N type Coaxial Connectors

N Series

■Features

1. 50 ohms wide varieties standard connectors
2. Screw on locking
3. Applicable cable : RG cable, JIS cable
4. Applicable standard : MIL-C-39012/MIL STD 348-304

■Functional diagram

Plugs

Straight plug for flexible cable
UG-21D/U(40)



Straight plug for semi-rigid cable
N-P-141(40)



Right angled plug for flexible cable
N-LP-5DW(40),N-LP-58U(40)



Conversion adapters
- BNC series conversion type
- S series conversion type
- SMA(HRM series) conversion type

Cap with a chain
MX-913/U(40)



Non-reflective Terminators
N-TMP-*



In-line adapters

Right angled jack-plug type
UG-27C/U(40)



T-type adapter
Jack-plug-jack type
UG-107B/U(40)



Fixed attenuator

Plug-jack type
AT-4**



In-line adapters

Straight plug-plug type
UG-57B/U(40)



In-line adapters

Straight jack-jack type
UG-29B/U(40)



Panel mount adapter
Jack-jack type
N-PA(40)



T-type adapter
Jack-jack type
UG-28A/U(40)



Jacks

Straight jack for flexible cable
UG-23D/U(40)



Panel mount jack for flexible cable
N-PJ-58/U(40)



Panel mount straight receptacle
UG-58A/U(40)



Conversion adapters
- BNC series conversion type
- TNC series conversion type
- SMA(HRM series) conversion type

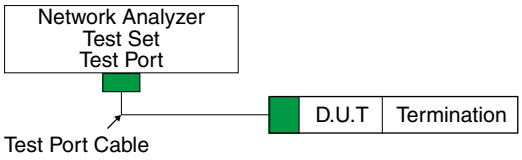
Feb.1.2019 Copyright 2019 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Product Specifications

Ratings	Nominal characteristic impedance Frequency range	50Ω DC to 2GHz	Operating temperature range Operating humidity	-30˚C to +60˚C 95%RH max.

Item	Specification	Conditions
1. Contact resistance	3mΩ max.	100mA max.
2. Insulation resistance	1000MΩ min.	500V DC
3. Withstanding voltage	No flashover or insulation breakdown.	1500V AC / 1 minute
4. V.S.W.R.∗	1.2 max.	Up to 2GHz
5. Durability (mating / un-mating, with corresponding plug)	10mΩ max.	500 cycles
6. Vibration	No electrical discontinuity of 1μs min.	Frequency : 10 to 500Hz, single amplitude of 0.75mm, acceleration of 98m/s², for 10 cycles in the direction of each of the 3 axis.
7. Shock	No damage, cracks or parts dislocation.	Acceleration of 490m/s², 11ms duration, sine half-wave waveform, 3 cycles in each of 3 axes.
8. Humidity (Steady state)	No damage, cracks or parts dislocation.	96 hours at temperature of 40℃ and humidity of 80% to 96%.
9. Temperature cycle	No damage, cracks or parts dislocation.	Temperature : -55˚C→+25 to +65˚C→+85˚C→+5 to +35˚C Time : 30min.→ 5min. →30min.→ 5min. 5 cycles
10. Salt spray	No excessive corrosion	5% salt water solution, 48 hours

∗V.S.W.R. Measurement System
The above V.S.W.R. standard values were measured using the measurement connection as shown below.



Note 1 : Connectors with cable are measured with 10cm of suitable cable attached at both ends.

■Material / Finish

Part	Material	Finish	Remark
Shell	Brass	Silver plated/Nickel plated	———
Male contact	Brass	Silver plated/Gold plated	———
Female contact	Beryllium copper	Silver plated/Gold plated	———
Insulator	Tetrafluoride resin	———	Flame retardant
Packing	Silicone rubber	———	Flame retardant

■Product Number Structure

Refer to the chart below when determining the product specifications from the product number.
Please select from the product numbers listed in this catalog when placing orders.

●Standard

N - L P - 5DW
❶ ❷ ❸ ❹

❶ Series name : N	❸ Connector type P : Plug J : Jack PJ : Panel jack R : Receptacle A : Adapter PA : Panel adapter
❷ Connector style Blank : Straight type L : L angle type T : T angle type	❹ Applicable cable

●Product with MIL standard

UG - 21 D /U
❶ ❷ ❸ ❶

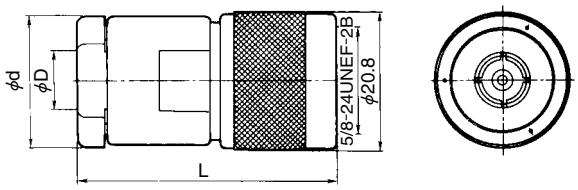
❶	High freguency coaxial connectors
❷	Product identification number
❸	Improved sign

Feb.1.2019 Copyright 2019 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Straight Plug

●Flexible cable type



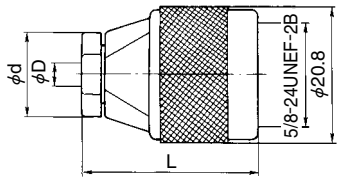


Unit : mm

Part No.	HRS No.	Packaging	Applicable cable	φD	φd	L
UG-21D/U(40)	301-0003-0 40	1	RG-8/U,RG-9/U	11.1	19.0	38.0
JUG-536/U(40)	301-0001-4 40		RG-58/U	5.4	19.0	38.0
N-P-3DV(40)	301-0078-9 40		3D-2V	6.3	12.7	35.0
N-P-5DV(40)	301-0120-3 40		5D-2V	8.6	18.0	45.5
N-P-5DW(32)	301-0199-3 32		5D-2W	9.3	18.0	46.0
N-P-5DFB(40)	301-0205-4 40		5D-FB	8.6	18.0	46.0
N-P-10DFB(31)	301-0206-7 31		10D-FB	14.5	23.0	55.0

●Semi rigid cable type





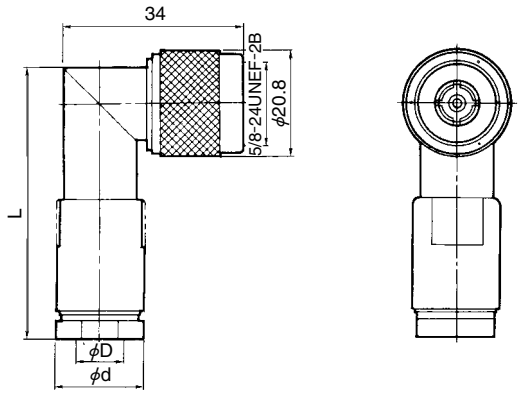
Unit : mm

Part No.	HRS No.	Packaging	Applicable cable	φD	φd	L
N-P-141(40)	301-0162-3 40	1	UT-141A	3.63	13	27.3
N-P-141-2(A)(40)	301-0262-8 40		UT-141A	3.63	5	25.7
N-P-250(A)(41)	301-0261-5 41		UT-250	6.5	14	34.9

■Right angle plug

●Flexible cable type





Unit : mm

Part No.	HRS No.	Packaging	Applicable cable	φD	φd	L	Remarks
N-LP-5DW(40)	301-0007-0 40	1	5D-2W	9.3	17.5	52.4	Nickel-plated except for center conductor
N-LP-58U(40)	301-0076-3 40		RG-58/U	5.3	15.5	44.0	————

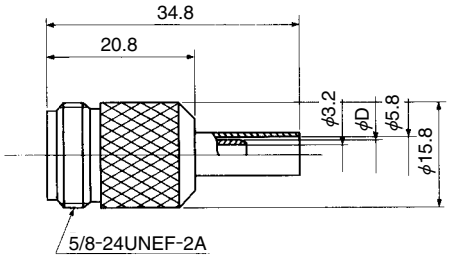
Feb.1.2019 Copyright 2019 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Straight jack

●Flexible cable type

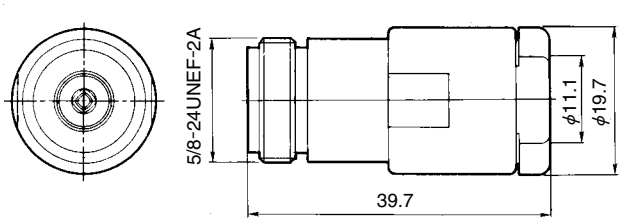






Unit : mm

Part No.	HRS No.	Packaging	Applicable cable	ϕD
N-J-3DV(40)	301-0180-5 40	1	3D-2V	5.1

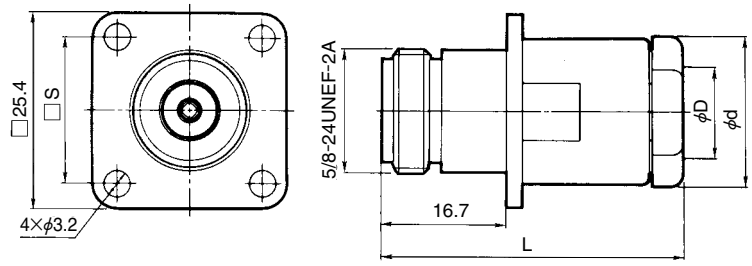


Part No.	HRS No.	Packaging	Applicable cable
UG-23D/U(40)	301-0008-3 40	1	RG-8/U,RG-9/U

■Panel mount jack

●Fexible cable type



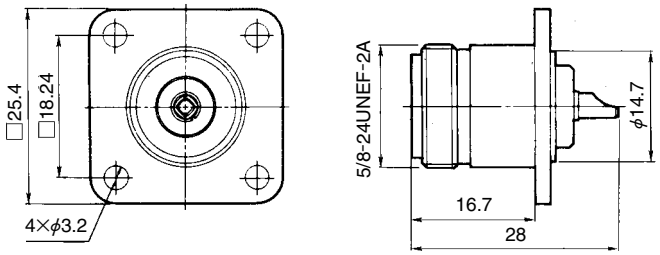


Unit : mm

Part No.	HRS No.	Packaging	Applicable cable	ϕD	ϕd	L	□S
UG-22D/U(40)	301-0010-5 40	1	RG-8/U,RG-9/U	11.1	19.0	39.7	18.24
N-PJ-58/U(40)	301-0011-8 40		RG-58/U	5.4	14.6	41.5	18.2

■Receptacle



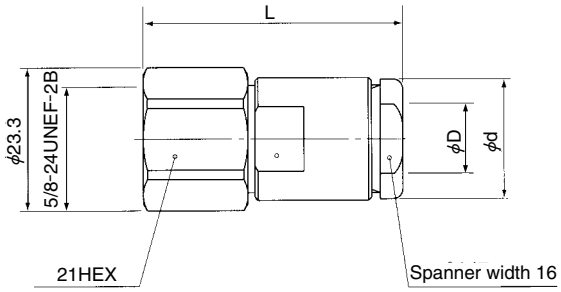


Part No.	HRS No.	Packaging
UG-58A/U(45)	301-0012-0 45	1

Feb.1.2019 Copyright 2019 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Straight plug(waterproof type)





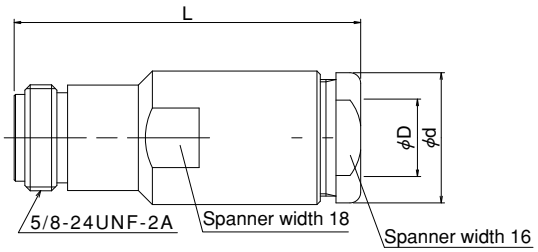
Unit : mm

Part No.	HRS No.	Packaging	Applicable cable	φD	φd	L
N-P-5DFXL(41)	301-0235-5 41	1	5D-FXL	8.6	18	47.2
N-P-8DGXC(40)	301-0228-0 40		8D-GXC	11.6	19.5	49.9

∗ IP67 compliant

■Straight jack(waterproof type)





Unit : mm

Part No.	HRS No.	Packaging	Applicable cable	φD	φd	L
N-J-5DFXL(40)	301-0237-0 40	1	5D-FXL	8.6	18	49.1
N-J-8DGXC(40)	301-0229-2 40		8D-GXC	11.6	19.5	51.9

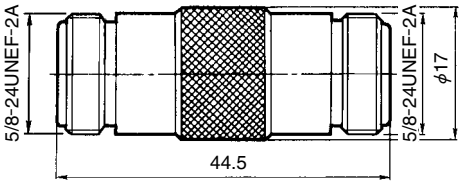
∗ IP67 compliant

Feb.1.2019 Copyright 2019 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Adapter

●Straight adapter (jack-jack type)

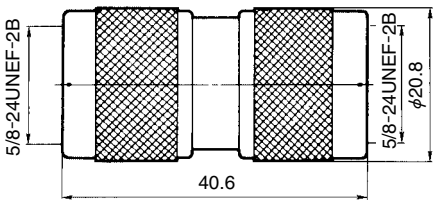




Part No.	HRS No.	Packaging
UG-29B/U(45)	301-0035-6 45	1

(Plug-plug type)

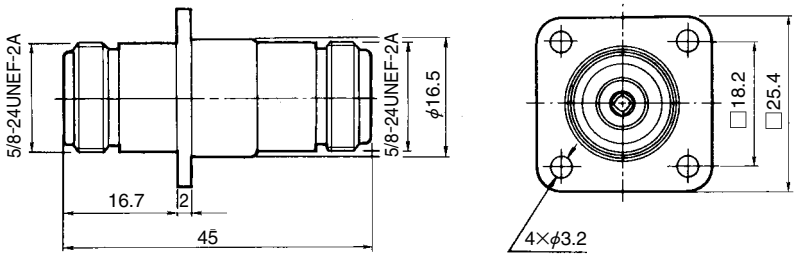




Part No.	HRS No.	Packaging
UG-57B/U(40)	301-0018-7 40	1

●Panel mount adaper (jack-jack type)

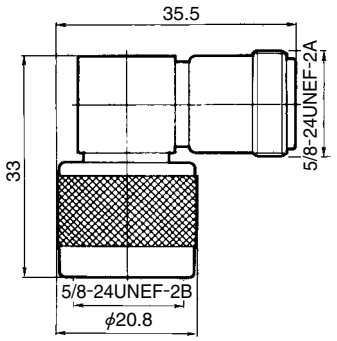




Part No.	HRS No.	Packaging
N-PA(42)	301-0036-9 42	1

●Right angle adapter (Plug-jack type)



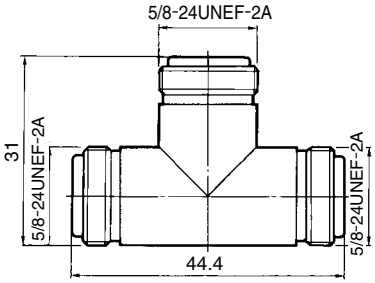


Part No.	HRS No.	Packaging
UG-27C/U(43)	301-0015-9 43	1

Feb.1.2019 Copyright 2019 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

●T-shaped adapter (Jack-jack-jack type)

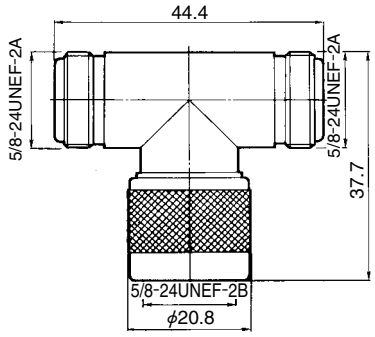




Part No.	HRS No.	Packaging
UG-28A/U(40)	301-0017-4 40	1

(Jack-plug-jack)





Part No.	HRS No.	Packaging
UG-107B/U(40)	301-0016-1 40	1

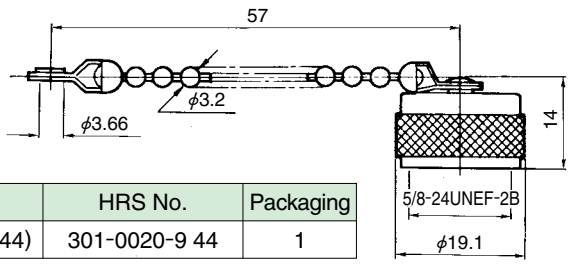
■Conversion adapters

Mating portion 1		Mating portion 2		Part No.	HRS No.	Packaging
Series name	Mating portion	Series name	Mating portion			
N	Plug	BNC	Plug	NP-BNCP(40)	311-0050-7 40	1
			Jack	JUG-201A/U(40)	311-0007-8 40	
		S	Jack	N.P-S.J(40)	311-0245-6 40	
		SMA (HRM)	Plug	HRM-555S(40)	311-0125-4 40	
			Jack	HRM-554S(40)	311-0123-9 40	
	Jack	BNC	Plug	UG-349/U(40)	311-0004-0 40	
			Jack	NJ-BNCJ(40)	311-0005-2 40	
				NJ-BNCJ-PA(40)	311-0014-3 40	
		TNC	Plug	N.J-TNC.P(40)	311-0225-9 40	
		SMA (HRM)	Plug	HRM-553S	311-0121-3	
				HRM-557SV	311-0272-9	
			Jack	HRM-552S	311-0119-1	
				HRM-556SV	311-0298-2	

■Cap

With a chain

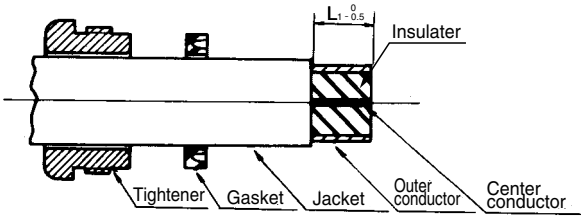




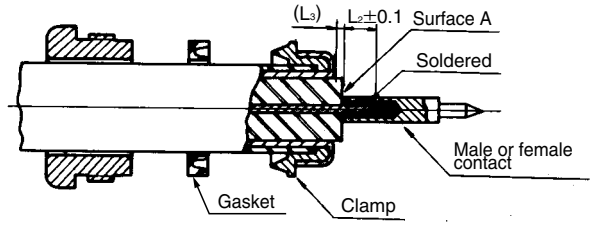
Part No.	HRS No.	Packaging
MX-913/U(44)	301-0020-9 44	1

Feb.1.2019 Copyright 2019 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

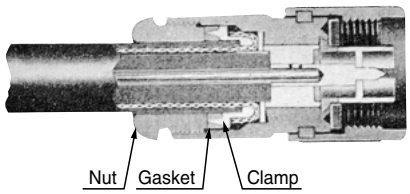
◆Cable assembly procedure



The cable ends are processed as shown in the drawing. For the dimensions L_1, refer to Table 1, which shows dimansions arranged L by part number.



(1) Insert clamp from tip of cable and fold outer conductor of cable back onto clamp. Using a knife, cut off excess outar conductor left at this time.
(2) Cut off center conductor of cable at L_2, from surface A of cable insulation. For dimensions of L_2 and L_3, refer to Table 1. L_3 is a reference dimension.
(3) Solder cable center conductor and male contact (or female contact). It is a good idea st this time to solder the contact preliminarily in advance.
(Note: There must be no gap between the contact and the cable insulation.)



Insert cable and parts into shell and fit sharp end of clamp completely into V-shaped surface of gasket. Tighten tightening nut sufficiently.

■Remarks
1. The cable dimensions L are based on the MIL and DSP standards. They may differ somewhat depending on the type of cable. In such cases, match the dimensions with the connectors.
2. Some clamps and gaskets does not have not V-shaped, but the assembling procedures are the same.

Table 1 Dimensions L arranged by part number

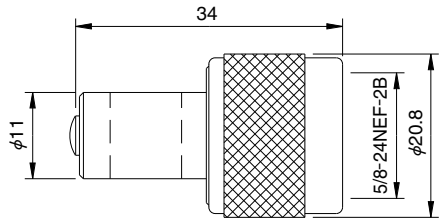
Unit : mm

Part No.	HRS No.	$L_{1}{}^{0}_{-0.5}$	L_2±0.1	L_3
JUG-536/U(40)	301-0001-4 40	8.6	6	1
UG-21D/U(47)	301-0003-0 47	10		
N-LP-5DW(40)	301-0007-0 40	11.5	4	3.5
UG-23D/U(40)	301-0008-3 40	8.5	5	1
UG-22D/U(40)	301-0010-5 40			
N-PJ-58/U(40)	301-0011-8 40	7.4	3	3.2
N-LP-58U(40)	301-0076-3 40	9.2	4	3.6
N-P-3DV(41)	301-0078-9 41	12.3	6	4.8
N-P-5DV(40)	301-0120-3 40	11.1		1.5
N-P-5DW(32)	301-0199-3 32	12.0		
N-P-5DFB(40)	301-0205-4 40	11		5
N-P-10DFB(31)	301-0206-7 31			

Feb.1.2019 Copyright 2019 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

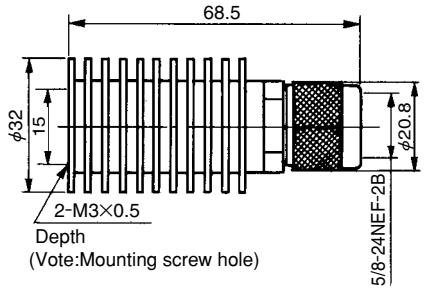
■Non-reflective Terminators(Coupling portion plug)





Part No.	HRS No.	Frequency range (GHz)	V.S.W.R.(Max)			Power (W)	Weight (g)	Packaging
			DC～4GHz	4～6GHz	6～8GHz			
N-TMP-1-1(50)	353-0137-5 50	DC～8	1.10	1.15	1.20	1	59	1



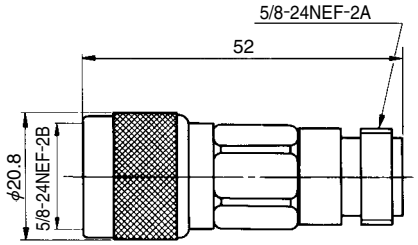


Part No.	HRS No.	Frequency range (GHz)	V.S.W.R.(Max)		Power (W)	Weight (g)	Packaging
			DC～2GHz	2～6GHz			
N-TMP-5(40)	353-0033-0 40	DC～6	1.15	1.20	5	113	1

Feb.1.2019 Copyright 2019 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

■Fixed Attenuators(plug-jack)

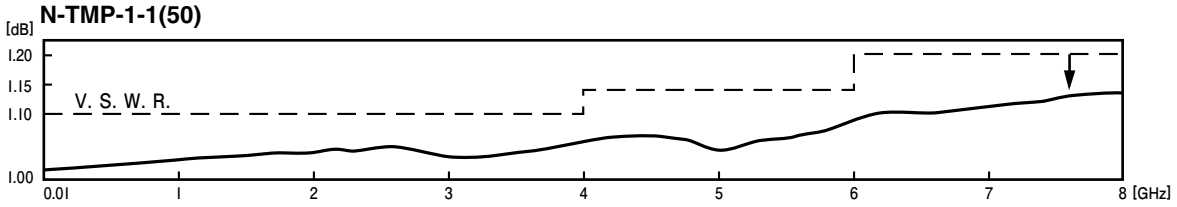




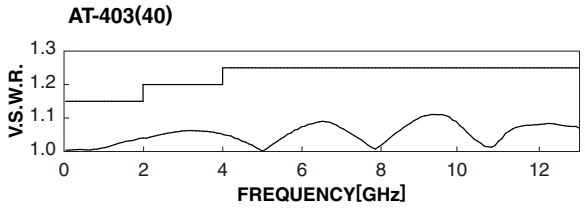
Part No.	HRS No.	Frequency range (GHz)	V.S.W.R.(Max)			Attenuation(dB)			Power (W)	Weight (g)	Packaging
			DC~2GHz	2~4GHz	4~13GHz	DC~2GHz	2~4GHz	4~13GHz			
AT-401(40)	354-0081-9 40	DC~13	1.15	1.20	1.25	1±0.3	$1^{+0.5}_{-0.3}$	$1^{+0.6}_{-0.3}$	2	77	1
AT-402(40)	354-0082-1 40					2±0.3	$2^{+0.5}_{-0.3}$	$2^{+0.6}_{-0.3}$			
AT-403(40)	354-0033-6 40					3±0.3	$3^{+0.5}_{-0.3}$	$3^{+0.7}_{-0.3}$			
AT-406(40)	354-0034-9 40					6±0.3	$6^{+0.5}_{-0.3}$	$6^{+0.7}_{-0.3}$			
AT-410(40)	354-0035-1 40					10±0.5	$10^{+0.8}_{-0.5}$	$10^{+1.0}_{-0.5}$			
AT-420(40)	354-0036-4 40					20±0.5	$20^{+0.8}_{-0.5}$	$20^{+1.2}_{-0.7}$			

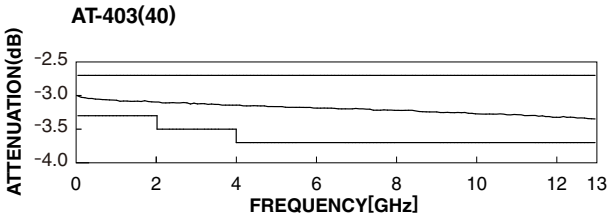
◆Typical data

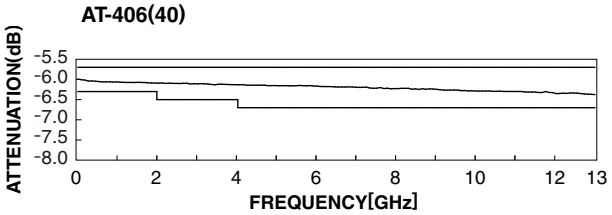
●Non-reflective Terminations

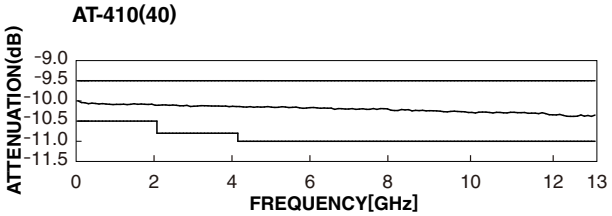


●Fixed Attenuator









Feb.1.2019 Copyright 2019 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

MEMO :

Feb.1.2019 Copyright 2019 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

Feb.1.2019 Copyright 2019 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

USA:
HIROSE ELECTRIC (U.S.A.), INC. HEADQUARTERS CHICAGO OFFICE
2300 Warrenville Road, Suite 150,
Downers Grove, IL 60515
Phone : +1-630-282-6700
http://www.hirose.com/us/

USA:
HIROSE ELECTRIC (U.S.A.), INC. SAN JOSE OFFICE
2841 Junction Ave, Suite 200
San Jose, CA. 95134
Phone : +1-408-253-9640
Fax : +1-408-253-9641
http://www.hirose.com/us/

USA:
HIROSE ELECTRIC (U.S.A.), INC. DETROIT OFFICE (AUTOMOTIVE)
17197 N. Laurel Park Drive, Suite 253,
Livonia, MI 48152
Phone : +1-734-542-9963
Fax : +1-734-542-9964
http://www.hirose.com/us/

USA:
HIROSE ELECTRIC (U.S.A.), INC. BOSTON OFFICE
300 Brickstone Square Suite 201,
Andover, MA 01810
Phone : +1-978-662-5255

THE NETHERLANDS:
HIROSE ELECTRIC EUROPE B.V.
Hogehillweg #8 1101 CC Amsterdam Z-O
Phone : +31-20-6557460
Fax : +31-20-6557469
http://www.hirose.com/eu/

GERMANY:
HIROSE ELECTRIC EUROPE B.V. GERMAN BRANCH
Schoenbergstr. 20, 73760 ostfildern
Phone : +49-711-456002-1
Fax : +49-711-456002-299
http://www.hirose.com/eu/

GERMANY:
HIROSE ELECTRIC EUROPE B.V. NUREMBERG OFFICE
Neumeyerstrasse 22-26, 90411 Nurnberg
Phone : +49-911 32 68 89 63
Fax : +49-911 32 68 89 69
http://www.hirose.com/eu/

GERMANY:
HIROSE ELECTRIC EUROPE B.V. HANOVER OFFICE
Bayernstr. 3, Haus C 30855 Langenhagen, Germany
Phone : +49-511 97 82 61 30
Fax : +49-511 97 82 61 35
http://www.hirose.com/eu/

FRANCE:
HIROSE ELECTRIC EUROPE B.V. PARIS OFFICE
130 Avenue Joseph Kessel, Bat E, 78960
Voisins le Bretonneux, France
Phone : +33-1-85764886
Fax : +33-1-85764823
http://www.hirose.com/eu/

UNITED KINGDOM:
HIROSE ELECTRIC EUROPE BV (UK BRANCH)
4 Newton Court, Kelvin Drive, Knowlhill,
Milton Keynes, MK5 8NH
Phone : +44-1908 202050
Fax : +44-1908 202058
http://www.hirose.com/eu/

CHINA:
HIROSE ELECTRIC (CHINA) CO., LTD. (SHANGHAI, HEADQUARTERS)
18, Enterprise Center Tower 2, 209# Gong He Road, Jing'an District, Shanghai, CHINA 200070
Phone : +86-21-6391-3355
Fax : +86-21-6391-3335
http://www.hirose.com/cn/

CHINA:
HIROSE ELECTRIC (CHINA) CO.,LTD. BEIJING BRANCH
A1001, Ocean International Center, Building 56# East 4th Ring Middle Road, ChaoYang District, Beijing, 100025
Phone : +86-10-5165-9332
Fax : +86-10-5908-1381
http://www.hirose.com/cn/

CHINA:
HIROSE ELECTRIC (CHINA) CO., LTD. SHENZHEN BRANCH
Room 09-13, 19/F, Office Tower Shun Hing Square, Di Wang Commercial Centre, 5002 Shen Nan Dong Road, Shenzhen City, Guangdong Province, 518008
Phone : +86-755-8207-0851
Fax : +86-755-8207-0873
http://www.hirose.com/cn/

HONG KONG:
HIROSE ELECTRIC HONGKONG TRADING CO., LTD.
Room 1001, West Wing, Tsim Sha Tsui Centre, 66 Mody Road, Tsim Sha Tsui East, Kowloon, Hong Kong
Phone : +852-2803-5338
Fax : +852-2591-6560
http://www.hirose.com/hk/

TAIWAN:
HIROSE ELECTRIC TAIWAN CO., LTD.
103 8F, No.87, Zhengzhou Rd., Taipei
Phone : +886-2-2555-7377
Fax : +886-2-2555-7355
http://www.hirose.com/tw/

KOREA:
HIROSE KOREA CO.,LTD.
143, Gongdan 1-daero, Siheung-si,
Gyeonggi-do, 15084, Korea
Phone : +82-31-496-7000
Fax : +82-31-496-7100
http://www.hirose.co.kr/

SINGAPORE:
HIROSE ELECTRIC SINGAPORE PTE. LTD.
03, Anson Road, #20-01, Springleaf Tower, Singapore 079909
Phone : +65-6324-6113
Fax : +65-6324-6123
http://www.hirose.com/sg/

INDIA:
HIROSE ELECTRIC SINGAPORE PTE. LTD. DELHI LIAISON OFFICE
Office NO.552, Regus-Green Boulevard, Level5, Tower C, Sec62, Plot B-9A, Block B, Noida, 201301, Uttar Pradesh, India
Phone : +91-12-660-8018
Fax : +91-120-4804949
http://www.hirose.com/sg/

INDIA:
HIROSE ELECTRIC SINGAPORE PTE. LTD. BANGALORE LIAISON OFFICE
Unit No-403, 4th Floor, No-84, Barton Centre, Mahatma Gandhi (MG) Road, Bangalore 560 001, Karnataka, India
Phone : +91-80-4120 1907
Fax : +91-80-4120 9908
http://www.hirose.com/sg/

MALAYSIA:
PENANG REPRESENTATIVE OFFICE
73-3-1, Ideal@The One, Jalan Mahsuri, Bayan Lepas Penang, 11950, Malaysia
Phone : +604-648-5536
http://www.hirose.com/sg/

THAILAND:
BANGKOK OFFICE (REPRESENTATIVE OFFICE)
Unit 4703, 47th FL., 1 Empire Tower, South Sathorn Road, Yannawa, Sathorn, Bangkok 10120 Thailand
Phone : +66-2-686-1255
Fax : +66-2-686-3433
http://www.hirose.com/sg/

Creative Links to World Electronics ®

HRS

HIROSE ELECTRIC CO.,LTD.
2-6-3,Nakagawa Chuoh,Tsuzuki-Ku,Yokohama-Shi 224-8540,JAPAN
TEL: +81-45-620-3526 Fax: +81-45-591-3726
http://www.hirose.com
http://www.hirose-connectors.com

The characteristics and the specifications contained herein are for reference purpose. Please refer to the latest customer drawings prior to use.
The contents of this catalog are current as of date of 07/2018. Contents are subject to change without notice for the purpose of improvements.