



Attenuators

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Fixed Adaptor Type Attenuators

A-AF

- *Environmentally stable*
 - *Easy installation*
 - *Custom designed specifications*
 - *Low return loss*
 - *Readily panel mountable*
 - *Compact packaging*
- Applications:**
- *Telecommunications*
 - *LAN*
 - *CATV*
 - *Fibre optic sensors*
 - *Testing instruments*
 - *Fibre to the home*
 - *Multi-channel subscriber loop*
 - *Optical transmission system*

Fusing type & Doping type (Standard)

Specifications		Standard
Operating Wavelength	nm	850 or 1310 or 1550
Bandwidth	nm	± 10
Attenuation	dB	1 ~ 30 or otherwise specified
Attenuation Accuracy typical, including connector		High grade : <± 1.0dB (for 1 ~ 10dB), < ± 10% (for 10 ~ 30dB) Average grade : <± 1.5dB (for 1 ~ 10dB), < ± 15% (for 10 ~ 30dB)
Back Reflection	dB	<-40 (for convex polishing), <-60 (for Angled types)
Operating Temperature	°C	-40 ~ 75
Storage Temperature	°C	-55 ~ 85
Connector Type		FC, SC, ST, FC/APC, SC/APC

Fusing Type & Doping Type (Wideband)

Specifications		Wideband	
Operating Wavelength	nm	1310 or 1550	
Bandwidth	nm	± 40	
Attenuation Accuracy typical, including connector	ITEM	H grade	A grade
	5dB	± 1.	± 1.5
	10dB	± 1.5	± 2.0
	15dB	± 2.0	± 2.5
	20dB	± 2.0	± 2.5

Fusing Type & Doping Type (Dual Window)

Specifications		Dual Window	
Operating Wavelength	nm	1310 and 1550	
Bandwidth	nm	± 40	
Attenuation Accuracy typical, including connector	ITEM	H grade	A grade
	5dB	± 1.5	± 2.0
	10dB	± 2.0	± 2.5
	15dB	± 2.5	± 3.0
	20dB	± 3.0	± 3.5

Air Gap Type (Female to Female) (Standard)

Specifications		Standard
Operating Wavelength	nm	850 or 1310 or 1550
Bandwidth	nm	± 10
Attenuation	dB	3, 5, 10, 15, 20
Typical Attenuation Accuracy, including connector		Average grade ± 1.5dB for 1 ~ 10dB; ±15%for 10 ~ 30dB
Back Reflection	dB	< -15 (for convex polishing type); < -60 (for angled polishing types)
Operation Temperature	°C	40~75
Storage Temperature	°C	55~85
Connector Type		FC, SC, ST, FC/APC, SC/APC

Ordering Information

A - AF - [] [] - [] [] - [] - FMML - [] [] - [] [] / [] []

Fibre Type
 ASM fibre
 C50/125 µm
 D62.5/125 µm
 X.....Other type of fibre

Attenuator Type
 AAir gap type (Female to Female only)
 MDoping type
 F.....Fusing type

Attenuation Value
 00 ~ 30 Please specify

Attenuation Accuracy
 HHigh grade
 AAverage grade

Operating Wavelength
 85850nm
 131310nm
 151550nm
 351310nm & 1550nm
 RX1300nm
 3W ...1310 ± 40nm
 5W ... 1550 ± 40nm
 XXOthers, please specify

Connector Type (for both ends)

FC....FC type
 AP...FC/APC type
 SCSC type
 ASSC/APC type
 STST type
 XXothers, please specify



Adaptor Type Terminator

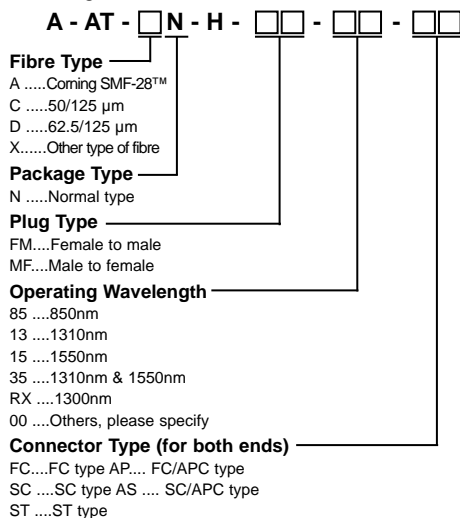
A-AT

- Low return loss
- Easy installation
- Readily panel mountable

Applications:

- Telecommunications
- Testing instruments
- CATV transmission system

Ordering Information



Fixed In-Line Type Attenuators

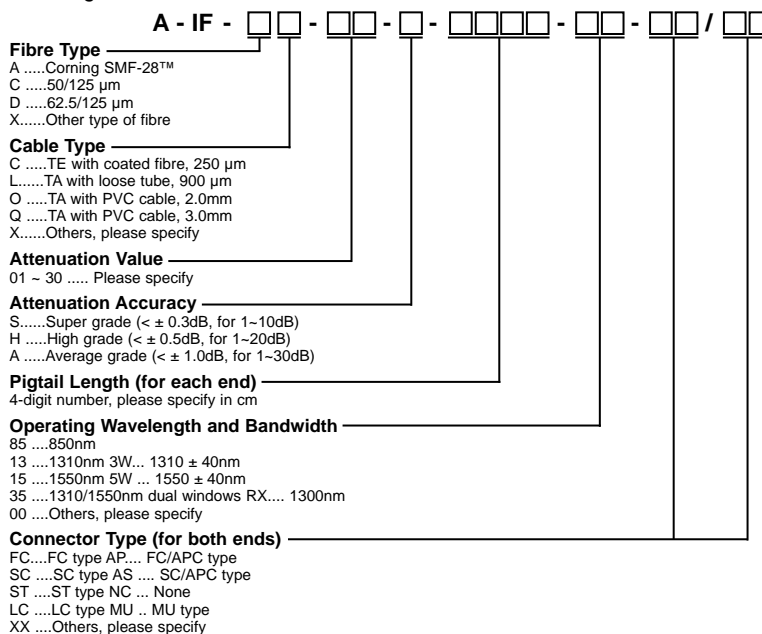
A-IF

- Environmentally stable
- Easy installation
- Custom designed specifications
- Low return loss
- Low insertion loss
- Readily panel mountable
- Compact packaging

Applications:

- Telecommunications
- LAN
- CATV
- Fibre optic sensors
- Testing instruments
- Fibre to the home
- Multi-channel Subscriber loop
- Optical transmission system

Ordering Information



Specifications

Standard Wideband Dual Windows

Singlemode		Standard Wideband Dual Windows		
Operating Wavelength	nm	1310 or 1550	1310 or 1550	1310 and 1550
Bandwidth	nm	± 10	± 40	± 40
Attenuation	dB	1 ~ 30, or otherwise specified		
Attenuation Accuracy	dB	≤± 0.3 (for 1 ~ 10dB)		
typical, not including connector termination		≤± 0.5 (for 10 ~ 20dB)		
		≤± 1.0 (for 20 ~ 30dB)		
Back Reflection	dB	<-50		
Operating Temperature	°C	-40 ~ 85 (*)		
Storage Temperature	°C	-55 ~ 85		
Connector Type		FC, SC, ST, or other type specified		
Multimode				
Operating Wavelength	nm	850 or 1300		
Bandwidth	nm	± 10		
Attenuation	dB	1 ~ 30, or otherwise specified		
Attenuation Accuracy	dB	Average grade ≤±0.5dB (for 1 ~ 5dB) ≤±10% (for 6 ~ 30dB)		
typical, including connector				
Operating Temperature	°C	40 ~ 85 (*)		
Storage Temperature	°C	-55 ~ 85		
Connector Type		FC, SC, ST, or other type specified		

Note : *-40 ~ 70 °C for PVC 3.0mm cable.



Mechanical Variable Airgap Type Attenuator

M-VA-A

- Environmentally stable
- Easy installation
- Custom designed specifications
- Low return loss
- Readily panel mountable
- Compact packaging

Ordering Information

M - VA - A - [] - [] - [] [] - [] [] / [] []

Fibre Type (input/output)

ACorning SMF-28 D 62.5/125 µm
 C50/125 µm X Other type of fibre

Cable Type

Q3mm cable (SMF-28) O 2mm cable (SMF-28)
 X.....Others

Fibre Length (For Each End)

011m 15 15m
 055m 20 20m
 1010m XX..... Others

Connector Type (input/output)

NCNone AP..... FC/APC type
 FCFC type AS SC/APC type
 SCSC type ST ST type
 LCLC type MU .. MU type
 XXOthers

Specifications

Optical Wavelength		nm	1200 to 1600
Residual Attenuation	Max.	dB	1.5
Attenuation Range	Min.	dB	35
Resolution	Max.	dB	0.15
Optical Return Loss	Min.	dB	55
Polarisation Sensitivity	Max.	dB	0.2
Operation Temperature		°C	0 to +60
Storage Temperature		°C	-40 to +75
Thermal Stability	Max.	dB/°C	0.03
Optical Power	Max.	mW	300
Packaging Dimension		mm	50 x 27 x 25



Mechanical Variable Micro-Optics Type

M-VA-M

- Environmentally stable
- Easy installation
- Custom designed specifications
- Low return loss
- Readily panel mountable
- Compact packaging

Ordering Information

M - VA - M - [] - [] - [] [] - [] [] / [] []

Fibre Type (input/output)

ACorning SMF-28™ D 62.5/125 µm
 C50/125 µm X Other type of fibre

Cable Type

Q3mm cable (SMF-28) O 2mm cable (SMF-28)
 X.....Others

Fibre Length

011m 02 2m
 XXOthers

Connector Type (input/output)

NCNone AP..... FC/APC type
 FCFC type AS SC/APC type
 SCSC type ST ST type
 LCLC type MU .. MU type
 XXOthers

Specifications

Optical Wavelength		nm	1200 to 1600
Residual Attenuation	Max.	dB	1.5
Attenuation Range	Min.	dB	50
Resolution	Max.	dB	0.1
Optical Return Loss	Min.	dB	55
Polarisation Sensitivity	Max.	dB	0.2
Operation Temperature		°C	0 to +60
Storage Temperature		°C	-40 to +75
Thermal Stability	Max.	dB/°C	0.03
Optical Power	Max.	mW	300
Packaging dimension		mm	38 x 30 x 19