



INNOBIZ
INNOBIZ COMPANY



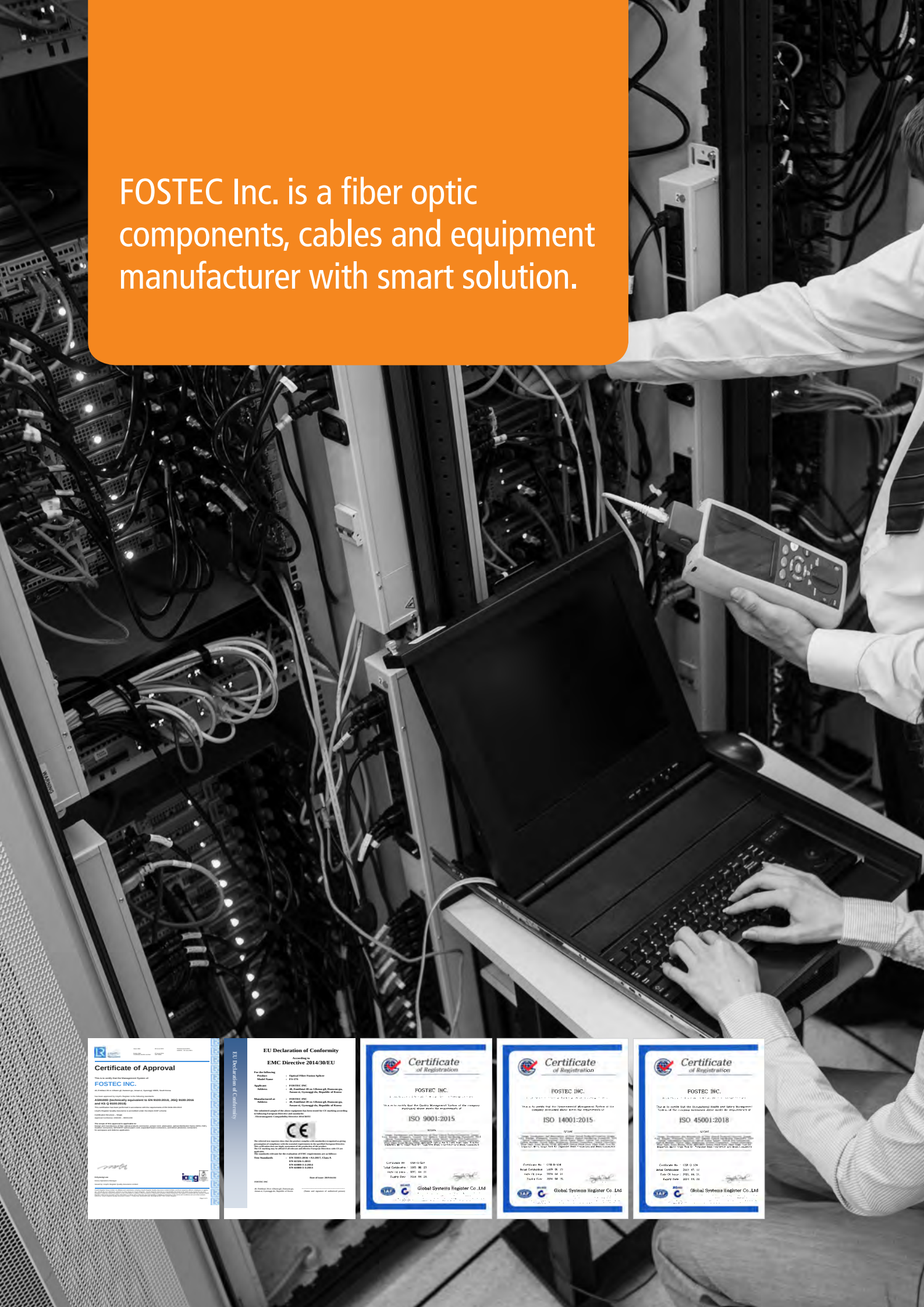
RoHS
Compliance



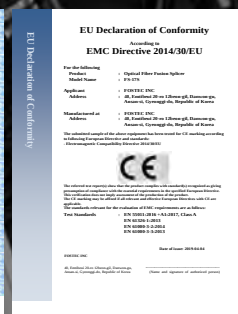
FIBER OPTIC SOLUTIONS



FOSTEC
www.fostec.co.kr



FOSTEC Inc. is a fiber optic components, cables and equipment manufacturer with smart solution.



Company History

- 2021** 06 Acquired AS9100 certificate
- 05 Released in the field of silicon photonics
- 2020** 04 Launched on AMP(Alternative Maritime Power system) optical networks
- 2019** 05 Awarded performance certificate (contactless connector) / Minister of Small and Medium Venture Business
- 2018** 12 Acquired ISO 45001 Certificate
- 12 Participated in the Ministry of Defense, Micro Wave Performance Improvement Project
- 2017** 11 FOBEX Acquired Certificate of word class product
- 2016** 08 Company expansion and relocation(Ansan-Si)
- 2015** 05 Supply agreement with Ministry of National Defense for C4I ATCIS project.
- 2014** 11 Supply agreement with Korean Army for Tactical Information Communication Network(TICN) project
- 2012** 11 "Venture Business Award" by Ministry of Knowledge Economy of Korea
- 2011** 10 "Best Corporation" Award from Siheung city government
- 2010** 10 Recognized for being an eco-friendly company
- 2009** 10 Selected as Innovative Small & Medium Enterprise (MAIN-BIZ title)
- 2008** 11 Founded R&D center
- 2007** 03 Choice INNO-BIZ by Small-Medium Business Administration
- 2005** 12 Venture Company of choice SMBA(Kyonggi Do)
- 2004** 08 Acquired ISO9001, ISO14001 Certificate
- 2003** 03 Completed development of Digital Home System (HDTV, IP STB, DVD, Digital Monitor, 5.1 CH Sound)
- 2002** 06 Providing digital TV broadcasting system to OO region
- 2001** 02 Established corporation & Opening of the manufacturing factory
- 1998** 02 Business Start (private business)

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Optical Fiber Patch Cord



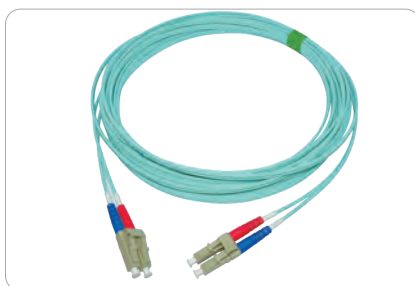
MPO/MTP



LC type



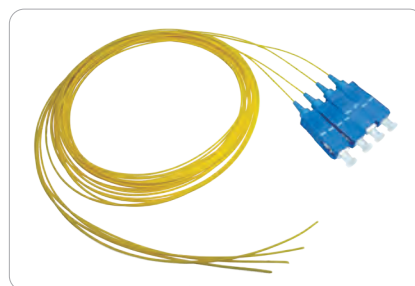
LC Uniboot type



LC short boot type



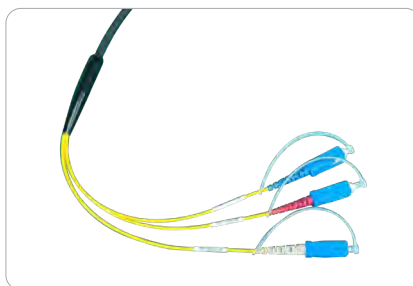
LC angle Boot type



Pigtail



Breakout cord 2C



Breakout cord 3C



Outdoor OM3 4C(Ø7.0)



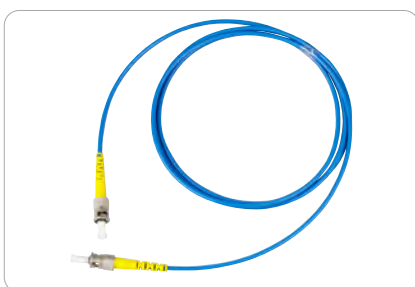
Outdoor SM 1C(Ø3)



Outdoor SM 1C(Ø4.8)



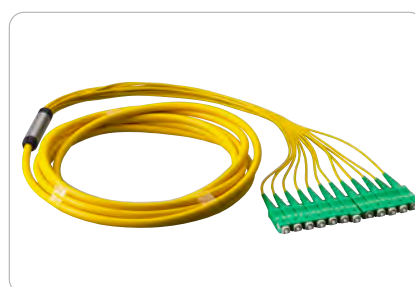
Outdoor SM 2C(Ø6.0)



Ø3.0 Armored Cord



Outdoor(Armored)



Multi Patch Cord 12C

Optical Fiber Patch Cord

Applications

- Telecommunication networks
- Local Area Networks
- CATV networks
- Active device termination
- Data system networks

Features & Benefits

- Compliant with: IEC, JIS, Telcordia
- Customized design
- Standard length of SC, FC and ST assemblies in stock
- Minimum loss

Specification

Parameter	Condition	Value [dB]		
		Min	Typical	Max
Insertion Loss			< 0.15	< 0.30
Return Loss	SPC	> 40	> 45	
	UPC	> 50	> 55	
	APC	> 60	> 65	
Mating Durability	500 times			< 0.20
Temperature Cycling	-40°C ~ + 85°C			< 0.20
Humidity Cycling	75°C, RH 95%			< 0.20
Vibration	10~55Hz [3 Axis]			< 0.20
Impact	1.5m drop, 8 times			< 0.20

Ordering Information

OPC

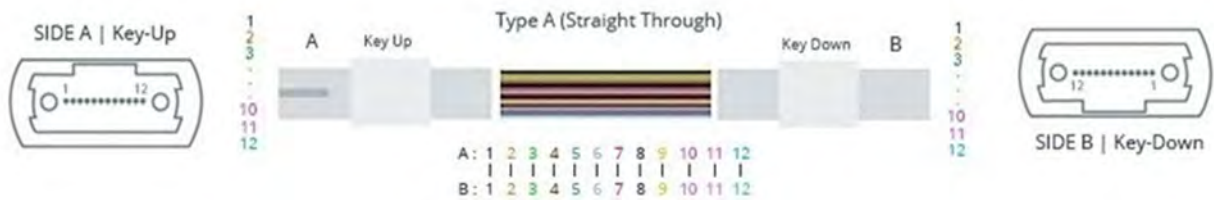
Optical Patch Cord	Fiber Type	Connector Type	Polishing Type	Connector Type	Polishing Type	Cable Length [m]	Cable Type	Cable Diameter
	G.652 [9/125]	SC, FC, ST	SPC	SC, FC, ST	SPC	1~999	SP: Simplex	ø0.9
	G.657 G.655 [9/125]	LC, MU	UPC	LC, MU	UPC		DP: Duplex Zip cord	ø2.0
	OM1 [62.5/125]	MTRJ, MPO	APC	MTRJ, MPO	APC		R: Duplex Round cord	ø2.4
	OM2 [50/125]	E2000, LX,5	PC	E2000, LX,5	PC		Other	ø3.0
	OM3 OM4 [50/125]	ESCON, SMA		ESCON, SMA				ø5.5
	PM [Polarization Maintaining]	OTHER		OTHER				Other

Optical Fiber Patch Cord (MPO/MTP Patch Cord)

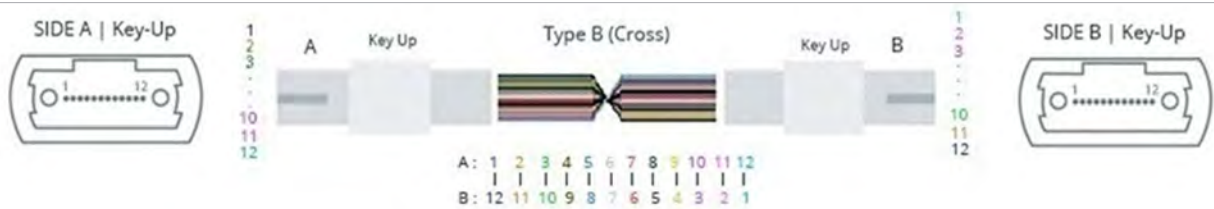


MPO Fiber Polarity

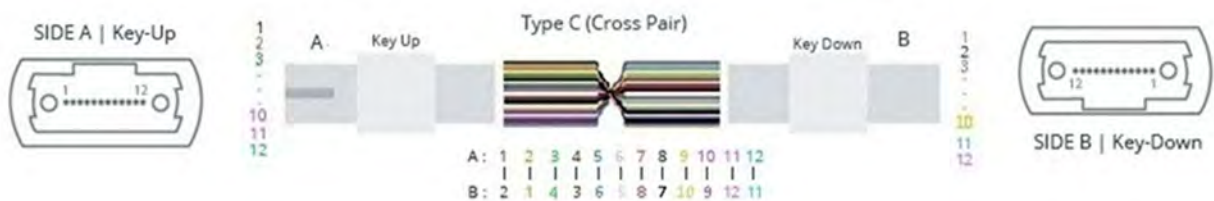
Polarity A : Straight Through



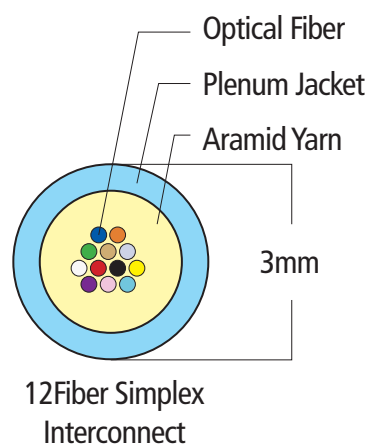
Polarity B : Cross



Polarity C : Cross Pair



Optical Fiber Patch Cord (MPO/MTP Solutions)



Applications

- SAN(Storage area Network) data center LAN
- LAN/SAN switch equipment distribution area(EDA)
- Emerging 40G and 100G protocol

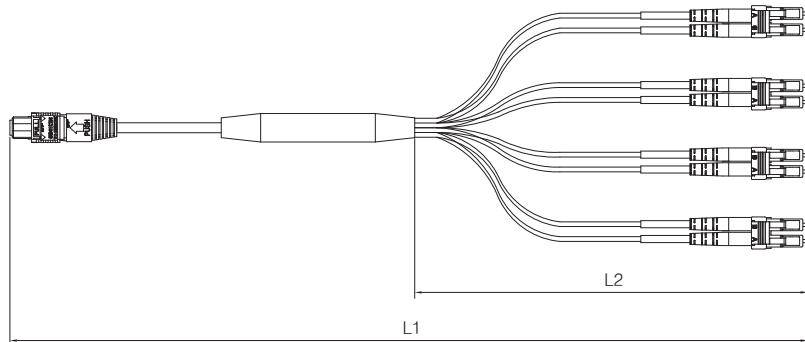
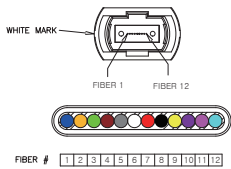
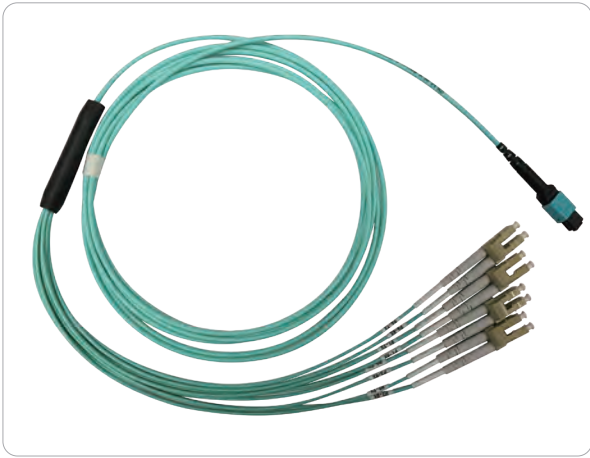
Features & Benefits

- MPO Connector complied with IEC-61754-7
- A quick-to- deploy
- Scalable solution
- High compatibility ,flexibility & system performance
- Lower installation cost

Specification

	Multi mode		Single mode	
	MM MT Elite Multi mode MT Ferrule	Standard Multi mode MT Ferrule	SM MT Elite Single-mode MT Ferrule	Standard Single-mode MT Ferrule
Insertion Loss	0.10dB Typical 0.35dB Maximum	0.20dB Typical 0.60dB Maximum	0.10dB Typical 0.35dB Maximum	0.25dB Typical 0.75dB Maximum
Optical Return Loss	> 20 dB	> 20 dB	> 60 dB(8° Angle Polish)	> 60 dB(8° Angle Polish)
Durability	< 0.20 dB typical change, 1000 matings			
Repeatability	< 0.20 dB typical change			
Tensile strength	>10kg			
Operating Temperature	-40°C to + 85°C			

Optical Fiber Patch Cord (MPO/MTP Solutions)



LC/PC Fiber Layout		
1	B	
12	A	
2	B	
11	A	
3	B	
10	A	
4	B	
9	A	

Ordering Information

OPC

Optical Patch Cord

Fiber Type

Fiber Count

Cable Type

Connector Type Side A

Polishing Type

Housing color

Connector Type Side B

Polishing Type

2=SM(G652D)
7=SM(G657A)
A=MM(62.5/125)
B=MM(50/125)
C=OM3(50/125)
D=OM4(50/125)
P=PM

8=8C
A=12C
B=24C
C=36C
D=48C

X=Ribbon-Jacket
Y=Bare Ribbon
Z=Round

1=MPO(Male)
2=MPO(Female)

1=PC
2=APC

1=BLUE
2=Green
3=Gray
H=Aqua

1=MPO(Male)
2=MPO(Female)
3=LC
4=SC

1=PC
2=APC

Cable length (m)

Fan out length (m)

Polarity

1=1m
2=2m
-
-
2A=2.1m
2B=2.2m

0A=0.1m
0B=0.2m
0C=0.3m
-
-
-
-
1=1m
2=2m

A=Polarity A
B=Polarity B
C=Polarity C

MPO/MTP Patch Panel (MPO/MTP Solutions)

According to the needs of data center setup, we recommend to use HDF high-density rack-mounted cabinet; for data center with MDA, IDA or HDA wiring area fiber trunk connection and management. It is installed in 19-inch rack or cabinet with Pre-terminated MPO adapter module or MPO adapter front panels. This economical design of Highdensity and module reduces the number of frames, saving valuable rack space



Applications

- SAN(Storage area Network)data center LAN
- LAN/SAN switch equipment distribution area
- Telecommunication networks

Features & Benefits

- Compliant with TIA / EIA604-D-2007, IEC61754-7-2008 series standards
- Made of high quality cold rolled steel plate
- Multiple cable entry and patch cord exit for easy operation and management
- Modular design, 19-inch rack mount, easy for future expansion

Outdoor Connectors



MT-38999 (12C)



MT-38999 (36C)



LC-38999



ODC

Features & Benefits

- High fiber density in a relatively small circular connector package with all the advantages of the MIL-DTL-38999 Series III connector
- Three steps of alignment provide for precision fiber to fiber interface
- Shell-to-shell with keying to allow for alternate positions
- Plug insert to receptacle insert connector



PT/LC PLUG



PT/LC RECP



PT/LC Adaptor



PT/LC In-Line

Features

- Complies to applicable sections of MIL-C-26482 (Bayonet version)
- Available in single mode and multimode versions
- Waterproof (IP67)
- Metal jam nut receptacle accepts standard LC connectors

Outdoor Connectors

Ordering Information

ODC-A-B-C-D-E-F-G-H

A : Connector Type

- 26 - D38999/26 Style Plug
- 24 - D38999/24 Style Jam-Nut Receptacle
- 20 - D38999/20 Style Wall Mount Receptacle

B : Service Class

- A - Aluminium, Zinc Cobalt, Olive Drab
- S - Stainless Steel, Passivated
- W - Olive drab cadmium over electroless
- F - Aluminum shell, electroless nickel finish

C : Shell size

- B - 11
- C - 13
- D - 15
- E - 17

D : Inner Connector

- MTM - MT Male
- MTF - MT Female
- LCC - LC Connector
- LCA - LC Adaptor

E : Number of Fiber

- 02 - 2 Fibers • 04 - 4 Fibers • 06 - 6 Fibers • 08 - 8 Fibers
- 12 - 12 Fibers • 24 - 24 Fibers • 36 - 36 Fibers • 48 - 48 Fibers

F : Fiber Type

- 09 - Single mode (9/125)
- 52 - Multi mode (50/125) - OM2
- 53 - Multi mode (50/125) - OM3
- 54 - Multi mode (50/125) - OM4
- 62 - Multi mode (62.5/125) - OM1

G : Dust Cap (Option1)

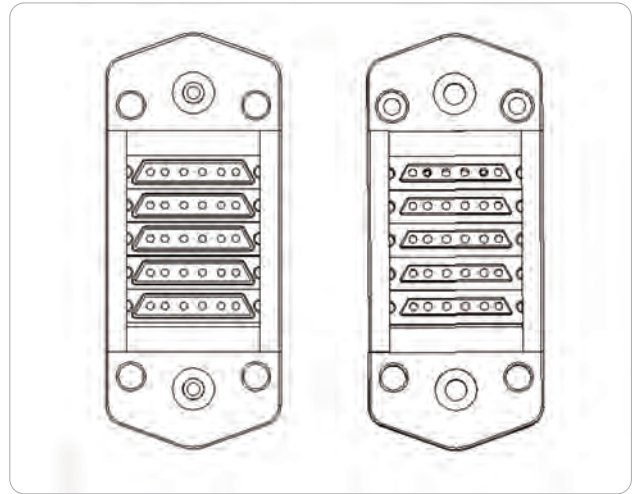
- R - Ring with Rope
- C - Clip with Rope
- E - Excluding Dust Cap

H : Key - Way (Option2)

- A - A Key
- B - B Key
- RN - Reverse N Key
- RA - Reverse A Key
- RB - Reverse B Key

※ N - Key: Not marked as standard

D-Sub Type Hybrid Layer Connector



Applications

- Indoor/ Outdoor Networks System
- Ferrule to expanded beam convert
- Industrial fields
- Military Application, etc

Features & Benefits

- Array block structure that can be used individually.
- Easy to structure layered assembly with array block.
- Hybrid Connector that can be applied various types of optical and electrical mixing.
- Easy to expand a limited space utilization, optical channel.
- Apply to easy lock mechanism of connector
- Easy connector of push & Pull types with ball plunger locking method

Specification

Parameter	Connection type			
	EB (SM / MM)	Contact (SM / MM)	MT12C (SM / MM)	Electric
Insertion Loss	Max 1.5dB / 1.0dB	Max 1.0dB	Max 0.75dB / 0.5dB	14AWG
Return Loss	> 32dB / > 20dB	> 50dB / > 20dB	-	
Operating Temp	-30℃ ~ 75℃			
Weight	Max 60g			

D-Sub Type Hybrid Layer Connector

Ordering Information

① FOBEX - ② LP - ③ 2S - ④ S20 - ⑤ NA - ⑥ S2D / ⑦ SSPU - ⑧ Option

Operation (Hybrid Combination)

Connection types, block Counts
Ex 1) LM1/LP3/LE1 <= 5Block

Cable Outer Jacket Diameter / Material

00XX: Ø0.0mm, Jacket Material (Customization)
55PU: Ø5.5mm, PU
55PV: Ø5.5mm, PVC
55LS: Ø5.5mm, LSZH
*Cable dia. : Min 2.0mm~Max 6.5

Fiber Type / Grade (ITU-T)

52D: G652D (SMF)	7A1: G657A1 (SMF)
5XX: Other	7B1: G657B1 (SMF)
OM1: 62.5 / 125um (MMF)	OM2: 50/125um (MMF)
OM3: 50 / 125um (MMF)	OM4: 50/125um (MMF)

Ferrule Polishing Type

AP: Angled PC (8 deg)
PC: Physical Contact (0 deg)
NA: Apply for non-contact type

Fiber Type / Fiber Channel Count

S: Single Mode M: Multi Mode C: Optic, Electric combination
No. of Channel: 4, 8, 12, 16, 20, 24, Cxx
• For xx: Single, Multi block counts (Refer to ⑧ Option order)
• For MT type. It is possible to apply 2-ferrules per array block

Array Block Count / Material

1: 1 block, 2: 2 blocks, 3: 3 blocks, 4: 4 blocks, 5: 5 blocks,
A: Aluminium
S: Stainless Steel Passivated

Array and Connection Type

LL: Layered lens (3mm ball lens)	LP: Layered EB Pin
LM: Layered MT ferrule	LE: Layered Electric contact
HC: Hybrid Layered Combination (Constitute with other block combination, Refer to ⑧ Option order)	

FOBEX : Fostec Optical Beam Expansion

Outdoor Connectors (Military Optical Coupler)



Conversion Adaptor
(Expanded beam Type)



Conversion Adaptor
(Contact Type)

Features & Benefits

- Easy to install
- Convert the mating shell and connection method
- IP67 water proof

Application

- Outdoor Networks System
- Convert different shell size
- Ferrul contact to expanded beam convert
- Industrial field
- Military Application

Specification

Parameter	Connection type		Figure Type	Shape	Shell Size
	Expanded Beam	Contact			
Insertion Loss	1.5dB	1.0dB	SA: Straight Angle	C: Circular	11, 13, 15, 17
Return Loss	> 32dB	> 50dB			
Operating Temp	-30°C ~ 85°C		SA: Straight Angle RA: RightAngle	S: Square	
Protection Level	IP67		ZA: Z-Shape Angle		

Ordering Information

MOC - SA C 11ER/15CR

Shell/Connection Type

Shell Size: 11, 13, 15, 17
E: Expanded Beam Type
C: Physical Contact Type
P: Plug Type
R: Receptacle Type

External Shape

C: Circular
S: Square Shape

Figure Type

SA: Straight Angle (180 deg)
RA: Right Angle (90 deg)
ZA: Z-Shape Angle

MOC: Military Optical Coupler

Expanded Beam Connectors



D38999 Bulkhead D Hole Mount



D38999 Plug



D38999 Plug & Receptacle



Expanded Senior



Expanded Junior



Expanded Mini

Applications

- Navy shipboard, surface craft and submarines
- Mission critical combat and communications systems
- Mobile tactical shelters electronic battlefield networks
- Mobile Emergency Telecommunications (MET) stations
- Deployable outdoors in harsh environments

Features & Benefits

- Precision machined to MIL-PRF-28876, Rev. E specification
- Available in various shell sizes: 11(4ch), 13 (4 ch), 15 (6, 8 ch), 17(2,4,8, 12, 16ch), 23 (18, 31 ch), mini, junior, senior, maxi
- Six keying options (plus universal keying for COTS product) for both plugs and receptacles
- Inserts are interchangeable from plug to receptacle. Either can be operated with pins or socket terminal
- Fully intermediate with all qualified M28876 connectors
- Operates with all qualified single mode or multimode M29504/14 and /15 terminal
- Complete line of straight, 45 degree and 90 degree back shells COTS version available

Expanded Beam Connectors

Specification

D38999 Expanded Beam Connector

Insertion Loss	9/125 Fiber at 1310nm / 1550nm: 1 to 4 channels: -1.5dB max / 6 to 16 channels: -2.0dB max*						
	50/125 Fiber at 850nm / 1300nm: 1 to 4 channels: -1.0dB max / 6 to 16 channels: -1.5dB max*						
Return Loss	>34dB (typical 40dB) singlemode / >20dB multimode*						
Durability	1000 Matings minimum						
Operating Temperature	-40°C to +85°C						
Storage Temperature	-55°C to +85°C						
Water Immersion	IP67						
Free Fall Resistance	350 Falls from 1.2m height						
Vibration	10-500Hz, 3 directions, 0.75mm amplitude® 10g acceleration						
Bump	4000 bumps @ 40g acceleration						
Corrosion Resistance	350 Hours Salt Spray						
Cable Retention	1000N (Cable Dependant)						
Weight (approx)		Aluminum		Stainless Steel		Nickel Aluminum Bronze	
		Size 11	Size 15	Size 11	Size 15	Size 11	Size 15
	Plug:	50g	90g	95g	170g	95g	170g
	Bulkhead	45g	85g	85g	155g	85g	155g
Connector Shell Material / Color	Aluminum Alloy (Zinc Cobalt, Olive Drab), Aluminum Alloy (electroless Nickel plated), nickel Aluminum Bronze (shot blast, non-reflective) or Stainless Steel (passivated)						

MIL-DTL-83526 Expanded Beam Connector

Insertion Loss	Singlemode	-2.0dB (typical -1.5dB)*
	Multimode	-1.5dB (typical 1.0dB)*
Return Loss	≥ 34dB (typical 40dB) singlemode	
Durability	3000 Matings minimum	
Operating Temperature	-40°C to +85°C	
Storage Temperature	-55°C to +85°C	
Water Immersion	15m for 24 hours (Plug & Bulkhead; mated & open-face)	
Free Fall Resistance	500 Falls from 1.2m height	
Vibration /Shock	As per MIL-DTL-83526/20/21	
Crush Resistance	6.7kN	
Corrosion Resistance	500 Hours Salt Spray	
Cable Retention	1800N (Cable Dependant)	
Weight (approx)	Plug: 120g Bulkhead: 110g	
Connector Shell Material / Color	Aluminum, Plug: black anodised Bulkhead: zinc cobalt Grip & boot: black, Stainless steel	

*Performance is dependent on assembly & termination; figures relate to CCS terminated harnesses.

Expanded Beam Connectors

Ordering Information (D38999)

FOBEX EB-A-B-C-D-E-F-G-H

A : Connetor Family

- 311 - 38999 Shell size 11
- 313 - 38999 Shell size 13
- 315 - 38999 Shell size 15
- 317 - 38999 Shell size 17
- 317R - 38999 Shell size 17 With Rubber cover
- 325 - 38999 Shell size 25

B : Connetor Family

- P - Plug (straight backshell)
- P90 - Plug (90 degree backshell) • PS - Plug SQ-Flange
- BS - Bulkhead SQ-Flange Mount (straight backshell)
- BD - Bulkhead D Hole Mount (straight backshell)
- BD90 - Bulkhead D-Hole Mount (90 degree backshell)
- BI - Bulkhead In-Line

※ Loop Back : ~L ※ Projec or Company Symbol: ~C
 ※ Short Backshell : ~S

C : Material & Finish

- A - Aluminium, Zinc Cobalt, Olive Drab
- S - Stainless Steel, Passivated
- W -Olive drab cadmium over elctroless
- F - Aluminum shell,electroless nickel finish

D : Number of Fiber

- 1 - 1 Optical Channel (Shell Size 11, 15, 17)
- 2 - 2 Optical Channel (Shell Size 11, 15, 17)
- 4 - 4 Optical Channel (Shell Size 11, 15, 17)
- 6 - 6 Optical Channel (Shell Size 15, 17)
- 8 - 8 Optical Channel (Shell Size 15, 17)
- 12 - 12 Optical Channel (Shell Size 17)

E : Number of Electrical contacts

- 0 - No electrical contacts
- 2 - 2 Electrical contacts
- 3 - 3 Electrical contacts
- 4 - 4 Electrical contacts

F : Fiber Type

- 09 - Single mode (9/125)
- 52 - Multi mode (50/125) – OM2
- 53 - Multi mode (50/125) – OM3
- 54 - Multi mode (50/125) – OM4
- 62 - Multi mode (62.5/125) – OM1

G : Dust Cap (Option1)

- R - Ring with Rope
- C - Clip with Rope
- E - Excluding Dust Cap

H : Key – Way(Option2)

- A - A Key
- B - B Key
- RN - Reverse N Key
- RA - Reverse A Key
- RB - Reverse B Key

※ N - Key is not indicated as a basic specification.

Ordering Information (83526)

FOBEX EB-A-B-C-D-E-F-G-H-I-J

A : END A-Connector family

- S - Senior
- J - Junior
- M- Mini
- MX- Maxi

B : END A Connector Type

- P - Plug
- BD - Bulkhead D Hole Mount
- BS - BulkHead SQ-Flange Mount

C :END A Connector Shell Material

- A – Aluminum Black Anodise
- S – Stainless Steel

D : Number of Fiber

- 1 - 1 Optical Channel
- 2 - 2 Optical Channels
- 4 - 4 Optical Channels
- 6 - 6 Optical Channels
- 8 - 8 Optical Channels

E : Number of Electrical contacts

- 0 - No electrical contacts
- 1 - 1 Electrical contacts
- 2 - 2 Electrical contacts
- 4 - 4 Electrical contacts

F : Fiber Type

- 09 - Single mode (9/125)
- 52 - Multi mode (50/125) – OM2
- 53 - Multi mode (50/125) – OM3
- 54 - Multi mode (50/125) – OM4
- 62 - Multi mode (62.5/125) – OM1

G : Wavelength of Operation

- A - 850/1300nm
- B - 1310/1550nm
- C - 1310nm Only
- D - 1550nm Only

H : Cable Diameter

- Ø4.6 : 46
- Ø5.5 : 55
- Ø9.2 : 92

I : END B- Connector Type

- A – Same as End A
- SC – SC Type connector
- ST – ST Type connector
- LC - LC Type connector

J : Length (meter)

- Example: 250=250m / 2M5 = 2.5m

Expanded Beam Connectors (Windowed type)



Applications

- Outdoor Networks System
- FTTA System
- 3G, 4G WIMAX, CDMA, LTE
- Industrial robust field coil plant, mining, construction, etc
- Broadcasting
- Navy Shipboard

Features & Benefits

- Window protected lenses
- Easy to Clean - "wipe and mate"
- Unibody construction gives IP67 certification
- Hermaphroditic design
- Corrosion resistant

Specification

Type	Connection type
Insertion Loss(dB)	<-1.5 dB (@850nm&1300nm)
IP Grade	IP67
Operating Temperature	-40°C to +85°C
Durability	500 matings minimum
Vibration	10-500Hz, 3direction, 0.75mm amplitude @10g acceleration

Expanded Beam Connectors (Hybrid type)



Features

- Expanded Beam type : 38999
- Shell size : 17size
- Available in single mode and multimode versions
- Fiber Optic : 4ch max.
- Electric : 14awg 2ch max.
- Waterproof (IP67)

Expanded Beam Optical + Electrical

Expanded Beam connectors(other)



Expanded Beam Optical + Electrical



Features

- Expanded Beam type : 38999
- Shell size :25size
- Available in single mode and multimode versions
- Fiber Optic : 4ch, 8ch
- Electric : 8AWG 3 ch
- Waterproof (IP67)



Expanded Beam Connector to LC



Features

- Adapter for converting Expanded Beam connector to LC type
- Expanded Beam Type : 38999
- Shell Size : 17 Size
- Available in single mode and multimode versions



FOBEX- P(Receptacle)



FOBEX-P(Plug)

Features

- Expanded Beam technology
- Highly resistant to dirt and debris
- No degradation of the optical face
- Simple cleaning
- Minimum maintenance
- Compatibility: Cavity #16
- MIL-DTL-38999series III
- Easy installation with standard tools
- Possibility to mix with Electrical contact for Hybrid solution

FOBEX-P is a single expanded beam termini that enables upgrades from optical physical contact technology to optical contactless technology. FOBEX-P fiber optic terminus is expanded-beam optical transmission system. It delivers outstanding performance in challenging environments and eliminates maintenance cycles. The low insertion loss FOBEX-P offers comparable performance to standard butt joint termini in a package that's built to withstand rugged use and frequent mating/de-mating in field conditions.



Push-Pull

Features

- Expanded Beam type : Push Pull
- Available in single mode and multimode versions
- Fiber Optic : 1ch~4ch
- Waterproof (IP67)

Military & Aerospace (MIL-DTL-38999)



Applications

- Military/Aerospace
- Train
- Automotive
- Computer/Consumer
- Industrial/Instrumentation
- Oil Fields
- Telecom/Handset
- Transportation

Ordering Information(Series III)

D38999 20

W

C

35

P

N

Shell Type (Specification Sheet Number)

20 = Wall mount receptacle, 24 = Jam nut receptacle
26 = Self-locking, RFI grounding plug

Class (Material & Finish)

F = Aluminum shell, electroless nickel finish
W = Aluminum shell, olive drab cadmium over electroless nickel base

Shell Size

A=9, B=11, C=13, D=15, E=17, F=19, G=21, H=23, J=25

Insert Arrangement

1 ~ N

Contact Style

P = Pin, S = Socket, A = Pin connector less pins (with intent to use non-std pin contacts)
B = Socket connector less sockets (with intent to use non-std socket contacts)

Polarization (Keying)

N = Normal (Included in part number), A, B, C, D, or E

Fiber Optic Terminus(Standard : MIL-PRF-29504)



Size 16 Fiber Optic Pin Terminus



Size 16 Fiber Optic Socket Terminus

Pin Terminus

Part Number	Fiber Core/Cladding	A Dia(μm)	Reference
F1000-513SMPI	-S55	125.5	M29504/4-4208
	-S60	126.0	M29504/4-4209
	-M60	126.0	M29504/4-4210
	-M70	127.0	M29504/4-4040

Socket Terminus

Part Number	Fiber Core/Cladding	A Dia(μm)	Reference
F1000-513SMSO	-S55	125.5	M29504/5-4237
	-S60	126.0	M29504/5-4238
	-M60	126.0	M29504/5-4239
	-M70	127.0	M29504/5-4046

Military & Aerospace (Military Optical Fiber Cable Rewinder)



MOFC-R (1TYPE)



MOFC-R (2TYPE)



Applications

- Rewind or withdraw of cable in the field
- Quick and low maintenance cost

Specification

Product Name	Height	Depth	Width	Weight	Material
Military field cable reel winder (1Type)	700mm	Max 750mm	Max 550mm	<15kg	steel
Military field cable reel winder (2Type)	616mm	Max 652mm	Max 460mm	<24.7kg	steel

Length	Unused		Used	
	Time	Required Person	Time	Required Person
100m	30 minutes	2	7 minutes	1
200m	60 minutes		15 minutes	
300m	90 minutes		20 minutes	

Military & Aerospace (Military Optical Field Splicer)



MOFS-1(only fiber optic)

Applications

- Field cable repair
- Telecommunication networks

Specification

Operating Temperature	-40°C to +85°C
Water resistance	IP68
Tensile load	1000 N
Bending Radius	75mm
Size	Max 300mm length
Splicing Capacity	4Chanel

Military Optical Fiber Enclosure (MOFC-E)



MOFC-E



MOFC-B



MOFC-M

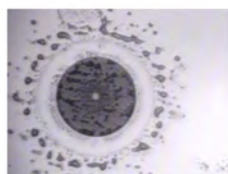
Parts List

		Part Description	Item Description	Remarks
MOFC-E	MOFC-B Military Optical Fiber Cable Bag	1. FOPM-001	1. Power Meter	1SET
		2. FOLS-001	2. Light Source	
		3. 1EQUOL6003	3. Laser Fault Locator	
		4. FS-M00352	4. Patch Cord(SC/SC/PC/SC/PC-1M)	
		5. FS-M00351	5. Patch Cord(SC/LC/PC/LC/PC-1M)	
		6. 1FMCDUAPOW-5	6. Power Adapter(KC)	
		7. 3AD111PBL1	7. SC/SC Adapter	
		8. 1HYFFASCBL11CPTK	8. LC/SC Adapter	
			9. Cleaning Set (Alcohol, cleaning tissue, cotton swab)	
	MOFC-M Military Optical Fiber Maintenance KIT	1. 1EQISTQPB	1. Microscope	1SET
		2-1. 1EQISTQTSCMA	2-1. Microscope Tip-SC-M	
		2-2. 1EQISTQTSCFE	2-2. Microscope Tip-SC-F	
		2-3. 1EQISTQTLICMA	2-3. Microscope Tip-LC-M	
		2-4. 1EQISTQTLICFE	2-4. Microscope Tip-LC-F	
		2-5. FS-T00090	2-5. Microscope Tip-Mil-M	
		2-6. FS-T00078	2-6. Microscope Tip-Mil-F	
		3. 1EQISTQMN	3. Monitor	
		4. 1TL01PE-12-005	4. LC Pen Cleaner 1EA	
		5. 1TL01PE-25-005	5. SC Pen Cleaner 1EA	
		6. 1TL01PE-MP-0001	6. MIL Cleaner 2EA	
	JIG CABLES	1.SM-12C-24WG16PN-SC/PC-1.5M	1. FS-M00282	2
		2.SM-16C-26WG16SN-SC/PC-1.5M	2. FS-M00338	1
		3.FOBEX EB 311 PW4009-SC/PC-1.5M	3. FS-M00283	1
		4.FOBEX EB 311 BDW4009-SC/PC-1.5M	4. FS-M00287	2
		5.FOBEX EB 317PW4009-SC/PC-1.5M	5. FS-M00284	2
		6.FOBEX EB 317BDW4009-SC/PC-1.5M	6. FS-M00288	2

Inspection Micro Scope Tool Kit (MOFC-M)



This product is a portable, video microscope used to inspect all kinds of fiber optic terminations, especially for the female ones. It eliminates the need to access the backside of patch panels or disassemble hardware devices prior to inspection. 3.5" TFT 220k Pixels LCD, 250 magnification, USB output, data stored.



Cleaning Before



Cleaning After



Specification

Length x Width x Height (cm)	29.40 x 4.32 x 17.78
Weight	0.3 lb./0.14 kg
Camera Type	0.33inch CCD
Video Output	PAL/NTSC USB2.0
Light Source	Blue LED, 100,000+ hrs life

LCD Display

Dimensions	(3.7" ± W) x (4.17" ± H) x (1.37" ± D)
Weight	0.92 lb./0.42 kg.
Video Display	3.5" ±TFT Active Matri x 2.2 million pixels
Power Source	Input AC, Output 110-240 V DC, 12.6V
Working Time	Continuous Working Time >8 hrs
Charging Time	4hrs

Fiber Optic Tool Kit (MOFC-T)



Test Equipment and Options

- Pocket Fault Locator
- Power Meters
- Light Sources
- OTDR
- Fiber Cleaver

PARTS LIST

Item No.	Part Description	Quantity	Item No.	Part Description	Quantity
* 1	Flexible Cable Splice Protector	1	6	Fiber Stripper	1
2	Crimp Tool	1	7	Alcohol Dispenser	1
3	Task wipers	1	8	Pen	1
4	Kevlar Scissor	1	9	Side Cutting Pliers	1
5	Jacket Stripper	1			

* The FOSTEC Flexible Cable Splice Protector is an ideal solution for protecting fiber optic splices in challenging field conditions. This rugged, easy to install splice protector accommodates up to 4 splices with mini or micro protection sleeves, protecting them from moisture, vibration, shock and other adverse environmental conditions.

Test & Equipment Expanded Beam Measurement (FOBEX-M)

Description

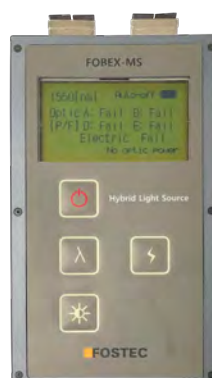
The FOBEX-M ruggedized optical test set is designed for testing of optical networks terminated with 38999, 83526 military connectors operating in harsh environment. It combines both light source and optical power meter in one common box. The test set is designed to meet the tactical military, and broadcast industry demand. The ruggedized aluminium case makes the unit ideal for field operation.



D38999 type



D83526 type



Hybrid Powermeter



Hybrid Lightsource

Features

- Field test for expanded beam connector
- Ruggedized aluminium case
- Multimode (MM) or singlemode (SM) applications
- Simultaneous testing of all 2/4 fibers
- Displayed units: dBm, dB
- High dynamic range
- Built-in charger, battery status indicator

Applications

- 38999, 83526 type Expanded Beam connector testing
- Optical network measurement Fiber continuity testing
- Optical and electrical measurement

Specification

Dimensions	(120mm W) x (230mm H) x (70mm D)
Weight	2.8 lb./1.3 kg.
Laser Source Output Power Stability	LD 1310, 1550nm or 850, 1300nm - 8dBm ± 0.05dB
Optical Power meter Optical Insertion Loss meter Dynamic Range Accuracy	+5dBm ~ - 50dBm ± 0.5dB @ - 23dBm
Power Source	DC 5V, Micro USB Port
Working Time	Continuous Working Time > 20hrs
Charging Time	14hrs

Test & Equipment (OTDR FS-18R)



Features

- 5.8 inch color LCD with touch screen
- Built-in stabilization light source 1310 / 1550nm
- Built-in optical power meter, VFL
- Independent and convenient one-touch automatic test function
- Two wavelength synchronization test functions
- Two waveform view functions
- Low battery alarm function.

Model		Multi-Function Optical Time Domain Reflectometer							
Item		FS-18R	FS-18RS2	FS-18RS3	FS-18RS4~	FS-18RT1	FS-18RT2	FS-18RM1	FS-18RSM1
Fiber type		SMF						MMF	SMF/MMF
Display		5.8 inch color LCD with touch screen							
Wave-length		1310/1550nm				1310nm 1490nm 1550nm	1310nm 1550nm 1625nm	850nm 1300nm	850nm 1300nm 1310nm 1550nm
Maximum Dynamic range ¹		35/33dB	38/36dB	42/40dB	45/43dB	37dB 35dB 35dB	37dB 35dB 35dB	26dB 30dB	26dB 37dB 35dB
Event Blind Zone ²		1m	0.8m	0.8m	0.8m	0.8m	0.8m	1m	1m
Attenuation dead zone		6m	6m	6m	6m	6m	6m	6m	6m
Measuring range		500m / 1km / 2km / 4km / 8km / 16km / 32km / 64km / 128km / 256km							
Measuring pulse width		5ns / 10ns / 50ns / 160ns / 320ns / 500ns / 1000ns / 5000ns / 10000ns / 20000ns							
Ranging accuracy		±(0.75m+ Sampling interval +0.005%× Test distance)							
Reflection accuracy		±3dB							
Data storage		≥2000							
Interface type		FC / PC (Replaceable SC, ST)							
Communication Interface		USB, mini-USB, 10M/100M Ethernet							
VFL output		≥5mW							
LS output		≥-5dBm							
OPM		+26dBm ~ -50dBm (Replaceable: +6dBm ~ -70dBm)							
Power supply mode		AC/DC Adapter: AC: 100V ~ 240V, 50/60Hz, 0.6A; Lithium battery: 7.4V 6700mAh							
Operating temperature		-5°C ~ 50°C							
Storage temperature		-20°C ~ 70°C							
Relative humidity		0 ~ 95% Non condensation							
Weight		≤1.1kg							
Volume		227mm×160mm×70mm							

Test & Equipment (Handheld Optical Power Meter)



Part No: FOPM-001

The Handheld Optical Power Meter is newly designed fiber optic tester, it aims at fiber network installation, fiber network engineering acceptance and fiber network maintenance. Combined usage with handheld optical light source, it offers a quick and accurate testing solution on both SM and MM fibers. Compared with usual power meters, the tester has more great functions/features of automatic wavelength identification and switching and intelligent backlight control. Also the tester features good appearance, good touch feeling and considerate humanity design.

Features

- Wave ID/Automatic wavelength identification and switching (when used with handheld light source)
- Frequency ID/Tone detection---Automatic frequency identification
- Intelligent backlight control (light intensity can be adjusted properly according to ambient light, which greatly reduced power consumption)
- Data storage function, up to 1000 test records
- USB communication port for saved testing records download
- Reference power level can be set up and stored
- User self calibration function
- Auto-off function can be activated or deactivated.
- AA alkaline and AC adapter for power supply
- Low battery indication

Specification

Model	A	C
Calibrated (nm)	850, 1300, 1310, 1490, 1550, 1625	
Detector Type	InGaAs	
Measurement Range (dBm)	-70~+6	-50~+26
Uncertainty (dB)	±0.15 (3.5%)	
linearity (dB)	±0.02	
Display Resolution(dB)	0.01	
Frequency ID (Hz)	270, 330, 1K, 2K	
Wave ID (nm)	1310, 1490, 1550, 1625	
Date Storage Capacity	1000	
Communication Port	USB	
Optical Connector Type	FC, SC, ST interchangeable	
Alkaline Battery	3*AA, 1.5V	
Power Supply Adaptor (V)	8.4	
Battery Operating Time (h)	200	
Operation Temperature (°C)	-10~+60	
Storage Temperature (°C)	-25~+70	
Outline Size (mm) / Weight	180*90*45 (250g)	

Test & Equipment (Handheld Adjustable Light Source)



Part No: FOLS-001

The Handheld Adjustable Light Source is FOSTEC newly designed fiber optic tester, it aims at fiber network installation, fiber network engineering acceptance and fiber network maintenance. Combined usage with handheld optical power meter, it offers a quick and accurate testing solution on both SM and MM fibers. The tester provides 1 to 4 wavelengths and output power can be adjustable on customer requests. Also the tester features good appearance, good touch feeling and considerate humanity design.

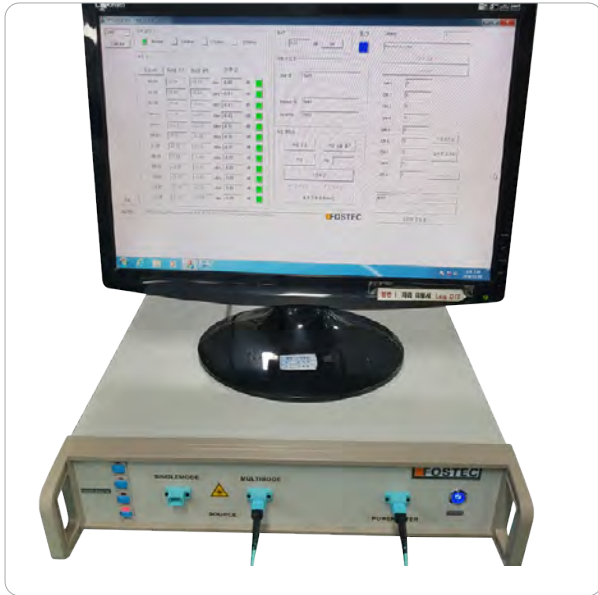
Features

- Wave ID information can be transmitted when used with \ Optical Power Meter.
- Tone generation, 270HZ, 330HZ, 1KHZ, 2KHZ
- Output power can be adjustable
- Output power value is shown on LCD display
- Intelligent backlight control
(light intensity can be adjusted properly according to ambient light, which greatly reduced power consumption)
- AA alkaline and AC adapter for power supply
- Low battery indication

Specification

Model	OLS
Operating Wavelength (nm)	1310/1550 ; 1310/1490/1550/1625 (Others Specify on Requests)
Applicable Fiber	SM, MM
Laser Type	FP-LD (Others Specify on Requests)
Output Power (dBm)	-5~-12dBm (Can be Adjustable)
Adjustable Step Size (dBm)	<0.5
Stability (dB, 30min, 20°C)	0.15
Modulation (Hz)	CW, 270, 330, 1K, 2K
Fiber Port	FC / PC
Alkaline Battery	3*AA, 1.5V
Power Supply Adaptor (V)	8.4
Battery Operating Time (h)	45
Operation Temperature (°C)	-10~+60
Storage Temperature (°C)	-25~+70
Outline Size (mm) / Weight	180*90*45 (250g)

Test & Equipment (Multichannel IL measurement System_MPO/MTP)



Applications

- Multi-Fiber optical Connector (MPO/MTP)
- Optical Module (AWG, VOA, Splitter, Fiber array, Etc)
- Optical System
- Single-Fiber Optical Connector (FC/SC/LC)

Features & Benefits

- FMMS-012 is Insertion Loss test system for optical module
- Quick measurement time (MPO connector (12ch) is less than 2sec.)
- SM. MM test Available (1550nm, 1310nm, 1300nm, 850nm)
- Simple software for user
 - ✓ Real time data monitoring
 - ✓ Automatic test and data save

Specification

Operating Wavelength	1550nm, 1310nm, 1300nm, 850nm
Fiber Type	9/125um SM Fiber (1550/1310nm) 50/125MM Fiber(1300/850nm)
Optical connector type	MPO/MTP
Typical Output Power(dBm)	-7@1550nm, 1310nm, -22dBm for LED
Detector type	InGaAs
Measure Mode	GUI
Resolution(dB)	0.1
Calibrated Wavelength[nm]	850, 1300, 1310, 1550
Power Supply	AC 220V
Operating Temperature(°C)	-10 ~ +60
Storage Temperature(°C)	-25 ~ +70
Dimension(mm)	435X88.1X360
Weight(Kg)	5

Test & Equipment (Optical Fiber Identifier)

The Optical Fiber Identifier can quickly identify the direction of transmitted fiber and display the relative core power without any damages to the bended fiber. When the traffic is present, the intermittently audible tone is activated. The optical fiber identifier also recognizes the modulation like 270Hz, 1kHz and 2kHz. When they are used to detect the frequency, the continuously audible tone is activated. There are four adapter heads available: Ø0.25, Ø0.9, Ø2.0 and Ø3.0. The optical fiber identifier is powered by a 9V alkaline battery.



Part No:1EQIDJWAS

Features

- Easy-to-use with "ONE KEY" operation.
- Efficiently identifies the traffic direction and frequency tone (270Hz, 1kHz, 2kHz) with audible warning.
- Displays the relative core power
- More accurate test with Sunshade
- Easy-to-replace adaptors
- Durable metal housing and quality construction
- Lower power indication

Specification

Type	Spec	
Identified Wavelength Range	800-1700 nm	
Identified Signal Type	CW 270Hz $\pm 5\%$, 1kHz $\pm 5\%$, 2kHz $\pm 5\%$	
Detector Type	Ø1mm InGaAs 2pcs	
Adapter Type	Ø0.25 (Applicable for Bare Fiber), Ø0.9 (Applicable for Ø0.9 Cable) Ø2.0 (Applicable for Ø2.0 Cable), Ø3.0 (Applicable for Ø3.0 Cable)	
Signal Direction	Left & Right LED	
Single Direction Test Range (dBm, CW / 0.9mm bare fiber)	-46 ~ +10 (1310nm) -50 ~ +10 (1550nm)	
Signal Power Test Range (dBm, CW / 0.9mm bare fiber)	-50 ~ +10	
Signal Frequency Display (Hz)	270, 1k, 2k	
Frequency Test Range (dBm, Average Value)	Ø0.9, Ø2.0, Ø3.0	-30 ~ 0 (270Hz / 1kHz) -25 ~ 0 (2kHz)
	Ø0.25	-25 ~ 0 (270Hz / 1kHz) -25 ~ 0 (2kHz)
Insertion Loss (dB, Typical Value)	0.8 (1310nm), 2.5 (1550nm)	
Alkaline Battery (V)	9	
Operating Temperature (°C)	-10 ~ +60	
Storage Temperature (°C)	-25 ~ +70	
Dimension (mm)	196 X 30.5 X 27	
Weight (g)	200	

Fusion splicer



Part No: FS-17S

Features

- Ultra-low fiber fusion splicing consumption
- 7s fast fusion splicing, 18s highly efficient heating
- 320 times image magnification, 5mm fusion splicing for fibers of ultra-short cutting length
- 300 groups of fusion splicing modes, 100 groups of heating modes
- 10000 groups of fusion records, 64 images storage
- Ceramic presser foot, ceramic V-block, all-in-one fixture
- Dual-direction splicing, automatic splicing, intelligent pyrocondensation
- USB and SD card interfaces, U-disk automatic software upgrade
- Built-in modular lithium battery, supports 220 times of splicing and heating cycles.

Small and Light:

- Small in size and light in weight, the splicer is easy to carry and can be lift by one hand.

Water-resistant, dust-resistant and shock-resistant in design:

- Water-resistant and dust-resistant can meet IP52 requirements.
The all-in-one fixture meet fusion splicing demands of multiple fibers, jumpers and rubber-insulated wires with a cladding diameter of 80-150um.

Graphical interfaces and touch screen:

- FS-17S uses entirely new GUI graphical interfaces and touch screen in design. Operators can set up the splicer and get to know relevant information of it simply and directly by graphical interfaces.

Specification

Model	FS-17S
Applicable fibers	Any common optical fibers, rubber-insulated fibers and jumpers that meet SM(ITU-T G.652), MM(ITU-T G.651), DS(ITU-T G.653), NZDS(ITU-T G.655), EDFA, Others(including G 657)
Optical fiber diameter	Cladding : 80-150um. Coating layer : 0.1-3mm
Cutting length	5-16mm (coated optical fiber diameter ≤250um) : 10mm (coated optical fiber diameter : 0.25-3mm)
Fusion splicing consumption(typical value)	0.02dB(SMF) : 0.01dB(MMF) : 0.04dB(DSF)
Return loss	(NZDSF) Better than 60dB
Fusion splicing time(typical value)	7s
Heating time (typical value)	18s
Pulling force test	1.96-2.25N
Thermal shrinkage tube	60mm : 40mm and a series of thermal shrinkage tubes
Graphical display	High-performance 4.3inch LCD
External power	AC: AC 100-240V, 60Hz. 0-1.5A: DC: DC 10-15V
Dimensions Weight	120mm(W) x 130mm(H) x 154mm(D) (without rubber anti-vibration pad) 1.59KG(host engine) 0.37KG(battery)

Fusion Splicer

Core to Core Alignment Fiber Fusion Splicer

FS-21S Fiber fusion splicer is a 6-motor fusion splicer with the latest fiber core to core alignment technology, it has very stable performance and low fusion loss, it is suitable for different fiber optical projects , including backbone, FTTx etc.



Part No: FS-21S

Features

- 1s boot up, 6s splicing, 18s heating
- Fiber type identification automatically
- Real-time ARC calibration automatically
- Inductive automatic heater, separate charging battery
- Industrial quad-core CPU

Specification

Model	FS-21S
Applicable fiber	SM(ITU-T G.652), MM(ITU-T G.651), DS(ITU-T G.653), NZDS(ITU-T G.655), EDFA, Others(including G 657)
Optical fiber diameter	Cladding : 80 -150μm , Coating : 160-900μm
Fiber cleaved length	5-16mm (Coating diameter: < 250um), 16mm (Coating diameter: 250-1000um)
Typical splice loss	SM: 0.02dB, MM: 0.01dB, DS: 0.04dB, NZDS: 0.04dB
Return loss	> 60dB
Typical splicing time	6 seconds
Typical heating time	18 seconds for 60mm and 40mm shrinkable sleeves
Fiber magnification	250X (X or Y view), 125X (X and Y view)
Display screen	2 CMOS cameras, 5.0 inch color LCD monitor
Tension test	1.8~2.25 N
Interface	GUI menu interface, easy for operation
Battery	5200mAh Li-battery, typical 300 cycles splicing and heating, support separating charging, operating time more than 5 hours, discharging time more 8 hours
Power supply	Adapter, input: AC220 ±30V(50/60HZ), output:DC12 ±2V
Electrodes life	More than 5000 ARC discharges, can be replaced conveniently
Operating conditions	Altitude: 0-5000m, Humidity: 0-95%, Operating Temperature: -25°C~+50°C, Storage temperature -40°C~+80°C ; Wind speed: Max 15m/s
Dimension	156mm(L) * 141mm(W) * 156mm(H) (including rubber armor)
Weight	2.45kg (including battery)



FOSTEC

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