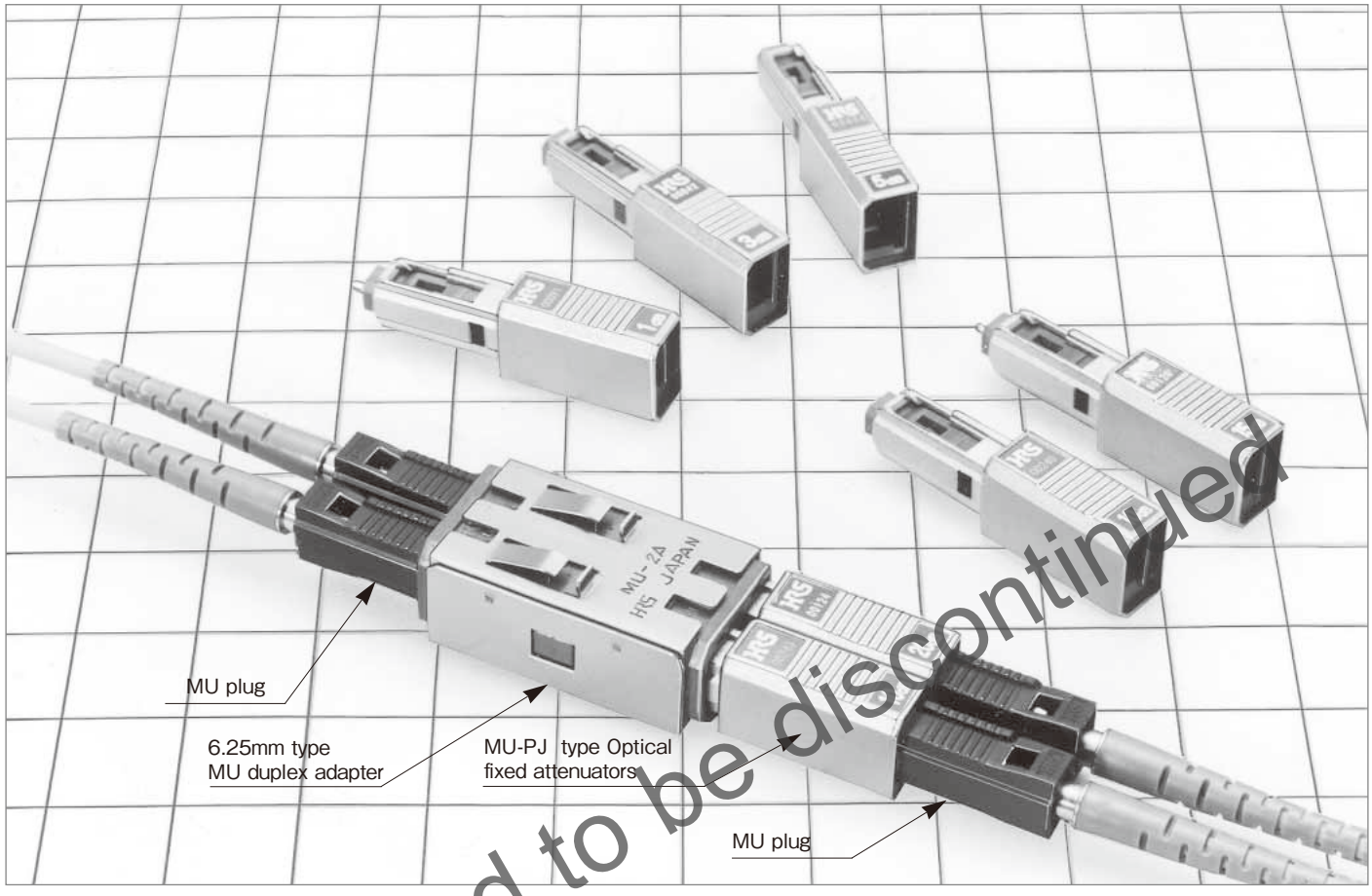
MU-PJ Type Optical Fixed Attenuators



■Features

1. Maximum input power for SM : 200mW

2.Guarantee to simplified MU plug coupling.

3.Guarantee to 6.25mm type MU Duplex Adapter.

Exclude standard 4.5mm type MU Duplex Adapter.

●Example of 6.25mm type MU Duplex Adapter

Part Number	CL No.
HMUA-2AK-1	CL710-0196-9-00

4.Attenuation guaranteed over a wide bandwidth of 1310 ±30nm and 1550 to 1620nm for WDM.

5.Attenuation deviation guaranteed over a wide bandwidth of 1310 ± 30 nm and 1510 to 1620 nm for WDM.

6.Attenuation level : 0,1,2,3,4,5,6,7,8,9,10,15,20 dB

■Applications

Power level adjustment of optical fiber communication networks.

■Product Specifications

Ratings	Operating temperature range	-25°C to +70°C	Storage temperature range	-40°C to +85°C
	Max. Input Power	200 mW	Fiber type	SM

Item		Test Method	Specifications			
Optical Characteristics	Attenuation	Wavelength : 1510 to 1620nm 1310 ±30nm	Operating temperature			
			-10℃ to +60℃		-25℃ to +75℃	
			0	+0.4dB	0	+0.4dB
			1,2	±0.5dB	1,2	±0.7dB
			3,4,5	±0.8dB	3,4,5	±1.0dB
			6,7,8,9,10	±1.0dB	6,7,8,9,10	±1.2dB
			15	±1.5dB	15	±1.7dB
			20	±2.0dB	20	±2.2dB
	Attenuation deviation (Wavelength dependance)	Difference between max and min attenuation value at the wavelength range of 1510 to 1620 nm and 1310 ±30nm	0dB : 0.4dB max. 1,2,3,4,5dB : 0.5dB max. 6,7,8,9,10dB : 0.75dB max. 15dB : 1.0dB max. 20dB : 1.5dB max.			
	Return Loss	Measurement at a point within wavelength 1310 ±30nm and a point within wavelength 1550 ±30nm	≧40 dB min.			
	Power test	Power : 200mW Time : 100 hours Laser : LD (Wavelength : 1470nm)	Attenuation and return loss shall be satisfied before, during and after the test.			
Mechanical Characteristics	Engagement and separation forces	Engagement and separation forces at 50mm/s	Engagement force : ≦ 20 N Separation force : ≦ 20 N			
	Gauge retention force	Zirconia gauge at ϕ 1.249 ±0.0005mm	1.0 N to 2.5 N			
	Mating durability	Insertion and extraction number : 500	1) Insertion loss fluctuation after test: 0.2dB max. 2) No visible damage, cracks or part dislocation.			
	Impact test	5 times in each of three mutually perpendicular axis with the accelertion 981 m/s². (Total : 30 times)				
	Vibration	3 hours at an amplitude of 1.5mm with the frequency range 10 to 55 Hz in each of three mutually perpendicular plane	1) Attenuation and return loss shall be satisfied before, during and after the test. 2) No breakage, crack or looseness on components.			
Environmental Characteristics	Composite temperature -humidity cyclic tast	Humidity : 90 to 96%, Temperature : -10 to 65°C, Time : 480 hours (20 cycles)	1) Attenuation and return loss shall be satisfied before and after the test. 2) No breakage, crack or looseness on components.			
	Change of tempreature	Temperature: -40℃ to +80℃, Time: 400 hours(100 cycles)				
	Dry heat	Tempreature : 85°C, Time : 500 hours				
	Cold	Tempreature : -40°C, Time : 500 hours				
	Salt mist	Salt mist : 5%, Time : 48 hours	No corrosion.			

■Materials

Part	Material
Body	Zinc alloy
Ferrule	Zirconia
Split sleeve	Zirconia

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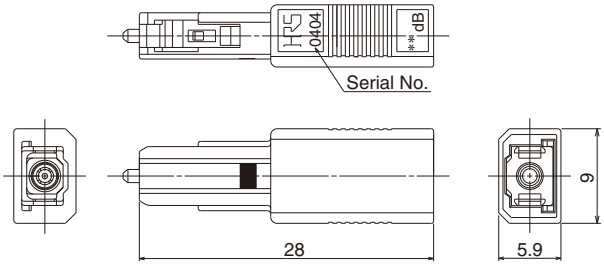

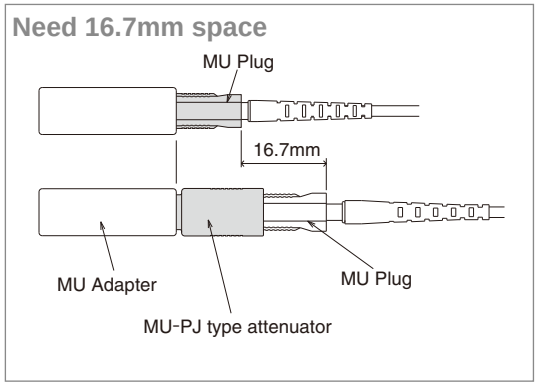

Part Number	CL No.	Attenuation	Attenuation Tolerance	Attenuation Deviation (Note 1)	Return Loss	Wavelength Bandwidth	Split sleeve	Fiber type
HMU-PJAT1K-A00R1(21)	828-0001-4-21	0dB	+0.4dB	Max 0.4dB	≧40dB	1310±30nm 1510 to 1620nm	Zirconia	SM
HMU-PJAT1K-A01R1(20)	828-0002-7-20	1dB	±0.5dB	Max 0.5dB				
HMU-PJAT1K-A02R1(20)	828-0003-0-20	2dB	±0.5dB	Max 0.5dB				
HMU-PJAT1K-A03R1(20)	828-0004-2-20	3dB	±0.8dB	Max 0.5dB				
HMU-PJAT1K-A04R1(20)	828-0005-5-20	4dB	±0.8dB	Max 0.5dB				
HMU-PJAT1K-A05R1(20)	828-0006-8-20	5dB	±0.8dB	Max 0.5dB				
HMU-PJAT1K-A06R1(20)	828-0007-0-20	6dB	±1.0dB	Max 0.75dB				
HMU-PJAT1K-A07R1(20)	828-0008-3-20	7dB	±1.0dB	Max 0.75dB				
HMU-PJAT1K-A08R1(20)	828-0009-6-20	8dB	±1.0dB	Max 0.75dB				
HMU-PJAT1K-A09R1(20)	828-0010-5-20	9dB	±1.0dB	Max 0.75dB				
HMU-PJAT1K-A10R1(20)	828-0011-8-20	10dB	±1.0dB	Max 0.75dB				
HMU-PJAT1K-A15R1(20)	828-0016-1-20	15dB	±1.5dB	Max 1.0dB				
HMU-PJAT1K-A20R1(20)	828-0021-1-20	20dB	±2.0dB	Max 1.5dB				

Note 1: Attenuation deviation is equal to the attenuation maximum value minus the attenuation minimum value over a wide bandwidth of 1310±30nm and 1510nm to 1620nm.