

# Sales Catalog of HNK Telecommunication Products

## Fiber Optic Attenuator

### Fiber Optic Attenuator Series

Fiber Optic Attenuator is a passive device used to reduce the amplitude of a light signal without significantly changing the wave form itself. The basic types of optical attenuators are fixed and variable, and are designed to be used with various kinds of fibre optic connectors. The attenuators can be female to female or male to female.



#### Complied with or exceeds Standard

- Telcordia GR-326-CORE (ferrule end face quality compliant)
- Telcordia GR-910-CORE
- EC 60874-7, F01(JIS C5970) TIA/EIA-604-4A
- TIA/EIA-568B-B.3 Fiber Optic Cabling Components Standard
- IEEE802.3z Standards for Fiber Optic Cabling
- RoHS Approved for European Market Requirements

#### Features

- Precise attenuation level (with 1dB,2dB,3dB... to 30dB, typical 5dB, 10dB 15dB)
- Inline design is easy to use (plugs between existing fiber jumper & equipment)
- Portable, Easy installation, Readily panel mountable
- High Quality Return loss 60db or Greater
- Custom designed specifications
- Dual wavelength (1310nm/1550nm)
- Attenuators marked with attenuation level

#### Specifications

Characteristics	Unit	Conditions	Values
Attenuation	dB	UPC	1 ~ 30
		APC	1 ~ 20
Return Loss	dB	UPC	≥50
		APC	≥60
Operating Wavelength	nm	-	1310 and 1550, 1240 - 1600
Attenuation Accuracy	-	1 ~ 10dB	± 0.5dB
		11 ~ 30dB	± 10%
Operating Temperature	°C	-	-40 ~ +75
Storage Temperature	°C	-	-40 ~ +85
Polarization Dependent Loss	dB	-	≤0.2
Relative Humidity	%	75°C	95
Vibration	dB	10 ~ 55, 2Hrs	ΔIL≤0.2
Impact	dB	1.5m, 5 drops	ΔIL≤0.2

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### Ordering Information

Using the available configurations amend/create product codes using the formula below.

Part Number: **XX-AA-(BB)-CDE**

### Ordering Guide

XX	Attenuator Type	FAT, MAT, OAT
AA	Connector Type (Female or Male )	FP,SP,SA,LP
BB	Connector Type ( Female)	FP,SP,SA,LP
C	Fiber Type	OM1=Multimode 62.5 OM2=Multimode 50 SM=Singlemode
D	Attenuation Value(dB)	01~30dB
E	Material	M=Metal P=plastic

### Attenuator Type Code

FAT	Female to Female Attenuator (Adapter Type)
MAT	Male to Female Attenuator
OAT	Adjustable Attenuator

### Connector Type Code

FP	FC/PC,FC/UPC	FA	FC/APC
SP	SC/PC, SC/UPC	SA	SC/APC
TP	ST/PC, ST/UPC	TA	ST/APC
LP	LC/PC, LC/UPC	LA	LC/APC
MU	MU	MT	MTRJ
DN	DIN	E2	E2000

## SC Fiber Optic Attenuator

Female to male SC fiber optic attenuator and female to female SC fiber optic attenuator are available. They fit typical 1310nm and 1550nm single mode fiber applications. Attenuation range is from 1dB to 20dB. We supply both SC UPC fiber optic attenuator and SC APC fiber optic attenuator. The SC fiber optic attenuators operation wavelength range is 1240nm to 1620nm.



### Ordering Sample

Part Number	Description
FAT-SP-SM15P	SC/PC Singlemode Plastic Fiber Optic Attenuator, Adapter Type, 15dB.
MAT-SP-SM05M	SC/PC Singlemode Metal Fiber Optic Attenuator, Male to Female, 5dB.

## FC Fiber Optic Attenuator

FC APC single mode fiber optic attenuator and FC PC single mode fiber optic attenuator are available, both of them are with ceramic sleeves and accurate FC connection interface. The attenuation range is from 1dB to 30dB available. The FC fiber attenuator features high power endurance and low back reflection. They are used to reduce the optical power in the fiber optic links.



### Ordering Sample

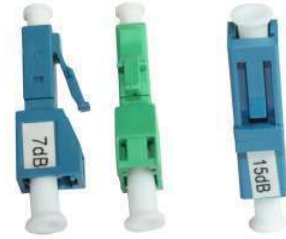
Part Number	Description
FAT-FP-SM07M	FC/PC Singlemode Metal Fiber Optic Attenuator, Adapter Type, 7dB.
MAT-FA-SM15M	FC/APC Singlemode Metal Fiber Optic Attenuator, Male to Female, 15dB.

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#### LC Fiber Optic Attenuator

Single Mode LC Fiber Optic Attenuators including male to female LC attenuator and female to male LC fiber attenuator are available. They are with high quality ceramic sleeves and PC polishes. Attenuation range available is from 1dB to 30dB. Working range of the LC fiber attenuator is 1240nm to 1620nm, including the typical 1310nm and 1550nm single mode applications.



#### Ordering Sample

Part Number	Description
<b>FAT-LP-SM15P</b>	LC/PC Singlemode Plastic Fiber Optic Attenuator, Adapter Type, 15dB.
<b>MAT-LA-SM07P</b>	LC/APC Singlemode Plastic Fiber Optic Attenuator, Male to Female, 7dB.

#### ST fiber optic Attenuator

The ST fiber optic attenuators are metallic body and ceramic sleeves. ST Female to Female Bulkhead Adapter Attenuators utilize a wavelength sensitive neutral density filter to achieve attenuation.



#### Ordering Sample

Part Number	Description
<b>MAT-TP-OM103M</b>	ST/PC Multimode 62.5 Metal Fiber Optic Attenuator, Male to Female, 3dB.

#### MU Fiber Optic Attenuator

MU fiber optic attenuator for single mode applications are available. Attenuation level ranges from 1dB to 30dB.



#### Ordering Sample

Part Number	Description
<b>MAT-MU-SM06P</b>	MU/PC Singlemode Plastic Fiber Optic Attenuator, Male to Female, 6dB.

#### Variable Attenuator/Adjustable Attenuator

Adjustable Attenuators are used to connect same or different type optical fiber connectors. Attenuation level ranges from 1dB to 30dB.



#### Ordering Sample

Part Number	Description
<b>OAT-FP-TP-SM15M</b>	FC/PC - ST/PC Singlemode Metal Variable Attenuator, Female to Female, 1~15dB available.