

FIBRE OPTIC EASY FRONT ACCESS PATCH PANEL



Norden EFA fibre Optic Patch panel is designed for fibre termination and distribution. This smart design and professional engineering provides easy installation and maintenance.



FEATURES

- Easy front access .
- Sliding patch panel for easy rework and maintenance.
- Cable clamps on the inner surface for fixing cables.
- 19" rack mount 1U Size.
- Fixed Splice tray for splice utilisation designed with plexi glass top - cover & PC material .
- Patch panels for SC, LC, ST, FC, MTRJ & E2000.
- The enclosure is made of cold rolled steel sheet, with electrostatic - spraying.

COMPLIANCE

- TSE: EN 61587-1 Mechanical Structures For Electronic Equipment - Tests for IEC 60917 and IEC 60297 .
- Climatic and Environment: EN 61587-1/4.2, IEC60068-2-1, IEC60068-2-2, IEC60068-2-30,
- Earth Bond: EN61587-1/6.2.
- Flammability: EN61587-1/6.3.

DESIGN & MATERIALS

Mounting Type	Rack
Colour	Black or Beige or white
Material	Cold rolled carbon sheet steel with electrostatic spraying
Material Thickness	2mm
Rack Type	Sliding
'U' Size	1U=12/24 Port, 2U=48 Port
Cable Port Max.	2-4
Environment Temperature- Relative	-40°C to +80°C
Humidity	≤85% (30 degree)
Atmosphere Pressure	70-106KPa
Insulated Resistance	≥2*10M Ohm/500V (DC)
Intensity	≤15kv(DC) /1min.no spark-over and no flying arc
Fibre Bending Radius	≥40mm

FIBRE OPTIC EASY FRONT ACCESS PATCH PANEL



ORDERING INFORMATION

SC FIBRE PATCH PANEL

Part Number	Description	Dimension (mm)
421-2SC006X	SC 06 Port Duplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2
421-2SC012X	SC 12 Port Duplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2
421-2SC024X	SC 24 Port Duplex EFA Fibre Patch Panel Rack Mount	87 x 484 x 281.2
421-2SC048X	SC 48 Port Duplex EFA Fibre Patch Panel Rack Mount	87 x 484 x 281.2
421-1SC006X	SC 06 Port Simplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2
421-1SC012X	SC 12 Port Simplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2
421-1SC024X	SC 24 Port Simplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2
421-1SC048X	SC 48 Port Simplex EFA Fiber Patch Panel Rack Mount	87 x 484 x 281.2

ST FIBRE PATCH PANEL

Part Number	Description	Dimension (mm)
421-1ST006X	ST 06 Port Simplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2
421-1ST012X	ST 12 Port Simplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2

FC FIBRE PATCH PANEL

Part Number	Description	Dimension (mm)
421-1FC006X	FC 06 Port Simplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2
421-1FC012X	FC 12 Port Simplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2

LC FIBRE PATCH PANEL

Part Number	Description	Dimension (mm)
421-2LC006X	LC 06 Port Duplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2
421-2LC012X	LC 12 Port Duplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2
421-2LC024X	LC 24 Port Duplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2
421-2LC048X	LC 48 Port Duplex EFA Fibre Patch Panel Rack Mount	87 x 484 x 281.2

MTRJ FIBRE PATCH PANEL

Part Number	Description	Dimension (mm)
421-2MT006X	MTRJ 16 Port Duplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2
421-2MT012X	MTRJ 12 Port Duplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2

E2000 FIBRE PATCH PANEL

Part Number	Description	Dimension (mm)
421-1E2006X	E2000 06 Port Simplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2
421-1E2012X	E2000 12 Port Simplex EFA Fibre Patch Panel Rack Mount	44 x 484 x 281.2

PACKING INFORMATION

Part Number	Packing Length	Packing Mode	N.W (kg)	G.W (kg)	Dimension (mm)
06 Port Rack Mount	10 x 1	Carton Box	22.0	24.0	620 x 420 x 430
12 Port Rack Mount	10 x 1	Carton Box	22.0	24.0	620 x 420 x 430
24 Port Rack Mount	10 x 1	Carton Box	22.0	24.0	620 x 420 x 430
48 Port Rack Mount	10 x 1	Carton Box	24.0	26.0	620 x 420 x 430

FIBRE PIGTAIL

Fibre pigtails are used in permanent connections between patch panels and incoming cables / single blown fibres. Pigtails are preconstructed with connectors. Connector options include small form factors such as LC, E2000 and MT-RJ as well as SC, FC and ST. These are based on 900µm tight buffered cores (600µm MT-RJ) and suitable for internal use only inside suitable Fibre Management Systems.



COMPLIANCE

ISO/IEC 11801
EN50173 -1,ANSI TIA/EIA 568B
ITU-T G652.B OS1
ITU-T G652.D OS2
ITU-T G651.1 OM1 OM2 OM3 OM4
LSZH : IEC 60332-1

MECHANICAL DATA

Crush (N)	800
Impact (Nm)	0.2
Operating Temperature	-10°C to +70°C
Installation temperature	0°C to +70°C
Temp - Installation	0°C to +70°C
Bend Radius	50mm (min)

COLOR CODE OF 12 FIBRE PIGTAIL

Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Pink	Aqua
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OPTICAL CHARACTERISTICS (FIBRE)

Fibre Type	Max. Attenuation (dB/km)				Min. Overfill Launch Bandwidth (Mhz•km)		Min. Gigabit Ethernet Link Distance (m)		
	850nm	1300nm	1310nm	1550nm	850nm	1300nm	Gigabit		10Gigabit
OM1 62.5/125µm	≤2.7	≤0.6	-	-	≥200	≥600	275	550	-
OM2 50/125µm	≤2.5	≤0.7	-	-	≥500	≥500	550	550	-
OM3 50/125µm	≤2.3	≤0.6	-	-	≥1500	≥500	1000	600	300
OM4 50/125µm	≤2.3	≤0.6	-	-	≥3500	≥500	1000	600	550
OS1 9/125µm	-	-	≤0.34	≤0.20	-	-	-	-	-
OS2 9/125µm	-	-	≤0.34	≤0.24	-	-	-	-	-

FIBRE PIGTAIL

OPTICAL PERFORMANCE DATA (CONNECTOR)

	ST PC/UPC/APC	SC PC/UPC/APC	FC PC/UPC/APC	MT RJ	LC (MM/SM)
Insertion Loss (dB) Max.	≤0.3	≤0.3	≤0.3	≤0.6	≤0.3/0.2
Insertion Loss (dB) Typical.	≤0.2	≤0.2	≤0.2	≤0.3	≤0.2/0.1
Return Loss SM(dB)	20.0	20.0	20.0	20.0	20.0
Return Loss MM(dB)	≥45/≥50/≥60	≥45/≥50/≥60	≥45/≥50/≥60	≥45	≥45

ORDERING INFORMATION

LC PIGTAIL

Description	Part Number		
Singlemode	OS1	OS2	OS2 (G657.A1)
LC/APC 1m PVC	341-10S1L310	341-10S2L310	341-17A1L310
LC/APC 1.5m PVC	341-10S1L315	341-10S2L315	341-17A1L315
LC/APC 2m PVC	341-10S1L320	341-10S1L320	341-17A1L320
LC/APC 3m PVC	341-10S1L330	341-10S2L330	341-17A1L330
LC/APC 1m LSZH	342-10S1L310	342-10S2L310	342-17A1L310
LC/APC 1.5m LSZH	342-10S1L315	342-10S2L315	342-17A1L315
LC/APC 2m LSZH	342-10S1L320	342-10S2L320	342-17A1L320
LC/APC 3m LSZH	342-10S1L330	342-10S2L330	342-17A1L330

Description	Part Number			
Multimode	OM1	OM2	OM3	OM4
LC/PC 1m PVC	341-10M1L110	341-10M2L110	341-10M3L110	341-10M4L110
LC/PC 1.5m PVC	341-10M1L115	341-10M2L115	341-10M3L115	341-10M4L115
LC/PC 2m PVC	341-10M1L120	341-10M2L120	341-10M3L120	341-10M4L120
LC/PC 3m PVC	341-10M1L130	341-10M2L130	341-10M3L130	341-10M4L130
LC/PC 1m LSZH	342-10M1L110	342-10M2L110	342-10M3L110	342-10M4L110
LC/PC 1.5m LSZH	342-10M1L115	342-10M2L115	342-10M3L115	342-10M4L115
LC/PC 2m LSZH	342-10M1L120	342-10M2L120	342-10M3L120	342-10M4L120
LC/PC 3m LSZH	342-10M1L130	342-10M2L130	342-10M3L130	342-10M4L130

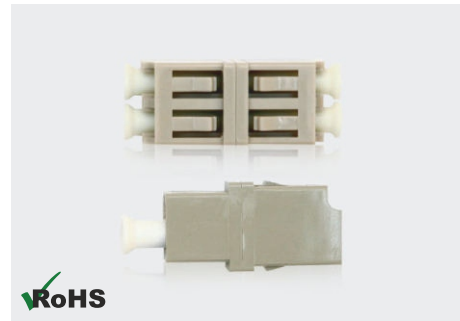
ORDERING GUIDE

Fibre Pigtail	Jacket	Thickness	Fibre Type	Connector	Polish	Length
34	1:PVC 2:LSZH 5:12 color PVC 6:12 color LSZH	1:0.9mm 2:1.6mm 3:2.0mm 4:3.0mm	OM1 OM2 OM3 OM4 OM5 OS1 OS2 7A1 = G657.A1 7A2 = G657.A2 7B2 = G657.B2 7B3 = G657.B3 500 = G655	S:SC T:ST F:FC L:LC M:MTRJ E:E2000	1:PC 2:UPC 3:APC 4:APC 8°	10:1m 15:1.5m 20:2m 25:2.5m 30:3m

FIBRE ADAPTER

LC FIBRE OPTIC ADAPTER

LC fibre optic adapters are used in conjunction with enclosures (Rack or Wall Mount) to provide a means to connect backbone to backbone or backbone to horizontal fibre cabling. They have plastic housing; there are simplex, duplex and quad LC adapters, duplex LC fibre adapters are with SC simplex footprint. The LC fibre adapters colours are Blue or SM/PC, Beige for MM/PC and Green for SM/APC. LC fibre optic adapters are with bronze sleeve for multimode and Zirconia sleeve for single mode.



APPLICATIONS

CATV
Active device/Transceiver, Telecommunication networks
Multimedia Data processing networks
Test equipment, Premise installations
Gigabit Ethernet

FIBRE ADAPTER SPECIFICATION

Norden's fibre adapters are available for all standard connector types in both single mode and multimode including Simplex and duplex versions as per ANSI/TIA 568 C.3 Standard. Single mode adapters are available with either Zirconia or phosphor bronze sleeves. Zirconia sleeves provide tighter tolerances, generally required for angled physical contact (APC) connectors. Multimode adapters are available with phosphor Bronze sleeves, which provide good performance for spherical polished connectors. The adapter sleeve aligns the ferrules and holds them in place. The adapters are laser optimize and colour coded for easy identification of the adapter type.

Norden hybrid Fibre optic adapters are also available which are used to link different kinds of fibre optic connectors. Hybrid Adapter specifications and functions are same as standard fibre optic adapters.

ENVIRONMENTAL & MECHANICAL DATA

Operating Temperature	-40°C to +75°C
Storage Temperature:	-40°C to +85°C
Temperature Cycling (61300-2-18)	-40°C to +75°C, 40 cycles=0.2 dB change
High temperature (61300-2-18)	70°C for 96Hrs, < 0.4 dB change
Damp Heat (61300-2-19)	40°C at 93 % RH for 96 Hrs, < 0.4 dB change
Vibration-Mated Pair (61300-2-1)	10-55 Hz, 1.5 mm P to P < 0.2 dB change
Mating Durability (61300-2-2)	500 Mating Cycles, Clean every 25, < 0.2 dB change
Retention Force	2.0 ~ 5.9 N

DESIGN & MATERIALS

Adapter Material	High Impart flame retardant thermoplastic UL94-V0
Capillary Diameter Tolerance (Single Mode)	126 ± 0.5 µm
Capillary Diameter Tolerance(Multimode)	127 ± 0.5 µm
Operating Temperature	-40 °C to +85 °C
Storage Temperature:	-40 °C to +85 °C
Mating Durability	>500 Mating Cycles

FIBRE ADAPTER

OPTICAL PERFORMANCE DATA

Item	Single mode			Multimode		
	PC	UPC	APC	62.5/125	50/125	50/125 10G
Insert. Loss/Adapter (single Fibre)	0.2 dB Max. (0.15 dB typ.)		0.1 dB Max.	0.3 dB Max. (0.25 dB typ.)		
Return Loss	≥ 45 dB	≥ 50 dB	≥ 60 dB	N.A		
Insert. Loss/MTRJ	0.5dB Max. (0.45 dB typ.)			0.5 dB Max. (0.45 dB typ.)		
Pull strength	≥98 N	≥98 N	≥98 N	≥98 N		

ORDERING INFORMATION

LC SINGLEMODE

Part Number	Description
352-ALCLC	LC/PC Singlemode Duplex Adaptor
352-ALCLC02	LC/APC Singlemode Duplex Adaptor
352-ALCLC01	LC/UPC Singlemode Duplex Adaptor
354-ALCLC	LC/PC Singlemode Duplex Adaptor without Flange
354-ALCLC02	LC/APC Singlemode Duplex Adaptor without Flange
354-ALCLC01	LC/UPC Singlemode Duplex Adaptor without Flange
352-ALCLCSH	LC/PC Singlemode Duplex Adaptor Shuttered
352-ALCLC01SH	LC/UPC Singlemode Duplex Adaptor Shuttered
352-ALCLC02SH	LC/APC Singlemode Duplex Adaptor Shuttered
353-ALCLC	LC/PC Singlemode Quad Adaptor
353-ALCLC02	LC/APC Singlemode Quad Adaptor
353-ALCLC01	LC/UPC Singlemode Quad Adaptor

LC MULTIMODE OM2

Part Number	Description
352-DLCLC	LC/PC Multimode OM2 Duplex Adaptor, Beige
352-DLCLC01	LC/UPC Multimode OM2 Duplex Adaptor, Beige
353-DLCLC	LC/PC Multimode OM2 Quad Adaptor, Beige
353-DLCLC01	LC/UPC Multimode OM2 Quad Adaptor, Beige

LC MULTIMODE OM3

Part Number	Description
352-ELCLC	LC/PC Multimode OM3 Duplex Adaptor, Aqua
352-ELCLC01	LC/UPC Multimode OM3 Duplex Adaptor, Aqua
353-ELCLC	LC/PC Multimode OM3 Quad Adaptor, Aqua
353-ELCLC01	LC/UPC Multimode OM3 Quad Adaptor, Aqua

LC MULTIMODE OM4

Part Number	Description
352-FLCLC	LC/PC Multimode OM4 Duplex Adaptor, Violet
352-FLCLC01	LC/UPC Multimode OM4 Duplex Adaptor, Violet
352-FLCLCSH	LC/PC Multimode OM4 Duplex Adaptor Shuttered, Violet
354-FLCLCSH	LC/PC Multimode OM4 Duplex Adaptor Shuttered without flange, Violet
353-FLCLC	LC/PC Multimode OM4 Quad Adaptor, Violet
353-FLCLC01	LC/UPC Multimode OM4 Quad Adaptor, Violet

FIBRE ADAPTER

LC MULTIMODE OM5

Part Number	Description
352-GLCLC	LC/PC Multimode OM5 Duplex Adaptor,Lime Green
352-GLCLC01	LC/UPC Multimode OM5 Duplex Adaptor,Lime Green
353-GLCLC	LC/PC Multimode OM5 Quad Adaptor,Lime Green
353-GLCLC01	LC/UPC Multimode OM5 Quad Adaptor,Lime Green

OM2: Beige,OM3 : Aqua,OM4 : Violet,OM5 : Lime Green

PACKING INFORMATION

Product Type	Packing Length	Packing Mode	N.W (kg)	G.W (kg)	Dimension (mm)
LC Simplex	100 x 5 x 10	Carton Box	12.0	13.0	545 x 260 x 395
LC Duplex	50 x 5 x 10	Carton Box	10.5	11.5	545 x 260 x 395
LC Simplex Shutter	100 x 5 x 10	Carton Box	12.5	13.5	545 x 260 x 395
LC Duplex Shutter	50 x 5 x 10	Carton Box	11.0	12.0	545 x 260 x 395
LC Quad Adapter	25 x 5 x 10	Carton Box	10.0	11.0	545 x 260 x 395