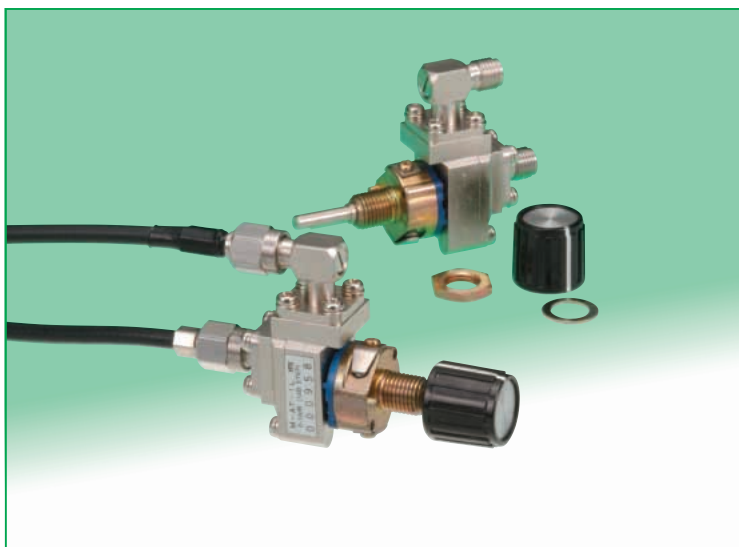


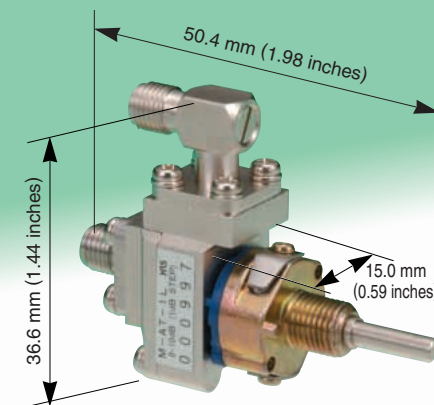
NEW

Rotary Attenuators (SMA Type)

M-AT Series



Space-saving Design (Miniature and Lightweight)



Overview

High reliability rotary attenuator for adjusting the signal level in variety of high frequency devices.

Features

1. Ease of mounting in high-density applications

Small size and light weight allows side-by-side panel mounting of several attenuators.

2. Supports a frequency range from DC to 3GHz

Used over a wide bandwidth with usable frequencies from DC to 3GHz.

3. Easy connection

The output / input connectors (SMA jacks) face back, allowing connection/disconnection after the attenuator has been mounted to the panel.

4. Two attenuation directions.

Standard M-AT-1L attenuators are offered as clockwise or counter-clockwise types.

5. Availability of custom requirements

Attenuators can be modified to fit specific requirements (Example: attenuation steps, connector type)
Contact nearest Hirose Electric sales representative for details.



Application

W-CDMA base stations and a wide variety of high frequency devices.

■Product Specifications

Ratings	Frequency range Characteristic impedance Maximum input power	DC to 3GHz 50Ω 0.3W	Operating temperature range Operating humidity	-10℃ to +65℃ Relative humidity 90% max. (No condensation)
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Part number Item	M-AT-1L M-AT-1LR	M-AT-2L
Insertion loss	0.2 dB max. (DC-2.2 GHz) 0.28dB max. (2.2 GHz- 3.0 GHz)	
V. S. W. R.	1.2 max. (DC-2.2 GHz) 1.25 max. (2.2 GHz- 3.0 GHz)	
Attenuation	0 to 10dB (in 1 dB increments)	0 to 20dB (in 10 dB increments)
Attenuation frequency deviation	-0.5dB to +0.1dB(DC to 1.8GHz) -0.2dB to +0.2dB(1.8GHz to 3.0GHz) -0.1dB to +0.5dB(2.2GHz to 3.0GHz)	-1.0dB to +1.0dB(DC to 2.2GHz) -0.5dB to +1.5dB(2.2GHz to 3.0GHz)
Input/output connectors	SMA Jack	
Weight	28g (Excluding attachment)	

Item	Specification	Conditions
1. Insulation resistance	1000MΩ min.	100V DC
2. Withstanding voltage	No flashover or insulation breakdown.	100V AC / one minute
3. Vibration	No electrical discontinuity of 10 μs max. No damage, cracks, or parts dislocation.	Frequency: 10 to 55 Hz, overall amplitude of 1.5mm, acceleration of 98m/s ² , 3 axis, 2 hours
4. Shock	No electrical discontinuity of 10 μs max. No damage, cracks, or parts dislocation.	Acceleration of 490m/s ² , sine half-wave waveform, 3 cycles / each of 3 axis
5. Temperature cycle	No damage, cracks, or parts dislocation.	Temperature(℃) :-55 / +5 to +35 / +85 / +5 to +35 Time(minutes) : 30 / 5 max. / 30 / 5 max. 100 cycles
6. Durability	No damage, cracks, or parts dislocation.	10000 cycles
7. Humidity	No damage, cracks, or parts dislocation.	500 hours at temperature of 40℃ and humidity of 90% to 95% RH

■Materials and Finish

Component	Material	Finish
Body	Aluminum	Nickel plated
Connector body	Stainless steel	Passivated
Female contacts	Beryllium copper	Gold plated
Rotary switch body	Zinc	Chromate
Shaft	Brass	Nickel plated

■Ordering information

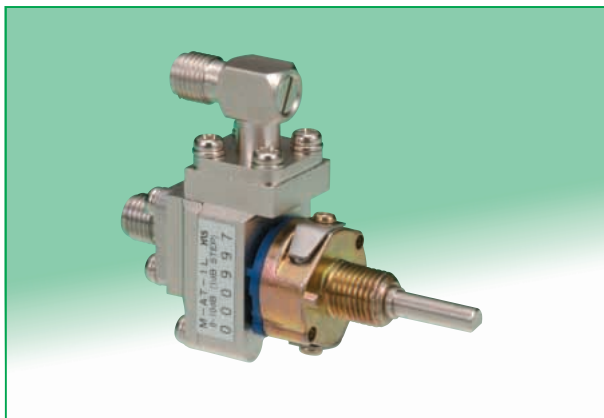
M-AT-1 L R

① ② ③ ④

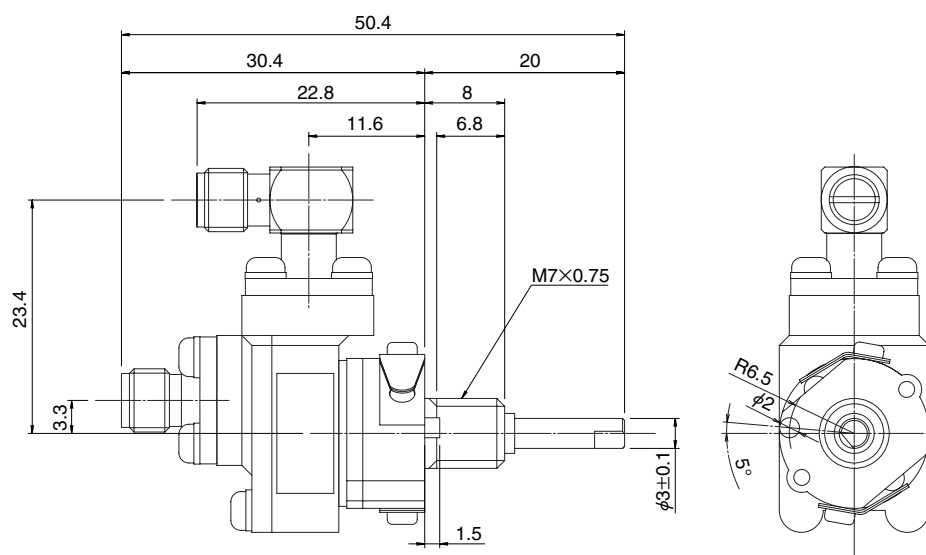
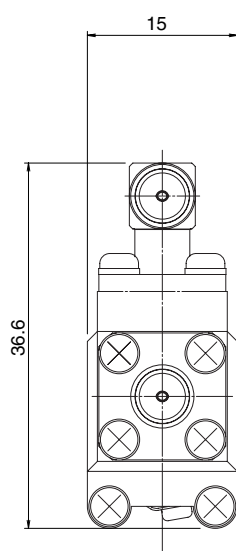
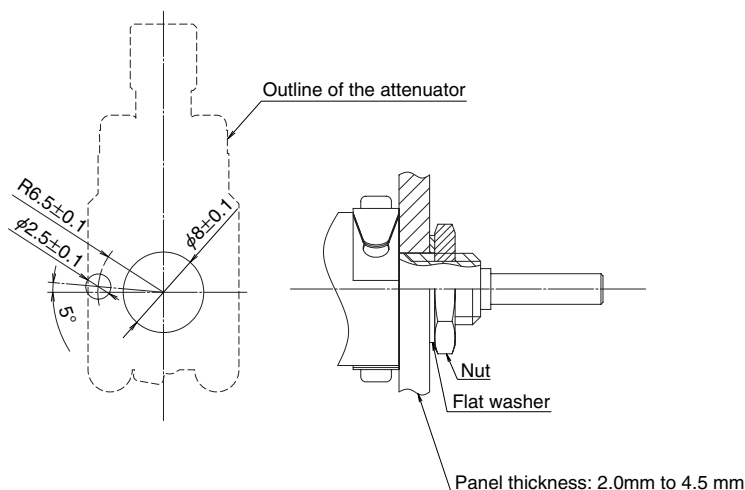
① Series Name	
② Suffix	
③ Connector direction	L : Face the back
④ Attenuation direction	Blank : Clockwise R : Counterclockwise

Part number	CL No.	Attenuation	Attenuation direction
M-AT-1L	361-0019-3	0 to 10 dB (in 1 dB increments)	Clockwise
M-AT-1LR	361-0024-3	0 to 10 dB (in 1 dB increments)	Counterclockwise
M-AT-2L	361-0025-6	0 to 20 dB (in 10 dB increments)	Clockwise

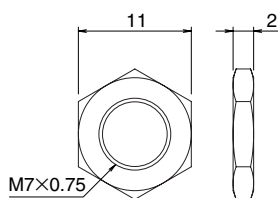
Rotary Attenuators



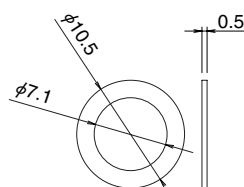
Recommended panel cutout



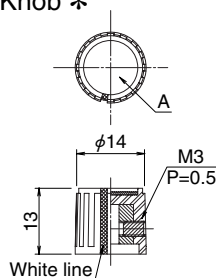
● Nut *



● Flat washer *



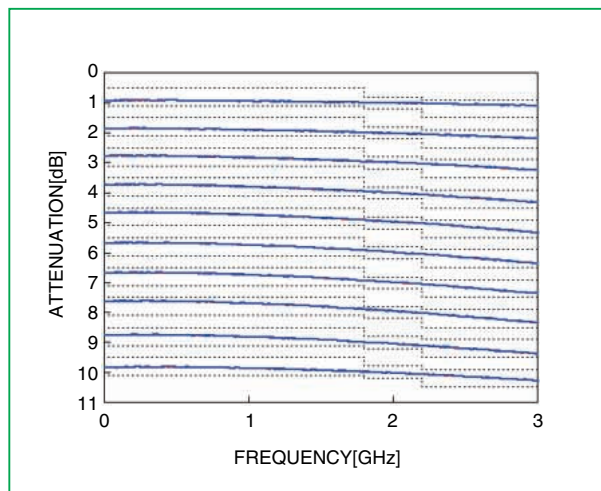
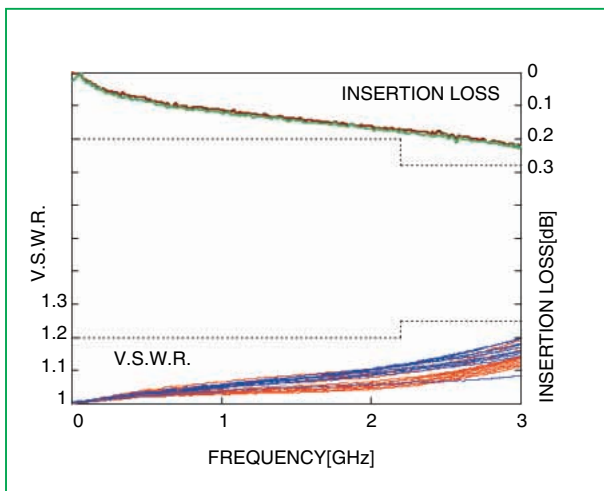
● Knob *



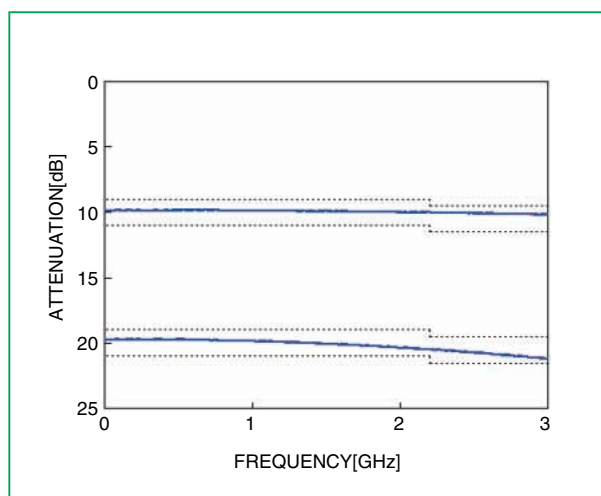
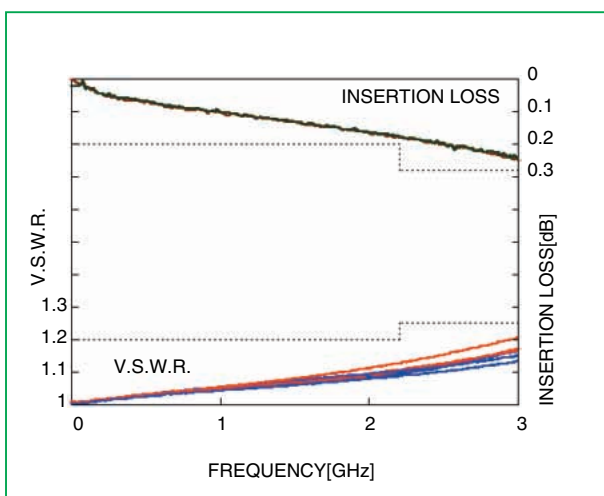
Supplied separately (1bag contains 1 pcs.)

Typical data

M-AT-1L



M-AT-2L



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