

## FiberExpress@EASE GP-range LSZH Patch cord

2019-03-19 v4.0

### Applications

- Optical Fiber cable (OFC) patch cords are intended for in-building networks, for instance, LAN (local area network), SAN (storage area network), Access network, optical Fiber CATV network.
- Support current and future optical Fiber applications such as 10G Ethernet, 40G Ethernet, 100G Ethernet and FDDI.

### General standards

- ISO/IEC 11801 2nd edition, 2002
- IEC 60793-2-50, Product specifications - Sectional specification for B6\_a1 single-mode Fiber
- IEC 60793-2-10, Product specifications - Sectional specification for category A1 multimode Fibers
- TIA/EIA-598 , Optical Fiber Cable Color Coding
- IEC 61300(EN 61300) series as test method

### Construction of Partnumber

#### 1. Patch cords with Single Fiber connectors

FX Patch Cord	Special	Fiber Type	Cable Type	Connector 1	Connector 2	Length	Polarity							
<b>GP</b>	-	<b>3</b>	<b>2</b>	<b>LD</b>	<b>LD</b>	<b>005M</b>	<b>X</b>							
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\* "ED" is for E2000 Duplex but there will be 2 pieces E2000 simplex connectors on duplex cable that are not clipped together.

#### 2. MPO patch cords

FX Patch Cord	Special	Fiber Type	Cable Type	Connector 1	Connector 2	Length	Polarity							
<b>GP</b>	-	<b>3</b>	<b>2</b>	<b>MM</b>	<b>MM</b>	<b>005M</b>	<b>X</b>							
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### 3. MPO Hydra Patch cords

FX Patch Cord	Special	Fiber Type	Cable Type	Connector 1	Connector 2	Length	Polarity							
GP	-	3	2	MM	LD	005M	X							
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\* "ED" is for E2000 Duplex but there will be 2 pieces E2000 simplex connectors on duplex cable that are not clipped together.

#### 1) Jacket color

Cable Type	OS2	OM1	OM2	OM3	OM4
Jacket color	Yellow	Orange	Orange	Aqua	Erica-Violet

#### 2) Fiber Type

Performance level for Single mode fiber	S = Single mode OS2 (class B6_a1 in IEC 60793-2-50) Bending Insensitive with bending radius > 15mm.*
Performance level for Multi-mode fiber	1 = 62.5um multimode - OM1(A1b from IEC 60793-2-10) 2 = 50um multimode - OM2 (A1a.1 from IEC 60793-2-10) 3 = 50 um multimode - OM3 (A1a.2 from IEC 60793-2-10) * 4 = 50 um multimode - OM4 (A1a.3 from IEC 60793-2-10) Erica-violet Jacket*

\* OM3, OM4 and OS2 fibers are all bending insensitive. The banding radius are all >15mm

#### 3) Material requirements:

- Free of matching fluid or gel
- Resistant to corrosion
- Shall not support fungus growth per ASTM-G21-70
- Flammable materials shall have a UL-94 rating of V-1 or better.

#### 4) Color Code of the connectors:

Performance level	Connector Type	Housing color
OS2/UPC	ST and FC	Metal
	All other	Blue
OS2/APC	ST and FC	Metal
	All other	Green
OM1&OM2/PC	ST and FC	Metal
	All other	Beige
OM3/PC	ST and FC	Metal
	All other	Aqua
OM4/PC	ST and FC	Metal
	All other	E. Violet

### 5) Polishing Type

UPC - Ultra Physical Contact	Standard for Single mode when APC is not mentioned
APC - Angled Polish Contact	Only for Single mode
PC - Physical Contact Polish	When the fiber type is multi-mode

### 6) Length (meter)

XXXX: Represents the length of the cord in meter(maximum 4 digits).

E.g. "1000"= 1000 meter, "5" = 5 meter, "D5" represent 0.5 meter and "2D5" is 2.5 meter.

Cable Lengths	
From	Increments
0.5 m to 5 m	0.1 m
5.5 m to 50 m	0.5 m
51 m to 100 m	1 m
105 m to 300 m	5 m

## Technical information

### 1) Insertion loss (IL)

All connectors must be measured with EN 61300-3-4.

Fiber type	Polishing	IL for MPO	IL for LC
		IL Max (dB)	IL Max (dB)
OS2	APC	0.35	0.25
OM3	PC	0.35	0.25
OM4	PC	0.2	0.15

### 2) Return loss (RL)

All connectors are complied with EN 61300-3-6.

Fiber type	Polishing	RL for MPO	RL for LC
		RL Max (dB)	RL Max (dB)
OS2	APC	-60	-60
OM3	PC	-25	-25
OM4	PC	-25	-25

### 3) Bandwidth

The basic Bandwidth requirement is as follows for multimode fiber cable.

Minimum modal bandwidth MHz.km				
Wavelength		Overfilled launch bandwidth		Effect laser launch bandwidth
Fiber Type	Core diameter	850 nm	1300 nm	850 nm
OM1	62.5 μm	200	500	Not specified
OM3	50 μm	1500	500	2,000
OM4	50 μm	3500	500	4,700

For single mode fiber, the bandwidth is not specified.

#### 4) Mechanical characteristics & Environmental characteristics

All patch cords must be compliant with IEC 61300 (EN 61300) series in all mechanical and environmental tests. (\* *The bending radius is > 30mm.*) The Operation & storage temperature range is -20 to + 60 °C and installation temperature range is -15 to + 50 °C. All patch cords are made with LSZH cable.

#### 5) Packaging

Coiled and packed in transparent plastic Zip bag.



Belden declares this product to be in compliance with the environmental regulations EU RoHS (Directive 2002/95/EC, 27 January 2003); this is valid for all material produced after the RoHS compliant date for this product.