-1703941-1        | 2-1703938-1 | —     | —                | —                  | —                             | —                          |
| 25          |                | Gray          | 1-1703942-1        |             |       |                  |                    |                               |                            |

Printed Circuit Board Headers

**Technical Features**

**Application:**

Airbag

**No. of Positions:**

75 Positions

**Housing Material:**

PBT GF20

**Material and Finish:**

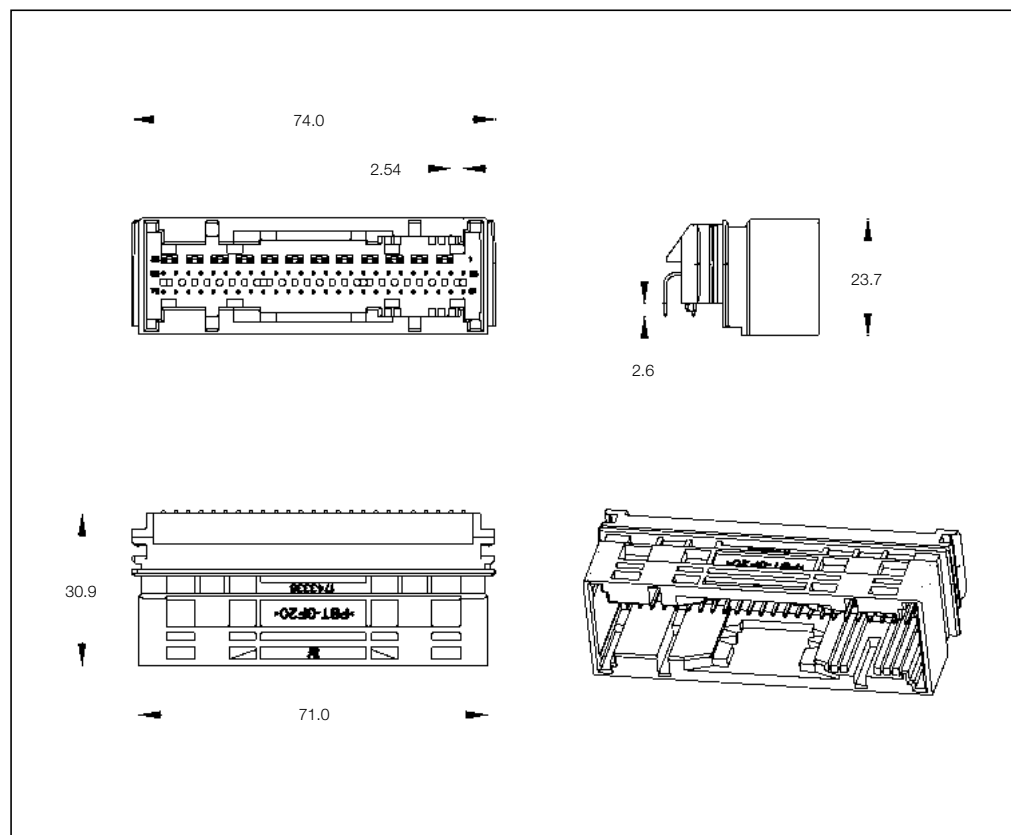
See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**75 Position PCB Header**

| No. of Pos. | Keying Options       | Housing Color        | Part Numbers              |                        |       |                            |                  |                           |
|-------------|----------------------|----------------------|---------------------------|------------------------|-------|----------------------------|------------------|---------------------------|
|             |                      |                      | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Lever                      | Retainer Housing | Mating Receptacle Housing |
| 75          | See customer drawing | See customer drawing | 1-1743336-1/-9            | —                      | —     | 1-1703938-1<br>2-1703938-1 | —                | —                         |
|             |                      |                      | 2-1743336-1/-9            |                        |       |                            |                  |                           |
|             |                      |                      | 3-1743336-1/-9            |                        |       |                            |                  |                           |
|             |                      |                      | 4-1743336-1/-9            |                        |       |                            |                  |                           |
|             |                      |                      | 5-1743336-1/-9            |                        |       |                            |                  |                           |
|             |                      |                      | 6-1743336-1/-9            |                        |       |                            |                  |                           |
|             |                      |                      | 7-1743336-1/-9            |                        |       |                            |                  |                           |

Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

94 Positions

**Housing Material:**

PBT GF20

**Material and Finish:**

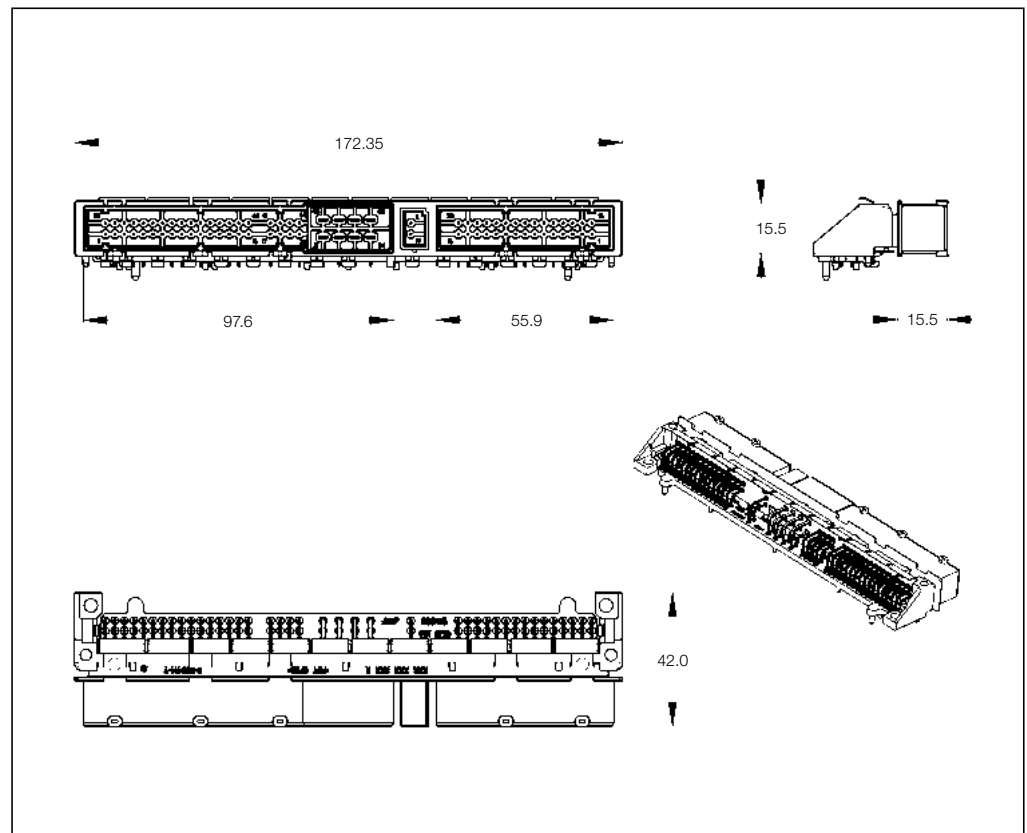
See customer drawing

**Product Specification:**

—

**Application Specification:**

—



**94 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |          |       |       |                  |                           |
|-------------|----------------|---------------|--------------|----------|-------|-------|------------------|---------------------------|
|             |                |               | PCB Header   |          | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
|             |                |               | Right-Angle  | Vertical |       |       |                  |                           |
| 94          | —              | see drawing   | X-967224-Y   | —        | —     | —     | —                | —                         |

Printed Circuit Board Headers

**Technical Features**

**Application:**  
ECU

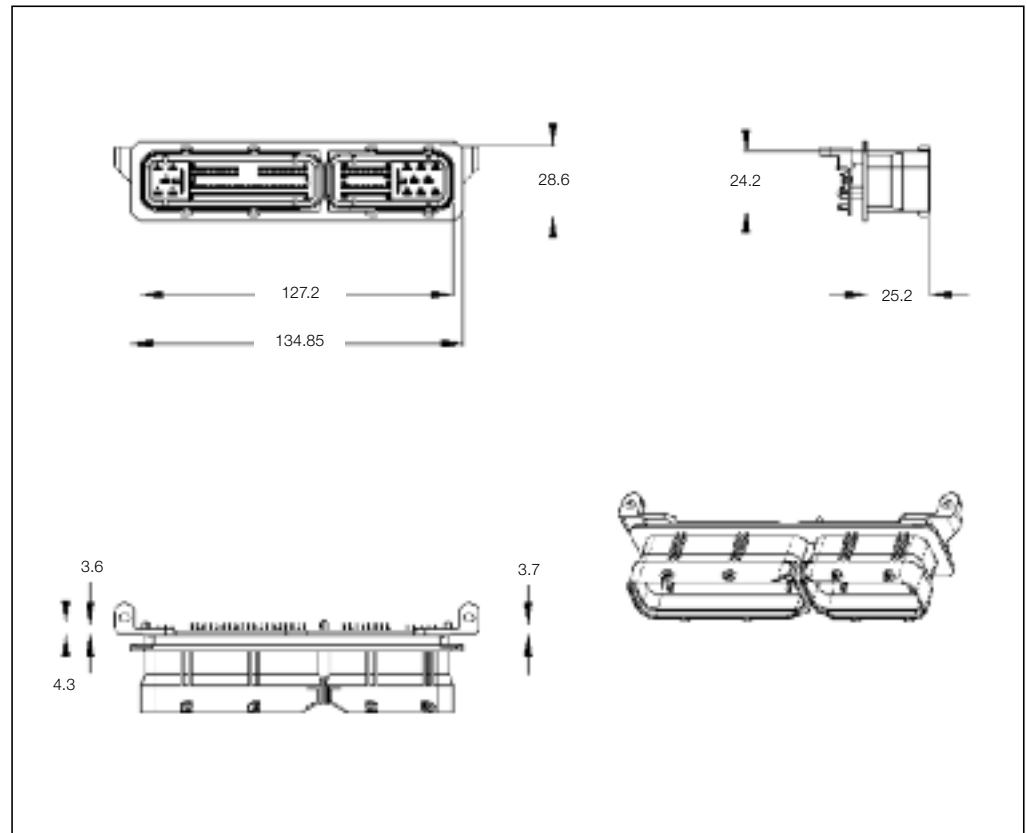
**No. of Positions:**  
115 Positions

**Housing Material:**  
PCT GF30

**Material and Finish:**  
CuZn, gold/tin plated

**Product Specification:**  
108-61039

**Application Specification:**  
114-18021-1



**115 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers           |                     |       |                 |                  |                           |
|-------------|----------------|---------------|------------------------|---------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header Right-Angle | PCB Header Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 115         | —              | Black         | 368146-1               | —                   | —     | —               | —                | 368376-1                  |
|             |                |               | 368146-2               | —                   |       |                 |                  |                           |
|             |                |               | 368146-3               | —                   |       |                 |                  |                           |

Receptacle Housings

**Technical Features**

**No. of Positions:**

121 Position Assembly  
for MQS and  
Junior Power Timer

**Housing Material:**

PBT GF20

**Wire Size Range:**

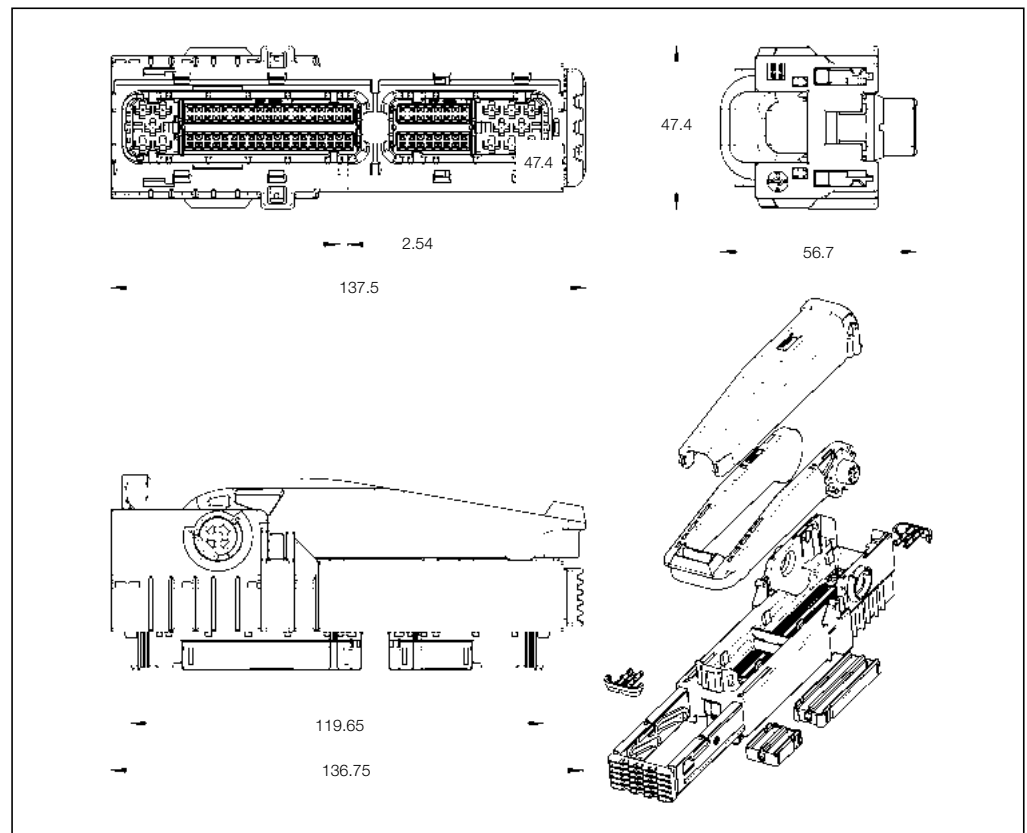
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-5799

**Application Specification:**

114-18021/18050



**121 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |           |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-----------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover     | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 121         | –              | Black         | 1565416-1          | 1565422-1 | –     | –                | –                  | –                             | –                          |

Printed Circuit Board Headers

**Technical Features**

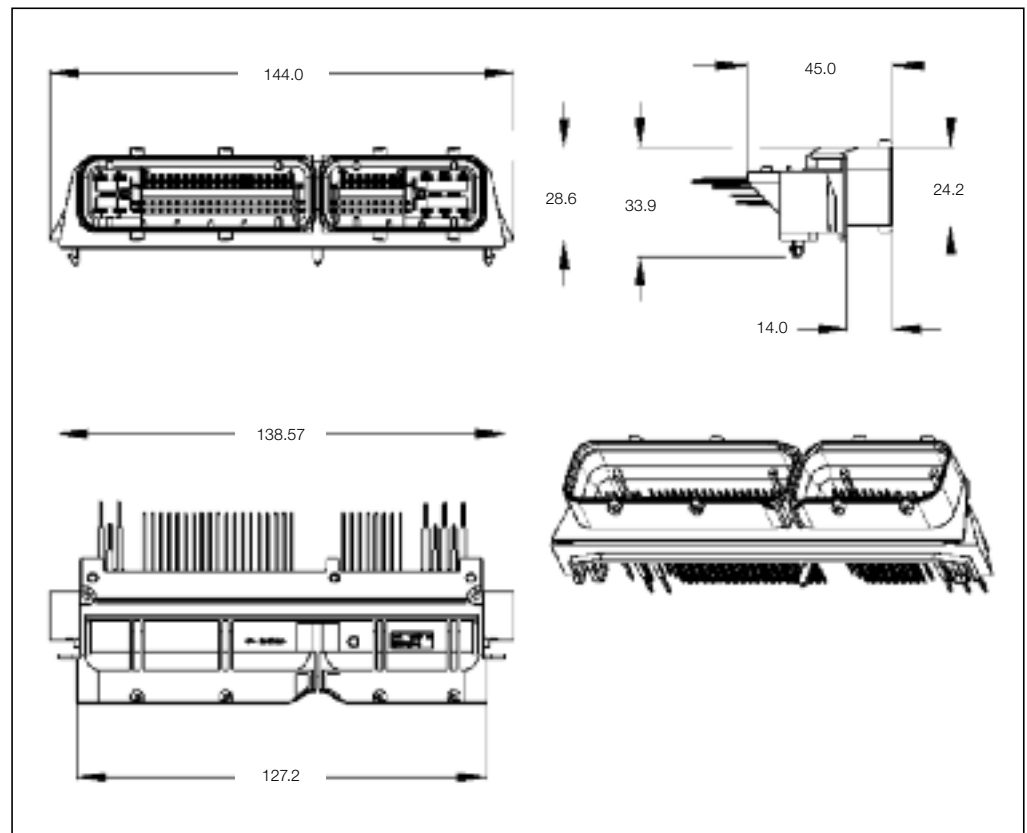
**No. of Positions:**  
121 (81/40) Position Assembly

**Housing Material:**  
PA66 GF30

**Material and Finish:**  
CuSn6, tin plated

**Product Specification:**  
108-5793

**Application Specification:**  
411-78008



**81/40 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                 |                  |                           |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 81/40       | see drawing    | Black         | 1241434-1                 | —                      | —     | —               | —                | 1355171-1 + 1355172-1     |
|             |                |               | 1241434-2                 |                        |       |                 |                  | 1355171-2 + 1355172-1     |
|             |                |               | 1241434-3                 |                        |       |                 |                  | 1355171-1 + 1355172-1     |

## Receptacle Housings

### Technical Features

**No. of Positions:**

2 Positions

**Housing Material:**

PBT Glas fibre reinforced

**Wire Size Range:**

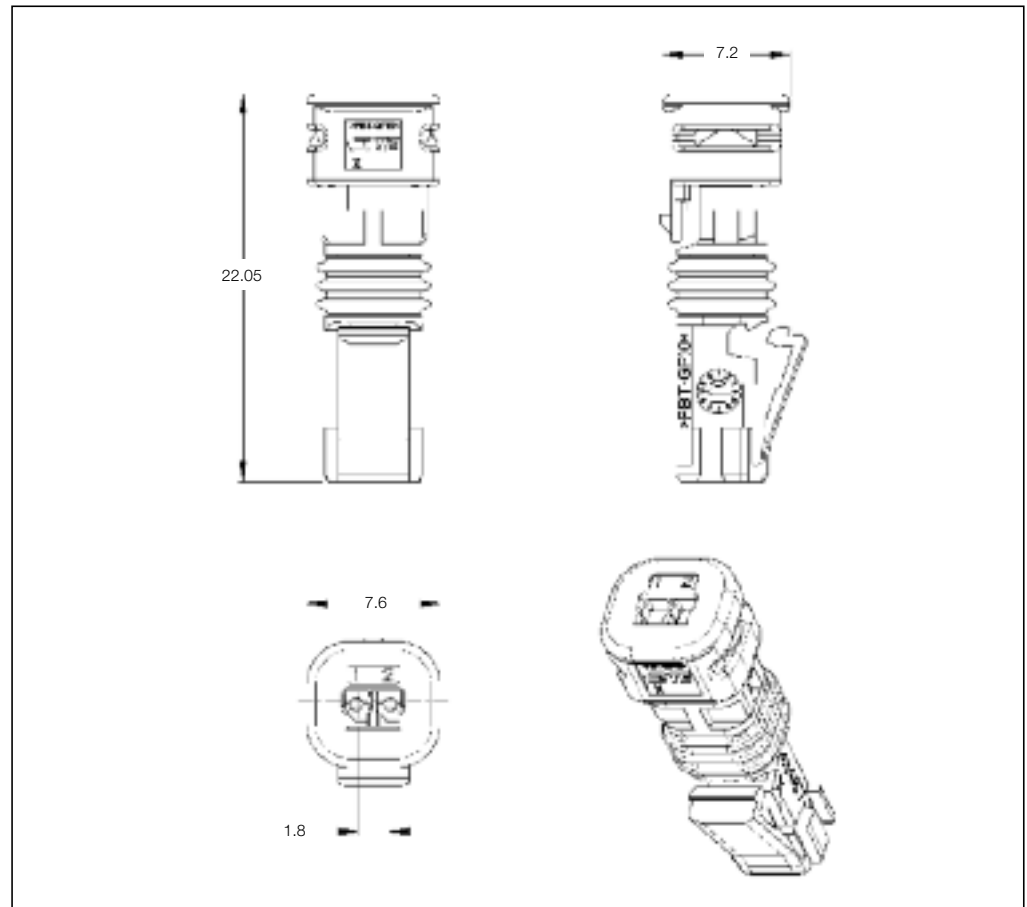
0.22–0.35 mm<sup>2</sup>

**Product Specification:**

108-94320

**Application Specification:**

114-94174



### Receptacle Housings

| No. of Positions | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                    |          |
|------------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|--------------------|----------|
|                  |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers |          |
|                  |                |               |                    |       |                |                 |                    | Right Angle        | Vertical |
| 2 pos.           | Coding A       | Black         | 2141467-1          | N/A   | N/A            | N/A             | 114-94000-14       | –                  | –        |
| 2 pos.           | Coding B       | Grey          | 2141467-2          | N/A   | N/A            | N/A             | 114-94000-14       | –                  | –        |
| 2 pos.           | Coding C       | Blue          | 2141467-3          | N/A   | N/A            | N/A             | 114-94000-14       | –                  | –        |

Receptacle Housings

**Technical Features**

**No. of Positions:**

4 Positions

**Housing Material:**

PBT Glas fibre reinforced

**Wire Size Range:**

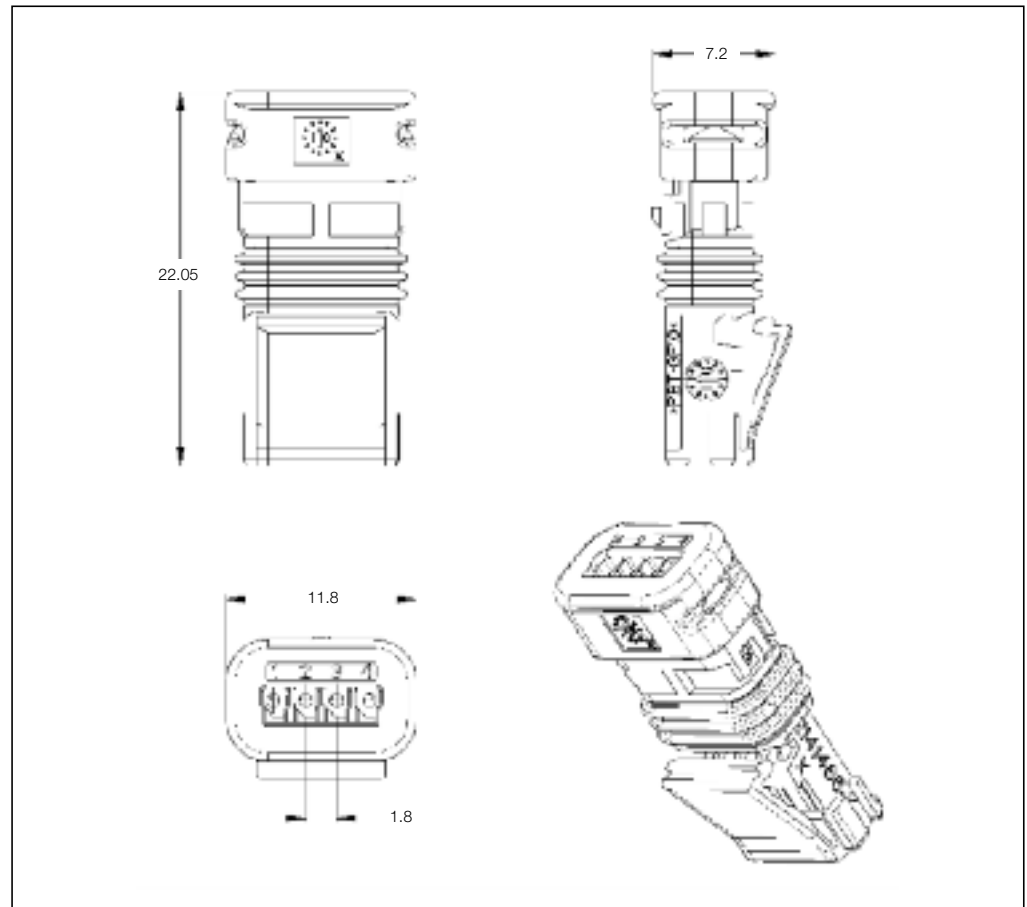
0.22–0.35 mm<sup>2</sup>

**Product Specification:**

108-94320

**Application Specification:**

114-94174



**Receptacle Housings**

| No. of Positions | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                    |          |
|------------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|--------------------|----------|
|                  |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers |          |
|                  |                |               |                    |       |                |                 |                    | Right Angle        | Vertical |
| 4 pos.           | Coding A       | Black         | 2141466-1          | N/A   | N/A            | N/A             | 114-94000-14       | –                  | –        |

## Receptacle Housings

### Technical Features

**No. of Positions:**

2–6 Positions

**Housing Material:**

PBT Glas fibre reinforced

**Wire Size Range:**

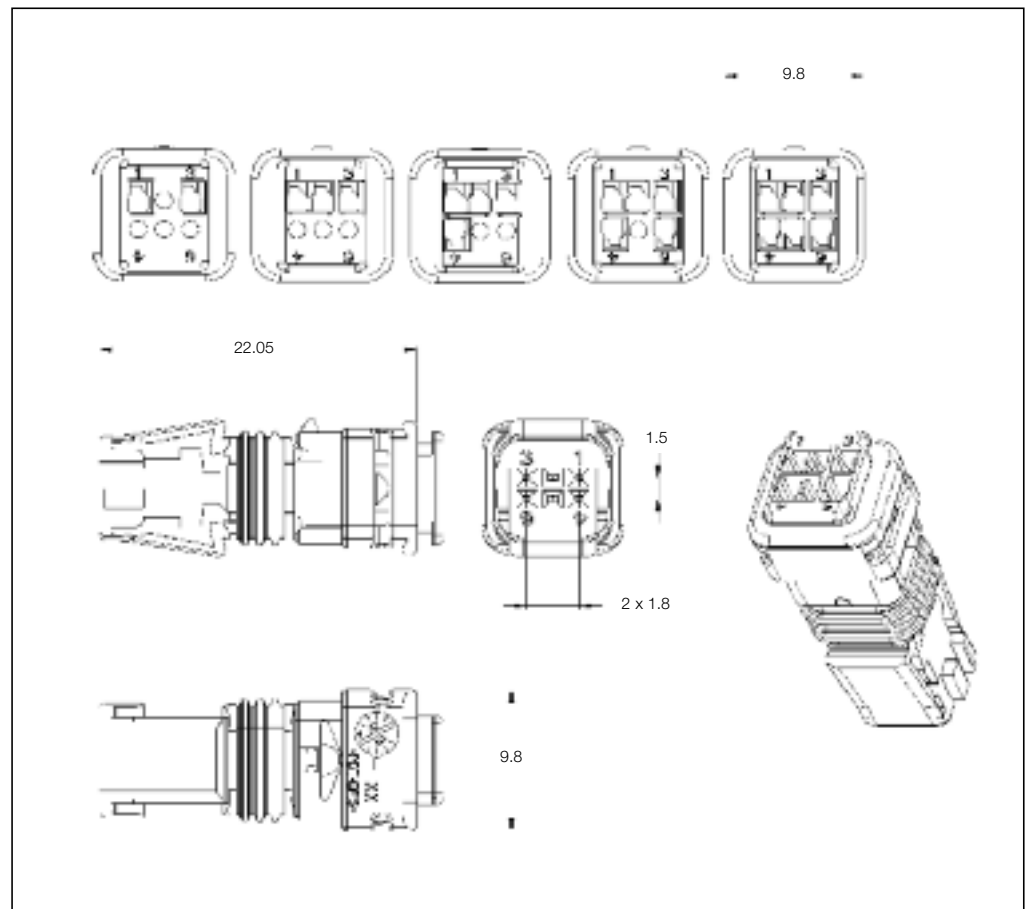
0.22–0.35 mm<sup>2</sup>

**Product Specification:**

108-94288-4

**Application Specification:**

114-94033



### Receptacle Housings

| No. of Positions | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                    |          |
|------------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|--------------------|----------|
|                  |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers |          |
|                  |                |               |                    |       |                |                 |                    | Right Angle        | Vertical |
| 6 pos.           | Coding A       | Black         | 0-2112594-1        | N/A   | N/A            | N/A             | –                  | –                  | –        |
| 6 pos.           | Coding B       | Grey          | 0-2112594-2        | N/A   | N/A            | N/A             | –                  | –                  | –        |
| 5 pos.           | Coding A       | Black         | 5-2112594-1        | N/A   | N/A            | N/A             | –                  | –                  | –        |
| 5 pos.           | Coding B       | Grey          | 5-2112594-2        | N/A   | N/A            | N/A             | –                  | –                  | –        |
| 4 pos.           | Coding A       | Black         | 4-2112594-1        | N/A   | N/A            | N/A             | –                  | –                  | –        |
| 4 pos.           | Coding B       | Grey          | 4-2112594-2        | N/A   | N/A            | N/A             | –                  | –                  | –        |
| 3 pos.           | Coding A       | Black         | 3-2112594-1        | N/A   | N/A            | N/A             | –                  | –                  | –        |
| 3 pos.           | Coding B       | Grey          | 3-2112594-2        | N/A   | N/A            | N/A             | –                  | –                  | –        |
| 2 pos.           | Coding A       | Black         | 2-2112594-1        | N/A   | N/A            | N/A             | –                  | –                  | –        |
| 2 pos.           | Coding B       | Grey          | 2-2112594-2        | N/A   | N/A            | N/A             | –                  | –                  | –        |

## Receptacle Housings

### Technical Features

**No. of Positions:**

6 Positions

**Housing Material:**

PBT Glas fibre reinforced

**Wire Size Range:**

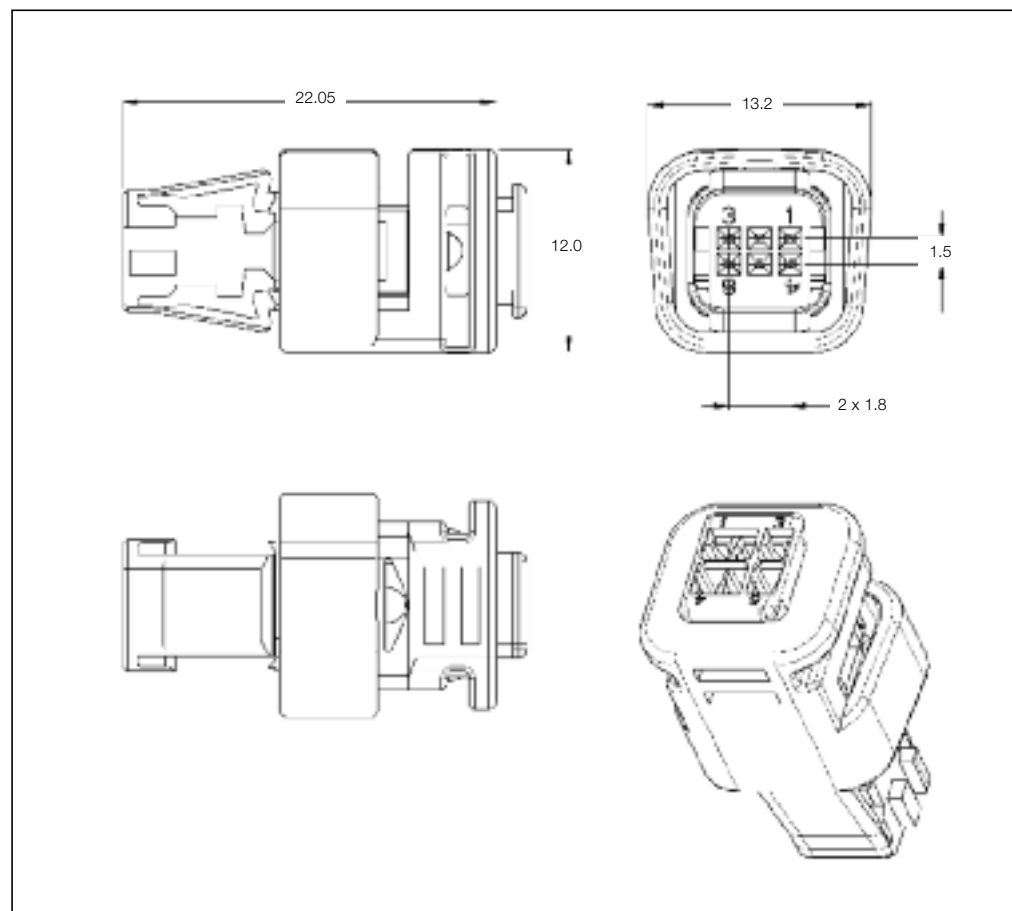
0.22–0.35 mm<sup>2</sup>

**Product Specification:**

108-94288-4

**Application Specification:**

114-94033



### Receptacle Housings

| No. of Positions | Keying Options | Housing Color | Part Numbers       |       |                |                 |                    |                    |          |
|------------------|----------------|---------------|--------------------|-------|----------------|-----------------|--------------------|--------------------|----------|
|                  |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers |          |
|                  |                |               |                    |       |                |                 |                    | Right Angle        | Vertical |
| 6 pos.           | Coding A       | Black         | 0-2112593-1        | N/A   | N/A            | N/A             | –                  | –                  | –        |
| 6 pos.           | Coding B       | Grey          | 0-2112593-2        | N/A   | N/A            | N/A             | –                  | –                  | –        |

Receptacle Housings

**Technical Features**

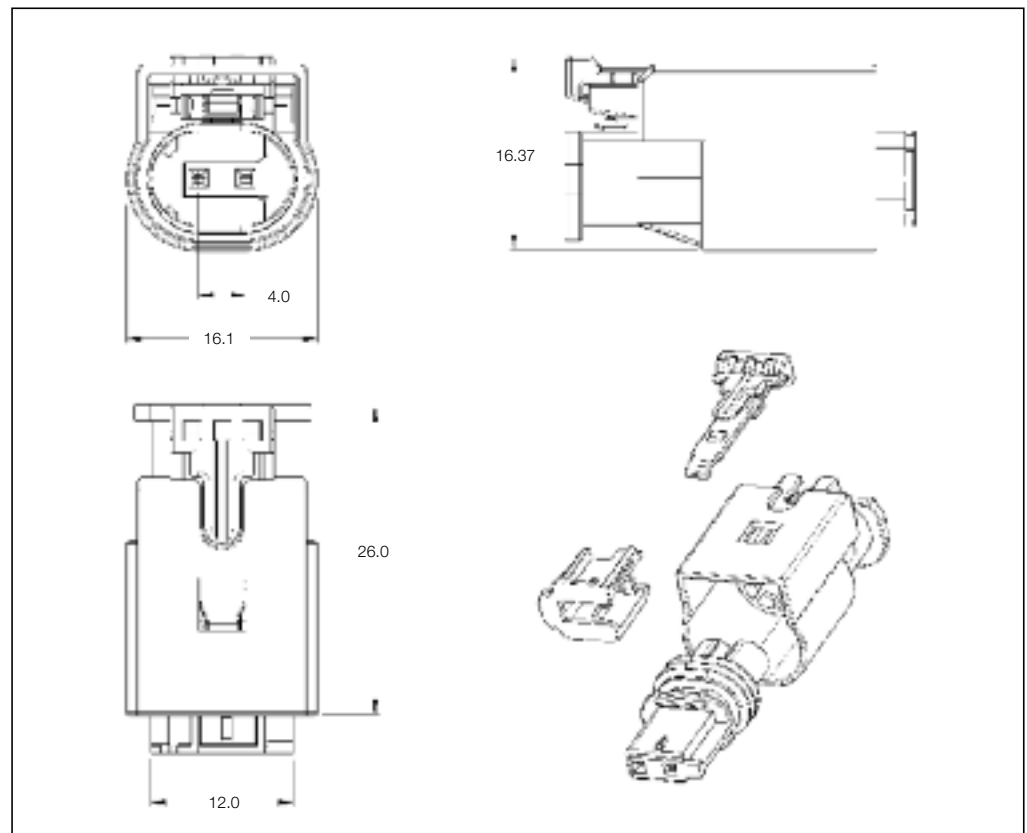
**No. of Positions:**  
2 Position Assembly

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

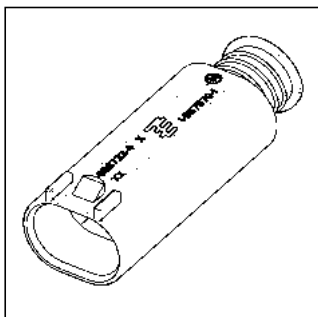
**Application Specification:**  
—



**2 Position Receptacle Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | A              | Black         | 1-1418463-9        | —     | —     | —                | 1-967570-1         | —                             | —                          |

**Mating Pin Housing**  
See Page 6-9



Receptacle Housings

**Technical Features**

**No. of Positions:**

2 Positions

**Housing Material:**

PBT GF15

**Wire Size Range:**

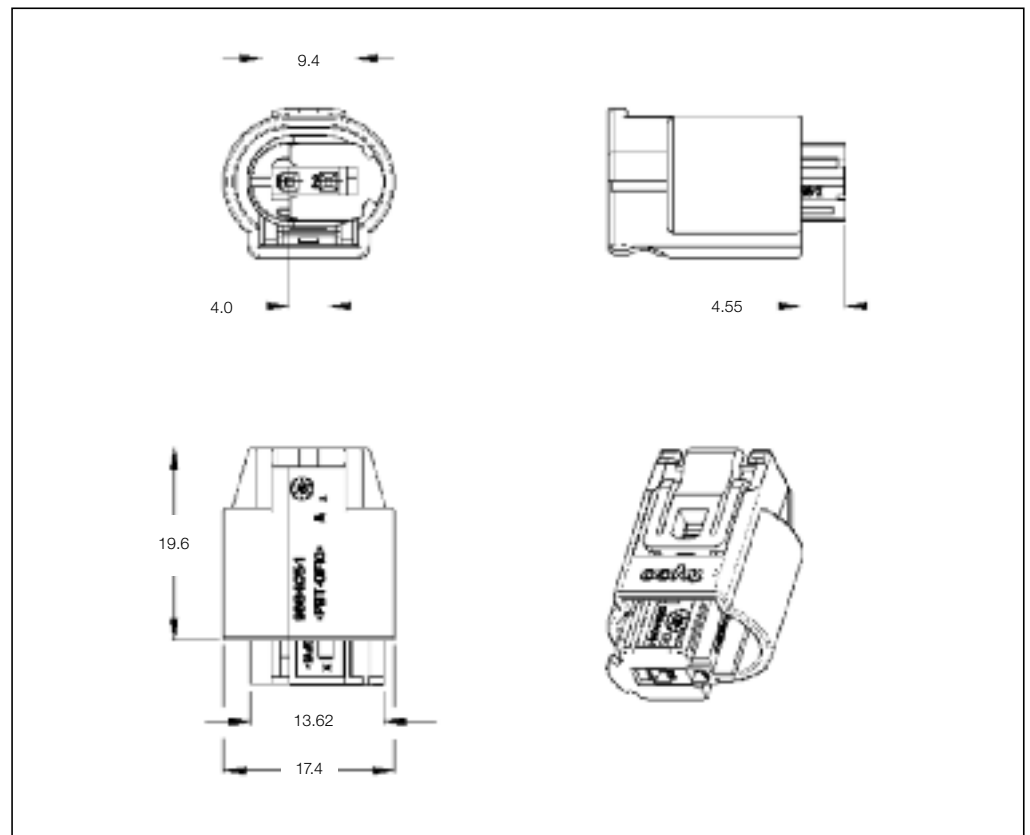
0.2–0.75 mm<sup>2</sup>

**Product Specification:**

108-18272-0

**Application Specification:**

114-18061



**2 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | A              | Black         | 1-967644-1         | —     | —              | —               | —                | —                  | —                             | —                          |
|             | B              | Gray          | 2-967644-1         |       |                |                 |                  |                    |                               |                            |
|             | C              | Green         | 3-967644-1         |       |                |                 |                  |                    |                               |                            |
|             | A              | Yellow        | 7-967644-3         |       |                |                 |                  |                    |                               |                            |

Receptacle Housings

**Technical Features**

**No. of Positions:**

2 Positions

**Housing Material:**

PA66 GF

**Wire Size Range:**

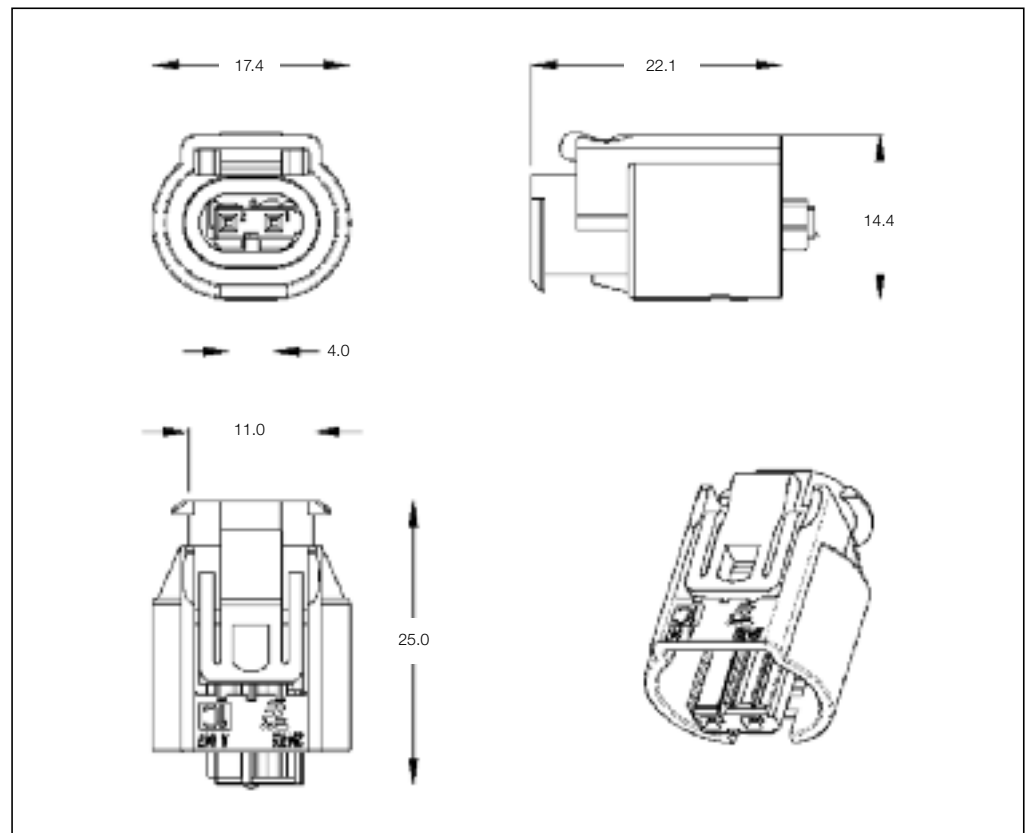
0.35–0.75 mm<sup>2</sup>

**Product Specification:**

108-20234

**Application Specification:**

411-20066



**2 Position Receptacle Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | A              | Black         | 284703-1           | –     | –              | –               | –                | –                  | –                             | –                          |

Receptacle Housings

**Technical Features**

**No. of Positions:**

2 Position Assembly

**Housing Material:**

PBT GF20

**Wire Size Range:**

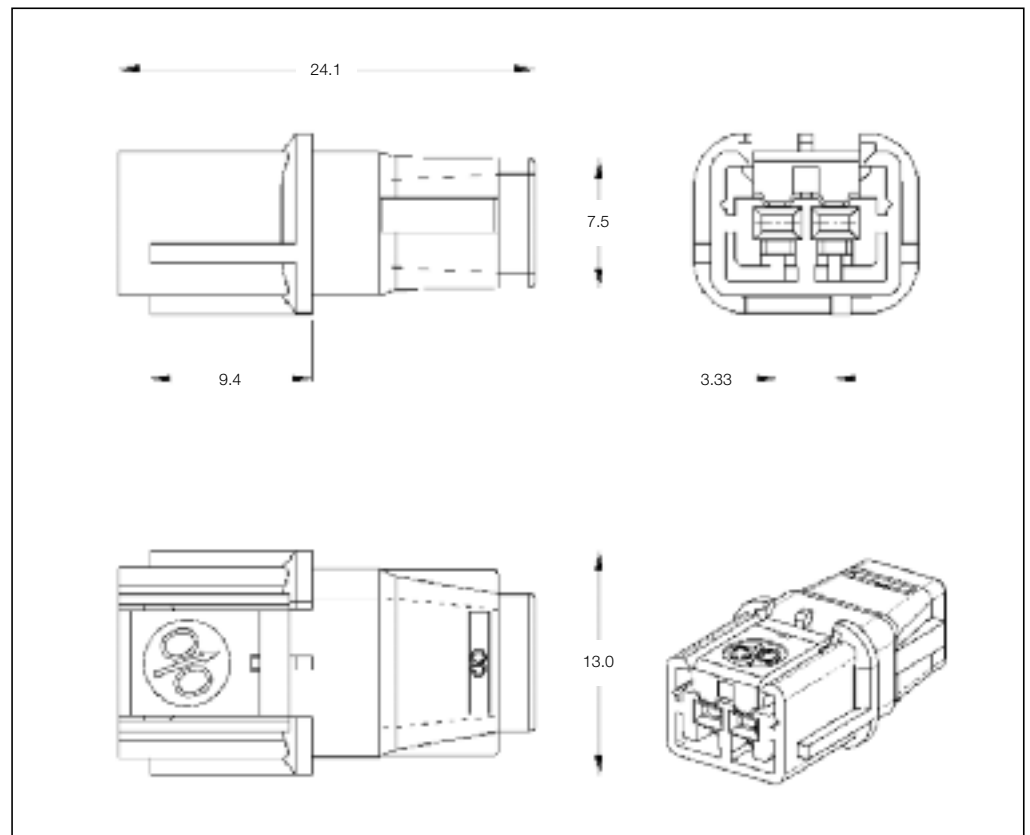
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-15200

**Application Specification:**

411-15612



**2 Position Receptacle Housings Long Version**

| No. of Pos. | Keying Options       | Housing Color        | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------------|----------------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                      |                      | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 2           | See customer drawing | See customer drawing | 953512-1/-9        | –     | –     | –                | –                  | –                             | –                          |

Pin Housings

**Technical Features**

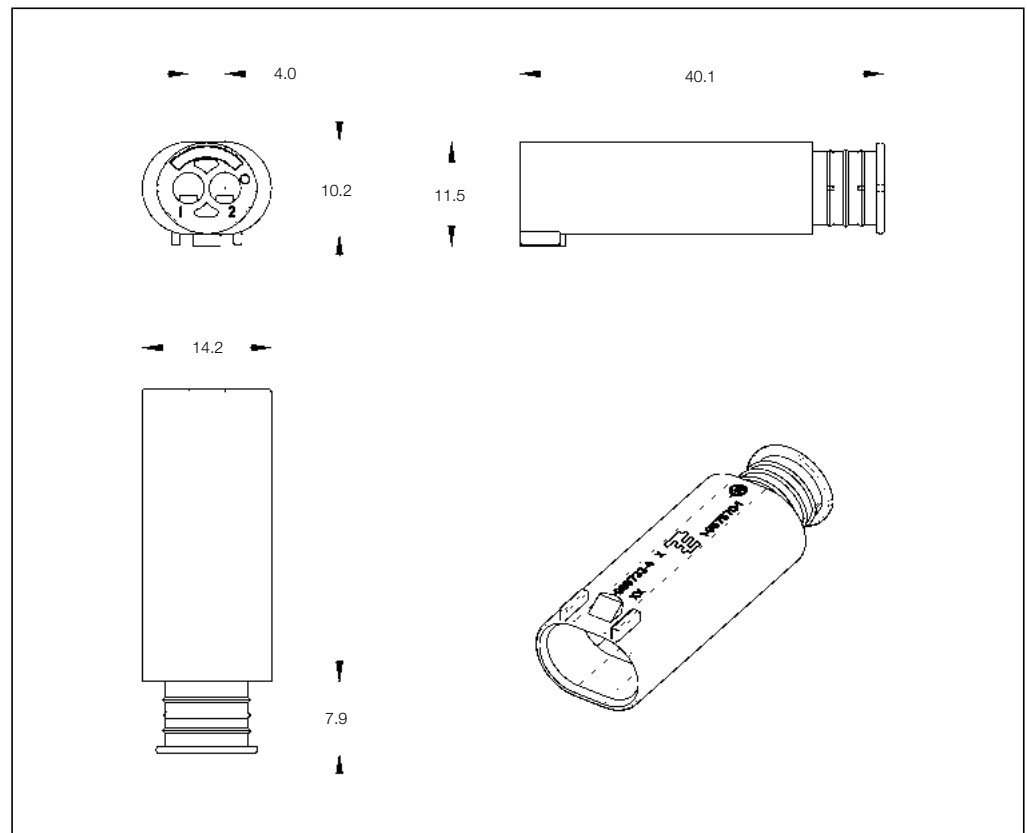
**No. of Positions:**  
2 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18659-1

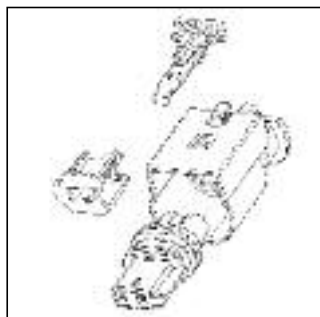
**Application Specification:**  
—



**2 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 2           | A              | Black         | 1-967570-1   | —     | —     | —                | 1-1418463-9               |
|             |                | Yellow        | 7-967570-3   | —     | —     | —                |                           |

**Mating Receptacle Housing**  
See Page 6-5



Receptacle Housings

**Technical Features**

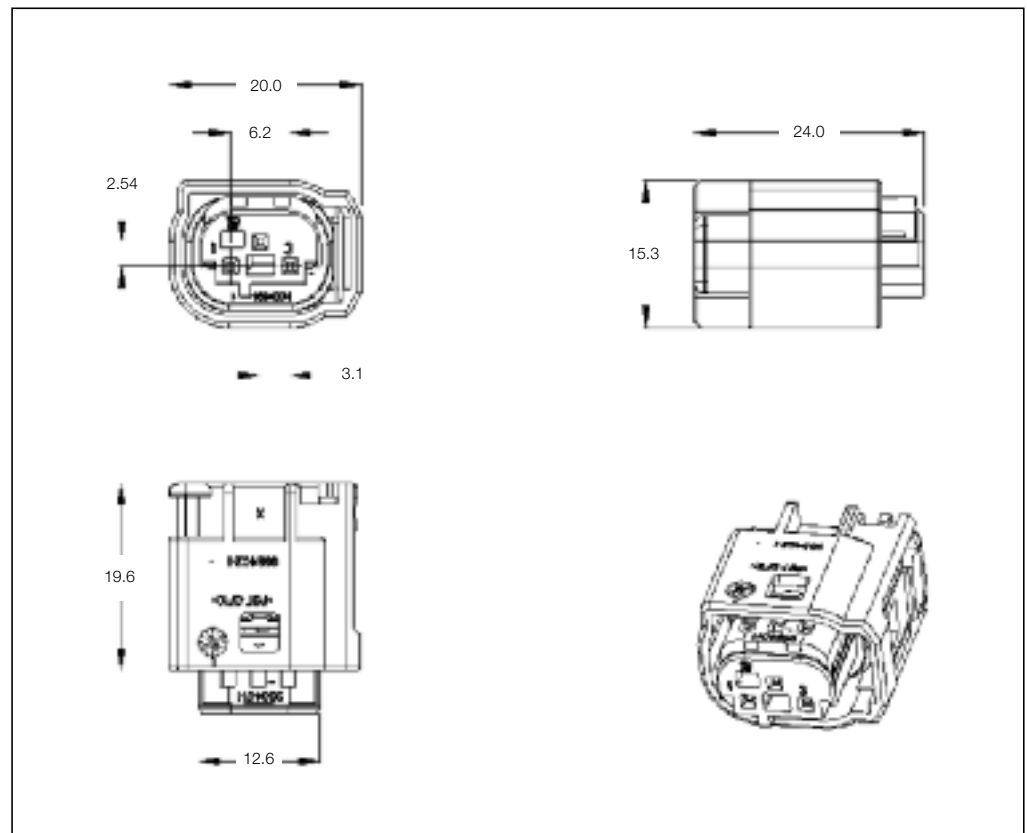
**No. of Positions:**  
3 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.75 mm<sup>2</sup> Max.

**Product Specification:**  
108-18272-0

**Application Specification:**  
114-18061



**3 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 3           | A              | Black         | 1-967642-1         |       |                |                 |                  |                    |                               |          |
|             | B              | Gray          | 2-967642-1         |       |                |                 |                  |                    |                               |          |
|             | B              | Gray          | 2-967642-2         |       |                |                 |                  |                    |                               |          |
|             | E              | Brown         | 5-967642-1         |       |                |                 |                  |                    |                               |          |

Receptacle Housings

**Technical Features**

**No. of Positions:**

3 Position Assembly

**Housing Material:**

PBT GF20

**Wire Size Range:**

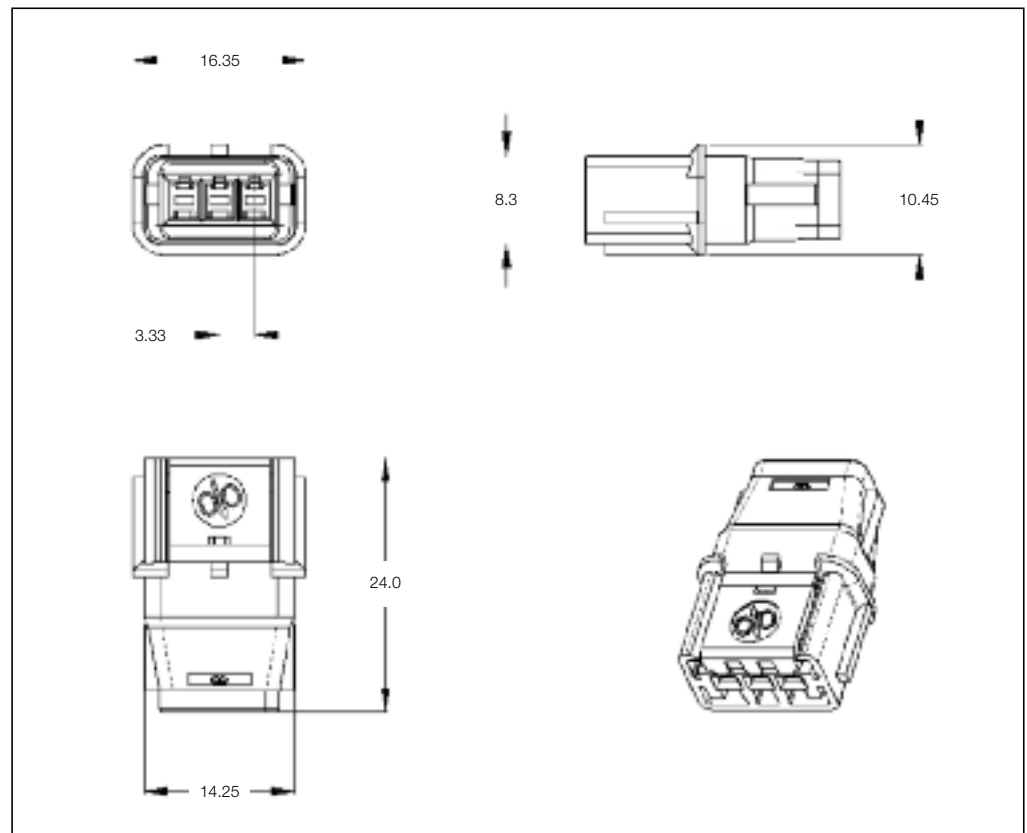
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-15200

**Application Specification:**

—



**3 Position Receptacle Housings Short Version**

| No. of Pos. | Keying Options       | Housing Color        | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------------|----------------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                      |                      | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 3           | See customer drawing | See customer drawing | 953520-1/-8        | —     | —     | —                | —                  | —                             | —                          |

Receptacle Housings

**Technical Features**

**No. of Positions:**

3 Positions

**Housing Material:**

PBT GF15

**Wire Size Range:**

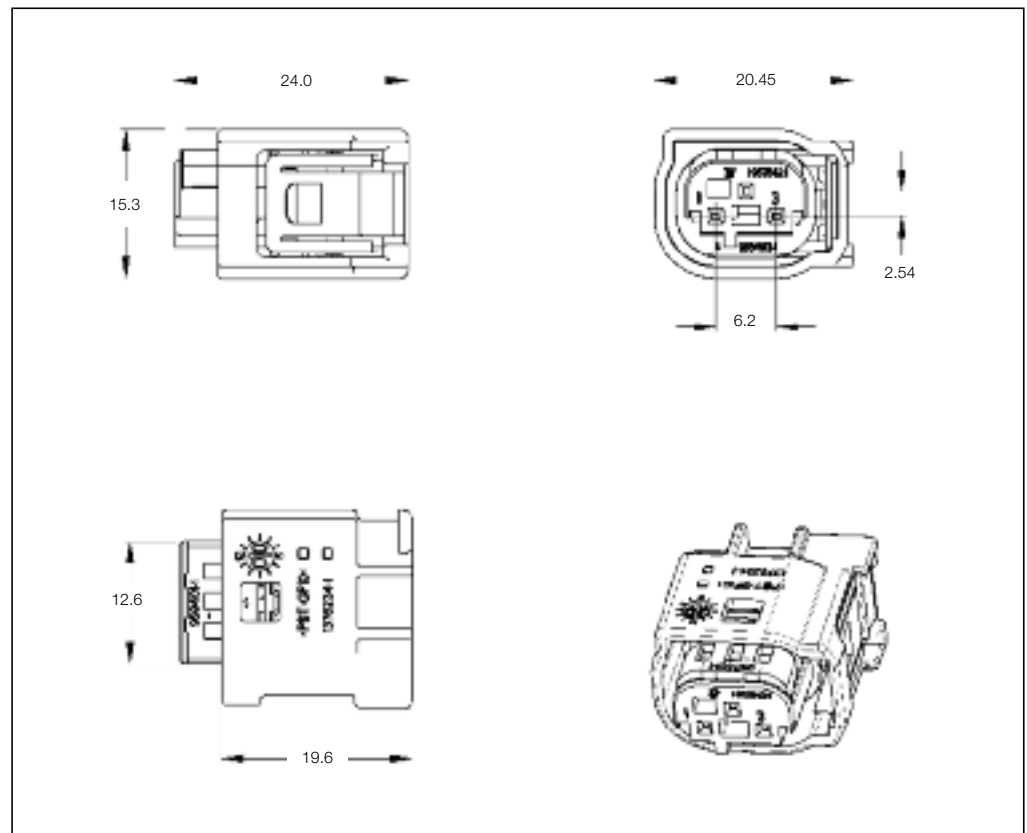
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-18272

**Application Specification:**

114-18025



**3 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |           |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-----------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover     | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 3           | A              | Black         | 1376235-1          | 1376234-1 | —     | —                | —                  | —                             | —                          |
|             | B              | Gray          | 1376235-2          | —         | —     | —                | —                  | —                             | —                          |

Receptacle Housings

**Technical Features**

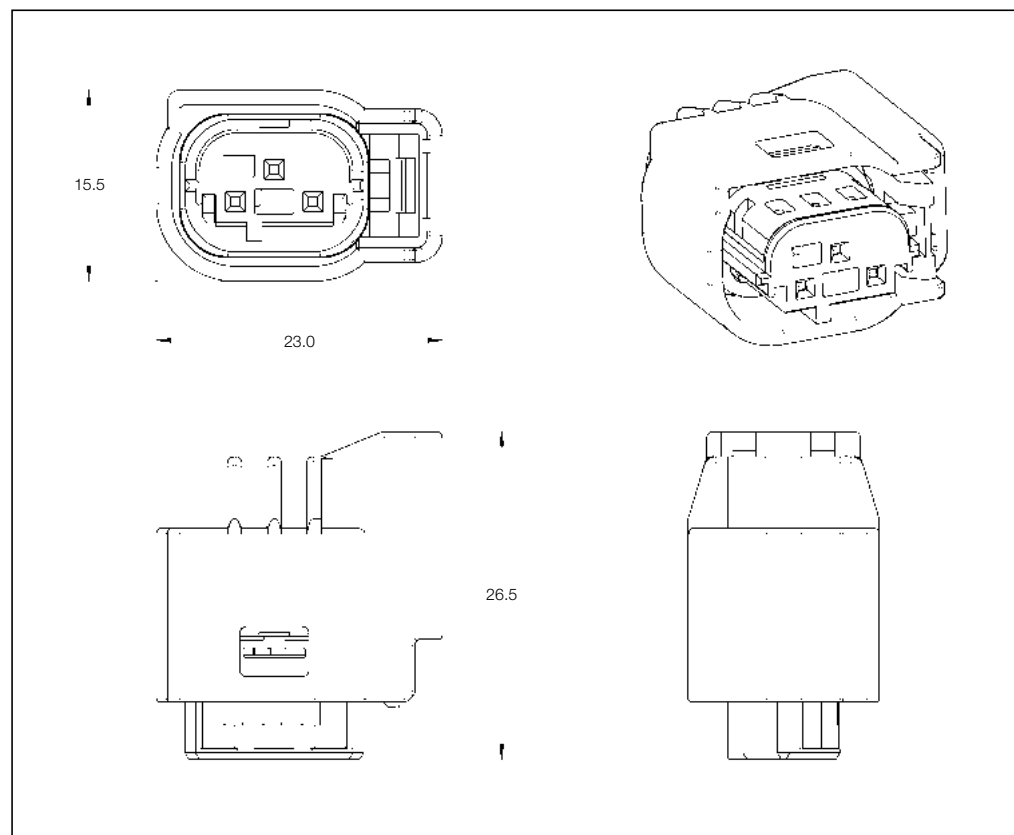
**No. of Positions:**  
3 Positions MQS

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.22–0.75 mm<sup>2</sup>

**Product Specification:**  
108-15286

**Application Specification:**  
411-15670



**3 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 3           | A              | Black         | 1379729-1          | —     | —     | —                | —                  | —                             | —                          |
|             | B              | Gray          | 1379729-2          | —     | —     | —                | —                  | —                             | —                          |

Receptacle Housings

**Technical Features**

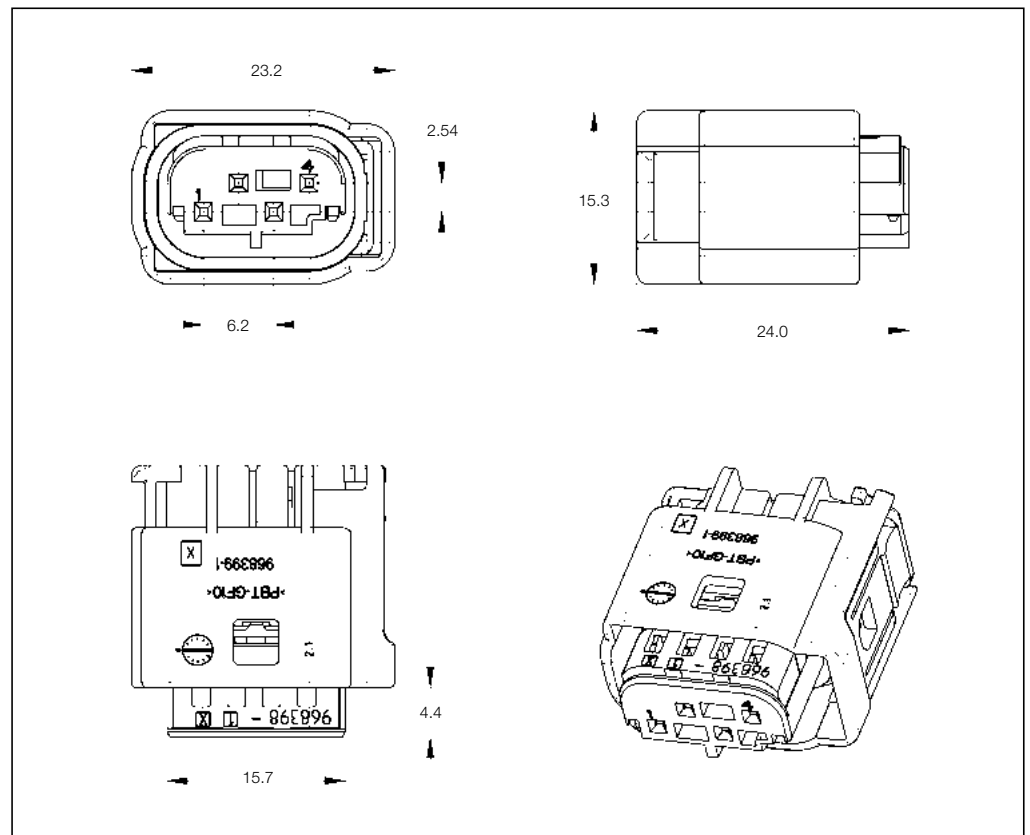
**No. of Positions:**  
4 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.75 mm<sup>2</sup> Max.

**Product Specification:**  
108-18272-0

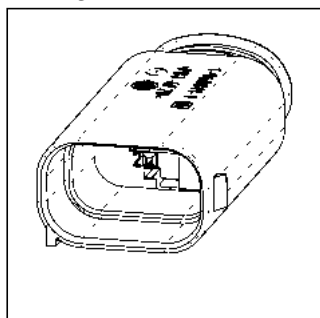
**Application Specification:**  
114-18061



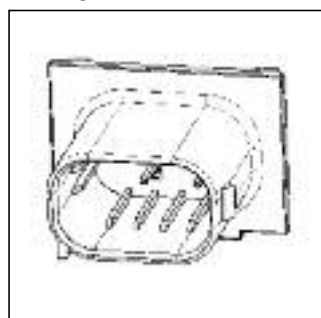
**4 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |                 |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|-----------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Header Vertical |
| 4           | A              | Black         | 1-967640-1         | -     | -              | -               | -                | 1-967584-1         | 1-967657-1                    | 967439-1        |
|             | B              | Gray          | 2-967640-1         | -     | -              | -               | -                | -                  | -                             | -               |

**Mating Pin Housing**  
See Page 6-16-6-17



**Mating Header**  
See Page 6-18-6-19



Receptacle Housings

**Technical Features**

**No. of Positions:**

4 Positions Positive Mate

**Housing Material:**

PBT GF

**Wire Size Range:**

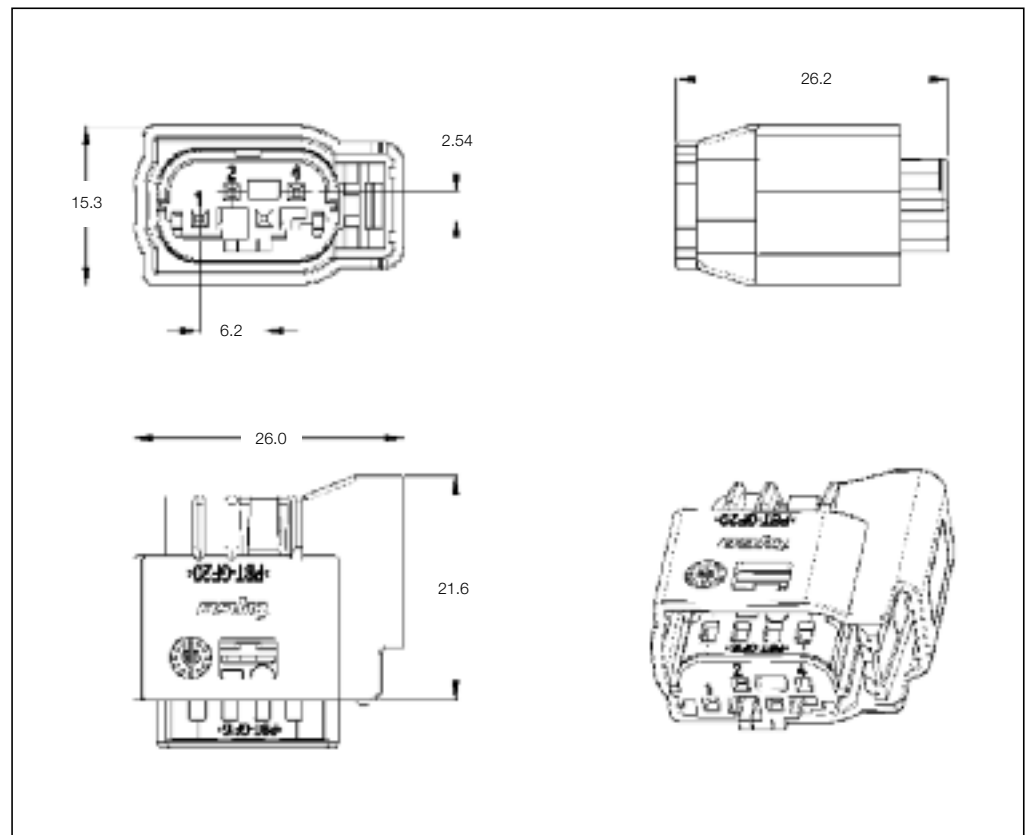
0.22–0.75 mm<sup>2</sup>

**Product Specification:**

108-15286

**Application Specification:**

411-15670



**4 Position Receptacle Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 4           | A              | Black         | 1379799-1          | —     | —     | —                | 1-967584-1         | 967657-1                      | 967439-1                   |
|             | B              | Gray          | 1379799-2          | —     | —     | —                | —                  | —                             | —                          |

Pin Housings

**Technical Features**

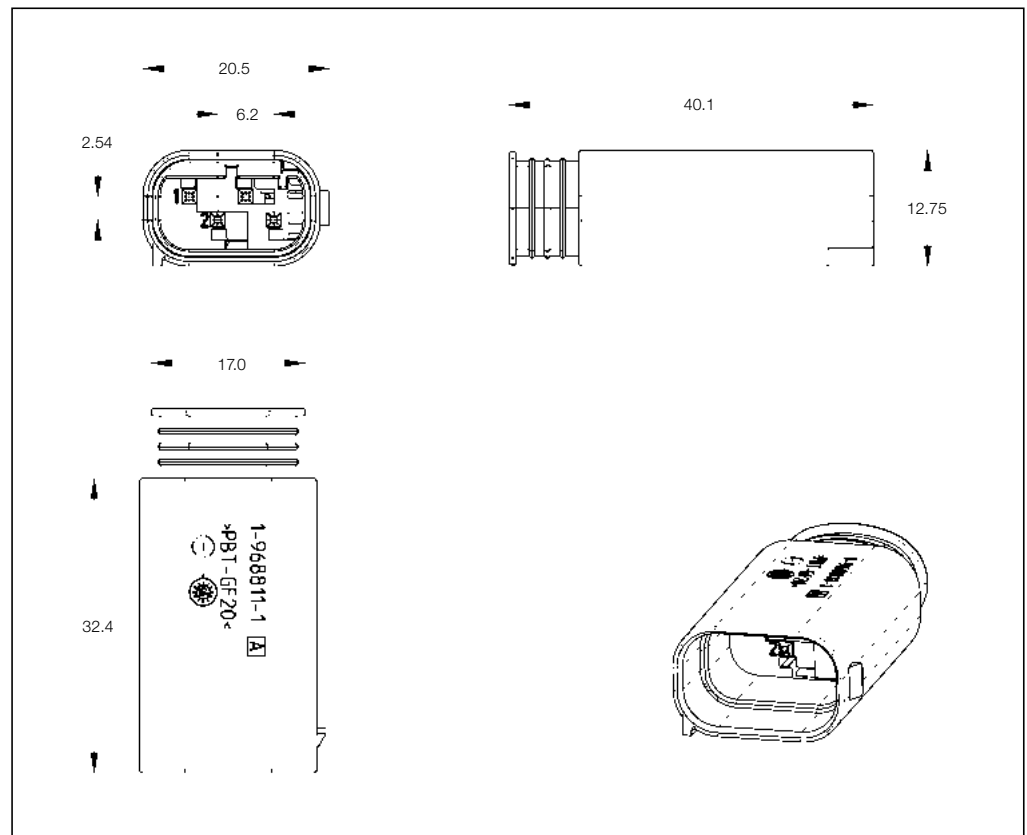
**No. of Positions:**  
4 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.35–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18569-0

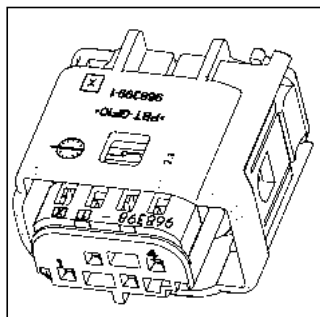
**Application Specification:**  
114-18061



**4 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 4           | A              | Black         | 1-967584-1   | —     | —              | —               | —                | 1-967640-1                |
|             |                |               | 1-967584-3   | —     | —              | —               | —                |                           |
|             |                | Yellow        | 7-967584-3   | —     | —              | —               | —                | 7-967640-3                |

**Mating Receptacle Housing**  
See Page 6-14



Pin Housings

**Technical Features**

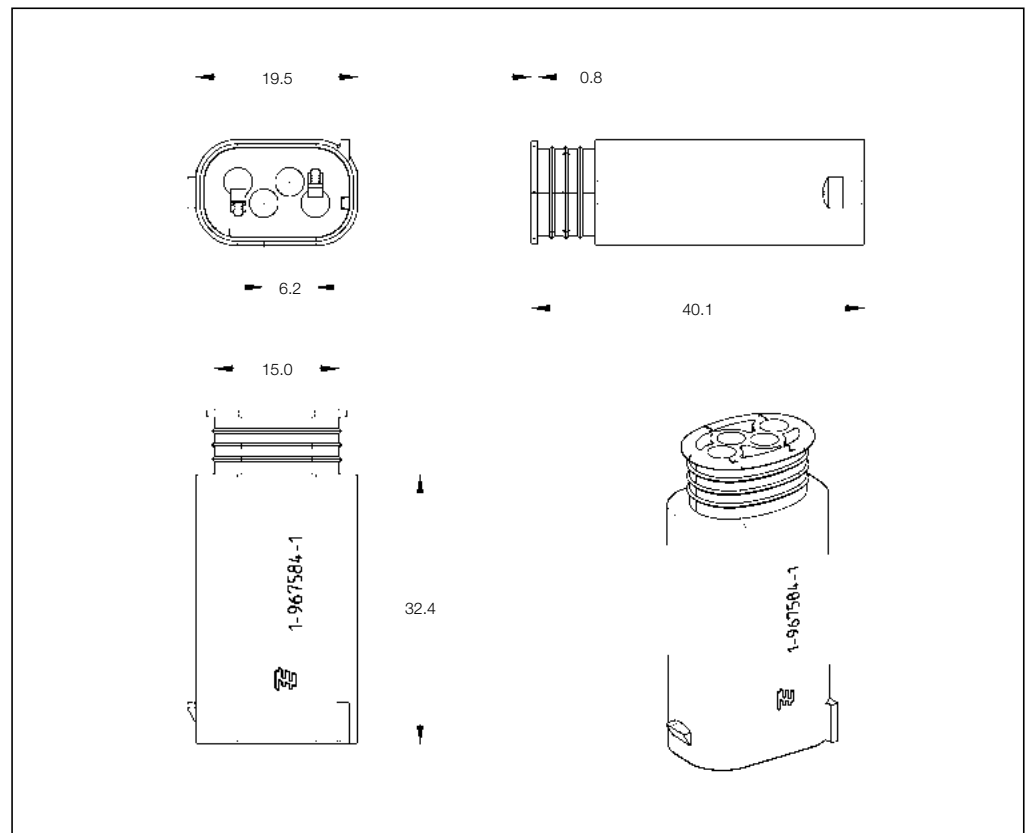
**No. of Positions:**  
4 Positions

**Housing Material:**  
PBT GF10

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

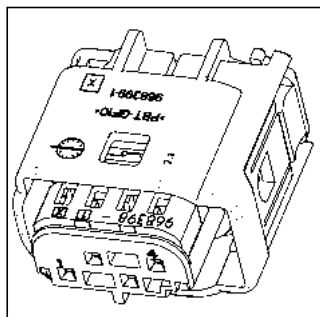
**Application Specification:**  
—



**4 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |       |                  |                           |
|-------------|----------------|---------------|--------------|-------|-------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Lever | Retainer Housing | Mating Receptacle Housing |
| 4           | —              | Black         | 1-968811-4   | —     | —     | —                | 1-967640-1                |

**Mating Receptacle Housing**  
See Page 6-14



Printed Circuit Board Headers

**Technical Features**

**No. of Positions:**

4 Position Assembly

**Housing Material:**

PBT GF30

**Material and Finish:**

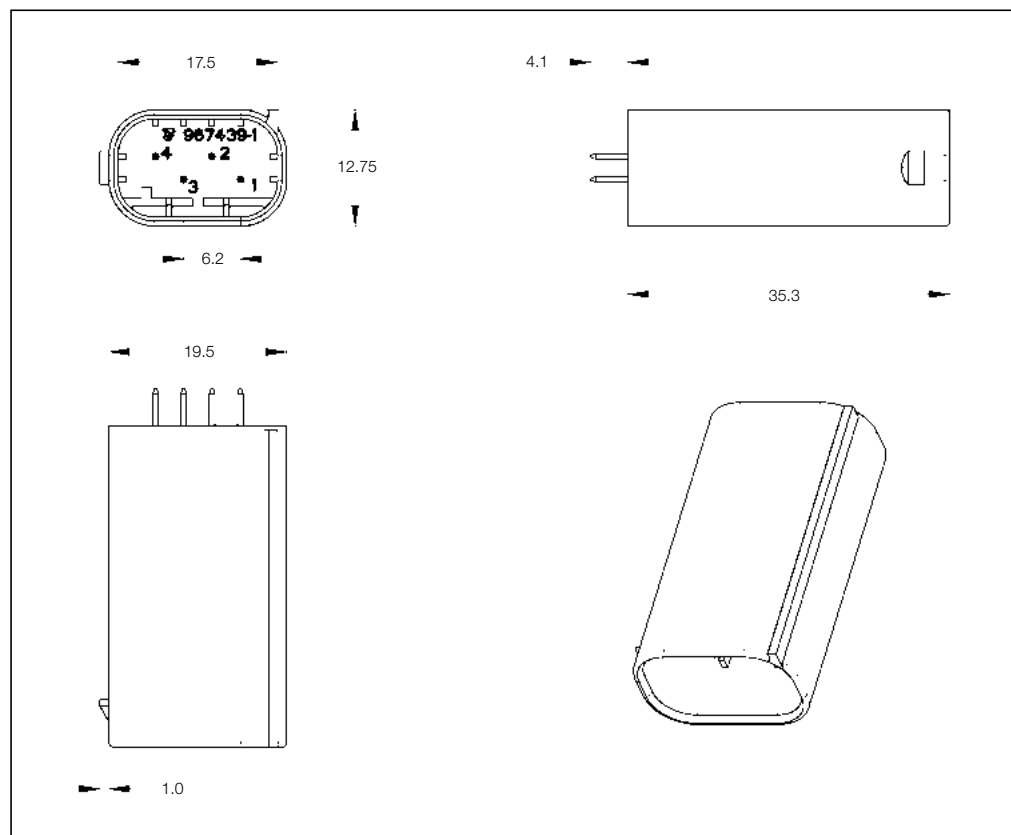
CuSn, pre-tin plated

**Product Specification:**

108-18030

**Application Specification:**

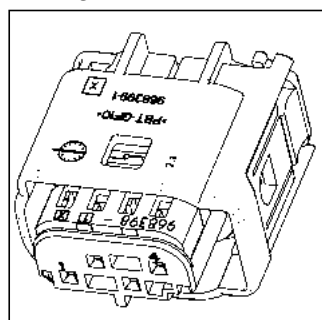
114-18021



**4 Position PCB Header**

| No. of Pos. | Keying Options | Housing Color | Part Numbers              |                        |       |                 |                  |                           |
|-------------|----------------|---------------|---------------------------|------------------------|-------|-----------------|------------------|---------------------------|
|             |                |               | PCB Header<br>Right-Angle | PCB Header<br>Vertical | Cover | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 4           | —              | Black         | —                         | 967439-1               | —     | —               | —                | 1-967640-1                |

**Mating Receptacle Housing**  
See Page 6-14



Printed Circuit Board Headers

**Technical Features**

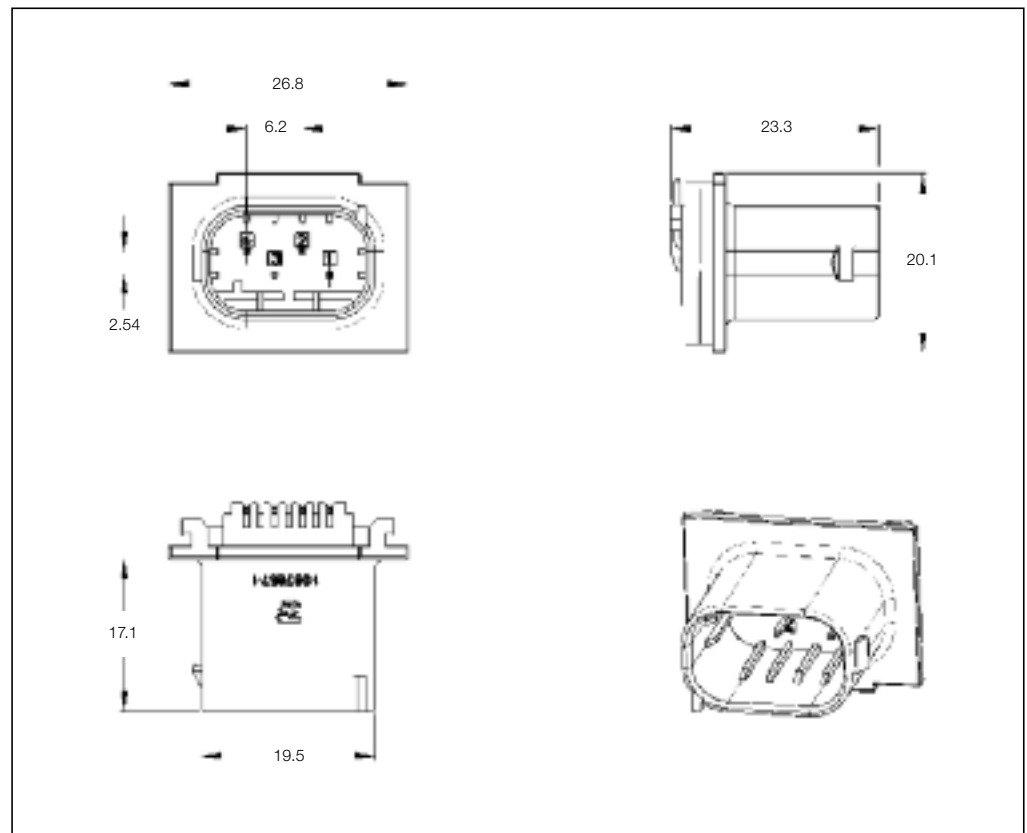
**No. of Positions:**  
4 Positions

**Housing Material:**  
PBT GF20

**Material and Finish:**  
CuFe, tin plated

**Product Specification:**  
108-18568

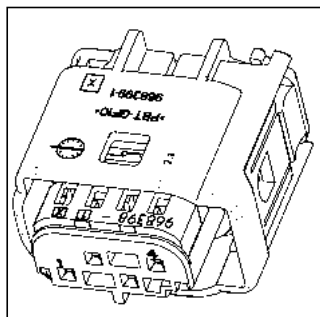
**Application Specification:**  
—



**4 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 4           | —              | Black         | 1-967657-1   | —     | —              | —               | —                | 1-967640-1                |

**Mating Receptacle Housing**  
See Page 6-14



Receptacle Housings

**Technical Features**

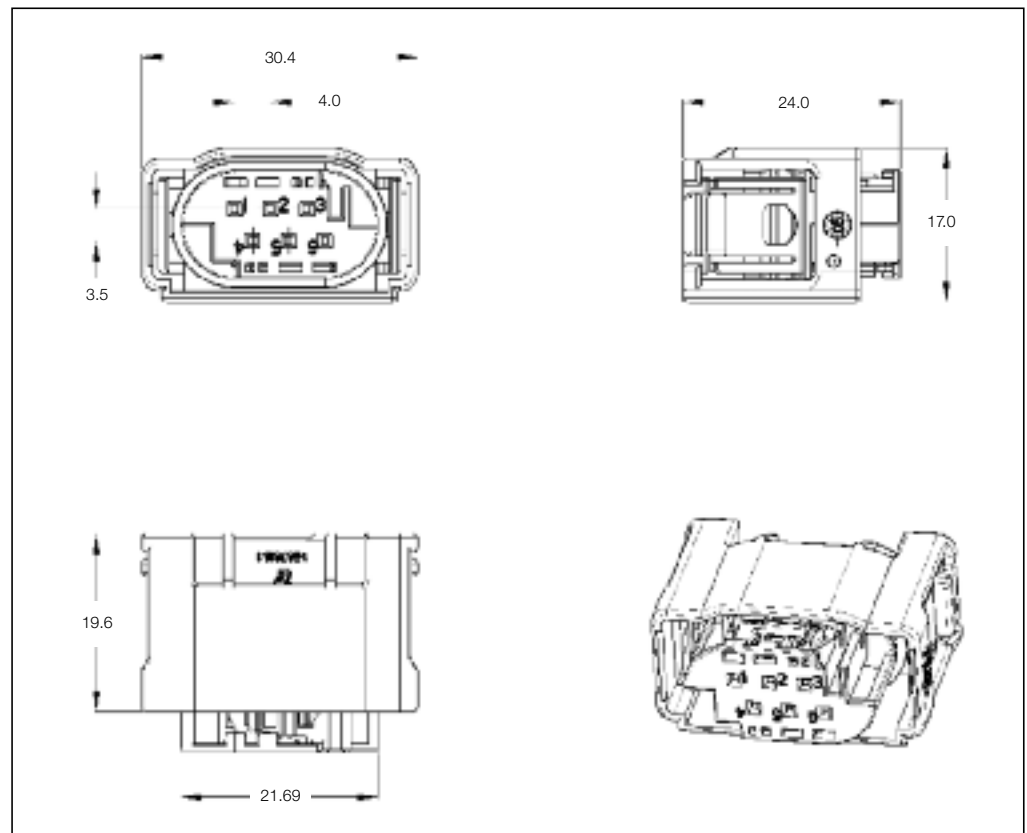
**No. of Positions:**  
6 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.75 mm<sup>2</sup> Max.

**Product Specification:**  
108-18272-0

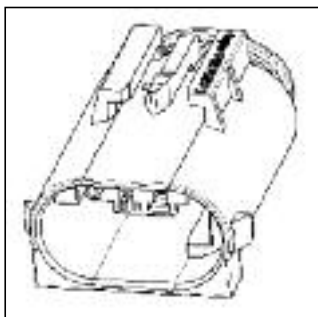
**Application Specification:**  
114-18061



**6 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                                           |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header<br>Right-Angle Vertical |
| 6           | A              | Black         | 1-967616-1         | -     | -              | -               | -                | 1-967587-3         | -                                         |
|             | A              | Black         | 1-967616-2         |       |                |                 |                  |                    |                                           |
|             | B              | Gray          | 2-967616-1         |       |                |                 |                  |                    |                                           |
|             | C              | Blue          | 3-967616-1         |       |                |                 |                  |                    |                                           |

**Mating Header**  
See Page 6-22



Receptacle Housings

**Technical Features**

**No. of Positions:**

6 Position Assembly

**Housing Material:**

PBT GF15

**Wire Size Range:**

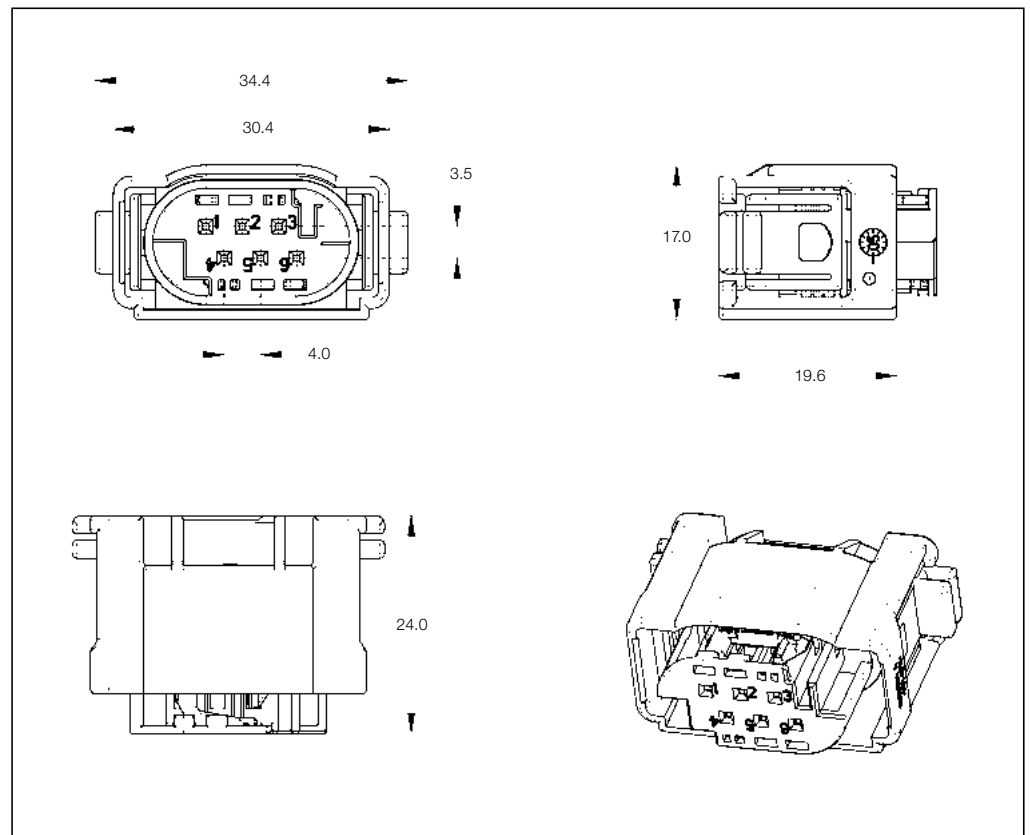
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-18272-0

**Application Specification:**

114-18061



**6 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 6           | A              | Black         | 1563872-1          | -     | -     | -                | 1-967361-3         | -                             | -                          |
|             | B              | Gray          | 1563872-2          |       |       |                  | 2-967361-3         |                               |                            |
|             | C              | Blue          | 1563872-3          |       |       |                  | -                  |                               |                            |
|             | A              | Black         | 1-1563872-1*       |       |       |                  | 1-967361-3         |                               |                            |

\*Cavity 2, 3 and 6 are blanked.

Pin Housings

**Technical Features**

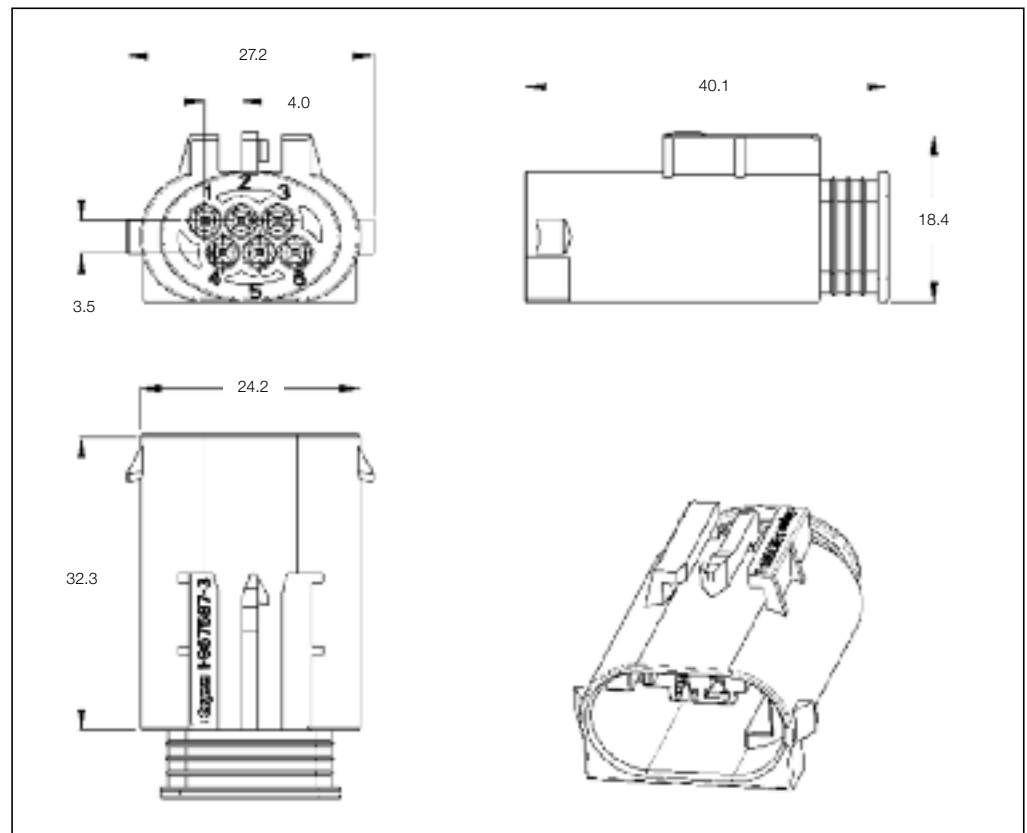
**No. of Positions:**  
6 Positions

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.35–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18569-0

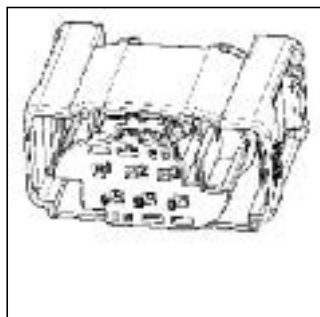
**Application Specification:**  
114-18061



**6 Position Pin Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 6           | A              | Black         | 1-967587-3   | –     | –              | –               | –                | 1-967616-3                |
|             |                | Natural       | 2-967587-3   |       |                |                 |                  |                           |
|             | B              | Black         | 6-967587-3   |       |                |                 |                  |                           |
|             |                | Yellow        | 7-967587-3   |       |                |                 |                  |                           |

**Mating Receptacle Housing**  
See Page 6-20



Receptacle Housings

**Technical Features**

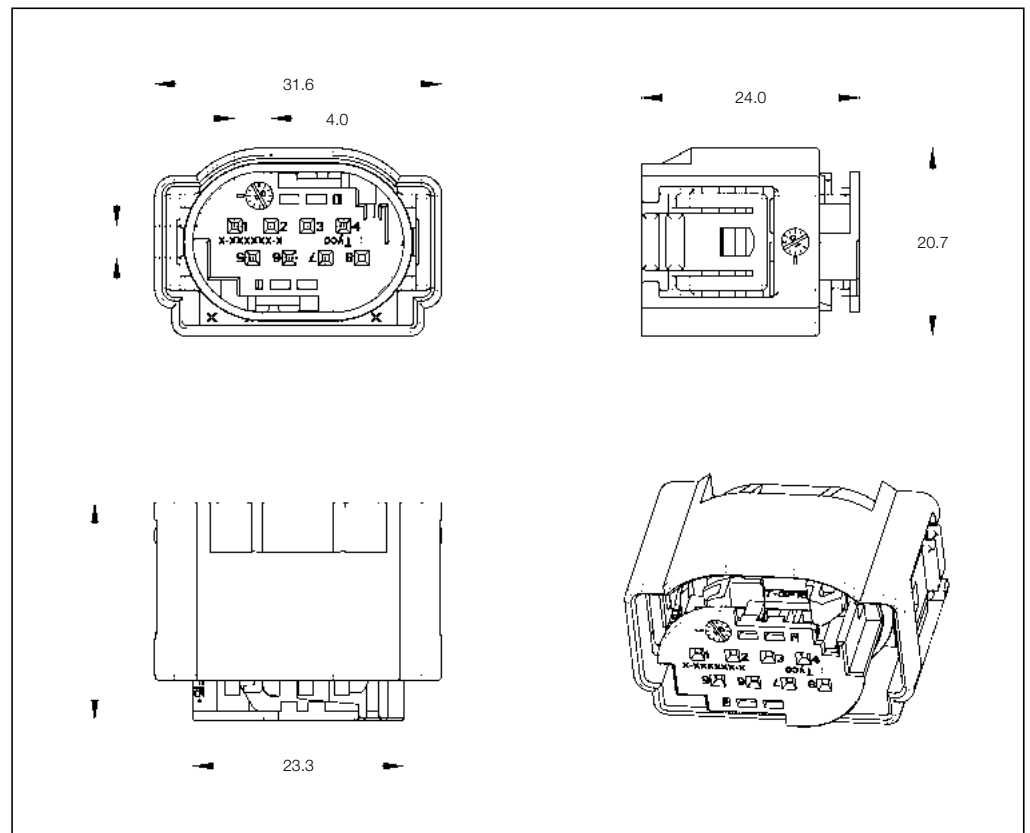
**No. of Positions:**  
8 Positions

**Housing Material:**  
PBT GF15

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
—

**Application Specification:**  
—



**8 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 8           | A              | Black         | 1-1534229-1        | —     | —     | —                | —                  | —                             | —                          |
|             | B              | Gray          | 2-1534229-1        |       |       |                  |                    |                               |                            |
|             | C              | Brown         | 2-1534229-2*       |       |       |                  |                    |                               |                            |

\*Cavity 1, 4, 5 and 8 locked.

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Engineering Notes

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A large grid of graph paper for engineering notes, consisting of 30 columns and 40 rows of small squares.

Receptacle Housings

**Technical Features**

**No. of Positions:**

30 Position Hybrid MQS–MPQ

**Housing Material:**

PBT / Silicon

**Wire Size Range:**

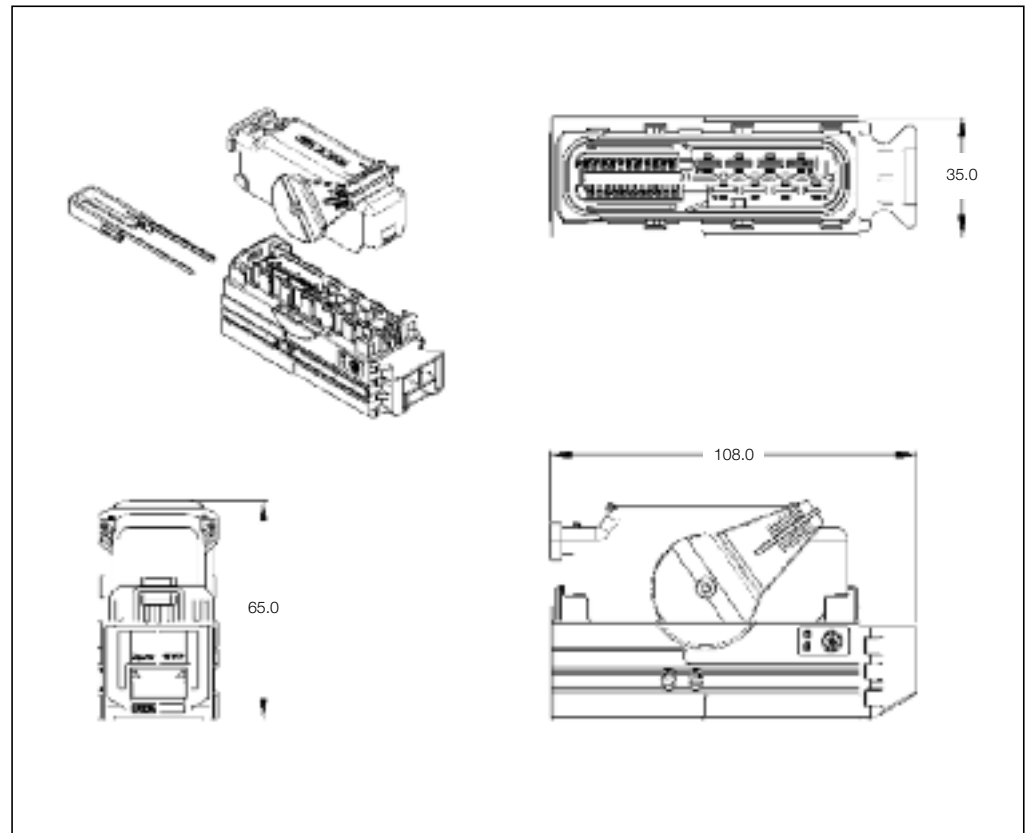
MQS: 0.35–0.75 mm<sup>2</sup>  
MPQ: 1–4 mm<sup>2</sup>

**Product Specification:**

108-15379

**Application Specification:**

411-15729



**30 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |           |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-----------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover     | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 30          | A              | Black         | 1801263-1          | 1801269-2 | –     | 1801268-1        | –                  | 1452999-1                     | –                          |
|             |                |               | 1-1801263-1*       | 1801269-1 |       |                  |                    |                               |                            |

- \*) •: 1801263-1: only cavities 1, 2, 3, 4, 5, 6, 7, 21 & 23 are blocked up.  
•: 1-1801263-1: all cavities are opened.

Receptacle Housings

**Technical Features**

**No. of Positions:**

40 Position Assembly

**Housing Material:**

PBT GF20

**Wire Size Range:**

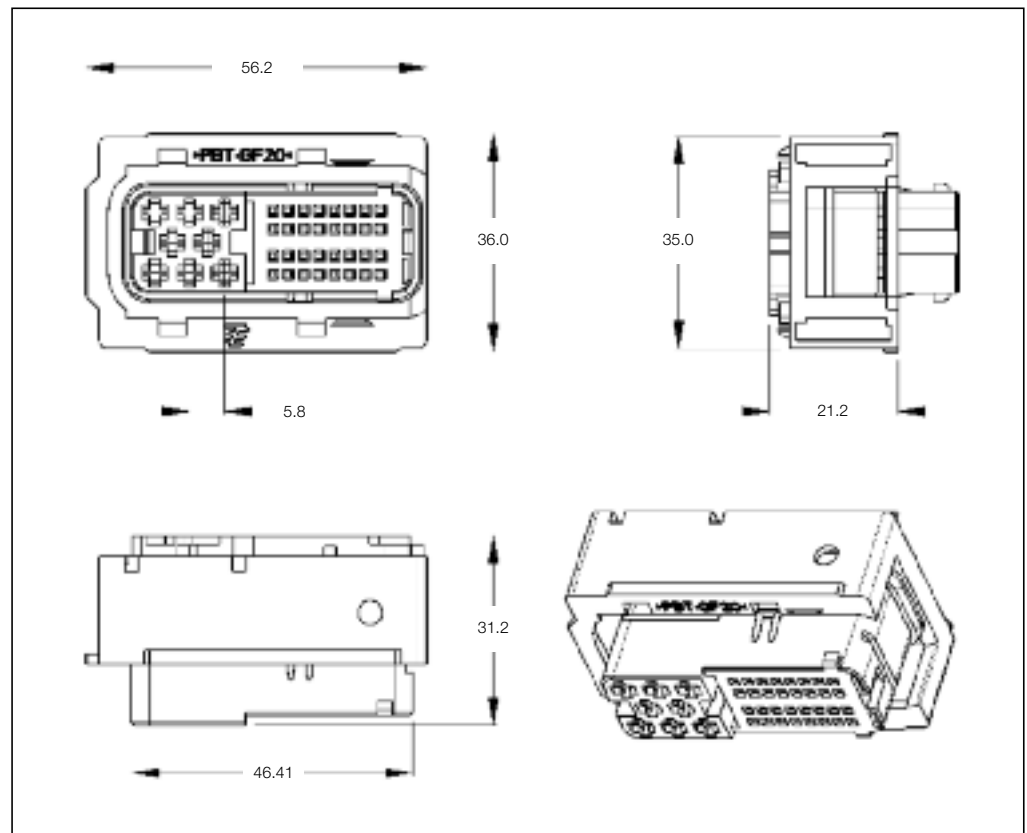
- 0.5–2.5 mm<sup>2</sup>  
Junior Power Timer
- 0.5–0.75 mm<sup>2</sup>  
MQS

**Product Specification:**

108-61036

**Application Specification:**

114-18021-1



**40 Position Pin Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers |       |                |                 |                  |                           |
|-------------|----------------|---------------|--------------|-------|----------------|-----------------|------------------|---------------------------|
|             |                |               | Pin Housing  | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Receptacle Housing |
| 40          | –              | Black         | 368319-1     | –     | –              | –               | –                | 368322-1<br>(Type A)      |
|             |                |               |              |       |                |                 |                  | 368323-1<br>(Type B)      |

**Receptacle Housings**

**Technical Features**

**No. of Positions:**

40 Position Assembly

**Housing Material:**

PBT GF

**Wire Size Range:**

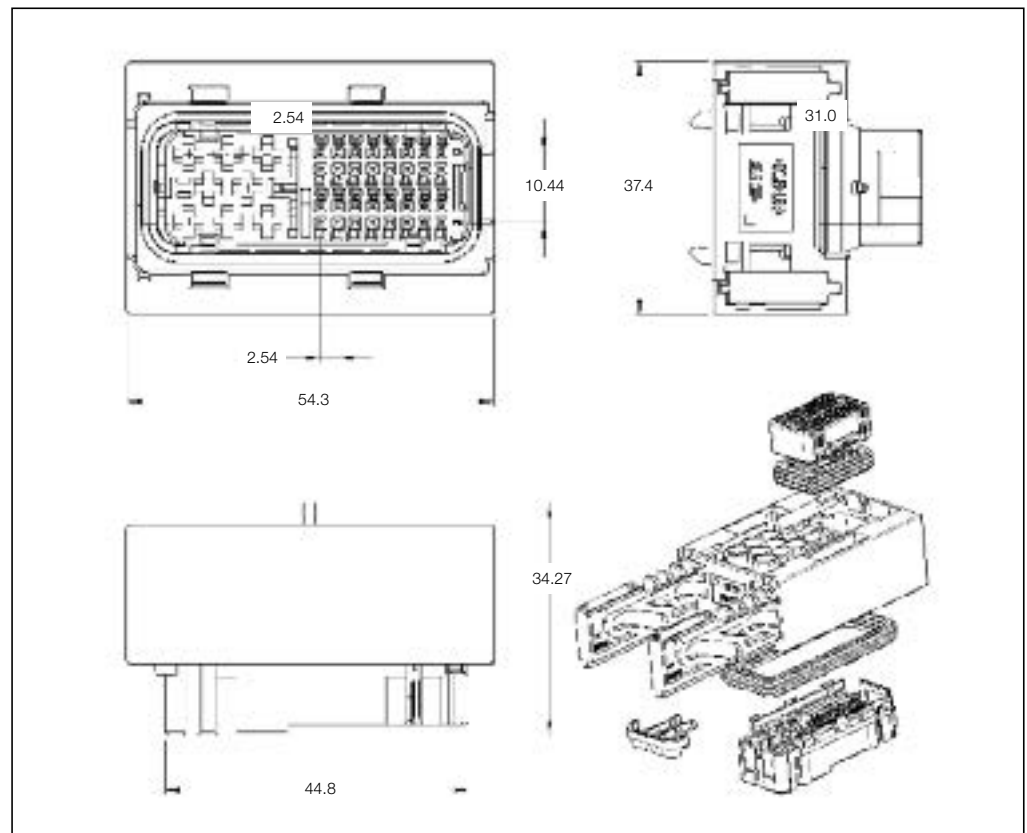
- 0.2–0.75 mm<sup>2</sup>  
MQS
- 0.2–2.5 mm<sup>2</sup>  
Junior Power Timer

**Product Specification:**

108-5793

**Application Specification:**

411-78008



**40 Position Receptacle Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                 |                  |                    |                               |                 |
|-------------|----------------|---------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|-----------------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Header Vertical |
| 40          | –              | –             | 1473252-1          | –     | –              | 1473255-1       | 368388-1         | –                  | 1241434-1                     | –               |

Receptacle Housings

**Technical Features**

**No. of Positions:**

40 Position Assembly

**Housing Material:**

PBT GF20

**Wire Size Range:**

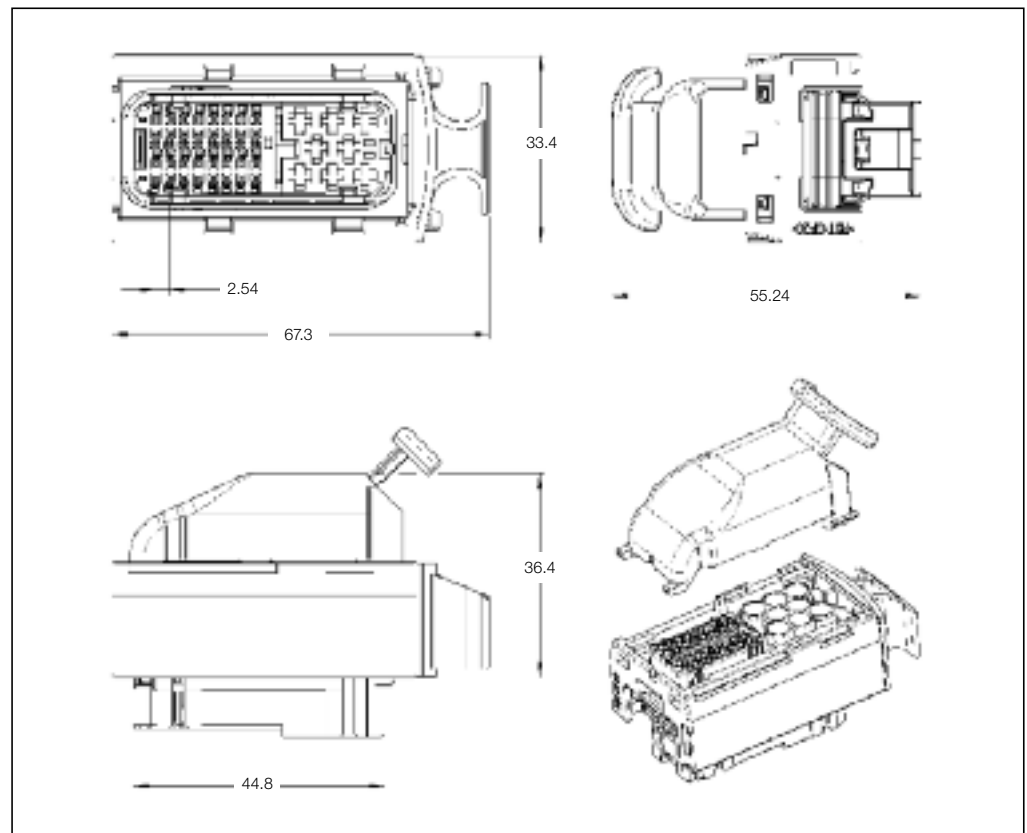
- 0.5–2.5 mm<sup>2</sup>  
Junior Power Timer
- 0.5–0.75 mm<sup>2</sup>  
MQS

**Product Specification:**

108-61039

**Application Specification:**

114-18021-1



**40 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |           |                |                 |          |                    |                               |          |
|-------------|----------------|---------------|--------------------|-----------|----------------|-----------------|----------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover     | Locking Device | Cover and Lever | Retainer | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 40          | –              | Black         | 368383-1           | 1743277-2 | –              | –               | –        | –                  | –                             | –        |
|             |                | Gray          | 368383-2           |           |                |                 |          |                    |                               |          |
|             |                | White         | 368383-3           |           |                |                 |          |                    |                               |          |
|             |                | Blue          | 368383-4           |           |                |                 |          |                    |                               |          |
|             |                | Yellow        | –                  | –         | –              | –               | 368388-1 | –                  | –                             | –        |

**Receptacle Housings**

**Technical Features**

**No. of Positions:**

60 Position Assembly

**Housing Material:**

PA66 / PBT ASA GF

**Wire Size Range:**

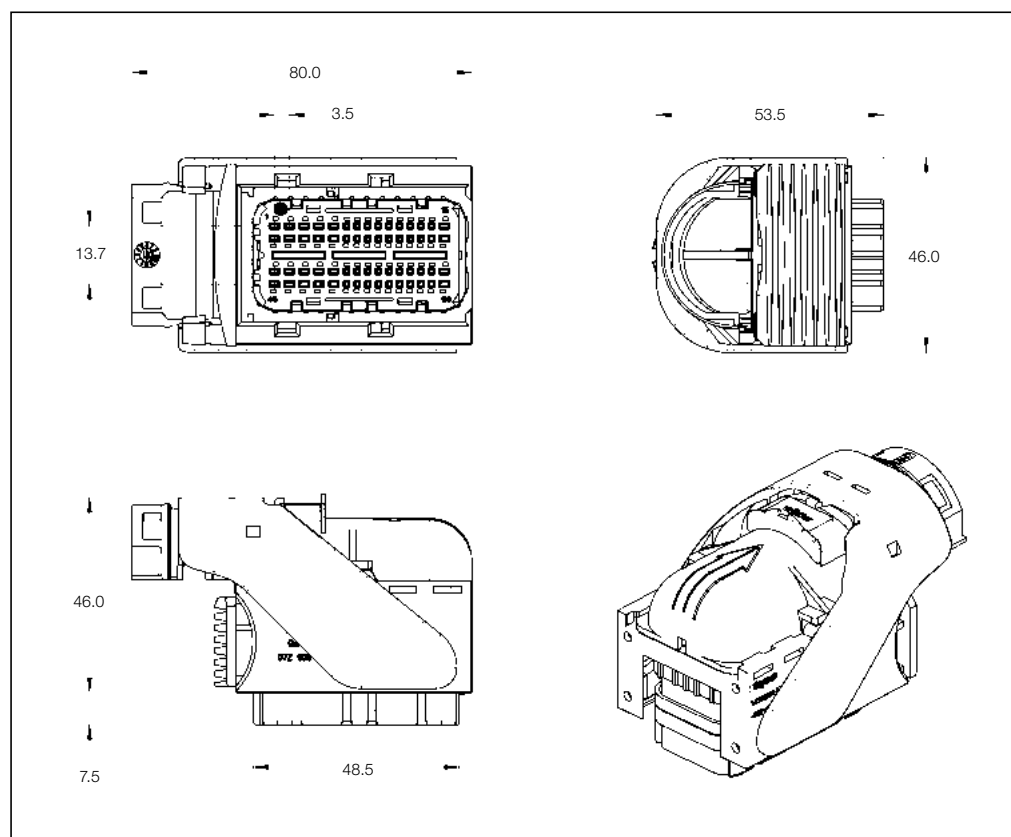
- 0.35–0.75 mm<sup>2</sup> MQS  
Clean Body 0.63 mm
- 0.75–1.5 mm<sup>2</sup> MQS  
Clean Body 1.5 mm

**Product Specification:**

108-20235

**Application Specification:**

411-20067



**60 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color       | Part Numbers       |       |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |                     | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 60          | –              | Black / Light-Brown | 284742-1           | –     | –              | –               | –                | –                  | –                             | –        |
|             |                |                     | 284742-2*          |       |                |                 |                  |                    |                               |          |

\*) No C.P.A. supplied.

**Receptacle Housings**

**Technical Features**

**No. of Positions:**

60 Position Assembly

**Housing Material:**

PA66 GF30

**Wire Size Range:**

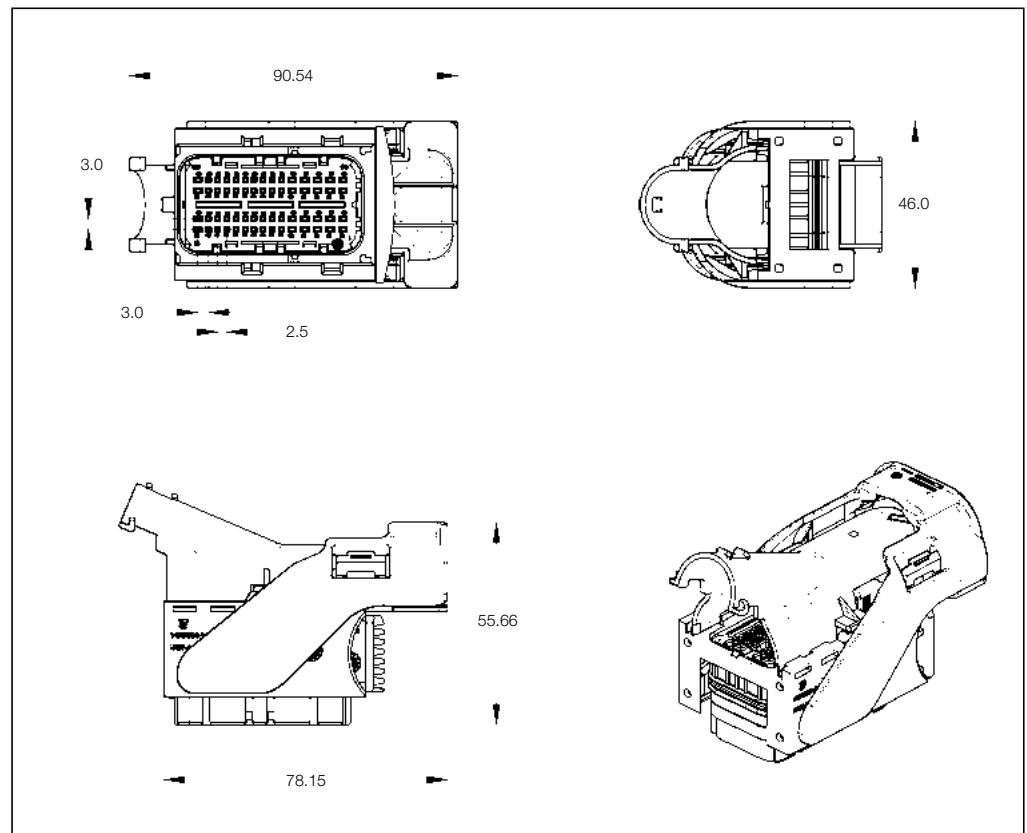
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-20235

**Application Specification:**

114-18598



**60 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|----------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover    | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 60          | –              | Black         | 1745010-1          | 284726-1 | –     | –                | –                  | –                             | –                          |

Receptacle Housings

**Technical Features**

**No. of Positions:**

60 Position Assembly

**Housing Material:**

PBT GF20

**Wire Size Range:**

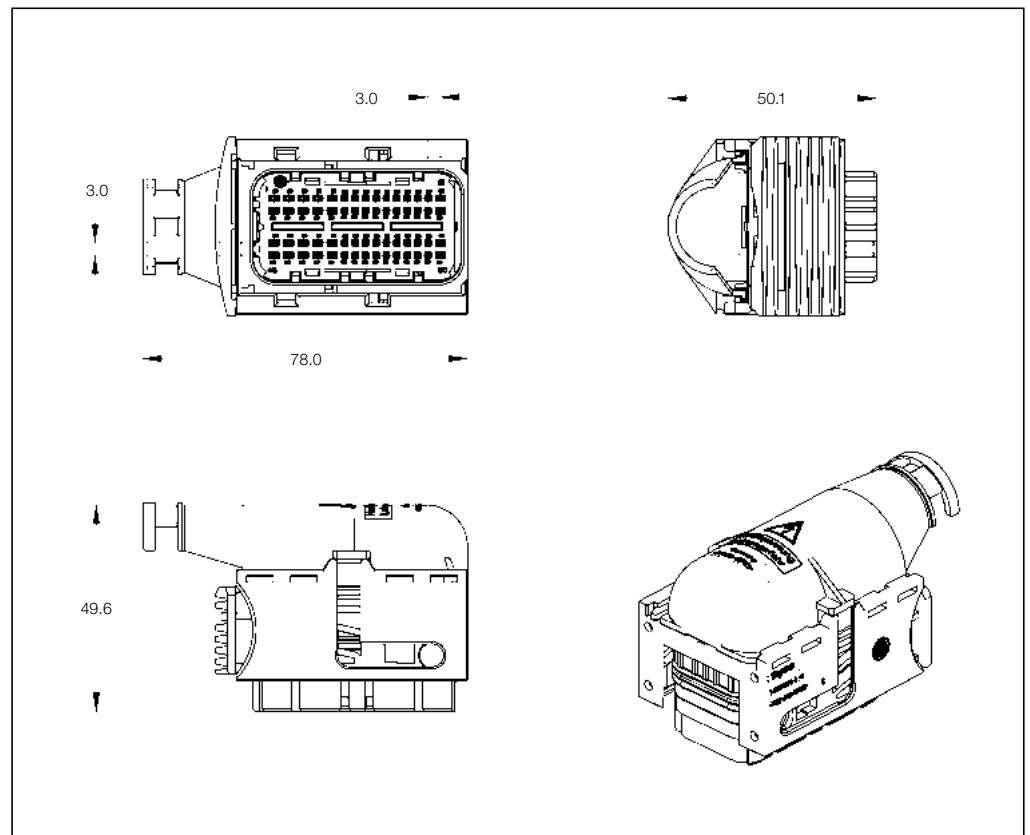
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-18829

**Application Specification:**

114-18521



**60 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 60          | –              | Black         | 3-1534903-1        | –     | –     | –                | –                  | –                             | –                          |
|             |                |               | 3-1534903-2        |       |       |                  |                    |                               |                            |
|             |                |               | 3-1534903-3        |       |       |                  |                    |                               |                            |
|             |                |               | 3-1534903-5        |       |       |                  |                    |                               |                            |

**Receptacle Housings**

**Technical Features**

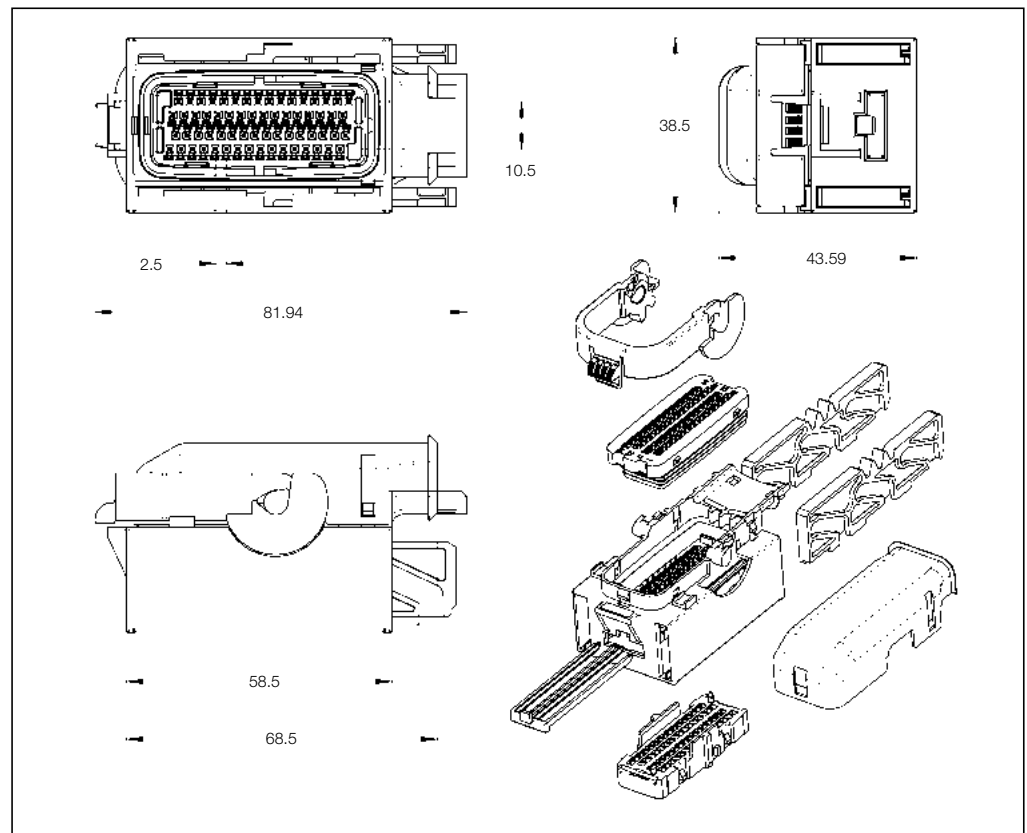
**No. of Positions:**  
64 Position Assembly

**Housing Material:**  
PA 66 GF

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-20205

**Application Specification:**  
411-20061



**64 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 64          | See drawing    | See drawing   | 284272-1/-9        | —     | —     | —                | —                  | —                             | —                          |
|             |                |               | 1-284272-0/-9      |       |       |                  |                    |                               |                            |
|             |                |               | 2-284272-0/-3      |       |       |                  |                    |                               |                            |
|             |                |               | 2-284272-7/-9      |       |       |                  |                    |                               |                            |
|             |                |               | 3-284272-0/-7      |       |       |                  |                    |                               |                            |
|             |                |               | 4-284272-0         |       |       |                  |                    |                               |                            |

Receptacle Housings

**Technical Features**

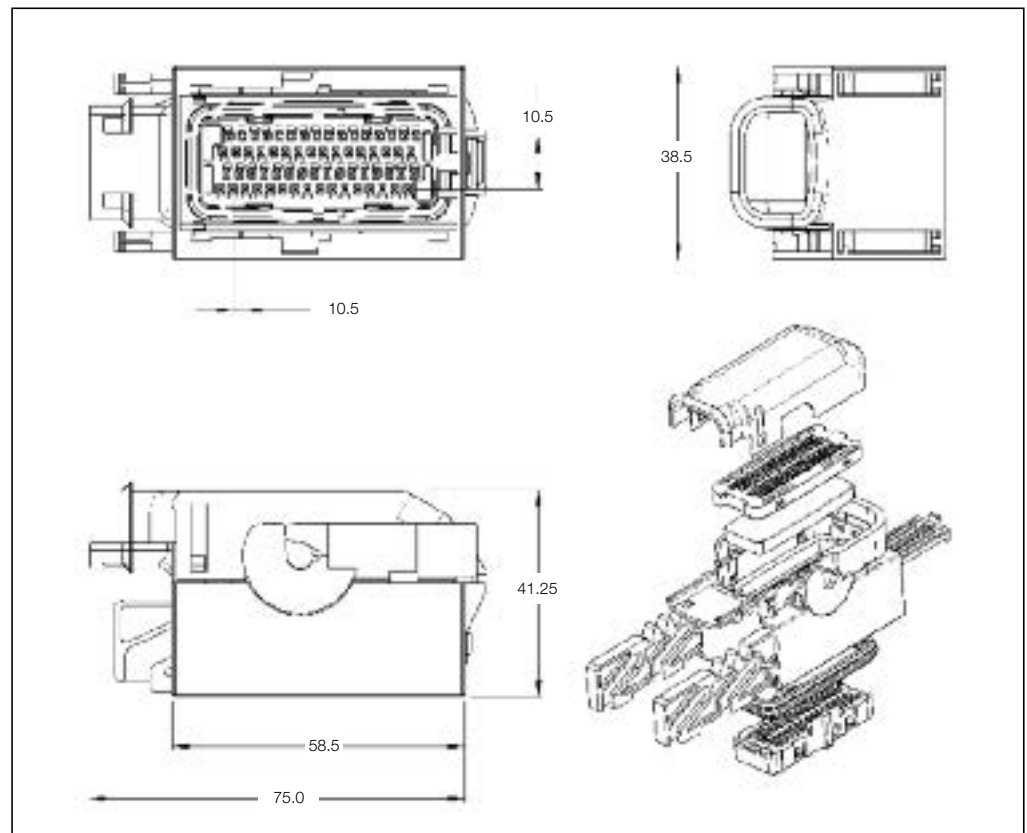
**No. of Positions:**  
64 Position Assembly

**Housing Material:**  
PBT GF20

**Wire Size Range:**  
0.20–0.75 mm<sup>2</sup>

**Product Specification:**  
108-18030

**Application Specification:**  
114-10021



**64 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 64          | A              | Black         | 368434-1           | 368441-1 | –              | –               | 368440-1         | –                  | –                             | –        |
|             | B              | Blue          | 368434-2           | –        | –              | –               | –                | –                  | –                             | –        |
|             | C              | Gray          | 1-368434-1         | –        | –              | –               | –                | –                  | –                             | –        |
|             | D              | Brown         | 1-368434-2         | –        | –              | –               | –                | –                  | –                             | –        |

Receptacle Housings

**Technical Features**

**No. of Positions:**

81 Position Assembly

**Housing Material:**

PBT GF20

**Wire Size Range:**

• 0.3–0.75 mm<sup>2</sup>  
MQS

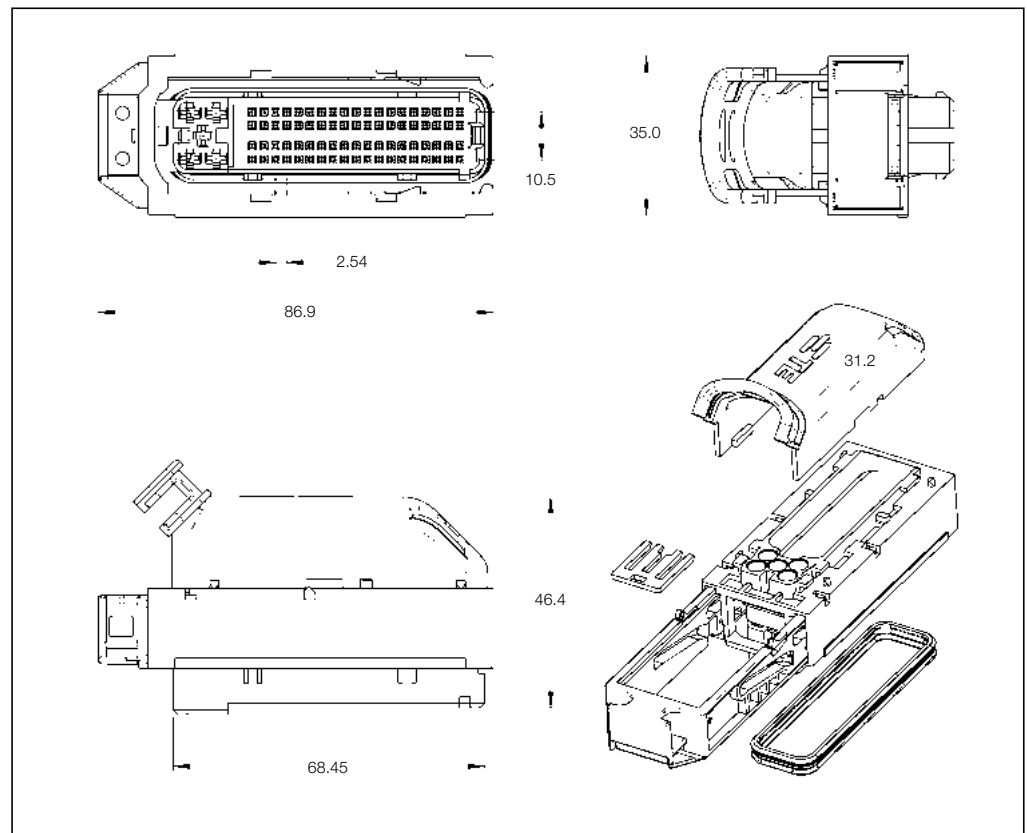
• 0.5–2.5 mm<sup>2</sup>  
Junior Power Timer

**Product Specification:**

108-61036

**Application Specification:**

114-18021



**81 Position Receptacle Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 81          | –              | Black         | 936274-1           | 368333-1 | –              | –               | –                | –                  | –                             | –                          |

**Receptacle Housings**

**Technical Features**

**No. of Positions:**

81 Position Assembly  
for Junior Power Timer and  
MQS

**Housing Material:**

PBT GF20

**Wire Size Range:**

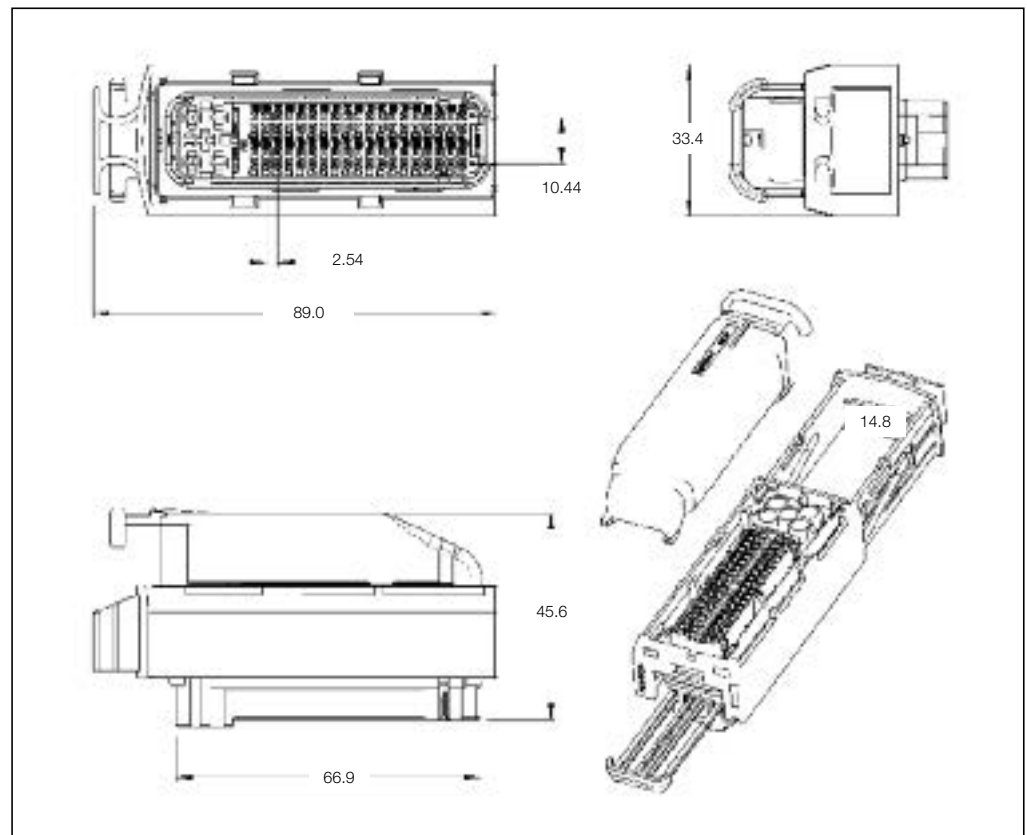
- 0.5–2.5 mm<sup>2</sup>  
Junior Power Timer
- 0.5–0.75 mm<sup>2</sup>  
MQS

**Product Specification:**

108-61036

**Application Specification:**

114-18021-1



**81 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                  |                    |                                  |                     |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|------------------|--------------------|----------------------------------|---------------------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating Right-Angle               | PCB Header Vertical |
| 81          | -              | Black         | 368376-1           | 368389-1 | -              | -               | -                | -                  | 368146-1<br>368146-2<br>368146-3 | -                   |
|             |                | Gray          | 368376-2           | -        | -              | -               | -                |                    |                                  |                     |
|             |                | White         | 368376-3           | -        | -              | -               | -                |                    |                                  |                     |
|             |                | Blue          | 368376-4           | -        | -              | -               | -                | -                  | -                                | -                   |
|             |                | Yellow        | -                  | -        | -              | -               | 368382-1         |                    |                                  |                     |
|             |                | Red           | -                  | 368389-2 | -              | -               | -                |                    |                                  |                     |

Receptacle Housings

**Technical Features**

**No. of Positions:**

81 Position Assembly

**Housing Material:**

PA66 GF

**Wire Size Range:**

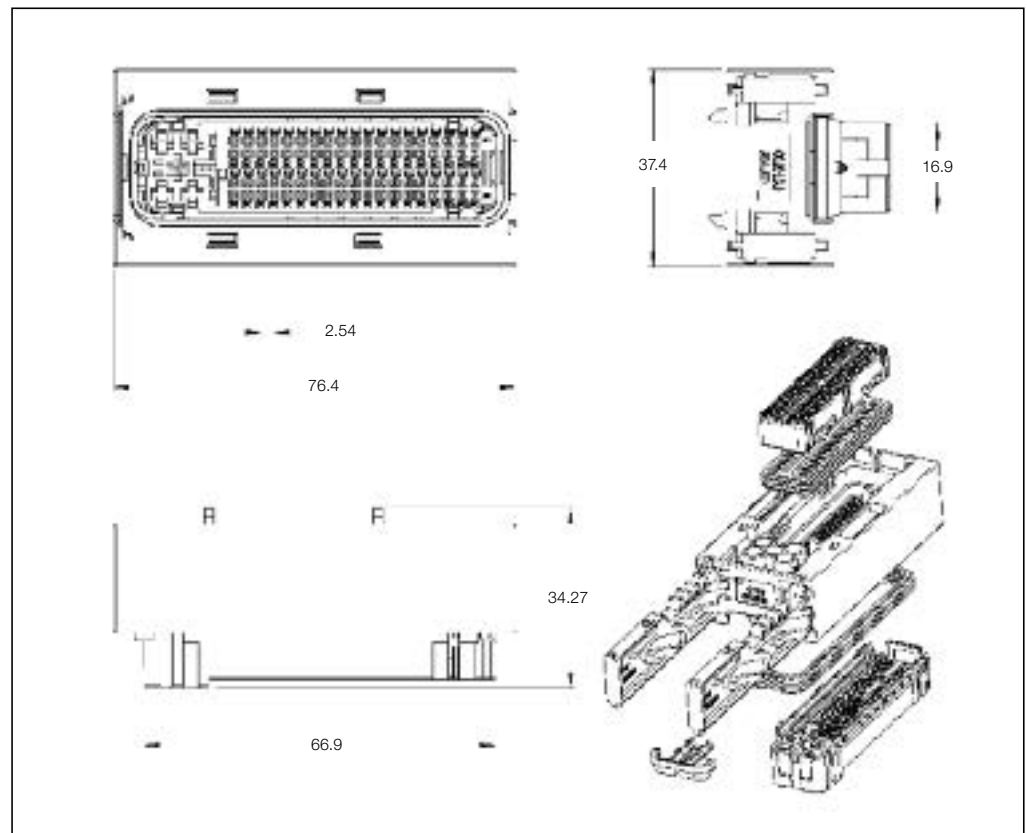
- 0.2–0.75 mm<sup>2</sup>  
MQS
- 0.5–2.5 mm<sup>2</sup>  
Junior Power Timer

**Product Specification:**

108-5793

**Application Specification:**

114-18021 / 18050



**81 Position Receptacle Housing**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |                |                    |                  |                    |                               |          |
|-------------|----------------|---------------|--------------------|-------|----------------|--------------------|------------------|--------------------|-------------------------------|----------|
|             |                |               | Receptacle Housing | Cover | Locking Device | Cover and Lever    | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Vertical |
| 81          | –              | Black         | 1473244-1          | –     | –              | 1473247-1 (Type A) | 368382-1         | –                  | 1241434-1                     | –        |
|             |                |               |                    |       |                | 1473250-1 (Type B) |                  |                    |                               |          |

Receptacle Housings

**Technical Features**

**No. of Positions:**

81 Position Assembly  
(2 x 36 MQS; 5 JPT)  
Junior Power Timer and  
MQS

**Housing Material:**

PBT GF20

**Wire Size Range:**

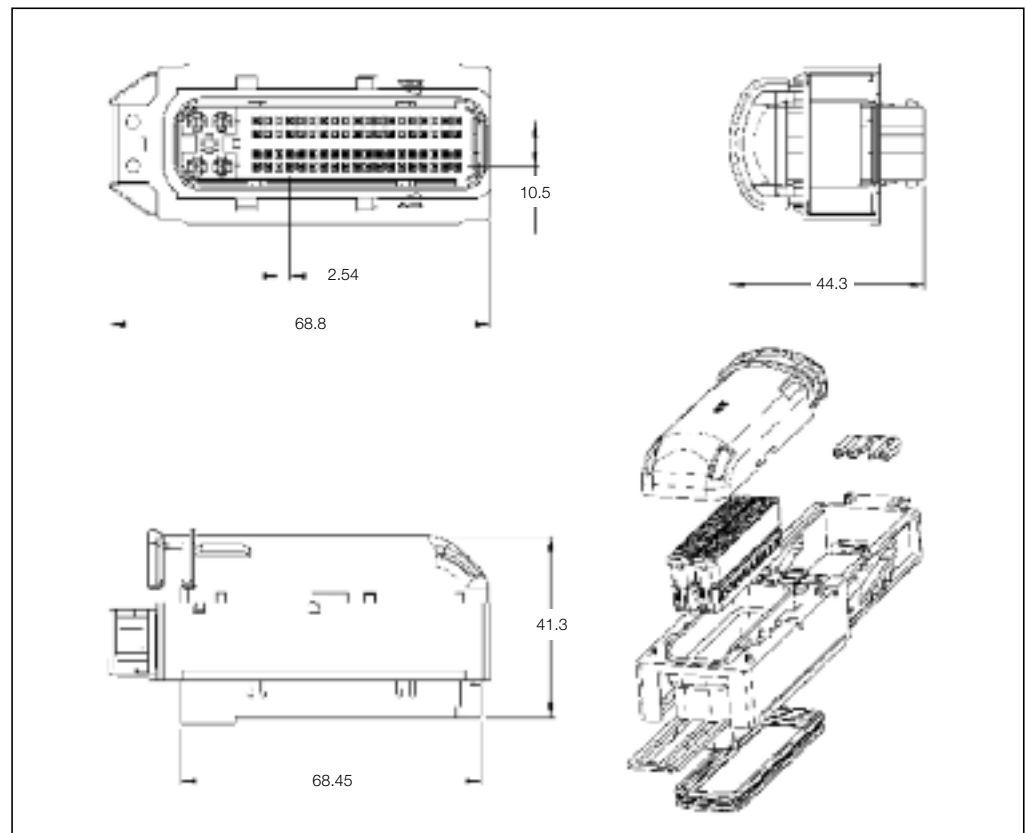
- 0.5–2.5 mm<sup>2</sup>  
Junior Power Timer
- 0.5–0.75 mm<sup>2</sup>  
MQS

**Product Specification:**

108-61036

**Application Specification:**

114-18021-1



**81 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |          |                |                 |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|----------|----------------|-----------------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover    | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 36          | –              | Black         | 368293-1 (Type A)  | 368291-1 | –              | –               | 368297-1 (MQS)   | –                  | –                             | –                          |
| 36          |                |               | 368294-1 (Type B)  |          |                |                 |                  |                    |                               |                            |
| 5           | –              | –             | 368290-1           | –        | –              | –               | –                | –                  | –                             | –                          |

Receptacle Housings

**Technical Features**

**No. of Positions:**

94 Position Assembly

**Housing Material:**

PA66 / PBT ASA GF

**Wire Size Range:**

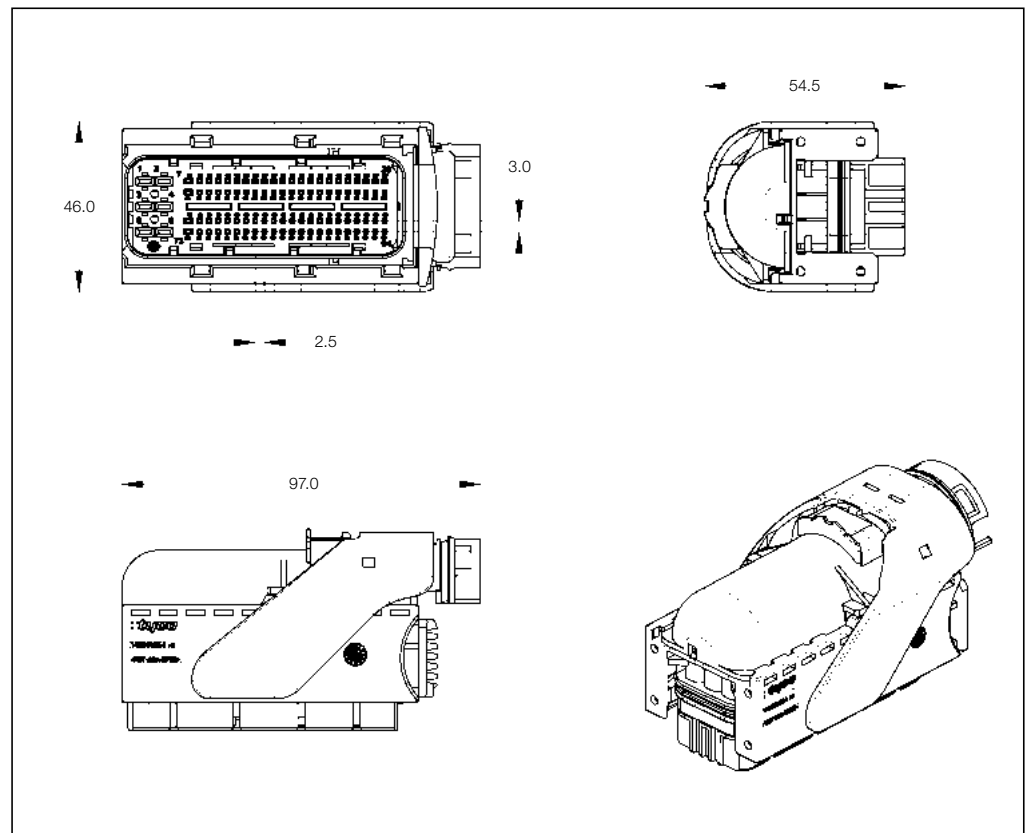
- 0.35–0.75 mm<sup>2</sup> MQS  
Clean Body 0.63 mm
- 0.5–2.5 mm<sup>2</sup>  
AMP MCP 2.8K
- 0.75–1.5 mm<sup>2</sup> MQS  
Clean Body 1.5 mm

**Product Specification:**

108-20235

**Application Specification:**

411-20067



**94 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color       | Part Numbers       |       |                |                 |                  |                    |                               |                            |
|-------------|----------------|---------------------|--------------------|-------|----------------|-----------------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |                     | Receptacle Housing | Cover | Locking Device | Cover and Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 94          | –              | Black / Light-Brown | 284743-1           | –     | –              | –               | –                | –                  | –                             | –                          |
|             |                |                     | 284743-2*          |       |                |                 |                  |                    |                               |                            |

\*) No C.P.A. supplied.

**Receptacle Housings**

**Technical Features**

**No. of Positions:**

94 Position Assembly

**Housing Material:**

PBT GF20

**Wire Size Range:**

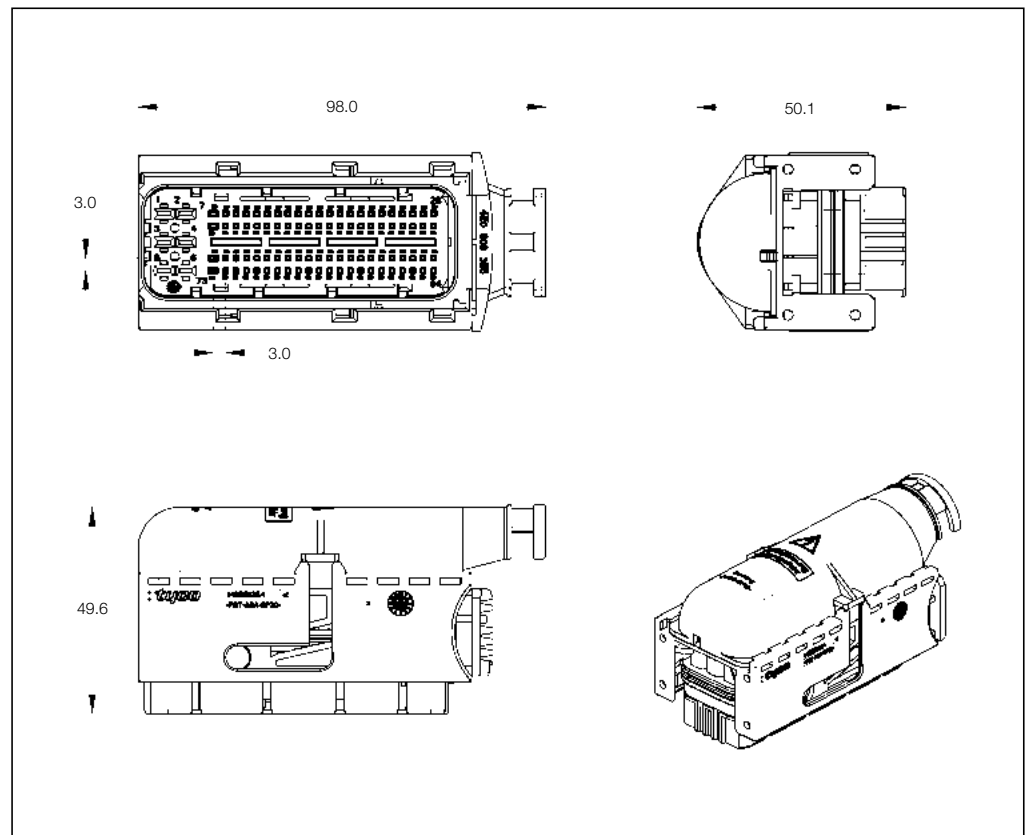
0.20–0.75 mm<sup>2</sup>

**Product Specification:**

108-18829

**Application Specification:**

114-18521



**94 Position Receptacle Housings**

| No. of Pos. | Keying Options | Housing Color | Part Numbers       |       |       |                  |                    |                               |                            |
|-------------|----------------|---------------|--------------------|-------|-------|------------------|--------------------|-------------------------------|----------------------------|
|             |                |               | Receptacle Housing | Cover | Lever | Retainer Housing | Mating Pin Housing | Mating PCB Header Right-Angle | Mating PCB Header Vertical |
| 94          | –              | Black         | 3-1534904-1        | –     | –     | –                | –                  | –                             | –                          |
|             |                |               | 3-1534904-2        |       |       |                  |                    |                               |                            |
|             |                |               | 3-1534904-3        |       |       |                  |                    |                               |                            |
|             |                |               | 3-1534904-4        |       |       |                  |                    |                               |                            |
|             |                |               | 3-1534904-5        |       |       |                  |                    |                               |                            |
|             |                |               | 9-1534904-4        |       |       |                  |                    |                               |                            |

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Engineering Notes

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Introduction



8

## Application Tooling and Equipment Portfolio

- |                                        |                                                                                                                       |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| ■ Applicators                          | ■ Magnet Wire Equipment                                                                                               |
| ■ Crimp Machines and Equipment         | ■ MOST Equipment                                                                                                      |
| ■ FFC-FPC Equipment                    | ■ SOLARLOK Equipment                                                                                                  |
| ■ Hand Tools                           | ■ Wire Preparation Equipment                                                                                          |
| ■ IDC Machines                         | ■ Installation, Inspection and Service as well as Training and Short Term Rental Crimp Applicators within EMEA region |
| ■ Pin Insertion and Press-Fit Machines |                                                                                                                       |
| ■ Lead Makers                          |                                                                                                                       |

For more detailed information please visit our websites: [www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

Insertion Machines for Single Contacts

## P 100 Pin Insertion Machine

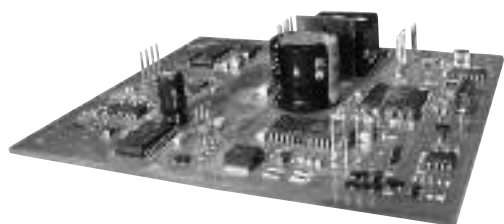


The semi-automatic P100 machine belongs to the TE Connectivity pin insertion system line. Designed and manufactured with a focus on mid-volume level production, the P100 machine provides a broad range of features at a very competitive price. With the ability to apply products from TE Connectivity and other manufacturers, the P100 machine does not limit your production to "TE Connectivity only" applications and provides flexibility to address both current and future tooling needs.

The P100 machine uses a pneumatic power unit together with product specific "quick change" tooling packs. The insertion heads can be equipped with a rotary insertion finger that can apply products at different angles without decreasing the insertion rate. The tooling packs can be exchanged within 30 minutes to meet your full range of application requirements.

CE approval is in process.

- X/Y-Table with stepper motors
- Database driven software for simple programming and automatic setup
- "Quick change" tooling packs allow easy and fast setup
- Wide range of tooling packs for TE and non-TE products available
- Easy-to-use operator interface



## P 300 Fully-Automatic Machine for PCB Processing



For the automatic assembly of printed circuit boards, the basic P 300 machine is equipped with a product specific insertion head. A speciality is the rotary insertion finger which allows the products to be inserted in different angles of rotation.

A XY table, powered by servo drives, positions the printed circuit boards under the insertion head. Up to 4 motor driven insertion heads, each equipped with a terminal specific conversion kit, allow the application of up to 4 different products. Available accessories like

- Insertion Force Monitoring
- Vision System for position detection and program correction
- Flip unit to insert terminals on both sides of a PCB
- PCB transfer belts for an in-line installation
- Pin length detection
- Traceability features such as reel scan, board scan, etc.
- Motor driven insertion head for continuous wire products
- Tool changer for up to 4 Insertion heads and lower tools allows the P 300 to be adapted to the most varied manufacturing tasks.



## Insertion Machines for Single Contacts

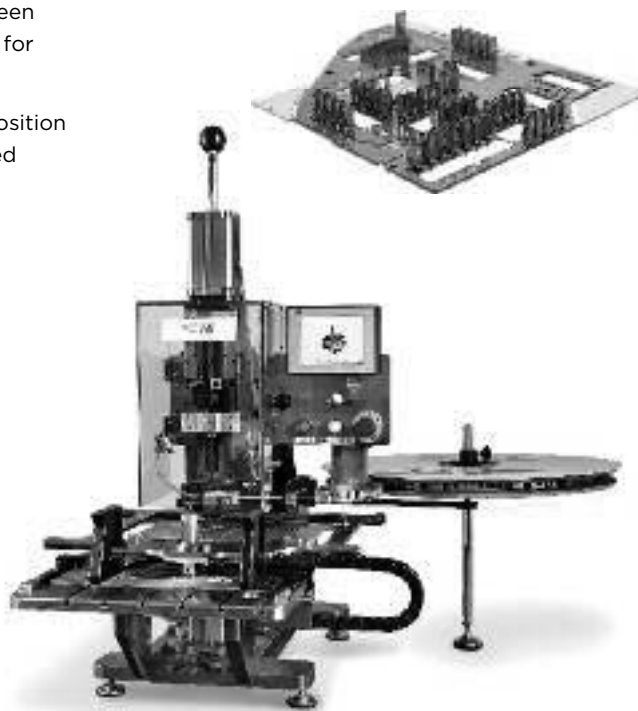
### P 50 Insertion Machine

The successful product line of single pin insertion machines has been expanded with the addition of a manual operated bench machine for low volume production, repair work and sample production.

The P 50 manual bench insertion machine uses a tracer slide to position the PCB under the pneumatic insertion head. A regular PCB is used as master to position the indexing pin above the insertion hole. When activating the two hand start, the indexing pin extracts. If a hole is detected, the terminal is inserted into the board in production.

To fulfil automotive requirements, the P 50 insertion machine can be equipped with an insertion force monitoring system. In cooperation with an optional barcode scanner, the insertion forces can be stored for traceability purposes.

- Pneumatic insertion head can also be used on other machines of the product line.
- Conversion kits can be changed without too much difficulty to run different terminal types.
- Conversion kits can also be installed on motor-driven insertion heads used on P 200, P 300 and P 350 machines
- Terminal insertion is possible at different angles without the need to re-load the PCB in different orientations.

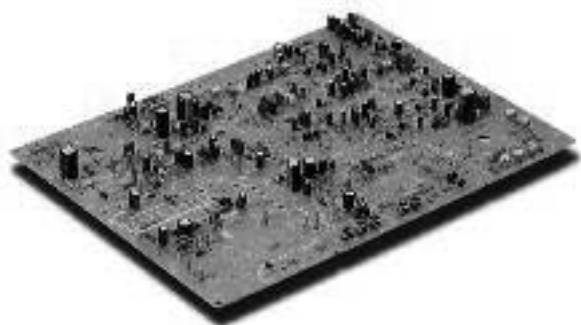


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### M200C Mulserter Insertion Machine

The Mulserter series of insertion machines from TE Connectivity provides the flexibility and the cost savings to meet a wide range of customer requirements in the through hole technology. Our full range of systems can help with the application of insertion from reeled components, loose components to odd shaped components.

The M200C Mulserter machine is designed to insert eyelet, round pin, gripper, etc. into PCBs automatically with insertion program made by operator. The head for tooling can be chosen from 1 to max. 4 and each head can have individual tooling depending on customer's parts.



Lead Makers

## Application Tooling for Processing Small Wire Sizes

A range of application tooling solutions is available to embrace the current trend in the automotive industry towards using wires with increasingly smaller cross sections.

Thinner stranded wires require crimp connections with smaller contacts such as the NanoMQS, MQS and other contact systems that allow stranded wires to be processed up to a minimum of 0.13 mm<sup>2</sup> cross section.

Miniaturization of the connectors place higher demand both on the processing machines and tools as well as the machine operator. The hand tool, crimp tool, and fully automatic machine manufacturers have addressed the issue of processing small wire sizes by equipping the machines with tailored components to ensure reliable and secure processing.

To process crimp contacts both hand tools and applicators with pneumatic feed or motorized contact feed can be used.

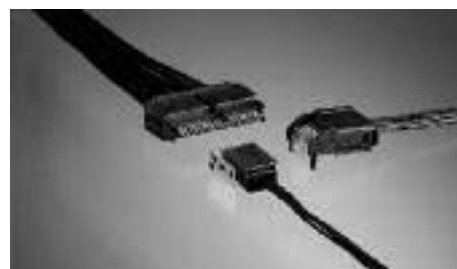
For automatic processing the quality of the crimp connection can be recorded with standard commercial crimp monitoring systems, modified to accommodate the small cross section.

Available tooling and accessories for the processing of small wire sizes:

- Hand tools for crimping NanoMQS and MQS contacts
- Ocean Applicator with pneumatic or servo-motor contact feed
- Fully automatic crimping machines, equipped with special part kit to apply small wire sizes from 0.13–0.22 mm<sup>2</sup>.
- Komax Zeta, with automatic housing loading, customized for small wire applications



Example: The Komax Alpha 355 lead maker can be equipped with special application tooling kits and applicators for small wire sizes.



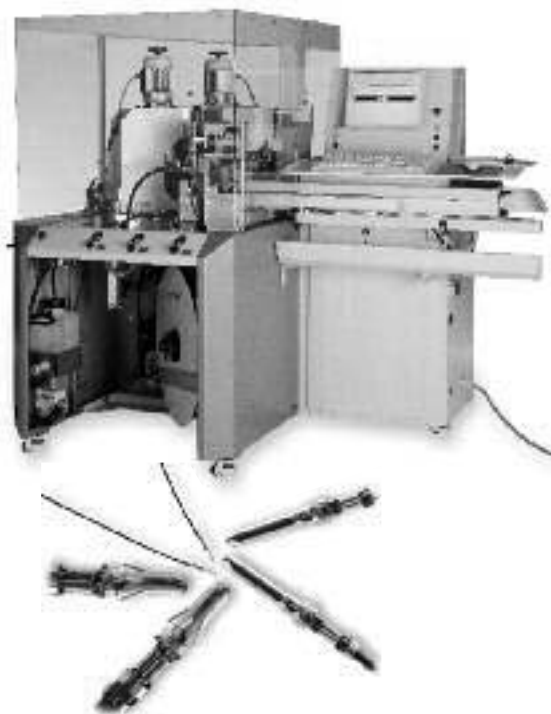
Lead Makers

## Gamma 255 Fully Automatic Crimping Machine

The Gamma 255 lead maker is a flexible fully automatic crimping machine for efficient wire processing. It processes cross sections in a range from 0.0123 mm<sup>2</sup>/AWG 36 to 2.5 mm<sup>2</sup>/AWG 14. It is compatible with all commercially available applications. It also handles double-sided crimped wires as short as 20 mm. The entire cross section is processed using programmable, highly dynamic servo-drives and V stripping blades.

As part of its standard equipment, the machine has a prefeeder, splice, wire-end and knot detection, as well as two wire straightening units. A bad wire handling system with automatic post-production is also integrated in the Gamma 255 lead maker. To verify quality, you can also integrate devices for measuring crimp height and pull-out force right into the production process. The compact layout is carefully thought-out and allows you to change over from crimping to twisting, fluxing and tinning very fast.

With its vertically opening safety cover, the Gamma 255 lead maker is readily accessible from all sides. Operations and material handling are convenient and simple. The reliable TopWin software user interface adds to this high level of user convenience in over 20 different languages.

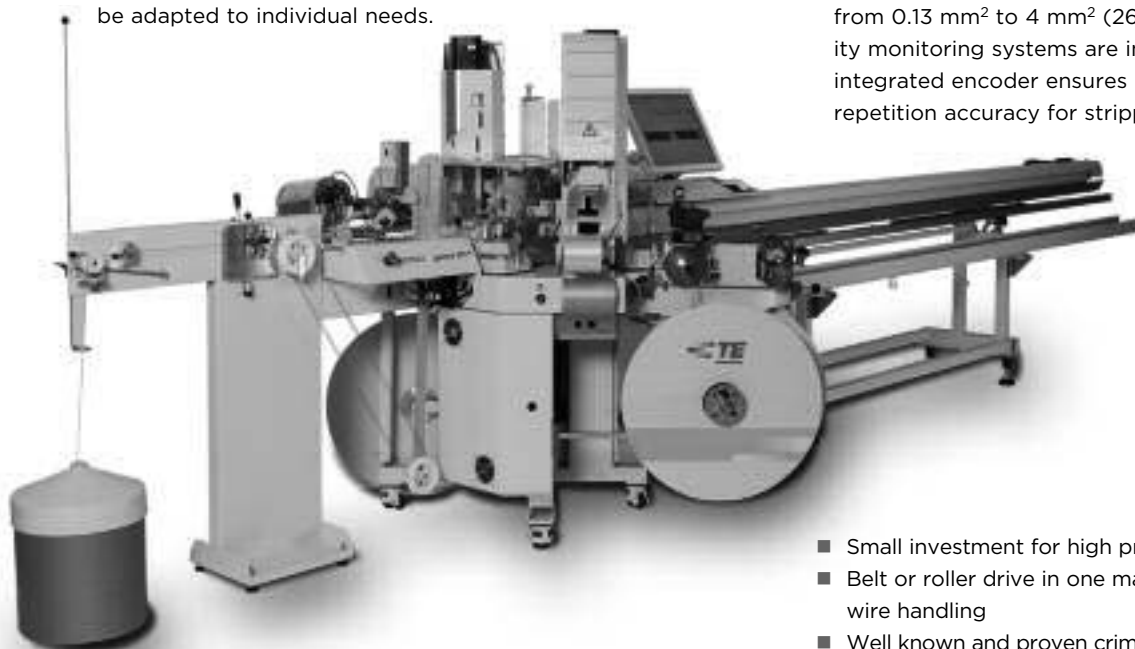


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## Gamma 263 Fully Automatic Crimping Machine

The combination of simplicity, functionality, efficiency and process safety, in addition to high production output on a small footprint offers an excellent price-performance ratio for this fully automatic crimping machine. Whether roller or belt drive, the application can be adapted to individual needs.

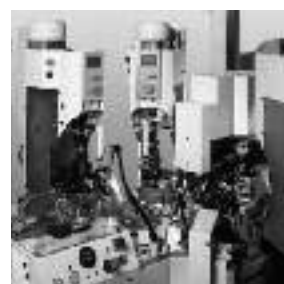
The machine is designed for one and two-sided crimping and for one-sided seal loading. The wire transport system ensures gentle processing of varying conductors with cross-sections ranging from 0.13 mm<sup>2</sup> to 4 mm<sup>2</sup> (26-12 AWG). Proven quality monitoring systems are integrated. A second integrated encoder ensures maximum length and repetition accuracy for stripping and wire length.



- Small investment for high production output
- Belt or roller drive in one machine for gentle wire handling
- Well known and proven crimping press technology
- Compact and user friendly on very small floor space
- Highly ergonomic thanks to the touch screen control

For more detailed information please visit our websites: [www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Gamma 333 PC-B Flexible Wire Processing



The Gamma 333 PC-B lead maker is a flexible fully automatic crimping machine for efficient wire processing. It processes cross sections in a range from 0.13–5.0 mm<sup>2</sup> (AWG 26–AWG 10).

Short conversion times, additional applications and a user-friendly user interface with multiple-language capability. The Gamma 333 PC-B lead makers with belt-drive makes it all possible! With its third processing station and state of the art control software, you are provided high flexibility and an even more efficient way of meeting your wire processing needs.

With an additional processing station on side 1, the Gamma 333 PC-B lead maker enables you to crimp both ends of the wire, to create double crimp connections with three different contacts, to carry out one-ended seal application, tinning or ink-jet marking.

In addition, process monitoring is all integrated to ensure that the wire is cut to length and stripped perfectly.

- Exact reproducible settings for processing stations
- Maintenance-free step and servo motor of top quality
- Very short conversion times thanks to integrated processing modules
- Highly comfortable and convenient to operate thanks to graphic-based TopWin software
- User specified language – more than ten different languages to choose from
- Integrated good/bad sorting
- Can be networked with additional WPCS (Wire Processing Communication Standard) software

## Alpha 355 and Alpha 355 S Fully Automatic Crimping Machines



Short setup and changeover times, integrated quality measurements, and top performance are the three main features of the Alpha 355 fully automatic crimping machines.

### Alpha 355 Lead Maker

The Alpha 355 lead maker is designed for one and two-sided crimping and seal loading. It even handles double-crimp connections involving varying lengths and the same wire types without any problem. The precise dual-channel blade system allows for a large range of wire sizes without blade changes. With options like the manual wire selector and/or the quick-change system for crimping tools, materials and tools can be prepared for the next job while the machine is running.

- Short changeover times
- Reliable process monitoring
- High production output
- Setup of next job while production of current job is underway
- WPCS (Wire Processing Communication Standard)
- Q-monitoring, CFA+ (Crimp Force Analyzer), SPM (Seal Position Monitor)

### Alpha 355 S Lead Maker

The Alpha 355 fully automatic crimping machine is a proven performer and now available in a model offering the flexible selection of modules. The high safety cover and the flat table design is the most striking difference between this version and the Alpha 355 lead maker. It allows processing modules not specifically designed for certain machines to be mounted. One of the two module slots on each processing side is fitted with special mounting tables to accommodate the various mounting methods. Combined with the ingenious open-ended software interface, the flexibility of the Alpha 355 S lead maker can be increased.

- Flexibility in module selection
- Reliable basic machine
- Open-ended software interface
- WPCS
- Q-monitoring, CFA+ (Crimp Force Analyzer), SPM (Seal Position Monitor)

## Alpha 356 Fully Automatic Crimping Machine



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The Alpha 356 fully automatic crimping machine has room for up to seven processing stations.

A wide variety of configurations are possible, in fact, almost any combination of crimping, seal loading, fluxing/tinning, twisting, fitting with insulating sleeves and end sleeves for strands as well as bulk turned contacts and customer-specific processes. In a configuration featuring three crimping presses, for example, you can crimp the three wire ends for double-crimp connections with different contacts or select different articles without a machine changeover.

With the rotating wire selector and the TopWin user software, you can complete most of the preparations for the next job while the current one is still being produced on the machine.

Crimping tools, contact rolls and other application-specific parts can be changed without tools. Thanks to the use of the modern technology, the production output – and the degree of process control – is extremely high in this machine generation.

- High flexibility with up to seven processing stations
- Both standard and customer-specific processes can be integrated
- Wide choice of different processing configurations
- High productivity thanks to the latest technology
- Integrated quality measurements
- Next job can be prepared while machine is processing current job
- Combinable in networks using WPCS (Wire Processing Communication Standard) interface



## Alpha 433 H Fully Automatic Crimping Machine

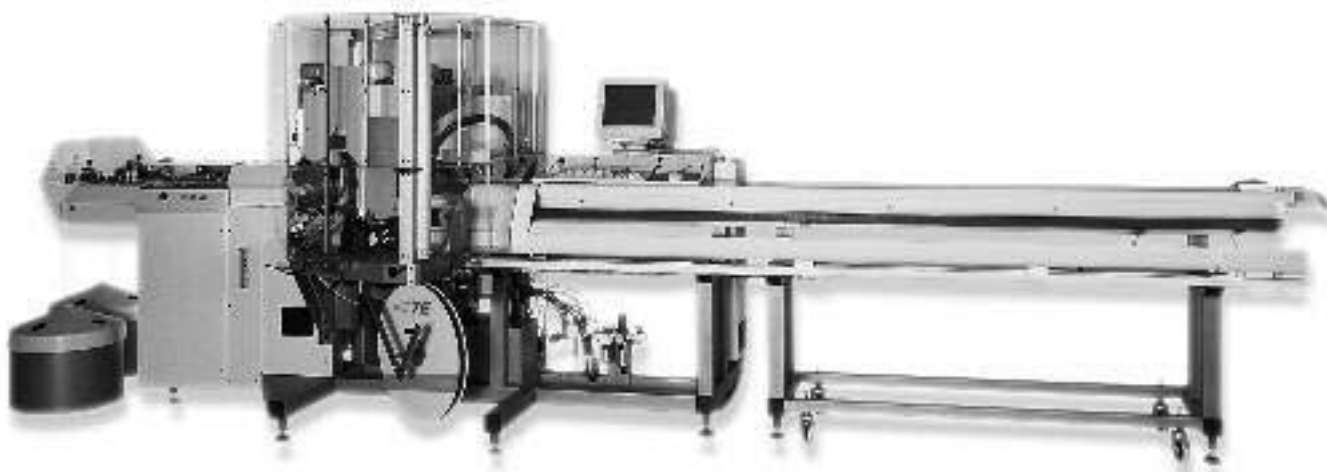


The Alpha 433 lead maker is a flexible fully automatic crimping machine for efficient wire processing. Large wires no longer pose a problem. The machine is capable of processing large wires from 0.20-16 mm<sup>2</sup> / AWG 24-6 (fine-wire conductors). The P104 crimping press delivers the requisite force to process large terminals. Terminals can be crimped on both ends but seals can also be loaded at one end. Wire processing to the most exacting standards – great versatility without conversion. The Alpha 433 fully automatic crimping machine is based on state of the art technology and is designed for processing single conductors as well as double crimp connections.

- High flexibility with up to five processing stations
- Short conversion times
- Maximum ease of operation thanks to TopWin user software
- Networkable with WPCS interface
- Modern quality monitoring
- Belt drive for high processing speed
- Extensive range of accessories



## Alpha 477 Fully Automatic Crimping Machine



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The Alpha 477 fully automatic double crimping machine allows you to process two different wires simultaneously to produce your choice of double crimp or single wires. The two wire drives are fitted with highly dynamic AC-servo axes and an integrated anti-slip system. With this sophisticated handling technology, two wires can be fed in parallel and their ends cut to length and terminated in a controlled process. Wires are handled gently throughout.

With four processing stations at the lead termination and two at the trailing end, you have a large number of possible processes at your command.

- No conversion required when switching from double crimp to single wire production
- Double crimp connections can be produced side-by-side or one above the other
- Integrated head separation and batch sorting
- Active good/bad wire sorting
- An ergonomic layout assures the operator optimum accessibility and minimal walking/reaching distances
- mci 722/mci 712 module assure superb flexibility and shorter changeover times
- Integrated quality monitoring
  - CFA (Crimp Force Analyzer),
  - SPM (Seal Position Monitor)
 with automatic post-production of defective parts
- Accommodates up to six processing stations
- Great ease of operation thanks to TopWin software
- Networking possibilities with reliable WPCS and special software

## Alpha 488 Fully Automatic Processing Machine



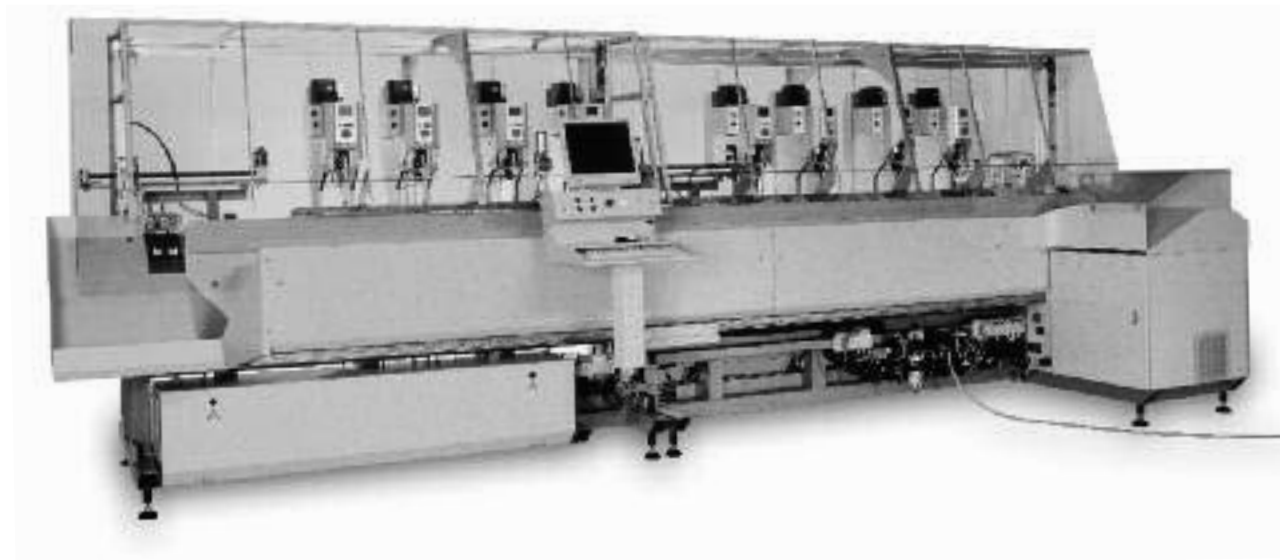
The high machine output of twisted wires results from the parallel processing of the two conductors and a division of overall processing into three main processes, all optimally synchronized with each other. The linear wire draw-in unit with integrated delta length analyzer (DLA) assures the gentle handling of the wires. The twisting head with AC servo-drive is the heart of the Alpha 488 lead maker. The integrated twist force analyzer (TFA) enables uniform twisting by analyse the forces during the twisting process.

Drawing on continuous stock, the Alpha 488 fully automatic twister produces twisted pairs completely cut to length and terminated. It can handle wire cross sections ranging from 2x 0.13 mm<sup>2</sup> to 2x 2.5 mm<sup>2</sup> with no trouble at all. Four stations on side 1 and two stations on side 2 open up flexible processing possibilities such as two-ended seals loading and crimping.

- Complete processing of continuous stock into twisted pairs with processed ends
- Gentle handling of base stock to ensure high-quality end products
- Also possible to process different open ends up to 125 mm in length on side 1 (as an option)
- Usable as well for two-end crimping and seal loading on two identical single wires
- High degree of flexibility and reduction of conversion times
- Integrated quality monitoring
  - DLA (Delta Length Analyzer),
  - CFA+ (Crimp Force Analyzer),
  - SPM (Seal Position Monitor), also during twisting
  - TFA (Twist Force Analyzer)
- Active good/bad sorting
- Accommodates up to six processing stations
- Great ease of operation thanks to TopWin software
- Networking possibilities with reliable WPCS (Wire Processing Communication Standard) and special software



## Zeta 633 L Fully Automatic Processing Machine



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Zeta 633 harness maker is a highly flexible fully automatic crimping machine used for just-in-time production. With its flexible machine concept, the Zeta 633 harness maker opens up many possibilities for handling small jobs and wire sequences.

Up to 36 conductors are available for wire feed without changeover. Wire transport can be adapted to the specific properties of each conductor. Applying the loop transfer principle, the device feeds the two wire ends of the loop individually one after the other to the appropriate processing station.

Modules can be configured as desired along the entire length of the Zeta 633 harness maker. That means total flexibility for each area of application. The Zeta 633 standard machine accommodates up to five processing stations, the Zeta 633 L Version even 8 processing station. If need be, both Zeta versions can be successively expanded and still have space for additional processing stations.

The wires can be bundled or deposited in predefined order as a chain.

- Up to 36 different conductors can be processed without changeover
- Station layout can be defined as desired
- Full integration of existing processing stations
- High processing quality
- TopWin software: Existing user expertise can be applied immediately.
- Excellent accessibility and safety
- Expandable
- Prepared for Zeta 651 and Zeta 655 machines
- Fully integrated quality monitoring with good/bad sorting
- Customer specified special applications possible

## Zeta 651 Fully Automatic Processing Machine



Together, the Zeta 633 and Zeta 651 harness makers offer a reliable and attractively priced complete solution for the single-sided loading of single and double row blocks.

The Zeta 633 fully automatic crimping machine applies the loop transfer principle to feed the two wire ends of the loop individually one after the other to the appropriate processing station. With the Zeta 651 harness maker, the contacts are mechanically centered prior to loading and optionally rotated, if needed. The use of the reliable loading head and the process monitoring systems of the Zeta 655 harness maker ensure optimum loading. The entire loading process is monitored, from insert in chamber to correct locking. Blocks are fed automatically and can be replenished while the machine is running.

Feed and deposit can be adapted to meet the respective needs of the specific customer.

The long deposit system with batch separation and integrated bad part cutter is used for producing harnesses with long conductors up to 3000 mm in length.

- Fully automatic block loading
- Full integration into TopWin software
- Integrated process monitoring with good/bad separation
- Automatic block feed
- Blocks can be replenished while machine is running.
- Economical production of harnesses undergoing single-sided loading



## Zeta 656 Fully Automatic Processing Machine



The Zeta 656 harness maker is a block loading robot designed to take into account the ever smaller sizes of production batches. Thanks to its machine design, the Zeta 656 harness maker allows investment costs to be amortized in parallel on different types of wire harnesses, markedly reducing the cost per lead set. The Zeta 656 harness maker allows new applications to be subsequently incorporated. With the flexible pallet carousel, the most varied types of wire harnesses can be produced just-in-time and changeover times are very short. All the operator has to do to change over to a new type of block is switch the two pallets. The loading of each and every block is monitored and controlled by a force sensor.

The Zeta 633 basic machine has a 36-wire changer and several crimping stations with automatic crimp height adjustment, allowing far more than 300 different wire/terminal variations to be processed without any changeover

at all. In combination with a machine extension, another four processing stations can be accommodated. Moreover, wire marking systems can be connected, allowing different wires within the same harness to be marked with the operator's choice of black or colored text.

- Extremely broad variety of harnesses on one machine – no application-specific parts
- New applications can be easily added later on
- Economical even for tiny production batches
- Non-contact position recognition for the terminals
- Uniform top quality processing – high degree of process reliability
- Integrated quality monitoring with good/bad sorting
- Short amortization period

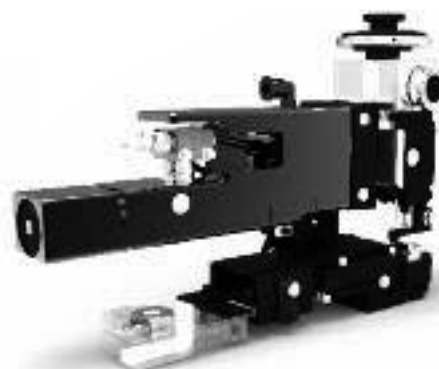
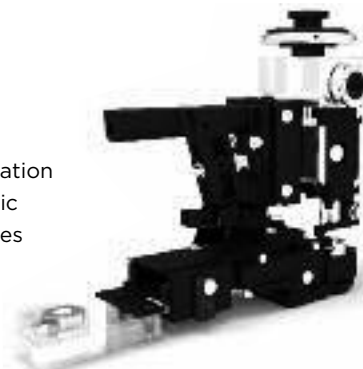
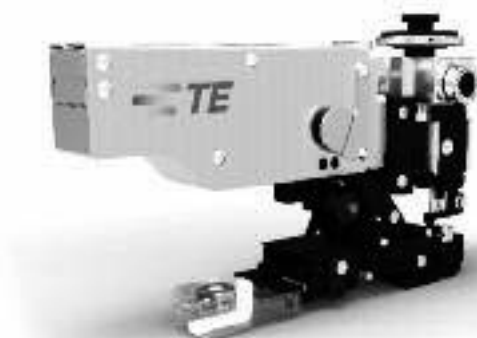
## Applicators

### Ocean Applicator Series

Crimping standards continue to rise to higher levels of quality and repeatability. Taking customer input and market demands into consideration, TE Application Tooling has created the Ocean Applicator series to meet those higher demands and to take terminal crimping to a new level.

By consolidating our applicator offering, TE can provide design consistency and tooling standardization to the market. One of the resulting benefits to customers of this consolidation is flexibility in the choice of feeding options: new and improved mechanical and pneumatic feeds along with the innovative and precise servo feed option. The Ocean Applicator series design also allows customers to perform field upgrades to system III technology. It provides an upgrade path for terminal intelligence that allows the machine to obtain set-up features as the applicator is upgraded.

- One applicator platform – modular family design
- Two ram interface styles
- Three interchangeable feed options:
  - Mechanical
  - Pneumatic
  - Servo



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### Applicator Wear Parts

#### Applicator Wear Parts Stocking Programme

To ensure the support of our installed Applicator base, we have established a stocking programme for wear parts. Subsequently, all crimpers and anvils for your applicator are normally available ex stock, ensuring the shortest possible lead times.



#### Wear Tooling to Apply Stainless Steel Contacts

The application of nickel plated stainless steel terminals has always been a problem with regard to the uptime of the crimp tooling. We have developed crimpers and anvils, using special base materials and surface treatments in the crimp area. These have enabled us to significantly increase the tool life and thus reduce the applied cost of these products.

If you are experiencing specific wear problems in your production, please contact your TE Connectivity Service representative.

For more detailed information please visit our websites: [www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

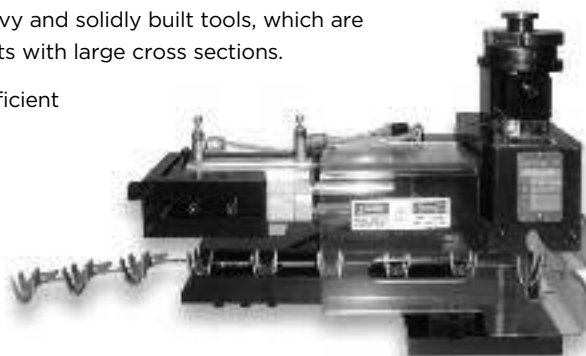
## Applicators

### Applicator for Large Wire Sizes

For processing of large contacts, eg for battery terminals, we offer heavy and solidly built tools, which are extremely precise in repetitive work for end-feed and side-feed contacts with large cross sections.



A pneumatically driven feed which is efficient and precisely adjustable, as well as a specially robust crimping unit, produce reliable connections which are extremely stable over the long term.



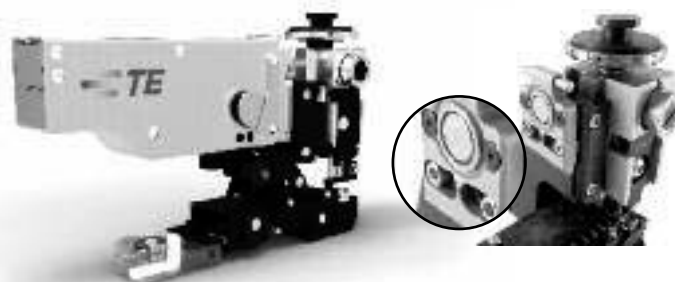
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### Smart Applicator

Now it is possible to have smart applicators in any of the feed styles of the Ocean Applicator series. The system III applicator data is now extended to an entire smart applicator strategy. It allows the operator to conveniently view all the data about the applicator. The data contains serial numbers, part numbers, wearable tooling part numbers (and tooling cycle counters), strip length, instruction sheet numbers and more. This data includes the terminals, with acceptable crimp heights, that can be terminated with the applicator. With this information conveniently available to the operator, programming and verifying the crimp application has never been easier. Setup will be less time consuming and more accurate.

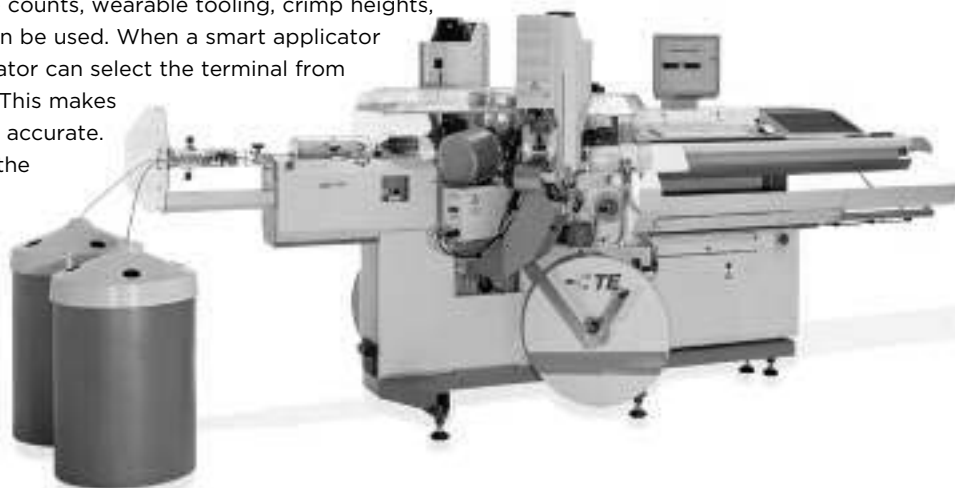
This system also extends the availability of the high-precision servo feeder technology recently developed by TE Application Tooling.

- Smart applicator data module stores complete information about the applicator
- Feeder automatically reads terminal information from the applicator data chip



TE Application Tooling has teamed up with Komax Wire to provide a fully integrated smart applicator system into a wire-processing machine. This smart applicator solution is a must for any demanding harness manufacturer. Your wire-processing machine is now able to verify that the applicator installed in the machine is capable of terminating the programmed terminal and that the crimp height specification is correct. This integration allows the operator to view all the applicator data and maintenance counts, wearable tooling, crimp heights, strip length and list terminals that can be used. When a smart applicator is attached to the machine, the operator can select the terminal from a list while programming the article. This makes setup less time consuming and more accurate. With other information provided by the applicator programming parts and verifying application is easy.

- Verification of the installed applicator
- View applicator data
- Less time consuming and more accurate setup



For more detailed information please visit our websites: [www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

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Crimping Machines and Accessories

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## AMP 3/K-40 und AMP 5/K-40

The AMP 3/K-40 and AMP 5/K-40 terminators use a DC motor with gearbox drive. The result is a small-foot-print design that is fast and quiet.

Cycle time is less than 0.4 seconds with an operation sound level of 76 dB(A) with AMP 3/K-40 or 80 dB(A) with AMP 5/K-40 terminator.

Standard features such as tool-less precision crimp height adjust, CQM capability, batch counter and a work light are integral parts of serial equipment. By offering options the AMP 3/K-40 and AMP 5/K-40 terminators can be tailored to the specific application requirements without inflating the price for unwanted features.

With a crimp force capacity of 1.361 kg [3,000 lb], the AMP 3/K-40 is capable of crimping 0.03-2.5 mm<sup>2</sup> [32-14 AWG] wire size.

The AMP 5/K-40 and it's 2.268 kg [5,000 lb] crimp force is capable of crimping 0.03-6.0 mm<sup>2</sup> [32-10 AWG] wire size.

Tooling for processing larger wire sizes is available upon request.

Both the AMP 3/K-40 and AMP 5/K-40 terminators are CE approved.



### Features

- Tool-less removal of applicators and guards for quick and simple maintenance and product change over
- Universal electrical input
- Quiet and fast operation
- Customer Manual 409-10204

Crimping Machines and Accessories

## AMP 5/K-40 Splice Terminator

Applying thru-splices is fast and efficient when you have access to both sides of the applicator for placing and holding the wires.

The AMP 5/K-40 splice terminator with a standard splice applicator provides front and rear access to maximize production efficiency.

And it has full guarding for operator safety.

The splice terminator is offered in two versions, with and without crimp quality monitoring. Equipped with optional CQM II, force and position can be measured during every crimp cycle, providing real-time monitoring of crimp height, the fundamental crimp characteristic.

The CQM II also monitors the shape of the work curve for every termination. Variations in the work curve may indicate improper wire placement, incorrect wire size, insulation in the wire barrel, tooling wear, etc. CQM II details and part numbers are shown on the other side of this sheet. Like other AMP 5/K-40 terminators, the splice version includes fine crimp height adjustment, full guarding with interlocks, and capabilities for jog operation. Splice terminators do not accept heavy-duty mini (HDM), heavy duty industrial (HDI) and Ocean applicators.



### Features

- Open access behind crimper maximizes production efficiency
- All the features of the proven AMP 5/K-40 terminating machine
- Magnet-wire splice capability
- Crimp Quality Monitor II (CQM II) option
- Precision manual crimpheight adjustment
- Low maintenance
- Standard 15/8 [41.3] stroke
- Manufactured under an ISO 9001 Certified Quality System
- Universal electric input 100/240 VAC, 50/60 Hz
- Customer Manual 409-10204

## Crimp Quality Monitor II (CQM II)

When used on TE terminators the CQM II provides a complete crimp detection analysis. It checks every crimp as it is produced, measuring crimp height of each termination and evaluating the quality of each crimp. If a crimp has questionable characteristics, visual and audible alarms alert the operator. The CQM II includes data ports for printing and networking.

CQM II offers five different crimp analysis methods.

- Crimp height
- Work index
- Peak force
- FFT (Fast Fourier Transform)
- Point-to-point

### Features

- Good measurement to check compliance with crimp design
- Real time measurement during crimp cycle
- Inspects 100% of terminations
- Crimp height measurement accuracy:  $\pm 0.012$  mm
- Data can be saved to a USB flash drive
- 5 unique analysis methods capable of detecting most crimp faults.



For more detailed information please visit our websites: [www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

**Crimping Machines and Accessories****SC15 QC Stripper Crimper**

With the SC 15 QC, you can strip and crimp solid and stranded wire with or without insulation as needed in one machine cycle each. The machine processes side-feed contacts with 1 or 2 carrier strips up to a max. 0.5 mm material thickness.

The machine cycle is cam and pneumatic controlled. With the cam control system, a high level of crimping force and repetitive accuracy can be attained. The pneumatic control allows for product-independent, individual settings of the remaining machine functions.

The tool holder of the machine was conceived for a three-piece interchangeable tool. When a non-specified crimp connection is recognised by the crimping force monitoring system, the cable clamping device remains closed. It will only open if the reset button on the crimp quality monitor is pressed. The starting requirements and the complete cycle sequence can be monitored with the LED display on the front of the machine.

When the guard door is opened in automatic mode, the electrical and pneumatic energy supply is interrupted by means of the emergency-off function. The design of the machine is service-friendly. There are interfaces for the parameter remote diagnosis.

**Features**

- Automatic bare wire detection during crimping to deactivate stripping and suction and to switch the CQM at this level.
- Crimp force monitoring with statistic analysis (optional).
- Individual parameter setting via software.
- Testing and setting the various functions in setup creep speed.
- Wire sizes range from 0.09 to 4.00 mm
- Insulation diameter: 0.5 to 3.6 mm
- Stripping length: 12 mm and less, depending on the number of wires
- Wire insertion depth: 10 mm
- Flexible work light
- Excellent work area visibility
- Low operational noise

**Electrical Connection**

115-230 V, 50/60 Hz

**Compressed Air**

600 kPa [6 bar]

**Repeatability**

Crimp height: 0,01 mm [0.0004 in.]

Stripping length: 0,1 mm [0.004 in.]

**Dimensions (H x W x D)**

460 x 480 x 625 mm [18.1 x 18.9 x 24.6 in.]

**Noise Level**

<70 dB(A)

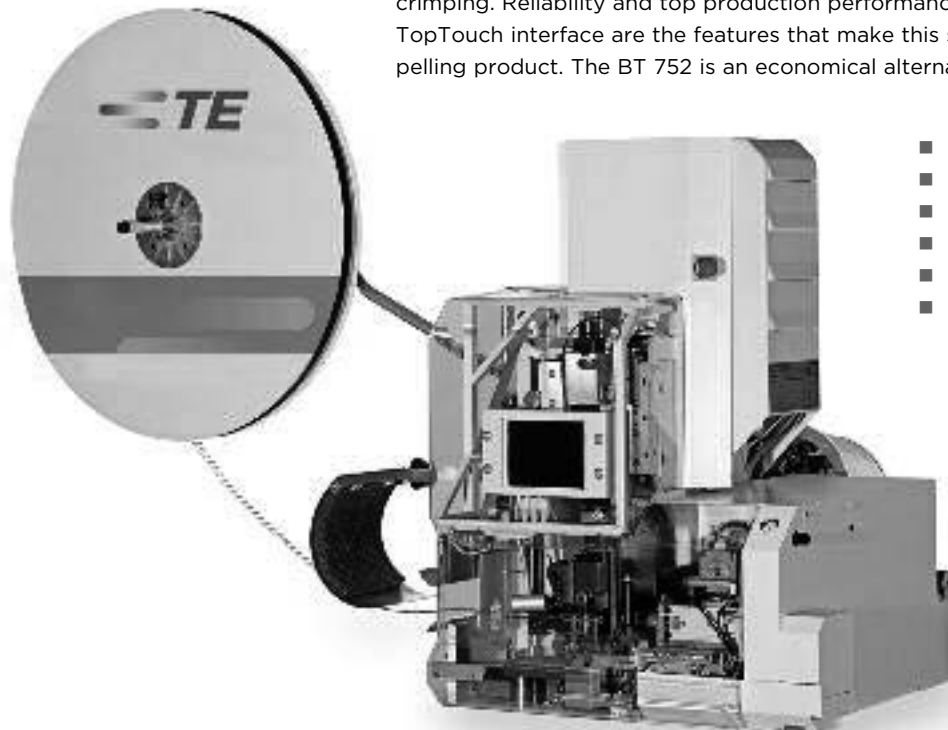
**Weight**

55 kg [121.3 lb.] (without reel)

Crimping Machines and Accessories

## BT 752 Stripping, Sealing and Crimping Machine

The BT 752 delivers three processes in a single device: stripping, seal loading and crimping. Reliability and top production performance coupled with the user friendly TopTouch interface are the features that make this semi-automatic device such a compelling product. The BT 752 is an economical alternative to fully-automatic machines.



- Ultra-short setup and cycle times
- Ultra-simple changeovers
- Active quality control
- Integrated crimp force analysis
- Simple operation with TopTouch
- Seal applications compatible with mci 761, mci 762 and bt 700

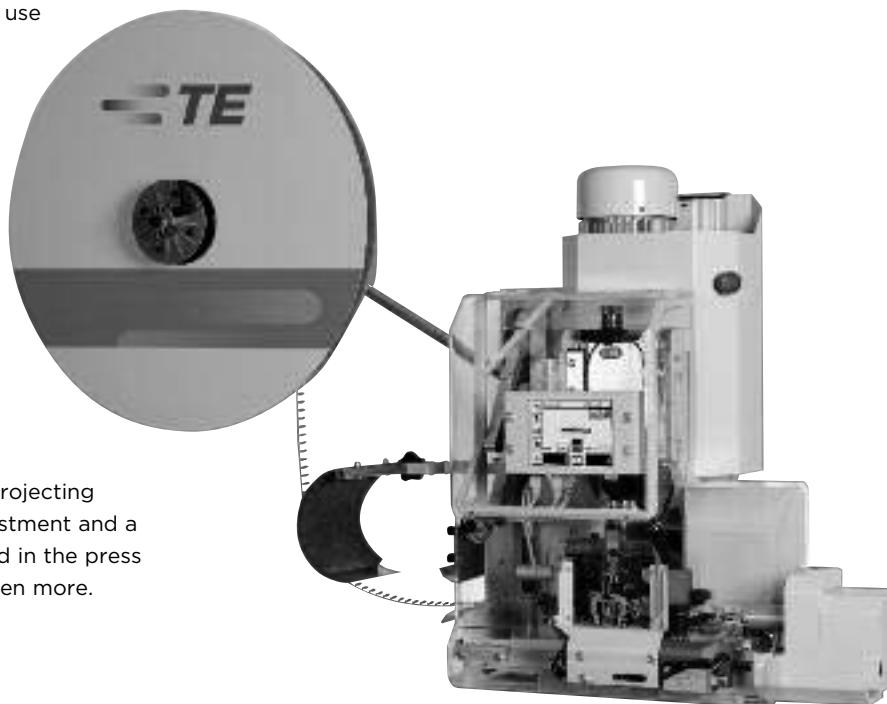
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## BT 712 Bench Top Crimping Machine

This all-purpose press accommodates the use of all common commercial crimping tools.

The software (in 12 languages) can be operated from a small touch screen interface (TCI). The bench top press is also a service tool with a data memory for storing up to 500 articles, for making backups and for uploading updates. The crimp force analyzer that comes with the press detects good and bad wires reliably and gives a detailed description of errors.

Proven and useful options such as short projecting cable, bad contact cutter (BCC), fine adjustment and a contact strip chopper can all be integrated in the press to boost efficiency and process quality even more.



For more detailed information please visit our websites: [www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

Crimping Machines and Accessories

## BT 722 Crimping Machine

The BT 722 crimping machine is used for the manual crimping of contacts. The BT 722 is operated from a touch screen. The new TopTouch user interface allows jobs to be set-up quickly and easily. Even during production set-up, the machine operator is prompted to conduct quality measurements. Following the input of the calculated values in the user interface, the crimp height is automatically corrected. This prevents errors arising from the manual setting of the crimp height.



- Short setup and cycle times
- Active quality control
- Simple operation with TopTouch
- Integrated crimp force analysis
- Integrated handling of bad terminals

Only one crimp is needed for referencing the integrated crimp force monitoring. This reduces waste material consumption and minimizes set-up time. The quality values measured during production are saved and can therefore always be called up later. This ensures traceable quality at all times.

The programmable DigiStripper (Option) is an ideal accessory to the BT 722 crimping machine.

This can be set-up without any mechanical adjustment. Thanks to the functions zero cut and pull back, as well as the pre-programmable cutting depth, the perfect stripping is ensured.

## Gauge for Presses

In order to help you to ensure that our applicators are placed correctly in the presses we offer you this press gauge.

It is possible to have a mis-alignment between the center of the applicator and the terminator due to the way they mount in the terminator. If this happens, a side load is applied to the applicator which can lead to pre-mature wear and/or quality problems with the crimped terminals.

The use of the gauge is simple: You install the press gauge into the press like an applicator. Then you unlock the gauge head, on which is mounted a gauge ring. A spring in the gauge is now pressing the gauge head upwards. The gauge ring should now fit easily into the press head. If this is not the case the applicator ram would not be in a centred position and the mounting plate of the press has to be adjusted. The special design of the press gauge base plate allows free access to the press mounting plate fixing screws.



Crimping Machines and Accessories

## Crimpmatic 970/971 Crimp Machines for Reeled or Loose Piece Terminals

Both machine versions permit the cost effective manufacturing of crimp connections with a high production efficiency. The Crimpmatic 970 machines are capable of processing wires of up to approx. 16 mm<sup>2</sup> (AWG 5), depending on the terminal stock thickness.

- Compact, space-saving design
- Compatible with MQC applicators
- Step mode during set-up

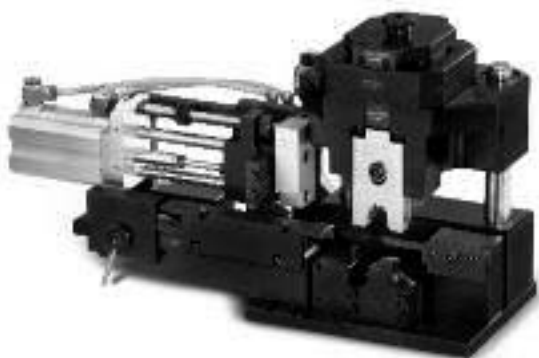
The Crimpmatic 971 machine is capable of processing wires of up to approx. 50 mm<sup>2</sup> (AWG 0), depending on the terminal stock thickness. The machines can be equipped with a quick change device for power crimp tools. MQC applicators with a lower dead center of 135.78 mm can be mounted by means of an adapter plate. These machines can be utilized as manual work stations and can be integrated into fully-automatic processing lines. The terminator as shown is a manual work station Crimpmatic 971. The unit can be supplied with or without crimp process monitoring, or it maybe retrofitted later.

Options are available upon request

- Crimp force monitoring
- Paper spooler
- Adapter plate for MQC applicator

Applicators

- Especially designed for larger wire sizes
- Pneumatic feed
- Can be used with both crimp presses  
Crimpmatic 970 and Crimpmatic 971



Crimping Machines and Accessories

## AT-SC Pneumatic Safety Crimping Machine for Loose Piece Terminals

Maximum ease of use with optimum safety was the challenge when developing this pneumatic crimping machine for loose contacts.

This pneumatic crimping machine features a newly developed safety mechanism, and is designed to crimp connections up to 50.0 mm<sup>2</sup> depending on the terminal design. By means of a fitted safety valve, crimping is not released where the size of the opening between the impact surfaces of the dies exceeds 5.9 mm. Consequently, there is no need to specify any safety covers to protect the operator.

- Parallel closing mechanism
- Variable closing speed
- Electronic piece counter
- Safety system



## AT-55 Pneumatic Crimping Machine for Loose Piece Terminals

This pneumatic crimping machine was designed for crimping insulated and non-insulated terminals from 0.14 mm<sup>2</sup> to 120.0 mm<sup>2</sup> depending on the terminal.

With the additional of an optional cutting unit, the AT-55 crimping machine is able to cut ribbon cable up to a width of 30.0 mm as well as copper conductors up to max. Ø 28.0 mm.

This series is equipped with a battery cycle counter. Safety guards allow crimp terminals up to a diameter of 25.0 mm. Larger terminals can be applied upon request.



## AT-66 Hydraulic Crimping Machine for Loose Piece Terminals

The AT-66 hydraulic crimping machine features an extremely compact design resulting in low space requirement. The hydraulic power is provided by a separate hydraulic unit with main switch, power distribution and pump. The machine offers possibilities for various applications with a crimp force of 150 kN and an open operating space of 100.0 mm in height.

A key operated switch protects the basic and operation data. It permits adapting and safeguarding the particular procedure for the application. The fitted memory module allows 250 different programs to be stored.

- Programmable
- Key operated switch protected user interface
- Fast changeover times
- Compact design
- Short cycle time



Wire Preparation Equipment

## AT-ST Wire Stripping and Twisting Machine



The AT-ST machine strips and twists wires with sizes from 0.03 mm<sup>2</sup> up to 6 mm<sup>2</sup> / AWG 32-10. The adjustable turret head with 8 guide tubes for different wire sizes centralizes positioning of wires. Special ground blades cut and strip special insulations.

The machine can be set either clockwise or anticlockwise dependent on wire drilling direction.

- Adjustable turret head
- Cutting/Stripping blades for special insulation
- Stripping and twisting process

## AT-FE 0400 Strip Box

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The strip box is an electric driven machine to strip standard PVC (polyvinylchlorid) wires up to an outside diameter of 4.2 mm. Except of power supply no further equipment required. Due to the low weight the AT-FE 0400 machine can be placed on nearly every workplace.

- Electrically driven
- Simple adjustment
- Easy handling
- Stepping switch for manual operation
- Small space required
- Practically maintenance-free
- Clear cut through insulation by special shape of cutting blades / 4 cutting blades
- Continues adjustment of wire size and stripping length



## Kappa Cut and Strip Family

The Kappa family strippers are ideal for cutting individual and special wires to length and stripping them. They can strip in sections, allowing them to strip even extremely long length in perfect quality. The machines cover an extraordinarily broad range of cross sections.

Kappa 310, 320, 321, 330 and 350 strippers support a variety of processing options such as wire marking with hot-stamp or ink jet markers. Hot stamp marking can even be done on the Kappa 310 stripper, the entry-level model.

New Kappa Generation:

- Dynamic, flexible cutting and stripping unit
- New intelligent sensors
- New electronic and software
- Optional TopWin™ connection



Cross Section Laboratories

## Micrograph Laboratories for IDC and Crimp Contact Systems

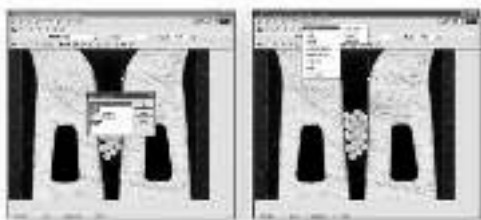
The micrograph laboratory is designed for TE Connectivity terminal systems but is not restricted to them. With a modified sample holder, cross sections of competitors products are also possible. The flexibility of the laboratory allows cross sections of a variety of terminals.

Better than conventional processes the new cutting method makes potting and long drying times a thing of the past. So processing time can be reduced dramatically.

For special requirements an optional impregnation module is available. With it the cutting area can be lightly fixed.

If you need more detailed information please contact your local TE Application Tooling representative.

The relevant contact can be found on the website below.



- Quick process flow of 5 to 10 minutes
- Sample range: 0.22 mm<sup>2</sup> up to 100 mm<sup>2</sup>, depending on sample holder
- No cross section potting
- Evaluation according to DIN and different electrical and physical parameters
- PC specific software for micrograph evaluation
- Compact, easy to operate
- Sample range: 0.22 mm<sup>2</sup> up to 6 mm<sup>2</sup>
- Optional electrolyte etching module
- Easy fixation station for sample holder
- Secure mechanism for optic during transportation
- 1.3 megapixels USB 2.0 camera with SL Vision II evaluation and documentation module

## Automatic Micrograph Laboratory for Crimp Terminal Systems

The automatic micrograph laboratory allows continuous preparation and analysis of micrographs.

It is the ideal solution for production lines especially in the automotive wire harness industry, thanks to small footprint, low weight (app. 35 kg) and short cycle time for micrograph production time down to 1 minute per sample.

Cutting and grinding are done fully automatically. Therefore the automatic micrograph laboratory provides excellent repeatability.

- Compact automatic micrograph laboratory for production of micrographs within shortest time.
- Automatic sample transport system conveying the mobile sample holder through the stations for sample cutting and grinding
- Accurate alignment of the sample with the sample holder by laser
- Sample range: 0.08 mm<sup>2</sup> up to 6 mm<sup>2</sup>
- Integrated etching system
- Integrated optical evaluation system for micrograph analysis

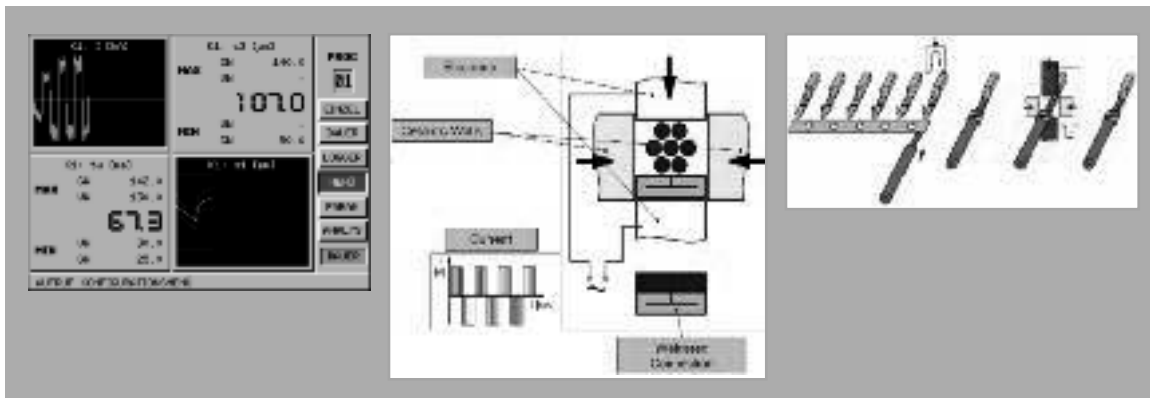


For more detailed information please visit our websites: [www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

## Resistance Welding Module

TE Application Tooling offers semi- and fully-automatic modules for resistance compact welding of terminals. This resistance welding process allows us to achieve minimum transitional resistance between conductor and contact, higher current capacity and long-term stability of the wire termination.

In this process, the bundle of strands in the conductor is condensed into a block by side-mounted ceramic plates. After this the strand bundle is welded to the contact by the introduction of a powerful current via an electrode. Typical features of the resistance welding unit offered by TE Application Tooling are a very short cycle time, a long electrode life time, a fully-automatical parameter setting process and the recording of all process relevant data.



**MOST Equipment**

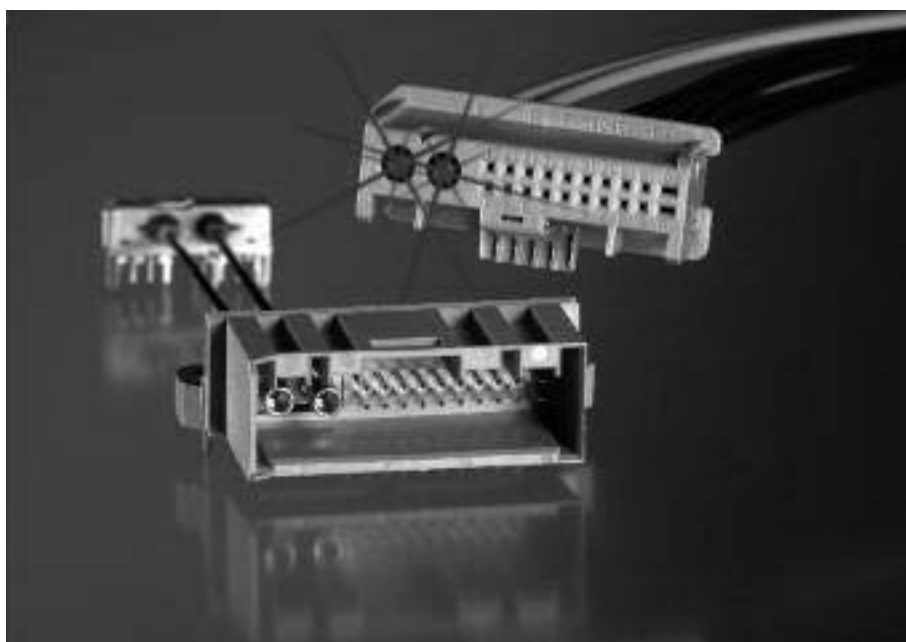
**MOST™ Sets**



The MOST Sets are simple and inexpensive solutions for repair work in the workshop. To meet your requirements we offer several different versions of sets.

The basic version is equipped with two hand tools. One for stripping and cutting of POF (Plastic Optical Fibres), another one for crimping of POF and an additional spare cutting unit.

A further version contains such items as a 20 meters POF, some male and female contacts and one position inline couplings. Other accessories are available in different equipment versions.



SDE Equipment

## SDE Standard Die Envelope

SDE is a flexible approach to crimp tooling that allows the use of the same dies with tooling across a range of application platforms. A large selection of die options are already available for crimping a broad range of terminals and wire sizes. Many die sets have multiple cavities for crimping more than one wire or terminal size and we can provide custom designs where volumes permit.



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## SDE Crimp Tools

SDE dies are interchangeable in tools from portable hand tools (manually or battery-powered) to pneumatic hand tools and electric bench terminators. It's a family of tools that you can take from bench to production or into the field, without the need for different dies to fit each kind of tool.

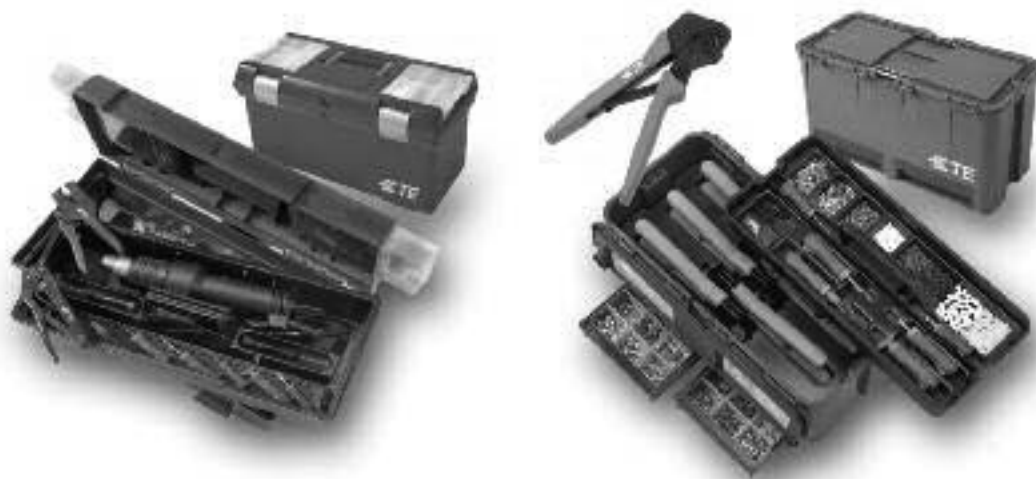
You can rely on SDE to provide for your long term needs because of our commitment to continued development of dies and the tool range.



## Hand Tools and Hand Tool Kits

### Hand Tool Kits

TE Connectivity provides standard kits that contain the necessary equipment to carry out specific tasks to the high professional standards. We can also provide custom kits for volume requirements containing only tools, or a combination of tools and terminals tailored to your specific requirements. Please visit our tooling website to view our online hand tool catalogue for standard kits, or find your local contact to discuss custom kits.



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### Insertion and Extraction Tools

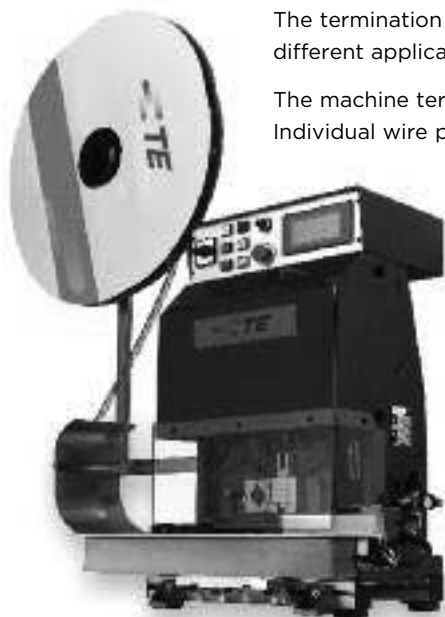
Insertion and extraction tools are used for inserting discrete terminals into connector housings or removing them, without causing damage to either the terminals or housings. Our new standard design features a comfortable handle and snap-in/out protective cover that allows users to stow the business end of the tool to help protect from inadvertent personal injury when the tools are not in use.

Many different design types currently exist for our vast terminal product range, which we continue to convert. If you would like the tool you use converted to the new design, want a custom kit or tools in this design for other manufacturers products – contact us, and where volumes permit we will be pleased to provide you with a quotation for your requirement.



FFC-FPC Equipment

## Flexible Flat Cable (FFC) Termination Machine



The termination machine is an electrical driven semi-automatic assembly machine that uses different applicators to terminate reel-feed FFC contacts to manually supplied FFC cables.

The machine terminates a predefined number of contacts to the supplied cable end. Individual wire positions can be skipped during the assembly sequence.

- Alignment of the cable is effected in the machine
- Number of pins can be programmed
- Pitches between 1.27 mm and 5.08 mm can be programmed
- Individual wire positions can be skipped
- Operator friendly interface via touch screen
- Interchangeable applicators available for different products
- Quick change of the applicator

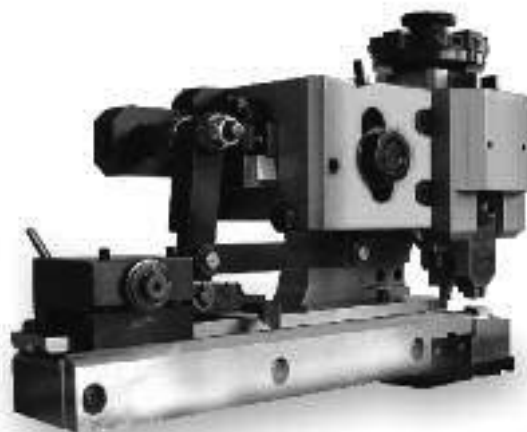


## FFC Applicator

The FFC applicator was designed for the FFC termination machine. The adjustment of the crimp height is similar to other TE Application Tooling crimp applicators. All wear parts are easy to change.

Different types are available for following terminals:

- FFC MQS and MQS+ terminals
- FFC Junior Timer terminals
- FFC AMPMODU .100 terminals
- FFC AMPMODU .050 terminals
- FFC Card Edge
- ACTION PIN contacts
- FFC soldering contacts



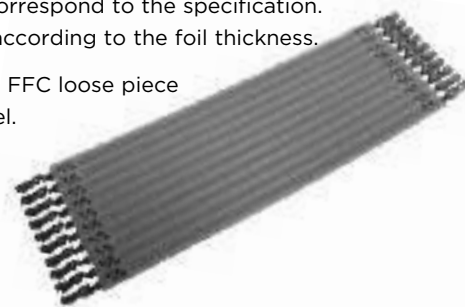
## Hand Tool for FFC Connections

This tool allows crimp connections to be made between foil and FFC terminals. Flexibility is built in, through the hand tools variable

settings. The settings have to correspond to the specification. The crimp height is adjustable according to the foil thickness.

The hand tool was designed for FFC loose piece terminals with multi-crimp barrel.

- FFC foils with 2.54 mm pitch
- Max. width of the foil 88 mm
- Manual foil feed by hand wheel
- Table clamp for ergonomic handling



FFC/FPC Equipment

## FFC/FPC Machine

The FFC/FPC bench machine creates electrical connections between TE Connectivity FFC terminals and flexible flat cables. Thanks to its adaptable circuit fixture the machine is simple and easy to load.

Prior to initializing a crimp cycle, the vision system establishes the precise location of the first conductor track. A positional correction is effected as appropriate.

The equipment combines the functions of terminal feed, cutting the product off the carrier strip, crimping and chopping of the carrier strip. An integrated crimp force monitor ensures high quality crimp connections. An optional faulty crimp cut off device prevents the further use of defect circuits.



## Flexible Flat Cable (FFC) Termination Machine

Pneumatic machine for the semi-automatic termination of AMP splices with sensor foil on one side and flexible leads or diodes on the other.

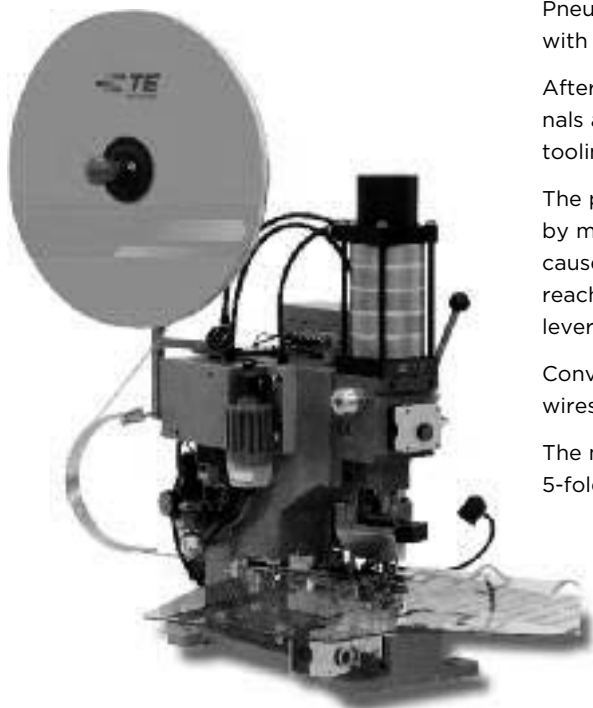
After inserting the sensor foil, diode and the stripped wires, 4 terminals are supplied for each separate function. The upper and lower tooling is brought together with the manual lever.

The power stroke which produces the complete assembly is initiated by means of a 2-handed operation. An automatic back stroke control causes the ram to reverse after Bottom Dead Centre has been reached. After opening the upper and lower tooling with the manual lever, the finished assemblies can be removed.

Conversion kits allow different configurations of foils, diodes and wires to be accommodated.

The maximum pressure of 25 kN at 500 kPa is achieved by means of a 5-fold tandem cylinder with a diameter of 125 mm.

**Compatible TE Connectivity Terminals**  
FFC/F-Crimp Splice



## Equipment for Heat Shrink Products

TE heat and shrink application equipment is designed and engineered specifically for the installation of TE Raychem heat-shrinkable products.

It provides the optimal heating temperatures, performance, and control features for maximum production efficiency. It is designed for general industry use or developed specifically in close collaboration with customers, using standard heater components.

### Raychem AD-3050 Seal Test Equipment

The AD-3050 seal test equipment is a manually operated pneumatic device, intended for use as a convenient 'inprocess' sampling technique for checking sealed splices. Different combinations of in-line or stub splices can be pressure tested in any of the combination of fixtures (8 in total).

There is also a facility to allow leak testing of various connectors. The tool is also intended for use as a quick and easy sampling technique for the preliminary selection of installation conditions where Raychem products are used for protection of the splice.

TE Connectivity has seen good correlation between results obtained with the AD-3050 seal test and those obtained through water immersion testing.

However testing in accordance with the OEM (Original Equipment Manufacturer) specification is the only way of confirming that the OEM specification is being met. The splice products are located in clamps which deliver the test pressure.

The product is immersed in water and pressure is delivered down the wire(s) to the sealed area. The test result is determined visually by looking for bubbles in the area of the sealing products.



### Raychem RBK-ILS Processor Mark II

The RBK-ILS processor MarkII is a semi-automatic unit designed specifically to install splice sealing products onto ultrasonically welded or crimped splice joints used in auto-motive harnesses.

The tool can operate in several modes:

- Stand-alone – operator sets time and temperature.
- Sequenced – preset times and temperatures can be sequenced automatically (and can also be randomly selected from sequence stored.)
- Automatic communication with upstream ultrasonic welder can allow time and temperature to be automatically set without operator intervention.



In this way the operator is able to efficiently load both machines and so minimise 'dead time'. Installing Raychem splice sealing products immediately after welding gives reduced installation time and earliest possible mechanical protection for the welded joint. The operator positions the splice sealing product centrally over the splice joint and then locates the assembly into the gripper mechanism.

Pushing the two start buttons initiates the machine cycle thus bringing the heating chamber into place over the joint area. The heating chamber remains in place for the set period and then returns to the rest position. The wire assembly is automatically ejected, with the splice sealing product installed and the joint area sealed, insulated and strain relieved. The machine can install sealing product on in-line or stub-type splices.

For more detailed information please visit our websites: [www.tooling.te.com](http://www.tooling.te.com) • [www.tooling.te.com/europe](http://www.tooling.te.com/europe) • [www.tooling.te.com/china](http://www.tooling.te.com/china)

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Application Tooling Field Service Organization

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TE Connectivity provides global field service support on our application tooling. Field specialists are located across every continent to provide timely response to customer needs. In addition to installation, warranty and repair service, TE Connectivity field specialists can help you with equipment choices, training of maintenance and operation personnel, troubleshooting assistance and spare parts. Service contracts to cover all your application equipment needs are also available. We have implemented a service management tool that provides standardization of reporting that gives us the ability to continuously improve our global service organization. Throughout the year we educate our field service engineers on the latest industry technologies and equipment. See for yourselves the advantages of our professional consultation and individual services. Our qualified service teams are ready to assist you.

## Service Offerings:

### Standard Service

Includes troubleshooting problems, making repairs, and/or installing parts.

### Equipment Installations

Providing installation, set-up and training of application equipment at the time of delivery.

### Training

Providing customers with practical training programs addressing machine operation, set-up, maintenance, inspection, and connector application. Training programs can be scheduled at the customer's site or a TE Connectivity training center. A training certificate will be issued upon the completion of each formal training course.

**We are proud to be able to offer a comprehensive range of customer training programs. The following are some of the standard training programs we offer:**

- The Fundamentals of Crimp Technology, 4901
- The Proper Handling of Crimping Applicators, 4902
- Crimping Training Program, 4903 (combination of 4901 and 4902)
- The Proper Handling of Crimping Hand Tools, 4904
- FFC Crimp Technology, 4906
- Fundamentals of Crimping Technology for Machine Operators, 4907
- Magnet Wire Connection Technology, 4910
- Advanced Seminar on Crimping Quality, 4911
- Advanced Seminar on Crimp Force Monitoring, 4912
- Advanced Cross Sectioning - Photos, 4913
- Pin Insertion and Press-Fit Technology, 4914
- Insulation Displacement Technology, 4930

## Service Contracts

### Preventive Maintenance and/or Inspection Calibration

Provides service for periodic visits to perform preventive maintenance and/or inspection calibration service on hand tools, applicators, bench and automatic equipment.

### Comprehensive Service

Provides for a specified number of field specialist visits. A visit can be used for services such as standard service, installation, set-up and training for all application equipment, preventive maintenance and/or inspection calibration, spare parts management, equipment process evaluation and technical assistance on application tooling and/or product related problems or concerns.

## **“A customized service / training contract ensures equipment optimization”**

### Short Term Rental of Crimping Applicators

Applicators are being increasingly required at short notice for a limited period. This may include preproduction runs, prototype series, and the subsequent production of single part requirement or simply small series production. It is often uneconomical to purchase a crimp tool or to rent it on a long-term basis, when it is only required for a few weeks in the year. Our short-term rental service has applicators readily available for you, which you can return when complete with your rental period.

Your local TE Connectivity representative will gladly inform you about the availability of an appropriate applicator for your specific need.

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Phone: +1-717-810-2080  
toolingsales@te.com

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