

In-Line Attenuators

Description:

The In-Line attenuators provide a fixed level of attenuation and feature excellent return loss. Low cost and performance determine them for universal using in optical networks.



Features:

- Return loss > 50 dB
- Insertion loss on customer's demands
- Fiber or cable version
- Pigtail with connector by specification

Application:

- Fiber optic systems
- Receiver padding for optical receiver protection
- Optical power equalization
- Linearity and dynamic range testing in laboratory equipment

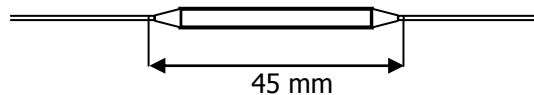
Specifications:

Loss	5, 10, 15, 20, 25, 30 dB $\pm 10\%$
Wavelength SM	1310 nm, 1550 nm, 1625 nm
Wavelength MM	1300 nm, 850 nm, 820 nm
Return loss	> 50 dB
Type	Fiber, Cable
Length	by specification
Operation temperature	-40 to 75 °C Temperature stability 0.005dB / °C

Dimension:

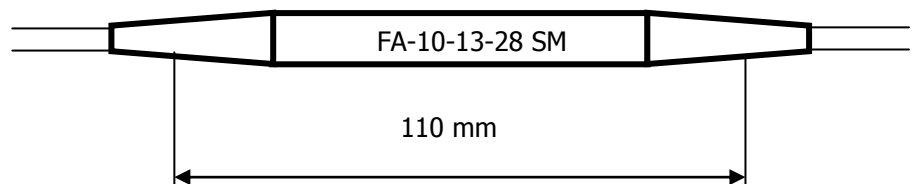
Fiber Attenuator

Length - 45 mm
 \varnothing - 3 mm



Cable Attenuator

Length - 110 mm
 \varnothing - 7 mm



Ordering Code:

FA(D) - XX - XX - XX XX - AAA - XXX - (C)* - YY →

Duplex

Insertion Loss	
05	5 dB
10	10 dB
15	15 dB ¹
other	on request ²
1) > 10 dB only for SM	
2) including 1 dB step	

Optimized Wavelength

13	SM laser 1310 nm
15	SM laser 1550 nm
16	SM laser 1625 nm
50	MM LED 850 nm
00	MM LED 1300 nm

Length (m)

Color

BU	Blue
GN	Green
OG	Orange
YE	Yellow

	AAA	Connector Type	Connector Description
Small Form Factor		LC	LC/PC
		ULC	LC/UPC
		NLC	LC/APC
		MU	MU/PC
		UMU	MU/UPC
FC		NMU	MU/APC
		PC	FC/PC
		UPC	FC/UPC
		NPC205	FC/APC standard Seikoh Giken, Methode, JDS
SC		NPC215	FC/APC standard Seiko
		SC	SC/PC
		USC	SC/UPC
ST		NSC	SC/APC
		SL	ST/PC
		SSL	ST/SPC
LSH		PE2	LSH (E2000)/PC
		NE2S	LSH(E2000)/APC standard
		NE2P	LSH(E2000)/APC premium
LSA		DIN	DIN/PC
		NDIN	DIN/APC
		MJF	MT/RJ - without pins
		MJM	MT/RJ - with guide pins
		SK2	SMA905

Performance

09	fiber Ø 0.9 mm	OM2	MM 50/125 µm
17	cable Ø 1.7 mm	OM1	MM 62.5/125 µm
20	cable Ø 2.0 mm	S2D	SM 9/125 µm (G.652D)
24	cable Ø 2.4 mm	S5X ¹	SM 9/125 µm (G.655X)
28	cable Ø 2.8 mm	S6X ¹	SM 9/125 µm (G.657X)

1) X – according fiber subtypes (e.g. G655C)

Sample of In-Line Attenuators :

1. standard 5 dB SM attenuator (1310 nm)
FA – 05 – 13 – 28 S2D – UPC – 003

2. duplex 5 dB MM attenuator (850 nm)
FAD – 05 – 50 – 28 OM1 – SL – 003

3. hybrid 5 dB SM attenuator (1550 nm)
FA – 05 – 15 – 28 S2D – UPC/USC - 003

Note: Other connector types – on request

(C)* Without this mark is standard position 1m from connector, with C is position in center.

