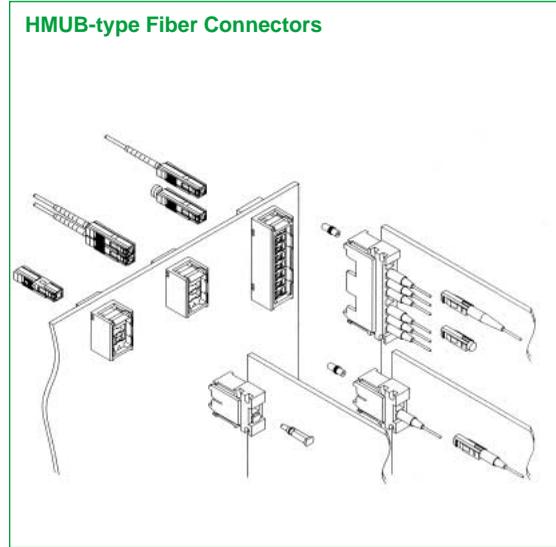
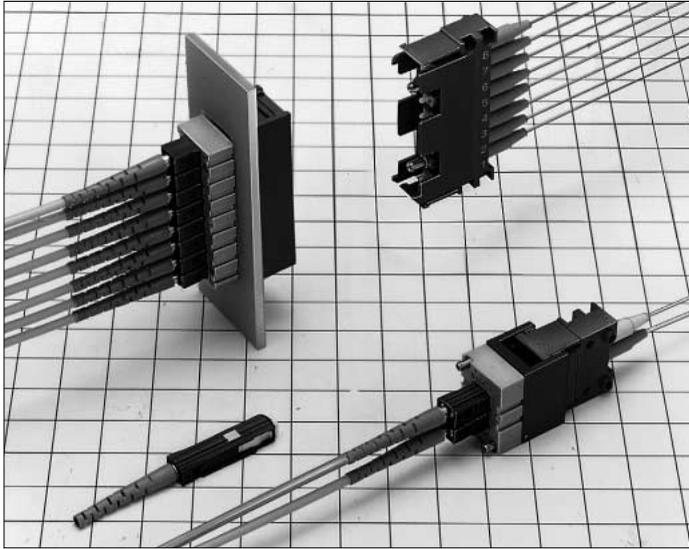


MU-type High-Density Plug-in Optical Fiber Connectors

HMU Series



■ Features

1. MU-type Correspondence

These connectors can be used with the NTT, MU-type optical fiber connectors.
JIS C5983 (F14 optical fiber connectors)
IEC 61754-6

2. Plug-in Housing

The plug-in housing has a self-holding mechanism which does not exert a pushing force on the back panel when in the coupled condition.

3. Back Panel Side Optical Terminals

Insertion and withdrawal of back panel side optical terminals is even possible when the back panel and the package are in the coupled condition.

4. Wide Variation of Connectors for Junction Applications

Type \ No. of Gangs	1	2	3
Board mounting	○	○	○
Junction panel mounting	○	○	○

5. Optical Terminals

The optical terminals (optical connectors) are ultra-miniature optical fiber connectors that use the same fastening mechanism as the SC-type optical fiber connectors (JIS C 5973).

■ Applications

Optical terminal equipment, optical relay racks, measuring instruments, etc.

■Product Standards

Rating	Operating temperature range	-25°C~70°C	Storage temperature range	-25°C~70°C
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Item		Test Method (JIS C 5961)		Standard
Optical Performance	Insertion loss	(SM)	1,300nm wavelength (LD)	0.5 dB or less (PC, AdPC)
		(GI)	1,300nm wavelength (LED)	0.3 dB or less (PC)
	Reflection attenuation	(SM)	1,300nm wavelength (LD)	22 dB or greater (PC) 40 dB (AdPC)
		(GI)		22 dB or greater (PC)
Mechanical Performance	Coupling force and decoupling force	Measure when connectors are coupled and separated in the direction of the axis.		Simplex plugs Coupling force 20N or less Separation force 20N or less Duplex plugs Coupling force 30N or less Separation force 30N or less
	Split sleeve holding force of the sleeve holder and the adapter	Zirconia gauge of $\phi 1.249 \pm 0.0005$ mm		Zirconia 1~2.5N
	Cable clamp strength (Pulling in direction of axis)	70 N of pulling force between connector and cable for one minute		1) Insertion loss fluctuation after test: 0.2dB or less 2) No irregularity in clamp section or cable
	Repetitive operation	200 times (Plug-in housing) 500 times (Plug)		1) Insertion loss fluctuation after test: 0.2 dB or less 2) No damage, cracks, or part looseness
	Vibration resistance	Vibration range of 10 to 55 Hz Test in 3 directions, 2 hours each		
	Shock resistance	Acceleration of 981 m/s ² 3 axes, both directions, 5 times each (Total of 15 times)		
Environmental performance	Humidity resistance (Temperature and humidity cycle)	Temperature -10°C to 65°C, humidity 90 to 96% 10 cycles		
	Temperature cycle	Temperature -25°C to 70°C 100 cycles		
	Heat resistance	Leave for 960 hours at a temperature of 85°C		
	Cold resistance	Leave for 960 hours at a temperature of -25°C		
	Salt fog	Left in a 5% concentration of salt fog for 48 hours		No conspicuous corrosion

■Materials

Component	Material	Notes
Simplex plug casing	Polybutylene terephthalate	NTT, MU corresponding item
Coil spring	Piano wire	
Ferrule	Zirconia	
Simplex adapter casing	Polyphenylene sulfide	
Duplex adapter casing	Polyphenylene sulfide	
8-ganged adapter casing	Polyphenylene sulfide	
Plug-in connector casing	Polyphenylene sulfide	
Split sleeve	Zirconia or Copper alloy	

■Types

Types		No. of gangs	Cable Diameter	Notes	Polishing	Product Number	
Back Panel Side	Plug housing	1	$\phi 2$	With knob	PC	HMUA-P2-H1	
			$\phi 0.9$		AdPC	HMUA-P2-H2	
		2	$\phi 2$	With knob	PC	HMUA-P1-H1	
			$\phi 0.9$		AdPC	HMUA-P1-H2	
		Receptacle attachment	1	—		—	HMUA-RA-1
				—	With knob	—	HMUA-TM-1
	Connector housing	2	—	Package side	—	HMUB-L2PA-1	
			8		—	—	HMUB-L8PA-1
		2	—	For back panel side 2.4mm panel		HMUB-L2HA-1	
			—	For 3.2mm panel		HMUB-L2HB-1	
		8	—	For 2.4mm panel		HMUB-L8HA-1	
			—	For 3.2mm panel		HMUB-L8HB-1	
	Sleeve holder	1	—			HMUB-SH-1	
	Ferrule		—	Small-diameter zirconia ferrule		HMUA-F3-A []	
Package side	Plug housing	1	$\phi 2$	Without knob	PC	HMUAJ-P2-H1	
			$\phi 0.9$		AdPC	HMUAJ-P2-H2	
					PC	HMUAJ-P1-H1	
					AdPC	HMUAJ-P1-H2	
	Terminator		—	Without knob	—	HMUAJ-TM-1	
Adapter		1	—	For panel mounting	—	HMUA-A-1	
			—	For screw mounting	—	HMUA-AS-1	
			—	For board mounting	—	HMUA-AH-1	
		2	—	For panel mounting	—	HMUA-2A-1	
			—	For screw mounting	—	HMUA-2AS-1	
			—	For board mounting	—	HMUA-2AH-1	
		8	—	For panel mounting	—	HMUA-8A-1	
			—	For screw mounting	—	HMUA-8AS-1	
			—	For board mounting	—	HMUA-8AH-1	

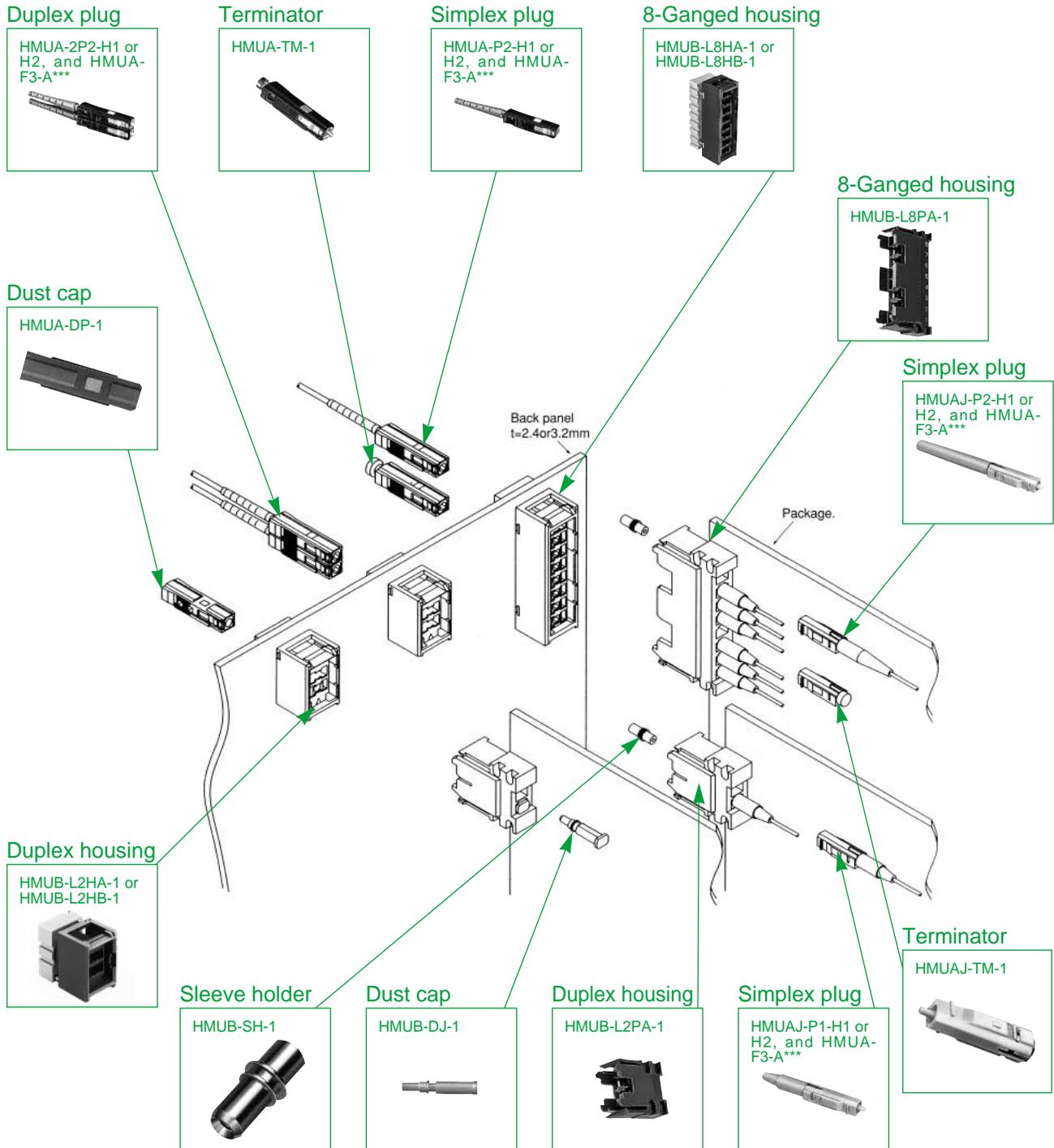
■Usage Precautions

Insertion and Withdrawal of Plugs by Tool

The various tools should be used properly according to the Application, Suitable Adapter and Connector Housing, and Suitable Plug as listed in the table below. These connectors are mounted in high density and require a reliable operation to be performed with a tool. Instruction manuals are available. Please request them.

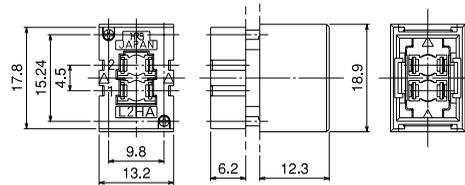
Application	Applicable Adapter and Connector Housing	Applicable Plug (Plug housing name listed)	Tool Product Number
Insertion and withdrawal of plugs	HMUA-A-1,2A-1,8A-1,AS-1, 2AS-1,8AS-1	HMUA-P1-H1 · 2,2P1-H1 · 2 HMUA-P2-H1 · 2,2P2-H1 · 2	HMUA-TP-1
	HMUB-L2HA-1,L2HB-1, L8HA-1,L8HB-1	HMUA-P1-H1 · 2,2P1-H1 · 2 HMUA-P2-H1 · 2,2P2-H1 · 2	HMUB-TP-1
Plug extraction	HMUB-L2PA-1,L8PA-1	HMUAJ-P1-H1 · 2,P2-H1 · 2	HMUB-TJ-1
Insertion and withdrawal of sleeve holders	HMUB-L2PA-1,L8PA-1	HMUAJ-P1-H1 · 2,P2-H1 · 2	HMUB-TS-1
Locking of plugs	—	HMUA-P2-H1 · 2,2P2-H1 · 2	HMUA-TK-1
	—	HMUAJ-P2-H1 · 2	HMUA-TK-2

■ Functions Diagram

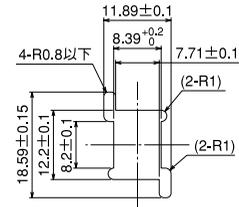


■ Back Panel Side Connector Housing

● Duplex Back Panel Side Connector Housing



◆ Mounting Hole Dimensions Diagram

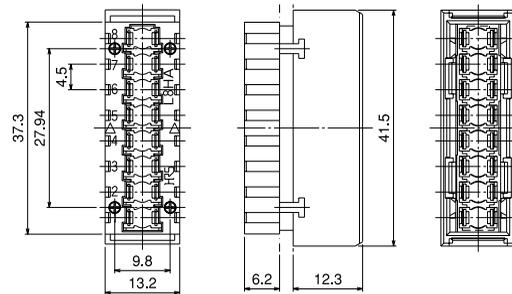


Product Number	HRS No.	Mounting Panel Thickness
HMUB-L2HA-1	CL710-0017-8	2.4mm
HMUB-L2HB-1	CL710-0018-0	3.2mm

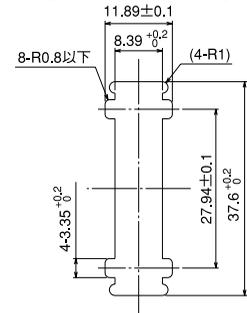
(NOTE 1) This duplex back panel side connector housing should be used in conjunction with a simplex or duplex plug housing furnished with a knob (for 2 cable, and for core wire).

(NOTE 2) The recommended clamp torque to be 3.1N

● 8-Ganged Back Panel Side Connector Housing



◆ Mounting Hole Dimensions Diagram

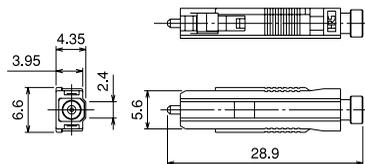


Product Number	Product Number	Mounting Panel Thickness
HMUB-L8HA-1	CL710-0019-3	2.4mm
HMUB-L8HB-1	CL710-0020-2	3.2mm

(NOTE 1) This 8-ganged back panel side connector housing should be used in conjunction with a simplex or duplex plug housing furnished with a knob (for 2 cable, and for core wire).

(NOTE 2) The recommended clamp torque to be 3.1N

■ Terminator (Back Panel Side)



Product Number	HRS No.	Reflection Attenuation	Applicable Optical Fiber
HMUA-TM-P1	CL821-0007-6	≥40dB	SM-9.5/125

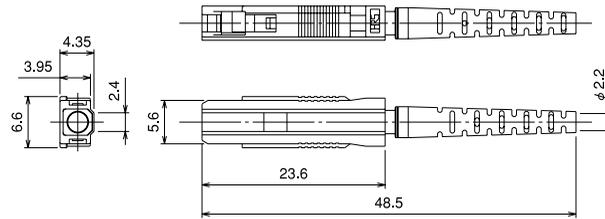
Specifications

Item	Standard Value
Rated input power	≤30mW
Reflection attenuation	≥40dB(48dB TYP.)
Suitable wavelength band	1.3μm, 1.55μm
Operating temperature	-25℃~70℃
Humidity	≤95%
Storage temperature	-40℃~80℃

(NOTE) See page 87 in detail

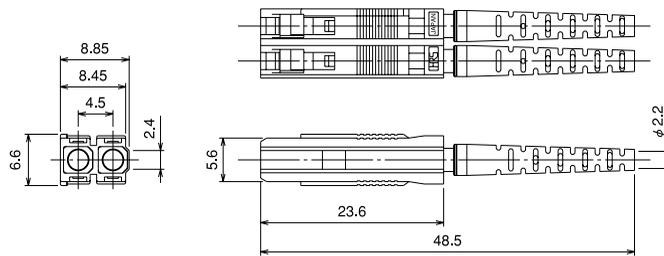
■ Back Panel Side Plug Housing

● Plug Housing for Simplex $\phi 2$ Cable With Knob



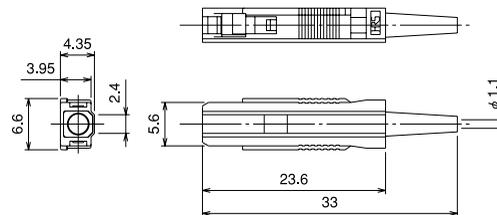
Product Number	HRS No.	Applicable Cable Diameter	Hood Color	Polishing Specification
HMUA-P2-H1	CL710-0047-9	$\phi 2\text{mm}$	Blue	For PC polishing
HMUA-P2-H2	CL710-0001-8	$\phi 2\text{mm}$	Light purple	For AdPC polishing

● Plug Housing for Duplex $\phi 2$ Cable With Knob



Product Number	HRS No.	Applicable Cable Diameter	Hood Color	Polishing Specification
HMUA-2P2-H1	CL710-0048-1	$\phi 2\text{mm}$	Blue	For PC polishing
HMUA-2P2-H2	CL710-0002-0	$\phi 2\text{mm}$	Light purple	For AdPC polishing

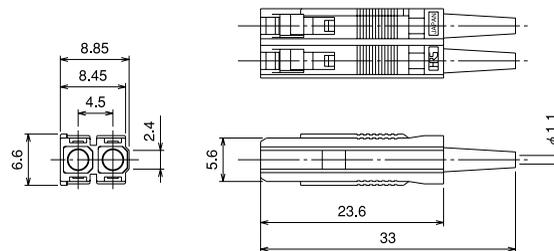
● Plug Housing for Simplex $\phi 0.9$ Cable With Knob



Product Number	HRS No.	Applicable Cable Diameter	Hood Color	Polishing Specification
HMUA-P1-H1	CL710-0068-9	$\phi 0.9\text{mm}$	Blue	For PC polishing
HMUA-P1-H2	CL710-0069-1	$\phi 0.9\text{mm}$	Light purple	For AdPC polishing

NOTE: Full length 28mm product also available.

● Plug Housing for Duplex $\phi 0.9$ Cable With Knob



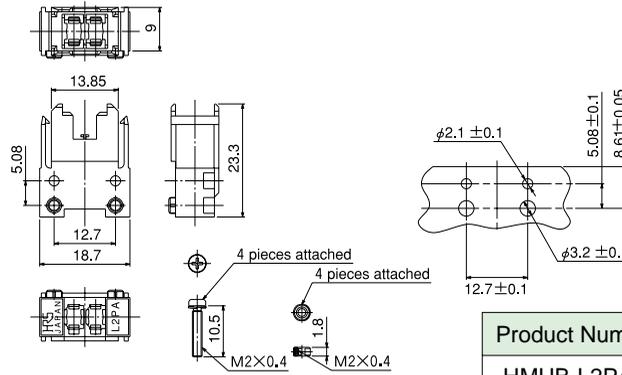
Product Number	HRS No.	Applicable Cable Diameter	Hood Color	Polishing Specification
HMUA-2P1-H1	CL710-0070-0	$\phi 0.9\text{mm}$	Blue	For PC polishing
HMUA-2P1-H2	CL710-0071-3	$\phi 0.9\text{mm}$	Light purple	For AdPC polishing

NOTE: Full length 28mm product also available.

■ Package Side Connector Housing

● Duplex Package Side Connector Housing

◆ Mounting Hole Dimensions Diagram



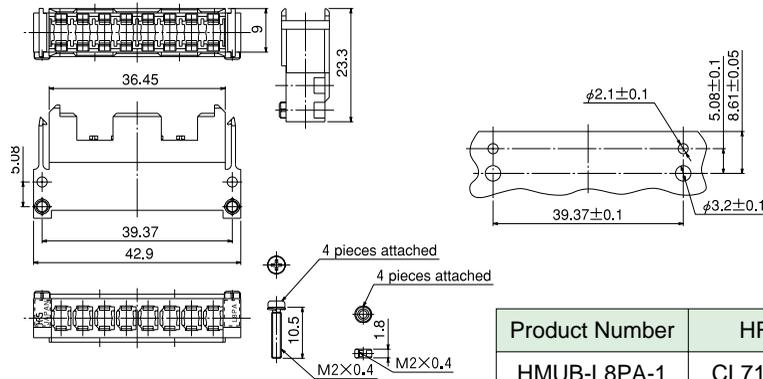
Product Number	HRS No.
HMUB-L2PA-1	CL710-0015-2

(NOTE 1) This duplex package side connector housing should be used in conjunction with a simplex sleeve holder and simplex plug housing without a knob (for $\phi 2$ cable, and for core wire).

(NOTE 2) The recommended clamp torque to be 14.9N

● 8-Ganged Package Side Connector Housing

◆ Mounting Hole Dimensions Diagram

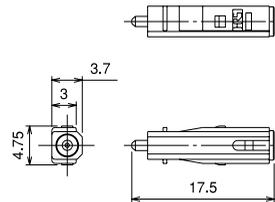


Product Number	HRS No.
HMUB-L8PA-1	CL710-0016-5

NOTE: This 8-ganged package side connector housing should be used in conjunction with a simplex sleeve holder and simplex plug housing without a knob (for $\phi 2$ cable, and for core wire).

(NOTE 2) The recommended clamp torque to be 14.9N

■ Terminator (Package Side)



Product Number	HRS No.	Reflection Attenuation	Suitable Optical Fiber
HMUAJ-TM-P1	CL821-0008-9	$\geq 40\text{dB}$	SM-9.5/125

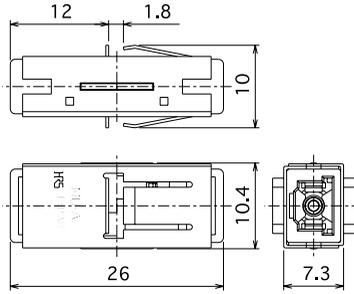
Specifications

Item	Standard Value
Rated input power	$\leq 30\text{mW}$
Reflection attenuation	$\geq 40\text{dB}$ (48dB TYP.)
Suitable wavelength band	1.3 μm , 1.55 μm
Operating temperature	- 25°C ~ 70°C
Humidity	$\leq 95\%$
Storage temperature	- 40°C ~ 80°C

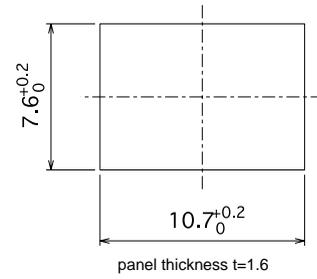
(NOTE) See page 87 in detail

Adapters

Simplex Adapter Panel Mounting Type

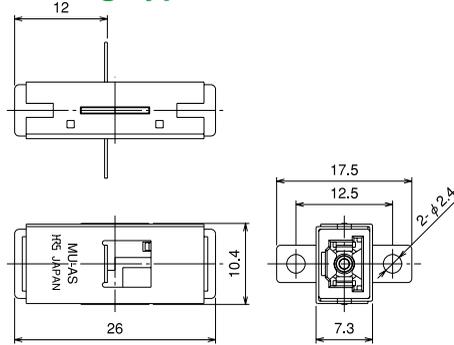


Mounting Hole Dimensions Diagram

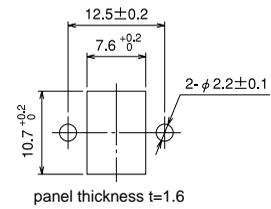


Product Number	HRS No.	Type of Mounting
HMUA-A-1	CL710-0005-9	Panel (1.6mm thick)

Simplex Adapter Screw Mounting Type

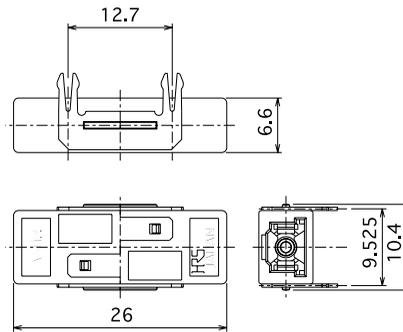


Mounting Hole Dimensions Diagram

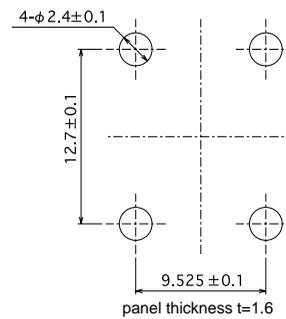


Product Number	HRS No.	Type of Mounting
HMUA-AS-1	CL710-0006-1	Panel (screw)

Simplex Adapter Board Mounting Type

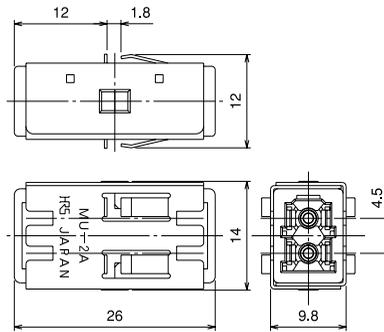


Mounting Hole Dimensions Diagram

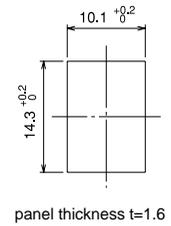


Product Number	HRS No.	Type of Mounting
HMUA-AH-1	CL710-0007-4	Board (1.6mm thick)

● Duplex Adapter Panel Mounting Type

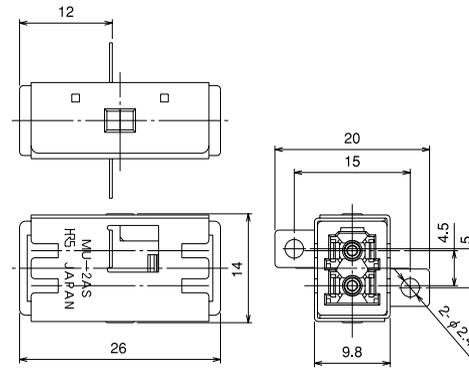


◆ Mounting Hole Dimensions Diagram

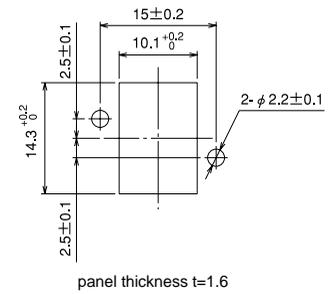


Product Number	HRS No.	Type of Mounting
HMUA-2A-1	CL710-0008-7	Panel (1.6mm thick)

● Duplex Adapter Screw Mounting Type

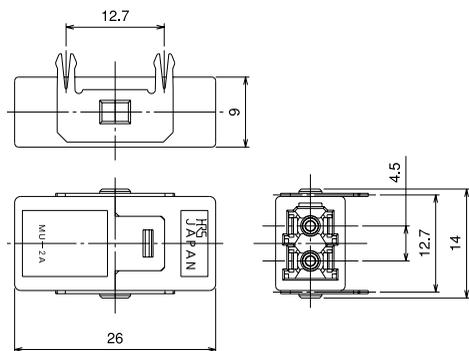


◆ Mounting Hole Dimensions Diagram

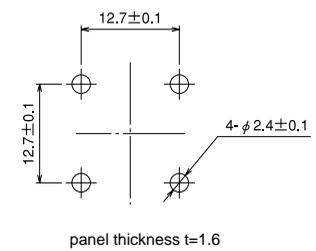


Product Number	HRS No.	Type of Mounting
HMUA-2AS-1	CL710-0009-0	Panel (screw)

● Duplex Adapter Board Mounting Type

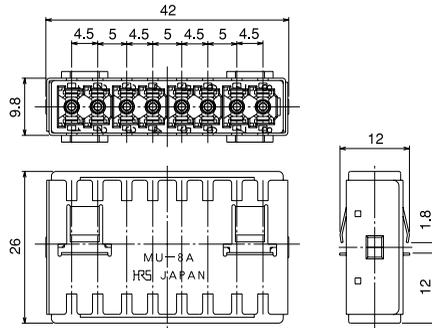


◆ Mounting Hole Dimensions Diagram

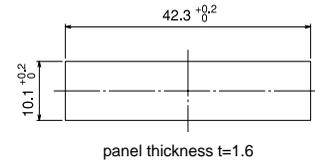


Product Number	HRS No.	Type of Mounting
HMUA-2AH-1	CL710-0010-9	Board (1.6mm thick)

●8-Ganged Adapter Panel Mounting Type

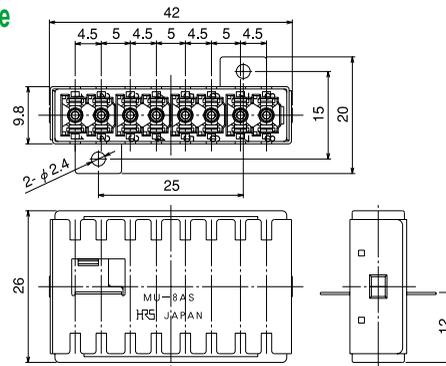


◆Mounting Hole Dimensions Diagram

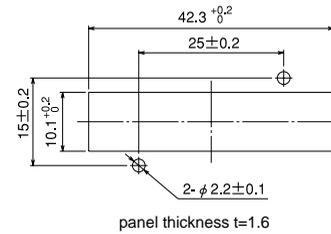


Product Number	HRS No.	Type of Mounting
HMUA-8A-1	CL710-0011-1	Panel (1.6mm thick)

●8-Ganged Adapter Screw Mounting Type

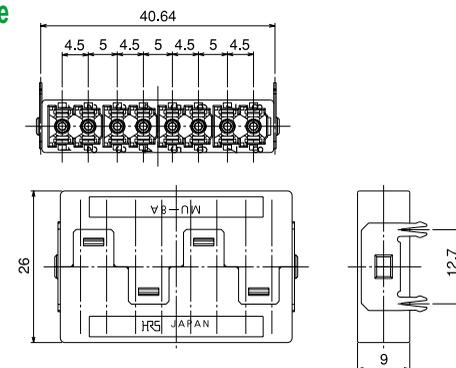


◆Mounting Hole Dimensions Diagram

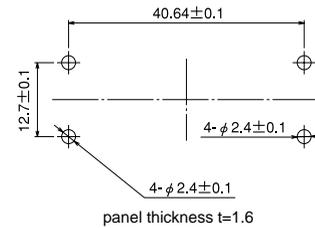


Product Number	HRS No.	Type of Mounting
HMUA-8AS-1	CL710-0012-4	Panel (screw)

●8-Ganged Adapter Board Mounting Type

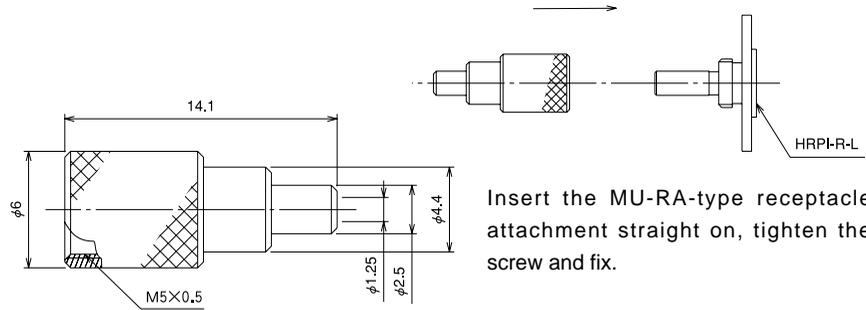


◆Mounting Hole Dimensions Diagram



Product Number	HRS No.	Type of Mounting
HMUA-8AH-1	CL710-0013-7	Board (1.6mm thick)

■ Simplex Receptacle Attachment



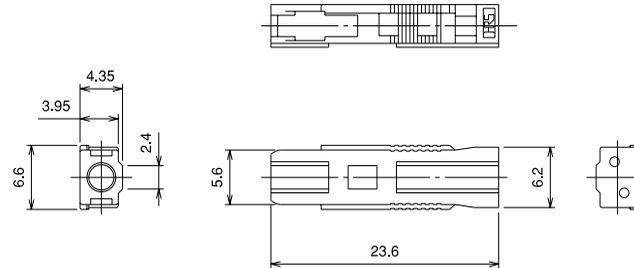
Insert the MU-RA-type receptacle attachment straight on, tighten the screw and fix.

Product Number	HRS No.	Notes
HMUA-RA-1	CL710-0014-0	For measurement of optical characteristics

NOTE: This receptacle attachment is used with HRPI-R-L as a set and attached to a measuring instrument such as a sensor for measurements of such as the optical power.

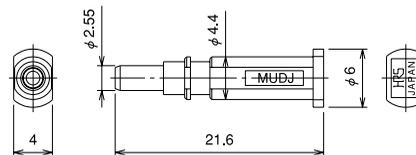
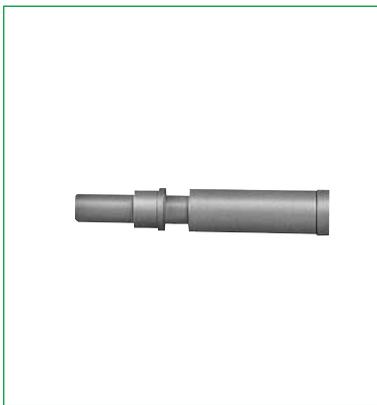
■ Dust Caps

● Plug Dust Cap (Back Panel Side)



Product Number	HRS No.	Applicable Adapter and Connector Housing
HMUA-DP-1	CL710-0059-8	HMUA-A-1,AS-1,AH-1 HMUA-2A-1,2AS-1,2AH-1 HMUA-8A-1,8AS-1,8AH-1 HMUB-L2HA-1,L2HB-1 HMUB-L8HA-1,L8HB-1

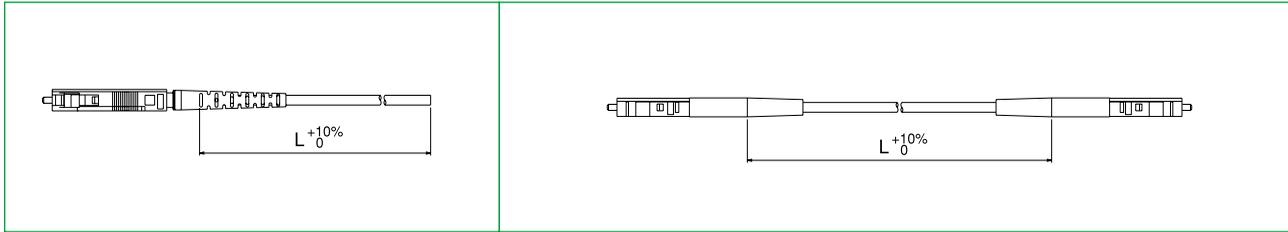
● Plug Dust Cap (Back Panel Side)



Product Number	HRS No.	Applicable Connector Housing
HMUB-DJ-1	CL710-0060-7	HMUB-L2PA-1 HMUB-L8PA-1

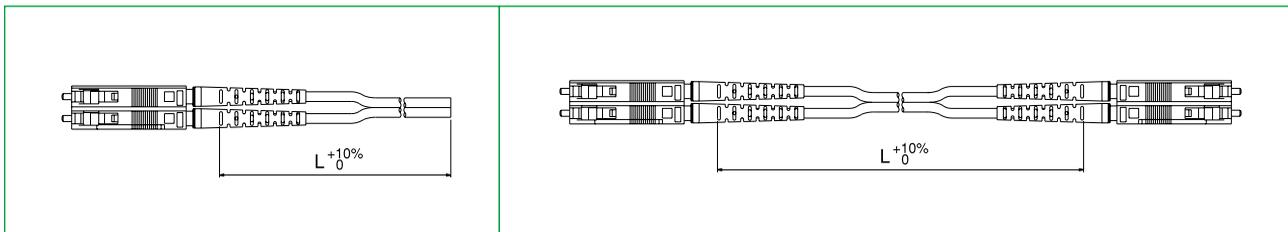
■ Connectors with Cable Attached

● Plug Housing for Simplex $\phi 2$ Cable With Knob



Product Number	HRS No.	Notes	Applicable Optical Fiber	Type of Polishing	Cable Diameter	
HMUA-SP1-F3Q-L	—	One end	SM-9.5/125	PC polishing	$\phi 2\text{mm}$	
HMUA-SP2-F3Q-L	—	Both ends		AdPC polishing		
HMUA-ASP1-F3Q-L	CL710-0028-4	One end		GI-50/125		PC polishing
HMUA-ASP2-F3Q-L	CL710-0029-7	Both ends				AdPC polishing
HMUA-SP1-F3P-L	CL710-0030-6	One end	GI-50/125			PC polishing
HMUA-SP2-F3P-L	CL710-0031-9	Both ends				AdPC polishing
HMUA-ASP1-F3P-L	CL710-0051-6	One end		GI-50/125		PC polishing
HMUA-ASP2-F3P-L	CL710-0052-9	Both ends				AdPC polishing

● Plug Housing for Duplex $\phi 2$ Cable With Knob

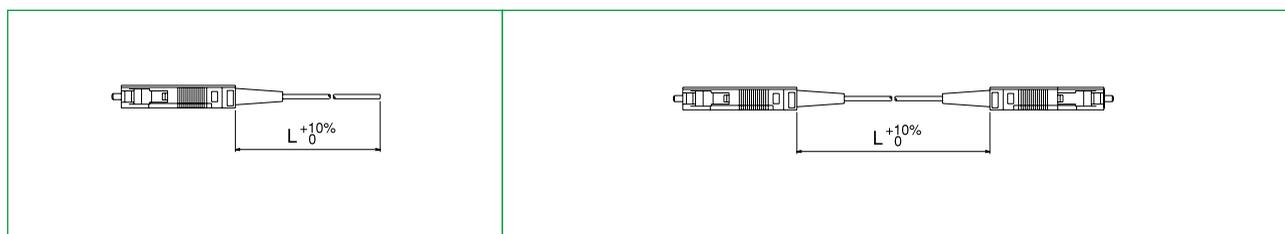


Product Number	HRS No.	Notes	Applicable Optical Fiber	Type of Polishing	Cable Diameter	
HMUA-S2P1-F3QW-L	—	One end	SM-9.5/125	PC polishing	$\phi 2\text{mm}$	
HMUA-S2P2-F3QW-L	—	Both ends		AdPC polishing		
HMUA-AS2P1-F3QW-L	CL710-0061-0	One end		GI-50/125		PC polishing
HMUA-AS2P2-F3QW-L	CL710-0062-2	Both ends				AdPC polishing
HMUA-S2P1-F3PW-L	CL710-0034-7	One end	GI-50/125			PC polishing
HMUA-S2P2-F3PW-L	CL710-0035-0	Both ends				AdPC polishing
HMUA-AS2P1-F3PW-L	CL710-0053-1	One end		GI-50/125		PC polishing
HMUA-AS2P2-F3PW-L	CL710-0054-4	Both ends				AdPC polishing

(NOTE 1) The "L" within the Product Number indicates the length of the cable illustrated in the diagram. Please specify values in meter units.

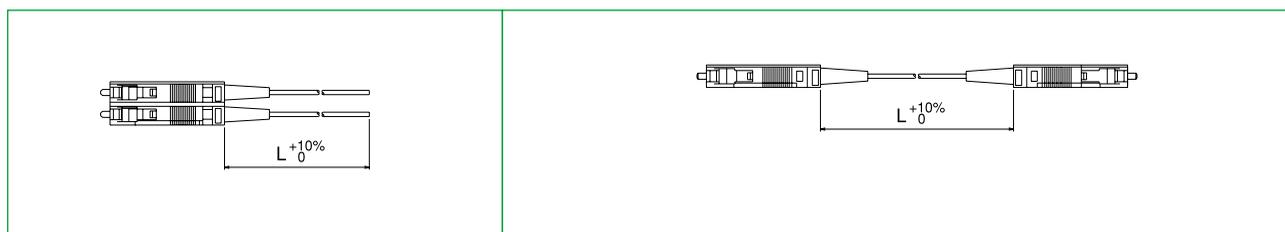
(NOTE 2) We will custom manufacture a great variety of conversion cables and products other than the aforementioned items to suit your needs.

● Plug Housing for Simplex $\phi 0.9$ Cable With Knob



Product Number	HRS No.	Notes	Applicable Optical Fiber	Type of Polishing	Cable Diameter	
HMUA-SP1-F3L-L	—	One end	SM-9.5/125	PC polishing	$\phi 0.9\text{mm}$	
HMUA-SP2-F3L-L	—	Both ends		AdPC polishing		
HMUA-ASP1-F3L-L	CL710-1001-3	One end		GI-50/125		PC polishing
HMUA-ASP2-F3L-L	CL710-1002-6	Both ends				AdPC polishing
HMUA-SP1-F3M-L	CL710-1003-9	One end	GI-50/125			PC polishing
HMUA-SP2-F3M-L	CL710-1004-1	Both ends				AdPC polishing
HMUA-ASP1-F3M-L	CL710-1005-4	One end		AdPC polishing		
HMUA-ASP2-F3M-L	CL710-1006-7	Both ends				

● Plug Housing for Duplex $\phi 0.9$ Cable With Knob

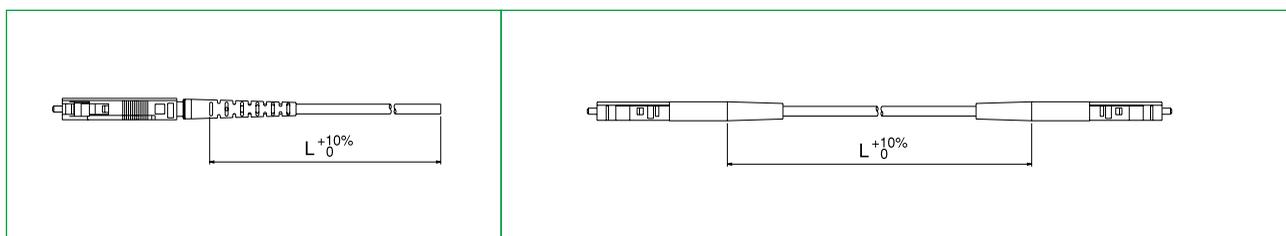


Product Number	HRS No.	Notes	Applicable Optical Fiber	Type of Polishing	Cable Diameter	
HMUA-S2P1-F3L-L	—	One end	SM-9.5/125	PC polishing	$\phi 0.9\text{mm}$	
HMUA-S2P2-F3L-L	—	Both ends		AdPC polishing		
HMUA-AS2P1-F3L-L	CL710-1007-0	One end		GI-50/125		PC polishing
HMUA-AS2P2-F3L-L	CL710-1008-2	Both ends				AdPC polishing
HMUA-S2P1-F3M-L	CL710-1009-5	One end	GI-50/125			PC polishing
HMUA-S2P2-F3M-L	CL710-1010-4	Both ends				AdPC polishing
HMUA-AS2P1-F3M-L	CL710-1011-7	One end		AdPC polishing		
HMUA-AS2P2-F3M-L	CL710-1012-0	Both ends				

(NOTE 1) The "L" within the Product Number indicates the length of the cable illustrated in the diagram. Please specify values in meter units.

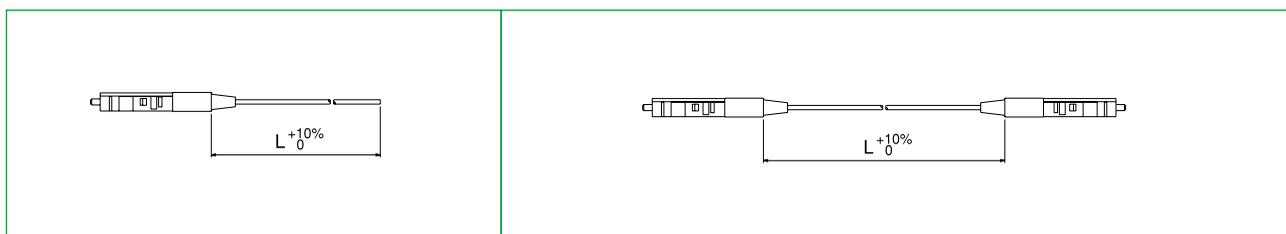
(NOTE 2) We will custom manufacture a great variety of conversion cables and products other than the aforementioned items to suit your needs.

● Plug Housing for Simplex $\phi 2$ Cable Without Knob



Product Number	HRS No.	Notes	Applicable Optical Fiber	Type of Polishing	Cable Diameter	
HMUJ-SP1-F3Q-L	—	One end	SM-9.5/125	PC polishing	$\phi 2\text{mm}$	
HMUJ-SP2-F3Q-L	—	Both ends		AdPC polishing		
HMUAJ-ASP1-F3Q-L	CL710-0040-0	One end		GI-50/125		PC polishing
HMUAJ-ASP2-F3Q-L	CL710-0041-2	Both ends				AdPC polishing
HMUAJ-SP1-F3P-L	CL710-0042-5	One end	GI-50/125			PC polishing
HMUAJ-SP2-F3P-L	CL710-0043-8	Both ends				AdPC polishing
HMUAJ-ASP1-F3P-L	CL710-0057-2	One end				
HMUAJ-ASP2-F3P-L	CL710-0058-5	Both ends				

● Plug Housing for Simplex $\phi 0.9$ Cable Without Knob



Product Number	HRS No.	Notes	Applicable Optical Fiber	Type of Polishing	Cable Diameter		
HMUAJ-SP1-F3A3-L	—	One end	SM-9.5/125	PC polishing	$\phi 0.9\text{mm}$		
HMUAJ-SP2-F3A3-L	—	Both ends		AdPC polishing			
HMUAJ-ASP1-F3A3-L	CL710-0036-2	One end		GI-50/125		PC polishing	
HMUAJ-ASP2-F3A3-L	CL710-0037-5	Both ends				AdPC polishing	
HMUAJ-SP1-F3B3-L	CL710-0038-8	One end	GI-50/125				PC polishing
HMUAJ-SP2-F3B3-L	CL710-0039-0	Both ends					AdPC polishing
HMUAJ-ASP1-F3B3-L	CL710-0055-7	One end					
HMUAJ-ASP2-F3B3-L	CL710-0056-0	Both ends					

(NOTE 1) The "L" within the Product Number indicates the length of the cable illustrated in the diagram. Please specify values in meter units.

(NOTE 2) We will custom manufacture a great variety of conversion cables and products other than the aforementioned items to suit your needs.

■ Tools

● Optical Plug Insertion and Withdrawal Tool



Product Number	HRS No.	Color of Tip	Applicable Connector Housing
HMUA-TP-1	CL710-0074-1	Blue	HMUA-A-1,2A-1,8A-1
HMUB-TP-1	CL710-0075-4	Brown	HMUB-L2HA-1,L2HB-1 HMUB-L8HA-1,L8HB-1

● Optical Plug Extraction Tool



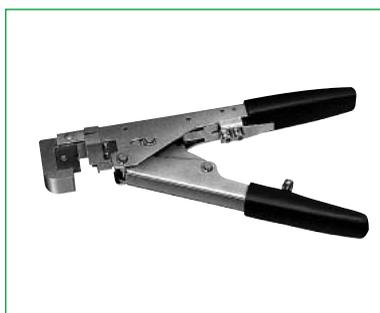
Product Number	HRS No.	Applicable Connector Housing
HMUB-TJ-1	CL710-0076-7	HMUB-L2PA-1,L8PA-1

● Sleeve Holder Insertion and Withdrawal Tool



Product Number	HRS No.	Applicable Connector Housing
HMUB-TS-1	CL710-0077-0	HMUB-L2PA-1,L8PA-1

● Locking Tools for Optical Plug Assembly



Product Number	HRS No.	Applicable Connector Housing
HMUA-TK-1	CL710-0080-4	HMUA-P2-H2,H1 HMUA-2P2-H2,H1



Product Number	HRS No.	Applicable Connector Housing
HMUAJ-TK-2	CL710-0081-7	HMUAJ-P2-H2,H1