

LEAD Fiber Optics PRODUCT CATALOGUE

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LEAD Fiber Optics PRODUCT CATALOGUE

SLEEVE

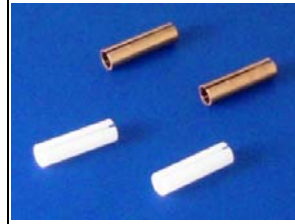
Sleeve

Features

- Compliance with JIS, IEC standard
- Stable put out force
- High performance and superior durability
- Low insertion loss

Applications

- Deigned for ST,FC,ST,LC,MU Adapter
- For singlemode and multimode
- Receptacles and Other



Specifications (Ceramic Split Sleeve)

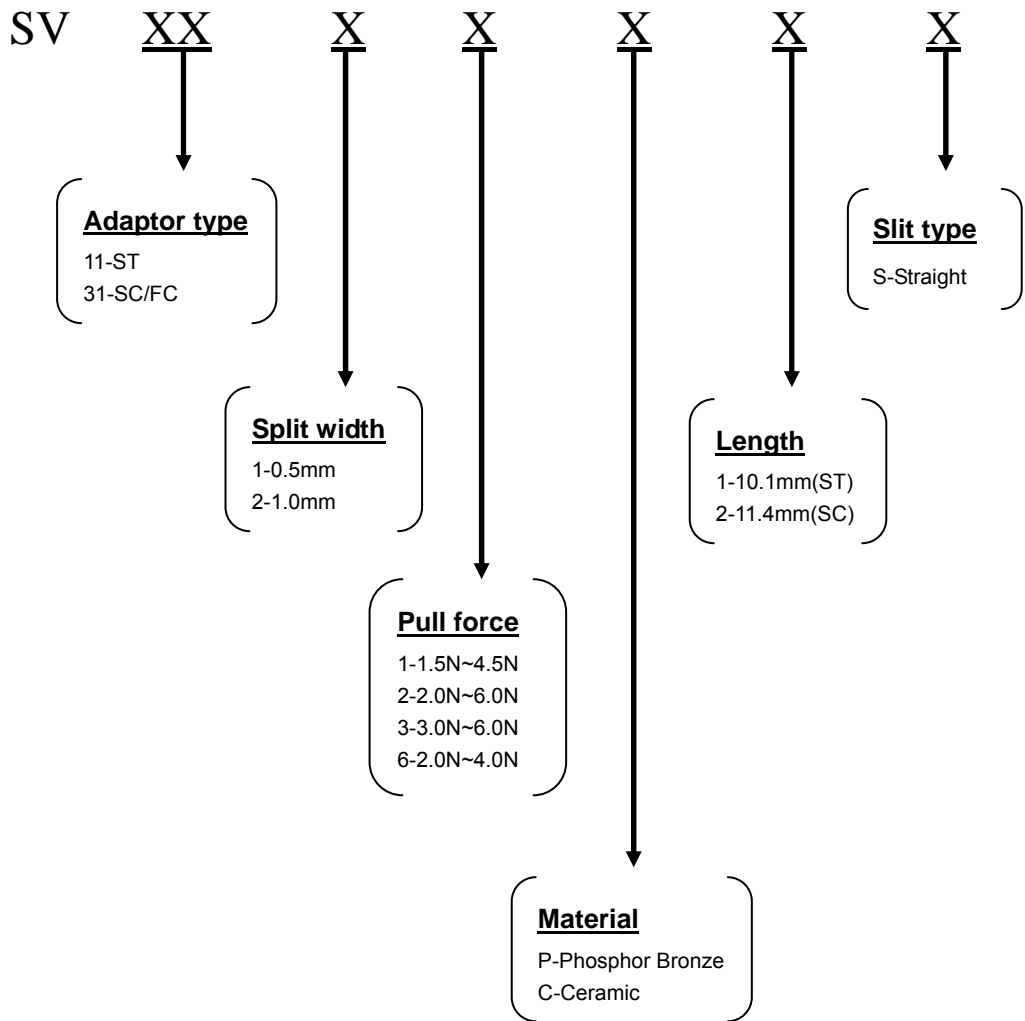
Style	Length	O.D (mm)	I.D. Tolerance (um)	Split Width	Chamfer	Pulling Force(N)
SC(FC)	11.4+/-0.1	3.2+/-0.02	2.49	0.5+/-0.1	2×R0.1	2~5.9
ST	10.1+/-0.1	3.2+/-0.02	2.49	0.5+/-0.1	2×R0.1	2~5.9
LC,MU	6.8+/-0.1	1.62+/-0.01	1.246	0.2+/-0.1	2×R0.1	1~2.5

Specifications (Phosphor Bronze Split Sleeve)

Style	Length	O.D (mm)	I.D. Tolerance (um)	Split Width	Chamfer	Pulling Force(N)
SC(FC)	11.4+/-0.1	3.08	2.48	0.5+/-0.1	2×0.1+0.1/-0	2~5.9
ST	10.1+/-0.1	3.08	2.48	0.5+/-0.1	2×0.1+0.1/-0	2~5.9
LC,MU	6.8+/-0.1	1.62	1.25	0.2+/-0.1	2×0.1+0.1/-0	1.98~2.96

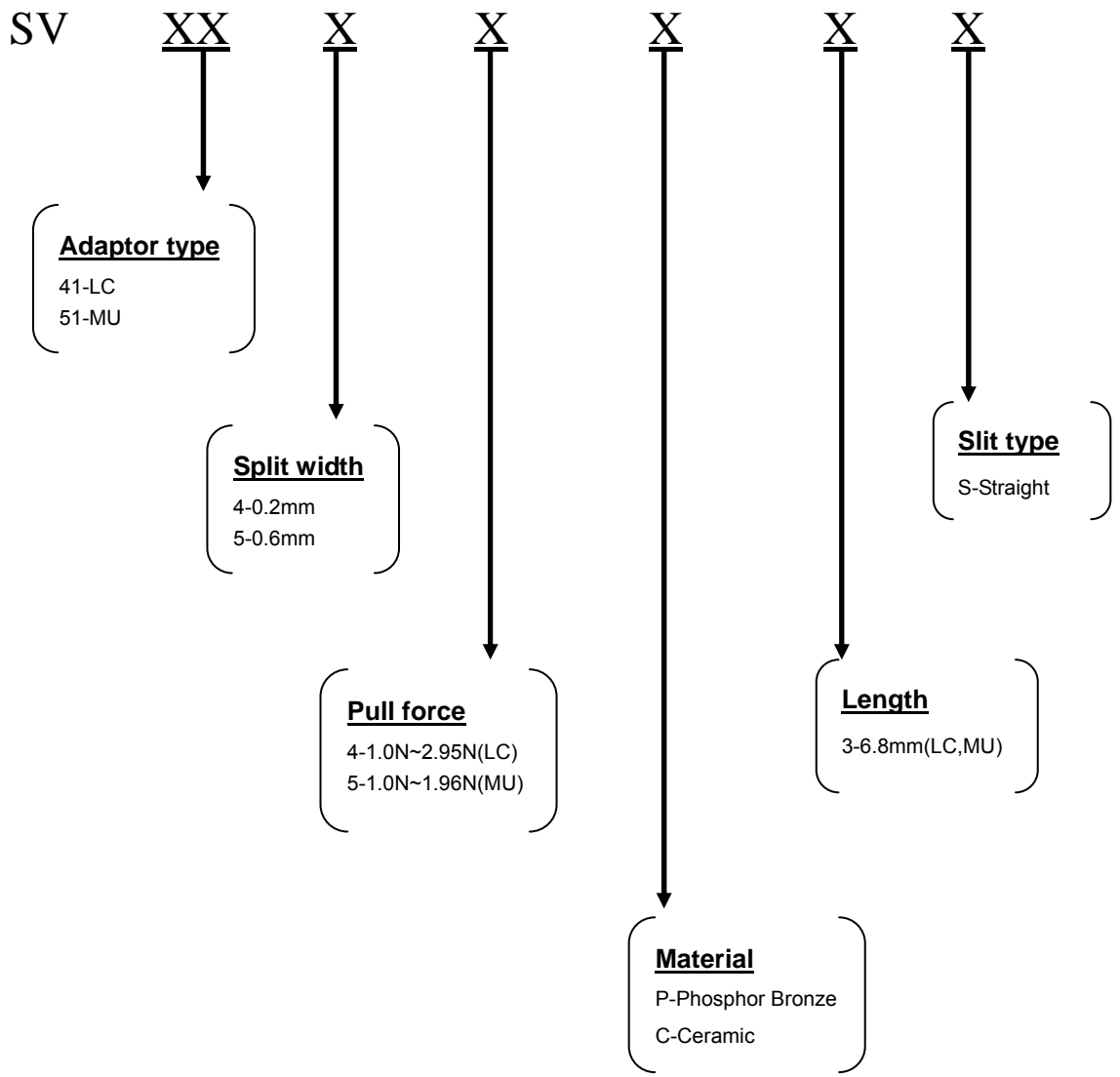
Sleeve Ordering information

Sleeves for ϕ 2.5 ferrule (ST,SC,FC)



Sleeve Ordering information

sleeves for ϕ 1.25 ferrule (MU,LC)



LEAD Fiber Optics PRODUCT CATALOGUE

CERAMIC FERRULE

Ceramic Ferrule

Features

- Precise ID dimension
- Best concentricity
- 100% inspected
- Pre-Domed end face for quick termination
- Pre-angled end face available for quick termination
- High performance and superior durability



Applications

- Ferrules designed for ST, SC, FC, MU, LC connector
- Singlemode application
- Multimode application

Specifications

Style	Length (mm)	O.D (mm)		I.D. Tolerance (um)		Concentricity (um)		Spherical Radius
		SM	MM	SM	MM	SM	MM	
SC(FC)	10.5	2.499±0.0005	2.499±0.001	+1,-0	+3,-0	+1	+4	20+5/-10
ST	12.7	2.499±0.0005	2.499±0.001					20+5/-10
LC	6.4	1.249±0.0005	2.499±0.001					-
MU	6.5	1.249±0.0005	2.499±0.001					-

Ceramic Ferrule Ordering information

FR

XX

X

X

X

X

- Connector**
- 11-ST
 - 21-FC/PC
 - 22-FC/APC (Conical)
 - 23-FC/APC (Step)
 - 31-SC/PC
 - 32-SC/APC (Conical)
 - 33-SC/APC (Step)
 - 41-LC/PC
 - 51-MU/PC

- Flange**
- 1-SUB flange
 - 2-Brass flange
 - 3-w/o flange

- Ferrule ID**
- 1-125.0um(SM)
 - 2-125.5um(SM)
 - 3-126.0um(SM)
 - 4-126.5um(MM)
 - 5-127.0um(MM)
 - X-Others

- Polish type**
- 1-Pre-Domed
 - 5-Flat end face
 - X-Others,please specify

- Concentricity**
- 1- <= 1.0um(SM)
 - 2- <=1.4um(SM)
 - 3- <=3.0um(MM)
 - 4- <=4.0um(MM)

LEAD Fiber Optics PRODUCT CATALOGUE

FIBER ADAPTER

TEL:+886-2-2949-8116 FAX:+886-2-2949-8117 Web:<http://www.fiberoptic.com.tw>

Fiber Adapter

Features

- Compliant with JIS, IEC, Bellcore
- Optical performance 100% factory test
- Ceramic or Phosphorous bronze Sleeve available
- Flanged or Threaded mounting hardware
- High precision alignment
- Low insertion loss
- Low back reflection
- Convenience and easy of handing



Applications

- Telecommunication
- CATV Networks
- Data Communication Networks
- Active device termination
- Instrumentation
- Local Area Network

Specifications

ITEM	VALUES
Insertion Loss	≤ 0.15 dB Typical (SM) ≤ 0.2 dB Typical (MM) ≤ 0.3 dB Typical (MTRJ MM)
Return Loss	> 40 dB (PC) > 60 dB(APC)
Temperature Range	$-40^{\circ}\text{C} \sim 75^{\circ}\text{C}$
Durability	< 0.2 dB change after 500 matings

Fiber Adapter Ordering information

AD

XX / XX

XX

X

X

Adapter type(#1 #2)

- 11- ST Simplex
- 12- ST Duplex
- 21- FC Simplex
- 22- FC Simplex/APC
- 23- FC Square
- 24- FC D-hole
- 25- FC D-hole/APC
- 26- FC one-piece
- 27- FC one-piece/APC
- 31- SC Simplex
- 32- SC Duplex
- 33- SC Simplex/APC
- 34- SC Duplex/APC
- 35- SC Duplex H-type
- 36- SC 4-way(SC2)
- 41- LC Simplex
- 42- LC Duplex
- 43- LC Simplex/APC
- 44- LC Duplex/APC
- 51- MU Simplex
- 52- MU Duplex
- 53- MU 4-way
- 54- MU 8-way
- 61- MTRJ (Standard)
- 71- FDDI
- 81- MPO
- E2- E2000
- EA- E2000/APC
- XX- Others ,please specify

Dust cap color

- 1- Blue
- 2- Green
- 3- White
- 4- Beige
- 5- Black
- 6- Red
- X- Other Color

Housing color

- 1- Blue(Plastic)
- 2- Green(Plastic)
- 4- Beige(Plastic)
- 5- Black(Plastic)
- 9- Brown(Plastic)
- M- Metal(Metal)
- X- Others

Sleeve type

- PS- Phosphor Bronze Singlemode
- PM- Phosphor Bronze Multimode
- Ce- Ceramic
- No -For MTRJ

LEAD Fiber Optics PRODUCT CATALOGUE

BARE FIBER ADAPTER

Bare Fiber Adapter

Features

- Simple to use
- Suitable for fiber with Coating diameter of 250um and 900um Optical fiber with hole diameter Between 125-127um can be used
- Multimode or Single mode Connectors

Applications

- OTDR acceptance testing
- Power meter hookup
- Approximate loss / Continuity testing
- Talk set connection
- Visible fault location



Bare Fiber Adapter Ordering information

AD -BA

XX

XX

Connector

11-ST
21-FC
22-FC-APC
31-SC
32-SC/APC
XX-Others

Ferrule ID

1- 125.0um (SM)
2- 125.5um (SM)
3- 126.0um (SM)
4- 126.5um (/MM)
5- 127.0um (MM)
X-Others

LEAD Fiber Optics PRODUCT CATALOGUE

FIBER CONNECTOR

TEL:+886-2-2949-8116 FAX:+886-2-2949-8117 Web:<http://www.fiberoptic.com.tw>

Fiber Connector

Features

- Compliant with JIS C-5973, Bellcore
- Optical performance 100% factory test
- Precision ceramic ferrule with end-face geometry per IEC proposal
- Low insertion loss
- Low back reflection
- Easy Termination

Applications

- Telecommunication
- CATV Networks
- Data Communication Networks
- Active device termination
- Instrumentation
- Local Area Network

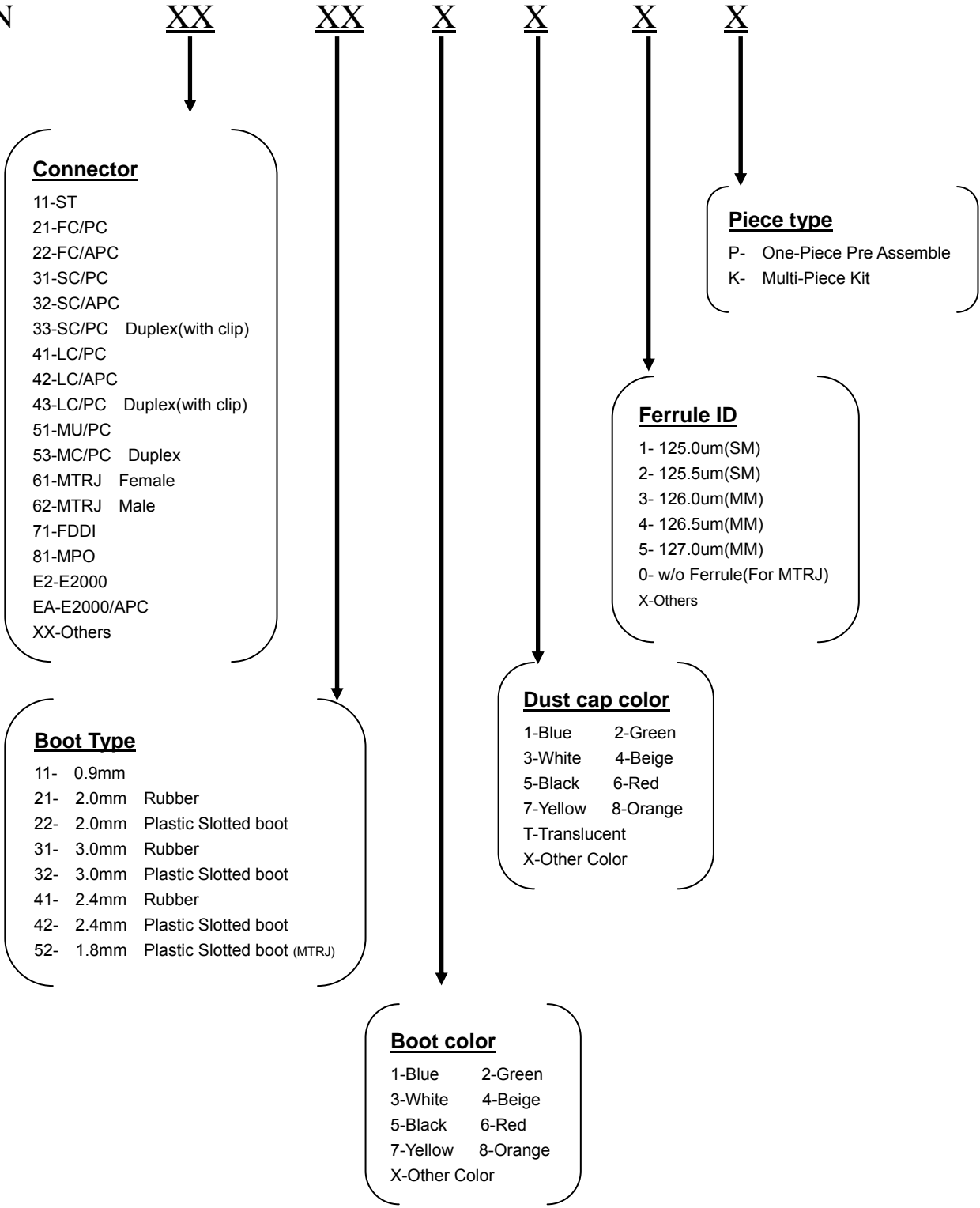


Specifications

ITEM	VALUES
Insertion Loss	≤ 0.15 dB Typical (SM) ≤ 0.2 dB Typical (MM) ≤ 0.3 dB Typical (MTRJ MM)
Return Loss	> 40 dB (PC) > 60 dB(APC)
Temperature Range	$-40^{\circ}\text{C} \sim 75^{\circ}\text{C}$
Durability	< 0.2 dB change after 500 matings

Fiber Connector Ordering information

CN



LEAD Fiber Optics PRODUCT CATALOGUE

OPTICAL TERMINATOR

Optical Terminator

Features

- Optical performance 100% factory tested
- Easy installation as plug type
- Precision ceramic ferrule with end face geometry per IEC proposal.
- Adapt attenuation point to create termination effect
- Stability against changes in external environmental condition such as dew condensation.



Applications

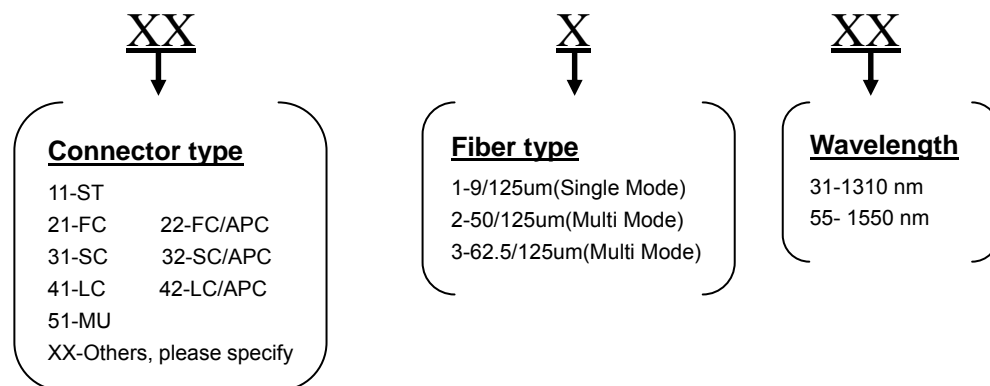
- Telecommunication networks
- Active device termination
- Instrumentation
- CATV Networks
- EDFA

Specifications

ITEM		VALUES
Operating Wavelength (nm)		1310nm or 1550nm
Return Loss	PC	> 40dB (min)
	APC	> 60dB (min)
Operating Temperature (°C)		-40°C ~ 75°C
Storage Temperature (°C)		-50°C ~ 85°C

Optical Terminator ordering information

TN



LEAD Fiber Optics PRODUCT CATALOGUE

FIBER PATCH CORD

TEL:+886-2-2949-8116 FAX:+886-2-2949-8117 Web:<http://www.fiberoptic.com.tw>

Fiber Patch cord

Features

- Compliant with JIS C-5973, Bellcore
- Optical performance 100% factory test
- Precision ceramic ferrule with end-face geometry per IEC proposal
- Riser & LSZH cable option
- Low insertion loss
- Low back reflection



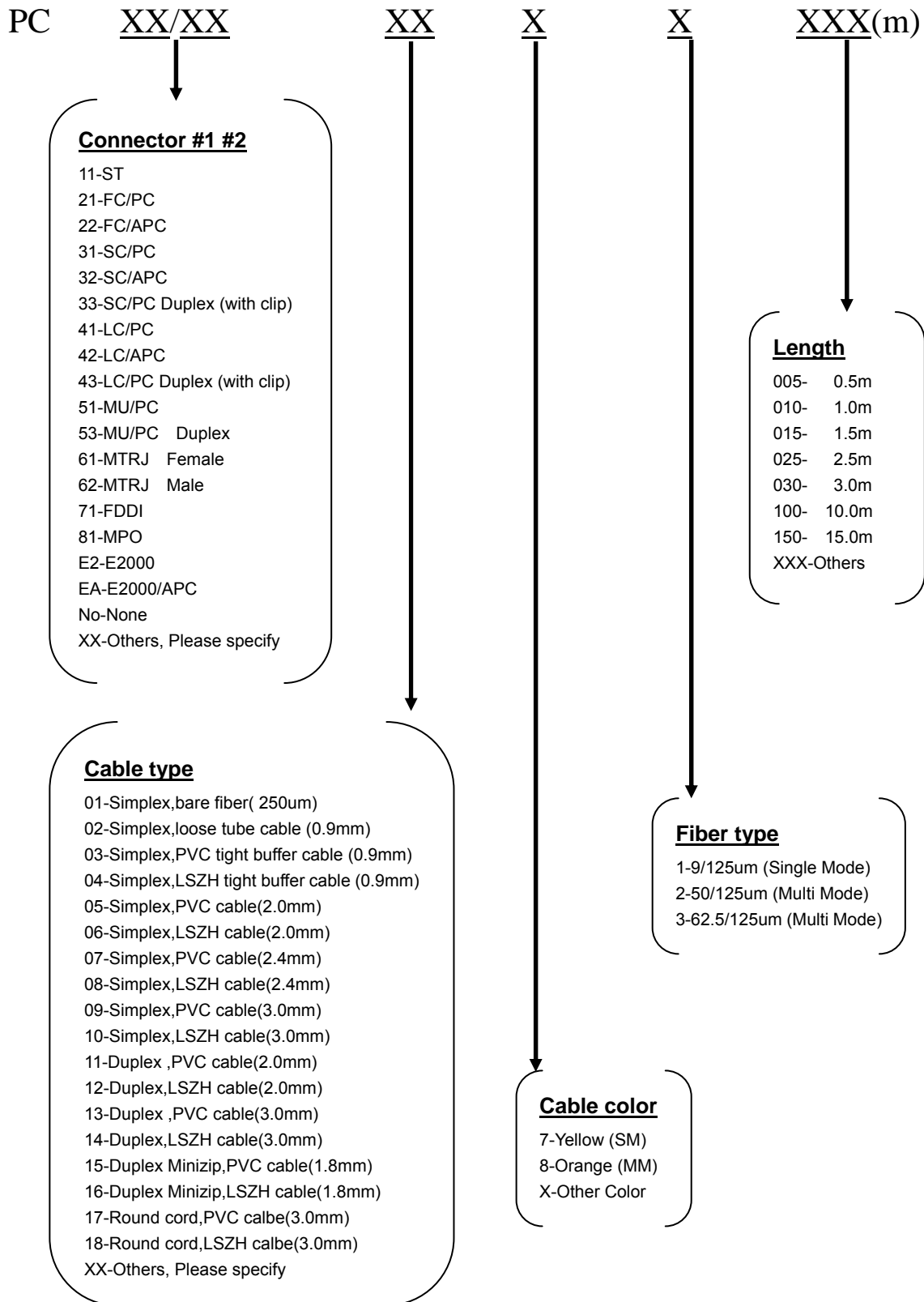
Applications

- Telecommunication
- CATV Networks
- Data Communication Networks
- Active device termination
- Instrumentation
- Local Area Network

Specifications

ITEM	VALUES
Insertion Loss	≤ 0.15 dB Typical (SM) ≤ 0.2 dB Typical (MM) ≤ 0.3 dB Typical (MTRJ MM)
Return Loss	> 40 dB (PC) > 45 dB (SPC) > 50 dB (UPC) > 60 dB(APC)
Temperature Range	$-40^{\circ}\text{C} \sim 75^{\circ}\text{C}$
Durability	< 0.2 dB change after 500 matings

Fiber Patch cord Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FAN-OUT CABLE

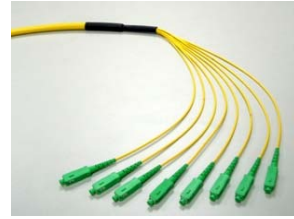
Fan-out Cable

Features

- Low insertion loss
- Low back reflection loss
- Easy installation
- Custom defined specifications
- 0.9mm or 2.0mm fan-out cable
- Environmentally stable

Applications

- Telecommunication
- Local area network
- Fiber to the home
- Fiber optic sensors
- Testing instruments



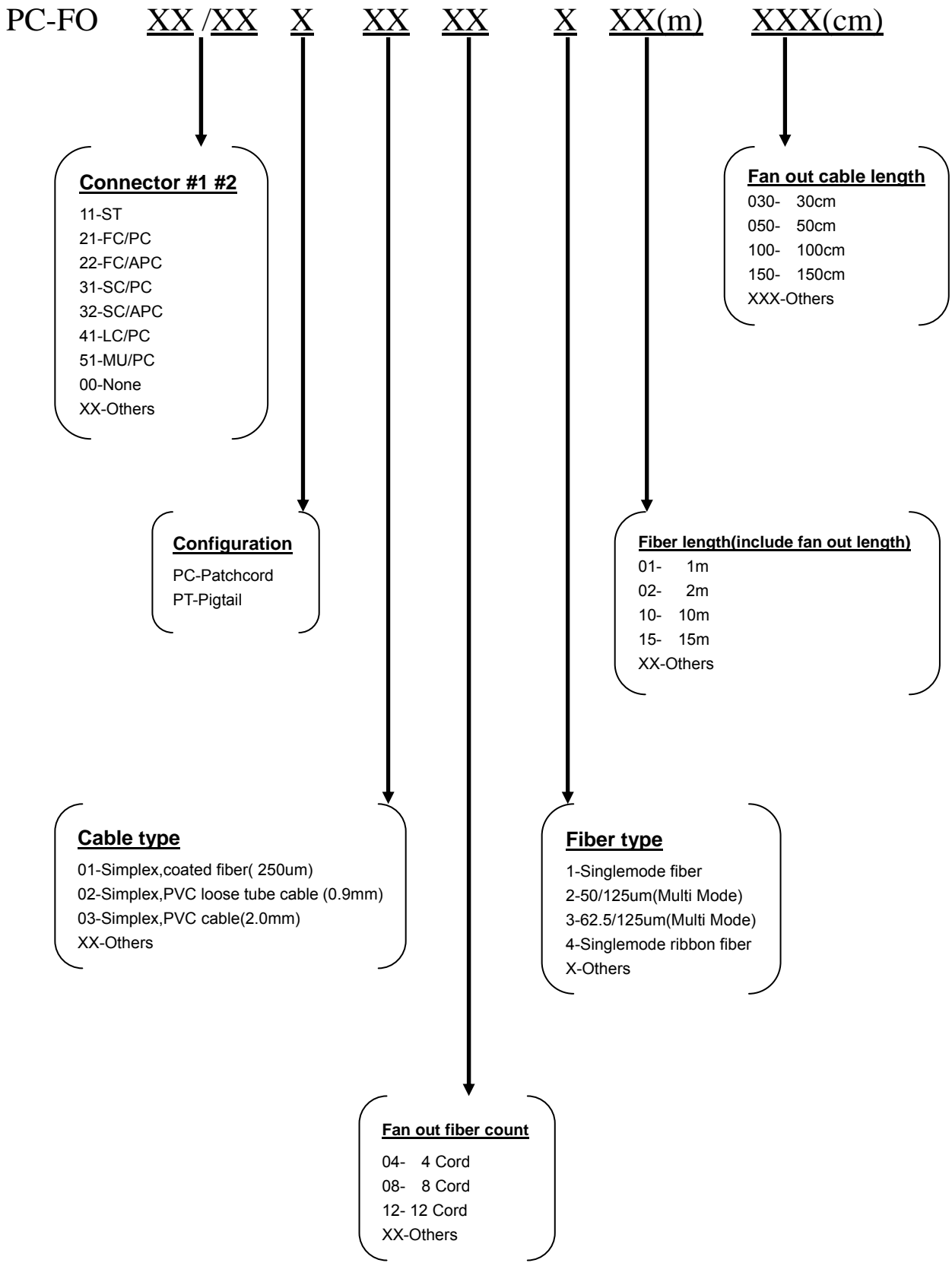
Specifications

ITEM	FC,LC,SC type		FC/APC,SC/APC type
	SM	MM	SM
Mode type	SM	MM	SM
Typical Insertion Loss, dB	0.15	0.3	0.15
Max Insertion loss, dB	0.3	0.4	0.35
Typical Insertion Loss, dB	53	-	67
Min. Back reflection, dB	48	-	63

Specifications <Adapters>

SPECIFICAION	SM / PC	SM / APC	Multimode
Sleeve	Ceramic	Ceramic	Phosphor bronze
Body Material	Plastic		
Housing Color	Blue	Green	Beige
Housing Type	Simplex / Duplex		

Fan-out Cable Ordering information




LEAD Fiber Optics PRODUCT CATALOGUE

MODE CONDITION CABLER

TEL:+886-2-2949-8116 FAX:+886-2-2949-8117 Web:<http://www.fiberoptic.com.tw>

Mode Condition Cable

<p>Features</p> <ul style="list-style-type: none"> ● Mode Conditioning Patch ● Complain with IEEE 802.3z standard ● Low Insertion Loss ● Low back Reflection Loss <p>Applications</p> <ul style="list-style-type: none"> ● Gigabit Ethernet 1000 Base-LX ● Mode Conditioning 	
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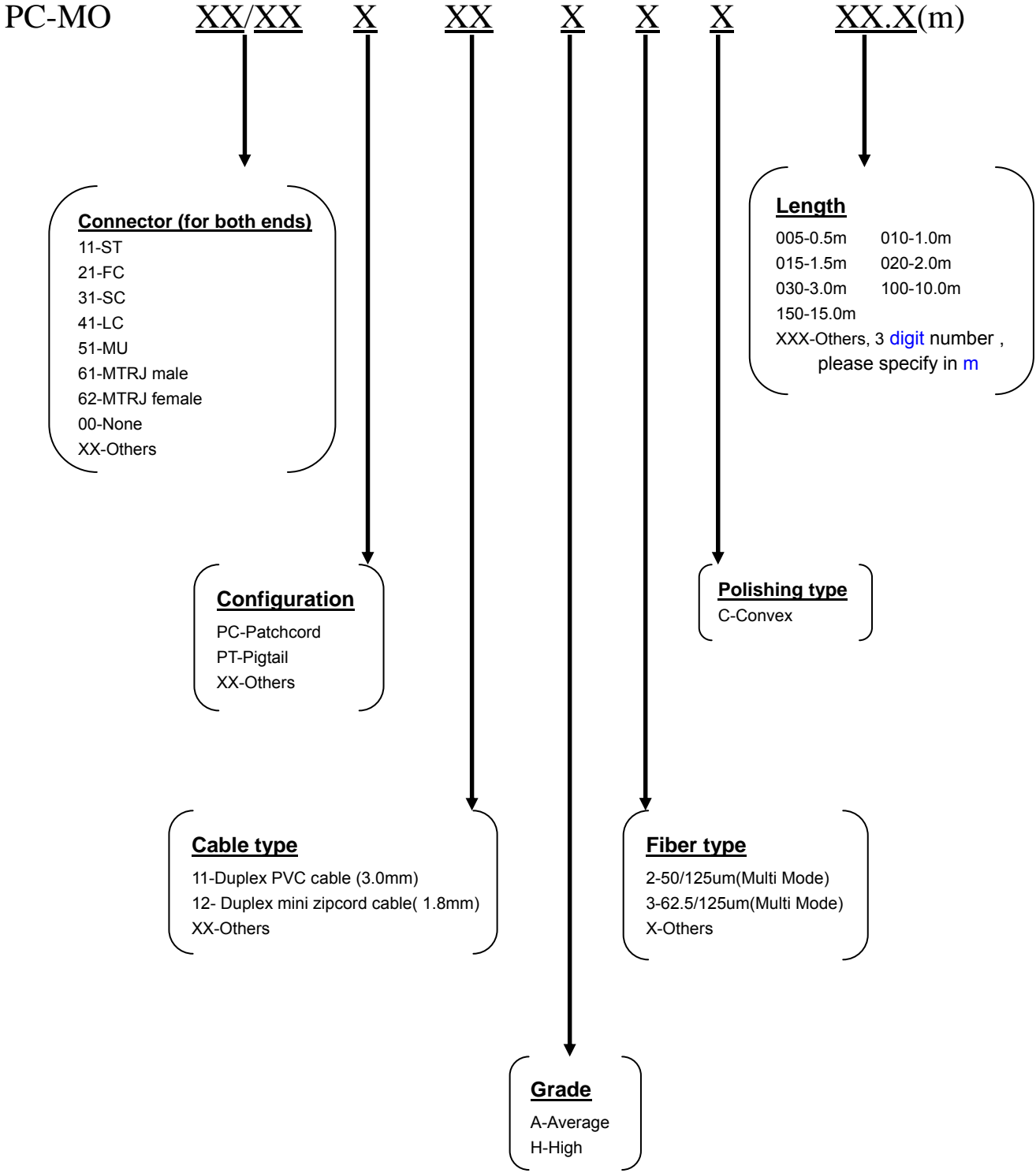
Specifications

ITEM		H(High)		A(Average)	
Fiber type		62.5/125	50/125	62.5/125	50/125
Operation wavelength, nm		1310,1550			
Max Insertion loss, dB		0.5	0.5	0.7	0.7
Typical Insertion Loss, dB	Singlemode channel	30			
	Multimode channel	20			
Coupler Power Ratio, dB		28<CPR<40	12<CPR<20	28<CPR<40	12<CPR<20
Operating Temperature, °C		-40°C ~ 75°C			
Storage Temperature, °C		-55°C ~ 85°C			

Specifications (Adapter)

ITEM	SM / PC	SM / APC	Multimode
Sleeve	Ceramic	Ceramic	Phosphor bronze
Body Material	Plastic		
Housing Color	Blue	Green	Beige
Housing Type	Simplex / Duplex		

Mode Condition Cable Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FIBER OPTIC COUPLER standard single mode

Standard Single-Mode Coupler

Features

- Low insertion Loss
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments
- Point to point system
- WAN



Specifications

ITEM		VALUE	
Operation Wavelength ,nm		1310nm±10 or 1550nm±10	
Grade		Supper(s)	High(H)
Typical Excess Loss ,dB		0.06	0.15
Uniformity, dB(50:50)		0.5	0.9
Thermal Stability , dB (peak-peak)		≤0.2	≤0.3
Polarization Stability ,dB		≤0.1	≤0.15
Port Configuration		1×2 or 2×2	
Coupling Ratio		1 : 99 to 50 : 50, (50 : 50 standard)	
Insertion Loss ,dB		Refer to Coupling ratio vs. insertion Loss chart	
Directivity ,dB		≥50(1×2), ≥60(2×2)	
Reflectance ,dB		≥55	
Operation Temperature, °C		-40°C ~ 85°C (*)	
Storage temperature, °C		-55°C ~ 85°C	
Package Options (for different pigtail)	1.coated fiber (250 μ m)	T5,MA,MB,M3	
	2.Loose tube (900 μ m)	TA,MA,MB,M3	
	3.PVC cable(3.0mm)	A1,MA,MB,M3	

Note: (*) -20°C ~ +70°C for PVC cable

Coupling Ratio (%)	Insertion Loss(dB)	
	Super Grade(S)	High Grade(H)
50/50	3.4	3.6
40/60	4.4/2.5	4.7/2.8
30/70	5.7/1.8	6.0/2.0
20/80	7.5/1.2	8.0/1.4
10/90	10.8/0.7	11.5/0/9
5/95	14.6/0.4	15.5/0.6
1/99	21.6/0.2	22.0/0.3

Standard Singlemode Coupler Ordering information

CO-SM XX/XX XX XX X X XX XX XXX(cm)

Connector(for both ends)
 11-ST
 21-FC/PC
 22-FC/APC
 31-SC/PC
 32-SC/APC
 41-LC/PC
 51-MU/PC
 00-None
 XX-Others

Pigtail length (for each port)
 050- 50cm
 100- 100cm
 150- 150cm
 200- 200cm
 000- Modulized
 XXX-Others

Wavelength
 31-1310 nm
 55-1550 nm
 XX-Others

Coupling ratio
 00 ~ 50 please specify

Package option(for both ends)
 01-T5 with coated fiber
 02-MA/MB with coated fiber
 11-TA with loose tube cable
 12-MA/MB/M3 with loose tube cable
 21-A1 with PVC cable(2.0mm)
 31-A1 with PVC cable(3.0mm)
 32-MA/MB/M3 with PVC cable(3.0mm)
 33-MA/MB/M3 with adapters
 XX-Others

Port number
 12- 1 x 2
 22- 2 x 2

Fiber type
 A- Corning SMF-28e
 D-Dispersion-shift fiber
 X-Others

Grade
 S- Super
 H- High

LEAD Fiber Optics PRODUCT CATALOGUE

FIBER OPTIC COUPLER
standard multi mode

Standard Multimode Coupler

Features

- Low insertion Loss
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- Video transmission
- Fiber optic sensing
- Testing instruments



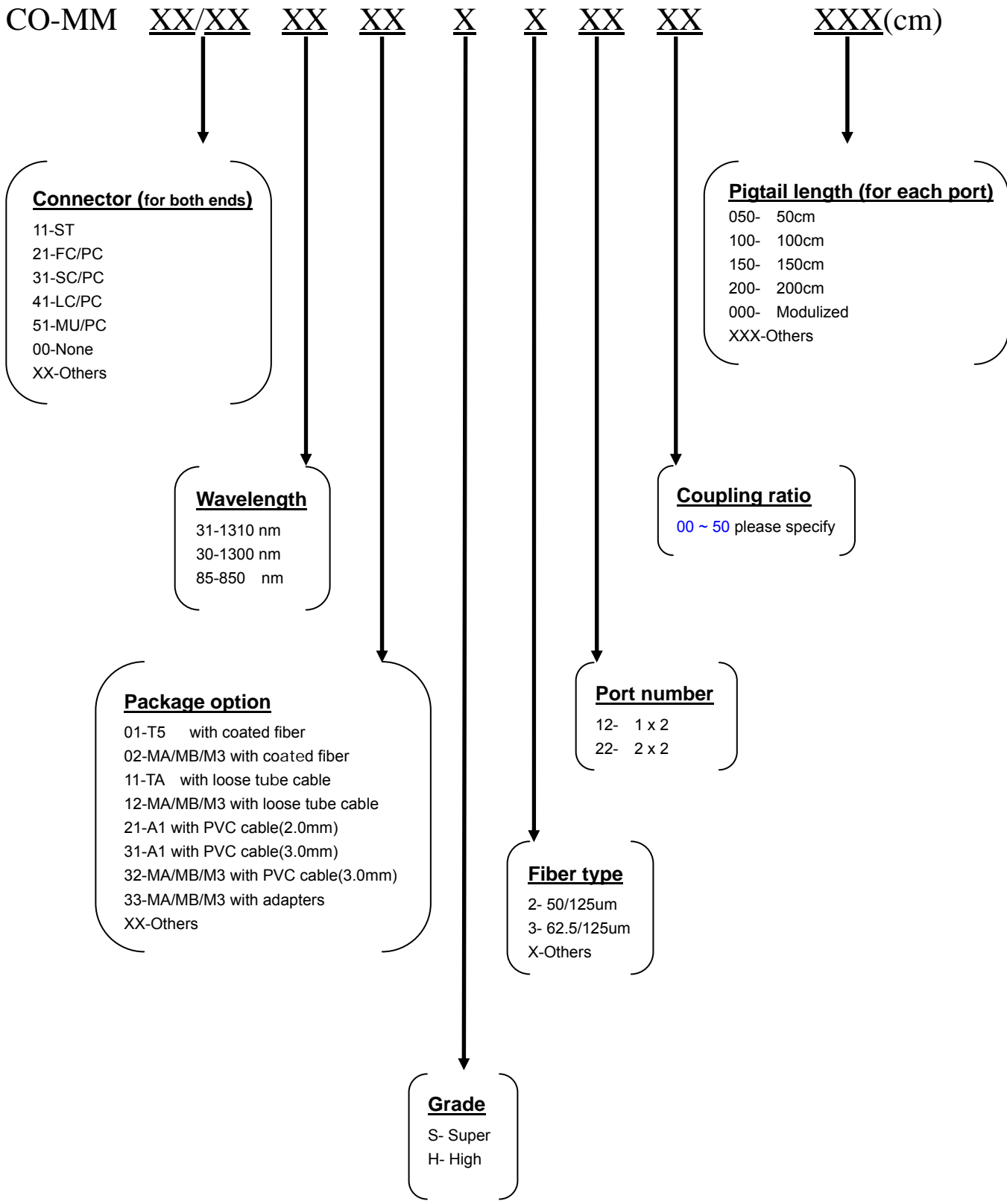
Specifications

ITEM	VALUE	
Operation Wavelength , nm	850nm or 1310nm	
Grade	Super(S)	High(H)
Excess Loss ,dB	0.7	1.0
Uniformity, dB (50 : 50,at specified wavelength)	0.7	1.0
Thermal Stability, dB (peak-peak)	≤0.20	≤0.25
Coupling Ratio	1 : 99 to 50 : 50 , (50 : 50 standard)	
Insertion Loss, dB	Refer to the coupling ratio vs. insertion loss chart	
Directivity, dB	≥ 35	
Reflectance, dB	≥ 35	
Operation Temperature, °C	-40°C ~ 85°C (*)	
Storage temperature , °C	-55°C ~ 85°C	
Package Options (for different pigtail)		
1.coated fiber (250μm)	T5,MA,MB,M3	
2.Loose tube (900μm)	TA,MA,MB,M3	
3.PVC cable(3.0mm)	A1,MA,MB,M3	

Note: (*) -20°C ~ +70°C for PVC cable.

Coupling Ratio (%)	Insertion Loss(dB)	
	Super Grade(S)	High Grade(H)
50/50	3.9	4.3
40/60	4.9/3.0	5.4/3.5
30/70	6.2/2.3	6.7/2.7
20/80	8.0/1.8	8.7/2.1
10/90	11.3/1.25	12.2/1.6
5/95	14.9/0.9	16.2/1.3
1/99	22.1/0.7	22.7/1.0

Standard Multimode Coupler Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FIBER OPTIC COUPLER
single mode wideband

Singlemode Wideband Coupler

Features

- Low insertion Loss
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments
- Point to point system
- WAN



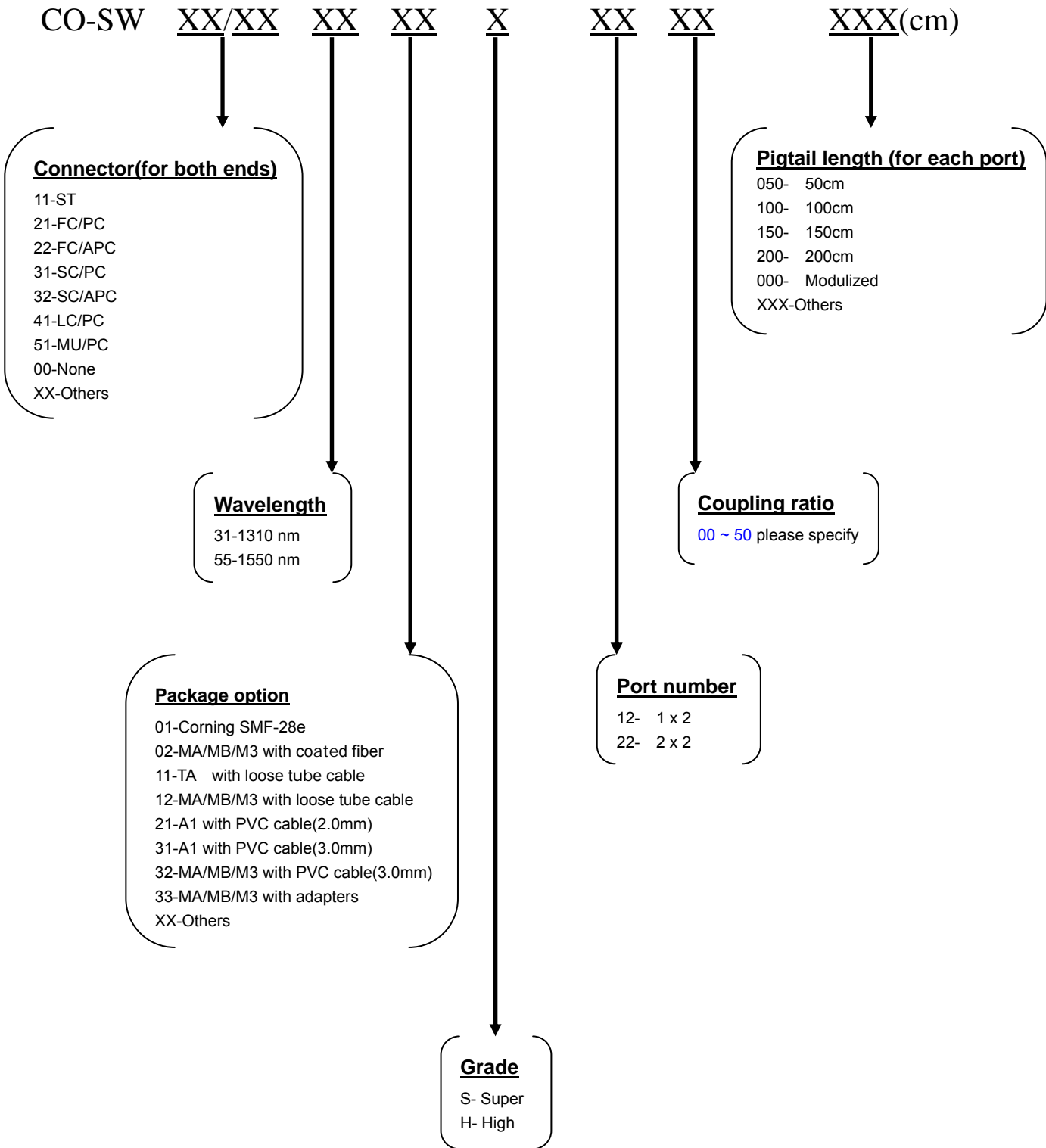
Specifications

ITEM	VALUE	
Operation Wavelength ,nm	1310nm±40 or 1550nm±40	
Grade	Supper(s)	High(H)
Typical Excess Loss ,dB	0.1	0.2
Uniformity, dB(50:50)	0.6	1
Thermal Stability ,dB(peak-peak)	≤0.2	≤0.3
Polarization Stability ,dB	≤0.1	≤0.15
Port Configuration	1×2 or 2×2	
Coupling Ratio	1 : 99 to 50 : 50, (50 : 50 standard)	
Insertion Loss ,dB	Refer to Coupling ratio vs. insertion Loss chart	
Directivity ,dB	≥ 50(1×2), ≥ 60(2×2)	
Reflectance ,dB	≥ 55	
Operation Temperature, °C	-40°C ~ 85°C	
Storage temperature, °C	-55°C ~ 85°C	
Package Options (for different pigtail)	1.coated fiber (250µm)	T5,MA,MB,M3
	2.Loose tube (900µm)	TA,MA,MB,M3
	3.PVC cable(3.0mm)	A1,MA,MB,M3

Note: (*) -20°C ~ +70°C for PVC cable

Coupling Ratio (%)	Insertion Loss(dB)	
	Super Grade(S)	High Grade(H)
50/50	3.4	3.6
45/55	3.9/2.9	4.25/3.25
40/60	4.4/2.5	4.7/2.7
35/65	5.1/2.2	5.45/2.4
30/70	5.8/1.9	6.0/1.9
25/75	6.7/1.6	7.05/1.7
20/80	7.6/1.1	7.9/1.2
15/85	9/0.96	10.46/1.05
10/90	11/0.63	12.9/0.8
5/95	14.6/0.4	18.4/0.5
1/99	21.6/0.3	21.6/0.4

Singlemode Wideband Coupler Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FIBER OPTIC COUPLER

Dual window wideband

Dual Window Wideband Coupler

Features

- Low insertion Loss
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments



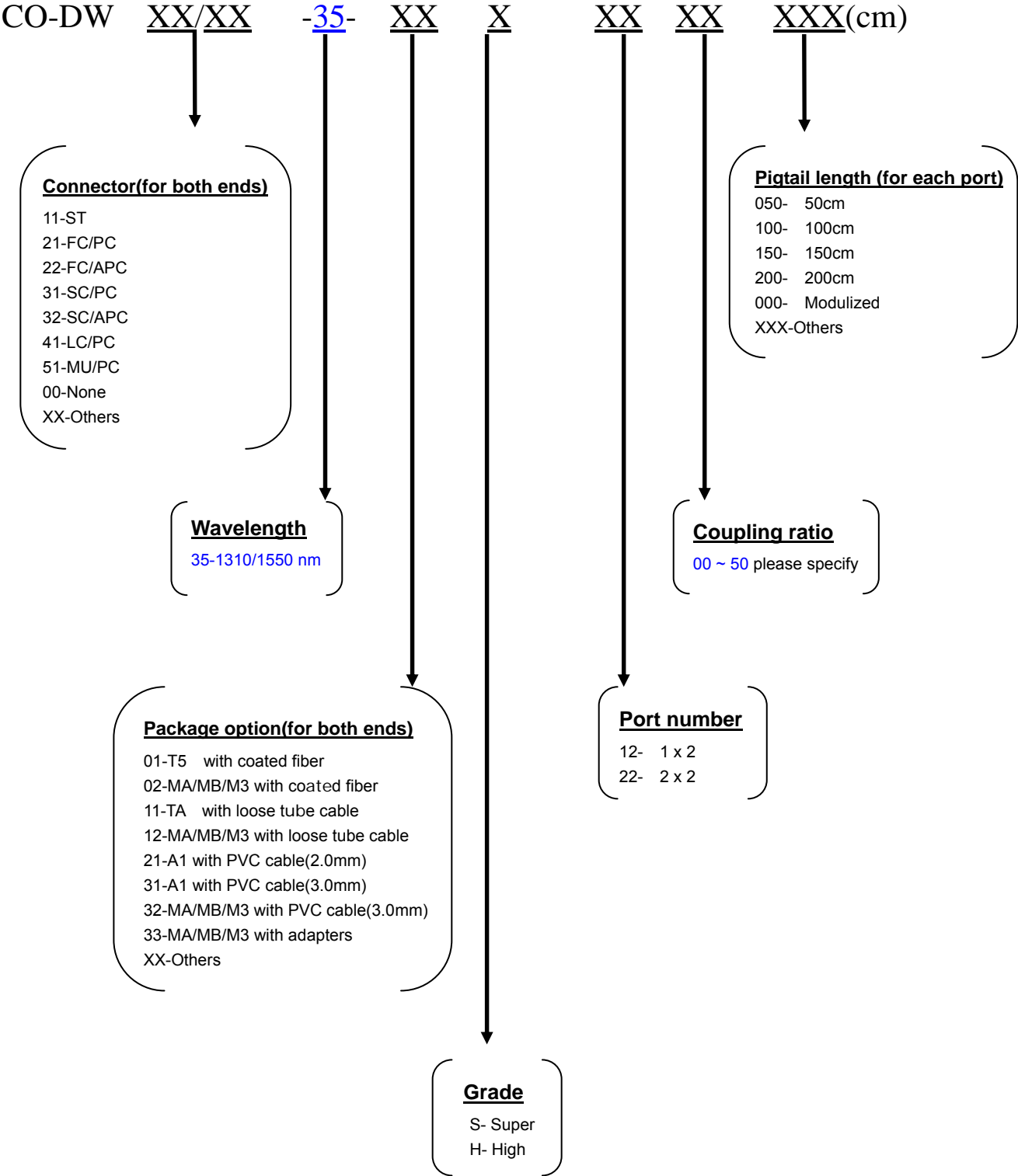
Specifications

ITEM	VALUE	
Operation Wavelength ,nm	1310nm±10 and 1550nm±10	
Grade	Supper(s)	High(H)
Typical Excess Loss ,dB	0.08	0.2
Uniformity, dB(50:50)	0.8	1.2
Thermal Stability ,dB(peak-peak)	≤0.2	≤0.3
Polarization Stability ,dB	≤0.1	≤0.15
Port Configuration	1×2 or 2×2	
Coupling Ratio	1 : 99 to 50 : 50, (50 : 50 standard)	
Insertion Loss ,dB	Refer to Coupling ratio vs. insertion Loss chart	
Directivity ,dB	≥50(1×2), ≥60(2×2)	
Reflectance ,dB	≥50	
Operation Temperature, °C	-40°C ~ 85°C	
Storage temperature, °C	-55°C ~ 85°C	
Package Options (for different pigtail)	1.coated fiber (250µm)	T5,MA,MB,M3
	2.Loose tube (900µm)	TA,MA,MB,M3
	3.PVC cable(3.0mm)	A1,MA,MB,M3

Note: (*) -20°C ~ +70°C for PVC cable

Coupling Ratio (%)	Insertion Loss(dB)	
	Super Grade(S)	High Grade(H)
50/50	3.6	3.8
45/55	4.15/3.15	4.45/3.3
40/60	4.7/2.7	5.0/2.9
35/65	5.35/2.3	5.7/2.5
30/70	6.0/1.9	6.4/2.1
25/75	6.95/1.7	7.45/1.9
20/80	7.9/1.4	8.5/1.5
15/85	9.6/1.0	10.6/1.1
10/90	11.0/0.7	12.7/0.8
5/95	14.6/0.5	18.4/0.55
1/99	21.6/0.3	21.6/0.4

Dual Window Wideband Coupler Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FIBER OPTIC COUPLER

Dual window star

Dual Window Star Coupler

Features

- Low insertion Loss
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments

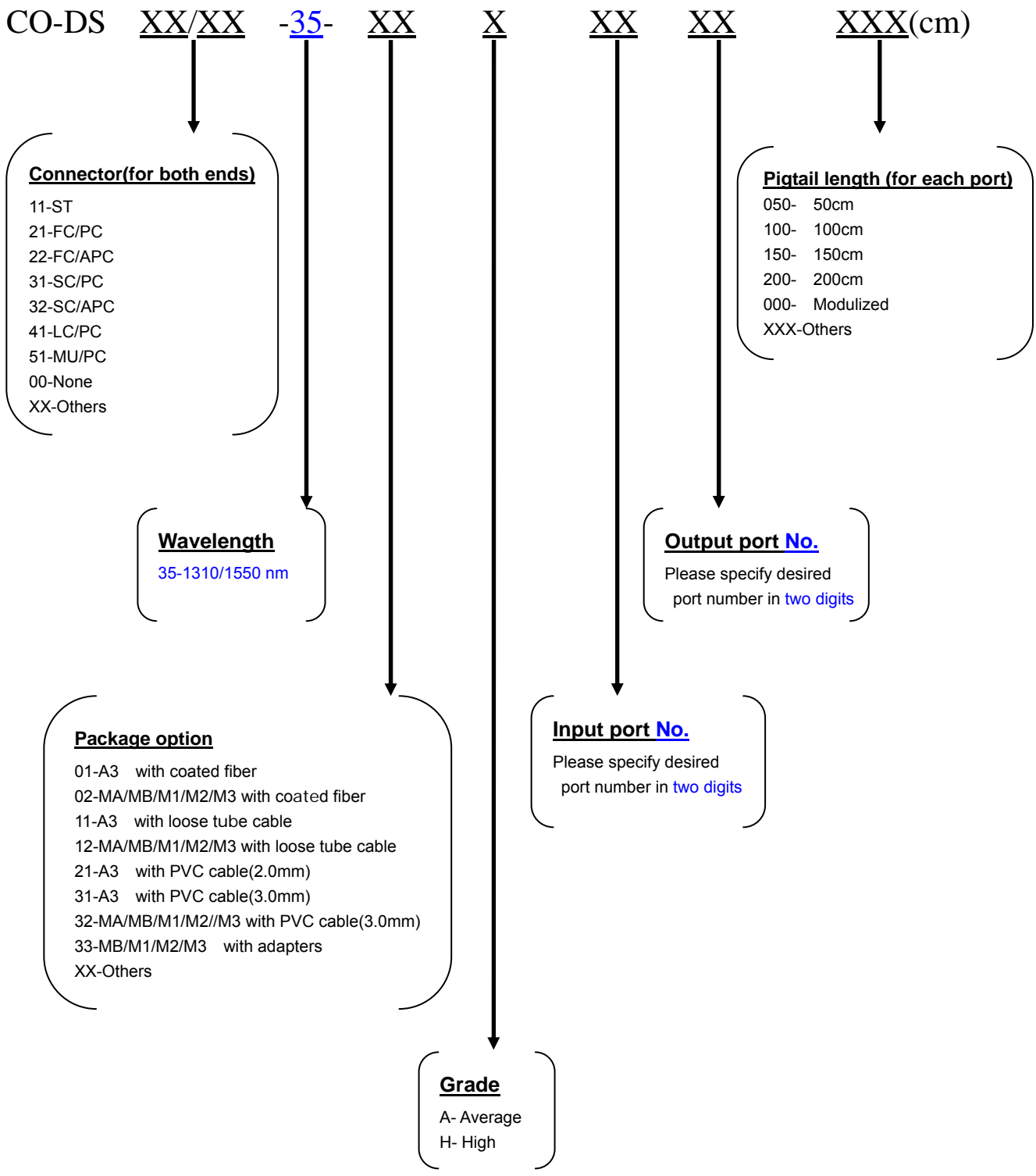


Specifications

ITEM	VALUE							
	4×4		8×8		16×16		32×32	
Port Configuration	4×4		8×8		16×16		32×32	
Operation Wavelength, nm	1310nm±40 and 1550nm±40							
Grade	H	A	H	A	H	A	H	A
Insertion Loss, dB	7.2	7.6	10.8	11.7	14.5	15.5	18.5	20.0
Uniformity, Db	1.0	1.4	21	3.2	2.7	4.0	3.0	6.0
Operation Temperature, °C	-40°C ~ 85°C (*)							
Storage temperature, °C	-55°C ~ 85°C							
Package Options (for different pigtail)								
1.coated fiber (250µm)	A3,MA,MB,M3		MB,M1,M2		M1,M2		M2	
2.Loose tube (900µm)	A3,MA,MB,M3		MB,M1,M2		M1,M2		M2	
3.PVC cable(3.0mm)	A3,MB,M3		MB,M1,M2		M1,M2		M2	

Note: (*) -20°C ~ +70°C for PVC cable

Dual Window Star Coupler Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FIBER OPTIC COUPLER

Dual window tree

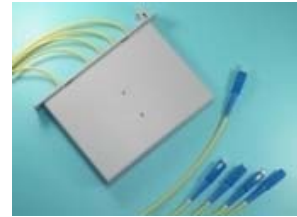
Dual Window Tree Coupler

Features

- Low insertion Loss
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments



Specifications

ITEM	VALUE							
Port Configuration	1(2)x4		1(2)x8		1(2)x16		1(2)x32	
Operation Wavelength, nm	1310nm±40 and 1550nm±40							
Grade	H	A	H	A	H	A	H	A
Insertion Loss ,dB	7.2	7.6	11.0	11.7	14.5	15.5	18.5	20.0
Uniformity, dB	0.9	1.4	2.1	3.2	2.6	4.0	3.0	6.0
Operation Temperature, °C	-40°C ~ 85°C(*)							
Storage temperature, °C	-55°C ~ 85°C							
Package Options (for different pigtail)								
1.coated fiber (250 μ m)	A2,MA,MB,M3		A3,MA,MB,M3		MA,MB,M1		M1,M2	
2.Loose tube (900 μ m)	A2,MA,MB,M3		A3,MA,MB,M3		MA,MB,M1		M1,M2	
3.PVC cable(3.0mm)	A2,MA,MB,M3		A3,MA,MB,M3		MA,MB,M1		M1,M2	

Note: (*) -20°C ~ +70°C for PVC cable

Dual Window Tree Coupler Ordering information

CO-DT XX/XX -35 - XX X XX XX XXX(cm)

Connector(for both ends)
 11-ST
 21-FC/PC
 22-FC/APC
 31-SC/PC
 32-SC/APC
 41-LC/PC
 51-MU/PC
 00-None
 XX-Others

Pigtail length (for each port)
 050- 50cm
 100- 100cm
 150- 150cm
 200- 200cm
 000- Modulized
 XXX-Others

Wavelength
 35-1310/1550 nm

Output port No.
 Please specify desired port number in **two digits**

Package option
 01-A2/A3 with coated fiber
 02-MA/MB/M1/M2/M3 with coated fiber
 11-A2/A3 with loose tube cable
 12-MA/MB/M1/M2/M3 with loose tube cable
 21-A2/A3 with PVC cable(2.0mm)
 31-A2/A3 with PVC cable(3.0mm)
 32-MA/MB/M1/M2/M3 with PVC cable(3.0mm)
 33-MA/MB/M1/M2/M3 with adapters
 XX-Others

Input port No.
 01- 1
 02- 2

Grade
 A- Average
 H- High

LEAD Fiber Optics PRODUCT CATALOGUE

FIBER OPTIC COUPLER
single mode standard tree

Singlemode Standard Tree Coupler

Features

- Low insertion Loss
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments

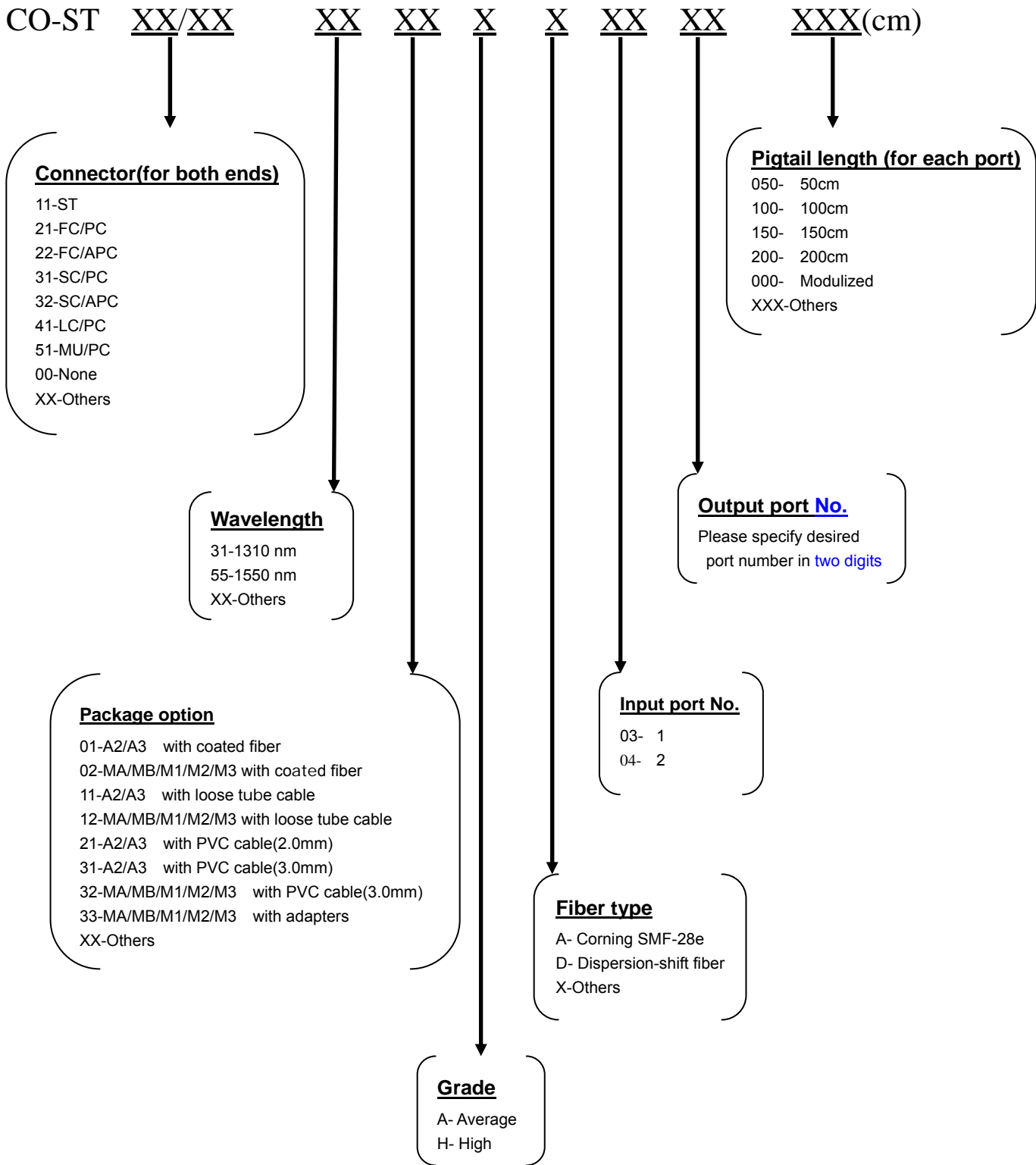


Specifications

ITEM	VALUE							
Port Configuration	1(2)×4		1(2)×8		1(2)×16		1(2)×32	
Operation Wavelength, nm	1310nm±10 or 1550nm±10							
Grade	H	A	H	A	H	A	H	A
Insertion Loss ,dB	6.6	7.2	10	11.5	13.6	14.5	17.1	28.2
Uniformity, dB	0.7	1.7	1.1	2.5	1.7	3.5	2.2	4.3
Operation Temperature, °C	-40°C ~ 85°C (*)							
Storage temperature, °C	-55°C ~ 85°C							
Package Options (for different pigtail)								
1.coated fiber (250 μ m)	A2,MA,MB,M3		A3,MA,MB,M3		MA,MB,M1		M1,M2	
2.Loose tube (900 μ m)	A2,MA,MB,M3		A3,MA,MB,M3		MA,MB,M1		M1,M2	
3.PVC cable(3.0mm)	A2,MA,MB,M3		A3,MA,MB,M3		MA,MB,M1		M1,M2	

Note: (*) -20°C ~ +70°C for PVC cable

Singlemode Standard Tree Coupler Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FIBER OPTIC COUPLER
single mode wideband tree

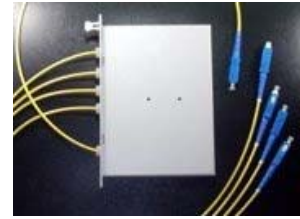
Singlemode Wideband Tree Coupler

Features

- Low insertion Loss
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments



Specifications

ITEM	VALUE							
	1(2)×4		1(2)×8		1(2)×16		1(2)×32	
Port Configuration	1(2)×4		1(2)×8		1(2)×16		1(2)×32	
Operation Wavelength, nm	1310nm±40 or 1550nm±40							
Grade	H	A	H	A	H	A	H	A
Insertion Loss ,dB	7.0	7.4	10.6	11.5	14.0	15.3	18	19
Uniformity, dB	0.8	1.2	1.4	3.0	2.4	3.8	2.6	5.0
Operation Temperature, °C	-40°C ~ 85°C (*)							
Storage temperature, °C	-55°C ~ 85°C							
Package Options (for different pigtail)								
1.coated fiber (250µm)	A2,MA,MB,M3		A3,MA,MB,M3		MA,MB,M1		M1,M2	
2.Loose tube (900µm)	A2,MA,MB,M3		A3,MA,MB,M3		MA,MB,M1		M1,M2	
3.PVC cable(3.0mm)	A2,MA,MB,M3		A3,MA,MB,M3		MA,MB,M1		M1,M2	

Note: (*) -20°C ~ +70°C for PVC cable.

Singlemode Wideband Tree Coupler Ordering information

CO-WT XX/XX - X - XX X X XX - XX XXX(cm)

Connector (for both ends)

- 11-ST
- 21-FC/PC
- 22-FC/APC
- 31-SC/PC
- 32-SC/APC
- 41-LC/PC
- 51-MU/PC
- 00-None
- XX-Others

Pigtail length (for each port)

- 050- 50cm
- 100- 100cm
- 150- 150cm
- 200- 200cm
- 000- Modulized
- XXX-Others

Wavelength

- 31-1310 nm
- 55-1550 nm
- X-Others

Output port No.
Please specify desired port number in **two digits**

Package option

- 01-A2/A3 with coated fiber
- 02-MA/MB/M1/M2/M3 with coated fiber
- 11-A2/A3 with loose tube cable
- 12-MA/MB/M1/M2/M3 with loose tube cable
- 21-A2/A3 with PVC cable(2.0mm)
- 31-A2/A3 with PVC cable(3.0mm)
- 32-MA/MB/M1/M2/M3 with PVC cable(3.0mm)
- 33-MA/MB/M1/M2/M3 with adapters
- XX-Others

Input port No.
Please specify desired port number in **two digits**

Fiber type

- A- Corning SMF-28e
- D- Dispersion-shift fiber
- X-Others

Grade

- A- Average
- H- High

LEAD Fiber Optics PRODUCT CATALOGUE

FIBER OPTIC COUPLER

unitary 1x3 and 3x3

Unitary 1×3 and 3×3 Coupler

Features

- Low insertion Loss
- High uniformity
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments

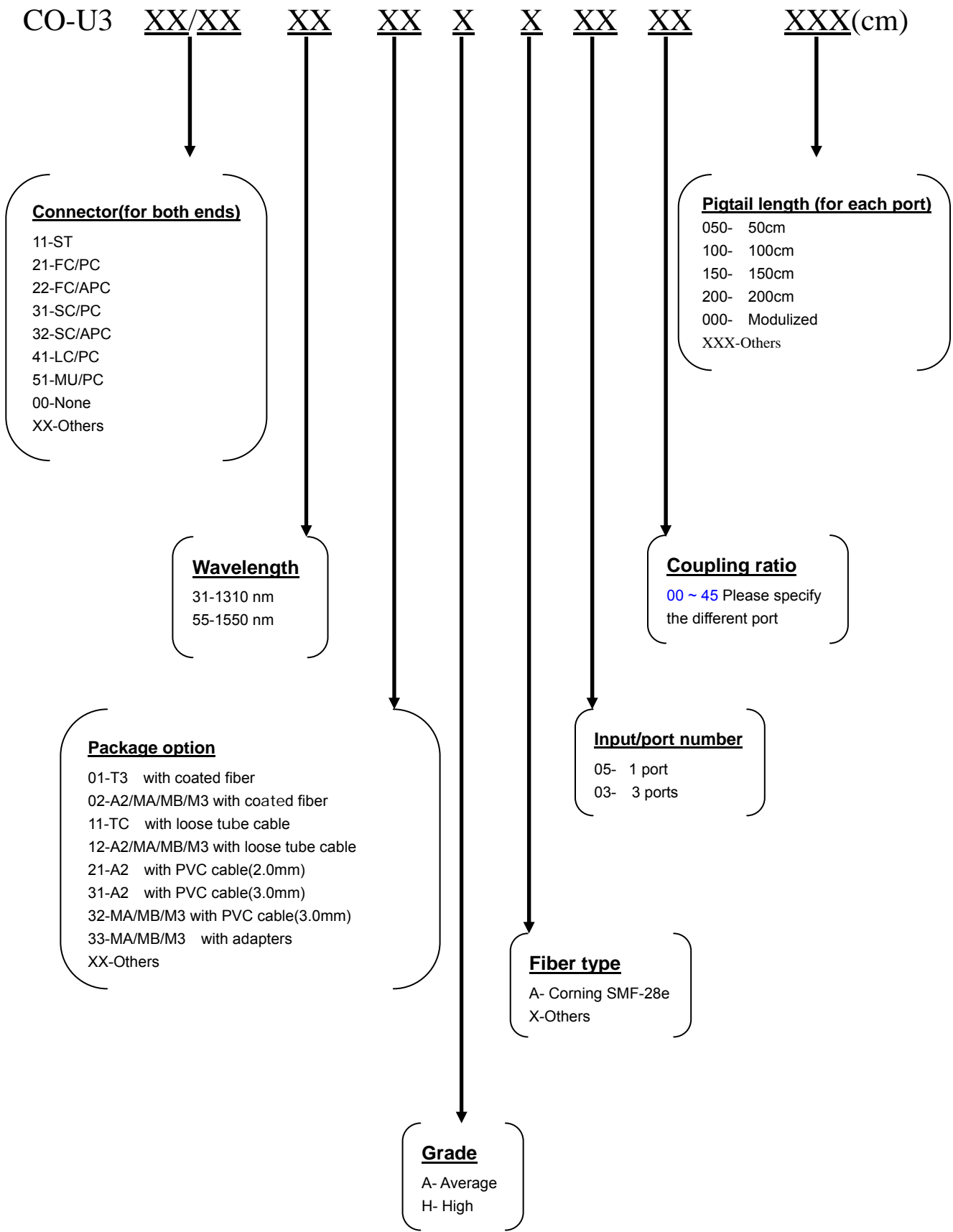


Specifications

ITEM	VALUE			
Port Configuration	1×3		3×3	
Operation Wavelength	1310nm±10 or 1550nm±10			
Grade	High(H)	Average(A)	High(H)	Average(A)
I Insertion Loss (dB)	5.6	6.3	6.2	6.5
Uniformity, dB(33:33:33)	0.9	1.3	1.5	2.2
Thermal Stability, dB(peak-peak)	≤ 0.4			
Polarization Stability, dB	≤ 0.2			
Coupling Ratio	33 : 33 : 33 or Customer Specify			
Directivity ,dB	≥ 50(1×3), ≥ 60(3×3)			
Reflectance, dB	≥ 50			
Operation Temperature, °C	-40°C ~ 85°C (*)			
Storage temperature, °C	-55°C ~ 85°C			
Package Options (for different pigtail)				
1.coated fiber (250µm)	T3,A2,MA,MB,M3			
2.Loose tube (900µm)	TC,A2,MA,MB,M3			
3.PVC cable(3.0mm)	TC,A2,MA,MB,M3			

Note: (*) -20°C ~ +70°C for PVC cable.

Unitary 1x3 and 3x3 Coupler Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FIBER OPTIC COUPLER

unitary 1x3 wideband

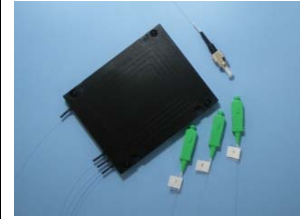
Unitary 1×3 Wideband Coupler

Features

- Low insertion Loss
- High uniformity
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments

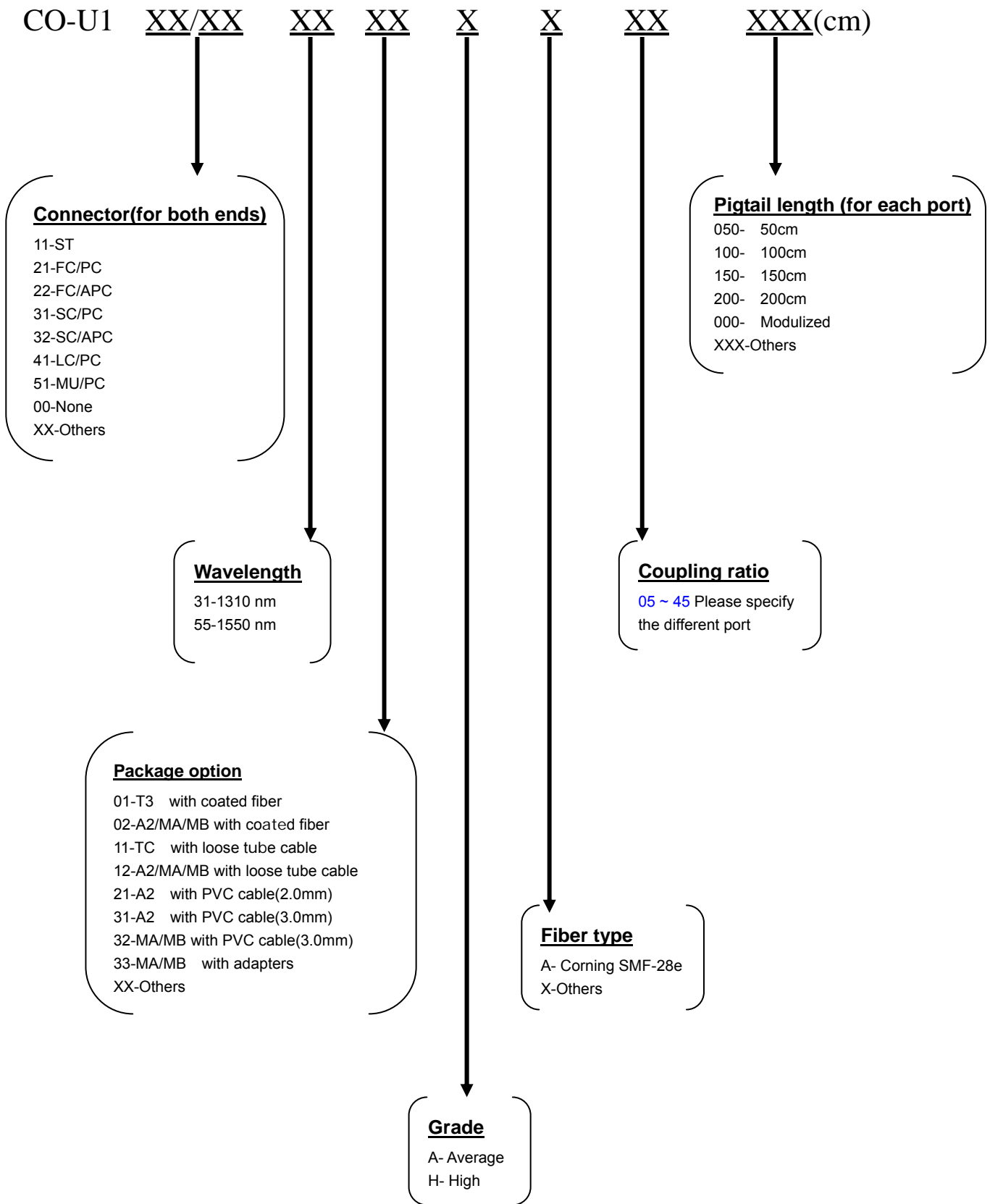


Specifications

ITEM	VALUE	
Operation Wavelength	1310nm±30 or 1550nm±30	
Port Configuration	1×3	
Grade	High(H)	Average(A)
I Insertion Loss ,dB	5.8	6.3
Uniformity, dB(33:33:33)	1.2	1.7
Thermal Stability, dB(peak-peak)	≤ 0.4	
Polarization Stability, dB	≤ 0.2	
Coupling Ratio	33 : 33 : 33 or Customer Specify	
Directivity, dB	≥ 50	
Reflectance, dB	≥ 50	
Operation Temperature, °C	-40°C ~ 85°C(*)	
Storage temperature, °C	-55°C ~ 85°C	
Package Options (for different pigtail)		
1.coated fiber (250µm)	T3,A2,MA,MB,M3	
2.Loose tube (900µm)	TC,A2,MA,MB,M3	
3.PVC cable(3.0mm)	A2,MA,MB,M3	

Note: (*) -20°C ~ +70°C for PVC cable

Unitary 1x3 Wideband Coupler Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FIBER OPTIC COUPLER

unitary 1x3 and 1x4 dual window wideband

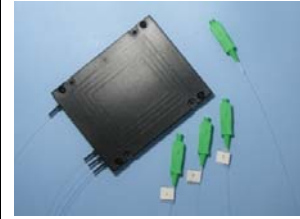
Unitary 1×3 and 1×4 Dual Window Wideband Coupler

Features

- Low insertion Loss
- High uniformity
- Customized Package available
- Environmentally stable.

Applications

- Telecommunication networks
- LAN
- FTTH deployments
- Video transmission
- Fiber optic sensing
- Testing instruments



Specifications

ITEM	VALUE	
Operation Wavelength	1310nm±40 and 1550nm±40	
Port Configuration	1×3	1×4
Coupling Ratio	33 : 33 : 33	25 : 25 : 25 : 25
Insertion Loss (dB)	5.4	7.2
Uniformity, dB(Typical)	1.0	1.5
Excess Loss, dB(Typical)	0.15	0.30
Polarization Stability, dB	0.3	
Return Loss, dB	50	
Operation Temperature ,°C	-40°C ~ 85°C(*)	
Storage temperature, °C	-55°C ~ 85°C	
Package Options (for different pigtail)		
1.coated fiber (250 μ m)	3*60mm	
2.Loose tube (900 μ m)	4*70mm	

Note: (*) -20°C ~ +70°C for PVC cable

Unitary 1x3 and 1x4 Dual Window Wideband Coupler Ordering information

CO-U4 XX/XX -35- XX X X XX XX XXX(cm)

Connector(for both ends)
 11-ST
 21-FC/PC
 22-FC/APC
 31-SC/PC
 32-SC/APC
 41-LC/PC
 51-MU/PC
 00-None
 XX-Others

Pigtail length (for each port)
 050- 50cm
 100- 100cm
 150- 150cm
 200- 200cm
 000- Modulized
 XXX-Others

Wavelength
 35-1310 / 1550 nm

Coupling ratio
 25- 25:25:25:25
 33- 33:33:33
 XX-Others

Package option
 01-Metal tube with coated fiber
 11-Metal tube with loose tube cable(900um)
 XX-Others

Input/output port
 13- 1 x 3
 14- 1 x 4

Fiber type
 A- Corning SMF-28e
 X-Others

Grade
 A- Average
 H- High

LEAD Fiber Optics PRODUCT CATALOGUE

PLC SPLITTER

1xN PLC Splitter

Features

- Environmentally stable
- Easy installation
- Custom-Defined Specification
- Low insertion Loss
- High uniformity
- High reliability

Applications

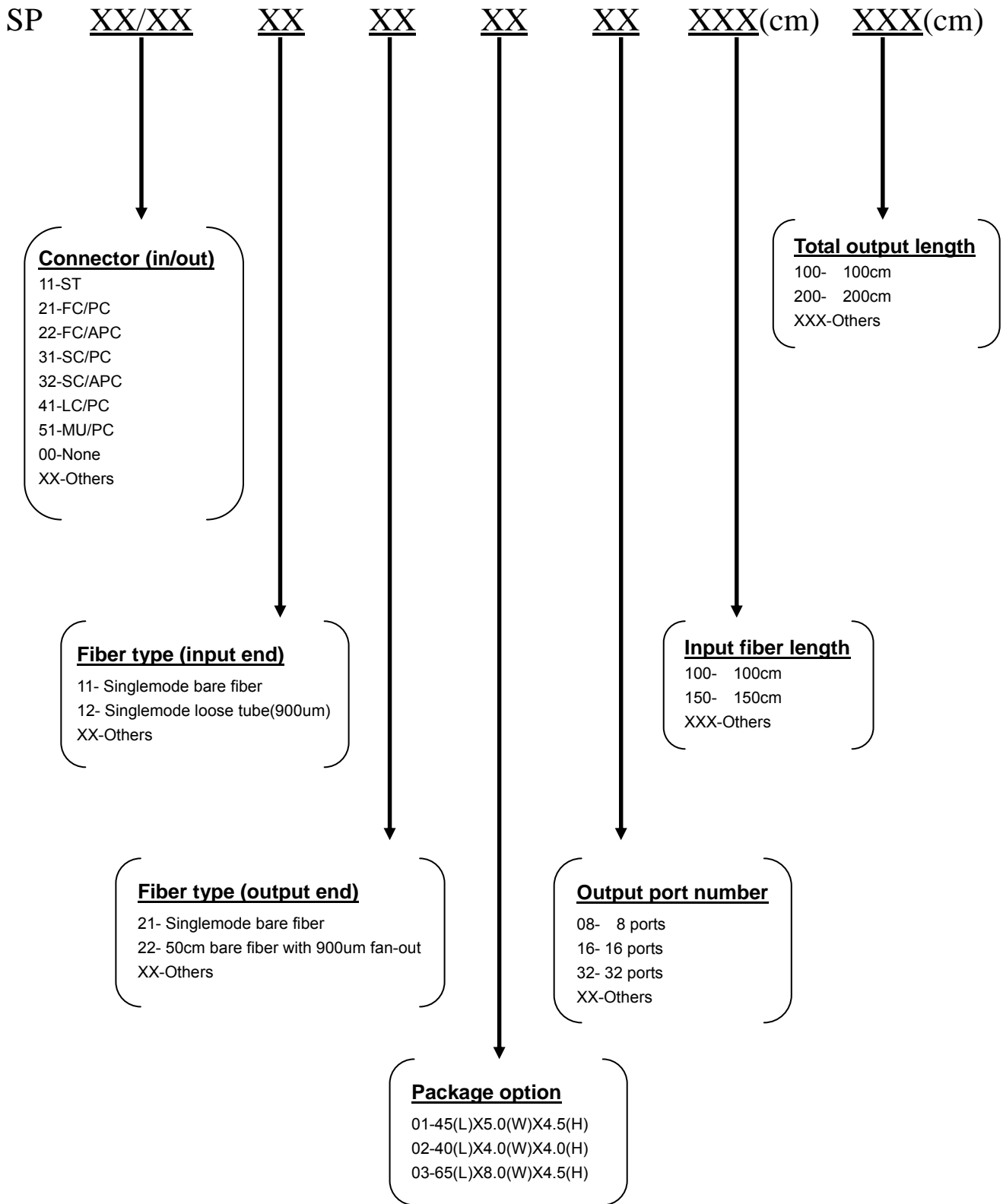
- Metro
- Network protection
- Monitoring
- Access/PON distribution
- CATV



Specifications

ITEM	VALUES		
Type	1x8	1x16	1x32
Typical Insertion Loss, dB	≤ 10.7	≤ 14.5	≤ 18
Uniformity, dB	≤ 1.0	≤ 1.5	≤ 2.0
Operation Wavelength ,nm	1310/1550 dual window		
Directivity, dB	≥ 50		
Optical Input Return Loss, dB	≥ 50		
Polarization Dependent Loss, dB	≤ 0.3		
Package size, nm(± 0.2 nm) (L×W×H)	45 × 5.0 × 45,	40 × 4.0 × 4.0,	65 × 8.0 × 4.5
Operation Temperature, °C	-40°C ~ 85°C		
Storage temperature, °C	-20 °C ~ 70°C		
Connectors	FC, SC , LC , MU or ribbon		

1 X N PLC Splitter Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FIXED OPTICAL ATTENUATOR Fixed plug-in type

Fixed plug in type Attenuator

Features

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

Applications

- Telecommunication
- Local area network
- CATV
- Fiber optic sensors
- Testing instruments
- Fiber to the home
- Multi-Channel subscriber loop
- Optical transmission system



Specifications <Single Mode>

Wideband Fixed Plug in type Attenuator (Doping type)

ITEM		VALUE	
Operation Wavelength, nm		1310nm or 1550nm	
Bandwidth, nm		±40	
Attenuation Accuracy (typical, including connector)	ITEM	H grade	A grade
	1~5dB	±1.0	±1.5
	6~10dB	±1.5	±2.0
	11~15dB	±2.0	±2.5
	16~20dB	±2.0	±2.5
Back Reflection, dB	PC	≤ -40	
	APC	≤ -60	
Operation Temperature		-40°C~75°C	
Storage temperature		-50°C~85°C	
Connector Type		ST,FC,FC/APC,SC,SC/APC,LC,MU	

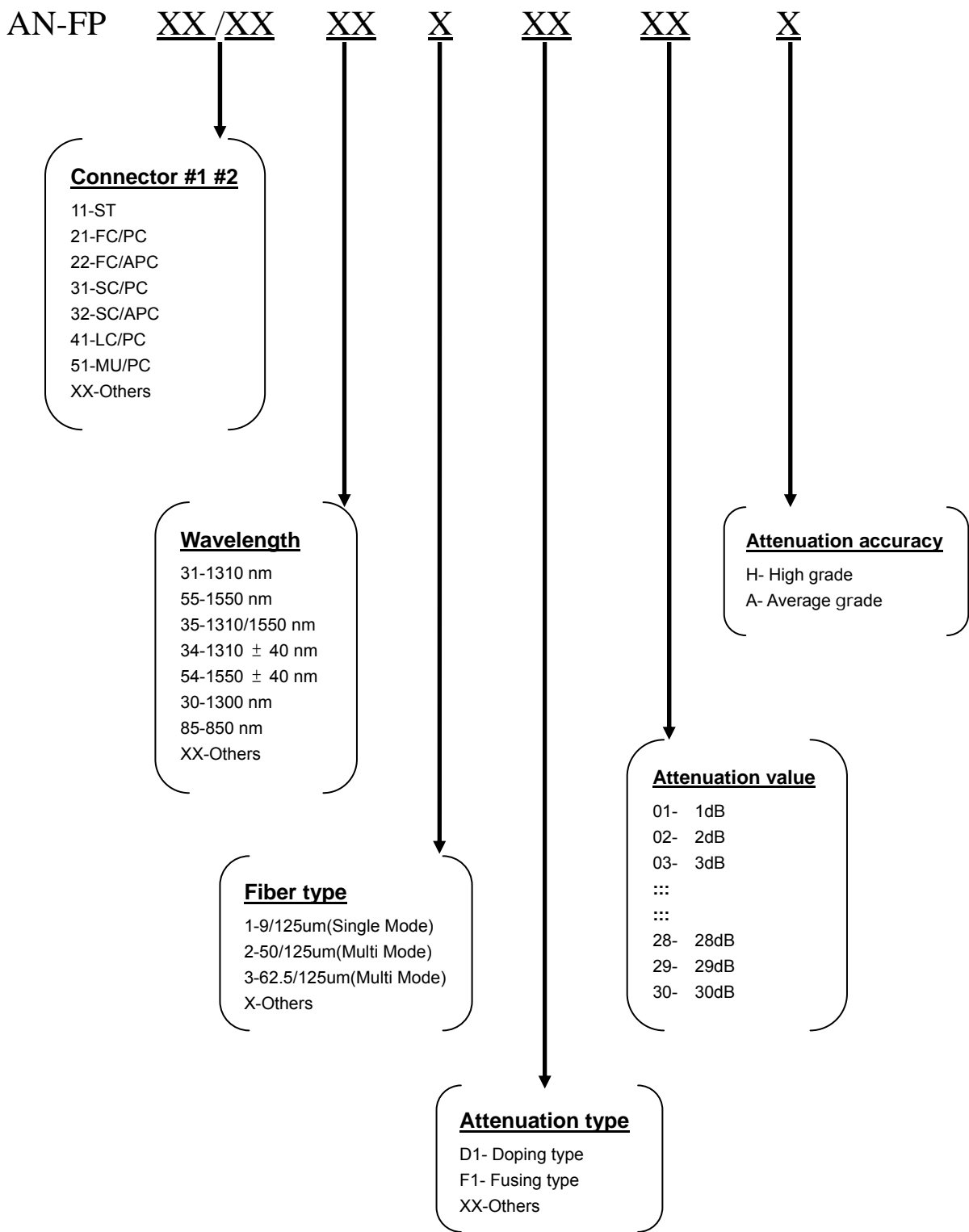
Specifications <Single Mode>

Dual window Fixed Plug in Type Attenuator (Doping Type)			
ITEM		VALUE	
Operation Wavelength, nm		1310nm and 1550nm	
Bandwidth, nm		±40	
Attenuation Accuracy (typical, including connector)	ITEM	H grade	A grade
	1~5dB	±1.5	±2.0
	6~10dB	±2.0	±2.5
	11~15dB	±2.5	±3.0
	16~20dB	±3.0	±3.5
Back Reflection, dB	PC	≤ -40	
	APC	≤ -60	
Operation Temperature		-40°C ~ 75°C	
Storage temperature		-50°C ~ 85°C	
Connector Type		ST,FC,FC/APC,SC,SC/APC,LC,MU	

Specifications <Multi-Mode>

Standard Fixed Plug in Type Attenuator (Fusing Type)			
ITEM		VALUE	
Operation Wavelength, nm		850 or 1310	
Bandwidth, nm		±10	
Attenuation, dB		1~20 or otherwise specified	
Attenuation Accuracy (typical, including connector)	1~5dB	±1.0	
	6~10dB	±1.5	
	11~20dB	±2.0	
Back Reflection, dB	PC	≤ -40	
	APC	≤ -60	
Operation Temperature		-40°C ~ 75°C	
Storage temperature		-50°C ~ 85°C	
Connector Type		ST,FC,SC	

Fixed plug in type Attenuator Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FIXED OPTICAL ATTENUATOR Fixed in-line type

Fixed In-line type Attenuator

Features

- Optical performance 100% factory tested
- Environmentally stable
- Easy installation
- Readily panel mountable
- Compact packaging



Applications

- Telecommunication networks
- LAN
- CATV
- Fiber Optics Sensors
- Fiber To The Home
- Multi-channel Subscriber Loop
- Optical transmission system

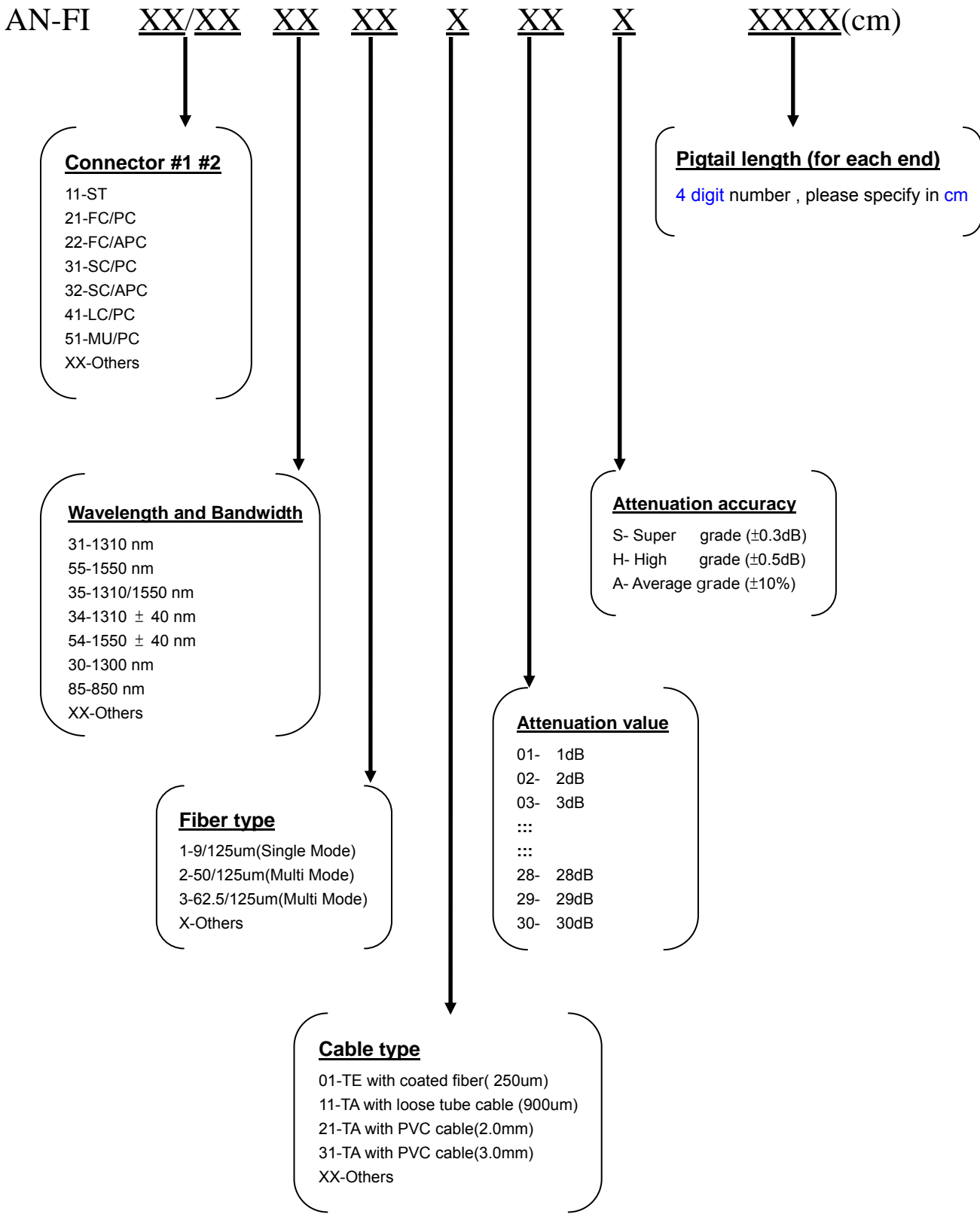
Specifications <Single Mode>

ITEM	Standard	Wideband	Dual Window
Operation Wavelength, nm	1310nm or 1550nm	1310nm or 1550nm	1310nm and 1550nm
Bandwidth, nm	± 10	± 40	± 40
Attenuator Range, dB	1~30		
Attenuation Accuracy, dB	± 0.3 (1~10dB); 0.5(11~20dB); ± 10%(21~25dB)		
Back Reflection, dB	≤ -50		
Operation Temperature, °C	-40°C~85°C		
Storage temperature, °C	-55°C~85°C		
Connector Type	ST,FC,FC/APC,SC,SC/APC,LC,MU		

Specifications <Multi-Mode>

ITEM	Standard
Operation Wavelength, nm	850nm or 1310nm
Bandwidth, nm	± 10
Attenuator Range, dB	1~30
Attenuation Accuracy, dB	± 0.5 (1~5dB), ± 10%(6~20dB)
Operation Temperature, °C	-40°C~85°C
Storage temperature, °C	-55°C~85°C
Connector Type	ST,FC,SC,LC

Fixed In-line type Attenuator Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

VARIABLE OPTICAL ATTENUATOR Manual micro-optics type

Mechanical Variable Micro-Optics type Attenuator

Features

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

Applications

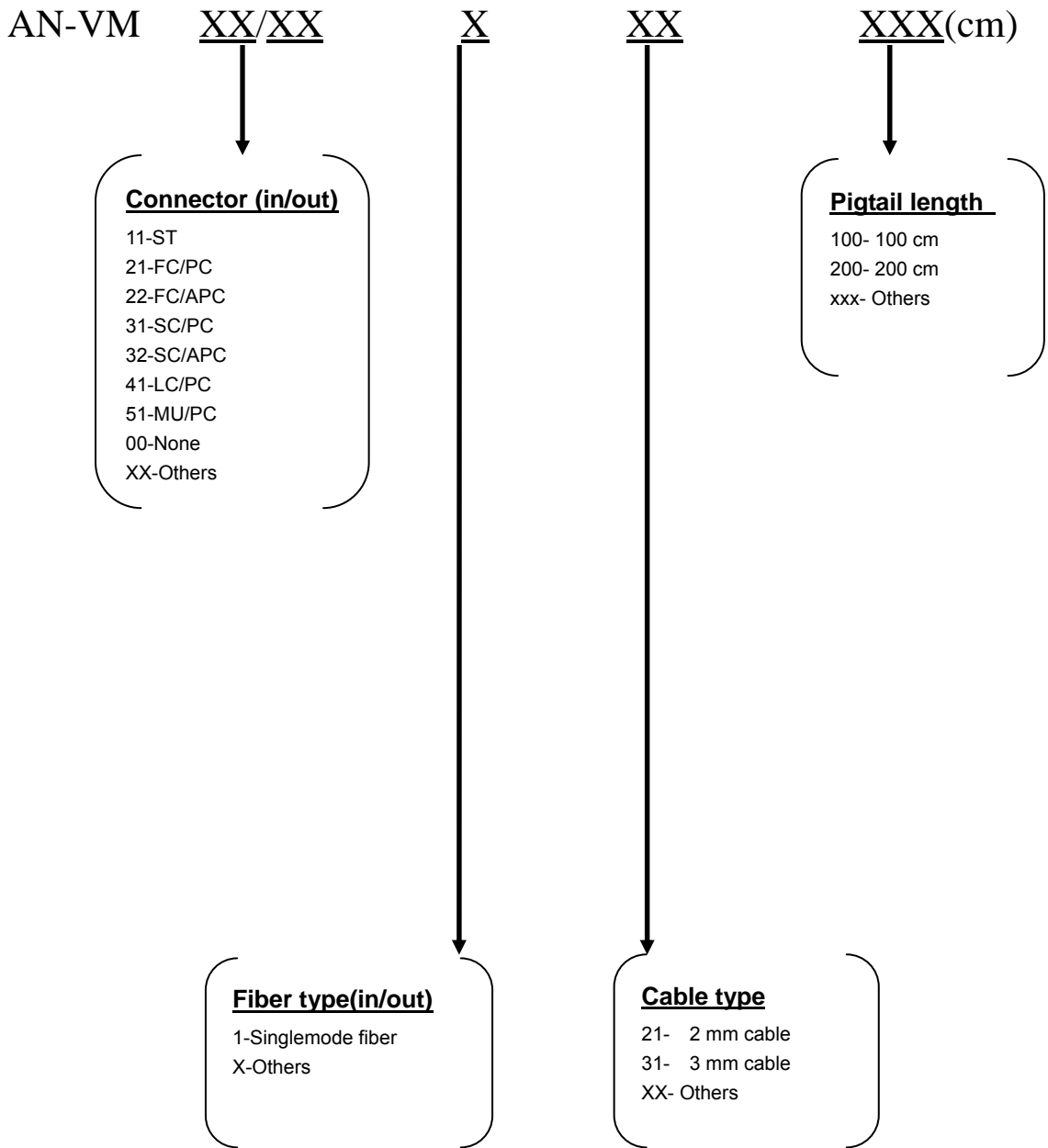
- Fiber communication on system test
- Optical passive component test
- Optical lab use



Specifications

ITEM	VALUES
Optical Wavelength (nm)	1200nm to 1600nm
Max. Residual Attenuation, dB	1.5
Min. Attenuation range, dB	50
Max. Resolution, dB	0.1
Min. Optical return Loss, dB	55
Max. Polarization Sensitivity, dB	0.2
Operation Temperature, °C	0°C ~60°C
Storage temperature, °C	-40°C ~75°C
Max. Thermal Stability, dB/°C	0.03
Max. Optical Power, mW	300
Packaging Dimension, mm	38 × 30 × 21.5

Variable Micro-Optics Attenuator Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

WDM FILTER Single mode WDM Filter

Singlemode WDM Filter

Features

- Environmentally stable
- Wide band pass
- Low insert loss
- Low loss and Low cross-talk
- Low Polarization dependent loss
- Optical path epoxy free

Applications

- Telecommunications
- Local area network
- Fiber optic sensors
- Test instruments
- RFTS & CATV & FTTH



Specifications

ITEM	VALUES	
Operation Wavelength (nm)	1270~1350 & 1510~1590 or Customer Specify	
Insertion Loss, dB	Typical	0.5
	Max	0.7
Pass band Ripple, dB	≦ 0.3	
Isolation, dB	≧ 15(reflect channel)	
	≧ 40(pass channel)	
Optical Return Loss	≧ 45	
Directivity, dB	≧ 50	
Thermal Stability, dB / °C	≦ 0.005	
Polarization Dependent Loss, dB	≦ 0.05	
Polarization Mode Dispersion, ps	≦ 0.1	
Max. Optical Power, mW	300	
Max. Tensile Load, N	5	
Storage Temperature, °C	-40°C ~ 85°C	
Operation Temperature, °C	0 ~ 65°C	
Package Size, mm	φ 5.5 x 34 mm for coated fiber (250 μm)	
	φ 5.5 x 39 mm for loose tube cable (900 μm)	

Singlemode WDM Filter Ordering information

WD-SF XX/XX XX XX X XXX(cm)

Connector (Com / P1&P2)
 11-ST
 21-FC/PC
 22-FC/APC
 31-SC/PC
 32-SC/APC
 41-LC/PC
 51-MU/PC
 00-None
 XX-Others

Pigtail length
 100- 100cm
 XXX-Others

Wavelength
 35-1310 / 1550 nm (reflect / pass)
 53-1550 / 1310 nm (reflect / pass)
 XX-Other

Fiber type
 S- Singlemode fiber

Package option (for both ends)
 C1-Coated fiber (250um)
 C2-Coated fiber (250um) w / boot
 L1-Loose tube cable (900um)
 L2-Lose tube cable (900um) w / boot
 XX-Others

LEAD Fiber Optics PRODUCT CATALOGUE

WDM FILTER Multi mode WDM Filter

Multimode WDM Filter

Features

- 850/1310nm operating wavelength
- Wide band pass
- Low insert loss
- Low cross-talk
- High isolation

Applications

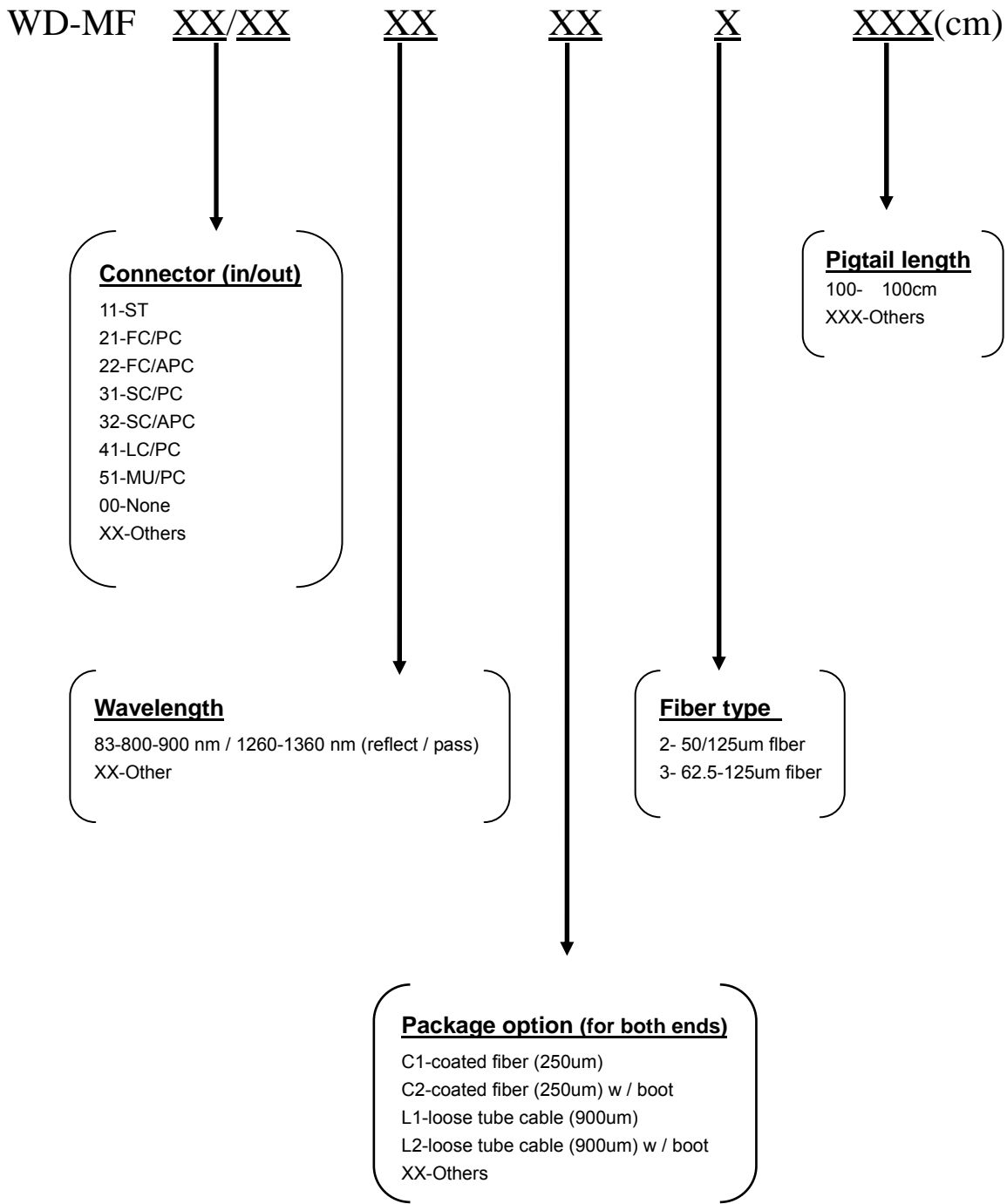
- Telecommunications
- Local area network
- Fiber optic sensors
- Test instruments
- RFTS & FTTH



Specifications

ITEM		VALUES
Operation Wavelength, nm		850 reflect & 1310 pass or Customer Specify
Insertion Loss, dB	Typical	0.9
	Max	1.2
Isolation, dB		≥ 40 dB (C→P2 @ 850nm VCSEL) ≥ 15 dB (C→P1 @ 1310nm VCSEL) ≥ 20 dB (C→P1 @ 850nm LED) ≥ 15 dB (C→P2 @ 1310nm LED)
Thermal Stability, dB / °C		≤ 0.005
Max. Tensile Load, N		5
Polarization Dependent Loss, dB		≤ 0.1
Storage Temperature, °C		-40°C ~ 85°C
Operation Temperature, °C		0 ~ 65°C
Package Size, mm		$\phi 5.5 \times 34$ mm for coated fiber (250 μ m) $\phi 5.5 \times 39$ mm for loose tube cable (900 μ m)

Multimode WDM Filter Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FUSED WDM

standard single mode WDM

Standard Singlemode WDM

Features

- Ultra high isolation
- High port isolation
- Custom defined specifications
- Low insertion Loss
- Environmentally stable

Applications

- Telecommunication
- Local area network
- Fiber to the home
- CATV
- Fiber optic testing
- Testing instruments
- RFTS

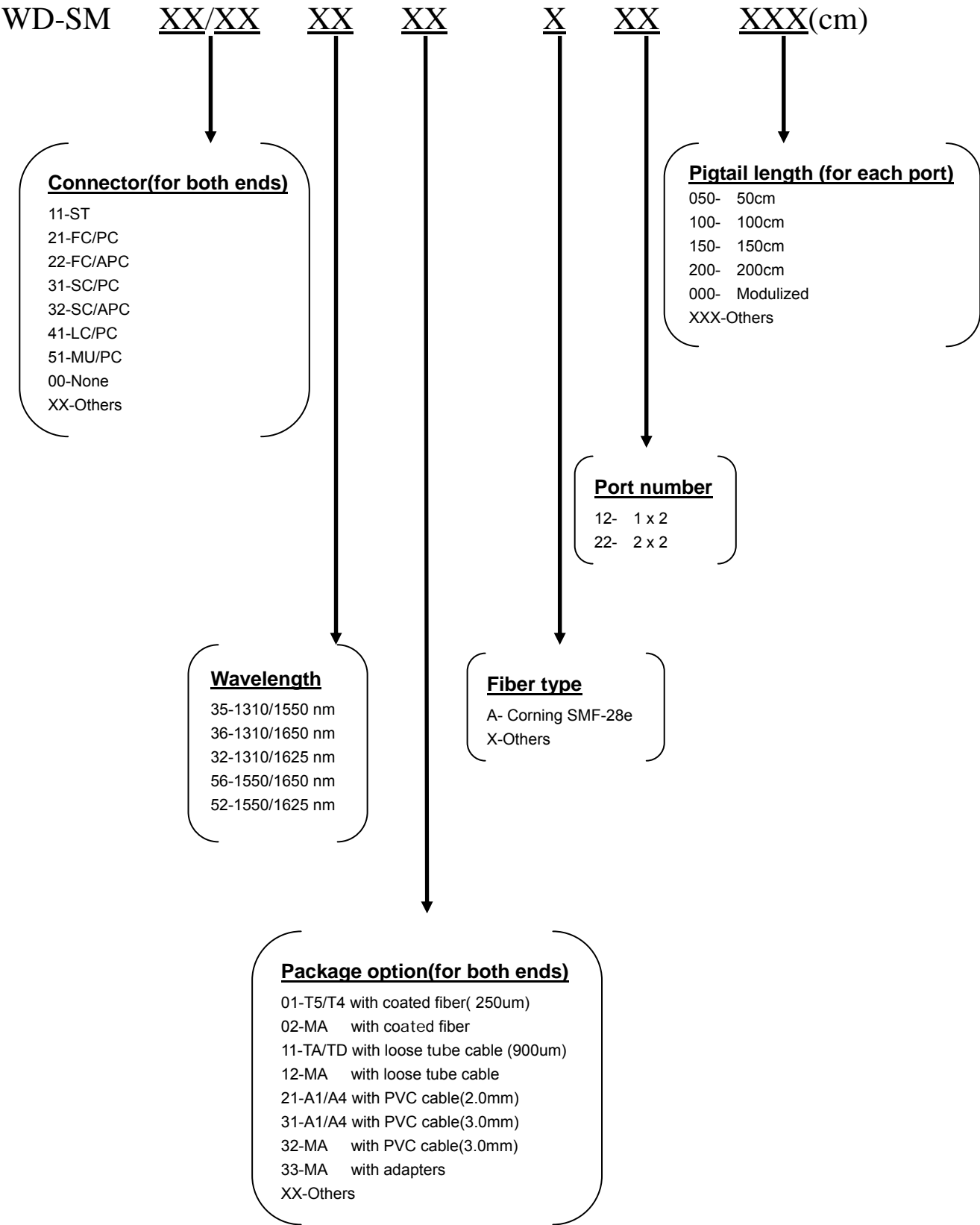


Specifications

ITEM		VALUES					
Operation Wavelength, nm		1310/1550	1310/1625	1310/1650	1521/1561	1550/1650	1550/1625
Typical Insertion Loss, dB		0.25	0.25	0.25	0.5	0.35	0.5
Maximum Insertion Loss, dB		0.5	0.5	0.5	0.8	0.8	0.95
Minimum Isolation, dB (over temperature -40~+75°C), (all SOP, at specified wavelength)		16		10	14	10	
Bandwidth, nm		±20		±5	±5	±5	
Polarization Stability, dB		<0.1		<0.3	<0.2	<0.2	
Thermal Stability, dB		<0.2		<0.3	<0.2	<0.2	
Operation Temperature, °C		-40°C ~ 85°C (*)					
Storage temperature, °C		-55°C ~ 85°C					
Package	1.coated fiber(250um)	T2,MA	T2,MA	T2,MA	T6,MA	T4,MA	T4,MA
Options	2.Loose tube(900um)	TB,MA	TB,MA	TB,MA	TF,MA	TD,MA	TD,MA
	3.PVC cable(3.0mm)	A1,MA	A1,MA	A1,MA	MA	A4,MA	A4,MA

Note:(*)-20°C ~ +70°C for PVC cable

Standard Singlemod WDM Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FUSED WDM
High isolation WDM

High Isolation WDM

Features

- Ultra high isolation
- High port isolation
- Custom defined specifications
- Low insertion Loss
- Environmentally stable

Applications

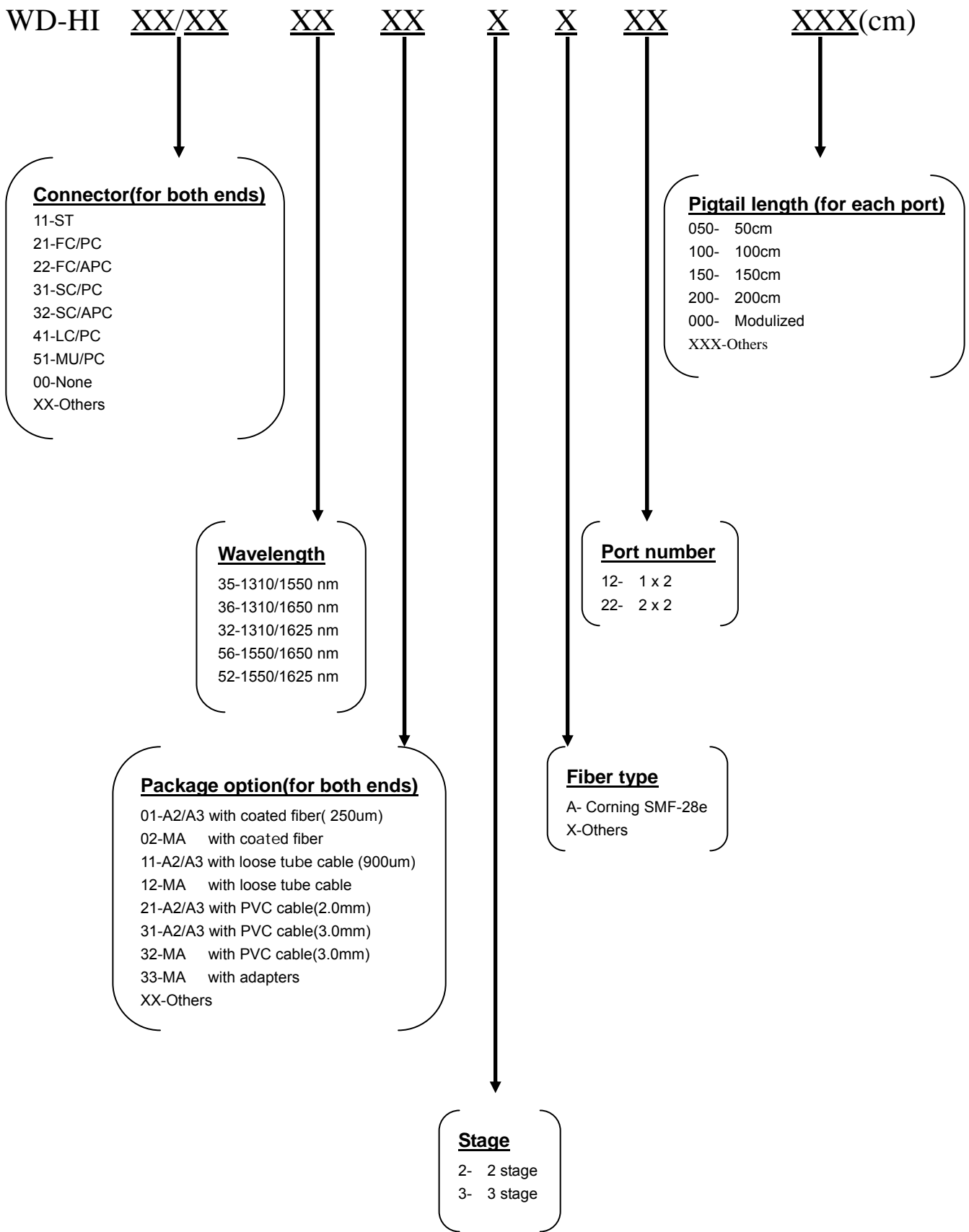
- Telecommunication
- CATV
- Fiber sensing
- Testing instruments
- RFTS



Specifications

ITEM		VALUES									
Operation Wavelength, nm		1310/1550		1310/1650		1550/1560		1310/1625		1550/1625	
Typical Insertion Loss, dB		2	3	2	3	2	3	2	3	2	3
Maximum Insertion Loss, dB		0.7	1.0	0.7	1.0	0.8	1.2	0.7	1.9	1.2	1.7
Minimum Isolation, dB (over temperature -40~+75°C), (all SOP, at specified wavelength)		30	40	30	40	30	40	30	40	20	30
Bandwidth, nm		±20		±5		±20		±5			
Polarization Stability, dB		≤0.2									
Thermal Stability, dB		≤0.3									
Operation Temperature, °C		-40°C ~ 85°C(*)									
Storage temperature, °C		-55°C ~ 85°C									
Package	1.coated fiber(250um)	A2,MA	A3,MA	A2,MA	A3,MA	A3,MA	A3,MA	A2,MA	A3,MA	A3,MA	A3,MA
Options	2.Loose tube(900um)	A2,MA	A3,MA	A2,MA	A3,MA	A3,MA	A3,MA	A2,MA	A3,MA	A3,MA	A3,MA
	3.PVC cable(3.0mm)	A2,MA	A3,MA	A2,MA	A3,MA	A3,MA	A3,MA	A2,MA	A3,MA	A3,MA	A3,MA

High Isolation WDM Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FUSED WDM Pump WDM

PUMP WDM

Features

- Ultra high isolation
- High port isolation
- Custom defined specifications
- Low insertion Loss
- Environmentally stable

Applications

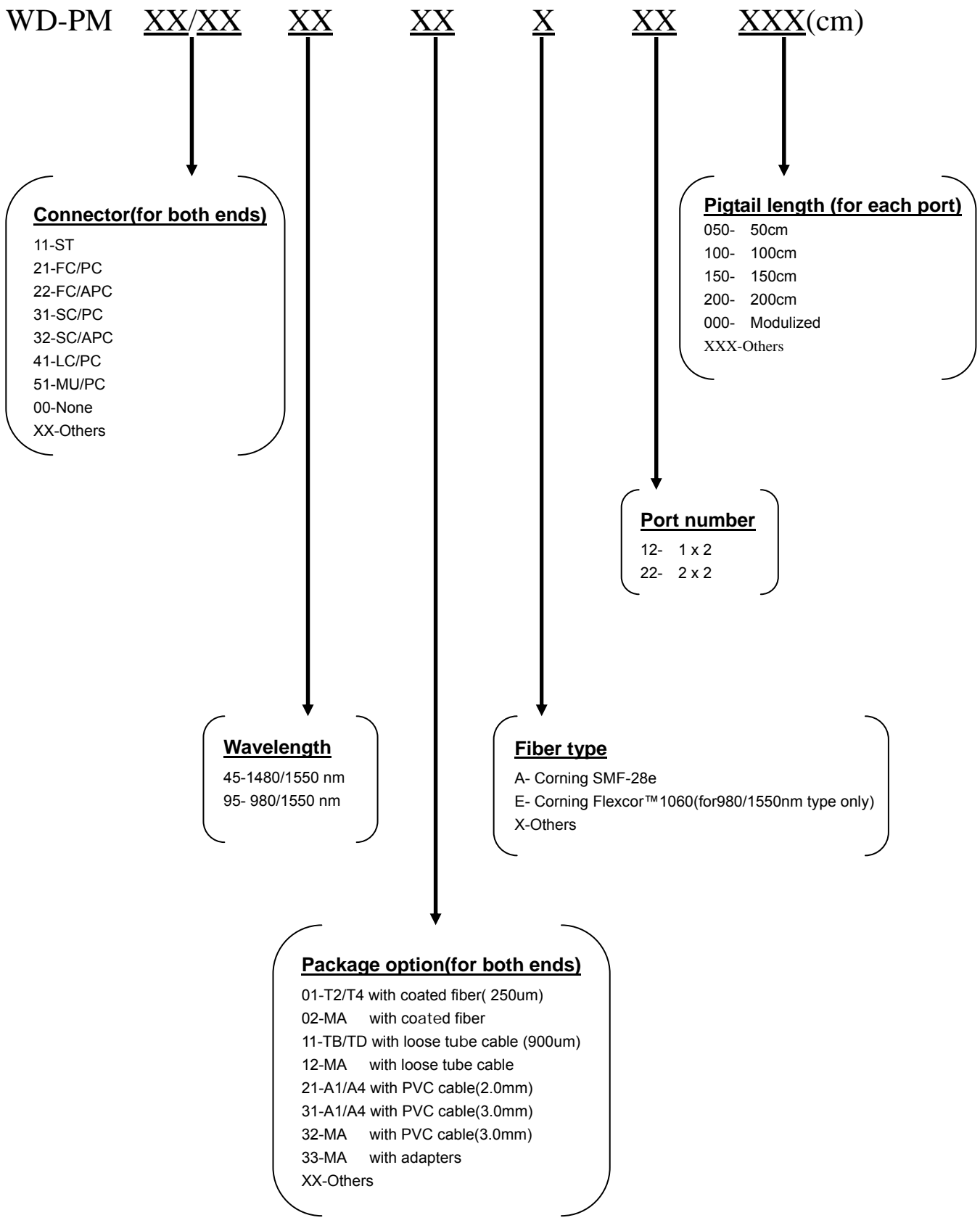
- Telecommunication
- Fiber amplification



Specifications

ITEM		VALUES	
Pumping Wavelength, nm		980/1550	1480/1550
Band pass, nm		±10	±5
Typical Insertion Loss, dB		0.4	0.5
Maximum Insertion Loss, dB		0.55	0.95
Minimum Isolation, dB(typical)		19	10
Directivity, dB		<-50	<-50
Polarization Stability, dB		<0.1	<0.3
Thermal Stability, dB		<0.2	<0.3
Storage temperature, °C		-55°C ~ 85°C	
Packing Options	1.coated fiber(250um)	T2,MA	T4,MA
	2.loose tube(900)	TB,MA	TD,MA
	3.PVC(3.0mm)	A1,MA	A4,MA

PUMP WDM Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

CWDM CWDM Module

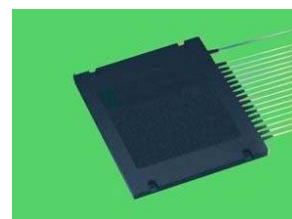
CWDM Module

Features

- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return Loss
- Low Loss, Low cross Talk
- ITU standard

Applications

- Telecommunication
- Local area network
- CWDM & FTTH



Specifications

ITEM	VALUES	
Type	Mux	Demux
Channel	4/8/16 or Customer Specify	
Central Wavelength, nm	1311/1331/1351/1371/1391/1141/1431/1451 1471/1491/1511/1531/1551/1571/1591/1611 or customer specify	
Channel Space, nm	20	
Pass band@ 0.5dB, nm	ITU±6.5nm	
Insert Loss, dB for 4 channel	≤ 1.6	
Insert Loss, dB for 8 channel	≤ 2.8	
Insert Loss, dB for 16 channel	≤ 4.0	
Adjacent Channel isolation, dB	N/A	≥ 30
Non-adjacent Channel isolation, dB	N/A	≥ 40
Uniformity, dB	≤ 1.5 (Mux-Demux pair only)	
Directivity, dB	≥ 50	
Optical Input Return Loss, dB	≤ 45	
Polarization Dependent Loss, dB	≤ 0.1	
Polarization Mode Dispersion (PMD), ps	≤ 0.1	
Thermal Stability, dB /°C	≤ 0.005	
Thermal Stability Drift, pm /°C	≤ 5	
Max. Optical Power, mW	300	
Max. Tensile Load, N	5	
Storage Temperature, °C	-40~85	
Operating Temperature, °C	0~70	
Package size, mm ³	M4(1×4, 1×8 standard);M5(1×16 standard, Mux+Demux 1×8 standard), A2,A3	

CWDM Module Ordering information

WD-CM XX/XX XX XX X XX XXX(cm)

Connector(in/out)
 11-ST
 21-FC/PC
 22-FC/APC
 31-SC/PC
 32-SC/APC
 41-LC/PC
 51-MU/PC
 00-None
 XX-Others

Pigtail length
 050- 50cm
 100- 100cm
 150- 150cm
 200- 200cm
 000- Modulized
 XXX-Others

No.of channels
 04- 4 channel
 08- 8 channel
 16- 16 channel
 XX- Others

Central wavelength
 01-1511/1531/1551/1571 for 4 channels
 02-1501/1521/1541/1561 for 4 channels
 03-1471/1479/1511/1531/1551/1571/1591/1611 for 8 channels
 04-1311/1331/1351/1371/1391/1411/1431/1451/
 1471/1491/1511/1531/1551/1571/1591/1611 for 16 channels
 XX- Others

Type
 M-Mux
 D-Demux
 U-Mux/Demux
 X-Others

Package option(for both ends)
 C1-Coated fiber(250um)
 L1-Loose tube cable (900um)
 XX-Others

LEAD Fiber Optics PRODUCT CATALOGUE

CWDM

CWDM Add/Drop Module

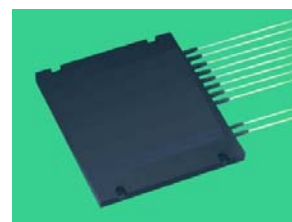
CWDM Add/Drop Module

Features

- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return Loss
- Low Loss, Low cross Talk
- ITU standard

Applications

- Telecommunication
- Local area network
- CWDM & FTTH



Specifications

ITEM	VALUES			
Channel No.	1/2/4/8/ or Customer Specify			
Starting Wavelength (nm)	1311/1331/1351/1371/1391/1414/1431/1451; 1471/1491/1511/1531/1551/1571/1591/1611 or customer specify			
Channel Space, nm	20			
Pass band@ 0.5dB,nm	ITU±6.5nm			
Typical Insertion Loss,	1 set of λ	2 set of λ	4 set of λ	8 set of λ
Input/Drop Channel	≤ 0.8	≤ 1.2	≤ 2.0	≤ 3.6
Add/Output Channel	≤ 0.8	≤ 1.2	≤ 2.0	≤ 3.6
Input/Output Channel	≤ 0.8	≤ 1.9	≤ 2.8	≤ 5.2
Adjacent Channel isolation, dB	≥ 30			
Non-adjacent Channel isolation, dB	≥ 40			
Uniformity, dB	≥ 1.5			
Directivity, dB	≥ 50			
Optical Input Return Loss, dB	≤ 45			
Polarization Dependent Loss, dB	≤ 0.1			
Polarization Mode Dispersion (PMD), ps	≤ 0.1			
Thermal Stability, dB / $^{\circ}$ C	≤ 0.005			
Thermal Stability Drift, pm / $^{\circ}$ C	≤ 5			
Max. Optical Power, mW	300			
Max. Tensile Load, N	5			
Storage Temperature, $^{\circ}$ C	-40~85			
Operating Temperature, $^{\circ}$ C	0~70			
Package size,mm ³	M4(1/2/4,channel standard);M5(8 channel standard), A2,A3			

CWDM Add/Drop Module Ordering information

WD-AM XX/XX/XX XX XX XX XX XXX(cm)

Connector (in/common/out)
 11-ST
 21-FC/PC
 22-FC/APC
 31-SC/PC
 32-SC/APC
 41-LC/PC
 51-MU/PC
 00-None
 XX-Others

Pigtail length
 050- 50cm
 100- 100cm
 150- 150cm
 200- 200cm
 000- Modulized
 XXX-Others

Sets of wavelengths
 01- 1 set of wavelengths
 02- 2 set of wavelengths
 04- 4 set of wavelengths
 XX-Others

Starting wavelength

31-1310 nm	47-1470 nm
33-1330 nm	49-1490 nm
35-1350 nm	51-1510 nm
37-1370 nm	53-1530 nm
39-1390 nm	55-1550 nm
41-1410 nm	57-1570 nm
43-1430 nm	59-1590 nm
45-1450 nm	61-1610 nm
XX-Customer Specify	

Channel spacing
 S2- 20 nm, single directional
 D2- 20 nm, dual directional
 XX- Others

Cable type(for both ends)
 S1-Singlemode fiber
 L1-Loose tube cable (900um)
 XX-Others

LEAD Fiber Optics PRODUCT CATALOGUE

CWDM

CWDM Add/Drop Unit

CWDM Add/Drop Unit

Features

- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return Loss
- Low Loss, Low cross Talk
- ITU standard

Applications

- Telecommunication
- Local area network
- CWDM & FTTH

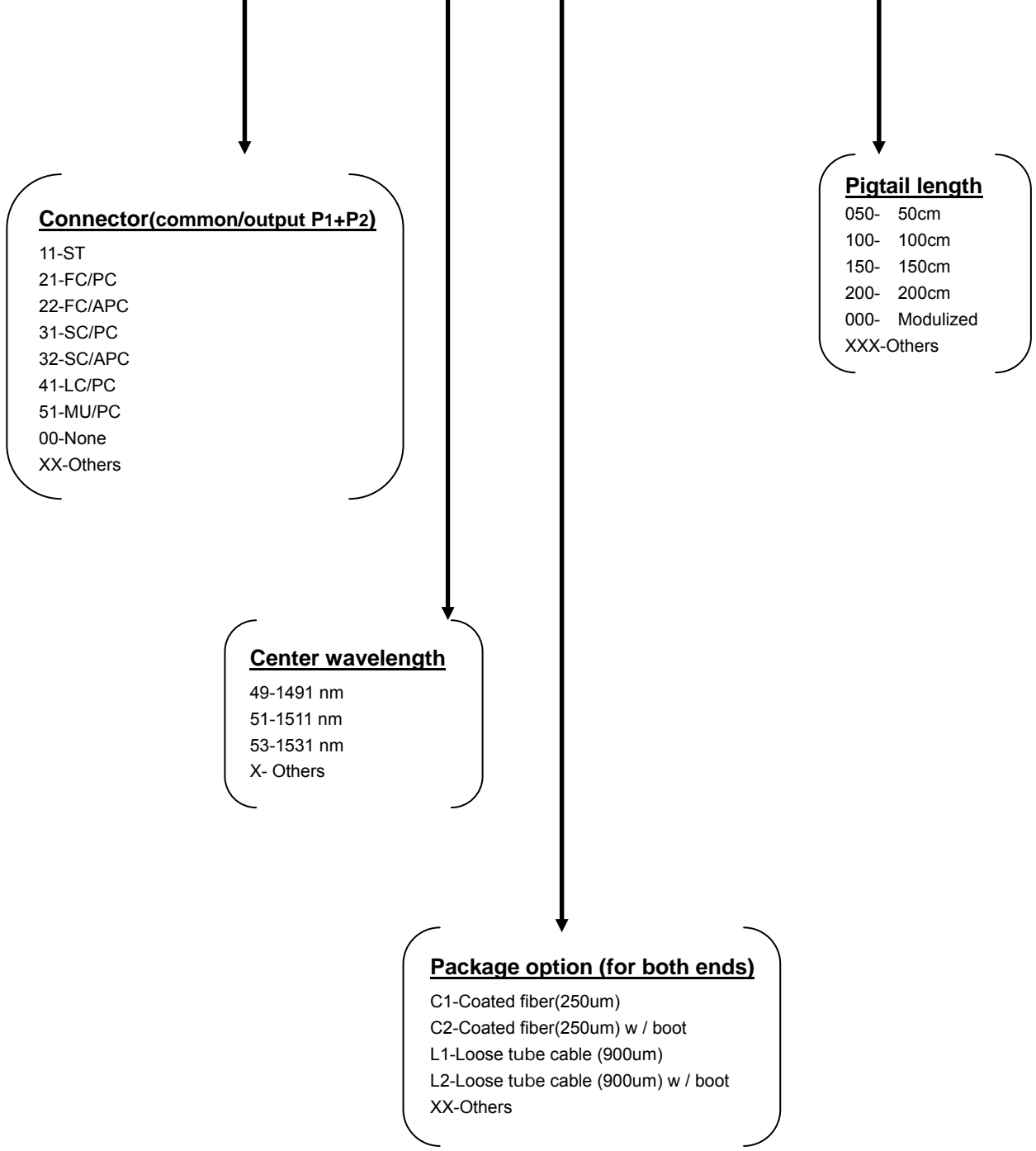


Specifications

ITEM	VALUES
Central Wavelength, nm	1311/1331/1351/1371/1391/1411/1431/1451 1471/1491/1511/1531/1551/1571/1591/1611 or customer specify
Pass band@ 0.5dB, nm	ITU±6.5nm or customer specify
Channel Space, nm	20
Add/Drop Channel Insertion Loss(C-P1), dB	≤ 0.8
Express Channel Insertion Loss(C-P2), dB	≤ 0.4
Add/Drop Channel Ripple, dB	≤ 0.3
Isolation(C-P1), dB	≤ 30
Isolation(C-P2), dB	≥ 12
Directivity, dB	≥ 50
Optical Input Return Loss, dB	≥ 45
Polarization Dependent Loss, dB	≤ 0.1
Polarization Mode Dispersion (PMD), ps	≤ 0.1
Thermal Stability, dB /°C	≤ 0.005
Thermal Stability Drift, pm /°C	≤ 5
Max. Optical Power, mW	300
Max. Tensile Load, N	5
Storage Temperature, °C	-40°C ~ 85°C
Operating Temperature, °C	0°C ~ 70°C
Package size, mm	φ 5.5×34mm for coated fiber(250 μm) φ 5.5×39mm for Loose tube cable(900 μm)

CWDM Add/Drop Unit Ordering information

WD-CU XX/XX XX XX XXX(cm)



LEAD Fiber Optics PRODUCT CATALOGUE

DWDM
100GHz DWDM

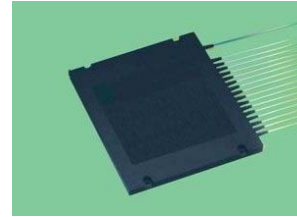
100 GHZ DWDM

Features

- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return Loss
- Low Loss, Low cross Talk
- ITU standard

Applications

- Telecommunication
- Local area network
- DWDM & FTTH



Specifications

ITEM	VALUES	
	Mux	Demux
Type	Mux	Demux
Channel	4/8/16	
Central Wavelength, nm	Ch 21~60 or ITU Standard (Customer specify)	
Channel Space, nm	0.8	
Channel Space, GHz	100	
Pass band@ 0.5dB,nm	ITU±0.1nm	
Insert Loss, dB for 4 channel	≤2.8	
Insert Loss, dB for 8 channel	≤4.0	
Insert Loss, dB for 16 channel	≤5.0	
Adjacent Channel isolation, dB	N/A	≥25
Non-adjacent Channel isolation, dB	N/A	≥35
Uniformity, dB	Minimize Pair Loss or ≤1.5	
Directivity, dB	≥40	
Optical Input Return Loss, dB	≥45	
Polarization Dependent Loss, dB	≤0.15	
Polarization Mode Dispersion (PMD), ps	≤0.1	
Thermal Stability Drift, pm /°C	≤1	
Max. Optical Power, mW	300	
Max. Tensile Load, N	5	
Storage Temperature, °C	-40°C ~ 85°C	
Operating Temperature, °C	0 ~ 65°C	
Package size,mm ³	M4(1×4, 1×8 standard);M5(1×16 standard, Mux+Demux 1×8 standard), A2,A3	

LEAD Fiber Optics PRODUCT CATALOGUE

DWDM 200GHz DWDM

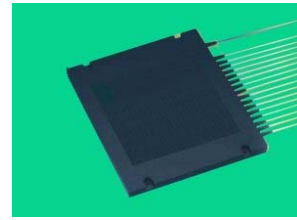
200 GHZ DWDM

Features

- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return Loss
- Low Loss, Low cross Talk
- ITU standard

Applications

- Telecommunication
- Local area network
- DWDM & FTTH



Specifications

ITEM	VALUES	
	Mux	Demux
Type	Mux	Demux
Channel	4/8/16	
Central Wavelength ,nm (4 channel)	(21)Ch 21/23/25/27 (22)Ch 29/31/33/35 (23)Ch 43/45/47/49 (24)Ch 51/53/55/57 or ITU Standard (Customer specify)	
Central Wavelength ,nm (8 channel)	(25)ch 21/23/25/27/29/31/33/35 (26)ch 43/45/47/49/51/53/55/57	
Central Wavelength ,nm (16 channel)	(27)ch 21/23/25/27/29/31/33/35/43/45/47/49/51/53/55/57	
Channel Space, nm	1.6	
Channel Space, GHz	200	
Pass band@ 0.5dB,nm	ITU±0.25nm	
Insert Loss, dB for 4 channel	≤ 2.8	
Insert Loss, dB for 8 channel	≤ 4.0	
Insert Loss, dB for 16 channel	≤ 5.0	
Adjacent Channel isolation, dB	N/A	≥ 30
Non-adjacent Channel isolation, dB	N/A	≥ 40
Uniformity, dB	Minimize Pair Loss or ≤ 1.5	
Optical Input Return Loss, dB	≥ 45	
Polarization Dependent Loss, dB	≤ 0.15	
Polarization Mode Dispersion (PMD), ps	≤ 0.15	
Thermal Stability Drift, pm /°C	≤ 2	
Max. Optical Power, mW	300	
Max. Tensile Load, N	5	
Storage Temperature, °C	-40°C ~ 85°C	
Operating Temperature, °C	0 ~ 65°C	
Package size,mm ³	M4(1×4, 1×8 standard);M5(1×16 standard,Mux+Demux 1×8 standard), A2,A3	

LEAD Fiber Optics PRODUCT CATALOGUE

DWDM

100GHz DWDM Add/Drop Module

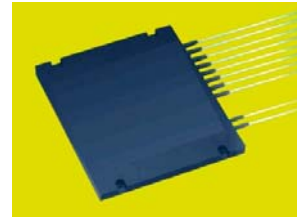
100 GHz DWDM Add/Drop Module

Features

- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return Loss
- Low Loss, Low cross Talk
- ITU standard

Applications

- Telecommunication
- Local area network
- DWDM & FTTH



Specifications

ITEM	VALUES
Channel No.	1/2/4/8 or Customer Specify
Starting Wavelength, nm	Channel 21 to 60 or Customer specify
Channel Space, nm	0.8(100GHz)
Pass band@ 0.5dB, nm	ITU±0.1nm
Operation Wavelength, nm	1500-1610
Insertion Loss (Com In→N Drop Ch.)	$0.4 \times (N-1) + 1.5$
Insertion Loss(M Add Ch. →Com Out)	$0.4 \times (M-1) + 1.5$
Insertion Loss(In→Out)	$0.4 \times (N+M)$
Adjacent Channel isolation, dB	≥ 25
Non-adjacent Channel isolation, dB	≥ 35
Thermal Stability, Wavelength Drift, pm /°C	≤ 1
Thermal Stability, Insertion Loss Variation	≤ 0.5 (over operating temperature)
Directivity, dB	≥ 40
Return Loss, dB	≤ 45
Uniformity, dB	1.5 or Customer Specify
Polarization Mode Dispersion (PMD), ps	≤ 0.15
Polarization Dependent Loss, dB	≤ 0.1
Max. Optical Power, mW	300
Max. Tensile Load, N	5
Storage Temperature, °C	-40°C ~ 85°C
Operating Temperature, °C	0°C ~ 65°C
Package size,mm ³	M4(1/2/4,channel standard);M5(8 channel standard), A2,A3

100 GHz DWDM Add/Drop Module Ordering information

WD-DM XX/XX/XX XX XX XX XX XXX(cm)

Connector (in/common/out)
 11-ST
 21-FC/PC
 22-FC/APC
 31-SC/PC
 32-SC/APC
 41-LC/PC
 51-MU/PC
 00-None
 XX-Others

Pigtail length
 050- 50cm
 100- 100cm
 150- 150cm
 200- 200cm
 000- Modulized
 XXX-Others

Starting wavelength

21- ITU standard channel 21	30- ITU standard channel 30
22- ITU standard channel 22	31- ITU standard channel 31
23- ITU standard channel 23	32- ITU standard channel 32
24- ITU standard channel 24	33- ITU standard channel 33
25- ITU standard channel 25	34- ITU standard channel 34
26- ITU standard channel 26	
27- ITU standard channel 27	XX-Others
28- ITU standard channel 28	
29- ITU standard channel 29	

Sets of wavelengths
 01- 1 set of wavelengths
 02- 2 set of wavelengths
 04- 4 set of wavelengths
 XX-Others

Channel spacing
 1S- 0.8 nm, single directional (100 GHz)
 1D- 0.8 nm, dual directional (100 GHz)
 2S- 1.6 nm, single directional (200 GHz)
 2D- 1.6 nm, dual directional (200 GHz)
 XX- Others

Cable type (for both ends)
 S1-Singlemode bare fiber
 L1-Loose tube cable (900um)
 XX-Others

LEAD Fiber Optics PRODUCT CATALOGUE

DWDM

200GHz DWDM Add/Drop Module

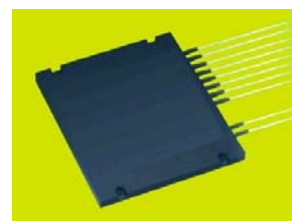
200 GHz DWDM Add/Drop Module

Features

- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return Loss
- Low Loss, Low cross Talk
- ITU standard

Applications

- Telecommunication
- Local area network
- DWDM & FTTH



Specifications

ITEM	VALUES
Channel No.	1/2/4/8 or Customer Specify
Starting Wavelength, nm	Channel 21 to 60 or Customer Specify
Channel Space, nm	1.6(200GHz)
Pass band@ 0.5dB, nm	ITU±0.25nm
Operation Wavelength, nm	1500~1610
Insertion Loss (Com In→N Drop Ch.)	$0.4 \times (N-1) + 1.2$
Insertion Loss(M Add Ch. →Com Out)	$0.4 \times (M-1) + 1.2$
Insertion Loss(In→Out)	$0.4 \times (N+M)$
Adjacent Channel isolation, dB	≥ 30
Non-adjacent Channel isolation, dB	≥ 40
Thermal Stability, Wavelength Drift, pm /°C	≤ 2
Thermal Stability, Insertion Loss Variation	≤ 0.5 (over operating temperature)
Directivity, dB	≥ 40
Return Loss, dB	≤ 45
Uniformity, dB	1.5 or Customer Specify
Polarization Mode Dispersion (PMD), ps	≤ 0.15
Polarization Dependent Loss, dB	≤ 0.1
Max. Optical Power, mW	300
Max. Tensile Load, N	5
Storage Temperature, °C	-40°C ~ 85°C
Operating Temperature, °C	0°C ~ 65°C
Package size, mm ³	M4(1/2/4,channel standard);M5(8 channel standard), A2,A3

200 GHz DWDM Add/Drop Module Ordering information

WD-DM XX/XX/XX XX XX XX XX XXX(cm)

Connector (in/common/out)
 11-ST
 21-FC/PC
 22-FC/APC
 31-SC/PC
 32-SC/APC
 41-LC/PC
 51-MU/PC
 00-None
 XX-Others

Pigtail length
 050- 50cm
 100- 100cm
 150- 150cm
 200- 200cm
 000- Modulized
 XXX-Others

Starting wavelength

21- ITU standard channel 21	30- ITU standard channel 30
22- ITU standard channel 22	31- ITU standard channel 31
23- ITU standard channel 23	32- ITU standard channel 32
24- ITU standard channel 24	33- ITU standard channel 33
25- ITU standard channel 25	34- ITU standard channel 34
26- ITU standard channel 26	XX-Others
27- ITU standard channel 27	
28- ITU standard channel 28	
29- ITU standard channel 29	

Sets of wavelengths
 01- 1 set of wavelengths
 02- 2 set of wavelengths
 04- 4 set of wavelengths
 XX-Others

Channel spacing
 1S- 0.8 nm, single directional (100 GHz)
 1D- 0.8 nm, dual directional (100 GHz)
 2S- 1.6 nm, single directional (200 GHz)
 2D- 1.6 nm, dual directional (200 GHz)
 XX- Others

Cable type (for both ends)
 S1-Singlemode bare fiber
 L1-Loose tube cable (900um)
 XX-Others

LEAD Fiber Optics PRODUCT CATALOGUE

DWDM

100GHz DWDM Add/Drop Unit

100 GHz DWDM Add/Drop Unit

Features

- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return Loss
- Low Loss, Low cross Talk
- ITU standard

Applications

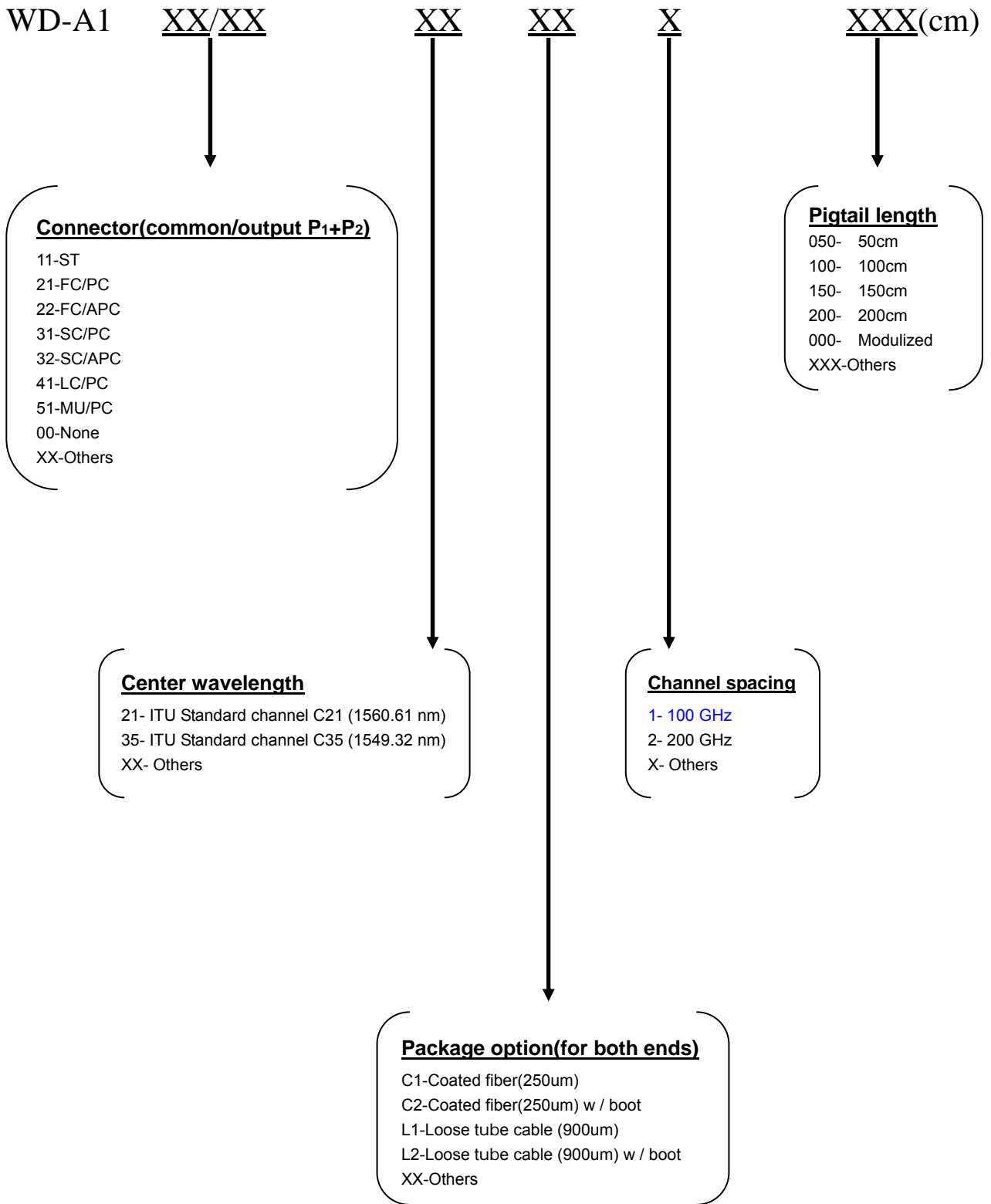
- Telecommunication
- Local area network
- DWDM & FTTH



Specifications

ITEM	VALUES
Pass band@ 0.5dB,nm	ITU±0.1nm
Channel Space, GHz	100
Add/Drop Channel Insertion Loss(C-P ₁), dB	≤ 1.2
Express Channel Insertion Loss(C-P ₂), dB	≤ 0.5
Add/Drop Channel Ripple, dB	≤ 0.3
Isolation(C-P ₁), dB	≤ 25
Isolation(C-P ₂), dB	≤ 10
Directivity, dB	≤ 40
Optical Input Return Loss, dB	≤ 45
Polarization Dependent Loss, dB	≤ 0.1
Polarization Mode Dispersion (PMD), ps	≤ 0.1
Thermal Stability, dB /°C	≤ 0.005
Thermal Stability Drift, pm /°C	≤ 1
Max. Optical Power, mW	300
Max. Tensile Load, N	5
Storage Temperature, °C	-40°C ~ 85°C
Operating Temperature, °C	0 ~ 65°C
Package size,mm	φ 5.5×34mm for coated fiber(250 μ m) φ 5.5×39mm for Loose tube cable(900 μ m)

100 GHz DWDM Add/Drop Unit Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

DWDM

200GHz DWDM Add/Drop Unit

200 GHz DWDM Add/Drop Unit

Features

- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return Loss
- Low Loss, Low cross Talk
- ITU standard

Applications

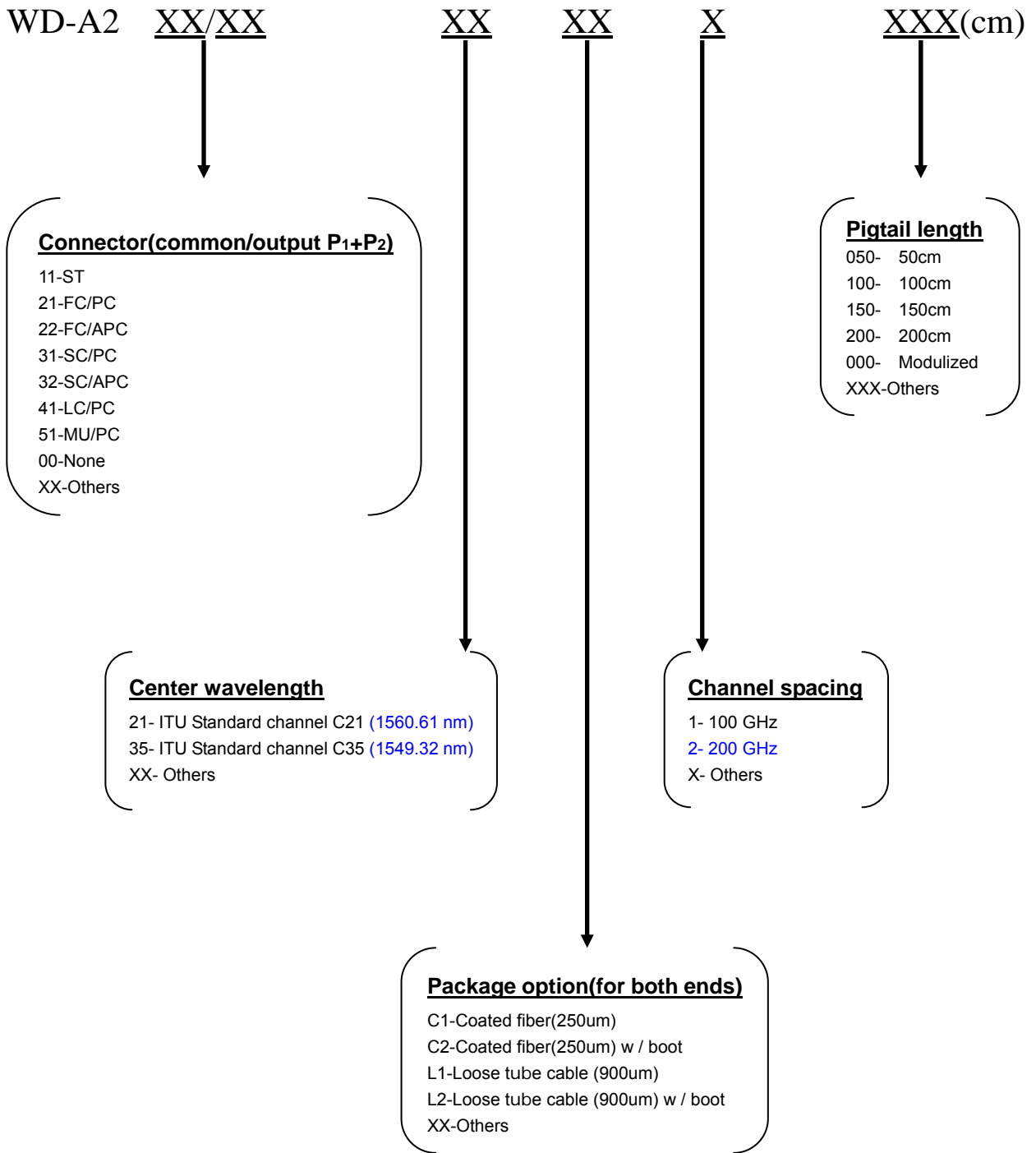
- Telecommunication
- Local area network
- DWDM & FTTH



Specifications

ITEM	VALUES
Pass band@ 0.5dB, nm	ITU±0.25nm
Channel Space, GHz	200
Add/Drop Channel Insertion Loss(C-P ₁), dB	≤ 1.2
Express Channel Insertion Loss(C-P ₂), dB	≤ 0.4
Add/Drop Channel Ripple, dB	≤ 0.3
Isolation(C-P ₁), dB	≤ 30
Isolation(C-P ₂), dB	≥ 10
Directivity, dB	≥ 40
Optical Input Return Loss, dB	≥ 45
Polarization Dependent Loss, dB	≤ 0.1
Polarization Mode Dispersion (PMD), ps	≤ 0.15
Thermal Stability, dB /°C	≤ 0.005
Thermal Stability Drift, pm /°C	≤ 2
Max. Optical Power, mW	300
Max. Tensile Load, N	5
Storage Temperature, °C	-40°C ~ 85°C
Operating Temperature, °C	0 ~ 65°C
Package size, mm	φ 5.5×34mm for coated fiber(250 μ m) φ 5.5×39mm for Loose tube cable(900 μ m)

200 GHz DWDM Add/Drop Unit Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

OPTICAL FILTER Standard filter

Standard Filter

Features

- Extra high isolation
- Low insertion Loss
- High port isolation
- Custom designed specifications
- Environmentally stable

Applications

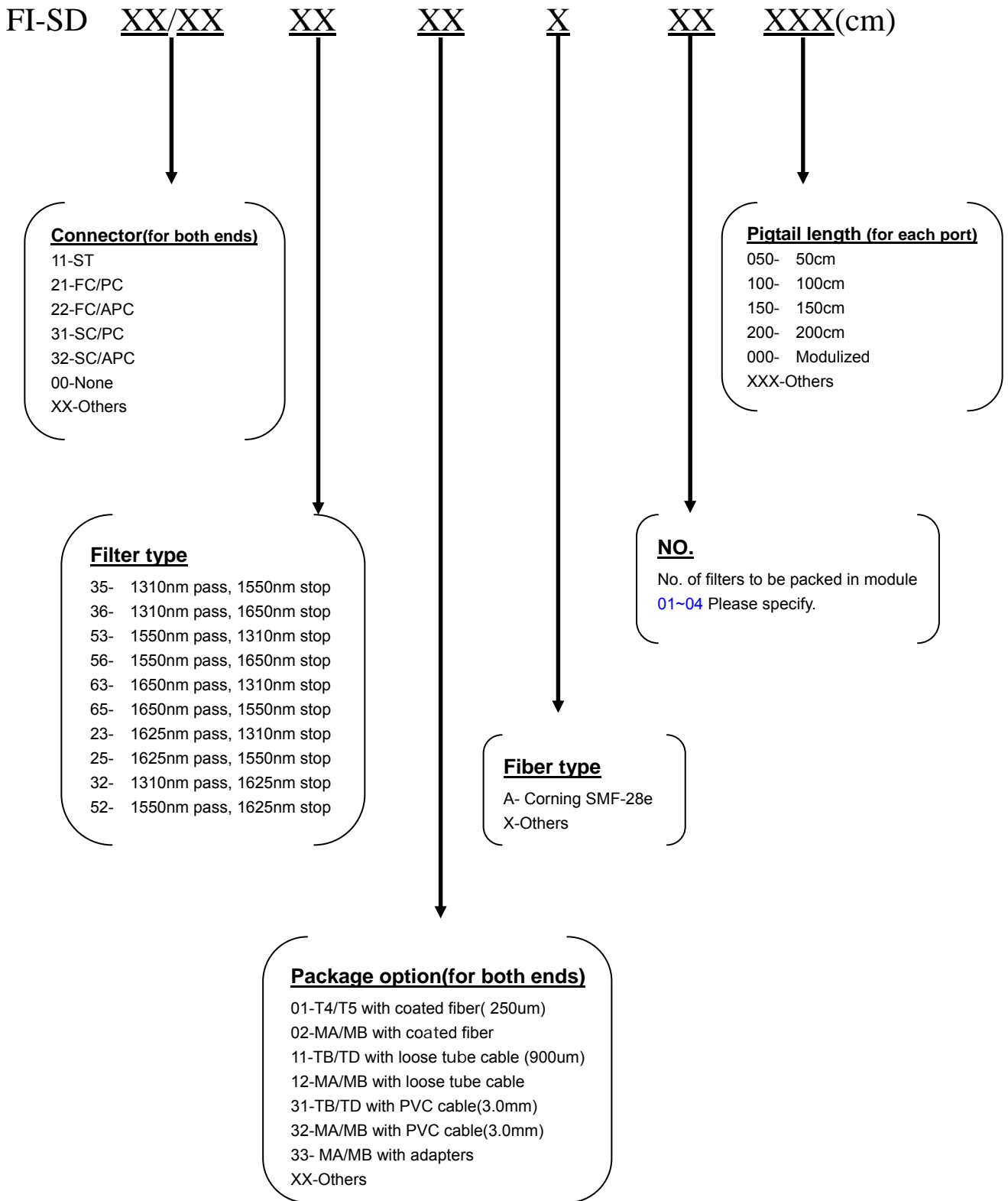
- Telecommunications
- Local area network
- Fiber to the Home
- Video transmission
- Fiber optic sensing
- Test instruments
- CATV



Specifications

ITEM	VALUES			
Stop/Pass	Insertion Loss(dB)	Isolation(dB)	Stop band(nm)	Packaging
1310nm stop/1550nm pass	<0.4	>16	40	T2,TB,MA,MB
1310nm pass/1550nm stop	<0.4	>16	40	T2,TB,MA,MB
1310nm stop/1625nm pass	<0.4	>16	40	T2,TB,MA,MB
1310nm pass/1625nm stop	<0.4	>16	40	T2,TB,MA,MB
1310nm stop/1650nm pass	<0.4	>16	40	T2,TB,MA,MB
1310nm pass/1650nm stop	<0.4	>16	40	T2,TB,MA,MB
1550nm stop/1625nm pass	<0.6	>10	10	T4,TE,MA,MB
1550nm pass/1625nm stop	<0.6	>10	10	T4,TE,MA,MB
1550nm stop/1650nm pass	<0.5	>14	10	T4,TE,MA,MB
1550nm pass/1650nm stop	<0.5	>14	10	T4,TE,MA,MB

Standard Optical Filter Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

OPTICAL FILTER High isolation filter

TEL:+886-2-2949-8116 FAX:+886-2-2949-8117 Web:<http://www.fiberoptic.com.tw>

High Isolation Filter

Features

- Extra high isolation
- High port isolation
- Custom designed specifications
- Low insertion Loss
- Environmentally stable

Applications

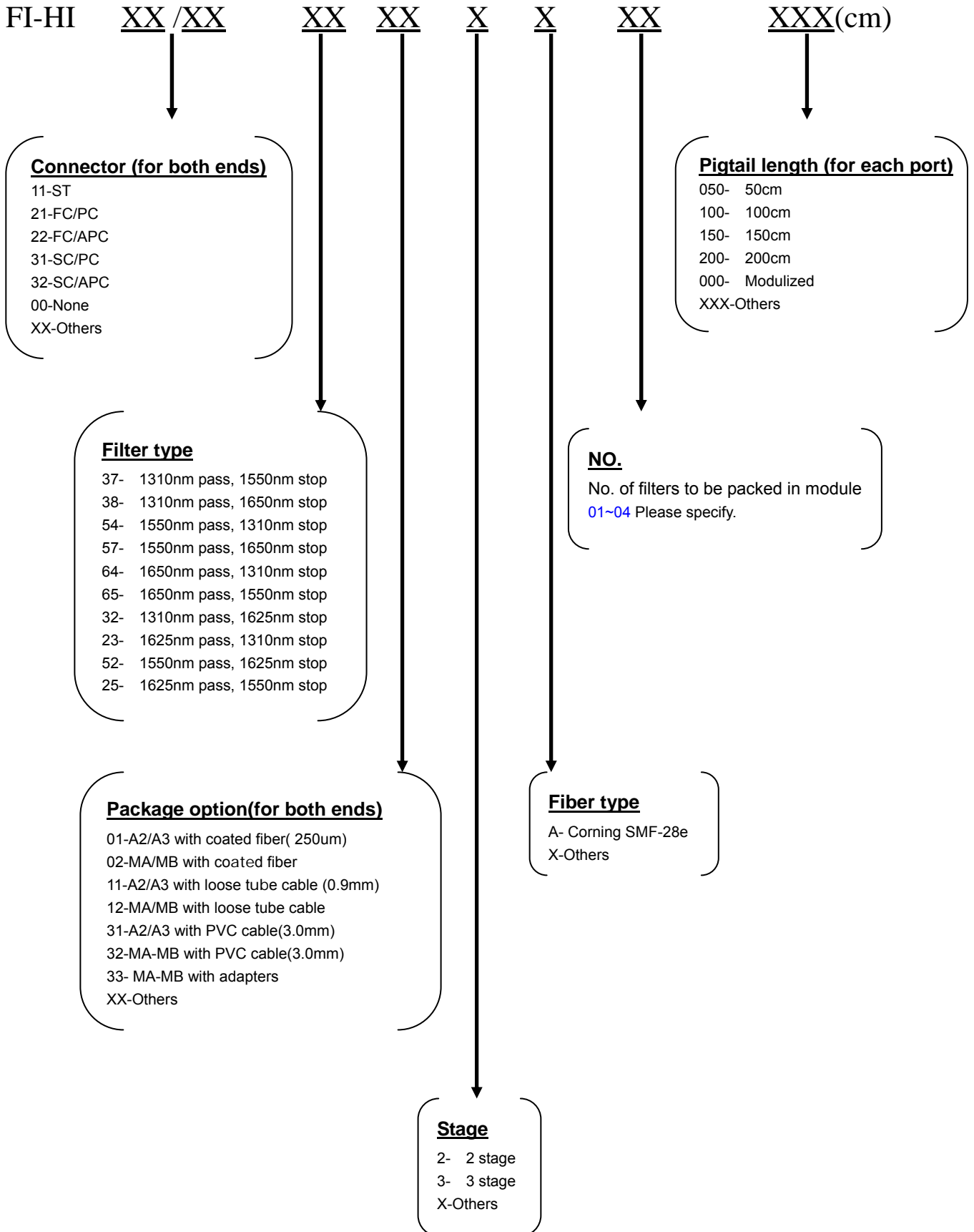
- Telecommunications
- Local area network
- Fiber to the Home
- Video transmission
- Fiber optic sensing
- Test instruments
- CATV



Specifications

ITEM	VALUES						
	Insertion Loss(dB)		Isolation(dB)		Stop band(nm)	Packaging	
Stage	2	3	2	3	2/3	2	3
1310nm stop/1550nm pass	<0.8	<1.2	>30	>40	40	A2,MA,MB	A3,MA,MB
1310nm pass/1550nm stop	<0.8	<1.2	>30	>40	40	A2,MA,MB	A3,MA,MB
1310nm stop/1625nm pass	<0.8	<1.2	>30	>40	40	A2,MA,MB	A3,MA,MB
1310nm pass/1625nm stop	<0.8	<1.2	>30	>40	40	A2,MA,MB	A3,MA,MB
1310nm stop/1650nm pass	<0.8	<1.2	>30	>40	40	A2,MA,MB	A3,MA,MB
1310nm pass/1650nm stop	<0.8	<1.2	>30	>40	40	A2,MA,MB	A3,MA,MB
1550nm stop/1625nm pass	<1.2	<1.7	>20	>30	10	A2,MA,MB	A3,MA,MB
1550nm pass/1625nm stop	<1.2	<1.7	>20	>30	10	A2,MA,MB	A3,MA,MB
1550nm stop/1650nm pass	<0.8	<1.2	>14	>40	10	A2,MA,MB	A3,MA,MB
1550nm pass/1650nm stop	<0.8	<1.2	>14	>40	10	A2,MA,MB	A3,MA,MB

High Isolation Optical Filter Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FIBER CIRCULATOR

TEL:+886-2-2949-8116 FAX:+886-2-2949-8117 Web:<http://www.fiberoptic.com.tw>

Polarization Independent Fiber Circulator

Features

- Extra high isolation
- Low PDL
- PMD free
- Low Cross-talk
- Low insertion Loss
- Environmentally stable
- Epoxy-free optical path

Applications

- Optical Amplifier
- Optical transmitter
- CATV
- Testing instruments
- Bi-Directional Transmission system
- DWDM
- Add/Drop Multiplexer(ADM)
- Dispersion Compensation



Specifications

ITEM	VALUES		
	Type A	Type B	Wideband(5W)
Operating wavelength, nm	1310 or 1550(±20)		1470~1610 nm
Configurations	Port 1→2→3		
Minimum Isolation, dB (at 25°C, all SOP)	40(1530~1570nm)	35(1530~1570nm)	35(1470~1490 nm) 40(1490~1610 nm)
Minimum insertion Loss, dB (at 0~60°C, all SOP)	0.8(1530~1570nm)	1.0(1530~1570nm)	1.4(1470~1490nm) 1.3(1490~1500nm) 1.1(1500~1600nm) 1.4(1600~1510nm)
Polarization Dependent Loss, dB	≤ 0.15		
Max. Optical Power, mW	500		
Return Loss, dB(input/output)	≥ 50		
Polarization Mode Dispersion (PMD), ps	≤ 0.1		
Operating Temperature, °C	0°C ~ 60°C		
Storage Temperature, °C	-40°C ~ 85°C		
Dimension, mm	φ 5.5×60		

Polarization Independent Fiber Circulator Ordering information

CL

XX/XX/XX

XX

XX

XXX(cm)

- Connector(P₁ P₂ P₃)**
- 11-ST
 - 21-FC/PC
 - 22-FC/APC
 - 31-SC/PC
 - 32-SC/APC
 - 41-LC/PC
 - 51-MU/PC
 - 00-None
 - XX-Others

- Pigtail Length (for each end)**
- 050- 50cm
 - 100- 100cm
 - 150- 150cm
 - 200- 200cm
 - XXX-Others

- Wavelength**
- 3A- 1310 nm +/- 20nm (type A)
 - 3B- 1310 nm +/- 20nm (type B)
 - 5A- 1550 nm +/- 20nm (type A)
 - 5B- 1550 nm +/- 20nm (type B)
 - 5W- 1470nm ~ 1610nm (wideband)
 - XX- Other

- Pigtail type (for both ends)**
- 01- coated SM fiber (250um)
 - 02- loose tube SM fiber (900Um)
 - XX-Others

LEAD Fiber Optics PRODUCT CATALOGUE

FIBER COLLIMATOR

Fiber Collimator

Features

- Low insertion Loss
- Low back reflection
- Small Beam divergence
- Miniature in size
- Light weight
- Singlemode or multimode application
- Environmentally stable

Applications

- Optical devices
- Optical switching
- Fiber sensing
- Testing equipment



Specifications

ITEM	VALUES		
	Singlemode	Multimode	
Mode Type	Singlemode	Multimode	
Wavelength, nm	1310 or 1550	850	1310
Spectral Width, nm	$\geq \pm 30$		
Typical Insertion Loss, dB	0.2	0.6	0.8
Maximal Insertion Loss, dB	0.3	0.8	1.0
Return Loss, dB	≥ 55	---	
Beam Divergence, deg.	≤ 0.25	≤ 1	
Acceptance angel, deg.	≤ 0.15	≤ 1	
Beam offset angle, deg.	≤ 1		
Beam Diameter, mm	≤ 0.5	≤ 1	
Working Distance, cm	0.5~1.5		
Operation Temperature, °C	-20°C ~ 60°C		

Fiber Collimator Ordering information

FC

XX

XX

XX

X

XX

XXX(cm)

- Connector**
- 11-ST
 - 21-FC/PC
 - 22-FC/APC
 - 31-SC/PC
 - 32-SC/APC
 - 41-LC/PC
 - 51-MU/PC
 - 00-None
 - XX-Others

- Pigtail length**
- 050- 50cm
 - 100- 100cm
 - 150- 150cm
 - 200- 200cm
 - XXX-Others

- Fiber type**
- S-Singlemode fiber
 - 2-corning 50/125um
 - 3-corning 62.5/125um
 - X-Others

- Wavelength**
- 31-1310 nm
 - 55-1550 nm
 - 85-850 nm (Multimode only)
 - XX-Other

- Package**
- 01- w / metal tube
 - 02- w / o metal tube

- Cable type**
- 01-coated fiber(250um)
 - 02-loose tube
 - XX-Others

LEAD Fiber Optics PRODUCT CATALOGUE

OPTICAL SWITCH

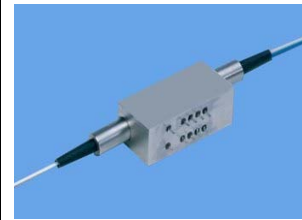
1x2 Optical Switch

Features

- Fast switch speed
- Ultra-Low insertion Loss
- Wide wavelength range
- Low Polarization dependent Loss

Applications

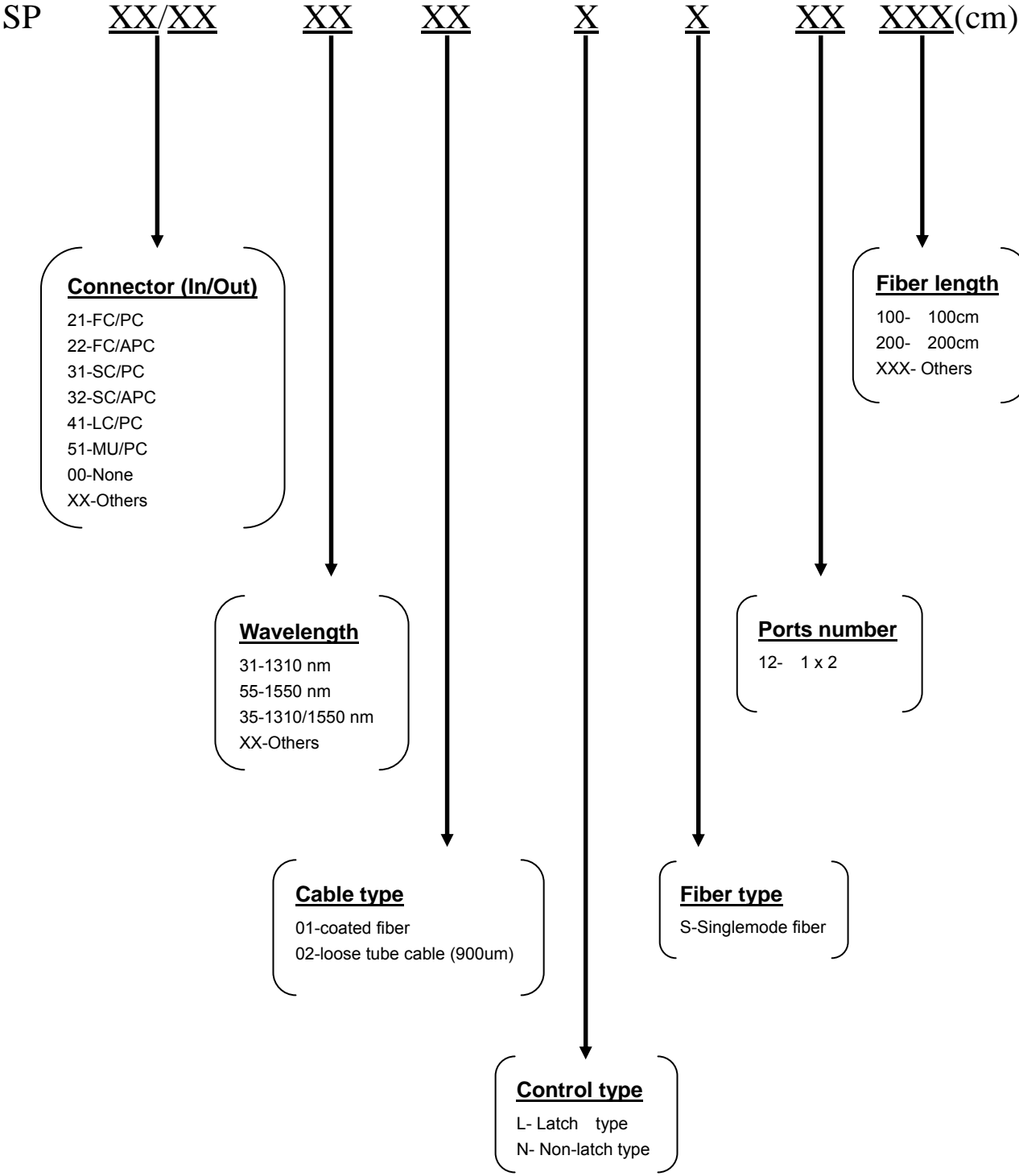
- Protection switch
- Optical subsystem
- Reconfiguration



Specifications

ITEM	Latch Type	Non-Latch Type
Wavelength	1310/1550 or Customer design	
Insertion Loss	0.7 dB Typical, 1.0 dB Max	
Back-Reflection Singlemode	≥ 55 dB	
Switching time	5 msec Typical, 10 msec Max	
Cross-talk	55 dB	
Durability	10 million cycles Min.	
Repeatability	0.03 dB Max.	
Switch Voltage	5 VDC ± 10 %	
Operation Current	40mA ± 10%	28.1mA ± 10%
Operation Temperature	0°C ~ 75°C	
Storage Temperature	-40°C ~ 75°C	
Polarization Dependent Loss	0.06Typical, 0.1 Max	
Switch control	2 coil	Single side stable
Maximum Optical power, mW	500	
Housing dimension	50.1×14×11(mm)	
Fiber Type	SMF	

1x2 optical Switch Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

OPTICAL ISOLATOR Polarization independent isolator

Polarization independent isolator

Features

- Ultra high isolation
- Minimum polarization dependent Loss(PDL)
- Polarization mode dispersion(PMD) free
- Optical path epoxy free
- Low insertion Loss
- Environmentally stable

Applications

- Optical amplification
- Optical transmission
- CATV
- High-bit rate optical communications
- High speed analog optical systems



Specifications

ITEM	VALUES			
Operation Wavelength, nm	1310nm or 1550nm			
Stage	Single		Dual	
Grade	S	H	S	H
Minimum Isolation, dB (over the center wavelength \pm 15nm), (at 25 $^{\circ}$ C, all SOP)	30	29	45	43
Typical Insertion Loss, dB (at 25 $^{\circ}$ C, all SOP)	0.4	0.5	0.5	0.7
Maximum Insertion Loss, dB (over the operating range \pm 20nm), (-20 ~ 60 $^{\circ}$ C, all SOP)	0.5	0.7	0.7	0.9
Polarization dependent Loss, dB	\leq 0.1	\leq 0.15	\leq 0.1	\leq 0.15
Return Loss. dB (Input/output)	60/55	55/50	60/55	55/50
Polarization Mode dispersion, ps	\leq 0.25	\leq 0.25	\leq 0.05	\leq 0.07
Operating temperature, $^{\circ}$ C	0 ~ 60 $^{\circ}$ C			
Storage temperature, $^{\circ}$ C	-40 $^{\circ}$ C ~ 85 $^{\circ}$ C			
Maximum output power, mW	300			
Package Size, mm	E-type			
Note:SOP= States of Polarization	ϕ 5.5 \times 34mm for coated fiber(250um) ϕ 5.5 \times 39mm for loose tube cable(900um)			

Polarization independent isolator Ordering information

IS-PI

XX/XX

XX

XX

X

X

X

XXX(cm)

- Connector (in/out)**
- 11-ST
 - 21-FC/PC
 - 22-FC/APC
 - 31-SC/PC
 - 32-SC/APC
 - 41-LC/PC
 - 51-MU/PC
 - 00-None
 - XX-Others

- Pigtail length(for each end)**
- 050- 50cm
 - 100- 100cm
 - 150- 150cm
 - 200- 200cm
 - XXX-Others

- Wavelength**
- 31-1310 nm
 - 55-1550 nm
 - XX-Other

- Packaging Dimension**
- E- E type
 - X-Others

- Pigtail type (in/out)**
- 01-coated SMF fiber (250um)
 - 02-loose tube cable (900um)
 - 03- cable (3.0mm)
 - XX-Others

- Stage type**
- S- Single
 - D- Dual

- Grade**
- S- Super
 - H- High

LEAD Fiber Optics PRODUCT CATALOGUE

OPTICAL ISOLATOR mini free space optical isolator

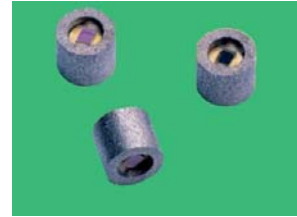
Mini Free Space optical isolator

Features

- Ultra high isolation
- High extinction ration
- Low insertion Loss
- Large aperture
- Small size

Applications

- Coherent communications
- Optical transmissions
- CATV
- Laser diode packaging
- Optical sensor



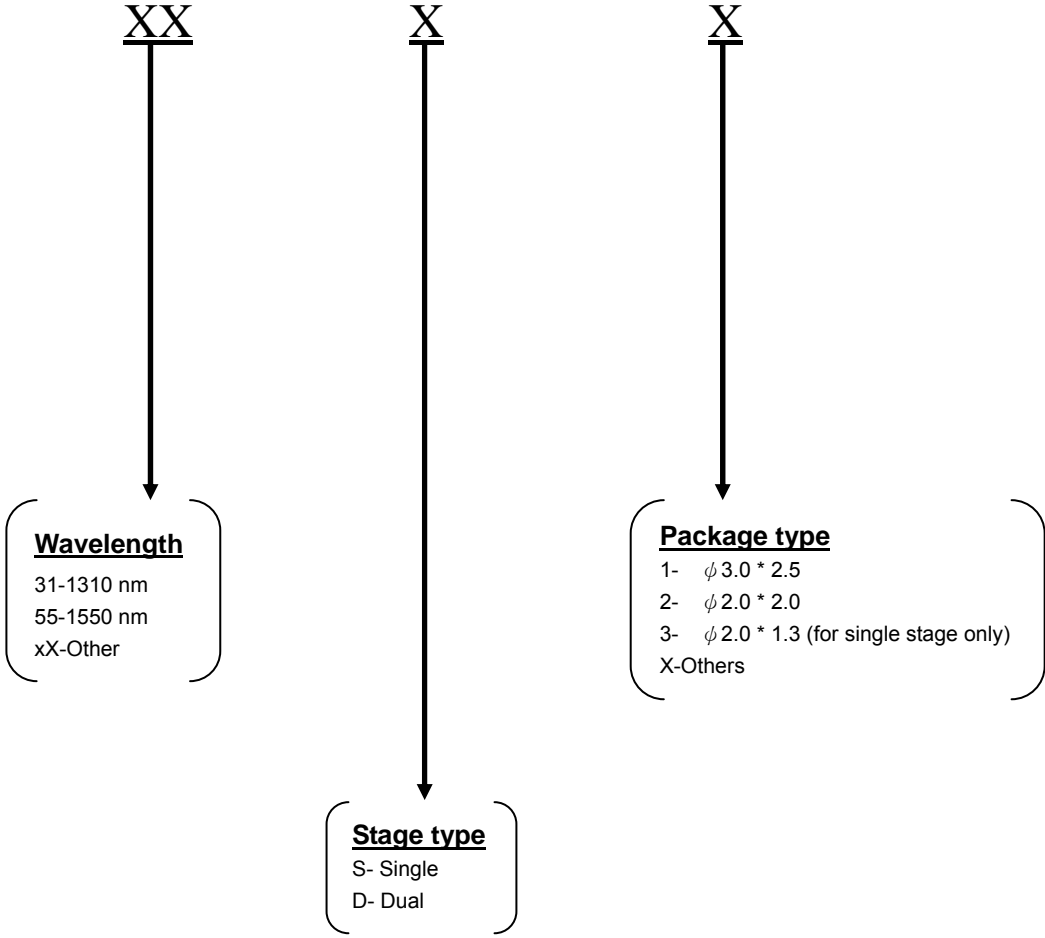
Specifications

ITEM	VALUES	
Operation Wavelength, nm	1310nm or 1550nm	
Stage	Single	Dual
Minimum Isolation, dB (at 25°C, all SOP)	30	45
Typical Insertion Loss, dB (over the center wavelength \pm 20nm), (at 25°C, all SOP)	0.1	0.15
Maximum Insertion Loss, dB (over the center wavelength \pm 20nm), (-20 ~ 60°C, all SOP)	0.2	0.3
Operating temperature, °C	0 ~ 60°C	
Aperture Size, mm	0.8	
Storage temperature, °C	-40°C ~ 85 °C	
Maximum output power, W/cm ²	50	

Note:SOP= States of Polarization

Mini Free Space optical isolator Ordering information

IS-MI



LEAD Fiber Optics PRODUCT CATALOGUE

OPTICAL ISOLATOR isolator pigtail

Optical Isolator Pigtail

Features

- Ultra high isolation
- Minimum polarization dependent Loss(PDL)
- Optical path epoxy free
- Low insertion Loss
- Environmentally stable

Applications

- Optical amplification
- Optical transmission
- CATV
- High-bit rate optical communications
- High speed analog optical systems

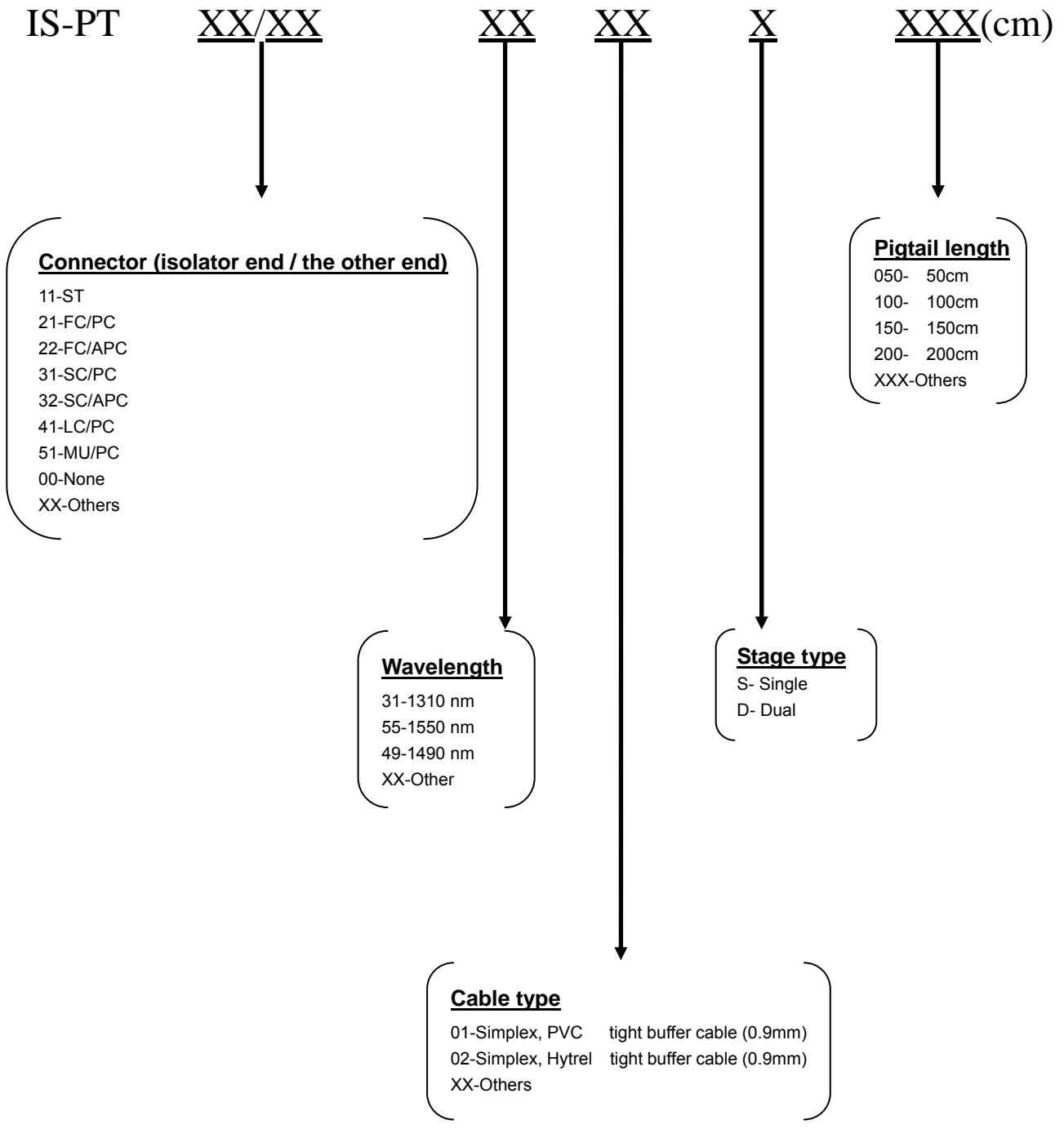


Specifications

ITEM	VALUES	
Operation Wavelength, nm	1310nm or 1550nm	
Stage	Single	Dual
Minimum Isolation, dB (over the center wavelength \pm 15nm) (at 25 $^{\circ}$ C, all SOP)	≥ 30	≥ 45
Typical Insertion Loss, dB (at 25 $^{\circ}$ C, all SOP)	0.4	0.45
Maximum Insertion Loss, dB (over the operating range \pm 20nm) (-20 ~ 60 $^{\circ}$ C, all SOP)	0.5	0.7
Operating temperature, $^{\circ}$ C	0 ~ 60 $^{\circ}$ C	
Aperture Size, mm	0.8	
Storage temperature, $^{\circ}$ C	-40 $^{\circ}$ C ~ 85 $^{\circ}$ C	
Maximum output power, W/cm ²	50	

Note:SOP= States of Polarization

Optical Isolator Pigtail Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

FIBER STUB

Fiber stub

Features

- Excellent connecting performance
- Environmentally stable
- Reliable structural designing
- Customized design
- Available for 4,5,6,8 deg end-face

Application

- Transmitter/Receiver Module
- Active device termination
- Optical connection
- Instrumentation



Specifications

ITEM	VALUES	
Mode Type	Single mode	
Model name	PC	APC
Typical Insertion Loss, dB	0.2	
Maximum Return Loss, dB	0.32	
Typical Return Loss, dB	45	55
Minimum Return Loss	40	50
Operating Temperature, °C	-40°C ~ 75°C	
Storage Temperature, °C	-55°C ~ 85°C	
Ferrule Length	To any specified length	

LEAD Fiber Optics PRODUCT CATALOGUE

RECEPTACLE

TEL:+886-2-2949-8116 FAX:+886-2-2949-8117 Web:<http://www.fiberoptic.com.tw>

Fiber Receptacle

Features

- Precise dimension control with small tolerance
- SC (2.5mm), LC (1.25mm) Type are available
- High clean Stub and Fiber surface
- Strong and Precise assembly structure
- Low insertion Loss
- Low return Loss

Applications

- Laser diode pig tailing
- Hermetic package
- Integrated optics package



Specifications

ITEM	VALUES	
Mode Type	Single mode	
Model name	LC	SC
Insertion Loss, dB	0.3	
Return Loss, dB	45	
Operating Temperature, °C	-40°C ~ 75°C	
Ferrule Length	7.4~9.4mm (To any specified length)	9.5~14mm (To any specified length)

LEAD Fiber Optics PRODUCT CATALOGUE

LD-PD PIGTAIL

LD-PD Pigtail

Features

- Low insertion Loss
- Low back reflection Loss
- Custom defined specification
- Solder able stainless steel tube
- Easy aliment
- Environmentally stable

Applications

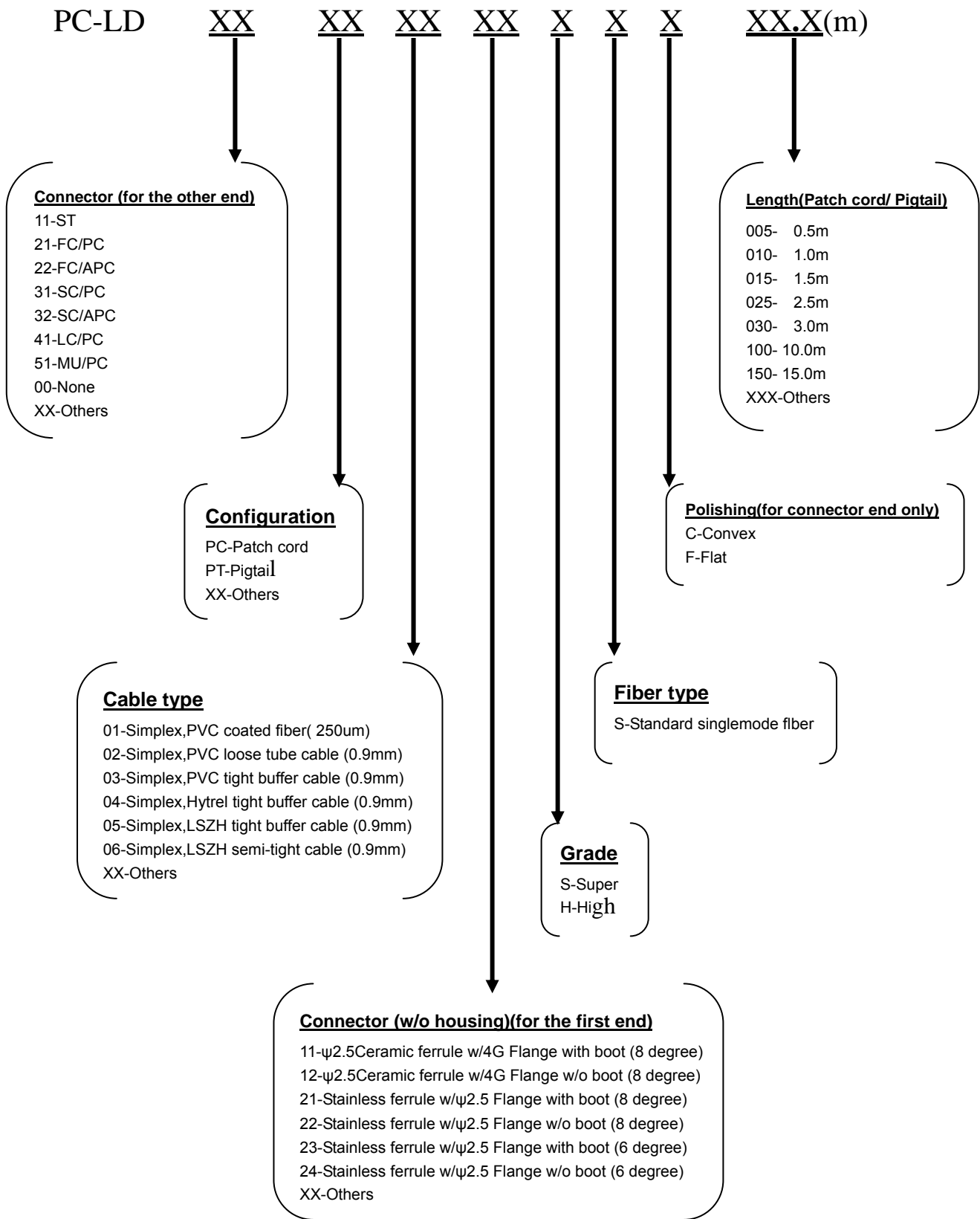
- Optical Module(Laser Diode , Photo Diode)
- Fiber optic sensing
- Testing instrument



Specifications

ITEM	VALUES	
Mode type	Single mode	
Material	Stainless tube encapsulated ferrule	
Grade	S	H
Typical insertion Loss, dB	0.15	0.2
Maximum Insertion Loss, dB	0.25	0.32
Typical Return Loss, dB	50	45
Minimum Return Loss, dB	48	42
Operation Temperature, °C	-40°C ~ 75°C	
Storage Temperature, °C	-55°C ~ 85°C	
Fiber length	To any specified length	

LD-PD Pigtail Ordering information



LEAD Fiber Optics PRODUCT CATALOGUE

TAP MONITORING DETECTOR

Tap Monitoring Detector

Features

- Custom tap ratio available
- Low dark current
- Compact
- Customized design
- Ultra flat, broad band spectral response

Application

- Power monitoring in protecting switches
- Gain monitoring for fiber amplifier
- Power monitoring for OADM system



Specifications

Absolute Maximum Rating

ITEM	SYMBOL	MIN	MAX	UNIT	REMARK
Photodiode Bias voltage	V _{bias}	-14	-2	V	
Operation temperature	T _{op}	0	70	°C	
Storage temperature	T _{stg}	-40	85	°C	
Soldering temperature	T _{sol}		350	°C	<3sec.

Optical and Electrical Characteristic

ITEM	SYMBOL	MIN	TYP.	MAX	UNIT	REMARK
Detection Range		100	1310	1650	nm	
Dark Current	I _{dark}	-		1	nA	
Capacitance	C	-		0.9	pF	
Bandwidth	BW	2		-	GHz	
Back-reflection	BR	45		-	dB	
PDL		-		0.1	dB	
PML		-		0.1	ps	
Wavelength flatness				0.2	dB	

Tap Ratio	98:2	95:5	90:10
Optical insertion Loss, dB	0.6	0.8	1.0
Saturation Optical power, dBm	14	10	7
Photodiode tap responsivity ,A/W	0.01-0.04	0.04-0.06	0.08-0.12

Tap Monitoring Detector Ordering information

