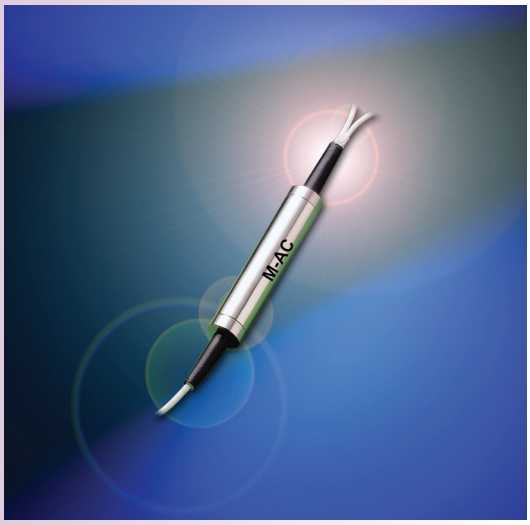
M-AC COARSE WDM ADD/DROPS

Features:

- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return loss
- Low loss, low cross-talk
- ITU standard

Applications:

- Telecommunications
- Local area network
- CWDM & FTTH



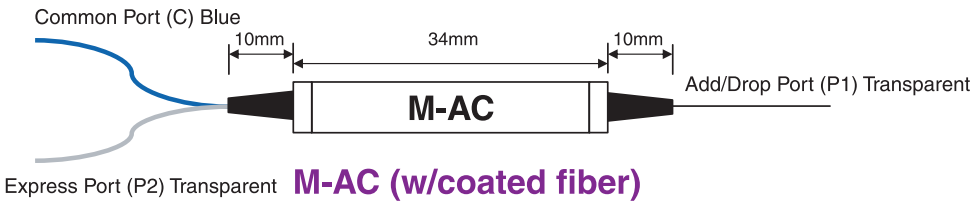
Performance Specifications:

ITEM	Optical Add/Drop Multiplexer For CWDM
Center Wavelength, nm	ITU Channel 1270~1610 (or 1271~1611)
Bandpass @0.5dB, nm	ITU ±6.5 or Customer Specify
Channel Spacing, nm	20
Add/Drop Channel Insertion Loss (C-P_1), dB	≤0.7
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	≥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 ~ 85
Operating Temperature, °C	0 ~ 70
Package Size, mm	Ø5.5 x 34 mm for coated fiber (250μm) Ø5.5 x 39 mm for loose tube cable (900μm)

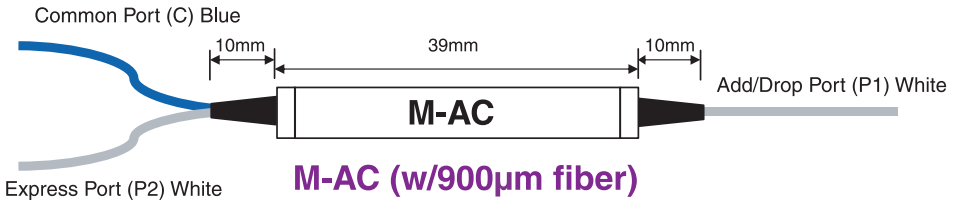
* Without Connector Loss

COARSE WDM ADD/DROPS

Diagram & Dimensions



M-AC (w/coated fiber)



M-AC (w/900µm fiber)

Ordering Information:

M - AC - A - □□ - □ - □□ - □□ / □□ - 1

Center Wavelength

49	1491nm
51	1511nm
53	1531nm
XX	Others, Customer Specify

Package Option (for both ends)

D	Coated SM fiber (250µm)	J	G.657. A1 fiber
M	Loose tube cable (900µm)	K	Loose tube cable (900µm) with G. 657. A1 fiber
X	Others, please specify		

Pigtail Length

10	1 meter	05	0.5meter
20	2 meter	15	1.5meter
00	Modulized	XX	Others, please specify

Connector Type (Common / Output P_1+ P_2)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	MU	MU type
LC	LC type	NC	None
XX	Others, please specify		

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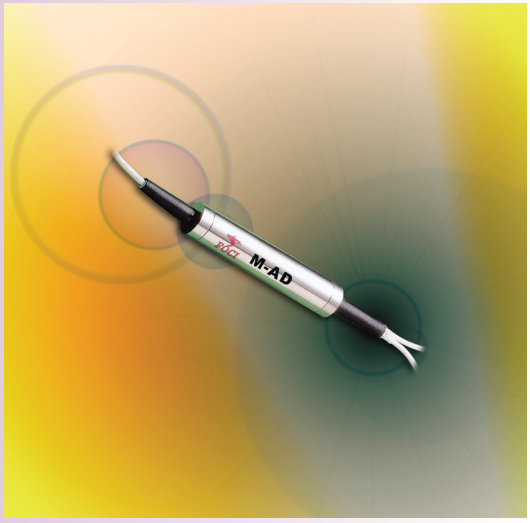
M-AD-1 100 GHz DWDM ADD/DROPS

Features:
- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return loss
- Low loss, low cross-talk
- ITU standard

Applications:
- Telecommunications
- Local area network
- DWDM & FTTH



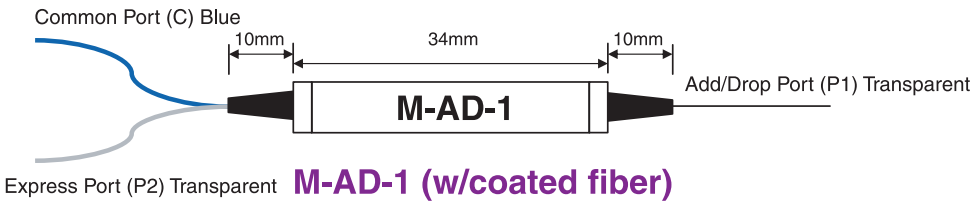
Performance Specifications:

ITEM	100 GHz DWDM Add/Drop
Bandpass @0.5dB, nm	ITU± 0.1
Channel Spacing , GHz	100
Add/Drop Channel Insertion Loss (C-P_1), dB	≤1.0
Express Channel Insertion Loss (C-P_2), dB	≤0.4
Add/Drop Channel Ripple, dB	≤0.3
Isolation (C-P_1), dB	≥25
Isolation (C-P_2), dB	≥12
Directivity, dB	≥45
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	≤1
Max. Optical Power, mW	300
Max. Tensile Load, N	5
Storage Temperature, °C	-40 ~ 85
Operating Temperature, °C	0 ~ 70
Package Size, mm	Ø5.5 x 34 mm for coated fiber (250μm) Ø5.5 x 39 mm for loose tube cable (900μm)

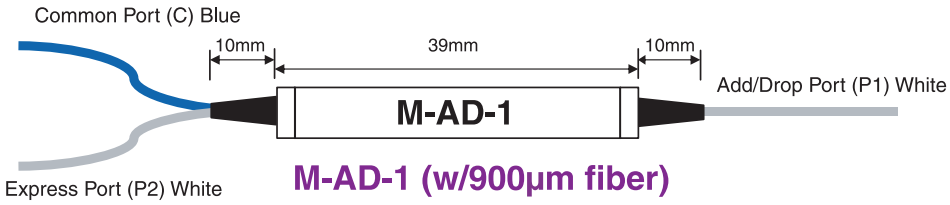
* Without Connector Loss

100 GHz DWDM ADD/DROPS

Diagram & Dimensions



M-AD-1 (w/coated fiber)



M-AD-1 (w/900µm fiber)

Ordering Information:

M - AD - 1 - □□ - □ - □□ - □□ / □□ - 1

Channel Spacing

1	100GHz
X	Others, please specify

Center Wavelength

21	ITU Standard channel C21 (1560.61nm)
35	ITU Standard channel C35 (1549.32nm)
XX	Others, ITU Standard

Package Option (for both ends)

D	Coated SM fiber (250µm)	J	G. 657. A1 fiber
M	Loose tube cable (900µm)	K	Loose tube cable (900µm) with G. 657. A1 fiber
X	Others, please specify		

Pigtail Length

10	1 meter	05	0.5meter
20	2 meter	15	1.5meter
00	Modulized	XX	Others, please specify

Connector Type (Common / Output P_1+ P_2)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	MU	MU type
LC	LC type	NC	None
XX	Others, please specify		

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M-AD-2 200 GHz DWDM ADD/DROPS

Features:
- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return loss
- Low loss, low cross-talk
- ITU standard

Applications:
- Telecommunications
- Local area network
- DWDM & FTTH

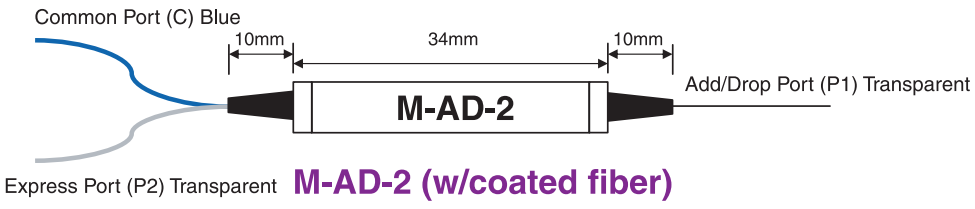
Performance Specifications:

ITEM	200 GHz DWDM Add/Drop
Bandpass @0.5dB, nm	ITU ± 0.25
Channel Spacing , GHz	200
Add/Drop Channel Insertion Loss (C-P_1), dB	≤1.0
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	≥12
Directivity, dB	≥50
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 ~ 85
Operating Temperature, °C	0 ~ 70
Package Size, mm	Ø5.5 x 34 mm for coated fiber (250μm) Ø5.5 x 39 mm for loose tube cable (900μm)

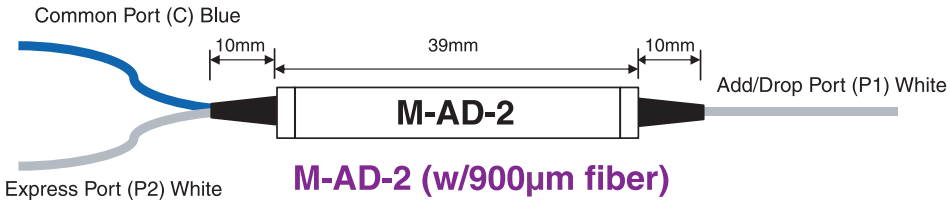
* Without Connector Loss

200 GHz DWDM ADD/DROPS

Diagram & Dimensions



M-AD-2 (w/coated fiber)



M-AD-2 (w/900µm fiber)

Ordering Information:

M - AD - 2 - □□ - □ - □□ - □□ / □□ - 1

Channel Spacing

2	200GHz
X	Others, please specify

Center Wavelength

21	1560.61nm
35	1549.32nm
XX	Others, ITU Standard

Package Option (for both ends)

D	Coated SM fiber (250µm)	J	G. 657. A1 fiber
M	Loose tube cable (900µm)	K	Loose tube cable (900µm) with G. 657. A1 fiber
X	Others, please specify		

Pigtail Length

10	1 meter	05	0.5meter
20	2 meter	15	1.5meter
00	Modulized	XX	Others, please specify

Connector Type (Common / Output P_1+ P_2)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	MU	MU type
LC	LC type	NC	None
XX	Others, please specify		

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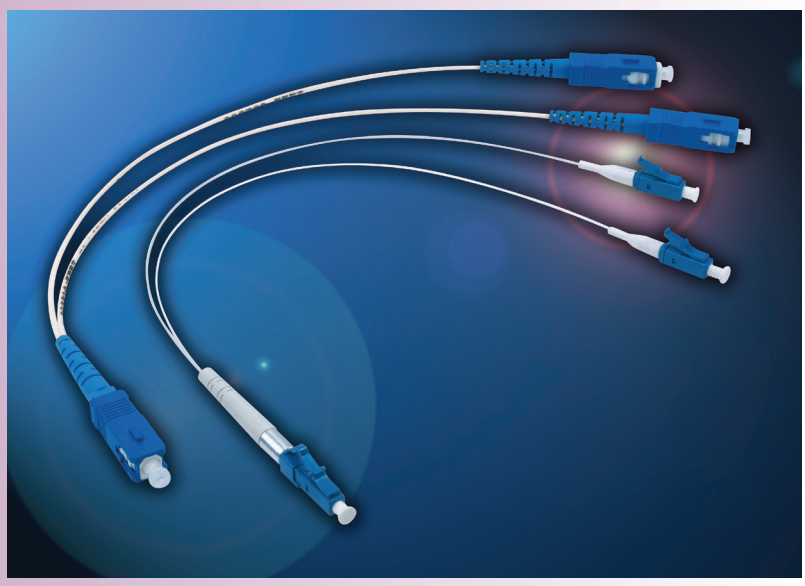
M-CP PLUGGABLE CWDM ADD/DROP

Features:

- Pluggable type
- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return loss
- Low loss, low cross-talk
- ITU standard

Applications:

- Metro/Access CWDM Network
- Local area network

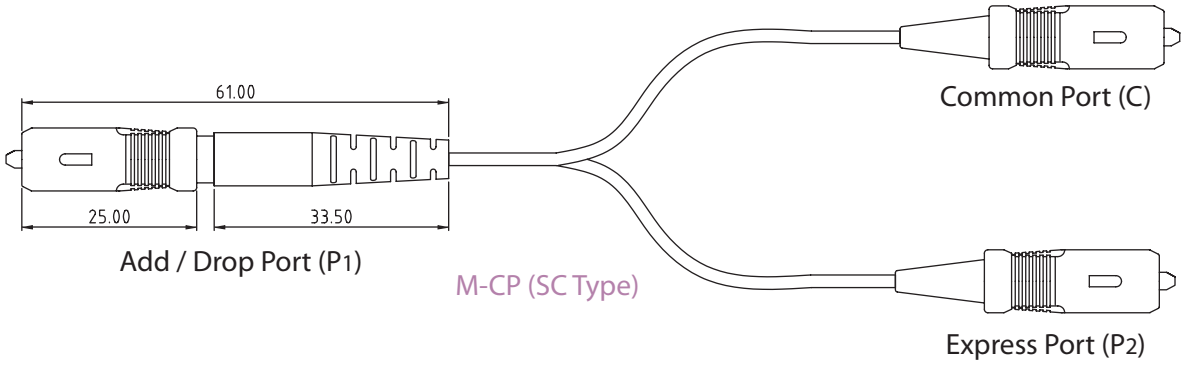


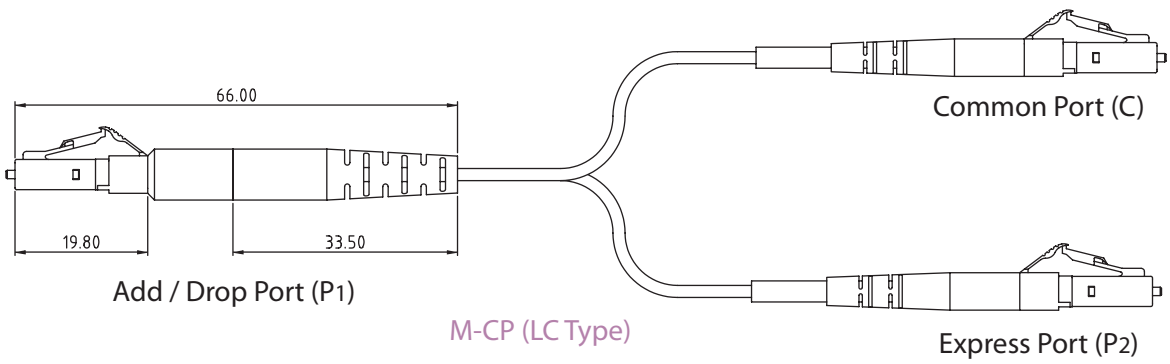
Performance Specifications:

ITEM	Pluggable CWDM Add Drop
Center Wavelength, nm	ITU Channel 1470~1610 (or 1471~1611)
Bandpass @0.5dB, nm	ITU±6.5 or Customer Specify
Channel Spacing , nm	20
Add/Drop Channel Insertion Loss (C-P_1), dB, Typical	≤1.0 (including connector losses)
Express Channel Insertion Loss (C-P_2), dB, Typical	≤0.8 (including connector losses)
Add/Drop Channel Ripple, dB	≤0.3
Isolation (C-P_1), dB	≥30
Isolation (C-P_2), dB	≥12
Directivity, dB	≥40
Optical Input Return Loss, dB	≥45
Polarization Dependent Loss, dB	≤0.1
Polarization Mode Dispersion (PMD), ps	≤0.1
Max. Optical Power, mW	300
Storage Temperature, °C	-40 ~ 85
Operating Temperature, °C	0 ~ 70

PLUGGABLE CWDM ADD/DROP

Diagram & Dimensions:





Ordering Information:

M - CP - A - □□□□ - □ - □□□□ - □□ / □□ / □□

Fiber Type

A	Singlemode fiber	J	G. 657. A1 fiber
X	Others, please specify		

Center Wavelength

1471	1471 nm	1491	1491 nm
1511	1511 nm	1531	1531 nm
1551	1551 nm	1571	1571 nm
1591	1591 nm	1611	1611 nm
XXXX	Others, please specify		

Package Option (for both ends)

2	2.0mm cable
X	Others, please specify

Pigtail Length

X100	1 meter	X050	0.5meter
X200	2 meter	X150	1.5meter
XXXX	Others, please specify		

Connector Type (Com / P_1 / P_2)

SC	SC type	LC	LC type

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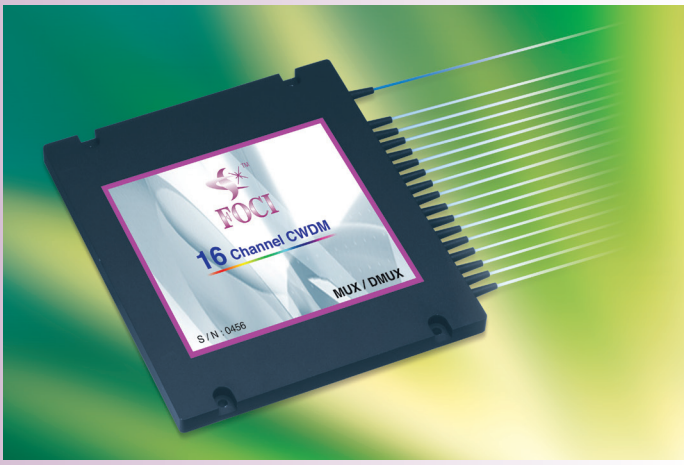
M-CT THIN FILM COARSE WDMS

Features:
- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return loss
- Low loss, low cross-talk
- ITU standard

Applications:
- Telecommunications
- Local area network
- CWDM & FTTH



Performance Specifications:

ITEM	4/8/16 Channel Coarse WDM	
Type	Mux	Demux
Channel No.	4 / 8 / 16 or Customer Specify	
Center Wavelength, nm	ITU Channel 1270-1610 (or 1271-1611)	
Channel Spacing, nm	20	
Passband @0.5dB, nm	ITU±6.5 or Customer Specify	
Insertion Loss, dB for 4 channel	≤1.6	
Insertion Loss, dB for 8 channel	≤2.5	
Insertion Loss, dB for 16 channel	≤3.5	
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 x 4, 1x8 standard); M5 (1 x 16 standard, Mux+Demux 1 x 8 standard), A2, A3	

* Without Connector Loss

THIN FILM COARSE WDMS

Ordering Information:

M - CT - □ - □ - □ - □ - □□ - □□ / □□ - 1

Type

M	Mux
D	Demux
I	Mux/Demux

Package Option (for both ends)

C	Coated fiber (250μm)	J	G. 657. A1 fiber
L	Loose tube cable (900μm)	K	Loose tube cable (900μm) with G. 657. A1 fiber
X	Others, please specify		

No. of Channels

4	4 channel
8	8 channel
S	16 channel
X	Others, please specify

Central Wavelength

1	1511/1531/1551/1571 for 4 channels
2	1501/1521/1541/1561 for 4 channels
3	1471/1491/1511/1531/1551/1571/1591/1611 for 8 channels
S	1311/1331/1351/1371/1411/1431/1451/ 1471/1491/1511/1531/1551/1571/1591/1611 for 16 channels
XX	Others, please specify

Pigtail Length

10	1 meter	05	0.5meter
20	2 meter	15	1.5meter
00	Modulized	XX	Others, please specify

Connector Type (Common / Output)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	MU	MU type
LC	LC type	NC	None
XX	Others, please specify		

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M-BC Mini-CWDM

Features:

- Compact Size for Easy Installation
- Environmentally Stable
- Custom-Defined Specifications
- Low return loss
- Low loss, low cross-talk
- ITU Standard

Applications:

- Telecommunications
- Local area network
- CWDM & FTTH

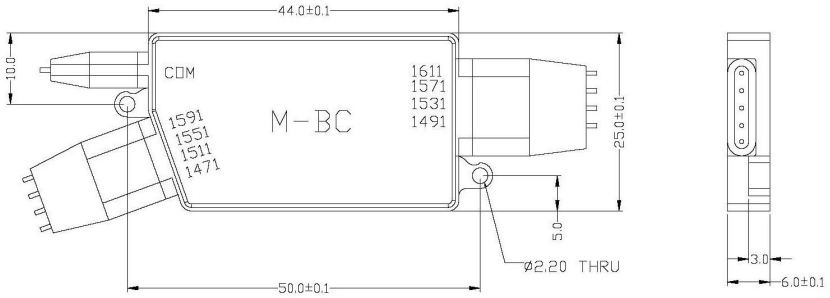
Performance Specifications:

ITEM	4/8/10 channels Mini-CWDMs		
Channel No.	4 /8 /10/ customer specify		
Operating Wavelength, nm	1260~1625		
CWDM Channel Center Wavelength (CWL 1), nm	1271~1611		
CWDM Channel Spacing, nm	20		
CWDM Channel Passband, nm	CWL1+/-6.5		
1310 nm Window Passband	1310+/-50		
CWDM Port Channel Max . Insertion Loss, dB (*)	1.0	1.2	1.5
Upgrade Port Max. Insertion Loss, dB (*)	1.1	1.3	1.6
Max. Passband Ripple, dB	0.5		
Min. Bandwidth @0.5dB of CWDM Channel, nm	15		
Min. Adjacent Channel Isolation, dB	30		
Min. Non-adjacent Channel Isolation, dB	45		
Min. Upgrade port Isolation, dB	14		
Min. Directivity (All ports), dB	55		
Min. Return Loss (All ports), dB	45		
CWDM Channel Max. PDL,dB	20		
Operating Temperature, °C	-40 ~ +70		
Storage Temperature, °C	-40 ~ +85		
Operating Humidity,RH	10%~100%		
Box Dimension (LxWxH), mm	44x25x6		

* without connector loss

MINI-SIZE COARSE WDMS

Dimension Diagram :



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MINI-SIZE COARSE WDMS

Ordering Information:

M - BC - □ - □ - □ - □ - □□□□ - □□□□ - □□ - □□ / □□ - □

Fiber Type

M	Mux
D	Demux (or bidirectional)

Fiber Type

A	Singlemode fiber
J	G657. A1 fiber
X	Others, please specify

Cable Type

C	Coated fiber (250μm)
L	Loose Tube Cable (900μm)
X	Others, please specify

No.of Channels

4	4Channels	K	4Channels+upgrade Port
8	8Channels	L	8Channels+1310nm Port
A	10Channels	M	8Channels+upgrade Port
J	4Channels+1310nm Port	X	Others, please specify

Starting Wavelength

1471	1471nm
1491	1491nm
1551	1551nm
1611	1611nm
XXXX	Others,please specify

Ending Wavelength

1551	1551nm
1571	1571nm
1591	1591nm
1611	1611nm
XXXX	Others,please specify

Pigtall Length

10	1 meter	05	0.5meter
20	2 meter	15	1.5meter
XX	Others, please specify		

Connector Type (input/Common / Output)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	MU	MU type
LC	LC type	NC	None
M0	MPO (Male) 0 degree		
M8	MPO (Male) 8 degree		
F0	MPO (Female) 0 degree		
F8	MPO (Female) 8 degree		
XX	Others, please specify		

Pigtall Length

0	Standard
X	Others, please specify

M-MS MINI-SIZE COARSE WDMS

Features:
- Compact size for easy installation
- Environmentally stable
- Custom-defined specifications
- Low return loss
- Low loss, low cross-talk
- ITU standard

Applications:
- Telecommunications
- Local area network
- CWDM & FTTH

Performance Specifications:

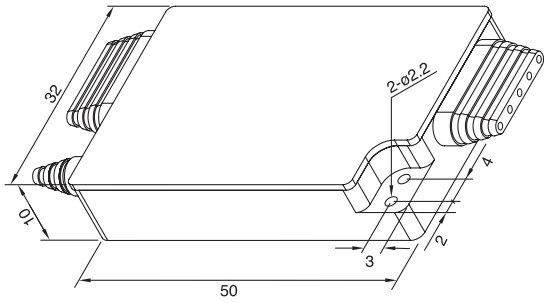
ITEM	Mini-Size Coarse WDM	
Type	Mux	Demux
Channel No.	4 / 8 Channel or Customer Specify	
Center Wavelength, nm	1471-1611	
Channel Spacing, nm	20	
Passband @0.5dB, nm	ITU+/-6.5	ITU+/-6.5
Insertion Loss, dB for 4 channel	≤1.0	≤1.0
Insertion Loss, dB for 8 channel	≤1.4	≤1.4
Ripple In Pass band, dB	≤0.4	≤0.4
Adjacent Channel Isolation, dB	N / A	30
No-adjacent Channel Isolation, dB	N / A	40
Insertion Loss Uniformity, dB	≤1.5	
Directivity, dB	≥50	
Optical Input Return Loss, dB	≥45	
Polarization Dependent Loss, dB	≥0.1	
Polarization Mode Dispersion, ps	≤0.15 (DG)	
Max Optical Power, mW	<300	
Max Tensile Load, N	<5	
Storage Temperature, °C	-40 ~ 85	
Operating Temperature, °C	0 ~ 70	
Package Size, mm^3	50 x 32 x 10	

Note: 1. IL includes all the polarization mode.
2. IL excludes connector loss and will add 0.3dB for a pair connector.

MINI-SIZE COARSE WDMS

Diagram & Dimensions:

Unit: mm



Ordering Information:

M - MS - □ - □□ - □ - □□□□ - □□□□ - □□ - □□ / □□

Type

M	Mux
D	Demux

Fiber Type

A	Singlemode fiber	J	G. 657. A1 fiber
X	Others, please specify		

Cable Type

C	Coated fiber (250μm)		
L	Loose tube cable (900μm)	K	Loose tube cable (900μm) with G. 657. A1 fiber
X	Others, please specify		

No. of Channels

4	4 channel
8	8 channel
X	Others, please specify

Starting Wavelength

1471	1471nm
1491	1491nm
1551	1551nm
1611	1611nm
XXXX	Others, please specify

Ending Wavelength

1551	1551nm
1571	1571nm
1591	1591nm
1611	1611nm
XXXX	Others, please specify

Pigtail Length

10	1 meter	05	0.5meter
20	2 meter	15	1.5meter
XX	Others, please specify		

Connector Type (Common / Output)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	MU	MU type
LC	LC type	NC	None
XX	Others, please specify		

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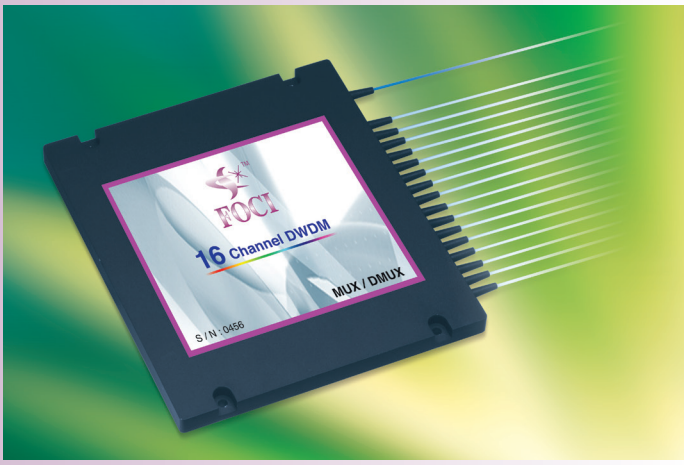
M-DT-1 100 GHz DENSE WDMS

Features:
- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return loss
- Low loss, low cross-talk
- ITU standard

Applications:
- Telecommunications
- Local area network
- DWDM & FTTH



Performance Specifications:

ITEM	100 GHz DWDM	
Type	Mux	Demux
Channel No.	4 / 8 / 16	
Center Wavelength, nm	Ch 21~60 or ITU Standard (customer specify)	
Channel Spacing, nm	0.8	
Channel Spacing, GHz	100	
Passband @0.5dB, nm	ITU ± 0.1	
Insertion Loss, dB for 4 channel	≤2.0	
Insertion Loss, dB for 8 channel	≤3.5	
Insertion Loss, dB for 16 channel	≤4.5	
Adjacent Channel Isolation, dB	N / A	≥25
Non-adjacent Channel Isolation, dB	N / A	≥35
Uniformity, dB	≤1.5(Mux-Demux Pair only)	
Directivity, dB	≥45	
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 ~ 85	
Operating Temperature, °C	0 ~ 70	
Package Size, mm^3	M4 (1 x 4, 1x8 standard); M5 (1 x 16 standard, Mux+Demux 1 x 8 standard), A2, A3	

* Without Connector Loss

100 GHz DENSE WDMS

Ordering Information:

M - DT - 1 - □ - □ - □ - □ - □□ - □□ / □□ - 1

Channel Spacing

1	100 GHz
X	Others, please specify

Type

M	Mux
D	Demux
I	Mux/Demux

Package Option (for both ends)

C	Coated SM fiber (250μm)	J	G. 657. A1 fiber
L	Loose tube cable (900μm)	K	Loose tube cable (900μm) with G. 657. A1 fiber
X	Others, please specify		

No. of Channels

4	4 channel, ITU Standard
6	6 channel, ITU Standard
8	8 channel, ITU Standard
H	16 channel, ITU Standard
X	Others, please specify

Central Wavelength

1	Ch 21/22/23/24
2	Ch 25/26/27/28
3	Ch 29/30/31/32
4	Ch 33/34/35/36
B	Ch 43/44/45/46/47/48/49/50/51/52/53/54/55/56/57/58
R	Ch 21/22/23/24/25/26/27/28/29/30/31/32/33/34/35/36
XX	Others, please specify

Pigtail Length

10	1 meter	05	0.5meter
20	2 meter	15	1.5meter
00	Modulized	XX	Others, please specify

Connector Type (Common / Output)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	MU	MU type
LC	LC type	NC	None
XX	Others, please specify		

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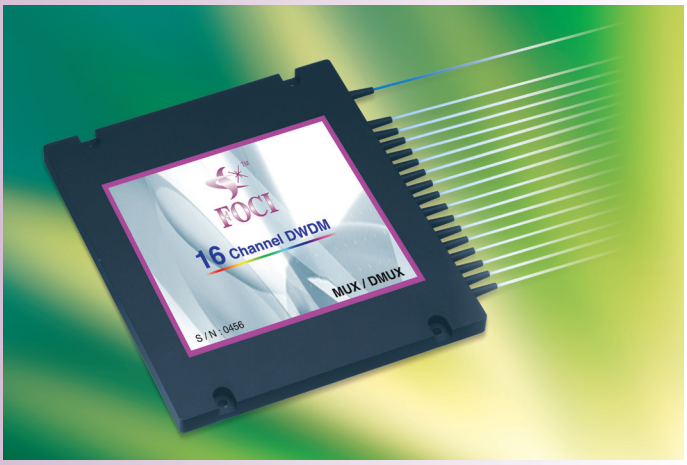
M-DT-2 200 GHz DENSE WDMS

Features:
- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return loss
- Low loss, low cross-talk
- ITU standard

Applications:
- Telecommunications
- Local area network
- DWDM & FTTH



Performance Specifications:

ITEM	200 GHz DWDM	
Type	Mux	Demux
Channel No.	4 / 8 / 16	
Center Wavelength, nm (4 Channel)	(1)Ch 21/23/25/27 (2)Ch 29/31/33/35 (3)Ch 43/45/47/49 (4)Ch 51/53/55/57 or ITU Standard (customer specify)	
Center Wavelength, nm (8 Channel)	(R)Ch 21/23/25/27/29/31/33/35 (B)Ch 43/45/47/49/51/53/55/57	
Center Wavelength, nm (16 Channel)	(C)Ch 21/23/25/27/29/31/33/35/43/45/47/49/51/53/55/57	
Channel Spacing, nm	1.6	
Channel Spacing, GHz	200	
Passband @0.5dB, nm	ITU ± 0.25	
Insertion Loss, dB for 4 channel	≤2.0	
Insertion Loss, dB for 8 channel	≤3.5	
Insertion Loss, dB for 16 channel	≤4.5	
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 ~ 85	
Operating Temperature, °C	0 ~ 70	
Package Size, mm^3	M4 (1 x 4, 1x8 standard); M5 (1 x 16 standard, Mux+Demux 1 x 8 standard), A2, A3	

* Without Connector Loss

200 GHz DENSE WDMS

Ordering Information:

M - DT - 2 - □ - □ - □ - □ - □□ - □□ / □□ - 1

Channel Spacing

2	200 GHz
X	Others, please specify

Type

M	Mux
D	Demux
I	Mux/Demux

Package Option (for both ends)

C	Coated SM fiber (250μm)	J	G. 657. A1 fiber
L	Loose tube cable (900μm)	K	Loose tube cable (900μm) with G. 657. A1 fiber
X	Others, please specify		

No. of Channels

4	4 channel, ITU Standard
6	6 channel, ITU Standard
8	8 channel, ITU Standard
H	16 channel, ITU Standard
X	Others, please specify

Central Wavelength

1	Ch 21/23/25/27
2	Ch 29/31/33/35
3	Ch 43/45/47/49
4	Ch 51/53/55/57
B	Ch 43/45/47/49/51/53/55/57
R	Ch 21/23/25/27/29/31/33/35
H	Ch 21/23/25/27/29/31/33/35/43/45/47/49/51/53/55/57
XX	Others, please specify

Pigtail Length

10	1 meter	05	0.5meter
20	2 meter	15	1.5meter
00	Modulized	XX	Others, please specify

Connector Type (Common / Output)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	MU	MU type
LC	LC type	NC	None
XX	Others, please specify		

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M-MM MULTIMODE FILTER WDMS

Features:

- 850/1310nm operating wavelength
- Wideband pass
- Low return loss
- Low cross-talk
- Low insertion loss
- High isolation

Applications:

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

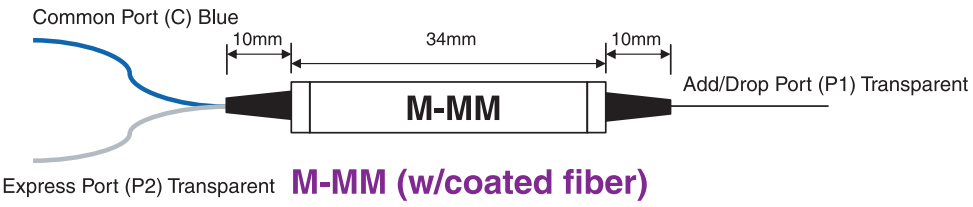
Performance Specifications:

ITEM	Multimode Filter WDM
Operating Wavelength, nm	800~900nm reflect & 1260~1360nm pass (or Customer Specify)
Insertion Loss, dB	Typical: 0.9dB; Max: 1.2 dB
Isolation, dB	≥40 dB (C → P_1 @ 850 nm VCSEL) ≥15 dB (C → P_2 @ 1310 nm VCSEL) ≥20 dB (C → P_1 @ 850 nm LED) ≥15 dB (C → P_2 @ 1310 nm LED)
Max. Tensile Load, N	5
Thermal Stability, dB / °C	≤0.005
Storage / Operating Temperature, °C	-40 ~85 / 0 ~ 70
Package Size, mm	Ø5.5 x 34 mm for coated fiber (250μm) Ø5.5 x 39 mm for loose tube cable (900μm)

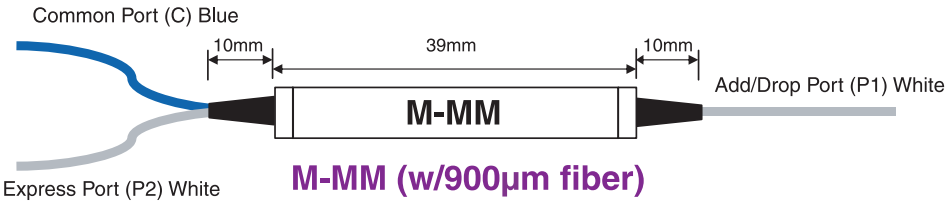
* Without Connector Loss

MULTIMODE FILTER WDMS

Diagram & Dimensions



M-MM (w/coated fiber)



M-MM (w/900µm fiber)

Ordering Information:

M - MM - □□ - □ - □ - □□ - □□ / □□ - 0

Wavelength

83	800-900nm/1260-1360 nm (reflect/pass)
XX	Others, please specify

Fiber Type

C	50/125µm fiber
D	62.5/125µm fiber

Package Option (for both ends)

D	Coated fiber (250µm)
M	Loose tube cable (900µm)
X	Others, please specify

Pigtail Length

10	1 meter
XX	Others, please specify

Connector Type (Com / Output P_1 & P_2)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	MU	MU type
LC	LC type	NC	None
XX	Others, please specify		

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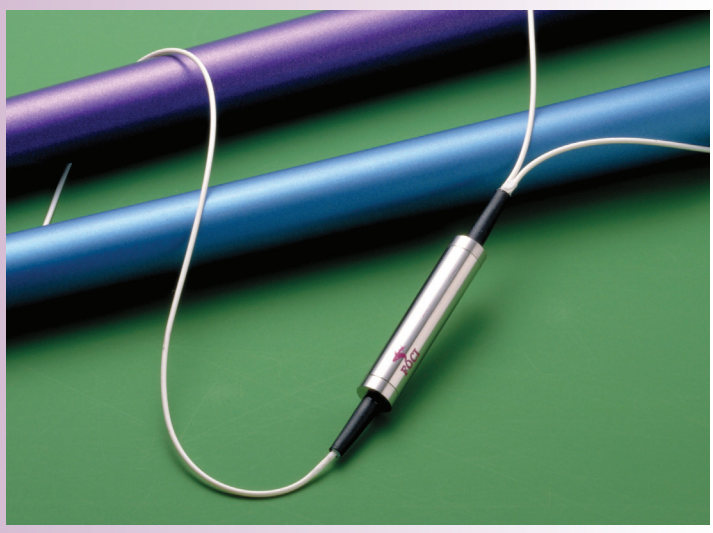
M-NT SINGLEMODE EDGE FILTER WDMS

Features:

- Environmentally stable
- Wide bandpass
- Low return loss
- Low loss, low cross-talk
- High isolation
- Low Polarization dependent loss
- Optical path epoxy free

Applications:

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



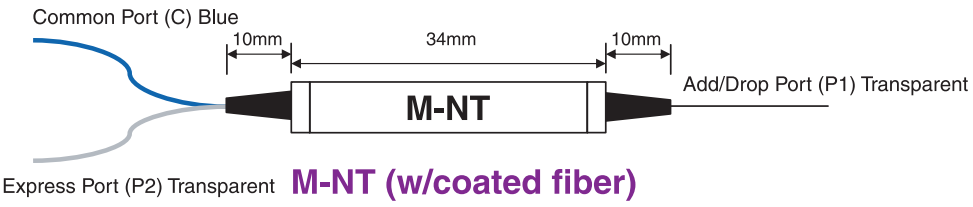
Performance Specifications:

ITEM		Singlemode Edge Filter WDM
Operating Wavelength, nm		1260~1360 & 1460~1620 or Customer Specify
Insertion Loss, dB	Typical	0.5
	Max	0.7 & 0.5 (at reflect channel)
Passband Ripple, dB		≤0.3
Isolation, dB		≥15 (reflect channel) ≥40 (pass channel)
Optical Return Loss, dB		≥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 ~85
Operating Temperature, °C		0 ~ 70
Package Size, mm		Ø5.5 x 34 mm for coated fiber (250μm) Ø5.5 x 39 mm for loose tube cable (900μm)

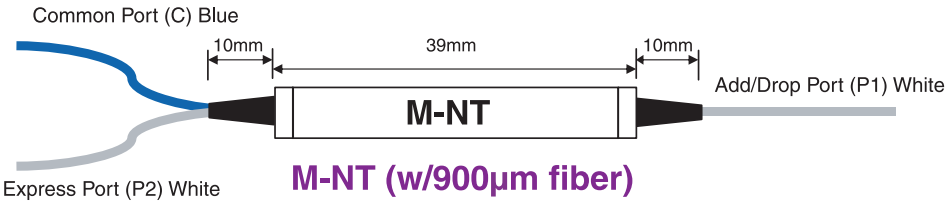
* Without Connector Loss

SINGLEMODE EDGE FILTER WDMS

Diagram & Dimensions



M-NT (w/coated fiber)



M-NT (w/900µm fiber)

Ordering Information:

M - NT - □□ - □ - □ - □□ - □□ / □□ - 1

Wavelength

35	1310/1550 nm (reflect/pass)
53	1550/1310 nm (reflect/pass)
XX	Others, please specify

Fiber Type

A	Singlemode fiber	J	G. 657. A1 fiber

Package Option (for both ends)

D	Coated fiber (250µm)
M	Loose tube cable (900µm)
X	Others, please specify

Pigtail Length

10	1 meter
XX	Others, please specify

Connector Type (Com / P_1 & P_2)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	MU	MU type
LC	LC type	NC	None
XX	Others, please specify		

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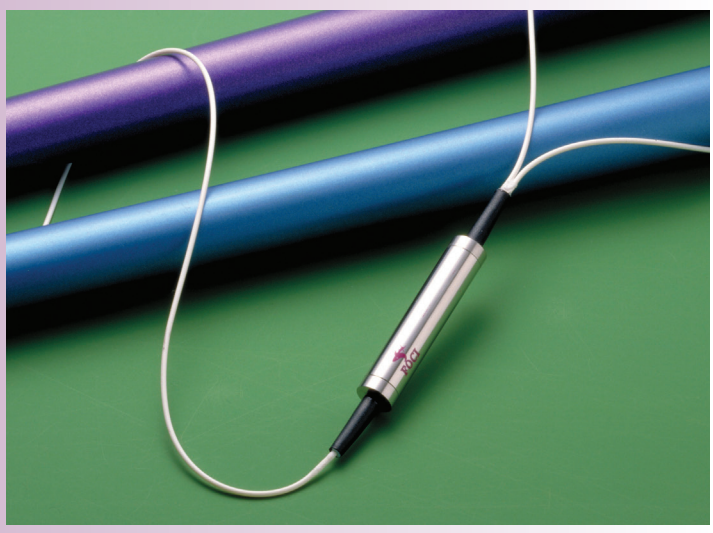
M-NT-TR TRIPLE WAVELENGTH WDMS(1310/1490/1550 NM)

Features:

- Environmentally stable
- Wide bandpass
- Low return loss
- Low loss, low cross-talk
- High isolation
- Low Polarization dependent loss
- Optical path epoxy free

Applications:

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



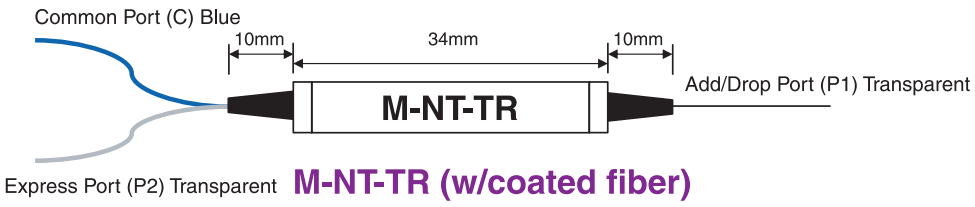
Performance Specifications:

ITEM		Triple Warelength WDM
Operating Wavelength, nm		1310 ± 50(reflect), 1490 ± 10(reflect), 1550 ±10(pass) or Customer Specify
Insertion Loss, dB	Typical	0.70
	Max	1.0
Passband Ripple, dB		≤0.3
Isolation, dB		≥25 (1310/1490nm port) ≥40 (1550nm port)
Optical Return Loss, dB		≥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 ~85
Operating Temperature, °C		0 ~ 70
Package Size, mm		Ø5.5 x 34 mm for coated fiber (250μm) Ø5.5 x 39 mm for loose tube cable (900μm)

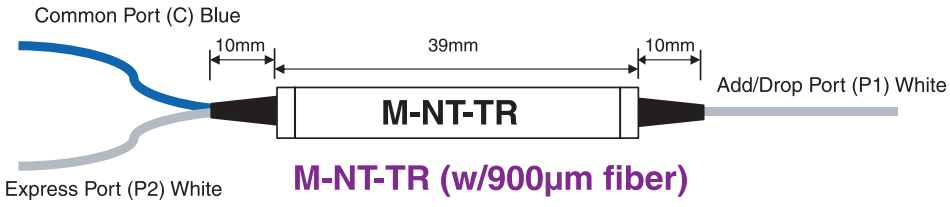
* Without Connector Loss

TRIPLE WAVELENGTH WDMS (1310/1490/1550 NM)

Diagram & Dimensions



M-NT-TR (w/coated fiber)



M-NT-TR (w/900μm fiber)

Ordering Information:

M - NT - TR - □ - □ - □□ - □□ / □□ - 1

Fiber Type

A	Singlemode SM fiber	J	G. 657. A1 fiber

Package Option (for both ends)

D	Coated fiber (250μm)		
M	Loose tube cable (900μm)	K	Loose tube cable (900μm) with G. 657. A1 fiber
X	Others, please specify		

Pigtail Length

10	1 meter	05	0.5 meter
XX	Others, please specify		

Connector Type (Com / P_1 & P_2)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	MU	MU type
LC	LC type	NC	None
XX	Others, please specify		

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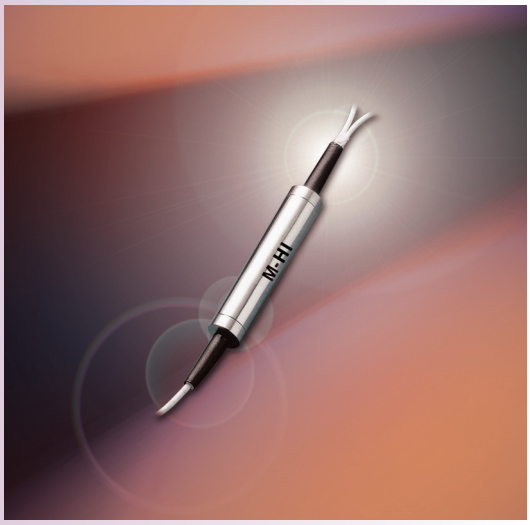
M-HI HIGH ISOLATION WDMS

Features:
- Environmentally stable
- Wide bandpass
- Low return loss
- Low loss, low cross-talk
- High isolation
- Low Polarization dependent loss
- Optical path epoxy free

Applications:
- Telecommunications
- Local area network
- Fiber optic sensors
- Testing instruments
- RFTS & CATV & FTTH



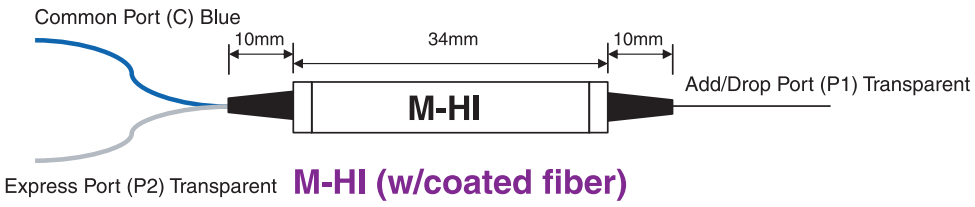
Performance Specifications:

ITEM		High Isolation WDM
Operating Wavelength, nm		1270~1350&1510~1590 or Customer Specify
Insertion Loss, dB	Typical	0.70
	Max	1.0
Passband Ripple, dB		≤0.3
Isolation, dB		≥40 (reflect channel) ≥40 (pass channel)
Optical Return Loss, dB		≥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 ~ 85
Operating Temperature, °C		0 ~ 70
Package Size, mm		Ø5.5 x 34 mm for coated fiber (250μm) Ø5.5 x 39 mm for loose tube cable (900μm)

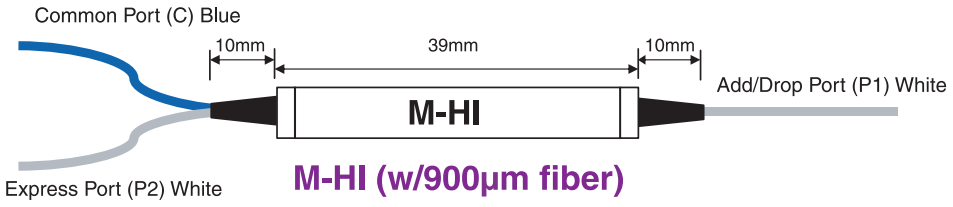
* Without Connector Loss

HIGH ISOLATION WDMS

Diagram & Dimensions



M-HI (w/coated fiber)



M-HI (w/900μm fiber)

Ordering Information:

M - HI - □□ - □ - □ - □□ - □□ / □□ - 1

Wavelength

35	1310/1550 nm (reflect/pass)		
53	1550/1310 nm (reflect/pass)		
XX	Others, please specify		

Fiber Type

A	Singlemode fiber	J	G. 657. A1 fiber

Package Option (for both ends)

D	Coated fiber (250μm)		
M	Loose tube cable (900μm)	K	Loose tube cable (900μm) with G. 657. A1 fiber
X	Others, please specify		

Pigtail Length

10	1 meter	05	0.5 meter
XX	Others, please specify		

Connector Type (Com / P_1 & P_2)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	MU	MU type
LC	LC type	NC	None
XX	Others, please specify		

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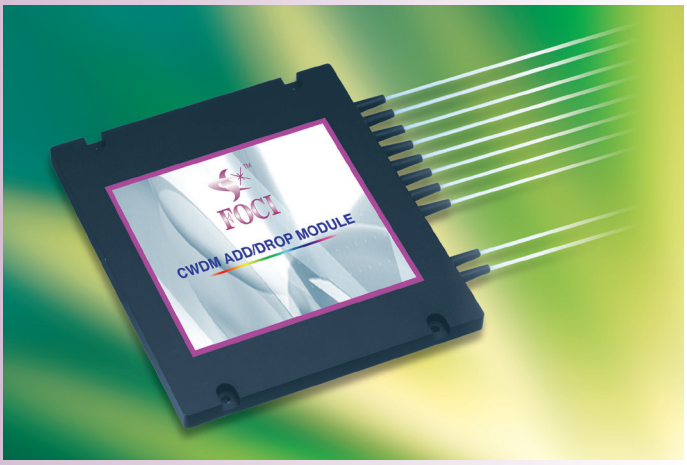
M-MC CWDM ADD/DROP MODULE

Features:
- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return loss
- Low loss, low cross-talk
- ITU standard

Applications:
- Telecommunications
- Local area network
- CWDM & FTTH



Performance Specifications:

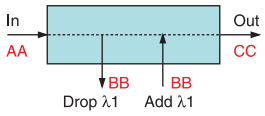
ITEM	1/2/4/8 Channel CWDM Add/Drop Module			
Channel No.	1/ 2 / 4 / 8 or Customer Specify			
Starting Wavelength, nm	ITU Channel 1270~1610 (or 1271~1611)			
Channel Spacing, nm	20			
Passband @0.5dB, nm	ITU ± 6.5mm			
Typical Insertion Loss, dB	1 set of λ	2 set of λ	4 set of λ	8 set of λ
Input/Drop Channel	≤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 / °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 (1/2/4 channel standard), M5 (8 channel-single directional standard), A2, A3			

* Without Connector Loss

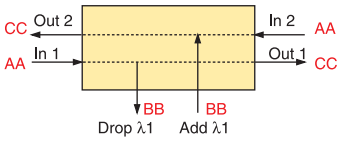
CWDM ADD/DROP MODULE

Structure:

Single
M-MC-S2-01- -AA-BB-CC

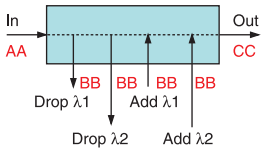


Dual
M-MC-D2-01- -AA-BB-CC

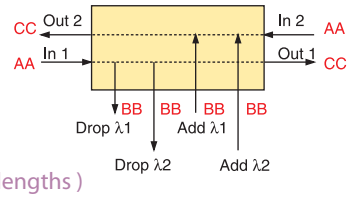


(1 set of wavelength)

Single
M-MC-S2-02- -AA-BB-CC



Dual
M-MC-D2-02- -AA-BB-CC



(2 sets of wavelengths)

Ordering Information:

M - MC - □□ - □□ - □□ - □ - □□ - □□ / □□ / □□ - □□ - 1

Channel Spacing

S2	20nm, single directional
D2	20nm, dual directional
XX	Others, Customer Specify

Sets of Wavelengths

01	1 set of Wavelength
02	2 sets of Wavelengths
04	4 sets of Wavelengths
XX	Others

Starting Wavelength

31	1311 nm	33	1331 nm
35	1351 nm	37	1371 nm
39	1391 nm	41	1411 nm
43	1431 nm	45	1451 nm
47	1471 nm	49	1491 nm
51	1511 nm	53	1531 nm
55	1551 nm	57	1571 nm
59	1591 nm	61	1611 nm

Cable type (for both ends)

C	Singlemode fiber	J	G. 657. A1 fiber
L	Loose tube cable (900μm)	K	Loose tube cable (900μm) with G. 657. A1 fiber
X	Others, please specify		

Pigtail Length

10	1 meter	05	0.5meter
20	2 meter	15	1.5meter
00	Modulized	XX	Others, please specify

Connector Type (Input / Add & Drop / Output ports)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	MU	MU type
LC	LC type	NC	None
XX	Others, please specify		

Package Type

M4	M4	M5	M5	A2	A2	XX	Others

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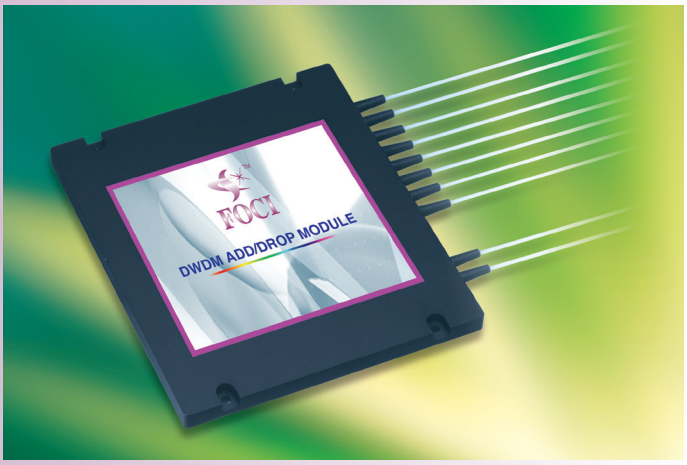
M-MD DWDM ADD/DROP MODULE

Features:
- Environmentally stable
- Easy installation
- Custom-defined specifications
- Low return loss
- Low loss, low cross-talk
- ITU standard

Applications:
- Telecommunications
- Local area network
- CWDM & FTTH



Performance Specifications:

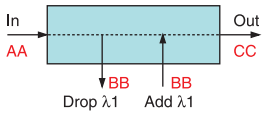
ITEM	1/2/4/8 Channel DWDM Add/Drop Module	
Channel No.	1/ 2 / 4 / 8 or Customer Specify	
Central Wavelength, nm	Channel 21 to 60 or ITU	
Channel Spacing, nm	0.8 (100GHz)	1.6 (200GHz)
Pass Band @0.5dB	ITU ± 0.1	ITU ± 0.25
Operating Wavelength, nm	1500-1610	1500-1610
Insertion Loss (Com In → N Drop Ch.)	0.4 x (N-1) +1.0	0.4 x (N-1) + 1.0
Insertion Loss (M Add Ch. → Com Out)	0.4 x (N-1) +1.0	0.4 x (N-1) + 1.0
Insertion Loss (In → Out)	0.4 x (N+M)	0.4 x (N+M)
Adjacent Channel Isolation	25	30
Non-Adjacent Channel Isolation	35	40
Thermal Stability,Wavelength Drift, pm / °C	</=1	</=2
Thermal Stability, Insertion Loss Variation	</=0.5 (over operating temperature)	
Directivity, dB	≥45(for 100G) ; ≥50(for 200G)	
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 ~ 85	
Operating Temperature, °C	0 ~ 70	
Package Size, mm^3	M4 (1/2/4 channel standard), M5 (8 channel-single directional standard), A2, A3	

* Without Connector Loss

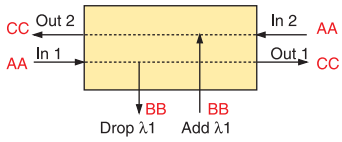
DWDM ADD/DROP MODULE

Structure:

Single
M-MD-SX-2- -AA-BB-CC

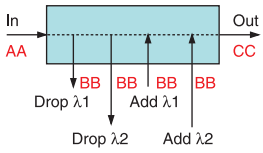


Dual
M-MD-DX-01- -AA-BB-CC

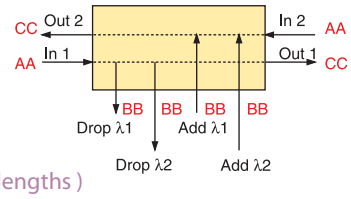


(1 set of wavelength)

Single
M-MD-SX-2- -AA-BB-CC



Dual
M-MD-DX-2- -AA-BB-CC



(2 sets of wavelengths)

Ordering Information:

M - MD - □□ - □□ - □□ - □ - □□ - □□ / □□ / □□ - □□ - 1

Channel Spacing

S8	0.8nm, single directional
D8	0.8nm, dual directional
S6	1.6nm, single directional
D6	1.6nm, dual directional

Sets of Wavelengths

01	1 set of Wavelength
02	2 sets of Wavelengths
04	4 sets of Wavelengths
XX	Others

Starting Wavelength

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

Cable type (for both ends)

C	Singlemode bare fiber	J	G. 657. A1 fiber
L	Loose tube cable (900μm)	K	Loose tube cable (900μm) with G. 657. A1 fiber
X	Others, please specify		

Pigtail Length

10	1 meter	05	0.5meter
20	2 meter	15	1.5meter
00	Modulized	XX	Others, please specify

Connector Type (Input / Add & Drop / Output ports)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	MU	MU type
LC	LC type	NC	None
XX	Others, please specify		

Package Type

M4	M4	M5	M5	A2	A2	XX	Others

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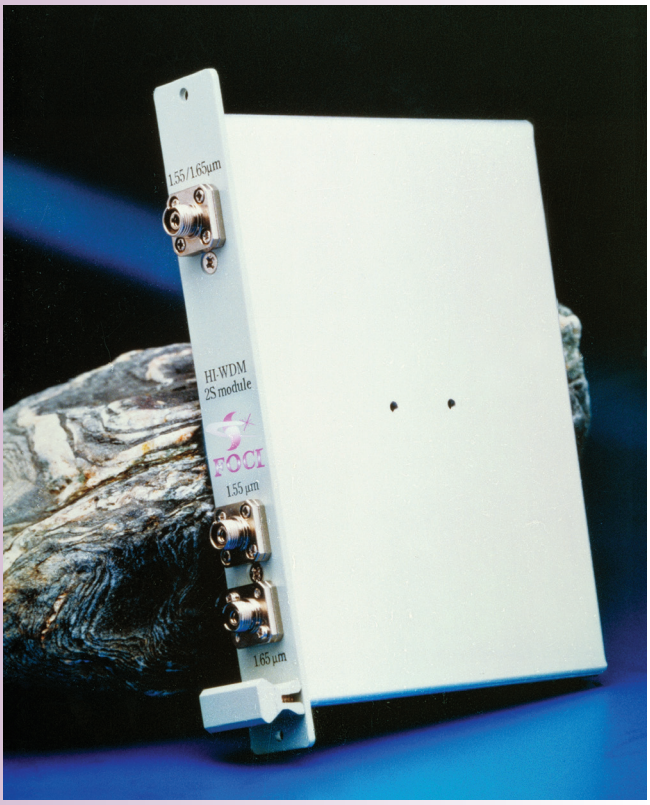
W-HI HIGH ISOLATION WDMS

Features:
- Ultra high isolation
- High port isolation
- Custom defined specifications
- Low insertion loss
- Environmentally stable

Applications:
- Telecommunications
- CATV
- Fiber sensing
- Testing instruments
- RFTS



Performance Specifications:

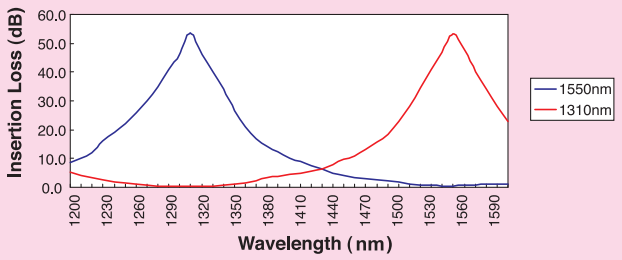
ITEM		High Isolation WDMs					
Wavelength Range, nm		1310/1550		1310/1650		1310/1625	
Stage		2	3	2	3	2	3
Typical Insertion Loss, dB		0.7	1.0	0.7	1.0	0.7	1.0
Minimum Isolation, dB (over the temperature -40 ~ 75°C), (all SOP, at specified bandwidth)		30	40	30	40	30	40
Bandwidth, nm		±20					
Polarization Stability, dB		≤0.2					
Thermal Stability, dB		≤0.3					
Operating Temperature, °C		-40 ~ +85 (*)					
Storage Temperature, °C		-55 ~ +85					
Package Options (for different pigtailing)	1. coated fiber (250μm)	A2, MA	A3, MA	A2, MA	A3, MA	A2, MA	A3, MA
	2. loose tube (900μm)	A2, MA	A3, MA	A2, MA	A3, MA	A2, MA	A3, MA
	3. PVC cable (3.0mm)	A2, MA	A3, MA	A2, MA	A3, MA	A2, MA	A3, MA

Note: 1. The packaging option codes are explained in Packaging Dimensions below.
2. SOP = State of Polarization.
3. I.L.: Without Connector Loss.
4. * 0°C ~ +70°C for 900μm, 2.0mm, or 3.0mm cable.

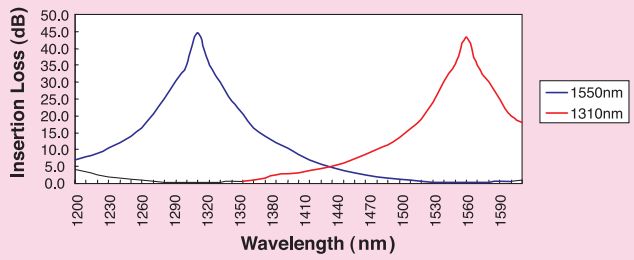
HIGH ISOLATION WDMS

Spectral Performance:

W-HI 3-Stage High Isolation Wavelength Division Multiplexer
Operating Wavelength Band=1310/1550nm



W-HI 2-Stage High Isolation Wavelength Division Multiplexer
Operating Wavelength Band=1310/1550nm



Ordering Information:

W - HI - □ □ - XX - □ - □□ □□ - □□ - □□ / □□

Fiber Type

A	Corning SMF-28e
X	Others, please specify

Package Option (for both ends)

C	A2/A3 with coated fiber (250μm)
D	MA with coated fiber
L	A2/A3 with loose tube cable (900μm)
M	MA with loose tube cable
O	A2/A3 with PVC 2.0mm cable
Q	A2/A3 with PVC 3.0mm cable
R	MA with PVC 3.0mm cable
S	MA with adaptors
X	Others, please specify

Stage

2	2-stages
3	3-stages

Port Number

12	1 x 2

Pigtail Length (for each port)

10	1 meter	05	0.5 meter
20	2 meter	15	1.5 meter
00	Modulized	XX	Others, please specify

Wavelength

35	1310/1550nm	36	1310/1650nm
		3H	1310/1625nm

Connector Type (Input / Output)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	LC	LC type
MU	MU type	NC	None
XX	Others, please specify		

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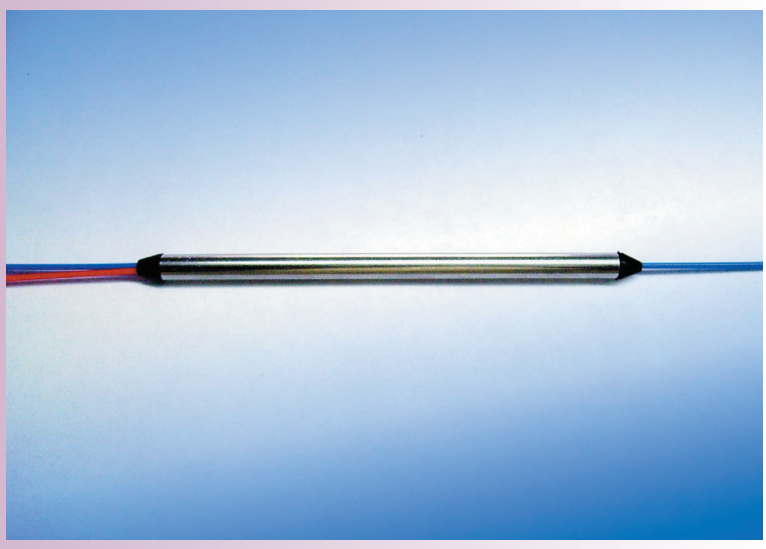
W-NS STANDARD SINGLEMODE WDMS

Features:
- Ultra high isolation
- High port isolation
- Custom defined specifications
- Low insertion loss
- Environmentally stable

Applications:
- Telecommunications
- Local area network
- Fiber to the home
- CATV
- Fiber optic testing
- Testing instruments
- RFTS



Performance Specifications:

ITEM		High Isolation WDMs		
Operating Wavelength, nm		1310/1550	1310/1625	1310/1650
Typical Insertion Loss, dB		0.25	0.25	0.25
Maximum Insertion Loss, dB		0.5	0.5	0.5
Minimum Isolation, dB (over temperature -40 ~ +75°C), (all SOP, at specified wavelength)		16		
Bandwidth, nm		±20		
Polarization Stability, dB		<0.1		
Thermal Stability, dB		<0.2		
Operating Temperature, °C		-40 ~ +85(*)		
Storage Temperature, °C		-55 ~ +85		
Package Options (for different pigtailing)	1. coated fiber (250μm)	T5, MA	T5, MA	T5, MA
	2. loose tube (900μm)	TA, MA	TA, MA	TA, MA
	3. PVC cable (3.0mm)	A1, MA	A1, MA	A1, MA

Note: 1. The packaging option codes are explained in Packaging Dimensions below.
2. * 0°C ~ +70°C for 900μm, 2.0mm, or 3.0mm cable.
3. I.L.: Without Connector Loss.

STANDARD SINGLEMODE WDMS

Ordering Information:

W - NS - □ □ - XX - 1 - □□ □□ - □□ - □□ / □□

Fiber Type

A	Corning SMF-28e
X	Others, please specify

Package Option (for both ends)

C	T5/T4 with coated fiber (250μm)
D	MA with coated fiber
L	TA/TD with loose tube cable (900μm)
M	MA with loose tube cable
O	A1/A4 with PVC 2.0mm cable
Q	A1/A4 with PVC 3.0mm cable
R	MA with PVC 3.0mm cable
S	MA with adaptors
X	Others, please specify

Port Number

12	1 x 2
22	2 x 2

Pigtail Length (for each port)

10	1 meter	05	0.5 meter
20	2 meter	15	1.5 meter
00	Modulized	XX	Others, please specify

Wavelength

35	1310/1550nm	36	1310/1650nm
3H	1310/1625nm		

Connector Type (Input / Output)

FC	FC type	AP	FC/APC type
SC	SC type	AS	SC/APC type
ST	ST type	LC	LC type
MU	MU type	NC	None
XX	Others, please specify		

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