DLL Partners

Optic Fiber Technology

catalogue of products

www.dllpartners.de

A project co-financed by the European Union from the
European Regional Development Fund
and the national budget of the Republic of Poland
as part of Regional Operational Programme
of the West Pomeranian Region for the period 2007-2013

The project has enabled the introduction process and product innovation in the Company.
Process innovation depends on implement production process of passive fibre-optic elements.
Production innovative depends on implement to offer new high-tech products:
Premium Patchcords, Mode Conditioning Patchcords and CWDM - DWDM modules.
These products can be found accordingly on pages nr: 5-6, 12, 68-69 of the catalogue.

PROGRAM
REGIONALNY
NARODOWA STRATEGIA SPÓJNOŚCI

UNIA EUROPEJSKA
EUROPEJSKI FUNDUSZ
ROZWOJU REGIONALNEGO

Project Name:

The purchase of hardware and software for
implementation of an innovative production process
of passive fibre-optic elements.

Beneficiar:

DLL Partners Dziubanowski Leśniewski Ostojski Sp.J.

Program Regionalny
dla rozwoju
Pomorza Zachodniego

Table of contents

DLL Partners - „Made in Poland"

DLL Partners is one of the fastest-growing companies in Poland providing complex telecommunication and teleinformatics solutions based on fibre optic technology.

PRODUCTION

Our company was founded in 2002 by a group of graduates of the Technical University of Szczecin. We exclusively represent our own capital (100%), have the best engineers and provide proprietary solutions.

In the opinion of professionals, technological solutions supplied by DLL Partners are equal in quality to the solutions of world-famous manufacturers. Our engineers and specialists are constantly working to provide new, cutting-edge technology in the fibre optics market. Our success derives from investment in science, development and know-how.

DLL Partners is one of the few Polish companies that produce patchcords and pigtails based on all available fibre optic connectors: SC, FC, ST, LC, MU, E2000, MT-RJ, DIN. In addition to basic types of patch cords we make also Mode Conditioning, Polarization Maintaining and bending resistant G657.B3 patch cords. Our newest production line makes possible pre-termination of MPO/MTP patch cords and Fan-Outs. As one of few we have the Reichle& De-Massari certificate permitting our company E2000 connectors termination.

Very popular are our own systems of mechanical forming of the cable for example: Fiber Quick, Fiber Eco-Quick or Cross Link Q-Fiber. It's used to build fast and easy fibre optic connections between Data Centre. The favour of our customers won also our Q-Fiber distribution frames: extendable, not extendable and telescopic (1U, 2U, 3U), wall mounted and industrial (with holder for DIN rail).

The last part of DLL Partners production are linear fixtures: cable tube dividers, fiting plates, overlength frames and boxes .

What makes us special? We are very flexible. As manufacturer we are able to fit every solution to customer's needs. Our engineers involve and modify our products every day. We guarantee assured supply and fast realizations even custom made orders.

Our Technical Department continually develops procedures for connectors polishing on the basis of machine polishing technology. It guarantees the highest quality of assembled connectors.

DLL Partners, as one of the first and the only company in Poland, introduced its own polishing machine XP-1 into the production process. With the passage of time, the machine has undergone subsequent modifications. Currently, the production process uses fourth generation machines, equipped with a touch panel display.

DISTRIBUTION

DLL Partners is a distributor of many proven and solid producers. That are for example Belden and EtherWAN.

Belden is world leader in signal transmit cable production. It offers wide range of cables and cords of the highest parameters. The bestsellers are fibre optic cables with central lose tube: outdoor GOSN and universal GUSN.

EtherWAN is world leader in Ethernet communication. The characteristic ofEtherWAN products, for example switches, media converters or extenders, is possibility of operation in harsh environment. It's confirmed by many certificates and attests: UL, IEC/IEEE, ISA, GL or NEMA TS1 & TS2. It allows to use the appliances for example at: energy substations, marine applications, automatics or potentially explosive environment .

The last bestseller of EtherWAN is the first in the world hardened switch with ports ultra-PoE++ (60W). EX78602 as new product in a very short time won the security market as perfect supply appliance (PoE PSE) for energy intensive cameras PTZ type or outdoor entrance points.

Thanks to many years' experience our portfolio is filled with proven brands and products. In our offer we have all elements needed to build fibre optic system: passive elements (adapters, attenuators, splice protectors), wave division multiplexing systems(splitters PLC, CWDM, DWDM), tele-informatics cabinets and frames (wall, server, outdoor, tele-informatics), splicing closures, termination boxes, installation instruments, elements to build overhead lines or micro duct. And finallyactive elements: modules SFP/XFP/GBIC/XENPAK and active appliances GPON Iskratel company.

TRUST

The proof of our reliability and the quality is customer satisfaction. Thanks to their trust, constantly expanding our product portfolio, we employ over 70 people. Our products are delivered to the biggest moguls, among others of the telecommunications, IT and energy sectors in Poland and in the world.

Reliability and good quality of our products confirm by constantly ongoing research. Results of DLL Partners Laboratory Test Measuring are confirmed by outside laboratories, among others: Laboratory Quality fixture and

Telecommunications Equipment at the Faculty of Electrical ZUT in Szczecin. Our products are compliant with, among others, ZN-05 / TP SA-044, ZN-96 / TP SA-07, EN 50377, IEC 61754, IEC 61755 and RoHS.

SERVICE

Separate part of DLL Partners services are projects, installations and measurements. Our staff are fully qualified and authorized to work in the field of electrical services and telecommunications. We also provide certified training theoretical and practical among others: "Fundamentals of fibre optics," and "Diagnosis of fibre connector". In order to know our full offer, please contact us. Our group of specialists with full reliability will try to advise you and provide you with the best solutions.
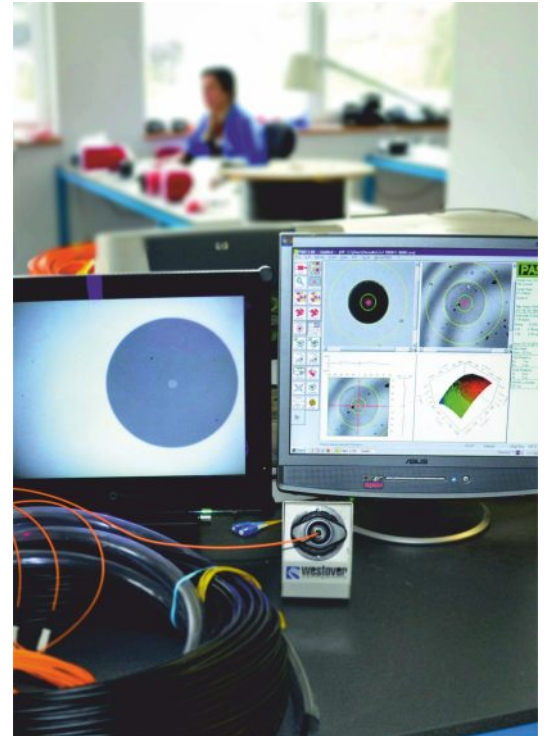
www.dllpartners.de

Prefabricated Cables

Q-Fiber Pigtails and Patchcords

made in **Poland**

Description

Q-Fiber Pigtails and Patchcords are high-class fiber optic technology products. High quality production materials and the involvement of experienced engineers guarantee the best quality transmission. Special apparatus assisted manufacturing process helps maintain the highest performance of our pigtails and patchcords which are perfectly suitable for switching optical circuits as well as connecting transmission equipment. Each product is customized, which means pigtails and patchcords can come in any configuration.

Application

Telecommunications, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, Measuring Elements.

Properties

» Any length (length tolerance is up to 3 m: 3%, above: 1%)
» Cable LSOH
» Ceramic connector ferrule (termoplastic/termoset for MTRJ and MPO)
» Compliance with the following standards: ZN-05/TP SA-044, ZN-96/TPSA-07, PN-EN 50377, IEC 61754, IEC 61755
» RoHS Compliance

Polishing standards

» FLAT
» PC
» UPC
» APC 8°
» APC 9°

Parameters

	Ceramic ferrule (SC, ST, FC, LC, MU, E2000, DIN)						MT Ferrule (MTRJ, MPO)		
	MM/PC		SM/PC		SM/APC		MM/FLAT	SM/FLAT	SM/APC 8
	Standard	Premium	Standard	Premium	Standard	Premium	Standard	Standard	Standard
Maximum insertion loss [dB]	≤ 0.75 (grade M)	≤ 0.25 (grade B)	≤ 0.5 (grade C)	≤ 0.25 (grade B)	≤ 0.5 (grade C)	≤ 0.25 (grade B)	≤ 0.75 (grade M)	≤ 1.0 (grade D)	≤ 1.0 (grade D)
Typical insertion loss [dB]	≤ 0.35 (grade M)	≤ 0.12 (grade B)	≤ 0.25 (grade C)	≤ 0.12 (grade B)	≤ 0.25 (grade C)	≤ 0.12 (grade B)	≤ 0.35 (grade M)	≤ 0.5 (grade D)	≤ 0.5 (grade D)
Reflection [dB]	≥ 20 (grade M)	≥ 26 (grade M)	≥ 45 (grade 2)	≥ 45 (grade 2)	≥ 60 (grade 1)	≥ 60 (grade 1)	≥ 20 (grade M)	≥ 26 (grade 4)	≥ 35 (grade 3)
Radius of curvature [mm]	5 ÷ 30 (grade D)	5 ÷ 30 (grade C)	5 ÷ 30 (grade C)	7 ÷ 25 (grade B)	5 ÷ 12 (grade C)	5 ÷ 12 (grade B)	-	-	-
Apex offset [μm]	0 ÷ 50 (grade D)	0 ÷ 30 (grade C)	0 ÷ 50 (grade C)	0 ÷ 50 (grade B)	0 ÷ 50 (grade C)	0 ÷ 50 (grade B)	-	-	-
Maximum angle error [°]	0.6 (grade D)	0.3 (grade C)	0.3 (grade C)	0.2 (grade B)	0.3 (grade C)	0.2 (grade B)	0.5 (grade D)	0.5 (grade D)	0.5 (grade D)
Fiber height* [nm]	-100 ÷ 100** (grade D)	-100 ÷ A** (grade C)	-100 ÷ A** (grade C)	-60 ÷ A** (grade B)	-100 ÷ A** (grade C)	-60 ÷ A** (grade B)	-3200 ÷ 0 (grade D)	-3200 ÷ 0 (grade D)	-3200 ÷ 0 (grade D)

* negative value indicates the extension of a fibre
** calculated from the formula based on other geometric parameters, see technical requirements at www.dll.com.pl
*** possibility to order connectors of different parameters, according to the standards of the customer

Photos

DLL Partners

Q-Fiber Pigtails and Patchcords

Types of connectors

ST

FC

SC

LC

MU

E2000

DIN

FDDI

MTRJ

How to order

PIG

| Cable type:
S=Simplex
D=Duplex | Cable diameter:
09=0.9 mm
18=1.8 mm
24=2.4 mm
28=2.8 mm
X=Other | Core type:
S2=SM G.652D
S7=SM G657a
M1=MM 62 OM1
M2=MM 50 OM2
M3=MM 50 OM3
M4=MM 50 OM4 | Connector:
S=SC
T=ST
F=FC
L=LC
E=E2000
M=MU
D=DIN
I=FDDI
R=MTRJ
P=MPO | Polishing standard:
F=Flat
P=PC
U=UPC
A8=APC 8°
A9=APC 9° | Length:
0001=0.1 m
:
0010=1 m
0020=2 m
:
0100=10 m
: |

PAT

| Cable type:
S=Simplex
D=Duplex | Cable diameter:
09=0.9 mm
18=1.8 mm
24=2.4 mm
28=2.8 mm
X=Other | Core type:
S2=SM G.652D
S7=SM G657a
M1=MM 62 OM1
M2=MM 50 OM2
M3=MM 50 OM3
M4=MM 50 OM4 | Connector A:
S=SC
T=ST
F=FC
L=LC
E=E2000
M=MU
D=DIN
I=FDDI
R=MTRJ
P=MPO | Polishing standards A:
F=Flat
P=PC
U=UPC
A8=APC 8°
A9=APC 9° | Connector B:
S=SC
T=ST
F=FC
L=LC
E=E2000
M=MU
D=DIN
I=FDDI
R=MTRJ
P=MPO | Polishing standards B:
F=Flat
P=PC
U=UPC
A8=APC 8°
A9=APC 9° | Length:
0001=0.1 m
:
0010=1 m
:
0020=2 m
:
0100=10 m
: |

*In order to order a Pigtail/Patchcord Premium one has to use the catalogue code, i.e. PIG.P or PAT.P

Information

» Product packed in a bag
» Each product is accompanied by a measurement protocol
» Ferrule secured cover

Q-Fiber Pigtails and Patchcords G657.B3

made in Poland

Description

Q-Fiber G657.B3 Patchcords and Pigtails are designed for indoor applications. According to the minimum bending radius (5 mm), G657.B3 fibers allows for quick and easy installation. LSZH coating provides not spread flames and non-flammable. Q-Fiber pigtails and patchcords are perfectly suitable for installation in narrow cable ducts, switching optical circuits as well as connecting transmission equipment. Each product is customized, which means pigtails and patchcords can come in any configuration.

Application

Telecommunications, CATV, Monitoring, LAN, FTTx.

Properties

» Any length (length tolerance is up to 3 m: 3%, above: 1%),
» Cable LSOH,
» Standard color: white (yellow on request),
» Ceramic connector ferrule,
» Compliance with the following standards: ZN-05/TP SA-044, ZN-96/TPSA-07, PN-EN 50377, IEC 61754, IEC 61755,
» RoHS Compliance.

Polishing standards

» FLAT,
» PC,
» UPC,
» APC 8°,
» APC 9°.

Parameters of connectors

Parameter	Ceramic ferrule (SC, ST, FC, LC, MU, E2000, DIN)			
	SM/PC		SM/APC	
	Standard	Premium	Standard	Premium
Maximum insertion loss [dB]	≤ 0.5 (grade C)	≤ 0.25 (grade B)	≤ 0.5 (grade C)	≤ 0.25 (grade B)
Typical insertion loss [dB]	≤ 0.25 (grade C)	≤ 0.12 (grade B)	≤ 0.25 (grade C)	≤ 0.12 (grade B)
Reflection [dB]	≥ 45 (grade 2)	≥ 45 (grade 2)	≥ 60 (grade 1)	≥ 60 (grade 1)
Radius of curvature [mm]	5 ÷ 30 (grade C)	7 ÷ 25 (grade B)	5 ÷ 12 (grade C)	5 ÷ 12 (grade B)
Apex offset [µm]	0 ÷ 50 (grade C)	0 ÷ 50 (grade B)	0 ÷ 50 (grade C)	0 ÷ 50 (grade B)
Maximum angle error [°]	0.3 (grade C)	0.2 (grade B)	0.3 (grade C)	0.2 (grade B)
Fiber height* [nm]	-100 ÷ A** (grade C)	-60 ÷ A** (grade B)	-100 ÷ A** (grade C)	-60 ÷ A** (grade B)

* negative value indicates the extension of a fibre
** calculated from the formula based on other geometric parameters, see technical requirements at www.dllpartners.de (or www.dll.com.pl)
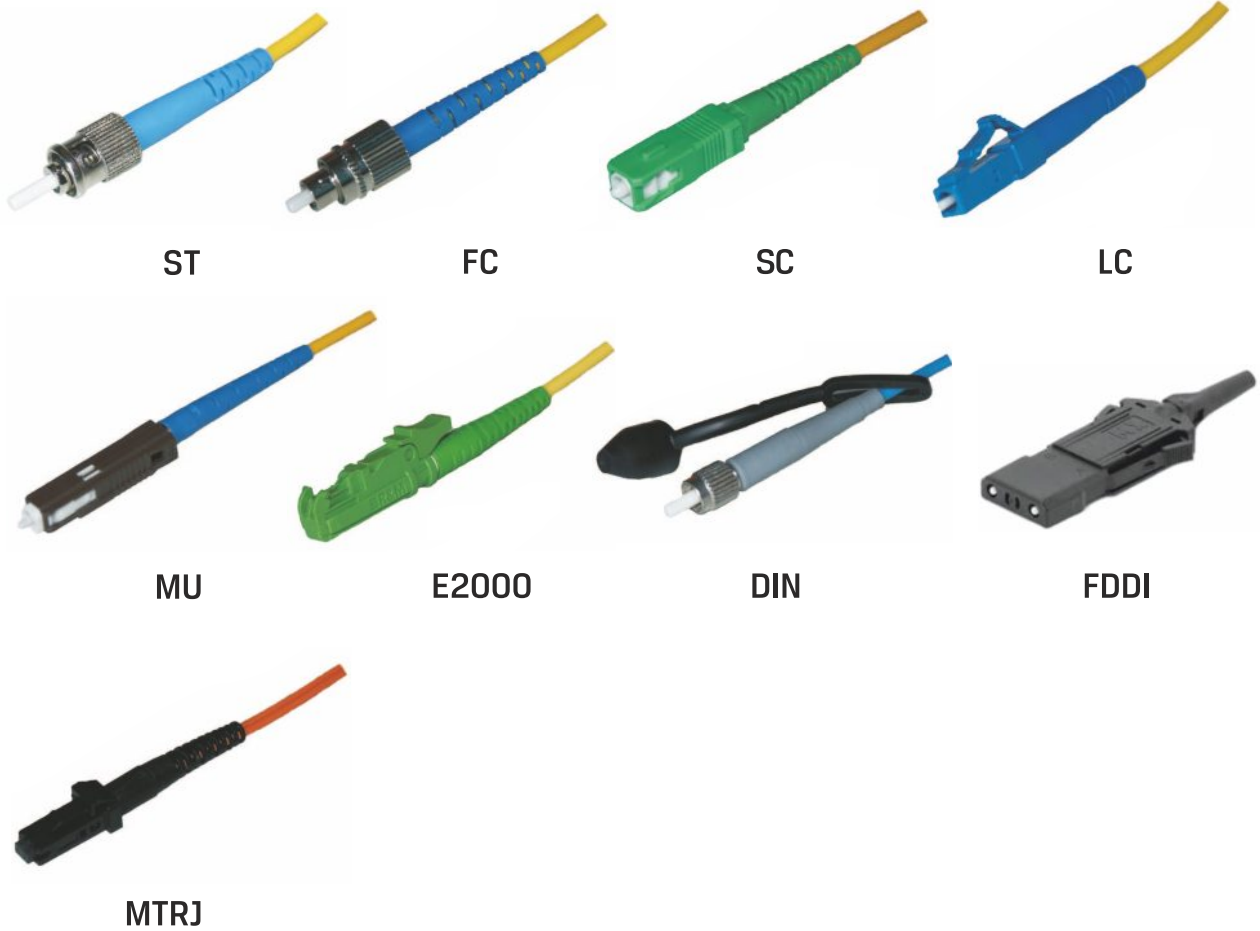*** possibility to order connectors of different parameters, according to the standards of the customer

G657.B3 fiber parameters

» Attenuation (max.) for wavelength 1310 nm: ≤ 0,4 dB,
» Attenuation (max.) for wavelength 1550 nm: ≤ 0,3 dB,
» Macro-bend induced attenuation, 1 turn 5 mm radius for wavelength 1550 nm: ≤ 0,10 dB,
» Macro-bend induced attenuation, 1 turn 5 mm radius for wavelength 1625 nm: ≤ 0,25 dB,
» Macro-bend induced attenuation, 1 turn 7,5 mm radius for wavelength 1550 nm: ≤ 0,07 dB,
» Macro-bend induced attenuation, 1 turn 7,5mm radius for wavelength 1625 nm: ≤ 0,15 dB,
» Macro-bend induced attenuation, 1 turn 10 mm radius for wavelength 1550 nm: ≤ 0,03 dB,
» Macro-bend induced attenuation, 1 turn 10 mm radius for wavelength 1625 nm: ≤ 0,06 dB.

Cable parameters (G657.B3 fiber)

Parametr	2.0 simplex	3.0 simplex	2.0 duplex	3.0 duplex
Tension (Long Term) [N]	60	80	100	160
Tension (Short Term) [N]	100	150	200	300
Crush (Long Term) [N/10cm]	100	100	200	200
Crush (Short Term) [N/10cm]	500	500	1000	1000
Min. Bend Radius (Dynamic) [mm]	30	30	30	30
Min. Bend Radius (Static) [mm]	15	15	15	15
Installation temperature [°C]	-20 ÷ 60	-20 ÷ 60	-20 ÷ 60	-20 ÷ 60
Operate temperature [°C]	-20 ÷ 60	-20 ÷ 60	-20 ÷ 60	-20 ÷ 60
Storage temperature [°C]	-20 ÷ 60	-20 ÷ 60	-20 ÷ 60	-20 ÷ 60

Q-Fiber Pigtails and Patchcords G657.B3

Photos

G657.B3

G652.D

Types of connectors

| ST | FC | SC | LC |

| MU | E2000 | DIN |

How to order

PIG

Cable type:	Cable	Core type:	Connector:	Polishing	Length:
S=Simplex	diameter:	B3=SM G657.B3	S=SC	standard:	0001=0.1 m
D=Duplex	18=1.8 mm		T=ST	U=UPC	:
	28=2.8 mm		F=FC	A8=APC 8°	0010=1 m
	X=Other		L=LC	A9=APC 9°	0020=2 m
			E=E2000		:
			M=MU		0100=10 m
			D=DIN		:

PAT

Cable type:	Cable	Core type:	Connector A:	Polishing	Connector B:	Polishing	Length:
S=Simplex	diamater:	B3=SM G657.B3	S=SC	standards A:	S=SC	standards B:	0001=0.1 m
D=Duplex	18=1.8 mm		T=ST	U=UPC	T=ST	U=UPC	:
	28=2.8 mm		F=FC	A8=APC 8°	F=FC	A8=APC 8°	0010=1 m
	X=Other		L=LC	A9=APC 9°	L=LC	A9=APC 9°	0020=2 m
			E=E2000		E=E2000		:
			M=MU		M=MU		0100=10 m
			D=DIN		D=DIN		:

*In order to order a Pigtail/Patchcord Premium one has to use the catalogue code, i.e. PIG.P or PAT.P

Information

» Product packed in a bag,
» Each product is accompanied by a measurement protocol,
» Ferrule secured cover.

Armoured Patchcords Q-Fiber

Description

Armoured Patchcords Q-Fiber are high-class fiber optic technology products to providing transmission of optical signals in harsh environmental. Mechanical protection for the fiber optic is possible by using high-strength stainless steel tube (pressure on the cable with the force 1000 [N / 100 mm]). This provides protection against damage caused by being walked on a cable by an adult. The special design also function as protection against rodents. The outer diameter of the cables used for the production of armoured patchcords is equivalent to the standard dimensions, it means that it doesn't require more space than standard cables. Armoured patchcords are ideal solution for industrial monitoring and FTTX networks. Each product is customized, which means patchcords can come in any configuration.
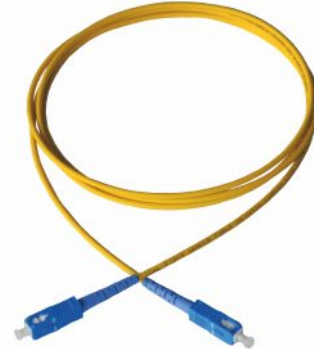
Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Any length (length tolerance is up to 3 m: 3%, above: 1%)
» Cable LSOH,
» Cable tensile strength 1000 N, cable crush 1000 [N / 100 mm],
» Ceramic connector ferrule,
» Compliance with the following standards: ZN-05/TP SA-044, ZN-96/TPSA-07, IEC 61754, IEC 61755,
» RoHS Compliance.

Polishing standards

» FLAT,
» PC,
» UPC,
» APC 8°,
» APC 9°.

Parameters

	Ceramic ferrule (SC, ST, FC, LC, MU, E2000, DIN)					
	MM/PC		SM/PC		SM/APC	
	Standard	Premium	Standard	Premium	Standard	Premium
Maximum insertion loss [dB]	≤ 0,6 (grade B$_M$)	≤ 0,25 (grade B)	≤ 0,5 (grade C)	≤ 0,25 (grade B)	≤ 0,5 (grade C)	≤ 0,25 (grade B)
Typical insertion loss [dB]	≤ 0,35 (grade B$_M$)	≤ 0,12 (grade B)	≤ 0,25 (grade C)	≤ 0,12 (grade B)	≤ 0,25 (grade C)	≤ 0,12 (grade B)
Reflection [dB]	≥ 20 (grade 2$_M$)	≥ 26 (grade 4)	≥ 45 (grade 2)	≥ 45 (grade 2)	≥ 60 (grade 1)	≥ 60 (grade 1)
Radius of curvature [mm]	5 ÷ 30 (grade D)	5 ÷ 30 (grade C)	5 ÷ 30 (grade C)	7 ÷ 25 (grade B)	5 ÷ 12 (grade C)	5 ÷ 12 grade B)
Apex offset [µm]	0 ÷ 50 (grade D)	0 ÷ 30 (grade C)	0 ÷ 50 (grade C)	0 ÷ 50 (grade B)	0 ÷ 50 (grade C)	0 ÷ 50 (grade B)
Maximum angle error [°]	0,6 (grade D)	0,3 (grade C)	0,3 (grade C)	0,2 (grade B)	0,3 (grade C)	0,2 (grade B)
Fiber height* [nm]	-100 ÷ A** (grade D)	-100 ÷ A** (grade C)	-100 ÷ A** (grade C)	-60 ÷ A** (grade B)	-100 ÷ A** (grade C)	-60 ÷ A** (grade B)

* negative value indicates the extension of a fibre
** calculated from the formula based on other geometric parameters, see technical requirements at www.dllpartners.de (or www.dll.com.pl)
*** possibility to order connectors of different parameters, according to the standards of the customer

Cable construction

Out Sheath   Steel armoured   Fiber

Kevlar   Buffer

DLL Partners
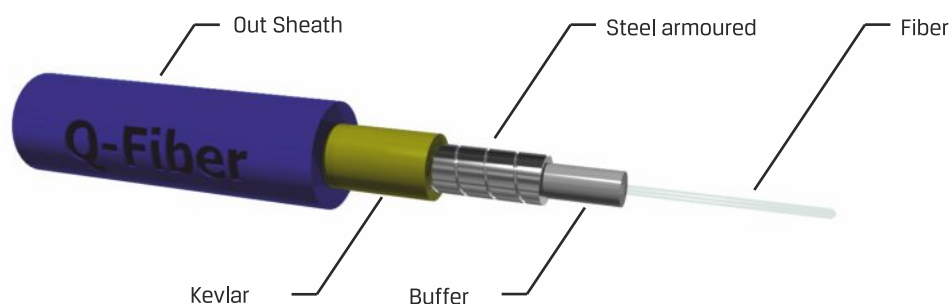
Armoured Patchcords Q-Fiber

Photos

## Types of connectors

ST

FC

SC

LC

MU

E2000

DIN

How to order

PIG.Z

Cable type:	Cable diamater:	Core type:	Connector:	Polishing standards:	Length:
S=Simplex	20=2,0 mm	S2=SM G.652D	S=SC	F=Flat	0010=1 m
D=Duplex	30=3,0 mm	S7=SM G657a	T=ST	P=PC	0020=2 m
	X=Other	B3=SM G657.B3	F=FC	U=UPC	:
		M1=MM 62 0M1	L=LC	A8=APC 8°	0100=10 m
		M2=MM 50 0M2	E=E2000	A9=APC 9°	:
		M3=MM 50 0M3	M=MU		
		M4=MM 50 0M4	D=DIN		

PAT.Z

Cable type:	RCable diamater:	Core type:	Connector A:	Polishing standards A:	Connector B:	Polishing standards B:	Length:
S=Simplex	20=2,0 mm	S2=SM G.652D	S=SC	F=Flat	S=SC	F=Flat	0010=1 m
D=Duplex	30=3,0 mm	S7=SM G657a	T=ST	P=PC	T=ST	P=PC	:
	X=Other	B3=SM G657.B3	F=FC	U=UPC	F=FC	U=UPC	0020=2 m
		M1=MM 62 0M1	L=LC	A8=APC 8°	L=LC	A8=APC 8°	:
		M2=MM 50 0M2	E=E2000	A9=APC 9°	E=E2000	A9=APC 9°	0100=10 m
		M3=MM 50 0M3	M=MU		M=MU		:
		M4=MM 50 0M4	D=DIN		D=DIN		

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Information

» Product packed in a bag,
» Each product is accompanied by a measurement protocol,
» Ferrule secured cover.

Patchcord MC Q-Fiber

Description

The **MODE CONDITIONING (MC)** cables are applied in systems, in which the modern active devices of the Gigabit Ethernet technology are connected by means of the existing multimode cabling. They make it possible to increase the transmission distance of the 1000BASE-LX technology to 550 m for OM1 cables. MC cables are duplex cables, at the end of which - on the transmission side - there is a section of single-mode cable. Next, a single-mode cable is connected with a multimode cable in a special manner, thus yielding an enhanced quality of signal propagation in the multimode cable. The MC technology consists in the optimum introduction of the signal from a single-mode fibre-optic cable to a multi-mode one, which is achieved by the displacement of cores. A single-mode signal is not introduced in the axis of the multimode fibre-optic core, because in such a situation there are many parallel signals, which interact and cause the so-called Differential Mode Delay (DMD parameter), thus limiting the transmission distance.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Any length (length tolerance is up to 3 m: 3%, above: 1%)
» Various cable types: 50/125 µm or 62.5/125 µm
» Cable Duplex Zipcord (I-VH) or Duplex Round (I-VHH)
» Cable diameters from 1.8 mm to 3.0 mm
» Connectors on the ends: SC, FC, ST, LC, MU, E2000, MT-RJ, DIN, FDDO, other
» Polishing standards: FLAT, PC, UPC, APC 8°, APC 9°

Transmission parameters

» Insertion loss (IL): ≤0,50 dB
» Coupled power ratio (CPR):
  - min 12 dB to max 20 dB for 50/125 µm and wavelength 1310 nm
  - min 28 dB to max 40 dB for 62.5/125 µm and wavelength 1310 nm
» Operating temperature range: -40°C to +85°C

Photos

How to order

MC								

Core type:
M1=MM 62 OM1
M2=MM 50 OM2
M3=MM 50 OM3
M4=MM 50 OM4

Cable diameter:
18=1.8 mm
20=2.0 mm
28=2.8 mm
X=Other

Connector A:
0=None
S=SC
T=ST
F=FC
L=LC
E=E2000
M=MU
D=DIN
I=FDDI
R=MTRJ

Polishing standards A:
0=None
F=Flat
P=PC
U=UPC
A8=APC 8°
A9=APC 9°

Connector B:
0=None
S=SC
T=ST
F=FC
L=LC
E=E2000
M=MU
D=DIN
I=FDDI
R=MTRJ

Polishing standards B:
0=None
F=Flat
P=PC
U=UPC
A8=APC 8°
A9=APC 9°

Length:
0020=2 m
0025=2.5 m
:
0100=10 m
:
:

Information

» Patchcord MC packed in a bag
» Each product is accompanied by a measurement protocol
» Ferrule secured cover
» Fiber optic fusion secured by an aluminum tube and a shrink-guard

DLL Partners

Loopback Q-Fiber

made in Poland

Description

Loopback Q-Fiber is a high class optical technology product looping fibre optic signal. It's used for testing and renovating the network. The feedback signal is used for network fault diagnostics.
Loopback patch cords are custom made, available in SM and MM versions and various types of connectors. We offer connectors SC, FC, LC and E2000.Our fibre optic cables used for loopback provide a compact structure and it's according to Fast Ethernet, Fibre Channel, Gigabit Ethernet.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, measuring applications.

Properties

» Compact housing
» Cable diameters 0,9mm, 2,0mm, 2,8mm
» Connectors SC, FC, LC, E2000 and others
» Low insertion loss
» High reflectance
» LSOH cables
» Ceramic connector ferrule (thermoplastic/ thermosetting for MTRJ and MPO)
» Compliance with following standards: ZN-05/TP SA-044, ZN-96/TPSA-07, PN-EN 50377, IEC 61754, IEC 61755
» RoHS compliance.

Polishing standards

» FLAT,
» PC,
» UPC,
» APC 8°,
» APC 9°.

Parameters

	Ceramic ferrule (SC, ST, FC, LC, MU, E2000, DIN)					
	MM/PC		SM/PC		SM/APC	
	Standard	Premium	Standard	Premium	Standard	Premium
Maximum insertion loss [dB]	≤ 0,6 (grade Bм)	≤ 0,25 (grade B)	≤ 0,5 (grade C)	≤ 0,25 (grade B)	≤ 0,5 (grade C)	≤ 0,25 (grade B)
Typical insertion loss [dB]	≤ 0,35 (grade Bм)	≤ 0,12 (grade B)	≤ 0,25 (grade C)	≤ 0,12 (grade B)	≤ 0,25 (grade C)	≤ 0,12 (grade B)
Reflection [dB]	≥ 20 (grade 2м)	≥ 26 (grade 4)	≥ 45 (grade 2)	≥ 45 (grade 2)	≥ 60 (grade 1)	≥ 60 (grade 1)
Radius of curvature [mm]	5 ÷ 30 (grade D)	5 ÷ 30 (grade C)	5 ÷ 30 (grade C)	7 ÷ 25 (grade B)	5 ÷ 12 (grade C)	5 ÷ 12 (grade B)
Apex offset [µm]	0 ÷ 50 (grade D)	0 ÷ 30 (grade C)	0 ÷ 50 (grade C)	0 ÷ 50 (grade B)	0 ÷ 50 (grade C)	0 ÷ 50 (grade B)
Maximum angle error [°]	0,6 (grade D)	0,3 (grade C)	0,3 (grade C)	0,2 (grade B)	0,3 (grade C)	0,2 (grade B)
Fiber height* [nm]	-100 ÷ 100** (grade D)	-100 ÷ A** (grade C)	-100 ÷ A** (grade C)	-60 ÷ A** (grade B)	-100 ÷ A** (grade C)	-60 ÷ A** (grade B)

* negative value indicates the extension of a fibre
** calculated from the formula based on other geometric parameters, see technical requirements at www.dllpartners.de (or www.dll.com.pl)

Photos

How to order

LOC					

Cable diameter:	Cable type:	Connector:	Polishing standards:	Length:
09=0,9 mm	S2=SM G.652D	S=SC	F=Flat	0001=0,1 m
18=1,8 mm	S7=SM G657a	T=ST	P=PC	:
24=2,4 mm	B3=SM G657.B3	F=FC	U=UPC	0010=1 m
28=2,8 mm	M1=MM 62 0M1	L=LC	A8=APC 8°	:
X=Other	M2=MM 50 0M2	E=E2000	A9=APC 9°	
	M3=MM 50 0M3	M=MU		
	M4=MM 50 0M4	D=DIN		

Fiber Quick Q-Fiber

made in **Poland**

Description

Fiber Quick Q-Fiber is a convenient, mechanical system of cable (outdoor or oniverlal) forming involving connections of ready-made terminals in the form of fibre-optic connectors. This technology consists in cutting the central tube or a selected cable with multiple tubes and separating individual fibers. Fibers remain in the 250 um acrylic shelland are placed inside the empty patchcord cables. The fibers are then sealed up in the housing of the Fiber Quick system on the one side and a selected fiber optic connector is put on the other side. In this way we are able to prevent additional loss which causes attenuation. Pigtails may be protected by a casing pipe of the Fiber Guard system or a tie of Simple Guard system. These systems allow safe pulling of a cable in the telecommunication conduit system.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Various lengths of pigtails
» 1 to 72 pigtails 2.0 mm diameter (0.9 mm on request) on both sides of the cable
» Any cable length and type
» Connectors on the ends: SC, FC, ST, LC, MU, E2000, MT-RJ, DIN, other
» Polishing standards: Flat, PC, UPC, APC 8°, APC 9°
» Low insertion loss and high return loss
» Available versions of the Fiber Quick system: 12, 24, 48 and 72,
» Possibility to mount in a rack cabinet by means of FQ-U holder

Parameters

Type: Fiber Quick		12	24	48	72
Max. number of fibers	pcs	12	24	48	72
FQ outer diameter	mm	21	27	33	-
FG outer diameter	mm	26	26 (33)	33	-
FQ lenght	mm	125	155	175	250
Max. cable diameter	mm	7	10	13	10
Max. drawing load	N	1000	1000	1000	1000

Photos

How to order

FQ

Cable type:	Number of fibers:	Core type:	Connector A:	Polishing standards A:	Connector B:	Polishing standards B:	Pigtail length:	Pigtail type:	Length:	Protection:
Z=External	01=1 pc	S2=SM G.652D	0=None	0=None	0=None	0=None	06=0.6 m	P=Straight	0020=2 m	0=None
U=Universal	02=2 pcs	S7=SM G657a	S=SC	F=Flat	S=SC	F=Flat	:	K=Cascade	:	P=Cable in a flexible
	:	M1=MM 62 0M1	T=ST	P=PC	T=ST	P=PC	10=1 m	X=Other	0055=5.5 m	protective conduit
	12=12 pcs	M2=MM 50 0M2	F=FC	U=UPC	F=FC	U=UPC	20=2 m		:	G=Pigtails in
	:	M3=MM 50 0M3	L=LC	A8=APC 8°	L=LC	A8=APC 8°	:		1000=100 m	Fiber Guard
	72=72 pcs	M4=MM 50 0M4	E=E2000	A9=APC 9°	E=E2000	A9=APC 9°			:	S=Pigtails in
			M=MU		M=MU					Simple Guard
			D=DIN		D=DIN					Z=Cable in a flexible protective conduit, Pigtails in Fiber Guard
										X=Other

FQ-U12	Holder mounted in the rack cabinet to FQ12
FQ-U24	Holder mounted in the rack cabinet to FQ24
FQ-U48	Holder mounted in the rack cabinet to FQ48

Information

» Each product is accompanied by a measurement protocol
» Possibility to protect the cable by means of a flexible protective conduit and the pigtails by means of the Fiber Guard system
» Each product is customized / produced strictly according to the customer's order

Fiber EcoQuick Q-Fiber

made in Poland

Description

Fiber EcoQuick Q-Fiber is a convenient, mechanical system of cable (outdoor or oniverlal) forming involving connections of ready-made terminals in the form of fibre-optic connectors. This technology consists in cutting the central tube or a selected cable with multiple tubes and separating individual fibers. Fibers remain in the 250 um acrylic shelland are placed inside the empty patchcord cables. The fibers are then sealed up in the housing of the Fiber Quick system on the one side and a selected fiber optic connector is put on the other side. In this way we are able to prevent additional loss which causes attenuation. Pigtails may be protected by a casing pipe of the Fiber Guard system or a tie of Simple Guard system. These systems allow safe pulling of a cable in the telecommunication conduit system.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Various lengths of pigtails
» 1 to 24 pigtails 2.0 mm diameter (0.9 mm or 3.0 mm on request)
  on both sides of the cable
» Any cable length and type
» Connectors on the ends: SC, FC, ST, LC, MU, E2000, MT-RJ, DIN, other
» Polishing standards: Flat, PC, UPC, APC 8°, APC 9°
» Low insertion loss and high return loss

Parameters

Type:		4	12	24
Max. number of fibers:	pcs	4	12	24
Outer diameter:	mm	11	14	17
Length:	mm	90	90	100
Max. cable diameter:	mm	8	8	8
Max. drawing load:	N	500	500	500

Photos

How to order

EFQ

Cable type:	Number of fibers:	Core type:	Connector A:	Polishing standards A:	Connector B:	Polishing standards B:	Pigtail length:	Pigtail type:	Length:	Protection:
Z=External	01=1 pc	S2=SM G.652D	0=None	0=None	0=None	0=None	06=0.6 m	P=Straight	0020=2 m	0=None
U=Universal	02=2 pcs	S7=SM G657a	S=SC	F=Flat	S=SC	F=Flat	:	K=Cascade	:	P=Cable in a flexible protective conduit
	:	M1=MM 62 OM1	T=ST	P=PC	T=ST	P=PC	10=1 m	X=Other	0055=5.5 m	G=Pigtails in Fiber Guard
	24=24 pcs	M2=MM 50 OM2	F=FC	U=UPC	F=FC	U=UPC	:		:	S=Pigtails in Simple Guard
		M3=MM 50 OM3	L=LC	A8=APC 8°	L=LC	A8=APC 8°	20=2 m		1000=100 m	Z=Cable in a flexible protective conduit, Pigtails in Fiber Guard
		M4=MM 50 OM4	E=E2000	A9=APC 9°	E=E2000	A9=APC 9°	:		:	X=Other
			M=MU		M=MU					
			D=DIN		D=DIN					

Information

» Each product is accompanied by a measurement protocol
» Possibility to protect the cable by means of a flexible protective conduit and the pigtails by means of the Fiber Guard system
» Each product is customized / produced strictly according to the customer's order

Cross Link Q-Fiber

*made in **Poland***

Description

Cross Link Q-Fiber is a mechanical system of fibre-optic cable forming used for quick and convenient construction of fibre-optic relations between Server Cabinets (Data Center). It may also be used for connecting distribution frames and local points. Compact solution facilitates the use of up to 12 connections of the LC-type in one module. The chassis 19" 1U may house up to 8 modules, which generates 96 fibre-optic connections. Modules may be equipped with external holders UZCL, thanks to which they may be mounted on a wall, in an energy cabinet, on the machine housing, etc. The universal solution makes it possible to use single-mode cables and multimode cables alike, with coatings, such as PE, LSOH as well as E30, E90 and E180.

Application

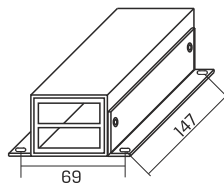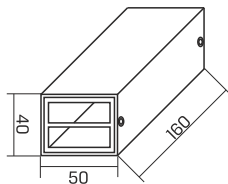Data Center, Telecommunication, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» 1 to 12 pins on both sides of the cable
» Any cable length and type
» Adapters: LC (MM), LC/PC (SM), LC/APC (SM)
» Polishing standards: PC, UPC, APC 8°
» Low insertion loss and high return loss
» Possibility to terminate up to 96 fibres in the Chassis 1U housing
» It is possible to be mounted on a wall (by means of UZCL holders)
» Available colours: black, silver

Parameters

Type:	Cross Link
Max. number of fibers:	12
Numbers of fibers in the Chassis 1U:	96
Dimensions:	40x50x160 [mm] [H x W x D]
Wall mounting:	Mounting bolt ø4x20 mm
Max. cable diameter:	10 mm
Max. drawing load:	500 N

Photos and dimensions

How to order

| CL | | | | | | |

Cable type:	Number of fibers:	Core type:	Adapters: (side A):	Adapters: (side B):	Length:
Z=External	01=1 pc	S2=SM G.652D	P=LC/PC MM	P=LC/PC MM	0020=2 m
U=Universal	02=2 pcs	S7=SM G657a	U=LC/PC SM	U=LC/UPC SM	:
W=Internal	:	M1=MM 62 OM1	A8= LC/APC	A8= LC/APC	0055=5.5 m
M=Mini Breakout	12=12 pcs	M2=MM 50 OM2			:
		M3=MM 50 OM3			1000=100 m
		M4=MM 50 OM4			:

UZCL	External holders with mounting bolt (wall mounting)
CH-CL-1U	Cross Link Chassis 19" 1U Q-Fiber

Information

» Each product is accompanied by a measurement protocol
» Possibility to protect the cable by means of a flexible protective conduit
» Each product is customized / produced strictly according to the customer's order
» Possibility to produced hybrid Cross Link - Fiber Quick

Cross Link Chassis 19" 1U Q-Fiber

Description

Cross Link Chassis 19" 1U Q-Fiber is a rack box designed for mounting in a data communication cabinet by means of rack bolts. Compact solution facilitates the use of up to 12 connections of the LC-type in one module. The chassis 19" 1U may house up to 8 modules, which generates 96 fibre-optic connections. Modules are installed by means of the latching disc. Such solution facilitates very quick installation and dismantling of the modules, without the need to use additional tools. Cross Link system may be used for quick and convenient construction of fibre-optic relations between Server Cabinets (Data Center). It may also be used for connecting distribution frames and local points.
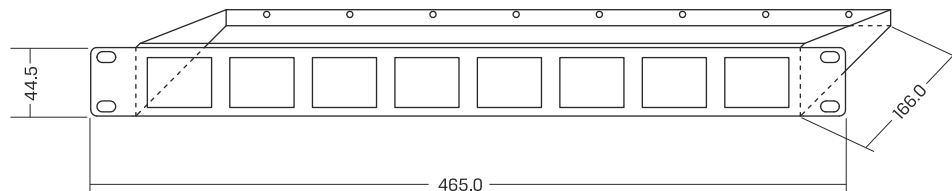
Application

Data Center, Telecommunication, Industry, LAN, MAN, WAN, FTTx.

Properties

» Made of 1.5 mm steel sheet
» Possibility to mount in a data communication cabinet
» Dimensions [H x W x D]: 44.5x485x166 mm
» Standard powder painting RAL 7035 (grey) glossy or RAL 9005 (black) glossy, other colours on demand
» Chassis houses 8 Cross Link modules

Wymiary

44.5
166.0
465.0

How to order

CH-CL-1U   Chassis Cross Link 1U

Additional equipment

» Rack bolts
» Cross Link

Information

» Chassis houses 8 Cross Link modules
» Possibility to mount in a data communication cabinet

Fiber Quick 5/8" Q-Fiber

made in Poland

Description

Fiber Quick 5/8" Q-Fiber is designed as a solution used in CATV networks. The 5/8" thread used in the conduit allows the screwing of cable form to the cable termination typically used in CATV devices. The whole makes for a compact and tight structure.
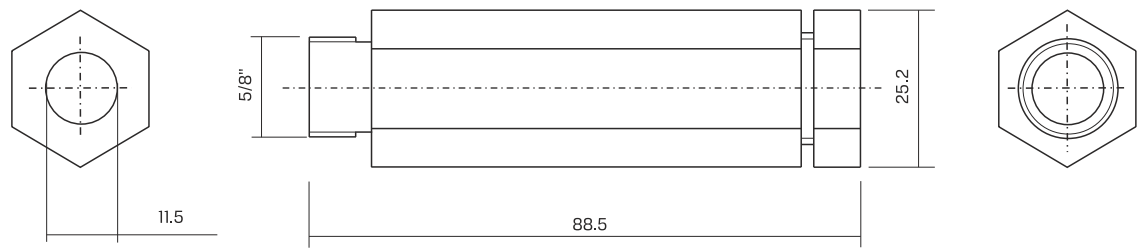
Application

Telecommunication, CATV, Other.

Properties

» Made of aluminium
» Water-resistant protection of the cable form
» Dimensions: 88.5 x 25.2 [mm] length x diameter
» Possibility to introduce a cable with the diameter of up to 11.5 mm
» Various lengths of pigtails
» Any cable length and type

Photos and dimensions

5/8"

25.2

11.5

88.5

How to order

FQ.5/8

Cable type:	Number of fibers:	Core type:	Connector A:	Polishing standards A:	Connector B:	Polishing standards B:	Pigtail length:	Pigtail type:	Length:	Protection:
Z=External	01=1 pc	S2=SM G.652D	O=None	O=None	O=None	O=None	06=0.6 m	P=Straight	0020=2 m	O=None
U=Universal	02=2 pcs	S7=SM G657a	S=SC	F=Flat	S=SC	F=Flat	:	K=Cascade	:	P=Cable in a flexible protective conduit
	:	M1=MM 62 OM1	T=ST	P=PC	T=ST	P=PC	10=1 m	X=Other	0055=5.5 m	G=Pigtails in Fiber Guard
	12=12 pcs	M2=MM 50 OM2	F=FC	U=UPC	F=FC	U=UPC	20=2 m		:	S=Pigtails in Simple Guard
		M3=MM 50 OM3	L=LC	A8=APC 8°	L=LC	A8=APC 8°	:		1000=100 m	Z=Cable in a flexible protective conduit, Pigtails in Fiber Guard
		M4=MM 50 OM4	E=E2000	A9=APC 9°	E=E2000	A9=APC 9°			:	X=Other
			M=MU		M=MU					
			D=DIN		D=DIN					

Information

» Each product is accompanied by a measurement protocol
» Possibility to protect the cable by means of a flexible protective conduit and the pigtails by means of the Fiber Guard system
» Each product is customized / produced strictly according to the customer's order

DLL
Partners

Launch Box Q-Fiber

made in **Poland**

Description

Launch Box Q-Fiber is a section of a fibre-optic cable of a proper length ended with connectors, through which we connect the reflectometer to the measured line. At the beginning section of the fibre-optic connection measured by a reflectometer we encounter coat-type modes, which are strongly attenuated and cause the reverse distribution of high intensity. For this reason the detector is in a saturated state and does not react to light intensity changes. The beginning part of an optic fibre is the so-called "dead zone", in which no events are detected. The application of a tape leader Q-Fiber by complete covering of the dead zone makes it possible to correctly measure the fibre-optical line.

Application

OTDR Launch Cable, Equipment Calibration, System emulation of loss, Length, Time delay and Reflectance.

Properties

» Housing made of plastic 2.5 mm, as a standard in white (on demand other colours available: yellow, light-blue, blue, and green)
» Prevents fiber damage and stress during use or transportation
» Handle makes it convenient to move
» Custom length configurations available
» Various connector types
» The possibility of placing multiple fibers in one housing
» Dimensions [H x W x D]:
  MINI - 67x266x169,   Box Type I - 105x400x300,   Box Type II - 157,5x400x300,
  Box Type III - 210x400x300, Box Type IV - 315x400x300, Box Type V - 420x400x300.

Photos and dimensions

169

67

266

How to order

| LB | | | | | | | |

Core type:
S2=SM G.652D
S7=SM G657a
M1=MM 62 OM1
M2=MM 50 OM2
M3=MM 50 OM3
M4=MM 50 OM4

Pigtail length:
05=0.5 m
:
0010=1 m
0020=2 m
:
0100=10 m
:

Connector A:
0=None
S=SC
T=ST
F=FC
L=LC
E=E2000
M=MU
D=DIN
X=Other

Polishing standards A:
0=Other
F=Flat
P=PC
U=UPC
A8=APC 8°
A9=APC 9°

Connector B:
0=None
S=SC
T=ST
F=FC
L=LC
E=E2000
M=MU
D=DIN
X=Other

Polishing standards B:
0=None
F=Flat
P=PC
U=UPC
A8=APC 8°
A9=APC 9°

Length:
0100=10 m
1000=100 m
10000=1000 m
:

Information

» The Launch Box is entirely custom-made
» Product in a solid and comfortable housing
» Launch Box sealed with the label guarantee
» Product is accompanied by a measurement protocol

Q-Fiber 24F

MPO / MTP

Patchcord MPO/MTP Q-Fiber
Fan-Out MPO/MTP Q-Fiber
Module MPO/MTP LGX Q-Fiber
ODF MPO/MTP 19" 1U Q-Fiber

Patchcord MPO/MTP Q-Fiber

made in **Poland**

Description

Q-Fiber MPO/MTP Patchcords are high-class fiber optic technology products. High quality production materials (Japanese MPO connectors or MTP US Conec connectors) and the involvement of experienced engineers guarantee the best quality transmission. On the production line we use tools from companies such as: Fujikura, US Conec, NTT. Each product is customized, which means Q-Fiber patchcords can come in any configuration.

Application

Telecommunications, Data Center, LAN, MAN, WAN, FTTX, Measuring Elements.

Properties

» Any length (length tolerance is up 3 m: 10 cm, above: 1%),
» Cable: flat (with jacket), ribbon (without jacket), round,
» Cable LSOH,
» Termoplastic or termoset connector ferrule,
» Up to 12 fibers in MPO/MTP connector,
» Compliance with the following standards: PN-EN 61754-7, PN-EN 50377-15-1, IEC PAS 61755-3-31,
» RoHS compliance.

Polishing standard

» PC (for MM connectors),
» APC 8°(for SM connectors).
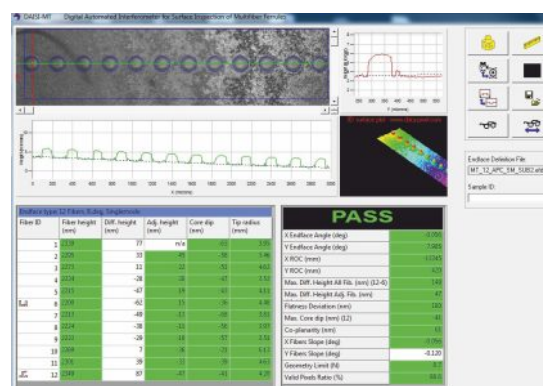
Parameters

Parameter	MT Ferrule 12F (MPO/MTP)			
	MM/PC	SM/APC 8	MM/PC	SM/APC 8
	Standard	Standard	Premium (Low Loss)	Premium (Low Loss)
Max. insertion loss [dB]	≤ 0,60 (grade B_M)	≤ 0,75 (grade D)	≤ 0,50 (grade C)	≤ 0,50 (grade C)
Typical insertion loss [dB]	≤ 0,35 (grade B_M)	≤ 0,50 (grade D)	≤ 0,25 (grade C)	≤ 0,25 (grade C)
Reflection [dB]	≥ 20 (grade 2_M)	≥ 60 (grade 1)	≥20 (grade 2_M)	≥ 60 (grade 1)
Maximum angle error [°]	0,2	0,2	0,2	0,2
Fiber height* [nm]	-3,5 ÷ -1,0*	-3,5 ÷ -1,0*	-3,5 ÷ -1,0*	-3,5 ÷ -1,0*

Parameter	MT Ferrule 24F (MPO/MTP)			
	MM/PC	SM/APC 8	MM/PC	SM/APC 8
	Standard	Standard	Premium (Low Loss)	Premium (Low Loss)
Max. insertion loss [dB]	≤ 1,00 (grade C_M)	≤ 1,00 (grade D)	≤ 0,60 (grade B_M)	≤ 0,75 (grade D)
Typical insertion loss [dB]	≤ 0,50 (grade C_M)	≤ 0,50 (grade D)	≤ 0,35 (grade B_M)	≤ 0,50 (grade D)
Reflection [dB]	≥ 20 (grade 2_M)	≥ 60 (grade 1)	≥ 20 (grade 2_M)	≥ 60 (grade 1)
Maximum angle error [°]	0,2	0,2	0,2	0,2
Fiber height* [nm]	-3,5 ÷ -1,0*	-3,5 ÷ -1,0*	-3,5 ÷ -1,0*	-3,5 ÷ -1,0*

* negative value indicates the extension of a fibre
** possibility to order connectors of diffrent parameters, according to the standards of the customer

DLL Partners

Patchcord MPO/MTP Q-Fiber

Types of conectors

MPO

MTP

Photos

Ribbon Cable

Flat Cable

Round Cable

How to order

PIG.MPO*

| Type:
A=Typ A
B=Typ B
C=Typ C** | Cable type:
P=Flat
R=Ribbon
O=Round | Number of
fibers:
04=4 pcs.
:
24=24 pcs. | Core type:
S2=SM G.652D
S7=SM G657a
M1=MM 62 OM1
M2=MM 50 OM2
M3=MM 50 OM3
M4=MM 50 OM4 | Connector
standard:
S=Standard
P=Premium
(Low Loss) | Connector
type:
M=Male
Z=Female | Length:
0010=1 m
0020=2 m
:
0100=10 m
: |

PAT.MPO*

| Type:
A=Typ A
B=Typ B
C=Typ C** | Cable type:
P=Flat
R=Ribbon
O=Round | Number of
fibers:
04=4 pcs.
:
24=24 pcs. | Core type:
S2=SM G.652D
S7=SM G657a
M1=MM 62 OM1
M2=MM 50 OM2
M3=MM 50 OM3
M4=MM 50 OM4 | Connector
standard:
S=Standard
P=Premium
(Low Loss) | Connector
type A:
M.=Male
Z=Female | Connector
type B:
M.=Male
Z=Female | Length:
0010=1 m
0020=2 m
:
0100=10 m
: |

*   In order to order a Pigtail/Patchcord MTP one has to use the catalogue code, i.e. PIG.MTP or PAT.MTP
**   Only for round cable with loose fibers
*** Detailed information about configuration (A, B, C types) on www.dllpartners.de
****Possibility to order every configuration according to customers standards

Informations

» Product packed in a bag
» Each product is accompanied by a measurement protocol,
» Ferrule secured cover.

Fan-Out MPO/MTP Q-Fiber

made in Poland

Description

Fan-Out MPO/MTP Q-Fiber is a mechanical system of cable forming for multifiber cable (multifiber connectors). One end of the cable is termination by MPO / MTP connector, the other side is termination by many single fiber connectors (SC, LC, E2000 etc). Using Fan-Out cable, you can enjoy the benefits of multifiber connectors technology without having to change the entire system (without having to replace transmitters). Fan-out can be performed on the ribbon cable, a flat cable as well as a round cable with loose fibers.
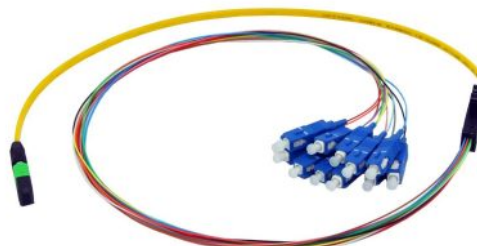
Application

Telecommunications, Data Center, LAN, MAN, WAN, FTTX, Measuring Elements.

Properties

» Any length (length tolerance is up 3 m: 10 cm, above: 1%),
» Various lengths of pigtails on side B (0.3 m - 2.0 m),
» 12 colors for 0.9 mm pigtails, 2.0 mm pigtails in one color (pigtails are numbered),
» Cable: flat (with jacket), ribbon (without jacket), round,
» Cable LSOH,
» Termoplastic or termoset connector ferrule (MPO, MTP),
» Up to 24 fibers in MPO/MTP connector,
» Ceramic connector ferrule (LC, SC, ST, FC, MU, E2000, DIN),
» Compliance with the following standards: PN-EN 61754-7, PN-EN 50377-15-1, IEC PAS 61755-3-31, ZN-05/TP SA-044, ZN-96/TPSA-07, PNEN 50377, IEC 61754, IEC 61755,
» RoHS compliance.

Polishing standard MPO/MTP

» PC (for MM connectors),
» APC 8°(for SM connectors).

Polishing standard (SC, ST, FC, LC, MU, E2000, DIN)

» Flat,
» PC,
» UPC,
» APC 8°,
» APC 9°.

Types of connectors

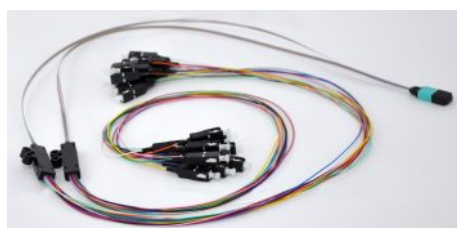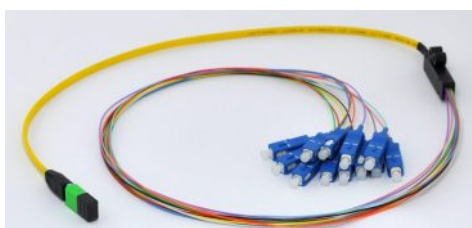MPO

MTP

Photos

Ribbon cable

Flat cable

Round cable

MPO / MTP

DLL Partners

Fan-Out MPO/MTP Q-Fiber

Parameters

Parameter	Cerramic ferrule (SC, ST, FC, LC, MU, E2000, DIN)					
	MM/PC		SM/PC		SM/APC	
	Standard	Premium	Standard	Premium	Standard	Premium
Max. insertion loss [dB]	≤ 0,60 (grade Bᴍ)	≤ 0,25 (grade B)	≤ 0,5 (grade C)	≤ 0,25 (grade B)	≤ 0,5 (grade C)	≤ 0,25 (grade B)
Typical insertion loss [dB]	≤ 0,35 (grade Bᴍ)	≤ 0,12 (grade B)	≤ 0,25 (grade C)	≤ 0,12 (grade B)	≤ 0,25 (grade C)	≤ 0,12 (grade B)
Reflection [dB]	≥ 20 (grade 2ᴍ)	≥ 26 (grade 4)	≥ 45 (grade 2)	≥ 45 (grade 2)	≥ 60 (grade 1)	≥ 60 (grade 1)
Radius of curvature [mm]	5 ÷ 30 (grade D)	5 ÷ 30 (grade C)	5 ÷ 30 (grade C)	7 ÷ 25 (grade B)	5 ÷ 12 (grade C)	5 ÷ 12 (grade B)
Apex offset [µm]	0 ÷ 50 (grade D)	0 ÷ 30 (grade C)	0 ÷ 50 (grade C)	0 ÷ 50 (grade B)	0 ÷ 50 (grade C)	0 ÷ 50 (grade B)
Maximum angle error [⁰]	0,6 (grade D)	0,3 (grade C)	0,3 (grade C)	0,2 (grade B)	0,3 (grade C)	0,2 (grade B)
Fiber height* [nm]	-100 ÷ 100** (grade D)	-100 ÷ A** (grade C)	-100 ÷ A** (grade C)	-60 ÷ A** (grade B)	-100 ÷ A** (grade C)	-60 ÷ A** (grade B)

Parameter	MT Ferrule (MPO/MTP)			
	MM/PC	SM/APC 8	MM/PC	SM/APC 8
	Standard	Standard	Premium (Low Loss)	Premium (Low Loss)
Max. insertion loss [dB]	≤ 0,60 (grade Bᴍ)	≤ 0,75 (grade D)	≤ 0,50 (grade C)	≤ 0,50 (grade C)
Typical insertion loss [dB]	≤ 0,35 (grade Bᴍ)	≤ 0,5 (grade D)	≤ 0,25 (grade C)	≤ 0,25 (grade C)
Reflection [dB]	≥ 20 (grade 2ᴍ)	≥ 60 (grade 1)	≥20 (grade 2ᴍ)	≥ 60 (grade 1)
Maximum angle error [⁰]	0,2	0,2	0,2	0,2
Fiber height* [um]	-3,5 ÷ -1,0*	-3,5 ÷ -1,0*	-3,5 ÷ -1,0*	-3,5 ÷ -1,0*

Parameter	MT 24F Ferrula (MPO/MTP)			
	MM/PC	SM/APC 8	MM/PC	SM/APC 8
	Standard	Standard	Premium (Low Loss)	Premium (Low Loss)
Tłumienność maksymalna [dB]	≤ 1,00 (klasa Cᴍ)	≤ 1,00 (klasa D)	≤ 0,60 (klasa Bᴍ)	≤ 0,75 (klasa D)
Tłumienność typowa [dB]	≤ 0,50 (klasa Cᴍ)	≤ 0,50 (klasa D)	≤ 0,35 (klasa Bᴍ)	≤ 0,50 (klasa D)
Reflektancja [dB]	≥ 20 (klasa 2ᴍ)	≥ 60 (klasa 1)	≥ 20 (klasa 2ᴍ)	≥ 60 (klasa 1)
Przesunięcie kątowe max. [⁰]	0,2	0,2	0,2	0,2
Wystawienie włókna* [um]	-3,5 ÷ -1,0*	-3,5 ÷ -1,0*	-3,5 ÷ -1,0*	-3,5 ÷ -1,0*

* negative value indicates the extension of a fibre
** calculated from the formula based on other geometric parameters, see technical requirements at www.dll.com.pl
*** possibility to order connectors of diffrent parameters, according to the standards of the customer

How to order

FO.MPO*

☐ - ☐ - ☐ - ☐ - ☐ - ☐ - ☐ - ☐ - ☐ - ☐

Cable type:
P=Flat
R=Ribbon
O=Round

Number of fibers:
04=4 pcs.
06=6 pcs.
08=8 pcs.
12=12 pcs.
24=24 pcs.

Core type:
S2=SM G.652D
S7=SM G.657a
M1=MM 62 OM1
M2=MM 50 OM2
M3=MM 50 OM3
M4=MM 50 OM4

Connectors standard:
S=Standard
P=Premium (Low Loss)

Connector type A:
M=Male
Z=Female

Connector B:
0=None
S=SC
T=ST
F=FC
L=LC
E=E2000
M=MU
D=DIN
R=MTRJ

Polishing standard B:
0=None
F=Flat
P=PC
U=UPC
A8=APC 8°
A9=APC 9°

Pigtail length (Y):
03=0,3 m
:
10=1 m
20=2 m

Pigtail type:
P=Staight
K=Cascade
X=Other

Pigtail diameter:
09=0,9 mm
18=1,8 mm

Length (X):
0020=2 m
:
0010=1 m
0020=2 m
:
0100=10 m
:

* In order to order a Fan-Out MTP one has to use the catalogue code FO.MTP
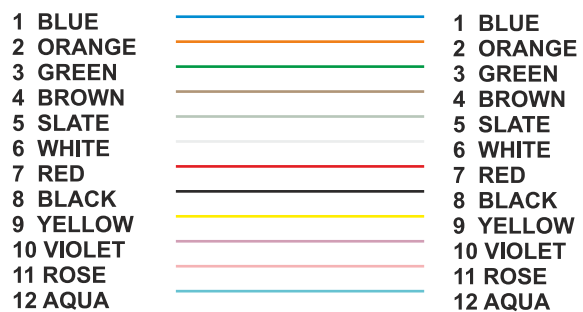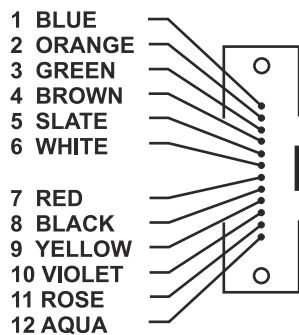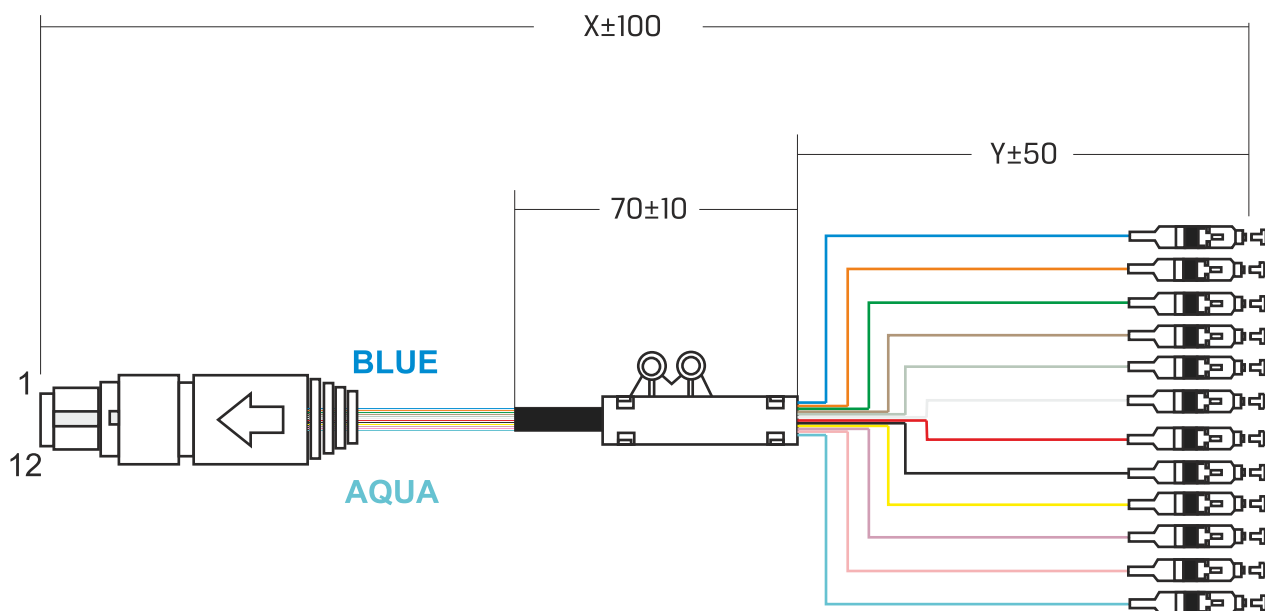
Fan-Out MPO/MTP Q-Fiber

Standard configuration

» Flat cable,
» Numer of fibers: 12 pcs.,
» Core type: SM G.652D or MM OM3,
» Connector A: MPO with pins (male), type standard,
» Connector B: SC or LC, type standard,
» Colored pigtails, pigtails length 60 cm (staight), 0.9 mm pigtails diameter,
» Fan-Out length 100 cm.

Information

» Product packed in a bag,
» Each product is accompanied by a measurement protocol,
» Ferrule secured cover.

Fan-Out configuration

1	BLUE		1	BLUE		1	BLUE
2	ORANGE		2	ORANGE		2	ORANGE
3	GREEN		3	GREEN		3	GREEN
4	BROWN		4	BROWN		4	BROWN
5	SLATE		5	SLATE		5	SLATE
6	WHITE		6	WHITE		6	WHITE
7	RED		7	RED		7	RED
8	BLACK		8	BLACK		8	BLACK
9	YELLOW		9	YELLOW		9	YELLOW
10	VIOLET		10	VIOLET		10	VIOLET
11	ROSE		11	ROSE		11	ROSE
12	AQUA		12	AQUA		12	AQUA

DLL Partners

Module MPO/MTP LGX Q-Fiber

made in Poland

Description

The Q-Fiber MPO technology is designed for systems using ribbon multi-fibre optical cables ended with the MPO-type connectors. The MPO LGX SINGLE module is placed in the Chassis LGX. Chassis mounted in the data communication cabinet. The module is primarily used for changing the standard of the multi-fibre connection MPO into a single-fibre standard e.g. SC. Thanks to its small sizes and a proper mounting system , it permits a very functional, aesthetic and easy to install organisation of cables and patch cords in the data communication cabinet.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN

Properties

» Made of steel sheet 1,2mm,
» Possibility of choosing front panel and describing the ports on the panel,
» Multi-fibre MPO or MTP connectors,
» Possibility of choosing adapters type and quantity (max. 24 adapters),
» Product adapted to mounting in LGX Chassis,
» Dimensions of LGX SINGLE 29x129x165 [mm] [H x W x D],
» Module LGX SINGLE (max. 12 adapters and 24 fibres),
» Dimensions of LGX DOUBLE 58,3x129x165 [mm] [HxWxD],
» Module LGX DOUBLE (max. 24 adapters and 48 fibres),
» Powder painting in standard RAL 7035 (other colours to order).

Standard equipment of MPO/MTP LGX SINGLE:

» Module LGX single (1 unit),
» Fan-Out MPO/MTP (1x12F, 2x12F, 1x24F),
» Adapters (max. 12 SC simplex or 12 LC duplex),
» Adapters MPO (max. 2 units),
» Snaps,
» Round cup.

Standard equipment of MPO/MTP DOUBLE:

» Module LGX double (1 unit),
» Fan-Out MPO/MTP (2x12F, 3x12F, 4x12F, 1x24F, 2x24F),
» Adapters (max. 24 SC simplex or 24 LC duplex),
» Adapters MPO (max. 4 units),
» Snaps,
» Round cup.

Parameters for module with MPO/MTP 12F

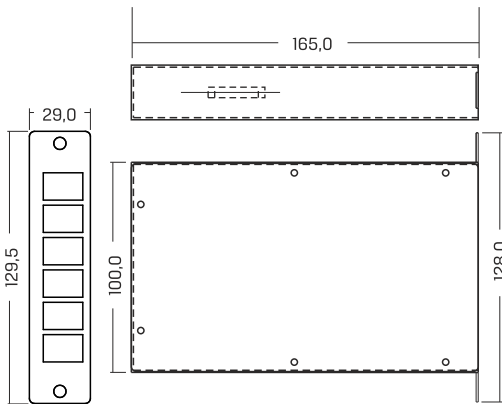| Parameters	MM		SM	
	Standard	Premium	Standard	Premium
Maximum insertion loss [dB]	≤ 1,20	≤ 0,75	≤ 1,25	≤ 0,75
Typical insertion loss [dB]	≤ 0,70	≤ 0,37	≤ 0,75	≤ 0,37
Reflection of MPO/MTP	≥ 20	≥ 20	≥ 60	≥ 60
Reflection of PC/UPC (SC,E2000, LC, ST, FC) [dB]	≥ 20	≥ 26	≥ 45	≥ 45
Reflection of APC (SC, E2000, LC, ST, FC) [dB]	-	-	≥ 60	≥ 60

Parameters for module with MPO/MTP 24F

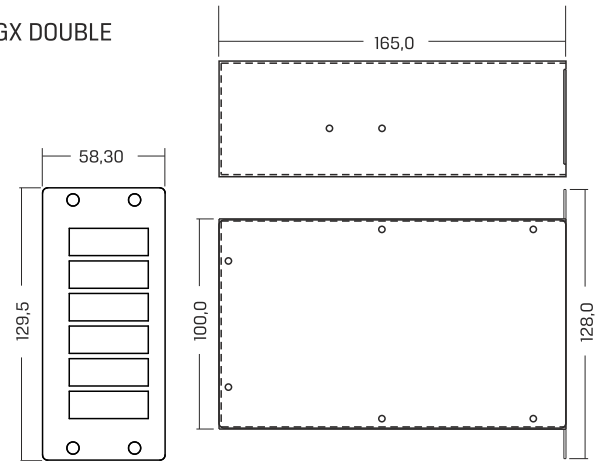| Parameters	MM		SM	
	Standard	Premium	Standard	Premium
Maximum insertion loss [dB]	≤ 1,60	≤ 0,85	≤ 1,50	≤ 1,00
Typical insertion loss [dB]	≤ 0,85	≤ 0,47	≤ 0,75	≤ 0,62
Reflection of MPO/MTP	≥ 20	≥ 20	≥ 60	≥ 60
Reflection of PC/UPC (SC,E2000, LC, ST, FC) [dB]	≥ 20	≥ 26	≥ 45	≥ 45
Reflection of APC (SC, E2000, LC, ST, FC) [dB]	-	-	≥ 60	≥ 60

Module MPO/MTP LGX Q-Fiber

Dimensions

a) LGX SINGLE

165,0

29,0

129,5   100,0   128,0

b) LGX DOUBLE

165,0

58,30

129,5   100,0   128,0

Photos

How to order

| MPO-LGX-S | | | | | | |
| MTP-LGX-S | | | | | | |

Core type:	Connectors standard:	Connector type MPO/MTP:	Type of adapters:	Polishing standard:	Quantity of adapters:
S2=SM G.652D	S=Standard	M.=Male	SC = SC	P = PC	04 = 4
S7=SM G657a	P=Premium	F=Female	E2 = E2000	U = UPC	.
M1=MM 62 OM1	(Low Loss)		LC = LC	A8 = APC 8°	.
M2=MM 50 OM2			LCD = LC dx		.
M3=MM 50 OM3			ST = ST		12 = 12
M4=MM 50 OM4			FC = FC		
			X=Other		

| MPO-LGX-D | | | | | | |
| MTP-LGX-D | | | | | | |

| Core type:	Connectors standard:	Connector type MPO/MTP:	Type of adapters:	Polishing standard:	Quantity of adapters:
S2=SM G.652D	S=Standard	M=Male	SC = SC	P = PC	04 = 4
S7=SM G657a	P=Premium	F=Female	E2 = E2000	U = UPC	.
M1=MM 62 OM1	(Low Loss)		LC = LC	A8 = APC 8°	.
M2=MM 50 OM2			LCD = LC dx		.
M3=MM 50 OM3			ST = ST		24 = 24
M4=MM 50 OM4			FC = FC		
			X=Other		

DLL Partners

MPO/MTP Distribution Frame 19" 1U Q-Fiber

made in **Poland**

Description

The **Q-Fiber MPO technology** is designed for systems using ribbon multi-fibre optical cables ended with the MPO-type connectors. The Fan Out is located in fibre optical distribution frame ODF 19" 1U. The frame is mounted in telecommunication cabinet. The module is usually used to change multi-fibre MPO/MTP standard to single fibre standard for example SC.
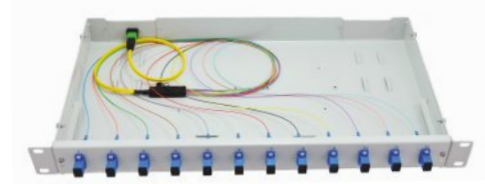
Application

Telecommunication, Data Centre, CATV, Monitoring, Industry, LAN, MAN, WAN

Properties

» Made of steel sheet 1,2mm,
» Possibility of choosing front panel and describing the ports on the panel,
» Multi-fibre MPO or MTP connectors,
» Possibility of choosing adapters type and quantity (max. 24 adapters),
» Dimensions: 44x485x230 [mm] [H x W x D],
» Possibility of withdrawing by 35mm thanks to movable side holders,
» Accommodates 96 fibres (4xMPO/MTP 24F and 24 adapters LC quad).

Possible equipment

» Fibre optical distribution frame 19" 1U,
» Fan-Out MPO/MTP (max. 4x12F or 4x24F),
» Adapters (max. 24 SC duplex or 24 LC quad),
» Adapters MPO (max. 4 units),
» Mounting screws M6 (4 units).

Standard equipment

» Fibre optical distribution frame 19" 1U,
» Fan-Out MPO/MTP 12F,
» Adapters SC simplex – 12 units,
» Adapter MPO – 1 unit,
» Mounting screws M6 (4 units).

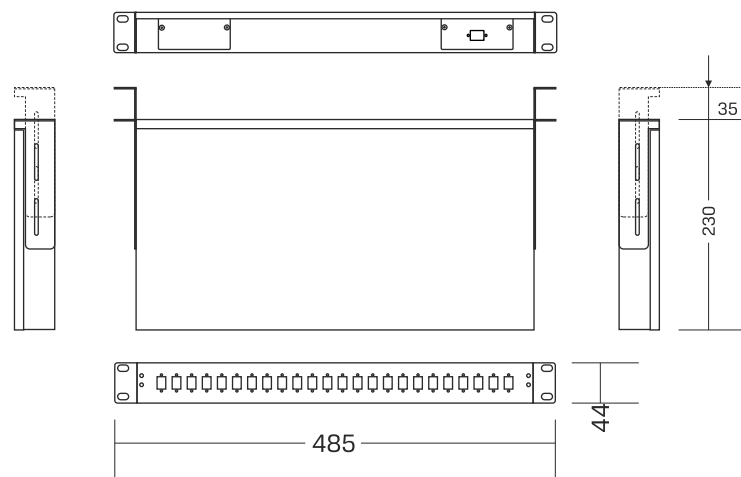## Parameters for optical distribution frame with MPO/MTP 12F

Parameters	MM		SM	
	Standard	Premium	Standard	Premium
Maximum insertion loss [dB]	≤ 1,20	≤ 0,75	≤ 1,25	≤ 0,75
Typical insertion loss [dB]	≤ 0,70	≤ 0,37	≤ 0,75	≤ 0,37
Reflection of MPO/MTP	≥ 20	≥ 20	≥ 60	≥ 60
Reflection of PC/UPC (SC,E2000, LC, ST, FC) [dB]	≥ 20	≥ 26	≥ 45	≥ 45
Reflection of APC (SC, E2000, LC, ST, FC) [dB]	-	-	≥ 60	≥ 60

Parameters for optical distribution frame with MPO/MTP 24F

Parameters	MM		SM	
	Standard	Premium	Standard	Premium
Maximum insertion loss [dB]	≤ 1,60	≤ 0,85	≤ 1,50	≤ 1,00
Typical insertion loss [dB]	≤ 0,85	≤ 0,47	≤ 0,75	≤ 0,62
Reflection of MPO/MTP	≥ 20	≥ 20	≥ 60	≥ 60
Reflection of PC/UPC (SC,E2000, LC, ST, FC) [dB]	≥ 20	≥ 26	≥ 45	≥ 45
Reflection of APC (SC, E2000, LC, ST, FC) [dB]	-	-	≥ 60	≥ 60

MPO/MTP Distribution Frame 19" 1U Q-Fiber

Dimentions

Photos

How to order

MPO-ODF-1U						
MTP-ODF-1U						

Core Type:
S2=SM G.652D
S7=SM G657a
M1=MM 62 OM1
M2=MM 50 OM2
M3=MM 50 OM3
M4=MM 50 OM4

Conectors:
S=Standard
P=Premium
(Low Loss)

MPO/MTP type:
M=Męskie
F=Żeńskie

Adapter type:
SC = SC
SCD=SC dx
E2 = E2000
LC = LC
LCD = LC dx
ST = ST
FC = FC
X=Inne

Polishing standard:
P = PC
U = UPC
A8 = APC 8°

Adapters quantity:
04 = 4
.
.
.
24 = 24

Informations

» MPO/MTP distribution frame 19" 1U accommodates max. 24 adapters,
» Possibility of describing the ports on the front panel,
» Packed in cartoon box,
» Possibility of order fibre optical distribution frame 2U and 3U MPO/MTP telescopic type,
» Telescopic ODF 19" 2U accommodates max. 8 adapters MPO/MTP and 12 SC sx or 48 SC dx,
» Telescopic ODF 19" 3U accommodates max. 12 adapters MPO/MTP and 144 SC sx or 72 SC dx.

Fiber Optic Distribution Frames

Modular Distribution Box OMP 19' 3U Q-Fiber

Telescopic 19" 1U Q-Fiber

Telescopic 19" 2U Q-Fiber

Telescopic 19" 3U Q-Fiber

ODF 19" 1U Q-Fiber

Floor-mounted Q-Fiber

Cable overlength shelf/drawer 19" 1U Q-Fiber

Telescopic overlength drawer 19" 1U Q-Fiber

Wall-mounted ODF MINI Q-Fiber

Wall-mounted ODF MIDDLE Q-Fiber

Wall-mounted ODF BIG Q-Fiber

Wall-mounted ODF LARGE Q-Fiber

Hermetic FOSC DJS-56II

Hermetic FOSC DJS-58II

Industrial Splice Box MINI ODF DIN Q-Fiber

Industrial Splice Box ODF DIN Q-Fiber

Chassis ODF DIN 1U Q-Fiber

**Rack DIN-3 4U Q-Fiber**

Module LGX Q-Fiber

Chassis LGX Q-Fiber

Modular Distribution Box OMP 19" 3U Q-Fiber

made in **Poland**

Description

The modular distribution box OMP 19 " 3U Q-Fiber consists of a chassis (rack mount box) and blade modules used for the organization of fibre optic cables. The box is designed to accommodate up to twelve blade modules. Cassette module is a solution that allows for easy management of connections within a single distribution frame. Thanks to the modular system can be developed up to 288 fibres. Cassette modules are mounted to the chassis with screws integrated into the front panel, which allows for very fast assembly and disassembly of modules, without the need for additional tools.
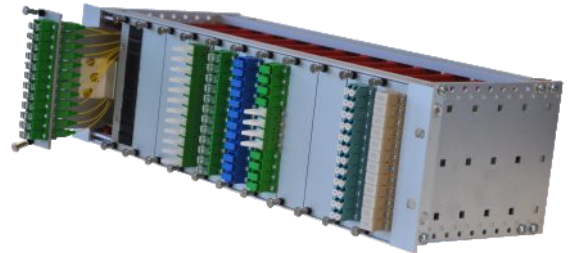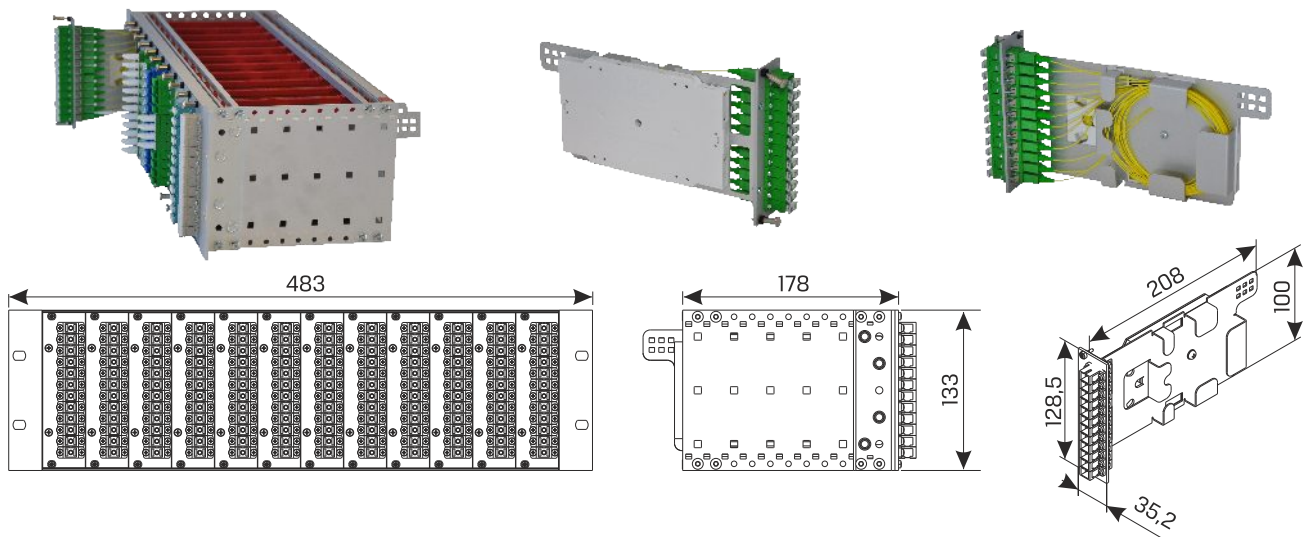
Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx

Properties

» May be mounted in rack space 19 "
» Elements made of aluminium,
» Accommodates up to 12 modules,
» The maximum number of splices per module: 24,
» Module provided with cuts for fixing tubes,
» The chassis dimensions: 132x483x178 [mm] height x width x depth.

Photos

483 · 178 · 208 · 100 · 133 · 128,5 · 35,2

How to order

OMP-19-3U	Chassis OMP 19" 3U
M - OMP3U12ST	Module OMP 3U 12xST/FC/DIN d-hole
M - OMP3U12CS	Module OMP 3U 12xSC/E2000 simplex *
M - OMP3U6CD	Module OMP 3U 6xSC/ST/FC duplex / LC quad
HP - OMP3U	hole plug OMP 3U

* Suitable for LC/LX.5/MTRJ duplex S.C. foot print adapters.

Information

» Accommodates 12 blade modules
» Packed in cardboard box

Standard equipment

Chassis OMP

» Mounting screw M6 (4 pcs.)
» Modules slide (24 pcs.)

OMP Module

» Mounting screw M2,5 (2 pcs.)
» Splice tray DIN24 WHITE (1 pc.)
» Front panel (1 pc.)
» Organiser (1 pc.)

Additional equipment

» Nylon cable tie 80x2,5mm
» Pigtails
» Splice protectors
» Fibre tubes distributors
» Corrugated hoses (conduits)
» Fibre optic adapters

Fiber Optic Distribution Frame

DLL Partners

Telescopic Fiber Optic Distribution Frame 19" 1U Q-Fiber

made in Poland

Description

Telescopic Fiber Optic Distribution Frame 19" 1U Q-Fiber consists of the box and distribution board. A box with a distribution board installed on telescopes (extension 110%) guarantees the highest comfort of work both at the installation process and during subsequent maintenance works. The front panel is available in the version integrated with the drawer or as a replaceable element. Cable outlet adapted for installation of cable glands M16, M20 as well as cables ending with the Fiber Quick form. Movable side holders make it possible to withdraw the ODF by 30 mm from the mounting plane.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Made of 1.2 mm steel sheetExtension 110% on telescopic rails
» Extension 110% on telescopic rails
» Embossing to attach cables inside the box
» Boltless mounting of adapters
» Standard color: RAL7035 (light grey) glossy, RAL 9005 (black) glossy, other colors on request
» Dimensions [H x W x D]: 44,45x483x230 [mm]
» Temporary side handles allow the withdrawal of ODF 19" by 30 mm

Photos and dimensions

230

44.45

483
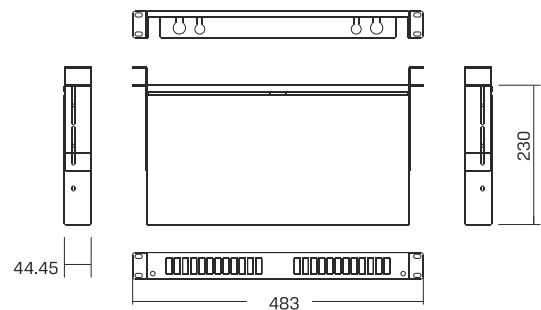
How to order

ODF-19-1U-T*	Telescopic fiber optic distribution frame 19" 1U
ODF-19-1U-T-Z*	Telescopic fiber optic distribution frame 19" 1U with a lock
FP191U12ST-T	19" 1U 12xST/FC/DIN d-hole Panel
FP191U24ST-T	19" 1U 24xST/FC/DIN d-hole Panel
FP191U12CS-T	19" 1U 12xSC/E2000 simplex Panel**
FP191U24CS-T	19" 1U 24xSC/E2000 simplex Panel**
FP191U12CD-T	19" 1U 12xSC/ST/FC duplex / LC quad Panel
FP191U24CD-T	19" 1U 24xSC/ST/FC duplex / LC quad Panel
FP191U24ED-T	19"1U 24xE2000 duplex

*   it is possible to order a ODF with an integrated front panel as well as with extended (bolted) adapters
** Suitable for LC/LX.5/MTRJ duplex SC foot print adapters

Information

» The ODF houses two cassettes DIN24, three cassettes DIN24 SLIM or four cassettes DIN24 WHITE
» Product adapted to the FiberQuick system
» 1U ODF 19" packed in a cardboard box

Standard equipment

» Cable gland M16x1.5 (cable ø5.5 ÷ ø10 mm) (1 pc)
» Mounting screw M6 (4 pcs)
» Knurled nut M5 (1 pc)
» Snaps (2 pcs)

Additional equipment

» Cable gland M20x1.5 (cable ø6 ÷ ø13 mm)
» Nylon cable tie 80x2.5 mm
» Pigtails
» Splice trays
» Adapters

Telescopic Fiber Optic Distribution Frame 19" 2U Q-Fiber

made in **Poland**

Description

Telescopic Fiber Optic Distribution Frame 19" 2U Q-Fiber consists of the box and distribution board. A box with a distribution board installed on telescopes (extension 110%) guarantees the highest comfort of work both at the installation process and during subsequent maintenance works. The front panel is available in the version integrated with the drawer or as a replaceable element. Replaceable plugs make it possible to install various cable conduits. Movable side holders make it possible to withdraw the ODF by 30 mm from the mounting plane.
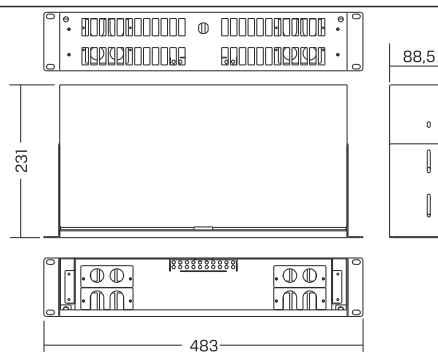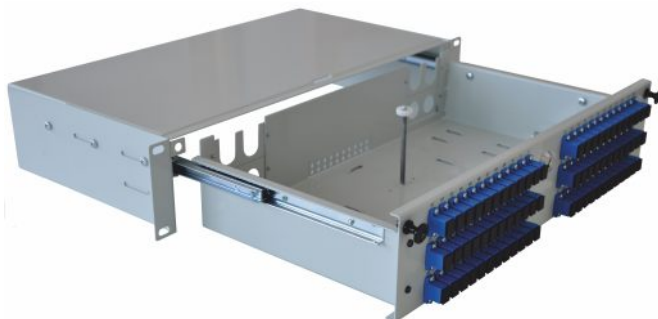
Application

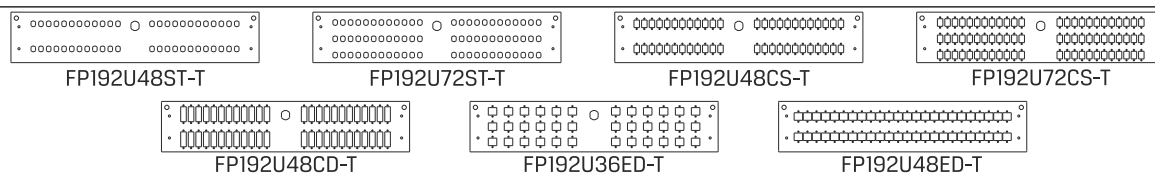Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN.

Properties

» Made of 1.2 mm steel sheet,
» Extension 110% on telescopic rails,
» Embossing to attach cables inside the box,
» Boltless mounting of adapters,
» Standard color RAL7035 (light grey) glossy, RAL 9005 (black) glossy, other colors on request,
» Dimensions [H x W x D]: 88,5x483x231 [mm],
» Temporary side handles allow the withdrawal of ODF 19" by 30 mm,
» In the rear part 4x open and 4x closed openings for conduits M20x1.5 (ø of the cable 6÷13 mm).

Photos and dimensions

Front panels

FP192U48ST-T   FP192U72ST-T   FP192U48CS-T   FP192U72CS-T

FP192U48CD-T   FP192U36ED-T   FP192U48ED-T

How to order

ODF-19-2U-T*	Telescopic fiber optic distribution frame 19" 2U
ODF-19-2U-T-Z*	Telescopic fiber optic distribution frame 19" 2U with a lock
FP192U48ST-T	Front panel 19" 2U 48xST/FC/DIN d-hole
FP192U72ST-T	Front panel 19" 2U 72xST/FC/DIN d-hole
FP192U48CS-T	Front panel 19" 2U 48xSC/E2000 simplex **
FP192U72CS-T	Front panel 19" 2U 72xSC/E2000 simplex **
FP192U48CD-T	Front panel 19" 2U 48xSC/ST/FC duplex / LC quad
FP192U36ED-T	Front panel 19" 2U 36xE2000 duplex
FP192U48ED-T	Front panel 19" 2U 48xE2000 duplex

*   it is possible to order a ODF with an integrated front panel as well as with extended (bolted) adapters
**   Suitable for LC/LX.5/MTRJ duplex SC foot print adapters

Standard equipment

» Mounting screw M6 (4 pcs),
» Knurled nut M5 (1 pc),
» Snaps (2 pcs),
» Cable gland M20 (1 pc).

Informations

» The ODF houses five cassettes DIN24, six cassettes DIN24 SLIM or nine cassettes DIN24 WHITE,
» Product adapted to the FiberQuick system,
» 1U ODF 19" packed in a cardboard box.

Additional equipment

» Cable gland M20x1.5 (cable ø6 ÷ ø13 mm),
» Nylon cable tie 80x2.5 mm,
» Pigtails,
» Splice trays,
» Adapters.

Fiber Optic Distribution Frame

DLL Partners

Telescopic Fiber Optic Distribution Frame 19" 3U

Description

Telescopic Fiber Optic Distribution Frame 19" 2U Q-Fiber consists of the box and distribution board. A box with a distribution board installed on telescopes (extension 110%) guarantees the highest comfort of work both at the installation process and during subsequent maintenance works. The front panel is available in the version integrated with the drawer or as a replaceable element. Replaceable plugs make it possible to install various cable conduits. Movable side holders make it possible to withdraw the ODF by 30 mm from the mounting plane.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN.

Properties

» Made of 1.2 mm steel sheet,
» Extension 110% on telescopic rails,
» Embossing to attach cables inside the box,
» Boltless mounting of adapters,
» Standard color RAL7035 (light grey) glossy, RAL 9005 (black) glossy, other colors on request,
» Dimensions [H x W x D]: 132x483x231 [mm],
» Temporary side handles allow the withdrawal of ODF 19" by 30 mm,
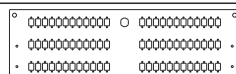» In the rear part 4x open and 4x closed openings for conduits M20x1.5 (ø of the cable 6÷13 mm).
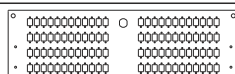
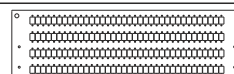## Photos and dimensions
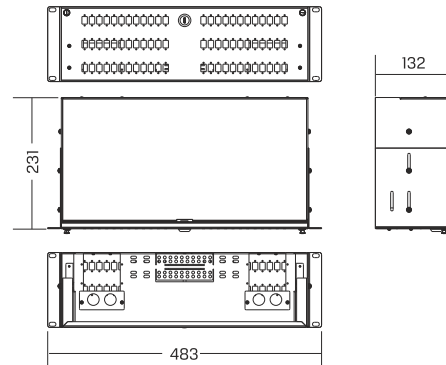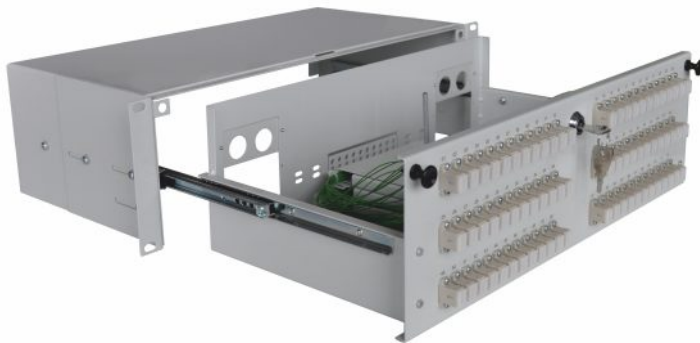
Front panels
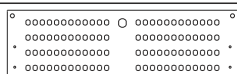
| FP193U96ST-T | FP193U72CS-T | FP193U96CS-T | FP193U144CS-T | FP193U72CD-T |
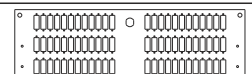
How to order

ODF-19-3U-T*	Telescopic fiber optic distribution frame 19" 3U
ODF-19-3U-T-Z*	Telescopic fiber optic distribution frame 19" 3U with a lock
FP193U96ST-T	19" 3U 96xST/FC/DIN d-hole Panel
FP193U72CS-T	19" 3U 72xSC/E2000 simplex Panel**
FP193U96CS-T	19" 3U 96xSC/E2000 simplex Panel**
FP193U144CS-T	19" 3U 144xSC/E2000 simplex Panel**
FP193U72CD-T	19" 3U 72xSC/ST/FC duplex / LC quad Panel

*   it is possible to order a ODF with an integrated front panel as well as with extended (bolted) adapters
**   Suitable for LC/LX.5/MTRJ duplex SC foot print adapters

Informations

» The ODF houses seven (or nine with ball screws) cassettes DIN24, eleven (thirteen with latches) cassettes DIN24 WHITE,
» Product adapted to the FiberQuick system,
» 3U ODF 19" packed in a card board box.

Standard equipment

» Mounting screw M6 (4 pcs),
» Knurled nut M5 (1 pc),
» Snaps (2 pcs),

Additional equipment

» Cable gland M20x1.5 (cable ø6 ÷ ø13 mm),
» Nylon cable tie 80x2.5 mm,
» Pigtails,
» Splice trays,
» Adapters.

Fiber Optic Distribution Frame 19" 1U Q-Fiber

made in Poland

Description

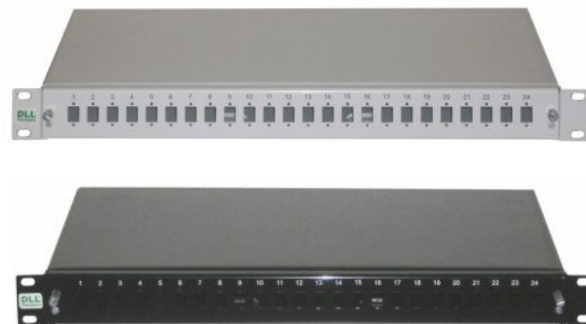**Fiber Optic Distribution Frame 19" 1U Q-Fiber** consists of the box and distribution board. The installation of a drawer (DS) makes it possible to extend the ODF to an extendable version. The embossments on the bottom of the ODF as well as the organisational fans (optionally) make it possible to organise cables and fibre-optic pigtails in an easy, functional and aesthetic way. Replaceable plugs make it possible to install various cable conduits. Movable side holders make it possible to withdraw the ODF by 35 mm from the mounting plane.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Made of 1.2 mm steel sheet
» Interchangeable hole plugs allow the installation of various cable glands
» Embossing to attach cables inside the box
» Small fans making it possible to organise the tubes or pigtail fibres (optional)
» Standard color: RAL7035 (light grey) glossy, RAL 9005 (black) glossy, other colors on request
» Dimensions [H x W x D]: 44x485x230 [mm]
» Temporary side handles allow the withdrawal of ODF 19" by 35 mm

Photos and dimensions

How to order

ODF-19-1U	Fiber optic distribution frame 19" 1U n-draw style
ODF-19-1U-DS	Fiber optic distribution frame 19" 1U draw style
FP191U06CD	Front panel 19" 1U 6xSC duplex
FP191U12ST	Front panel 19" 1U 12xST/FC/DIN d-hole
FP191U24ST	Front panel 19" 1U 24xST/FC/DIN d-hole
FP191U12CS	Front panel 19" 1U 12xSC/E2000 simplex *
FP191U24CS	Front panel 19" 1U 24xSC/E2000 simplex *
FP191U12CD	Front panel 19" 1U 12xSC/ST/FC duplex / LC quad
FP191U24CD	Front panel 19" 1U 24xSC/ST/FC duplex / LC quad
FP191U24ED	Front panel 19" 1U 24xE2000 duplex

* Suitable for LC/LX.5/MTRJ duplex SC foot print adapters

Information

» Custom-made hole plugs
» The ODF houses two cassettes DIN24, three cassettes DIN24 SLIM or four cassettes DIN24 WHITE
» Product adapted to the FiberQuick system
» 1U ODF 19" packed in a cardboard box

Standard equipment

» Cable gland M16x1.5 (cable ø5.5 ÷ ø10 mm) (1 pc)
» Mounting screw M6 (4 pcs)
» Hole plug 1xZ16+1xO20 (1 pc)
» Full hole plug (1 pc)

Additional equipment

» Cable gland M20x1.5 (cable ø6 ÷ ø13 mm)
» Nylon cable tie 80x2.5 mm
» Small fans organising the optical fibres
» Pigtails
» Splice trays
» Adapters

Fiber Optic Distribution Frame

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Floor-mounted Fibre Optic Distribution Frame Q-Fiber

made in **Poland**

Description

Floor-mounted Fiber Optic Distribution Frame Q-Fiber consists of the box and distribution board. The installation of a drawer (DS) makes it possible to extend the ODF to an extendable version. The embossments on the bottom of the ODF as well as the organisational fans (optionally) make it possible to organise cables and fibre-optic pigtails in an easy, functional and aesthetic way. Replaceable plugs make it possible to install various cable conduits. Side holders making it possible to mount the ODF to the floor.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Made of 1.2 mm steel sheet
» Interchangeable hole plugs allow the installation of various cable glands
» Embossing to attach cables inside the box
» Small fans making it possible to organise the tubes or pigtail fibres (optional)
» Standard color: RAL7035 (light grey) glossy, other colors on request
» Dimensions [H x W x D]: 75x530x230 [mm]
» Side holders making it possible to mount the switch to the floor

Photos and dimensions
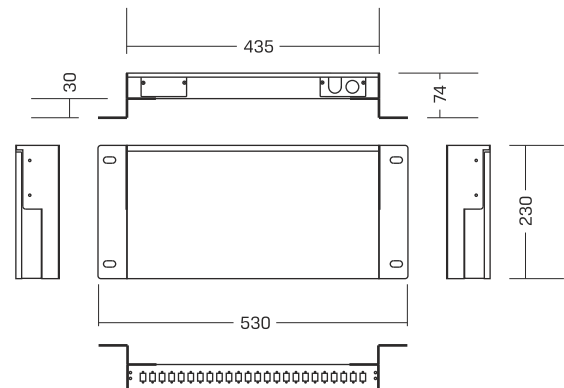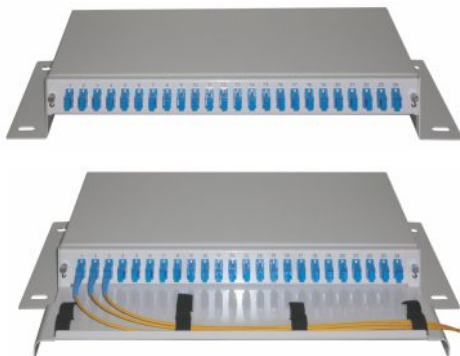
How to order

ODF-FLOOR   Floor-mounted fiber optic distribution frame n-draw style
ODF-FLOOR-DS   Floor-mounted fiber optic distribution frame draw style
FP191U12ST   12xST/FC/DIN d-hole Panel
FP191U24ST   24xST/FC/DIN d-hole Panel
FP191U12CS   12xSC/E2000 simplex Panel*
FP191U24CS   24xSC/E2000 simplex Panel*
FP191U12CD   12xSC/ST/FC duplex / LC quad Panel
FP191U24CD   24xSC/ST/FC duplex / LC quad Panel

* Suitable for LC/LX.5/MTRJ duplex SC foot print adapters

Information

» Custom-made hole plugs
» The ODF houses two cassettes DIN24, three cassettes DIN24 SLIM or four cassettes DIN24 WHITE
» Product adapted to the FiberQuick system
» 1U ODF 19" packed in a cardboard box

Standard equipment

» Cable gland M16x1.5 (cable ø5.5 ÷ ø10 mm) (1 pc)
» Mounting bolt ø10x15 (4 pcs)
» Hole plug 1xZ16+1xO20 (1 pc)
» Full hole plug (1 pc)

Cable Overlength Shelf/Drawer 19" 1U Q-Fiber

made in **Poland**

Description

Cable Overlength Shelf/Drawer 19" 1U Q-Fiber consists of the box and distribution board with an oval opening. The installation of a drawer (DS) makes it possible to extend the cable slack shelf to an extendable version, called a cable overlength shelf. The embossments on the bottom of the ODF as well as the organisational fans (optionally) make it possible to organise cables and fibre-optic pigtails in an easy, functional and aesthetic way. Replaceable plugs make it possible to install various cable conduits. Movable side holders make it possible to withdraw the ODF by 35 mm from the mounting plane. Additional equipment may also include the cable overlength guide.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Made of 1.2 mm steel sheet
» Interchangeable hole plugs allow the installation of various cable glands
» Embossing to attach cables inside the box
» Small fans making it possible to organise the tubes or pigtail fibres (optional)
» Standard color: RAL7035 (light grey) glossy, RAL 9005 (black) glossy, other colors on request
» Dimensions [H x W x D]: 44x485x230 [mm]
» Temporary side handles allow the withdrawal of ODF 19" by 35 mm

Photos and dimensions

How to order

ODF-19-1U-PZK	Cable overlength shelf 19" 1U non-extendable
ODF-19-1U-SZK	Cable overlength drawer 19" 1U extendable
FP-19-1U-OVAL	Front panel 19" 1U with an oval opening
PK-19-1U-70	Cable overlength guide 70 mm
PK-19-1U-100	Cable overlength guide 100 mm

Information

» Custom-made hole plugs
» Product adapted to the FiberQuick system
» 1U ODF 19" packed in a cardboard box

Standard equipment

» Cable overlength shelf or drawer 19" 1U (1 pc)
» Front panel with an oval opening (1 pc)
» Full hole plug (2 pcs)
» Mounting screw M6 (4 pcs)

Additional equipment

» Cable overlength guide PK70 (70 mm)
» Cable overlength guide PK100 (100 mm)
» Cable gland M16x1.5 (cable ø 5÷10 mm)
» Cable gland M20x1.5 (cable ø 6÷13 mm)
» Nylon cable tie 80x2.5 mm
» Small fans organising the optical fibres
» Oval plugs
» Plugs for cable conduits

Fiber Optic Distribution Frame

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Telescopic Overlength Drawer 19" 1U Q-Fiber

Description

Thetelescopic overlength drawer 19" 1U Q-Fiber consists of a box, telescopic drawer and front panel with oval opening. Telescopic drawer (extension 110%) guarantees highest work comfort. Ribbed at the bottom makes it possible to organise cables in easy, functional and aesthetic way. Cable outputsare adapted to install cable glands M16, M20 and cables ended with Fiber Quick divider. Movable side holders make it possible to withdraw the drawer by 30mm from the mounting plane. The additional equipment can be also the cable overlength guides.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN

Properties

» Made of steel sheet 1,2mm,
» Extension 110% thanks to telescopic guides,
» Ribbed bottom to organise the cables inside the box,
» Powder painting in standard RAL 7035 (grey) glossy and RAL 9005 (black) glossy, others colours to order,
» Dimensions 44,45x483x230 [mm] [HxWxD],
» Possibility of with drawing by 30mm thanks to movable side holders.

Photos and Dimensions
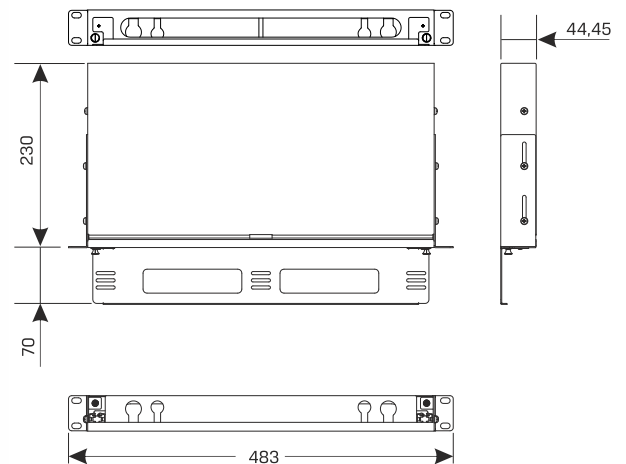
How to order

ODF-19-1U-T-SZK   cable over length drawer 19" 1U
FP191U0VAL-T   front panel 19" 1U with oval opening
PK191U70-T   cable overlength guide 70 mm

Information

» Product adapted to Fibre Quick system
» Packed in cardboard box
» Ppossibility of equipping with cable over length guides.

Standard equipment

» Cable over length drawer 19" 1U (1 unit)
» Front panel with oval opening (1 unit)
» Rack screws (2 units)
» Snaps (2 units)

Additional equipment

» Cable over length guide PK191U70-T (70mm),
» Cable gland M16x1,5 (cable diam. 5-10mm),
» Cable gland M20x1,5 (cable diam. 6-13mm),
» Nylon cable tie 80x2.5 mm.

Fiber Optic Distribution Wall Box ODF-MINI Q-Fiber

made in Poland

Description

Fiber Optic Distribution Wall Box MINI Q-Fiber is composed of a box and a panel. Wall-mounting ODF-MINIs are used to terminate and distribute optical fiber cables; they are convenient equipment to organizeand connect fiber optic links. The door and panel are hinged with locks. ODF is two-sectional, which enables separation of the cables and switches. The embossments on the bottom of the box make it possible to organise cables and fibre-optic pigtails in an easy, functional and aesthetic way.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Made of 1.2 mm steel sheet
» Door and panel are hinged with locks
» Interchangeable hole plugs enable the installation of various cable glands
» Embossing to attach cables inside the box
» Standard color: RAL7035 (light grey) glossy, other colors on request
» Dimensions [H x W x D]: 280x200x60 mm

Photos and dimensions
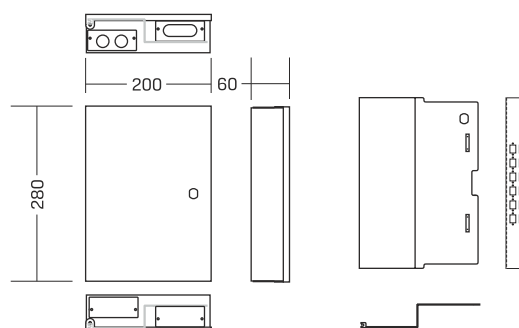
How to order

ODF-MINI	Fiber Optic Distribution Wall Box MINI
FPMI08ST	8xST/FC/DIN d-hole MINI Panel
FPMI16ST	16xST/FC/DIN d-hole MINI Panel
FPMI06CS	6xSC/E2000 simplex MINI Panel *
FPMI12CS	12xSC/E2000 simplex MINI Panel *
FPMI04CD	4xSC/ST/FC duplex / LC quad MINI Panel
FPMI08CD	8xSC/ST/FC duplex / LC quad MINI Panel

* Suitable for LC/LX.5/MTRJ duplex SC foot print adapters

Information

» Custom-made hole plugs
» ODF with a distribution plate houses one DIN 24 cassette
» ODF without a distribution plate houses 3 cassettes DIN24, 5 cassettes DIN24 SLIM or 5 cassettes DIN24 WHITE
» Keys in the two codes, can be ordered in a single code
» Product adapted to the FiberQuick system
» ODF packed in a cardboard box

Standard equipment

» Cable gland M16x1.5 (ø cable 5.5÷10 mm) (1 pc)
» Mounting bolt ø6x60 (4 pcs)
» Nylon cable tie 75x2.5 mm (8 pcs)
» Adhesive organizer (2 pcs)
» Hole plug 2xZ16 (1 pc)
» Oval hole plug (1 pc)
» Full hole plug (2 pcs)

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Fiber Optic Distribution Wall Box ODF-MIDDLE Q-Fiber

Description

Fiber Optic Distribution Wall Box MIDDLE Q-Fiber is composed of a box and a panel. Wall-mounting ODF-MIDDLEs are used to terminate and distribute optical fiber cables; they are convenient equipment to organizeand connect fiber optic links. The door and panel are hinged with locks. ODF is two-sectional, which enables separation of the cables and switches. The embossments on the bottom of the box make it possible to organise cables and fibre-optic pigtails in an easy, functional and aesthetic way.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Made of 1.2 mm steel sheet
» Door and panel are hinged with locks
» Interchangeable hole plugs enable the installation of various cable glands
» Embossing to attach cables inside the box
» Standard color: RAL7035 (light grey) glossy, other colors on request
» Dimensions [H x W x D]: 316x418x50 mm

Photos and dimensions
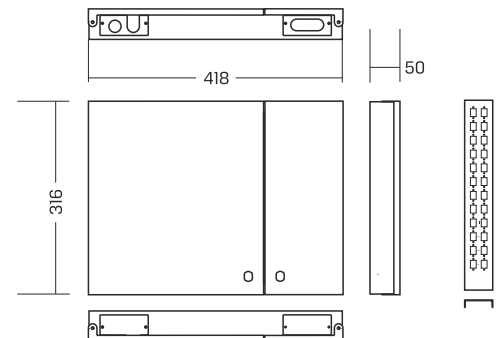
How to order

ODF-MIDDLE	Fiber Optic Distribution Wall Box MIDDLE
FP-MD-12ST	12xST/FC/DIN d-hole MIDDLE Panel
FP-MD-24ST	24xST/FC/DIN d-hole MIDDLE Panel
FP-MD-12CS	12xSC/E2000 simplex MIDDLE Panel*
FP-MD-24CS	24xSC/E2000 simplex MIDDLE Panel*
FP-MD-12CD	12xSC/ST/FC duplex / LC quad MIDDLE Panel

* Suitable for LC/LX.5/MTRJ duplex SC foot print adapters

Information

» Custom-made hole plugs
» ODF houses 3 cassettes DIN24, 5 cassettes DIN24 SLIM or 5 cassettes DIN24 WHITE
» Keys in the two codes, can be ordered in a single code Product adapted to the FiberQuick system
» ODF packed in a cardboard box

Standard equipment

» Cable gland M16x1.5 (ø cable 5.5÷10 mm) (1 pc)
» Mounting bolt ø6x60 (4 pcs)
» Nylon cable tie 75x2.5 mm (8 pcs)
» Nylon nut M4
» Hole plug 1xZ16+1016 (1 pc)
» Oval hole plug (1 pc)
» Full hole plug (2 pcs)

Fiber Optic Distribution Wall Box ODF-BIG Q-Fiber

made in Poland

Description

Fiber Optic Distribution Wall Box BIG Q-Fiber is composed of a box and a panel. Wall-mounting ODF-BIGs are used to terminate and distribute optical fiber cables; they are convenient equipment to organize and connect fiber optic links. The door and panel are hinged with locks. ODF is two-sectional, which enables separation of the cables and switches. The embossments on the bottom of the box make it possible to organize cables and fibre-optic pigtails in an easy, functional and aesthetic way.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Made of 1.5 mm steel sheet
» Door and panel are hinged with locks
» Interchangeable hole plugs enable the installation of various cable glands
» Embossing to attach cables inside the box
» Standard color: RAL7035 (light grey) glossy, other colors on request
» Dimensions [H x W x D]: 316x418x85 mm

Photos and dimensions
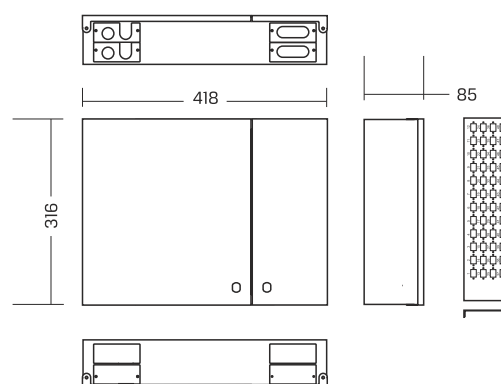
How to order

ODF-BIG	Fiber Optic Distribution Wall Box BIG
FP-BG-48ST	48xST/FC/DIN d-hole BIG Panel
FP-BG-24CD	24xSC/ST/FC duplex / LC quad BIG Panel
FP-BG-48CS	48xSC/E2000 simplex * BIG Panel

* Suitable for LC/LX.5/MTRJ duplex SC foot print adapters

Information

» Custom-made hole plugs
» ODF houses 4 cassettes DIN24, 6 cassettes DIN24 SLIM or 6 cassettes DIN24 WHITE
» Keys in the two codes, can be ordered in a single code Product adapted to the FiberQuick system
» ODF packed in a cardboard box

Standard equipment

» Cable gland M16x1.5 (ø cable 5.5÷10 mm) (1 pc)
» Mounting bolt ø6x60 (4 pcs)
» Nylon cable tie 75x2.5 mm (8 pcs)
» Hole plug 1xZ16+1016 (2 pcs)
» Oval hole plug (2 pcs)
» Full hole plug (4 pcs)

Fiber Optic Distribution Frame

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Fiber Optic Distribution Wall Box ODF-LARGE Q-Fiber

Description

Fiber Optic Distribution Wall Box LARGE Q-Fiber is composed of a box and a panel. Wall-mounting ODF-LARGEs are used to terminate and distribute optical fiber cables; they are convenient equipment to organize and connect fiber optic links. The door and panel are hinged with locks. ODF is two-sectional, which enables separation of the cables and switches. The embossments on the bottom of the box make it possible to organize cables and fibre-optic pigtails in an easy, functional and aesthetic way.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

- » Made of 1.5 mm steel sheet
- » Door and panel are hinged with locks
- » Interchangeable hole plugs enable the installation of various cable glands
- » Embossing to attach cables inside the box
- » Standard color: RAL7035 (light grey) glossy, other colors on request
- » Dimensions [H x W x D]: 316x418x152 mm

Photos and dimensions
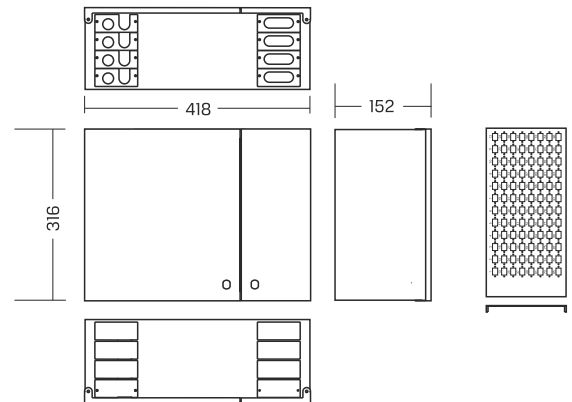
How to order

ODF-LARGE	Fiber Optic Distribution Wall Box LARGE
FP-LG-96ST	LARGE 96xST/FC/DIN d-hole LARGE Panel
FP-LG-48CD	48xSC/ST/FC duplex / LC quad LARGE Panel
FP-LG-96CS	96xSC/E2000 simplex LARGE Panel *

* Suitable for LC/LX.5/MTRJ duplex SC foot print adapters

Information

- » Custom-made hole plugs
- » ODF houses 11 cassettes DIN24, 15 cassettes DIN24 SLIM or 15 cassettes DIN24 WHITE
- » Keys in the two codes, can be ordered in a single code Product adapted to the FiberQuick system
- » ODF packed in a cardboard box

Standard equipment

- » Cable gland M16x1.5 (ø cable 5.5÷10 mm) (1 pc)
- » Mounting bolt ø6x60 (4 pcs)
- » Nylon cable tie 75x2.5 mm (8 pcs)
- » Hole plug 1xZ16+1O16 (4pc)
- » Oval hole plug (4 pcs)
- » Full hole plug (8 pcs)

FOSC DJS 56II

Description

The Hermetic Fiber Optic Splice Closure DJS-56II may be used as a cable terminal or a connecting sleeve. The coupler may be installed both in a vertical and in a horizontal position. It consists of the cabinet and distribution board. The door is mounted on hinges. Air-tight closure is fulfilled by 5 galvanised screws and a rubber sealing washer, which protects the fibre-optic splices against the influence of adverse atmospheric conditions. The FOSC is suitable for installation on walls and on poles. The packing of the introduced cables is made by means of air-tight glands. The placement of a switching field makes it possible to swiftly organise and cross fibre-optic connections.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» High quality material ABS
» Airtight closure
» Cable port: 2 x ø14 mm
» Core capacity: 24
» 12xSC/E2000 simplex or 12xST/FC Panel
» Internal handle cables
» Size (L x W x H): 280x200x90 mm

Photos and dimensions
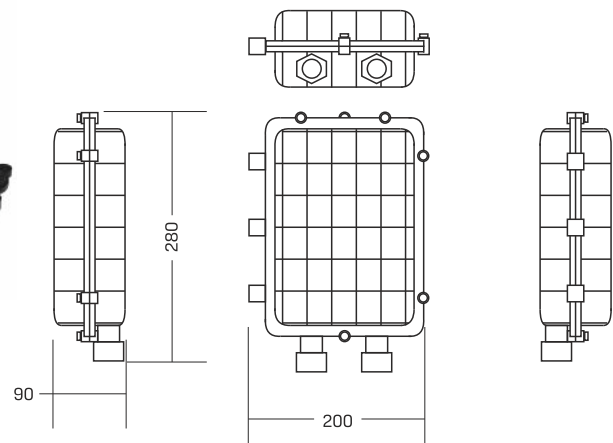
How to order

DJS-56II	Hermetic Fiber Optic Splice Closure MINI
FOST D23	DIN24 Splice Tray (24 cores)
FP-56-12SC	DJS-56II 12xSC/E2000 simplex Panel*
FP-56-12ST	DJS-56II 12xST/FC Panel

* Suitable for LC/LX.5/MTRJ duplex SC foot print adapters

Information

» FOSC holds one FOST D23 DIN24 cassette
» FOSC has internal handle cables
» FOSC is packed in a cardboard box

Standard equipment

» FOST D23 DIN24 Splice tray (1 pc)
» 12xSC/E2000 simplex* or 12xST/FC panels (1 pc)
» Earthing wire ø1.5 mm (0.3 m)
» Labeling paper (1 pc)
» Mounting bolt ø7 mm (3 pcs)
» Nylon tie (4 pcs)
» Flat key 36 mm (1 pc)
» Cable seals (0.5 m)

Fiber Optic Distribution Frame

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FOSC DJS 58II

Description

The Hermetic Fiber Optic Splice Closure DJS-58II may be used as a cable terminal or a connecting sleeve. The coupler may be installed both in a vertical and in a horizontal position. It consists of the cabinet and distribution board. The door is mounted on hinges. Air-tight closure is fulfilled by 5 galvanised screws and a rubber sealing washer, which protects the fibre-optic splices against the influence of adverse atmospheric conditions. The FOSC is suitable for installation on walls and on poles. The packing of the introduced cables is made by means of air-tight glands. The placement of a switching field makes it possible to swiftly organise and cross fibre-optic connections.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» High quality material ABS
» Airtight closure
» Cable port: 6 x ø22 mm
» Core capacity: 72
» 32xSC/E2000 simplex or 32xST/FC Panel
» Internal handle cables
» Size (L x W x H): 490x252x127 mm

Photos and dimensions

490
127
252
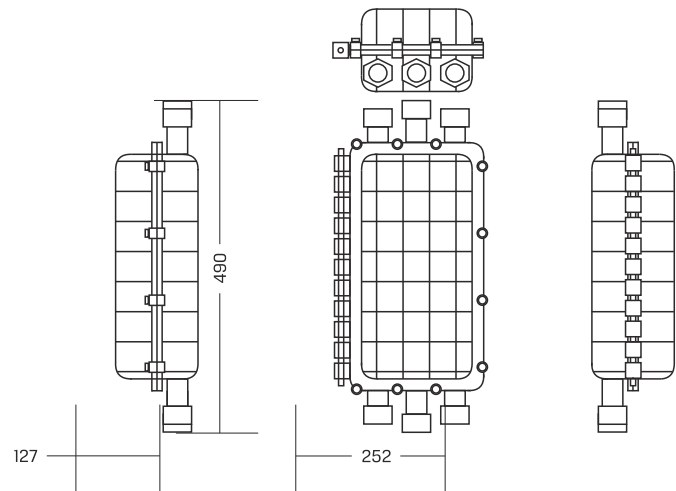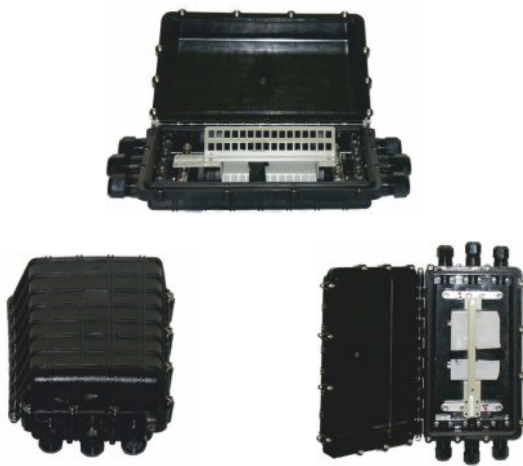
How to order

DJS-58II	Hermetic Fiber Optic Splice Closure MINI
FOST D11	DIN24 Splice Tray (24 cores)
FP-58-12SC	DJS-58II 32xSC/E2000 simplex Panel*
FP-58-12ST	DJS-58II 32xST/FC Panel

*Suitable for LC/LX.5/MTRJ duplex SC foot print adapters

Information

» FOSC holds three FOST D23 DIN24 cassettes
» FOSC has internal handle cables
» FOSC is packed in a cardboard box

Standard equipment

» FOST D23 DIN24 Splice tray (1 pc)
» 32xSC/E2000 simplex* or 32xST/FC panels (1pc)
» Key to the M8 bolt (1 pc)
» Earthing wire ø1.5 mm (0.3 m)
» Labeling paper (1 pc)
» Mounting holders (4 pcs)
» Mounting sling (2 pcs)
» Nylon tie (8 pcs)
» Bolt ø 4x14 mm (8 pcs)
» Allen wrenches (6 mm, 4 mm)
» Flat key 36x26 mm (1 pc)

MINI ODF-DIN Industrial Splice Box Q-Fiber

made in **Poland**

Description

The MINI ODF-DIN Q-Fiber is mainly designed for crossing fibre-optic cables in spatially restricted places. Thanks to its compact size and the holder for the DIN rail (TS35), it is suitable for mounting in the majority of data communication cabinets. The MINI ODF-DIN can be fitted with a bracket for mounting on the wall.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON, Automation.

Properties

» Made of 1.0 mm steel sheet
» Possibility to mount on one of the three blocks of the holder for installing the ODF-DIN on the DIN rail
» Possibility to mount on one of the three blocks of the holder for installing the ODF-DINon a wall
» Two cable openings with the diameter of 8 mm
» Color: RAL7035 (light grey) glossy, other colors on request
» Dimensions [H x W x D]: 70x65x33 mm

Photos and dimensions
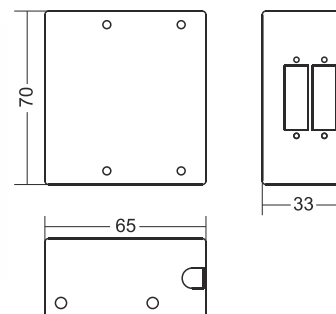
How to order

MODFWBDIN   MINI ODF-DIN Industrial Splice Box with
                   2xSC duplex front panel *
UDDIN   DIN clip for MINI ODF DIN
MUSDIN   Wall clip for MINI ODF-DIN

*   suitable for LC quad and ST duplex
**   possibility to order a splice box with holders for 12 easy crimp ANT clamps
***   order kit: MODFWBDIN + UDDIN or MODFWBDIN + MUSDIN

Information

» The ODF holds up to 12 fibre optic fusion splice protector sleeves or up to 12 easy crimp ANT clamps (to be chosen)
» The possibility to route 8 connections onto the front panel

Standard equipment

» Nylon cable tie 80x2.5 mm (2 pcs)
» Rubber cable casing (2 pcs)
» Holder for 12 splice protector sleeves or 12 easy crimp ANT clamps (to be chosen) (1 pc)
» DIN mount

Additional equipment

» Pigtails
» Adapters
» Fibre optic fusion splice protector sleeves
» Easy Crimp ANT

ODF-DIN Industrial Splice Box Q-Fiber

made in Poland

Description

The ODF-DIN Industrial Splice Box is used for crossing-over cables in large-scale automation systems. Its small size and a grip on the rail (TS35) make the splice box suitable for mounting in every cabinet. ODF DIN can be fitted with a bracket for mounting on the wall. The embossing for attaching fiber optic cables inside the splice box enable easy, functional and aesthetic organization of cables and fiber optic pigtails. ODF-DIN holds up to 12 fiber optic fusion splice protector sleeves or up to 12 easy crimp ANT clamps.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON, Automation.

Properties

» Made of 1.2 mm steel sheet
» Embossing to attach cables inside the box
» The possibility of mounting a bracket to mount the splice box on a DIN rail
» The possibility of mounting a bracket to mount the splice box on a wall
» Two holes for cable glands M16x1.5 and two holes for cable glands M20x1.5
» Cable gland protection against fracture possible
» Color: RAL7035 (light grey) glossy, other colors on request
» Dimensions [H x W x D]: 120x120x32 mm

Photos and dimensions
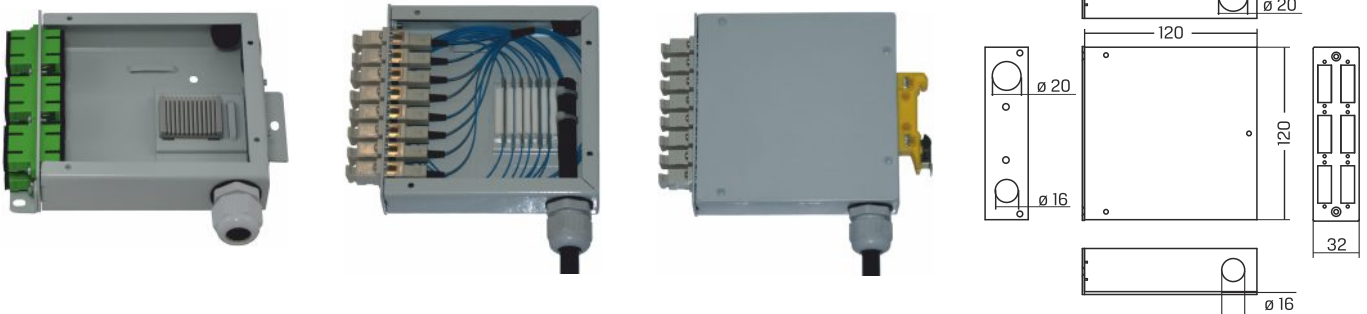
How to order

ODFWBDIN	ODF DIN Industrial Splice Box
FPNO8CSG	ODF-DIN 8xSC/E2000 simplex Panel *
FPNO8STG	ODF-DIN 8xST/FC/DIN d-hole Panel
FPNO6CDG	ODF-DIN 6xSC duplex Panel
UDDIN	DIN clip for ODF DIN
USDIN	Wall clip for ODF-DIN

* Suitable for LC/LX.5/MTRJ duplex SC foot print adapters
** possibility to order a splice box with holders
    for 12 easy crimp ANT clamps

Information

» The ODF holds up to 12 fibre optic fusion splice protector sleeves or up to 12 easy crimp ANT clamps (to be chosen)
» The possibility to route 12 connections onto the front panel

Standard equipment

» Cable gland M20x1.5 (ø cable 6÷13 mm) (1 pc)
» Mounting bolt ø4x40 mm (3 pcs)
» Nylon cable tie 80x2.5 mm (6 pcs)
» Round cap (3 pcs)
» Holder for 12 splice protector sleeves or 12 easy crimp ANT clamps (to be chosen) (1 pc)
» Holder for installation on the DIN rail or for wall mounting (to be chosen) (1 set)

Additional equipment

» Pigtails
» Adapters
» Fibre optic fusion splice protector sleeves
» Easy Crimp ANT 30 mm

Chassis ODF DIN 1U Q-Fiber

Description

Chassis ODF DIN 1U Q-Fiber is a rack box designed for mounting in a data communication cabinet by means of rack bolts. It has been designed to hold one (in the 10" option) or three (in the 19" option) industrial splice box ODF DIN. The ODF in the chassis is installed by means of a latching disc. Such solution facilitates very quick installation and dismantling of the ODF, without the need to use additional tools. The ODF placed in chassis may be used for crossing fibre-optic cables, patchcords and pigtails. It is also a good solution for splitter adaptation. Thanks to its compact size, it occupies little space inside the data communication cabinet.

## Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON, Automation.

Properties

» Made of 1.5 mm steel sheet
» Possibility to mount in a data communication cabinet
» Dimensions [H x W x D]: 10" 1U - 44x258x126,5 [mm], 19" 1U - 44x485x126,5 [mm]
» Color: RAL7035 (light grey) glossy, other colors on request
» Chassis 10" 1U holds one ODF DIN
» Chassis 19" 1U holds three ODF DIN

Photos and dimensions

258

44

126.5

485

44

126.5

How to order

CH-ODFDIN-10-1U   Rack box Chassis ODF DIN 10" 1U
CH-ODFDIN-19-1U   Rack box Chassis ODF DIN 19" 1U

Additional equipment

» Rack bolts
» ODF DIN Industrial Splice Box

Information

» Possibility to mount in a data communication cabinet
» Chassis 10" 1U holds one ODF DIN Industrial Splice Box
» Chassis 19" 1U holds three ODF DIN Industrial Splice Box

Fiber Optic Distribution Frame

DLL
Partners

Rack DIN-3 4U Q-Fiber

made in **Poland**

Description

Rack DIN-3 4U Q-Fiber designed for installation in a data communication cabinet by means of rack bolts. It has been designed to hold passive elements (up to 13 industrial switches MINI ODF-DIN or ODF-DIN, etc.), active elements equipped in mounting holders for the DIN-3 rail (media converters, switches, Ethernet extenders, etc.). Such solution facilitates very quick installation and dismantling elements, without the need to use additional tools.
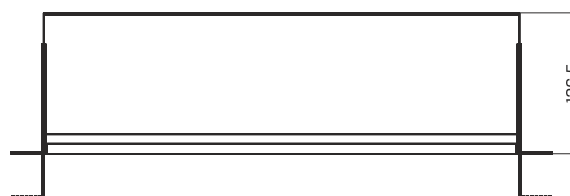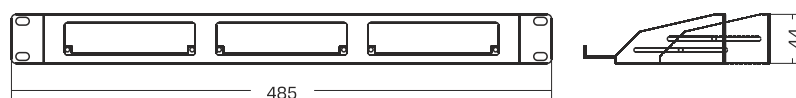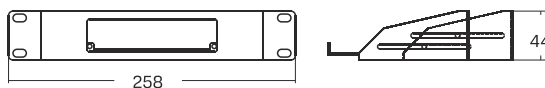
Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON, Automation.

Properties

» Made of 1.5 mm steel sheet
» Opening in the rear wall making it possible to lead cables (wires) out from the back
» Color: RAL7035 (light grey) glossy, other colors on request
» Dimensions [H x W x D]: 177.8x481x202 mm
» Possibility to move the DIN rail by 100 mm

Photos and dimensions

481

177.8

100

202

432
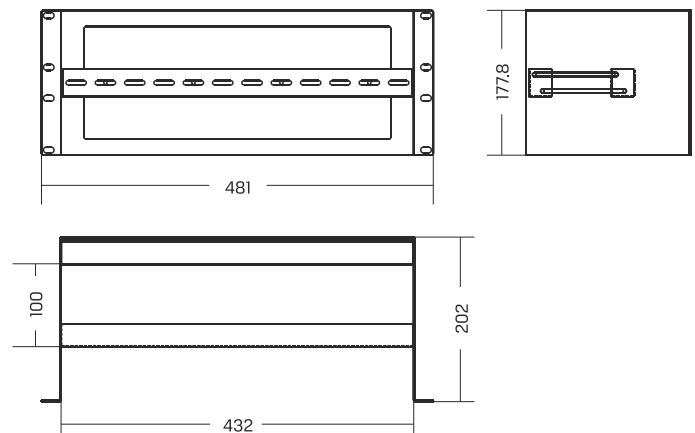
How to order

PRDIN4U   Rack DIN-3 4U*

           * possibility to make a rack shelf 1U, 2U and 3U

Information

» Rack DIN-3 4U holds up to 13 Industrial Splice Box MINI ODF-DIN or up to 13 Industrial Splice Box ODF-DIN

Standard equipment

» Mounting bolt M6 (4 pcs)
» DIN-3 rail (1 pc)

Additional equipment

» Industrial Splice Box MINI ODF-DIN
» Industrial Splice Box ODF-DIN
» Media converter
» Switch
» Ethernet Extender

Module LGX Q-Fiber

made in Poland

Description

The LGX Q-Fiber Module may be used for crossing fibre-optic cables, patchcords and pigtails. It is also a good solution for splitter adaptation and Wave Division Multiplexing Systems WDM, CWDM and DWDM. It consists of the box, the distribution board and the cover. The embossments on the side wall of the box make it easy and functional to organise cables in an aesthetic way. Modules are installed in the Chassis by means of the snap. Such solution facilitates very quick installation and dismantling of the modules, without the need to use additional tools. Thanks to its compact size, it permits a very efficient use of space inside the data communication cabinet.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Available sizes: LGX SINGLE, LGX DOUBLE
» Dimensions [H x W x D]: SINGLE - 29.0x129.5x165.0 mm, DOUBLE - 58.3x129.5x165.0 mm
» Possibility to describe the ports on the front panel
» Types of connectors: SC, ST, FC, LC, E2000
» Polishing standards: PC, UPC, APC 8°
» Possibility to mount a cable gland M16
» Holders in the LGX are designed for placement in the following housings: Chassis LGX 19" 1U (3 modules), 2U (6 modules), 3U (12 modules)
» Color: RAL7035 (light grey) glossy, other colors on request

Photos and dimensions

a) LGX SINGLE   b) LGX DOUBLE
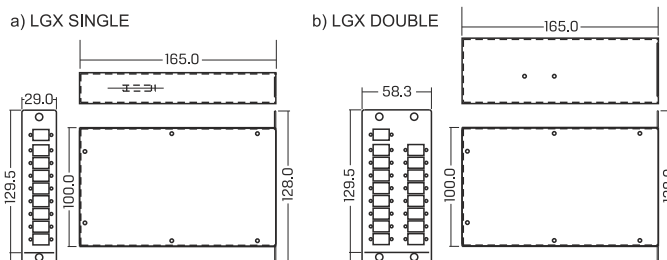
How to order

LGX-S	BOX LGX SINGLE
LGX-D	BOX LGX DOUBLE
FP-LGX-S-1+2	LGX-S 1+2xSC sx Panel
FP-LGX-S-1+3	LGX-S 1+3xSC sx Panel
FP-LGX-S-1+4	LGX-S 1+4xSC sx Panel
FP-LGX-S-1+5	LGX-S 1+5xSC sx Panel
FP-LGX-S-06	LGX-S 06xSC sx Panel
FP-LGX-S-08	LGX-S 08xSC sx Panel
FP-LGX-S-09	LGX-S 09xSC sx Panel
FP-LGX-S-1+8	LGX-S 1+8xSC sx Panel
FP-LGX-S-12	LGX-S 12xSC sx Small Flange Panel
FP-LGX-S-2+2	LGX-S 2+2xSC sx Panel
FP-LGX-S-2+4	LGX-S 2+4xSC sx Panel
FP-LGX-S-0	LGX-S Chassis Hole Plug Single Panel
FP-LGX-D-2+8	LGX-D 2+8xSC sx Panel
FP-LGX-D-1+10	LGX-D 1+10xSC sx Panel
FP-LGX-D-12	LGX-D 12xSC sx Panel
FP-LGX-D-16	LGX-D 16xSC sx Panel
FP-LGX-D-1+16	LGX-D 1+16xSC sx Panel
FP-LGX-D-2+16	LGX-D 2+16xSC sx Panel
FP-LGX-D-0	LGX-D Chassis Hole Plug Double Panel

*Possibility to order a module with holders for 24 easy crimp ANT clamps

Standard equipment

» Box LGX (1 pc)
» Front panel (to be chosen) (1 pc)
» Top cover (1 pc)
» Latching discs (for the cover) (6 pcs)
» Snaps (mounted in Chassis) (2 sets)
» Holder for 12 splice protector sleeves or 12 easy crimp ANT clamps (to be chosen) (1 pc)

Additional equipment

» Pigtails
» Adapters
» Fibre optic fusion splice protector sleeves
» Easy Crimp ANT
» The second holder for splice protector sleeves or easy crimp ANT clamps

Chassis LGX Q-Fiber

made in **Poland**

Description

LGX Chassis (1U, 2U, 3U) Q-Fiber are rack boxes designed for mounting in a data communication cabinet by means of rack bolts. They have been designed to house from 3 to 12 LGX-S modules (single) depending on the type of box, and from 3 to 6 LGX-D modules (double). The module in the chassis is installed by means of a latching disc. Such solution facilitates very quick installation and dismantling of the ODF, without the need to use additional tools. The LGX system may be used for crossing fibre-optic cables, patchcords and pigtails. It is also a good solution for splitter adaptation and Wave Division Multiplexing Systems WDM, CWDM and DWDM. Thanks to its compact size, it permits a very efficient use of space inside the data communication cabinet.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Made of 1.5 mm steel sheet
» Possibility to mount in a data communication cabinet
» Placement of the modules in a depression facilitates the organisation of patchcords
» Side embossment makes it possible to conveniently route the patchcords
» Dimensions [H x W x D]: 1U - 44.5x485x180 mm, 2U - 88.5x485x180 mm, 3U - 133x485x180 mm
» Color: RAL7035 (light grey) glossy, other colors on request
» Chassis 1U holds 3 LGX-S modules (single)
» Chassis 2U holds 6 LGX-S modules (single) or 3 LGX-D modules (double)
» Chassis 3U holds 12 LGX-S modules (single) or 6 LGX-D modules (double)

Photos and dimensions

1U

2U

3U
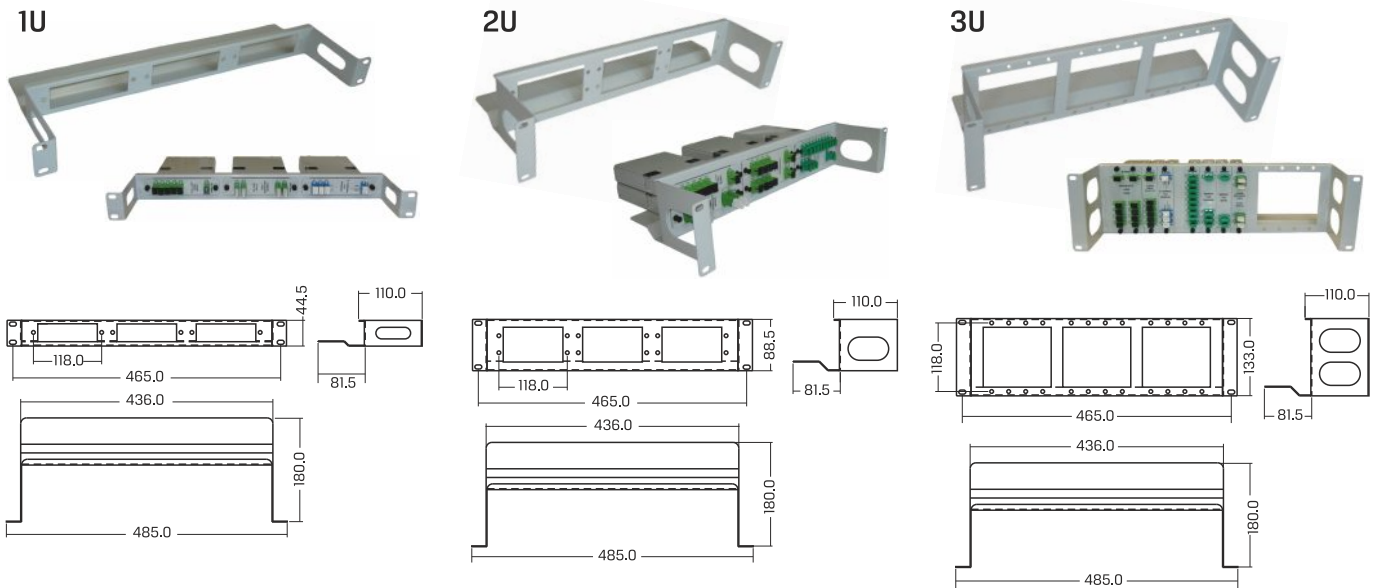
How to order

CH-LGX-1U	Rack box Chassis LGX 1U
CH-LGX-2U	Rack box Chassis LGX 2U
CH-LGX-3U	Rack box Chassis LGX 3U

Standard equipment

» Rack bolts
» Snaps
» Modules LGX

Information

» Possibility to mount in a data communication cabinet
» Chassis 1U holds 3 LGX-S modules (single)
» Chassis 2U holds 6 LGX-S modules (single) or 3 LGX-D modules (double)
» Chassis 3U holds 12 LGX-S modules (single) or 6 LGX-D modules (double)

Accessories for ODF

Splice Tray DIN24
Splice Tray DIN24 WHITE
Other Accessories

DIN24 Splice Tray Q-Fiber

made in Poland

Description

The DIN24 Q-Fiber Splice Tray is designed to store heat-shrink splice fibers. It is compatible both with splice protector sleeves 45 mm, 60 mm as well as with mechanical casings. DIN24 is used for crossing over cables, patchcords and pigtails. Its small size and a special clamp system make it possible to place DIN24 in most fiber optic distribution frames. The embossing made to attach fiber optic tubes and pigtails inside the Splice Tray enable an easy, functional and aesthetic organization of fibers and pigtails. DIN24 can accommodate up to 24 fiber splices. DIN24 holds up to 24 fiber optic fusion splice protector sleeves or up to 24 easy crimp ANT clamps. The cassette cover is mounted by means of latching discs.

## Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Made of 1.2 mm steel sheet
» Embossing to attach tubes and pigtails
» The possibility of mounting a splice tray in the ODF 19"
» Standard color: RAL7035 (light grey) glossy, other colors on request
» Dimensions [H x W x D]: 13.5x140x117 mm
» Core capacity: 24

Photos and dimensions
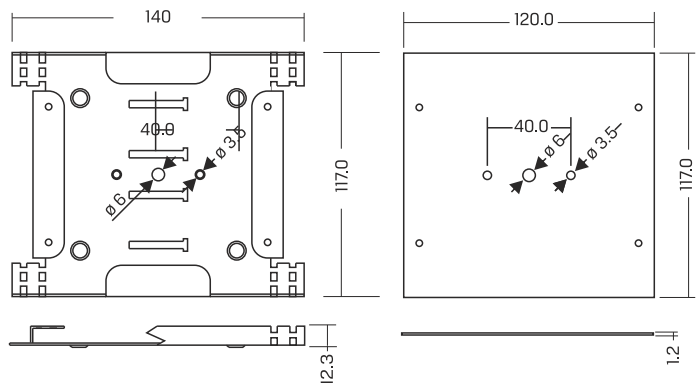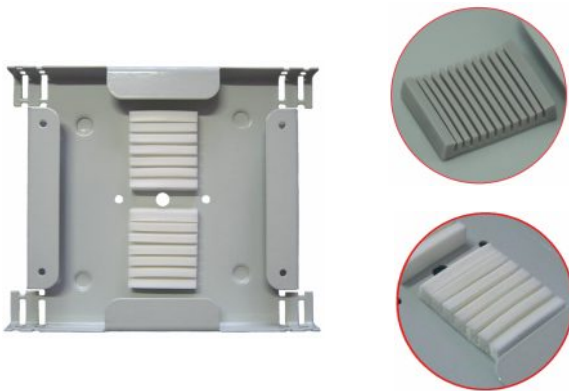
How to order

DIN24	DIN24 Splice Tray

*Possibility to order a splice tray with holders for 24 easy crimp ANT clamps

Information

» The DIN24 holds up to 24 fibre optic fusion splice protector sleeves or up to 24 easy crimp ANT clamps (to be chosen)
» Cassette designed for housing optic fusion splice protector sleeves 45 mm and 60 mm
» The possibility of mounting a splice tray in the ODF 19"

Standard equipment

» Cover (1 pc)
» Latching disc mounting the cover (2 pcs)
» Screw for fixing the cover (2 pcs)
» Spacing bolt (2 pcs)
» Holder for 12 splice protector sleeves or 12 easy crimp ANT clamps (to be chosen) (2 pcs)
» Sticker: Attention Laser Radiation (1 pc)

Additional equipment

» Fibre optic fusion splice protector sleeves
» Easy Crimp ANT clamps
» Pigtails
» Patchcords

Accessories for ODF

DIN24 WHITE Splice Tray

Description

The DIN24 WHITE Q-Fiber Splice Tray is designed to store heat-shrink splice fibers. It is compatible with splice protector sleeves 45 mm. DIN24 WHITE is used for crossing over cables, patchcords and pigtails. Its small size and a special clamp system make it possible to place DIN24 WHITE in most fiber optic distribution frames. The embossing made to attach fiber optic tubes and pigtails inside the Splice Tray enable an easy, functional and aesthetic organization of fibers and pigtails. DIN24 WHITE can accommodate up to 24 fiber splices. DIN24 WHITE holds up to 24 fiber optic fusion splice protector sleeves or up to 24 easy crimp ANT clamps.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Made of plastic 1.5 mm
» Embossing to attach tubes and pigtails
» The possibility of mounting a splice tray in the ODF 19"
» Dimensions [H x W x D]: 10x155x92 mm
» Core capacity: 24

Photos and dimensions
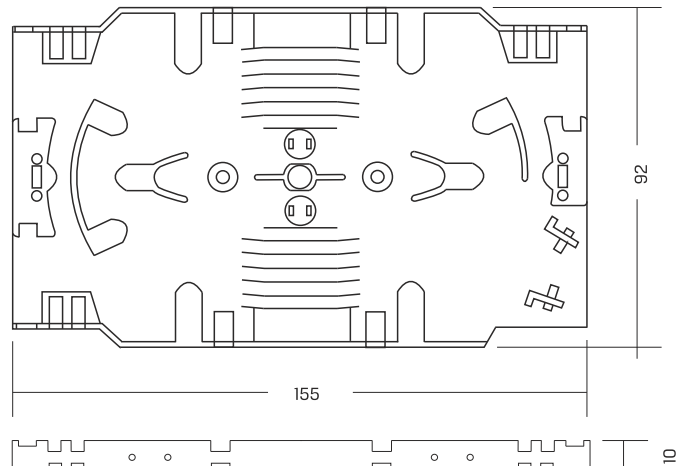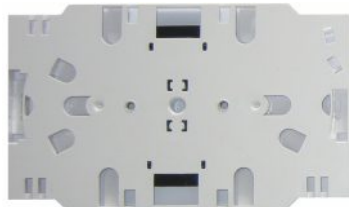
How to order

DIN24-W   DIN24 WHITE Splice Tray

*Possibility to order a splice tray with holders for 24 easy crimp ANT clamps

Standard equipment

» Cover (1 pc)
» Screw M3x10 mm (2 pcs)
» Holder for 12 splice protector sleeves or 12 easy crimp ANT clamps (to be chosen) (2 pcs)

Information

» The DIN24 holds up to 24 fibre optic fusion splice protector sleeves or up to 24 easy crimp ANT clamps (to be chosen)
» Cassette designed for housing optic fusion splice protector sleeves 45 mm
» The possibility of mounting a splice tray in the ODF 19"

Additional equipment

» Fibre optic fusion splice protector sleeves
» Easy Crimp ANT clamps
» Pigtails
» Patchcords

Other Accessories

Holders for splice protector sleeves

Holders make it possible to fix the sleeves inside the ODF.
Available holders:

ASU1- protective holder for 12 splices without a heat shrink casing
ASU2- protective holder for 6 splices with a heat shrink casing

Cable glands

HP-ECO M16x1.5:
Thread: ø 16 mm
Thread length: 8 mm
Cable ø: 5.5 - 10 mm
Height: 35 mm

HP-ECO M20x1.5:
Thread: ø 20 mm
Thread length: 8 mm
Cable ø: 6 - 13 mm
Height: 37 mm

Front panel plugs

SC Duplex

SC Simplex

ST Simplex

Nylon cable ties

**Cable tie
Size 2.5x80 mm:**
Color: white
Material: natural nylon
Packing: 100 pcs

**Cable tie
Size 2.5x80 mm:**
Color: black
Material: natural nylon
Packing: 100 pcs

**Cable tie
Size 4.8x200 mm:**
Color: black
Material: natural nylon
Packing: 100 pcs

**Cable tie
Size 4.8x300 mm:**
Color: black
Material: natural nylon
Packing: 100 pcs

Mounting bolts

Rack bolts M6
The set contains: a bolt, a plastic washer and a basket nut
Packing: 20 sets

Bolts for adapter mounting
Length: 10 mm
Packing: 50 pcs

Bolts with nuts for adapter mounting
Length: 11.75 mm
The set contains: a bolt, a nut
Packing: 50 pcs

Passive Components

Single-Mode Optical Fibre Adapters

Description

Fibre-Optic Adapters form a part of the fibre-optic trunk line and connect two fibre-optic connectors. Adapters can be divided into multi-mode and single-mode ones. These, in turn, are further divided into simplex, duplex and others. Adapters may connect the same type of connectors (e.g. SC with SC or FC with FC) and these are standard adapters, or various types (e.g. SC with FC or SC with ST) and these are hybrid adapters.

Single-Mode Adapters SM PC - Simplex

type	index	housing	centring element	colour	fixing	properties
SC-SC	ADA.3.2.1.1.1	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC simplex holes
SC-SC	ADA.3.2.1.1.2	metal	zr02	metal	rectangular	They are used for mounting in front panels with SC simplex holes
ST-ST	ADA.3.2.1.1.3	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC simplex holes
ST-ST	ADA.3.2.1.1.4	metal	zr02	metal	D-hole	They are used for mounting in front panels with ST simplex D-hole holes
ST-ST	ADA.3.2.1.1.5	metal	zr02	metal	rectangular	They are used for mounting in front panels with SC simplex holes
FC-FC	ADA.3.2.1.1.6	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC simplex holes
FC-FC	ADA.3.2.1.1.7	metal	zr02	metal	D-hole	They are used for mounting in front panels with ST simplex D-hole holes
FC-FC	ADA.3.2.1.1.8	metal	zr02	metal	rectangular	They are used for mounting in front panels with SC simplex holes
FC-FC	ADA.3.2.1.1.9	metal	zr02	metal	square	They are used for mounting in front panels with SC simplex holes
LC-LC	ADA.3.2.1.1.10	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC simplex holes
E2000-E2000	ADA.3.2.1.1.11	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC simplex holes
MU-MU	ADA.3.2.1.1.13	plastic	zr02	beige	rectangular	They are used for mounting in front panels with SC simplex holes
MPO-MPO	ADA.3.2.1.1.14	plastic	-	black	rectangular	-

Single-Mode Adapters SM PC - Simplex Hybrid

type	index	housing	centring element	colour	fixing	properties
SC-ST	ADA.3.2.1.3.1	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC simplex holes
SC-ST	ADA.3.2.1.3.2	metal	zr02	metal	rectangular	They are used for mounting in front panels with SC simplex holes
SC-ST	ADA.3.2.1.3.3	metal	zr02	metal	square	-
SC-FC	ADA.3.2.1.3.4	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC simplex holes
SC-FC	ADA.3.2.1.3.5	metal	zr02	metal	rectangular	They are used for mounting in front panels with SC simplex holes
SC-FC	ADA.3.2.1.3.6	metal	zr02	metal	square	-
SC-E2000	ADA.3.2.1.3.7	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC simplex holes
SC-LC	ADA.3.2.1.3.8	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC simplex holes
SC-MU	ADA.3.2.1.3.9	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC simplex holes
ST-FC	ADA.3.2.1.3.10	plastic	zr02	blue	rectangular	-
ST-FC	ADA.3.2.1.3.11	metal	zr02	metal	rectangular	They are used for mounting in front panels with SC simplex holes
ST-FC	ADA.3.2.1.3.12	metal	zr02	metal	square	-
ST-E2000	ADA.3.2.1.3.13	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC simplex holes
FC-E2000	ADA.3.2.1.3.14	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC simplex holes
LC-MU	ADA.3.2.1.3.15	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC simplex holes

Single-Mode Adapters SM PC - Duplex

type	index	housing	centring element	colour	fixing	properties
SC-SC	ADA.3.2.2.1.1	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC duplex holes
SC-SC	ADA.3.2.2.1.2	metal	zr02	metal	rectangular	They are used for mounting in front panels with SC duplex holes
ST-ST	ADA.3.2.2.1.3	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC duplex holes
ST-ST	ADA.3.2.2.1.4	metal	zr02	metal	rectangular	They are used for mounting in front panels with SC duplex holes
LC-LC	ADA.3.2.2.1.5	plastic	zr02	blue	rectangular	-
LC-LC	ADA.3.2.2.1.6	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC simplex holes
ST-ST	ADA.3.2.2.1.7	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC duplex holes
E2000-E2000	ADA.3.2.2.1.8	plastic	zr02	blue	rectangular	-
MTRJ-MTRJ	ADA.3.2.2.1.9	plastic	-	black	rectangular	They are used for mounting in front panels with SC simplex holes
MU-MU	ADA.3.2.2.1.10	plastic	zr02	beige	rectangular	-

Single-Mode Adapters SM PC - Duplex Hybrid

type	index	housing	centring element	colour	fixing	properties
SC-ST	ADA.3.2.2.3.1	plastic	zr02	blue	rectangular	They are used for mounting in front panels with SC duplex holes
SC-ST	ADA.3.2.2.3.2	metal	zr02	metal	rectangular	They are used for mounting in front panels with SC duplex holes

Passive Elements

Single-Mode Optical Fibre Adapters

Single-Mode Adapters SM APC - Simplex

type	index	housing	centring element	colour	fixing	properties
SC-SC	ADA.3.2.1.2.1	plastic	zr02	green	rectangular	They are used for mounting in front panels with SC simplex holes
FC-FC	ADA.3.2.1.2.2	metal	zr02	metal	D-hole	They are used for mounting in front panels with ST simplex D-hole holes
FC-FC	ADA.3.2.1.2.3	metal	zr02	metal	owalne	-
FC-FC	ADA.3.2.1.2.4	metal	zr02	metal	square	-
LC-LC	ADA.3.2.1.2.5	plastic	zr02	green	rectangular	-
E2000-E2000	ADA.3.2.1.2.6	plastic	zr02	green	rectangular	-

Single-Mode Adapters SM APC - Simplex Hybrid

type	index	housing	centring element	colour	fixing	properties
SC-ST	ADA.3.2.1.4.1	plastic	zr02	green	rectangular	They are used for mounting in front panels with SC simplex holes
SC-ST	ADA.3.2.1.4.2	plastic	zr02	green	rectangular	They are used for mounting in front panels with SC simplex holes
SC-ST	ADA.3.2.1.4.3	plastic	zr02	green	rectangular	They are used for mounting in front panels with SC simplex holes

Single-Mode Adapters SM APC - Duplex

type	index	housing	centring element	colour	fixing	properties
SC-SC	ADA.3.2.2.2.1	plastic	zr02	green	rectangular	They are used for mounting in front panels with SC duplex holes
SC-SC	ADA.3.2.2.2.2	metal	zr02	metal	rectangular	They are used for mounting in front panels with SC duplex holes
LC-LC	ADA.3.2.2.2.3	plastic	zr02	green	square	-
ST-ST	ADA.3.2.2.2.4	plastic	zr02	green	rectangular	They are used for mounting in front panels with SC simplex holes
LC-LC	ADA.3.2.2.2.5	plastic	zr02	green	rectangular	They are used for mounting in front panels with SC duplex holes
E2000-E2000	ADA.3.2.2.2.6	plastic	zr02	green	rectangular	-
MU-MU	ADA.3.2.2.2.7	plastic	zr02	green	rectangular	They are used for mounting in front panels with SC simplex holes

Multi-Mode Optical Fibre Adapters

Description

Fibre-Optic Adapters form a part of the fibre-optic trunk line and connect two fibre-optic connectors. Adapters can be divided into multi-mode and single-mode ones. These, in turn, are further divided into simplex, duplex and others. Adapters may connect the same type of connectors (e.g. SC with SC or FC with FC) and these are standard adapters, or various types (e.g. SC with FC or SC with ST) and these are hybrid adapters.

Multi-Mode Adapters MM - Simplex

type	index	housing	centring element	colour	fixing	properties
SC-SC	ADA.3.1.1.1.1	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC simplex holes
SC-SC	ADA.3.1.1.1.2	metal	phbr	metal	rectangular	They are used for mounting in front panels with SC simplex holes
ST-ST	ADA.3.1.1.1.3	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC simplex holes
ST-ST	ADA.3.1.1.1.4	metal	phbr	metal	D-hole	They are used for mounting in front panels with ST simplex D-hole holes
ST-ST	ADA.3.1.1.1.5	metal	phbr	metal	rectangular	They are used for mounting in front panels with SC simplex holes
FC-FC	ADA.3.1.1.1.6	plastic	phbr	blue	rectangular	They are used for mounting in front panels with SC simplex holes
FC-FC	ADA.3.1.1.1.7	metal	phbr	metal	D-hole	They are used for mounting in front panels with ST simplex D-hole holes
FC-FC	ADA.3.1.1.1.8	metal	phbr	metal	rectangular	They are used for mounting in front panels with SC simplex holes
FC-FC	ADA.3.1.1.1.9	metal	phbr	metal	square	-
LC-LC	ADA.3.1.1.1.10	plastic	phbr	beige	rectangular	-
E2000-E2000	ADA.3.1.1.1.11	plastic	phbr	black	rectangular	They are used for mounting in front panels with SC simplex holes
MU-MU	ADA.3.1.1.1.13	plastic	phbr	beige	rectangular	-
MPO-MPO	ADA.3.1.1.1.14	plastic	-	black	rectangular	-

Multi-Mode Adapters MM - Simplex Hybrid

type	index	housing	centring element	colour	fixing	properties
SC-ST	ADA.3.1.1.2.1	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC simplex holes
SC-ST	ADA.3.1.1.2.2	metal	phbr	metal	rectangular	They are used for mounting in front panels with SC simplex holes
SC-ST	ADA.3.1.1.2.3	metal	phbr	metal	square	-
SC-FC	ADA.3.1.1.2.4	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC simplex holes
SC-FC	ADA.3.1.1.2.5	metal	phbr	metal	rectangular	They are used for mounting in front panels with SC simplex holes
SC-FC	ADA.3.1.1.2.6	metal	phbr	metal	square	-
SC-E2000	ADA.3.1.1.2.7	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC simplex holes
SC-LC	ADA.3.1.1.2.8	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC simplex holes
SC-MU	ADA.3.1.1.2.9	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC simplex holes
ST-FC	ADA.3.1.1.2.10	plastic	phbr	beige	rectangular	-
ST-FC	ADA.3.1.1.2.11	metal	phbr	metal	rectangular	They are used for mounting in front panels with SC simplex holes
ST-FC	ADA.3.1.1.2.12	metal	phbr	metal	square	-
ST-E2000	ADA.3.1.1.2.13	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC simplex holes
FC-E2000	ADA.3.1.1.2.14	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC simplex holes
LC-MU	ADA.3.1.1.2.15	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC simplex holes

Multi-Mode Adapters MM - Duplex

type	index	housing	centring element	colour	fixing	properties
SC-SC	ADA.3.1.2.1.1	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC duplex holes
SC-SC	ADA.3.1.2.1.2	metal	phbr	metal	rectangular	They are used for mounting in front panels with SC duplex holes
ST-ST	ADA.3.1.2.1.3	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC duplex holes
ST-ST	ADA.3.1.2.1.4	metal	phbr	metal	rectangular	They are used for mounting in front panels with SC duplex holes
LC-LC	ADA.3.1.2.1.5	plastic	phbr	beige	square	They are used for mounting in front panels with RJ-45 holes
LC-LC	ADA.3.1.2.1.6	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC simplex holes
LC-LC	ADA.3.1.2.1.7	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC duplex holes
E2000-E2000	ADA.3.1.2.1.8	plastic	phbr	beige	rectangular	-
MTRJ-MTRJ	ADA.3.1.2.1.9	plastic	phbr	black	rectangular	They are used for mounting in front panels with SC simplex holes
MU-MU	ADA.3.1.2.1.10	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC simplex holes

Multi-Mode Adapters MM - Duplex Hybrid

type	index	housing	centring element	colour	fixing	properties
SC-ST	ADA.3.1.2.2.1	plastic	phbr	beige	rectangular	They are used for mounting in front panels with SC duplex holes
SC-ST	ADA.3.1.2.2.2	metal	phbr	metal	rectangular	They are used for mounting in front panels with SC duplex holes

Passive Elements

Optical Fibre Attenuators

Description

The Fibre-Optic Attenuator is a passive element of the fibre-optic trunk line, the role of which is to limit the optical power of the transmitted signal. This element is placed in front of the detector. The level of optical power after going through a fibre-optic attenuator is within the working range of the receiver.
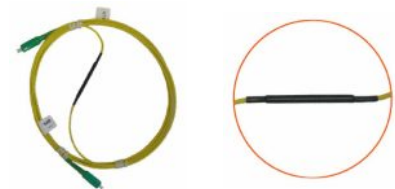
Fixed Attenuators

The Junction Fibre-Optic Attenuator is a passive element of the fibre-optic trunk line, the role of which is to limit the optical power of the transmitted signal. This element is placed in front of the detector. The level of optical power after going through a fibre-optic attenuator is within the working range of the receiver. The attenuating component for the signal is a fibre placed in the fibre optic connector (male-female type). The attenuation value of such a connector is strictly specified. The offer includes the following connector attenuators: SC, FC, ST, LC and MU.

The Adapter Fibre-Optic Attenuator is a passive element of the fibre-optic trunk line, the role of which is to limit the optical power of the transmitted signal. This element is placed in front of the detector. The level of optical power after going through a fibre-optic attenuator is within the working range of the receiver. The attenuating component for the signal is an optical fibre adapter. The attenuation value of such an adapter is strictly specified. They are available in three versions: SC, ST and FC.

The "In-line" Fibre-Optic Attenuator is a passive element of the fibre-optic trunk line, the role of which is to limit the optical power of the transmitted signal. This element is placed in front of the detector. The level of optical power after going through a fibre-optic attenuator is within the working range of the receiver. The attenuating component for the signal is a custom-made optical fibre weld. The attenuation value of such an attenuator is strictly specified. The ending of the fibre-optic cable may be terminated by any fibre-optic connectors, as per customer's order.

Adjustable Attenuators VOA

The VOA Attenuator in the Patchcord is an adjustable fibre optic attenuator built in the optical fibre. It comes with the following connectors: SC, ST, FC, LC, E2000, MU and hybrids of any length and any type of polishing: PC, SPC, UPC, APC. The attenuator is located in the middle of the patchcord.

Properties:

» high precision of finishing
» small size
» good stability
» strictly established attenuation

Application:

» telecommunication
» CATV
» data transmission network
» control and signalling systems
» computer networks
» measuring networks

Isolators

Opis

Fibre-Optical Isolator is a component of the fibre-optic trunk line, responsible for the attenuation of any reflections, dispersed signals which negatively affect the work of the optical transmitter, and may even lead to its damage. We distinguish polarisation-dependent optical isolators and polarisation-independent optical isolators.

Polarisers

Description

Fibre-Optic Polariser is an element, whose optic transmittance depends on the polarisation of the incident wave. For one type of polarisation, the transmittance is maximal and for the other type - it is minimal. They are used in transmission systems for the construction of polarisation compensators. This type of devices are used for regulating the status of optical signal polarisation. The structure of this type of optical devices is based on the structure of the optical fibre, which has undergone a partial removal of the fibre-optic coat, and then - in the empty space - a metallic base has been introduced. The length of such element is between ten and twenty centimetres.

Circulators Q-Fiber

Description

Optical Circulator is a passive element of the fibre-optic trunk line equipped, in most cases, in 3 or 4 ports. Transmission of signals between the individual ports is possible only in one direction. The 3-port version permits two-directional transmission in a single optical fibre at one wavelength. The circulator may be ended with any type of connector.

Application

Telecommunication, WDM systems, Optical amplifiers, FTTX, PON.

Properties

» Available housings: LGX, ODF 19", splice tray, housing ABS
» Pigtail length: 0.5 m - 2 m
» Legible port description
» Types of connectors: SC, ST, E2000, FC, LC, MU, other
» Polishing standards: PC, UPC, APC 8°

Information

» Each circulator is manufactured according to the strict demands of the customer
» All circulators are sealed with a guarantee label
» Circulators packed in a protective carton during transportation
» A 3-year warranty

How to order

CR	Number of ports:	Wavelength:	Packaging:	Pigtail lenght:	Cable diameter:	Connector:	Polishing standards:
	3=3	13=1310 nm	0=None	05=0.5 m	09=0.9 mm	0=None	0=None
	4=4	15=1550 nm	L=LGX	10=1 m	18=1.8 mm	S=SC	P=PC
			O=ODF 19"	20=2 m	20=2.0 mm	T=ST	U=UPC
			K=Splice Tray	00=Enclosure	28=2.8 mm	F=FC	A8=APC 8°
			A=ABS		X=Other	L=LC	
			X=Other			E=E2000	
						X=Other	

Passive Elements

V20 and V24 Q-Fiber

made in **Poland**

Description

Fibre Optic Fusion Splice Protection Sleeves Q-Fiber found their application in almost every area of the fibre-optic technology. They are used for securing connections in fiber optic splice closures, fiber optic distribution frames, stand switches and hanging switches. Excellent climatic and thermal properties make it ideal for use in closed as well as open spaces. The main goals during the design phase were: full protection of the fiber optic splices, a small size after recovery and a short assembly time. The initial shrinking of the outer tube was taken into account during the production process to reduce the gap between the tubes. This protects the internal tube and pin from falling out as well as facilitates entering the optical fiber into the hole. The final product is checked to meet the requirements set by the GR-1380-CORE standard of Telcordia Technologies Inc and the ZN-96TPSA-006 standard of Polish Telecom (TP). The sleeves we produce offer full protections of the fiber optic splices. They do not cause additional insert losses and offer protection against mechanical damage, pollution and weather conditions.
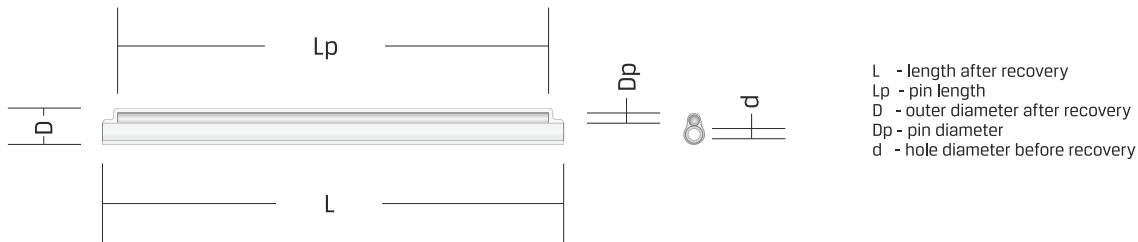
Application

Internet, Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Available colors

00 - clear

01 - black	07 - blue
02 - brown	08 - purple
03 - red	09 - grey
04 - orange	10 - **white**
05 - yellow	11 - pink
06 - green	12 - turquoise

Dimensions

L - length after recovery
Lp - pin length
D - outer diameter after recovery
Dp - pin diameter
d - hole diameter before recovery

Sleeves V20

Part No.	L	Lp	D	Dp	d	
V20-20-XX**	20	20	2	0.75	1.2	
V20-25-XX**	25	21	2	0.75	1.2	
V20-30-XX**	30	26	2	0.75	1.2	
V20-35-XX**	35	31	2	0.75	1.2	
V20-40-XX**	40	36	2	0.75	1.2	
V20-45-XX**	**45**	**41**	**2**	**0.75**	**1.2**	← most popular
V20-50-XX**	50	46	2	0.75	1.2	
V20-61-XX**	61	57	2	0.75	1.2	

Sleeves V24

Part No.	L	Lp	D	Dp	d	
V24-25-XX**	25	21	2.4	1	1.4	
V24-30-XX**	30	26	2.4	1	1.4	
V24-35-XX**	35	31	2.4	1	1.4	
V24-40-XX**	40	36	2.4	1	1.4	
V24-45-XX**	**45**	**41**	**2.4**	**1**	**1.4**	← most popular
V24-50-XX**	50	46	2.4	1	1.4	
V24-61-XX**	**61**	**57**	**2.4**	**1**	**1.4**	← most popular
V24-100-XX**	100	96	2.4	1	1.4	

* Other sizes made to order. All dimensions in mm.
** XX - Color

Properties Sleeves V20

» Outer diameter after recovery: ø 2 mm +/- 0.2 mm
» Hole diameter before recovery: ø 1.2 mm
» Pin diameter: ø 0.75 mm
» Minimum installation temperature: 110 °C
» Max. installation time: 60 seconds
» Standard color: Clear
» Compliant norms: UL224, MIL-I-23053, GR-1380-CORE
» The product conforms with the requirements of the RoHS Directive
» Packing: Ziploc bags 100 pieces

Properties Sleeves V24

» Outer diameter after recovery: ø 2.4 mm +/- 0.2 mm
» Hole diameter before recovery: ø 1.4 mm
» Pin diameter: ø 1 mm
» Minimum installation temperature: 110 °C
» Max. installation time: 60 seconds
» Standard color: Clear
» Compliant norms: UL224, MIL-I-23053, GR-1380-CORE
» The product conforms with the requirements of the RoHS Directive
» Packing: Ziploc bags 100 pieces

Easy Crimp ANT Q-Fiber

made in **Poland**

Description

Easy Crimp ANT Q-Fiber is a mechanical system for securing fibre-optic splices. It is an aluminium clamp, covered with glue for easier placement of the fibre-optic splice inside the clamp. The clamp is bent by means of a special clamping device. Proper clamping ensures that Easy Crimp Q-Fiber introduces no additional attenuation and offers better protection for the fibre-optic splice. It is an alternative that does not require the use of heat in comparison to the commonly used heat shrink casings of fibre-optic splices.

Application

Internet,Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Made of aluminium plate
» Glue: modified PIB
» Maximum fibre diameter 250 µm
» Maximum length of fibre trimming 25 mm
» Dimensions after clamping [W x H x L]: 1.0x3.0x31 mm
» Installation temperature from -5°C to 45°C
» Operating temperature from -20°C to 70°C

Photos and dimensions

3.0 mm

31 mm

60°

3.0 mm

1.0 mm
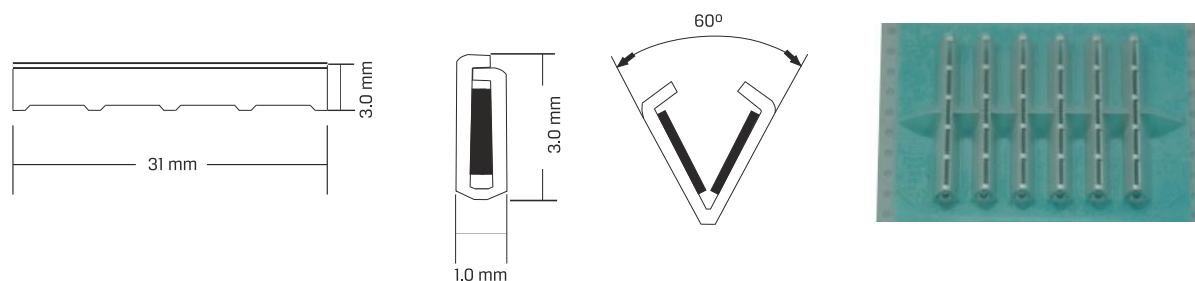
How to order

EC-30   Easy Crimp ANT 30 mm

Information

» Heating of the splice not required
» Battery life maximiser in the splicing machine
» Quick installation in less than 30 seconds
» Good fibre protection

Passive Elements

Wave Division Multiplexing Systems

Splitters PLC Q-Fiber
Splitters Q-Fiber
CWDM Q-Fiber
DWDM Q-Fiber

Q-Fiber Splitter PLC

made in Poland

Description

Q-Fiber Splitter PLC is a passive device that splits the optical power carried by an input (inputs) fiber into output fibers. It is ideal for sharing signal transmitters or bringing signal to multiple points. It is characterized by a configurable power-sharing in the production process. This means that the splitter can be configured in accordance with the customer's requirements. The splitter can be terminated in any different type of connector.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Packaging: LGX, ODF 19'', ABS
» Various lengths of pigtails: 0.5 - 2 m
» Description of outputs / inputs
» Types of connectors: SC, ST, E2000, FC, LC, MU, other
» Polishing standards: PC, UPC, APC 8°
» Band: 1260 nm - 1650 nm
» A 3-year warranty

Parameters

	1x2	1x4	1x8	1x16	1x32	1x64	2x2	2x4	2x8	2x16	2x32
Operation Wavelenght Range (nm)	1260 - 1650										
Core Type	SMF-28e										
Insertion Loss Max. (dB)	4.0	7.3	10.5	13.7	16.9	21.0	4.2	7.6	11.0	14.5	17.5
Loss Uniformity Max. (dB)	0.4	0.6	0.8	1.2	1.5	2.5	0.8	1.5	1.5	2.0	2.5
Return Loss (dB)	≥50	≥50	≥50	≥50	≥50	≥50	≥50	≥50	≥50	≥50	≥50
PDL Max. (dB)	0.2	0.2	0.3	0.3	0.3	0.4	0.2	0.2	0.3	0.4	0.4
Directivity (dB)	≥55	≥55	≥55	≥55	≥55	≥55	≥55	≥55	≥55	≥55	≥55
Wavelength Dependent Loss (dB)	0.3	0.3	0.3	0.5	0.5	0.5	0.3	0.5	0.5	0.5	0.5
UniformityMax. (dB)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Operating Temperature (°C)	-40 to 80										
Storage Temperature (°C)	-40 to 80										
Packaging Dimension (mm) (LxWxH)	40x4x4	40x4x4	40x4x4	50x4x4	50x7x4	60x12x4	40x4x4	50x4x4	50x4x4	50x7x4	60x7x4
Module Dimension (mm) (LxWxH)	100x80x10	100x80x10	100x80x10	120x80x18	140x115x18	140x115x18	100x80x10	100x80x10	120x80x18	140x115x18	140x115x18
Mini-Module Dimension (mm) (LxWxH)	60x7x4	60x7x4	60x7x4	60x12x4	80x20x6	N/A	60x7x4	60x7x4	60x7x4	60x12x4	80x20x6

How to order

SPL.PLC	☐	☐	☐	☐	☐	☐	☐

Number of input ports:
1=1
2=2

Number of output ports:
02=2
04=4
08=8
:
64=64

Packaging:
P=PLC
M=Moduł
MM=MiniModuł
L=LGX
O=ODF 19''
A=ABS
X=Other

Pigtail length:
05=0.5 m
10=1 m
20=2 m
00=Enclosure

Cable diameter:
09=0.9 mm
18=1.8 mm
20=2.0 mm
28=2.8 mm
X=Other

Connector:
0=None
S=SC
T=ST
F=FC
L=LC
E=E2000
X=Other

Polishing standards:
0=None
P=PC
U=UPC
A8=APC 8°

Information

» Each product is custom-made
» Each product is accompanied by a measurement protocol
» All modules are sealed with a label guarantee

Wave Division Multiplexing Systems

Q-Fiber Splitter

made in Poland

Description

Q-Fiber Splitter is a passive device that splits the optical power carried by an input (inputs) fiber into output fibers. It is ideal for sharing signal transmitters or bringing signal to multiple points. It is characterized by a configurable power-sharingin the production process. This means that the splitter can be configured in accordance with the customer's requirements. The splitter can be terminated in any different type of connector.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Packaging: LGX, ODF 19", splice tray, ABS
» Various lengths of pigtails: 0.5 - 2 m
» Description of outputs / inputs
» Types of connectors: SC, ST, E2000, FC, LC, MU, other
» Polishing standards: PC, UPC, APC 8°
» Holders in LGX making it possible to mount the module in the Chassis 19"
» A 3-year warranty

Photos and dimensions

a) LGX SINGLE

b) LGX DOUBLE
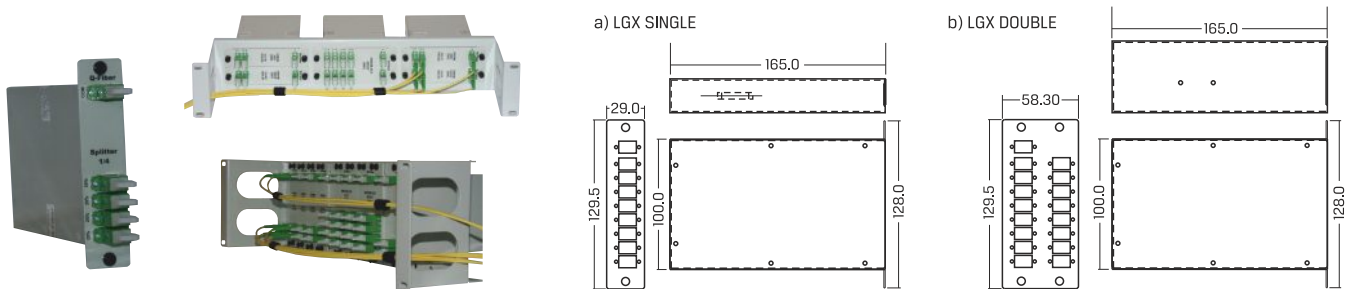
How to order

SPLIT	Number of input ports:	Number of output ports:	Packaging:	Pigtail length:	Connector:	Polishing standards:
	01=1	02=2	L=LGX	05=0.5 m	O=None	O=None
	02=2	03=3	O=ODF 19"	10=1 m	S=SC	P=PC
	04=4	04=4	K=Splice Tray	20=2 m	T=ST	U=UPC
	08=8	:	A=ABS	00=Enclosure	F=FC	A8=APC 8°
	16=16	08=8	X=Other		L=LC	
		:			E=E2000	
					X=Other	

Standard equipment

» A 3-year warranty
» Measurements at different wavelengths
» Description of outputs / inputs

Information

» Each product is custom-made
» All modules are sealed with a label guarantee
» Modules are packed in a protective cardboard box

Q-Fiber CWDM

made in **Poland**

Description

Q-Fiber CWDM is a wavelength division multiplexing technology which allows transmission of up to 18 optical channels through a single fiber. The channel spacing is 20 nm. The ability to transfer information in one fiber makes it possible to build low-cost metropolitan and wide area networks. CWDM technology enables the transmission of up to 10 Gb/s per channel, as well as any configuration in the following modes: ADD & DROP, MUX and DMUX.

Application

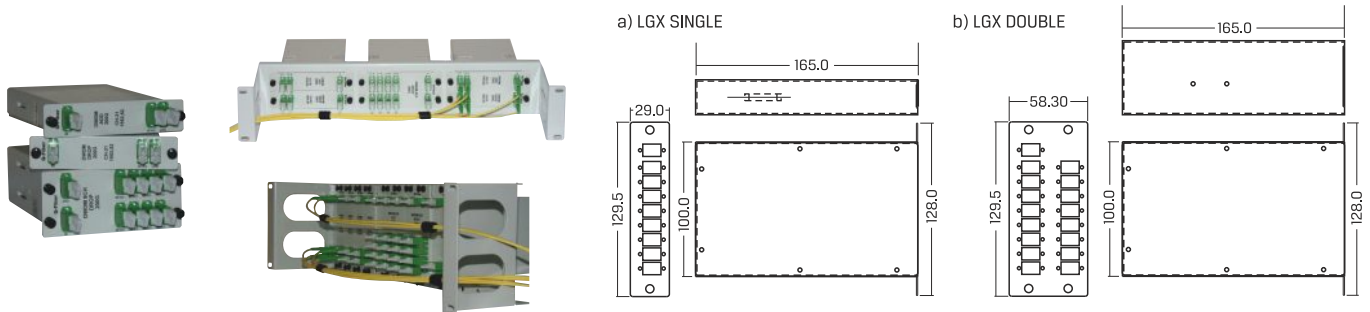Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Packaging: LGX, ODF 19", splice tray, ABS
» Description of the wavelength on the front panel
» Any configuration of fiber optic connectors
» Wavelength range from 1270 nm to 1610 nm

Information

» Each product is custom-made
» All modules are sealed with a label guarantee
» Modules are packed in a protective cardboard box

Photos and dimensions

a) LGX SINGLE

165.0

29.0

129.5

100.0

128.0

b) LGX DOUBLE

165.0

58.30

129.5

100.0

128.0

How to order

| CWDM | | | | | | |

Type:	Channel:	Packaging:	Starting wavelength:	Connector:	Polishing standards:
M=Mux	1=1Ch	L=LGX	270=1270 nm	O=None	O=None
D=Dmux	2=2Ch	O=ODF 19"	:	S=SC	P=PC
MD=Mux/	3=3Ch	K=Splice Tray	330=1330 nm	T=ST	U=UPC
Dmux	4=4Ch	A=ABS	:	F=FC	A8=APC 8°
	5=5Ch	X=Other	610=1610 nm	L=LC	
	:			E=E2000	
	8=8Ch			X=Other	
	:				

Standard equipment

» A 3-year warranty
» Measurements at different wavelengths
» Description of outputs / inputs

Wave Division Multiplexing Systems

Q-Fiber DWDM

made in Poland

Description

Q-Fiber DWDM is a wavelength division multiplexing technology which allows transmission of up to 160 optical channels through a single fiber. The channel spacing is 1.6 nm for DWDM 200 GHz, 0.8 nm for DWDM 100 GHz and 0.4 nm for DWDM 50 GHz. The ability to transfer information in one fiber makes it possible to build low-cost metropolitan and wide area networks. DWDM technology enables the transmission of up to 100 Gb/s per channel,   as well as any configuration in the following modes: ADD & DROP, MUX and DMUX.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Packaging: LGX, ODF 19", splice tray, ABS
» Description of the wavelength on the front panel
» Any configuration of fiber optic connectors
» Wavelength range from 1528.77 nm to 1610.49 nm
   (C-band & L-band)

Information

» Each product is custom-made
» All modules are sealed with a label guarantee
» Modules are packed in a protective cardboard box

Photos and dimensions

a) LGX SINGLE

165.0

29.0
129.5
100.0
128.0

b) LGX DOUBLE

165.0

58.30
129.5
100.0
128.0

How to order

DWDM							

Type:	Channel:	Frequency:	Packaging:	Starting wavelength (ITU):	Connector:	Polishing standards:
M=Mux	1=1Ch	5=50 GHz	L=LGX	60=1529.55 nm	O=None	O=None
D=Dmux	2=2Ch	1=100 GHz	O=ODF 19"	:	S=SC	P=PC
MD=Mux/	3=3Ch	2=200 GHz	K=Splice Tray	21=1560.61 nm	T=ST	U=UPC
Dmux	4=4Ch		A=ABS		F=FC	A8=APC 8°
A=ADD	5=5Ch		X=Other		L=LC	
DR=DROP	:				E=E2000	
AD=ADD/	8=8Ch				X=Other	
DROP	:					

Standard equipment

» A 3-year warranty
» Measurements at different wavelengths
» Description of outputs / inputs

Fiber Optic Splicing Closures

FOSC DJS-75II Closure
FOSC DJS-717 Closure
FOSC DJS-74II Closure
FOSC DJS-714III Closure
FOSC DJS-61-102 Closure
FOSC DJS-24 Closure FTTH
FOSC DJS-25 Closure FTTH

FOSC DJS-75II

Description

The Vertical Hermetic Fiber Optic Splicing Closure is a complete set of accessories used for connecting permanently two (or more) fiber optic cables. A closure is installed in a vertical position. Air-tight closure is fulfilled by a rubber sealing washer, which protects the fibre-optic fusion splices against the influence of adverse working conditions. It is an ideal solution for works in the telecommunication manholes and data communication containers. It is possible to install the closure on a wall or on a pole. The packing of the introduced cables is made by means of heat shrink pipes (shrinks).

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» High quality ABS material
» Airtight closure
» Cable port: 3 x ø 12 mm + 1 x ø 13 mm (oval)
» Core capacity: 48
» Organizer tube
» Metal handles of the central element
» Size (H x W): 288 x ø 178 [mm]

Photos and dimensions

288
ø 178

How to order

FOSC DJS-75II   DJS-75II Vertical Hermetic Fiber Optic Splicing Closure
FOST D37   DIN12 Splice Tray (12 cores)

Information

» FOSC holds up to four FOST D37 DIN12 cassettes
» FOSC has an additional handle cable
» FOSC is packed in a cardboard box

Standard equipment

» FOST D37 DIN12 (1 pc)
» Key to the M8 bolt (1 pc)
» Self-adhesive aluminium foil (1 sheet 190x160 mm)
» Earthing wire ø1.5 mm (0.3 m)
» Labeling paper (1 set)
» Heat shrinkable fixing sleeve (3 round + 1 oval)
» Clip for an oval shrink (1 pc)
» Nylon tie (8 pcs)
» Clamping ring for poles (1 pc)
» Organizer tube (1 pc)

DLL Partners

FOSC DJS-717

Description

The VerticalHermetic Fiber OpticSplicingClosureis a complete set of accessoriesused for connectinpermanentlytwo (ormore) fiberoptic cables. A closureisinstalled in a verticalposition. Air-tightclosureisfulfilled by a rubbersealingwasher, whichprotects the fibre-opticfusionsplicesagainst the influence of adverseworkingconditions. It is an idealsolution for works in the telecommunicationmanholes and data communicationcontainers. It ispossible to install the closure on a wallor on a pole. The packing of the introduced cables ismade by means of heatshrinkpipes (shrinks).

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» High quality ABS material,
» Airtightclosure,
» Cable port: 1 x ø 16 mm + 13 x 12 mm (oval),
» Corecapacity: 48,
» Organizertube,
» Metal handles of the central element,
» Cable holders,
» Size (H x W): 440 x ø 195 [mm].

Photos and dimensions

26mm
440mm
Ø195mm
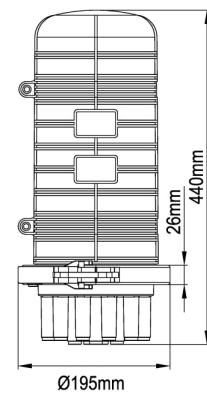
How to order

FOSC DJS-717   DJS-717VerticalHermetic Fiber OpticSplicingClosure
FOST D32   DIN24SpliceTray (24cores)

Information

» FOSC holdsup to six FOST D32 DIN24cassettes,
» FOSC has an additional handle cable,
» FOSC ispacked in a cardboardbox..

Standard equipment

» FOST D32 DIN24 (1 pc),
» Key to the M8 bolt (1 pc),
» Self-adhesive aluminium foil (1 sheet 190x160mm),
» Earthingwire ø1.5 mm (0.3 m),
» Labelingpaper (1 set),
» Heatshrinkablefixingsleeve (3round + 1 oval),
» Clip for aacnovalshrink (1 pc),
» Nylon tie (8 pcs),
» Clamping ring for poles (1 pc),
» Organizertube (1 pc).

FOSC DJS-74II

Description

The Vertical Hermetic Fiber Optic Splicing Closure is a complete set of accessories used for connectin permanently two (or more) fiber optic cables. A closure is installed in a vertical position. Air-tight closure is fulfilled by a rubber sealing washer, which protects the fibre-optic fusion splices against the influence of adverse working conditions. It is an ideal solution for works in the telecommunication manholes and data communication containers. It is possible to install the closure on a wall or on a pole. The packing of the introduced cables is made by means of heat shrink pipes (shrinks).

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» High quality ABS material
» Airtight closure
» Cable port: 4 x ø 24 mm + 1 x ø 42 mm (oval)
» Core capacity: 288
» Organizer tube
» Metal handles of the central element
» Cable holders
   Size (H x W): 500 x ø 228 [mm]

Photos and dimensions

495

220
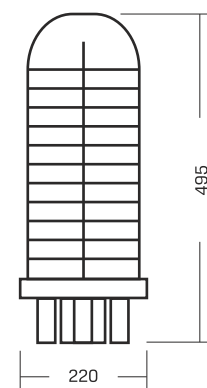
How to order

FOSC DJS-74II   DJS-74II Vertical Hermetic Fiber Optic Splicing Closure
FOST D27   DIN148 Splice Tray (48 cores)

Information

» FOSC holds up to six FOST D27 DIN48 cassettes
» FOSC has an additional handle cable
» FOSC is packed in a cardboard box

Standard equipment

» FOST D27 DIN48 (1 pc)
» Key to the M8 bolt (1 pc)
» Self-adhesive aluminium foil (1 sheet 260x220 mm)
» Earthing wire ø1.5 mm (0.3 m)
» Labeling paper (1 set)
» Heat shrinkable fixing sleeve (4 round + 1 oval)
» Clip for an oval shrink (1 pc)
» Nylon tie (8 pcs)
» Clamping ring for poles (1 pc)
» Organizer tube (1 pc)

FOSC DJS-714III

Description

The Vertical Hermetic Fiber Optic Splicing Closure is a complete set of accessories used for connectin permanently two (or more) fiber optic cables. A closure is installed in a vertical position. Air-tight closure is fulfilled by a rubber sealing washer, which protects the fibre-optic fusion splices against the influence of adverse working conditions. It is an ideal solution for works in the telecommunication manholes and data communication containers. It is possible to install the closure on a wall or on a pole. The packing of the introduced cables is made by means of heat shrink pipes (shrinks).

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» High quality ABS material
» Airtight closure
» Cable port: 6 x ø 25 mm + 1 x ø 41 mm (oval)
» Core capacity: 504
» Organizer tube
» Metal handles of the central element
» Cable holders
» Size (H x W): 510 x ø 250 [mm]

Photos and dimensions

How to order

FOSC DJS-714III   DJS-714III Vertical Hermetic Fiber Optic Splicing Closure
FOST D29   DIN172 Splice Tray (72 cores)

Information

» FOSC holds up to seven FOST D29 DIN72 cassettes
» FOSC has an additional handle cable
» FOSC is packed in a cardboard box

Standard equipment

» FOST D29 DIN72 (1 pc)
» Key to the M8 bolt (1 pc)
» Self-adhesive aluminium foil (1 sheet 190x170 mm)
» Earthing wire ø1.5 mm (0.3 m)
» Labeling paper (1 set)
» Heat shrinkable fixing sleeve (6 round + 1 oval)
» Clip for an oval shrink (1 pc)
» Nylon tie (8 pcs)
» Clamping ring for poles (1 pc)
» Organizer tube (1 pc)

FOSC DJS-61-102

Description

The Horizontal Hermetic Fiber Optic Splicing Closure is a complete set of accessories used for connectin permanently two (or more) fiber optic cables. A closure is installed in a horizontal position. Air-tight closure is fulfilled by a rubber sealing washer, which protects the fibre-optic fusion splices against the influence of adverse working conditions. It may be placed in the air, underground or on walls. It is a perfect solution for works in telecommunication manholes, data communication containers and in the ground.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» High quality ABS material
» Airtight closure
» Cable port: 2 x ø 16 mm + 4 x ø 13 mm
» Core capacity: 96
» Metal handles of the central element
» Cable holders
» Size (H x W x D): 90 x 185 x 400 [mm]

Photos and dimensions
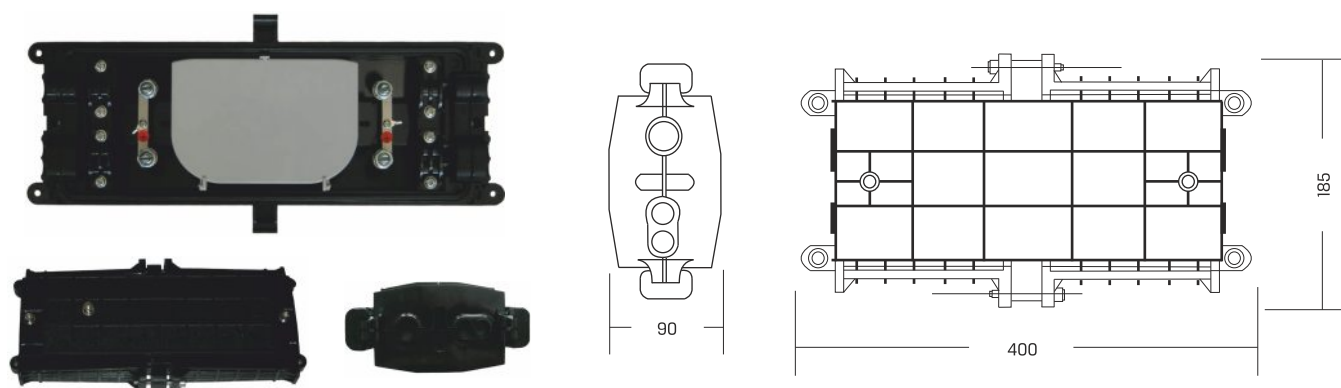
How to order

FOSC DJS-61-102   DJS-61-102 Horizontal Hermetic Fiber Optic Splicing Closure
FOST D102   DIN24 Splice Tray (24 cores)

Information

» FOSC holds up to four FOST D102 DIN24 cassettes
» FOSC has an additional handle cable
» FOSC is packed in a cardboard box

Standard equipment

» FOST D102 DIN24 (1 pc)
» Special wrench (2 pc)
» Earthing wire ø1.5 mm (0.3 m)
» Labeling paper (1 set)
» Nylon tie (6 pcs)
» Abrasive cloth (1 pc)
» Self-vulcanizing tape (1 pc)
» Protective tube (1 m)
» Desiccant (1 pc)
» Additional mounting hook (2 pcs)

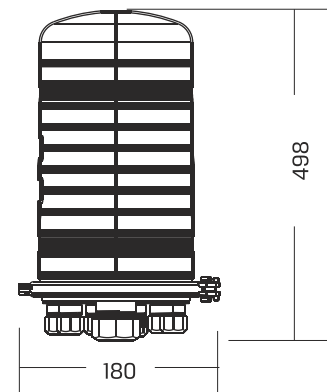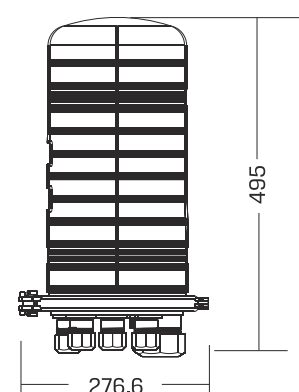Fiber Optic Splicing Closures

FOSC DJS-24

Description

The Vertical Hermetic Fiber Optic Splicing Closure is a complete set of accesorries used for connecting permanently two (or more) micro cables or fiber optic cables. After being heated, a heat shrinkable fixing sleeve is used to fix and seal the inlet/outlet tube and fiber cable. A closure is installed in a vertical position. Its strong housing and the main components make the closure fire resistant, waterproof and quakeproof, and protect the fibre-optic fusion splices against pulling, torsion and impact. It can be deployed in aerial, underground, wall-mounting, hand hole-mounting and duct-mounting applications. FOSC DJS-24III equipment with FOST D24III splice trays allows to install 9 splitters in ABS housings.

Properties

» High quality ABS material
» Airtight closure
» Cable port: 10 x ø20 mm + 1 x ø40 mm
» Core capacity: 264
» Metal handles of the central element
» Size (H x D): 498 x ø302 mm

Photos and dimensions

How to order

FOSC DJS-24I	DJS-24I Vertical Hermetic Fiber Optic Splicing Tray
FOSC DJS-24II	DJS-24II Vertical Hermetic Fiber Optic Splicing Tray
FOSC DJS-24III	DJS-24III Vertical Hermetic Fiber Optic Splicing Tray
FOST D24I	DIN24 Splice Tray (24 cores)
FOST D24II	Cassettes with possibility adapters mounting (max 10 SC simplex adapters)
FOST D24III	Cassettes with possibility splitters mounting (max 3 splitters)

Information

» DJS-24I holds up to 11 FOST D24I cassettes
» DJS-24II holds up to 7 FOST D24I and 1 FOST D24II cassettes
» DJS-24III holds up to 2 FOST D24I, 1 FOST D24II and up to 3 FOST D24III cassettes
» FOSC is packed in cardboard box

Standard equipment

» Seal type (1 roll)
» Insulation type (1 roll)
» Abrasive cloth (1 pc)
» Earthing wire (2 sets)
» Nylon tie (1 bag)
» Labeling paper (1 pc)
» Measuring paper (1 pc)
» Desiccant (1 bag)
» Special wrench (2 pcs)
» Hose clamp I (12 pcs)
» Hose clamp II (2 pcs)
» Elastic ring (11 sets)

FOSC DJS-25

Description

The Vertical Hermetic Fiber Optic Splicing Closure is a complete set of accesorries used for connecting permanently two (or more) micro cables or fiber optic cables. After being heated, a heat shrinkable fixing sleeve is used to fix and seal the inlet/outlet tube and fiber cable. A closure is installed in a vertical position. Its strong housing and the main components make the closure fire resistant, waterproof and quakeproof, and protect the fibre-optic fusion splices against pulling, torsion and impact. It can be deployed in aerial, underground, wall-mounting, hand hole-mounting and duct-mounting applications. FOSC DJS-25III equipment with FOST D24III splice trays allows to install 6 splitters in ABS housings.

Properties

- » High quality ABS material
- » Airtight closure
- » Cable port: 10 x ø20 mm + 1 x ø40 mm
- » Core capacity: 168
- » Metal handles of the central element
- » Size (H x D): 495 x ø276.6 mm

Photos and dimensions

495

276.6

How to order

FOSC DJS-25I	DJS-25I Vertical Hermetic Fiber Optic Splicing Tray
FOSC DJS-25II	DJS-25II Vertical Hermetic Fiber Optic Splicing Tray
FOSC DJS-25III	DJS-25III Vertical Hermetic Fiber Optic Splicing Tray
FOST D24I	DIN24 Splice Tray (24 cores)
FOST D24II	Cassettes with possibility adapters mounting (max 10 SC simplex adapters)
FOST D24III	Cassettes with possibility splitters mounting (max 3 splitters)

Information

- » DJS-25I holds up to 7 FOST D24I cassettes
- » DJS-25II holds up to 6 FOST D24I and 1 FOST D24II cassettes
- » DJS-25III holds up to 2 FOST D24I, 1 FOST D24II and up to 2 FOST D24III cassettes
- » FOSC is packed in cardboard box

Standard equipment

- » Seal type (1 roll)
- » Insulation type (1 roll)
- » Abrasive cloth (1 pc)
- » Earthing wire (2 sets)
- » Nylon tie (1 bag)
- » Labeling paper (1 pc)
- » Measuring paper (1 pc)
- » Desiccant (1 bag)
- » Special wrench (2 pcs)
- » Hose clamp I (12 pcs)
- » Hose clamp II (2 pcs)
- » Elastic ring (11 sets)

Linear Fixtures

Cable Tube Divider Q-Fiber

made in Poland

Description

Cable Tube Divider Q-Fiber is a solution for fan-out managing of fibre optic cables and cable protection tubes, tubes run from the splitter R-x to the Tube Overlength Drawer or FO Distribution Frames in the signal distribution points, as well in server rooms. The clever design allows easy and time-saving method of installation and cable installation.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN.

Properties

» Made of 1.0, 1.5 mm steel sheet,
» Embossing to attach cables inside the box,
» Boltless mounting of cover,
» Standard color RAL7035 (light grey) glossy, RAL 9005 (black) glossy, other colors on request,
» Dimensions R-T i R-P : 147 x 45 x 34,8 [mm] height x width x depth,
» Dimensions R-P6 : 147 x 45 x 49,0 [mm] height x width x depth.

Photos and dimensions

R-T

R-Px

45,0

34,8/49,0

147,0
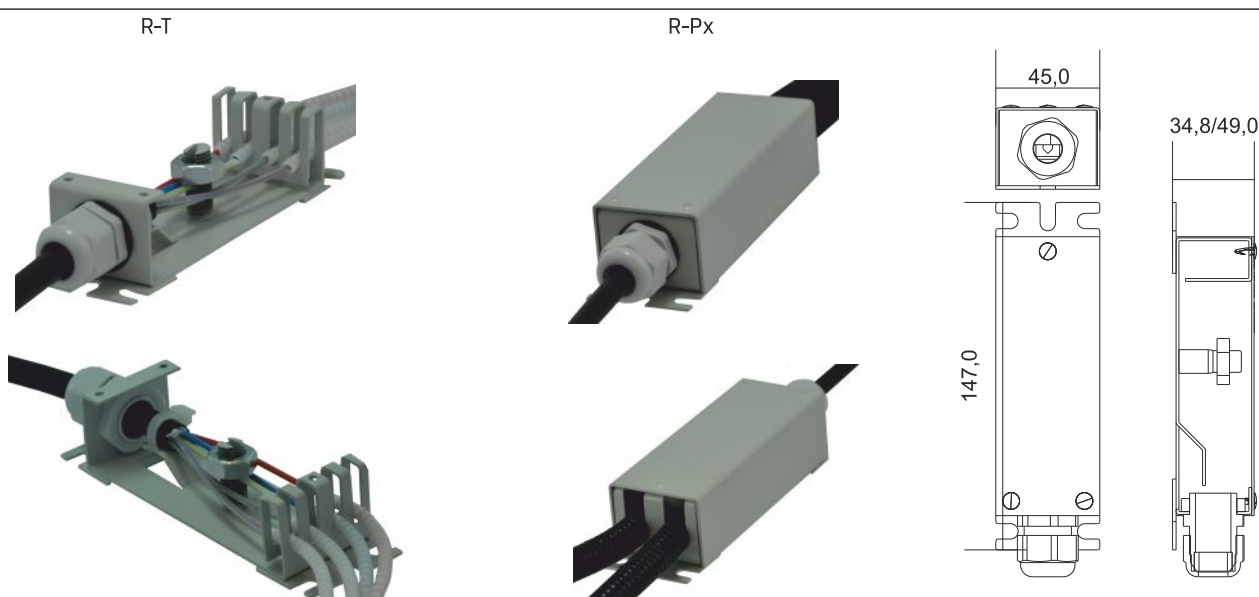
How to order

R-T - Cable Tube Divider allows to leading fibers max.in 12 protective tubes OFBLT,
R-P4 - Cable Tube Divider allows leading loose tubes, max. in 4 corrugated pipes (into one pipe can be enter up to 8 loose tubes)
R-P6 - Cable Tube Divider allows leading loose tubes, max. in 6 corrugated pipes (into one pipe can be enter up to 8 loose tubes)

Informations

» Dividers have one cable entry,
» Allows leading fibres from one cable to several FO distribution frames.

Standard equipment

» Divider cover (1 unit),
» Plugs mounting the divider cover (3 units),
» Cable gland M20x15 (cable ø6 ÷13mm) (1 unit), divider R-T and R-P, M24x1.5 (ø13 ÷18mm) (1unit), divider R-P6,
» Nylon cable tie 190x4,8mm (2 units),
» Mounting screw M6,
» Nut M10 (1 unit).

Additional equipment

» Corrugated, self-extinguishing, halogen free pipes 14 mm,
» Transport tubes OFBLT 5 mm,
» Nylon cable tie 80 x 2.5 mm.

Linear Fixtures

Line Cables Dividing Plate Q-Fiber

Description

Theline cables dividing plate is a construction that makes possible to install and assemble the line cables in easy and time-saving way. Plate makes possible to assemble in cabinet or support frame eight cable tube dividers RT-x type or thanks to existing holes line cable installation and separating it, without using cable divider, at loose tube bundle groups.
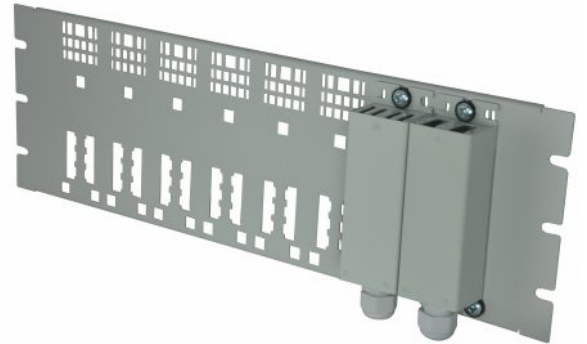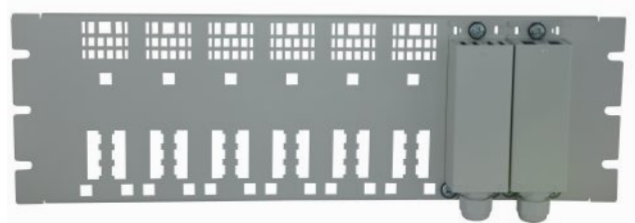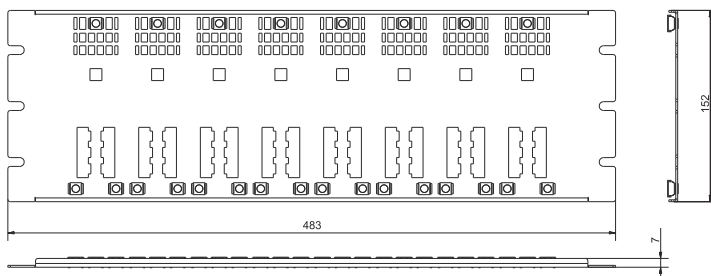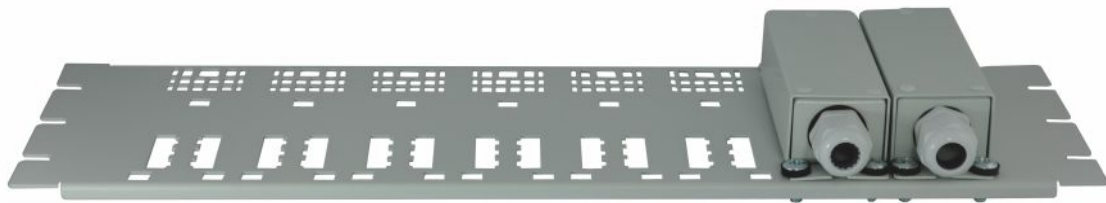
Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN

Properties

» Made of steel sheet 1,5mm,
» Powder painting in standard RAL 7035 (grey) matt and RAL 9005 (black) matt, others colours to order,
» Dimensions 152x483x7 [mm] [HxWxD],

Photos and Dimensions

How to order

PRKL-R - line cables dividing plate for dividers RT-x type.

PRKL-K - line cables dividing plate for cable installation without using cable divider.

Information

» Plate PRKL-R makes possible to assemble eight cable tube dividers RT-x type.

» Plate PRKL-K makes possible to assemble eight line cables and endurance element in a cabinet.

Standard equipment

» Cable dividing plate (1 unit)
» Mounting screws M6 (4 units).

Additional equipment

» Corrugated, self-extinguishing, halogen free pipes
» Transport tubes 0FBLT diam. 5mm
» Nylon cable tie 75x2,5mm, 80x2,5mm
» Mounting screws M6

Support Frame for Cable Overlength Q-Fiber

Description

The Support Frame for Cable Ovetlength Q-Fiber is designed for placement in the telecommunication manholes or cable cellars. It is used for arranging and winding the cable overlength, it guarantees correct bend radius of the wound cable. It protects the cable against mechanical damage. The support frame holds 220 m of cable with 10 mm in diameter.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

SZK1-O:
» Dimensions: 500 x 500 x 95 mm, 600 x 600 x 95 mm, 700 x 700 x 95 mm, 500 x 500 x 135 mm, 600 x 600 x 135 mm, 700 x 700 x 135 mm
» Capacity: 150 m of cable with 10 mm in diameter
» Support frame made of galvanised steel

SZK2-O:
» Dimensions: 395 x 395 x 95 mm
» Capacity: 50 m of cable with 10 mm in diameter
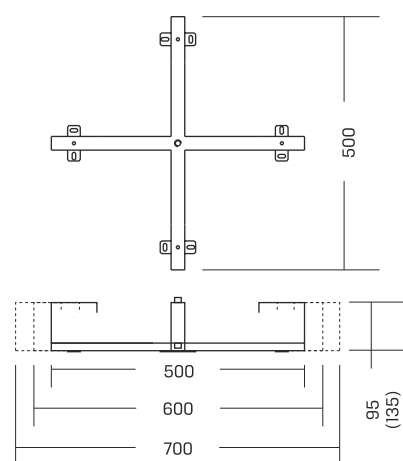» Support frame made of galvanised steel

SZK3-O:
» Dimensions: 700 x 700 x 95 mm, 800 x 800 x 95 mm, 900 x 900 x 95 mm, 700 x 700 x 95 mm, 800 x 800 x 95 mm, 900 x 900 x 95 mm,
» Capacity: 220 m of cable with 10 mm in diameter
» Support frame made of galvanised steel
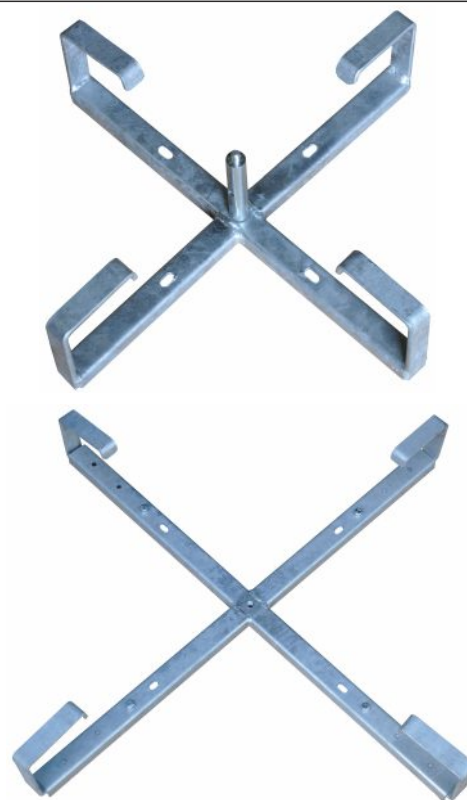
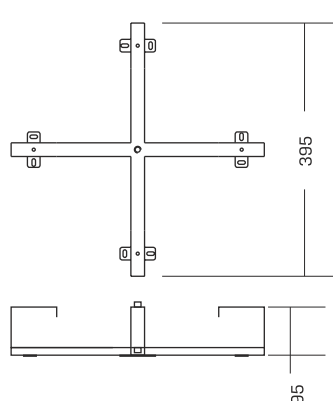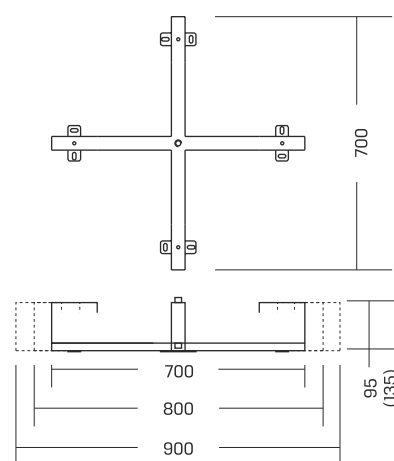## Dimensions

SZK1-O

SZK2-O

SZK3-O

How to order

SZK1-O-95   Cable overlength support frame 500-700 mm height 95 mm
SZK1-O-135   Cable overlength support frame 500-700 mm height 135 mm
SZK2-O-95   Cable overlength support frame 395 mm height 95 mm
SZK3-O-95   Cable overlength support frame 700-900 mm height 95 mm
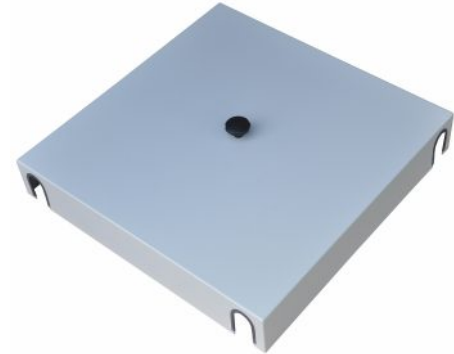SZK3-O-135   Cable overlength support frame 700-900 mm height 135 mm

Information

» The support frame holds 220 m of cable with 10 mm in diameter
» Holders for wall mounting
» Support frame made of galvanised steel

Cable Overlength Box SZK1 Q-Fiber

made in Poland

Description

The Cable Overlength Box Q-Fiber is designed for placement in the telecommunication manholes or cable cellars. It is used for arranging and winding the cable overlength, it guarantees correct bend radius of the wound cable. It protects the cable against mechanical damage. The cable overlength box holds 120 m of cable with 10 mm in diameter. The box consists of the support frame and the cover. It is possible to order the support frame or the cover alone.
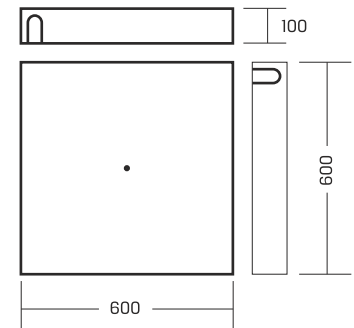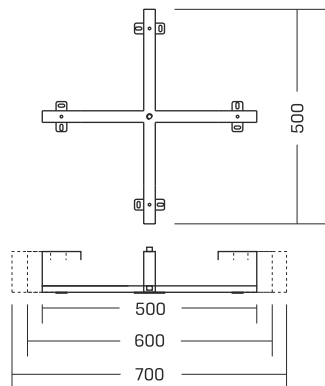
Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Dimensions: 600 x 600 x 100 mm,
» Capacity: 120 m of cable with 10 mm in diameter
» Support frame made of galvanised steel
» Corrosion-protected external housing
» Equipped with a knob holding the cover to the frame
» Possibility to order fixing knob with key

Photos and dimensions
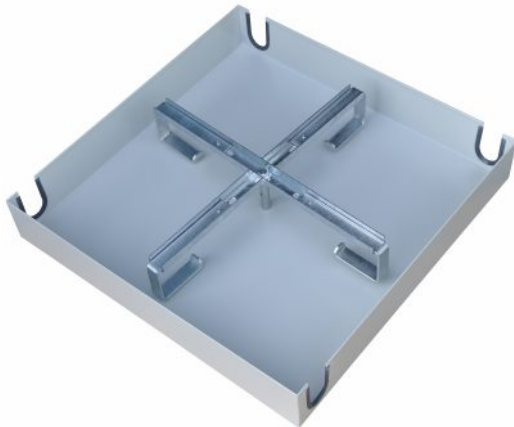
How to order

SZK1   Cable Overlenght Box (set)
SZK1-0-95   Cable Overlenght Support Frame 500-700 mm (galvanised steel)
PSZK1   Cover for the SupportFrame for Cable Overlenght

Information

» Box holds 120 m of cable with 10 mm in diameter
» Box has a holders for wall mounting
» Cable overlenght box is packed in a cardboard box

Standard equipment

» Cable overlength support frame 500-700 mm (galvanised steel)
» Cover for the support frame 600x600x100 mm
» Pin
» Fixing knob

Cable Overlength Box SZK2 Q-Fiber

made in **Poland**

Description

The Cable Overlength Box Q-Fiber is designed for placement in the telecommunication manholes or cable cellars. It is used for arranging and winding the cable slack, it guarantees correct bend radius of the wound cable. It protects the cable against mechanical damage. The cable slack cabinet holds 50 m of cable with 10 mm in diameter. The box consists of the support frame and the cover. It is possible to order the support frame or the cover alone.
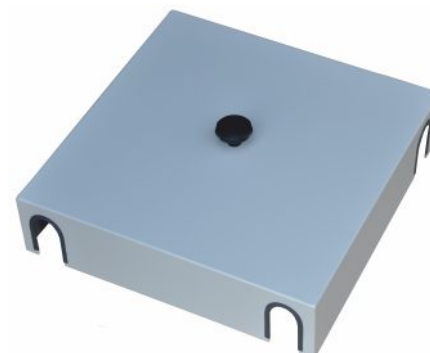
Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx, PON.

Properties

» Dimensions: 410 x 410 x 100 mm,
» Capacity: 50 m of cable with 10 mm in diameter
» Support frame made of galvanised steel
» Corrosion-protected external housing
» Equipped with a knob holding the cover to the frame
» Possibility to order fixing knob with key

Photos and dimensions
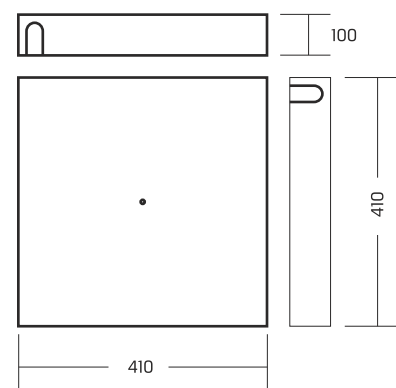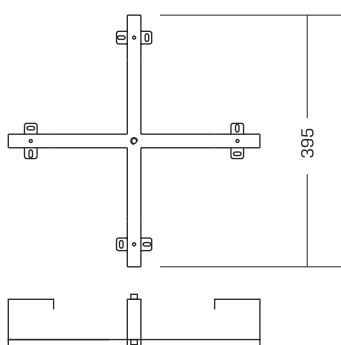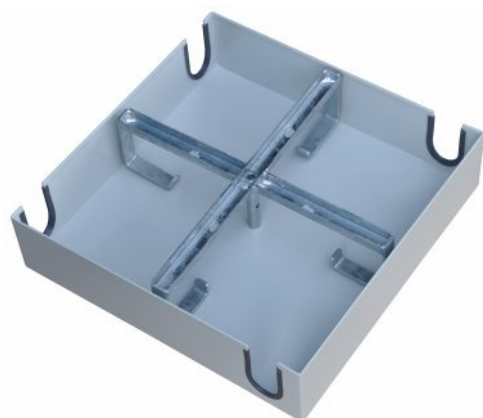
How to order

SZK2	Cable Overlenght Box (set)
SZK2-0-95	Cable Overlenght Support Frame 395 mm (galvanised steel)
PSZK2	Cover for the Support Frame of the Cable Overlenght

Information

» Box holds 50 m of cable with 10 mm in diameter
» Box has a holders for wall mounting
» Cable overlenght box is packed in a cardboard box

Standard equipment

» Cable overlength support frame 385 mm (galvanised steel)
» Cover for the support frame 410x410x100 mm
» Pin
» Fixing knob

Linear Fixtures

DLL
Partners

Telecommunications Containers

Description

Data communication containers made of polyethylene constitute a perfect alternative for their counterparts executed in a traditional manner, e.g. from concrete. They are used for installation in telecommunications networks and designed for the protection of connector sleeve and the fibre-optic cable slack laid in the cable conduit. The container consists of the body, polyethylene cover and a sealing washer under the cover. The front flat inlets in the corners make it possible to introduce pipes into the containers. The pipes have standard diameters of ø 32 mm, ø 40 mm and ø 50 mm.

Application

Telecommunication, MAN, WAN, Protection of the connecting sleeve, Protection of the optical fibre slack.

Properties

» Small weight
» Excellent tightness
» Easy and quick assembly
» Possibility to assemble in difficult conditions
» Easy network extension
» Easy to maintain in a clean condition
» Stability of the product
» Resistance to low temperatures
» Possibility of recycling

Photos and dimensions

DLL-ZT-00W:
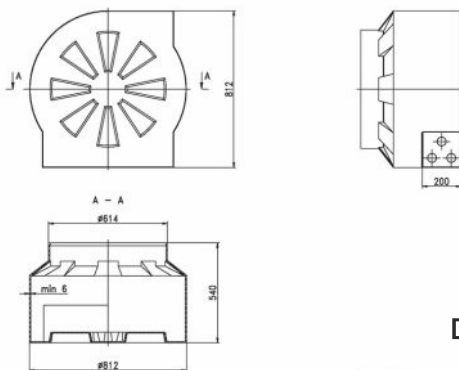
DLL-ZT-01W:
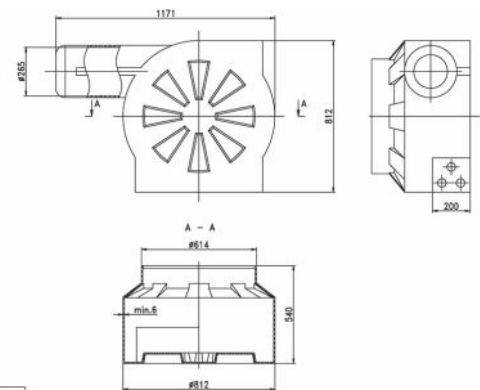
DLL-ZT-02W:
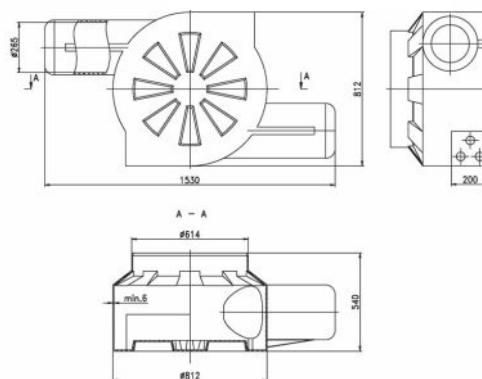
How to order

DLL-ZT-00W   Telecommunications container of the cable slack
DLL-ZT-01W   Telecommunications containers with one connection
DLL-ZT-02W   Data communication container with two connections

Standard equipment

» Body
» Cover
» Gasket under the cover

Linear Fixtures

Warning tapes

» Orange tape with warning inscriptions (various texts)
» Locality tapes with an insert made of acid resistant steel for marking underground optical fibre cabling duct systems
» White/red tapes for marking dangerous places

Cable markers

» Available sizes: 97x67 mm (OZK-1-ENG, OZK-2-ENG, OZK-3-ENG, OZK-4-ENG), 195x45 mm (OZK-5) other sizes on demand
» Many patters of the markers
» Mounting by means of two clips
» Markers resistant to environmental conditions
» Possibility to make markers tailor-made to the individual needs of a client
» Aesthetic finishing

OZK-1-ENG   **OZK-2-ENG**   **OZK-3-ENG**

OZK-4-ENG   **OZK-5-ENG**
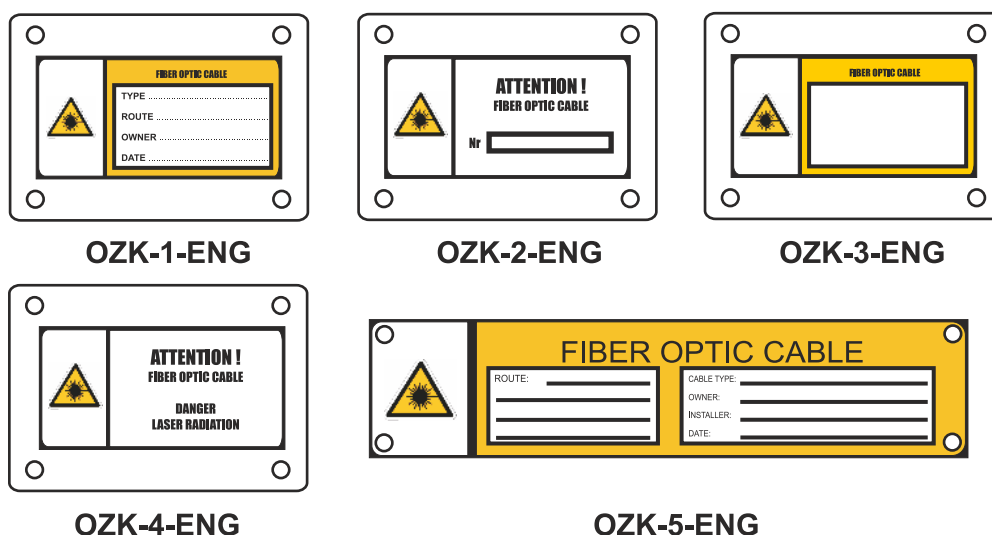
Glass fibre

» Available fibre diameters: 3 mm, 6 mm, 9 mm, 11 mm, 15 mm
» A fibre available in bulk or on a stand
» Various stand sizes

Cable socks

» Diameters available: 12-19 mm, 15-25 mm, 25-35 mm, 35-50 mm, 50-65 mm, 65-80 mm, 80-100 mm
» Available socks - single- or double-eared
» Available socks with or without a patent eye

Installation Instruments

Installation Instruments

Installation Instruments

Dust-free Kimwipes

Sticks for cleaning adapters

Small wires for cleaning the ferrules

» Available for adapters with a ferrule 2.5 mm (ST/FC/SC) as well as for adapters with a ferrule 1.25 mm (LC/MU/MT).

Cable markers

Marker 3M ScotchCode

Plates for cutting the fibres

Scissors IDEAL 45-344

Stripper of the optical fibre tube

Installation Instruments

Crimping device for optical fibre connectors

» Available with different types of jaws for various types of fibre-optic connectors.
  Available jaws: (.213" /.178" /.151" Hex),
                   (.178" /.128" /.068" Hex),
                   (.128" /.151" /.215" /.197" /.178" Hex),
                   (.190" Hex/.105" Round/.090" Round),
                   (.120" /.137" /.190" Round).

Stripper Miller FO 103s

Stripper Miller FO 101s

A tool for removing the outer layer of the cable and reinforcement RIPLEY ACS

A tool for removing the outer layer of the cable with a rotational blade

A tool for cutting the HDPE pipe

Fiber Optic Cables

BELDEN Fiber Optics

Belden

Belden Inc., a global leader in high quality, end-to-end signal transmission solutions, delivers a comprehensive product portfolio designed to meet the mission-critical network infrastructure needs of industrial, enterprise and broadcast markets. With innovation solutions targeted at reliable and secure transmission of rapidly growing amounts of data, audio and video needed for today's applications, Belden is at the center of the global transformation to a connected world. Founded in 1902, the company is headquartered in St. Louis and has manufacturing capabilities in North and South America, Europe and Asia.

Since 2008, Belden's official distributor in Poland is DLL Partners. We offer:

» Optical Fiber Cables: Buffered, Central Loose Tube (universal and outdoor), Multi Loose Tube
» Industrial Cables: Ethernet DataTuff®, FOUNDATION Fieldbus, PROFIBUS, CANopen RS-485, DeviceBus®, ControlNet, ControlBus, MODBUS, LonWorks, Coaxial Ethernet, Interconnect

Since 2015r. DLL Partners is recognized in Belden® Preferred Partner Program

Belden Preferred Partners stand apart from other Channels. Membership of the Preferred Partner Program assures our Customers a:

» Secure supply chain of products sourced direct from the manufacturer
» Local access and high availability of Belden inventory
» Manufacturer-backed warranty for products procured from authorized Preferred Partners
» Trusted Partner with the technical competence to select the right solution for your needs
» World-class support from trained and certified service agents
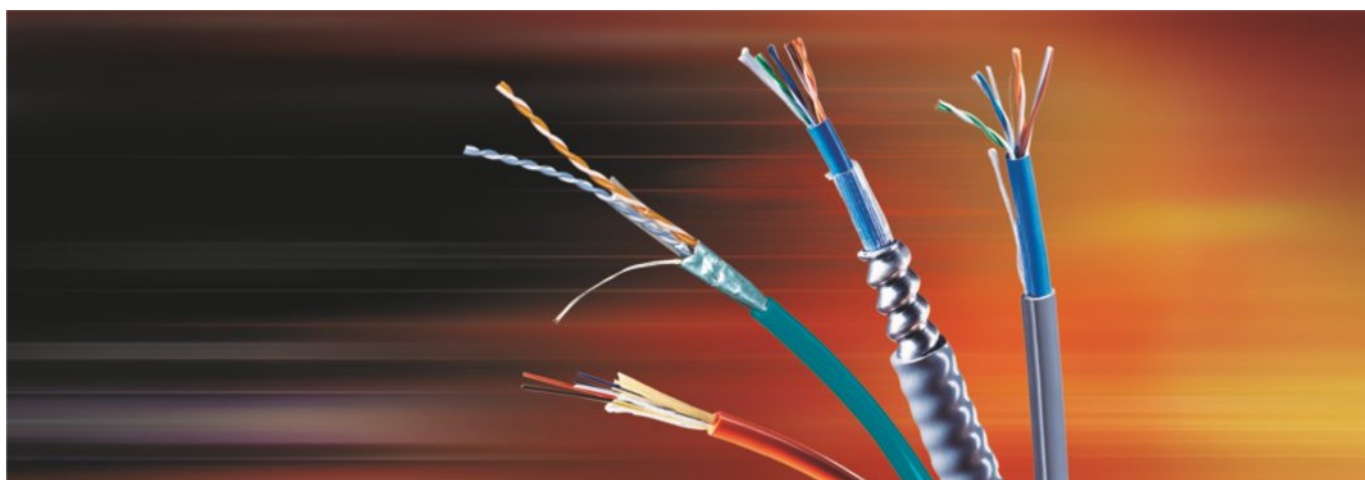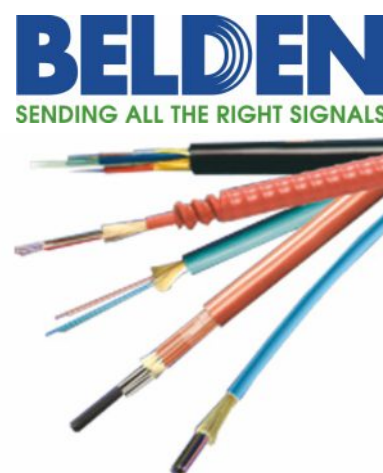
BELDEN Fiber Optics

Patchcord and Pigtails Cables

Interconnect cable (pigtail, patchcord) with LSOH jacket

900 Micron Buffered Fibers					
coloured buffer, natural fiber			coloured buffer and natural fiber		
Tight	Semi-Tight		Tight	Semi-Tight	
GIOT	GIOS		GIOT_G1	GIOS_G1	

INTERCONNECT cable with LSNH jacket					
SIMPLEX		DUPLEX ZIP		HEAVY DUPLEX FLAT	
Diameters: 1.6, 1.8, 2.0, 2.1, 2.4, 2.8 and 3.0mm					
Tight	Semi-Tight	Tight	Semi-Tight	Tight	Semi-Tight
GIPT_1	GIPS_1	GIPT_2	GIPS_2	GIPT_H	GIPS_H

Fiber drop cable
Universal
GUPPA02

Distribution cable with LSOH jacket

Distribution cable with LSNH jacket					
Indoor		Universal		Universal with rodent protection	
Tight	Semi-Tight	Tight	Semi-Tight	Tight	Semi-Tight
GIMT	GIMS	GUMT	GUMS	GUXT	

Breakout Cable with LSOH jacket

Breakout cable with LSNH jacket			
Indoor		Universal	
Tight	Semi-Tight	Tight	Semi-Tight
GIBT	GIBS	GUBT	

BELDEN Fiber Optics

Central Loose Tube Cables

Central Loose Tube, LSOH jacket

Central Loose Tube, Universal (LSNH jcket)						
	IEC 60332-1		IEC 60332-3C			
	up to 24 fibers		up to 24 fibers		up to 24 fibers	
Pulling tension (installation)	P./N	Diameter	P./N	Diameter	P./N	Diameter
1500N	GUSN	5.8			GUSL	5.8
3280N					GURA	7.1
3500N	GURN	7.1				
4220N			GUSB	8.7		
5000N	GUVN	7.8				
8440N			GURB	10.2		

Centraln Loose Tube, Universal (LSNH jacket) Steel Wire Braid						
	IEC 60332-1		IEC 60332-3C			
	up to 24 fibers		up to 24 fibers		up to 24 fibers	
Pulling tension (installation)	P./N	Diameter	P./N	Diameter	P./N	Diameter
1500N	GUWN	9.6			GUWA	10.7
4220N			GUWB	13.8		

Central Loose Tube, Universal (LSNH jacket) Steel Wire Armouring				
IEC 60332-3-22 and IEC 60331-25				
	Single jacket		Double jacket	
	up to 24 fibers		up to 24 fibers	
Pulling tension (installation)	P./N	Diameter	P./N	Diameter
1500N	GUCN	9.0	GUDN	11.0
4220N	GUCB	10.6	GUDB	13.0

Central Loose Tube, Universal (LSNH jacket) FRP Armouring				
	IEC 60332-1		IEC 60332-3C	
	up to 24 fibers		up to 24 fibers	
Pulling tension (installation)	P./N	Diameter	P./N	Diameter
4000N	GUFN	7.4		
8000N			GUFB	9.0

Fiber Optics Cables

BELDEN Fiber Optics

Central Loose Tube, PE Jacket

Central Loose Tube, Outdoor (PE jacket)				
	up to 24 fibers		up to 24 fibers	
Pulling tension (installation)	P./N	Diameter	P./N	Diameter
1500N	GOSN	5.8		
3280N			GORA	7.1
3500N	GORN	7.1		
4220N	GOSB	8.7		
5000N	GOVN	7.8		
8440N	GORB	10.2		

Central Loose Tube, Outdoor (PE jacket) Steel Wire Armouring		
	up to 24 fibers	
Pulling tension (installation)	P./N	Diameter
1500N	GOWN	9.6
4220N	GOWB	13.8

Central Loose Tube. Outdoor (PE jacket) Corrugated Steel Tape				
	Single jacket		Double jacket	
	up to 24 fibers		up to 24 fibers	
Pulling tension (installation)	P./N	Diameter	P./N	Diameter
1500N	GOCN	9.0	GODN	11.0
4220N	GOCB	10.6	GODB	13.0

Central Loose Tube. Outdoor (PE jacket) FRP Armouring		
	up to 24 fibers	
Pulling tension (installation)	P./N	Diameter
4000N	GOFN	7.4
8000N	GOFB	9.0

Multi Loose Tube Cables

Multi Loose Tube, dry core, LSOH jacket

Multi Loose Tube Cable, Dry Core, with LSNH jacket				
	max 6 x 6 fibers	max 6 x 12 fibers	max 8 x 12 fibers	max 12 x 12 fibers
Aramid strength members	GCAG	GCAD	GCAE	GCAF
Glassyarn strength members, Rodent Protected	GCRG	GCRD	GCRE	GCRF
Corrugated Steel Tape, single jacket	GCCG	GCCD	GCCE	GCCF
Corrugated Steel Tape, double jacket	GCDG	GCDD	GCDE	GCDF
Steel Wire armouring	GCWG	GCWD	GCWE	GCWF

BELDEN Fiber Optics

Multi Loose Tube, filled core, LSOH jacket

Multi Loose Tube, filled core, with LSNH jacket			
max 6 x 6 fibers	max 6 x 12 fibers	max 8 x 12 fibers	max 12 x 12 fibers
Aramid strength members			
GEAG	GEAD	GEAE	GEAF
Glassyarn strength members, Rodent Protected			
GERG	GERD	GERE	GERF
Corrugated Steel Tape, single jacket			
GECG	GECD	GECE	GECF
Corrugated Steel Tape, double jacket			
GEDG	GEDD	GEDE	GEDF
Steel Wire armouring			
GEWG	GEWD	GEWE	GEWF

Multi Loose Tube, dry core, PE jacket

Multi Loose Tube cable, dry core, with PE jacket			
max 6 x 6 fibers	max 6 x 12 fibers	max 8 x 12 fibers	max 12 x 12 fibers
Aramid strength members			
GBAG	GBAD	GBAE	GBAF
Glassyarn strength members, Rodent Protected			
GBRG	GBRD	GBRE	GBRF
Corrugated Steel Tape, single jacket			
GBCG	GBCD	GBCE	GBCF
Corrugated Steel Tape, double jacket			
GBDG	GBDD	GBDE	GBDF
Steel Wire armouring			
GBWG	GBWD	GBWE	GBWF

Multi Loose Tube, filled core, PE jacket

Multi Loose Tube, filled core, with PE jacket			
max 6 x 6 fibers	max 6 x 12 fibers	max 8 x 12 fibers	max 12 x 12 fibers
Aramid strength members			
GDAG	GDAD	GDAE	GDAF
Glassyarn strength members, Rodent Protected			
GDRG	GDRD	GDRE	GDRF
Corrugated Steel Tape, single jacket			
GDCG	GDCD	GDCE	GDCF
Corrugated Steel Tape, double jacket			
GDDG	GDDD	GDDE	GDDF
Steel Wire armouring			
GDWG	GDWD	GDWE	GDWF

Special Cables

Tactical cable, TPU jacket

Tactical cable, TPU jacket	
Uniwersal	Universal with Improved Rodent Protection
Tight	Tight
GMTT	GMRT

Mobile cable, TPU jacket

Mobile cable, TPU jacket
Universal
Tight
GMMT

System Overhead

Fixtures and Tools for the Constructions of Overhead Data Communication Lines

Fixtures and Tools

Anchoring clamps for figure-8 cables AC

are made of one opened conical body, a pair of metallic jaws and a flexible bail. All parts are secured together to prevent any loss of parts. These clamps allow an easy, quick and direct dead-ending of aerial figure-8 cables with steel messengers without need to strip or separate the messengers.

Anchoring clamps for figure-8 cables ACD

are made of one opened conical body, a pair of tapered thermoplastic jaws and a flexible bail. All parts are secured together to prevent any loss of parts. These anchoring clamps allow an easy and quick installation of figure-8 cables with all aluminium alloy (AAA) or dielectric messengers (Kevlar, FRP) by gripping directly onto the HDPE or MDPE messenger outer sheath.

Anchoring clamps for figure-8 cables ACL

are made of one opened conical body, a pair of tapered thermoplastic jaws and a flexible bail. All parts are secured together to prevent any loss of parts. These clamps allow an easy, quick and direct dead-ending of aerial figure-8 cables or fibre cable with circular cross.

Anchoring clamps for ADSS cables ACADSS

are made of one opened conical fibre glass reinforced body, a pair of plastic wedges and a flexible bail. The ACADSS series is composed of different models of clamps offering a wide range of gripping capacities and mechanical resistance. This flexibility enables us to propose optimised and tailor made clamp designs depending on the ADSS cable constructions.

Suspension clamp SS 1025

is used for the suspension of ADSS cables and figure-8 cables. The flexible material used in the manufacture of the SS1025 has a long lifespan and adapts very well to win-induced vibrations.

Suspension clamp JHC

with neoprene insert. Installation on straight cable routes or with angles of max. 25%.

Fixtures and Tools

Suspension clamp

are composed of a UV resistant thermoplastic jaw reinforced with two galvanised steel plates. Its unique patented design has been developed to offer a common hardware fitting covering all suspension situations on wooden, metal or concrete poles. Its curved grooves and the reversibility of the system allow the clamp to be installed at intermediate poles on cables routes with angles up to 25°.

Saddles

are used for installation on a wooden pole, provided with a nail screw (BIC) or for mains on walls (BRF).

Drop clamp UO

is installed on poles and walls to terminate fiber optic or copper roung drop cables in distribution networks. designed to provice suspensions for 2 - 8 mm aerial fibre cables

Pole brackets

suitable for anchoring cable clamps holding overhead fibre optic cables. Fits to poles of wood, or steel or concrete. These brackets can also be installed back to back using either steeling banding or bolts to allow for tram lining of cables installed on poles in line of route.

Helical dead-ends GSDE AR

are installed on ADSS cables over medium spans (100 to 250 meters). They consist of 4 armour rods installed as a direct protection on the cable and a spiral dead-end used as an anchor and installed on the armour rod protection.

Helical suspension GSHS AR

are installed on ADSS cables over medium spans (100 to 250 meters). They consist of 4 armour rods installed as a direct protection on the cable and an helical suspension used as an suspension device and installed on the armour rod protection.

Fixtures and Tools

Tapes and buckles stainless
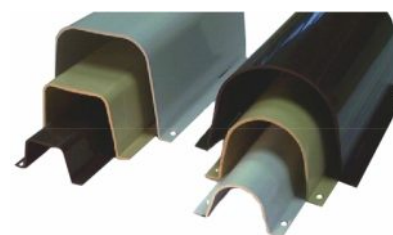
Steel tape TSM is made of stainless steel.

Buckles TSK

Buckles TSK are made of stainless steel.

Protective spouts for cables GPC

PVC protecive spouts for cables vertically laid on poles GPC with stainelss steel straps on poles (GPT and GPC), with screws on front walls (GPC). GPT is made for grounding application, GPC - underground to overhead mains.

Accessories for poles

Accessories for poles are made of hot dip galvanized steel. CPB bracket (with steel strap or coach screw) is used for wooden poles. Square base plate 5/39 is used for concrete poles.

Accessories

Mounting bolt DLH used to mounting crossarms to UPB and 5/39 bases.

Anchoring pigtail hooks for service DLOS made of galvanized steel.

Anchroing bolt DLKM short, hot-dip galvanizing. Bolt diameter f12, hole diameter f18. Embedment depth 110m.

Anchroing bolt DLDM long, hot-dip galvanizing. Bolt diameter f16, hole diameter f2. Embedment depth 200m.

DLL Partners

Installation Tools

A tool for mounting steel tape OPV

A screw-type tensioner is used for tensioning and trimming the steel tape used for the installation of fixtures and holders. Benschrew type tool, made of galvanized steel.

A tool for mounting steel tape OPL

Lever type tool. Made of chrome plated steel.

Scissors for cutting steel tape OPC

It is used for cutting off the steel tape. It is made of heat-treated steel.

Special hand cable-cutter SM 1023

Cable cutter designed for steel messengered figure-8 cables. Deticated for coaxial or pair cables with external diameter 23 mm. Maximum diameter of steel messenger cutting grove - 10 mm. Cable cutter designed for steel messengered figure-8 cables.

Running out rollers

Running out rollers with hook P150 are made of aluminium. Maximum load 150 daN. Maximum cable diameter 30 mm.

Running out rollers with hook P800 are made of high strength cast aluminium alloy. Maximum load 800 daN. Maximum cable diameter 50 mm.

Come along clamps T546P

Capacity: 6 ÷ 14mm,
Clamping length: 170mm,
Max. load: 800 daN,
Material: Aluminium alloy,
Weight: 1,5kg.

Installation Tools

Ground clamp EC13T

Using for galvanized connection suspenions cable with grounding wire or another suspension cable. Zacisk uziemiający EC13TDiameter Range of diameter: 3 ÷ 13 mm, Weight: 0,09 kg.

Dynamometer DYNA 1000

Dynamometer with digital display and maintain of the peak value.
Technical parameters:

- range: 0-1000 daN,
- resolution: 5 daN,
- measurement error: 1%,
- automatic power off,
- digital reading,
- typical battery 9V,
- with two connectors lugs,
- roated unloaded,
- waterproof,
- Dimensions: 280 x 90 x 80 mm,
- Colour: dark gray.

System Overhead

Active Components

Switches EtherWAN
Media Converters EtherWAN
Ethernet Extenders EtherWAN
Network Interface Cards EtherWAN
Power Supplies EtherWAN
Converters RS-232/422/485 EtherWAN
Accessories EtherWAN
Q2000 FO Monitor

EtherWAN

EtherWAN Systems, founded in 1996 in Irvine CA, has become a leader in supplying Ethernet connectivity for applications in various markets including; intersection traffic monitoring, transportation, building automation, Security & Surveillances, utility, oil & mining, field automation, etc.

EtherWAN specializes in designing and manufacturing fiber optic industrial Ethernet products for harsh environments and conditioned rooms. EtherWAN designs and manufactures a full line of Iindustrial Ethernet Switches, Media Converters, Ethernet Extenders (Phone Wire & Coaxial Cable) and Serial Servers for commercial and hardened environments.

» NEMA TS2 for ITS and Transportation
» IEC 61850/IEEE 1613 for Utility Substations
» EN50155 for Railway and Train Applications
» IEC 61000 for Industrial Automation Applications
» ISA 12.12.01 (UL 1604) for Hazardous locations in Industrial Control
» PoE for Security & Access Control
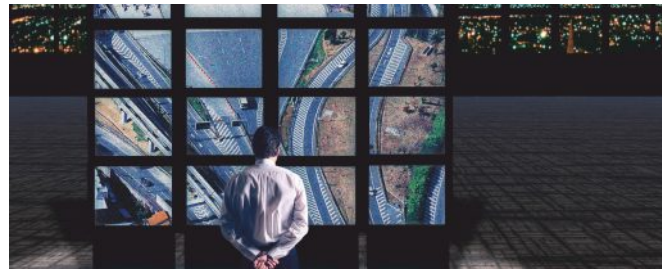» All Switches Run at Wire Speed

Intelligent Transportation Systems

Various sensors, controllers and video cameras are used in traffic monitoring and control systems. These systems are networked via IP over Ethernet. EtherWAN manufacturers Ethernet Connectivity products designed and tested to operate in harsh outdoor environments for use in transportation systems.

IP Security

IP networks are being used and deployed to connect the elements of security and surveillance and Access Control systems. Ethernet is the underlying network technology for IP networks. EtherWAN supplies a full line of Ethernet connectivity products designed to provide network services for security and access control systems

Electric Utility

"Smart Grid" is a term that is being tossed about to indicate we are making the electric grid more efficient and able to use Renewable energy sources more effeciently. The basic premise is to design a computer network, using Internet Protocol (IP), that parallels the electric grid transmitting information from sensors and Controllers. EtherWAN has designed a line of products that comply with specifications required to operate in the electrical grid.

Factory Automation

New generation equipment in factory automation utilizes IP as the protocol of choice. Ethernet-based networking infrastructure provides real-time data accessibility. EtherWAN provides Ethernet connectivity products to connect legacy equipment to modern control systems, offering the ability to monitor systems in harsh environments.

Active Components

DLL Partners

Ethernet Switches

EtherWAN

Managed Switches with Increased Temperature Resistance

hardened (from -40°C to 75°C)
industrial (from -10°C to 60°C)

type	index
ER58000 Series PoE	Managed Hardened 8-port 10/100BASE M12 PoE with 2-port Gigabit M12/LC Ethernet Switch
EX78900 Series PoE	Managed Hardened 16 ports (8x PoE) Gigabit
EX77000 Series	Hardened Managed 24-port 10/100BASE and 4-port Gigabit Ethernet Switch with SFP options
EX87000 Series	IEC61850-3/IEEE1613 Managed Hardened 24-port 10/100BASE and 4-port Gigabit Ethernet Switch with SFP options
EX89000 Series	IEC61850-3/IEEE1613 Modulized Managed Hardened 24-port 10/100BASE and 4-port Gigabit Ethernet Switch with SFP options
EX75000 Series PoE	Managed Hardened 24-port 10/100BASE-TX + 4-port Gigabit Ethernet PoE Switch
EX76000 Series PoE	Hardened Managed 16-port 10/100BASE PoE with 2-port Gigabit combo Ethernet Switch
EX83000 Series	IEC61850/IEEE1613 Managed Hardened 16-port 10/100BASE with 2-port Gigabit combo Ethernet Switch
EX73000 Series EX63000 Series	Managed Hardened 16-port 10/100BASE with 2-port Gigabit combo Ethernet Switch Managed Industrial 16-port 10/100BASE with 2-port Gigabit combo Ethernet Switch
EX72000 Series EX62000 Series	Managed Hardened 8 to 14 ports 10/100BASE and 2-port Gigabit Ethernet Switch with SFP options Managed Industrial 8 to 14 ports 10/100BASE and 2-port Gigabit Ethernet Switch with SFP options
EX71000 Series EX61000A Series	Managed Hardened 8-port 10/100BASE and 2-port Gigabit Ethernet Switch with SFP options Managed Industrial 8-port 10/100BASE and 2-port Gigabit Ethernet Switch with SFP options
EX78000 Series PoE	Hardened Managed 10-port 10/100BASE (8 x PoE) and 2-port Gigabit Ethernet Switch
EX78602 Series PoE	Managed Hardened 6-port 10/100BASE (4 x PoE + 2 x 60W PoE) and 2-port Gigabit Ethernet Switch
EX70900 Series	Hardened Managed 8-port Gigabit Ethernet Switch
EX74000 Series PoE	Managed Hardened 6-port 10/100BASE (4 x PoE) with 2-port SFP (DDM) Gigabit combo Ethernet Switch

Unmanaged Switches with Increased Temperature Resistance

hardened (from -40°C to 75°C)
industrial (from -10°C to 60°C)

type	index
EX32900 Series EX42900 Series	Industrial Unmanaged 5/8-port 10/100/1000BASE Gigabit Ethernet Switch Hardened Unmanaged 5/8-port 10/100/1000BASE Gigabit Ethernet Switch
EX39924 Series	Industrial Unmanaged 24-port Gigabit Switch with 4/16-port combo SFP Slots
EX95000 Series	Unmanaged Hardened 16-port 10/100BASE Ethernet Switch
EX33000 Series	Unmanaged Industrial 16-port 10/100BASE Ethernet Switch
EX47000 Series	IEC61850-3/IEEE1613 Unmanaged Hardened 8-port 10/100BASE Ethernet Switch
EX94000 Series	Unmanaged Hardened 5/8-port 10/100BASE Ethernet Switch
EX35000 Series	Unmanaged Industrial 8-port Gigabit Ethernet Switch
EX49000 Series PoE	Web-smart Hardened 16-port 10/100BASE PoE and 2-port Gigabit Ethernet Switch
EX49000A Series PoE	Unmanaged Hardened 16-port 10/100BASE PoE and 2-port Gigabit Ethernet Switch
EX46100 Series PoE	Web-Smart Hardened 8-port 10/100BASE High Power PoE Ethernet Switch
EX42300 Series PoE	Hardened Unmanaged 5/6 port Ethernet Switch 4-port 10/100BASE (4 x PoE) + 1-port 10/100/1000BASE-T Optional 1-port 1000BASE-X Gigabit
EX45900 Series PoE	Hardened Unmanaged 5/6 port Ethernet Switch 4-port 10/100BASE (4 x PoE) + 1-port 10/100/1000BASE-T Optional 1-port 1000BASE-X Gigabit
EX48000 Series PoE	Web-Smart Hardened 5-port 10/100BASE PoE Ethernet Switch
EX38000 Series PoE	Web-Smart Industrial 5-port 10/100BASE PoE Ethernet Switch
EX48000A Series PoE	Unmanged Hardened 5-port 10/100BASE PoE Ethernet Switch
EX45000 Series PoE	Unmanaged Hardened 8-port 10/100BASE PoE Ethernet Switch
EX34000 Series PoE	Unmanaged Industrial 8-port 10/100BASE PoE Ethernet Switch
EX43000 Series	Unmanaged Industrial 8-port 10/100BASE Ethernet Switch
EX42000 Series	Unmanaged Industrial 5-port 10/100BASE Ethernet Switch

Ethernet Switches

Managed Switches

non-hardened (od 0°C do 45°C)

type	index
EX25611 Series	Managed 24-port 10/100/1000BASE-T (4-port SFP Combo) and 4-port 1G/10G SFP+ Ethernet Switch
EX26182 Series　PoE	Web-Managed 18-port Gigabit PoE Switch with 16 Gigabit + 2 SFP ports
EX26262 Series　PoE	Web-managed 26-port Gigabit PoE Switch with 24 Gigabit + 2 SFP ports
EX27000 Series	IEC61850-3/IEEE1613 Managed 24-port 10/100BASE and 4-port Gigabit Ethernet Switch with SFP options
EX29000 Series	IEC61850-3/IEEE1613 Modulized Managed 24-port 10/100BASE and 4-port Gigabit Ethernet Switch with SFP options
EX24402　PoE	Managed 16-port 10/100Base-TX PoE and 2-port Gigabit SFP combo

Unmanaged Switches

non-hardened (od 0°C do 45°C)

type	index
EX17242 Series　PoE	Web-Smart 24-port PoE 10/100BASE-TX and 2-port combo Gigabit SFP Ethernet Switch
EX17162 Series　PoE	Web-smart 16-port 10/100BASE-TX PoE and 2-port combo Gigabit SFP Ethernet Switch
EX17162A Series　PoE	Unmanaged 16-port PoE 10/100BASE-TX and 2-port combo Gigabit SFP Ethernet Switch
EX17016 Series　PoE	Web-Smart 16-port PoE 10/100BASE-TX Ethernet Switch
EX17016A Series　PoE	Unmanaged 16-port PoE 10/100BASE-TX Ethernet Switch
EX17908 Series　PoE	Web-smart 8-port 10/100/1000BASE-T PoE Ethernet Switch
EX17908A Series　PoE	Unmanaged 8-port 10/100/1000BASE-T PoE Ethernet Switch
EX17082 Series　PoE	Web-Smart 8-port PoE (IEEE802.3at) 10/100BASE-TX and 2-port combo Gigabit SFP Ethernet Switch
EX17082A Series　PoE	Unmanaged 8-port PoE (IEEE802.3at) 10/100BASE-TX and 2-port combo Gigabit SFP Ethernet Switch
EX17008 Series　PoE	Web-Smart 8-port PoE 10/100BASE-TX Ethernet Switch
EX17008A Series　PoE	Unmanaged 8-port PoE 10/100BASE-TX Ethernet Switch
EX17044A Series　PoE	Unmanaged 8-port PoE 10/100BASE-TX Ethernet Switch (supports 4 PoE ports)
EX16926 Series	Unmanaged 26-port Gigabit (24 x RJ45 + 2 x SFP)
EX16916 Series	Unmanaged 16-port 10/100/1000Base-TX
EX16900 Series	Unmanaged 5/8-port 10/100/1000BASE Ethernet Switch
EX1608SF Series	Unmanaged 8-port 10/100Base
EX1605B/BF1 Series	Unmanaged 5/8-port 10/100BASE Ethernet Switch
EX1605PB/PBF1, EX1608PB/PBF1 Se.	Unmanaged 5/8-port 10/100BASE Ethernet Switch
EX1605PE Series	Unmanaged 5/8-port 10/100BASE-TX Ethernet Switch
EX16TX Series	Unmanaged 16/24-port 10/100BASE-TX Ethernet Switch
EX1616W Series	Web-Smart 16/24-port 10/100BASE-TX and 1-port 100BASE-FX Ethernet Switch

Media Converters

Fast Ethernet Media Converter

type	index
EL1141 Series	IEC61850/IEEE1613 (od -40°C do 75°C) 10/100BASE-TX to 100BASE-FX Media converter
EL900 Series	(od -40°C do 75°C) 10/100BASE-TX to 100BASE-FX Media converter
EX42011 Series	(od -10°C do 60°C) 10/100BASE-TX to 100BASE-SX/LX/BX Media converter
EL1032T Series PoE	(od -10°C do 65°C) Industrial 10/100BASE-TX to 100BASE-FX Media converter with PoE/PSE
EM120 Series	100BASE-FX Multi-Mode/Single-Mode to 100BASE-FX Single-Mode Media converter
EM1216 Series	10/100BASE-TX to 100BASE-FX Media converter
EL100 EL110 Series	10/100BASE-TX to 100BASE-FX Media converter
EL200 EL210 Series	10/100BASE-TX to 100BASE-BX WDM Media converter
EL50 Series	Mini-Sized 10/100BASE-TX to 100BASE-FX Media converter

Gigabit Media Converter

type	index
EL9100 Series	(od -40°C do 75°C) 10/100/1000BASE-TX to 1000BASE-SX/LX/BX Media converter
EL9000 Series	(od -40°C do 75°C) 1000BASE-T to 1000BASE-SX/LX/BX Media converter
EL9020 Series	(od -40°C do 75°C) 10/100/1000BASE-TX to Gigabit SFP Media converter
EL2326 Series	OAM Managed 10/100/1000BASE-TX to 1000BASE-SX/LX/BX Media converter
EL2326L Series	10/100/1000BASE-TX to 1000BASE-SX/LX/BX Media converter
EL2321 Series	10/100/1000BASE-TX na 100/1000BASE-X Dual Rate Media converter
EL2211 Series	10/100/1000BASE-TX to 1000BASE-SX/LX/BX Media converter
EM1100 EM2100 Series	10/100/1000BASE-TX to 1000BASE-FX Media converter
EM1000S EM2000S Series	1000BASE-T to 1000BASE-LX/BX Media converter
EM1000 EM2000 Series	1000BASE-T to 1000BASE-SX/LX/BX Media converter
EL2315 Series	10/100/1000BASE-TX to 100/1000DASE-FX Dual Rate SFP Media converter
EM1020 Series	10/100/1000BASE-TX to 100/1000DASE-FX Dual Rate SFP Media converter

Multiple Channel Media Converter

type	index
EMC1600 Series	16-port Media converter and Ethernet Extender Chassis
EMC1200R Series	12-port Media converter system
EMC400	4-Slot DIN-Rail Media Converter and Ethernet Extender Chassis

Ethernet Extendery

Ethernet Extendery Power over Link™

type	index
ED3538 (PoL™) PoE	Hardened 10/100BASE-TX PoL™/PoE Ethernet Extender over Copper Wires
ED3638 (PoL™) PoE	Hardened 10/100BASE-TX PoL™/PoE Ethernet Extender over Coaxial Cable
ED3238 (PoL™) PoE	10/100BASE-TX IEEE802.3af PoE Ethernet Extender over Coaxial Cable

Ethernet Extendery (Copper Pair, RJ45, RJ11)

type	index
ED3541 Series	Hardened 10/100BASE-TX Ethernet Extender
ED3501 Series	Industrial 10/100BASE-TX Ethernet Extender

Ethernet Extendery (Coaxial Cable)

type	index
ED3341 Series	Hardened 10/100BASE-TX Ethernet Extender over Coaxial Cable
ED3344 Series	Hardened 10/100/BASE-TX M12 Ethernet Extender over Coaxial Cable
ED3331 Series	Industrial 10/100BASE-TX Ethernet Extender over Coaxial Cable

Active Components

Network Interface Cards

PCI 100BASE-FX Ethernet Adapter

type	index
EN400 Series	PCI-Express 100BASE-FX/SFP Ethernet Adapter
EN301 Series	32bit PCI-Bus 100BASE-FX Ethernet Adapter

PCI Express Gigabit Ethernet Adapter

type	index
GE3100 Series	PCI Express Gigabit Ethernet Adapter

Power Supplies

Industrial Power Supplies

typ	index
DD-85-48 Series	85W/1.78A 48VDC Industrial Power Supply
DD-85-55 Series	85W/1.55A 55VDC Industrial Power Supply
DR-30-24	30W/1.5A DIN-Rail 24VDC Industrial Power Supply
DR-60-24	60W/2.5A DIN-Rail 24VDC Industrial Power Supply
DR-75-24	75W/3.2A DIN-Rail 24VDC Industrial Power Supply
DR-120-24	120W/5A DIN-Rail 24VDC Industrial Power Supply
DR-75-48	75W/1.6A DIN-Rail 48VDC Industrial Power Supply
DR-120-48	120W/2.5A DIN-Rail 48VDC Industrial Power Supply
SDR-120-48	120W/2.5A DIN-Rail 48VDC Industrial Power Supply
SDR-240-48	240W/5A DIN-Rail 48VDC Industrial Power Supply
SDR-480-48	480W/10A DIN-Rail 48VDC Industrial Power Supply
MDR-40-48	40W/0.83A 48VDC Industrial Power Supply

Power Adapters

typ	index
GS120A-48	120W/2.5A 48VDC Power Adapter with latched DC jack in plastic housing
41-136042	36W/3A 12VDC hardened power adapter with open wire in plastic housing
41-136043	36W/3A 12VDC hardened power adapter with DC plug in aluminum housing
41-136044	36W/3A 12VDC hardened power adapter with latched DC jack in aluminum housing
41-136046	36W/3A 12VDC hardened power adapter with open wire in aluminum housing

Converters RS-232/422/485

Converters Serial Device Servers

typ	index
SE6300 Series	(-40°C to 75°C) 2/4 ports Serial Device Server
SE5300 Series	(-10°C to 60°C) 2/4 ports Serial Device Server
SE6100 Series	(-40°C to 75°C) 1-port Serial Device Server
SE5100 Series	(-10°C to 65°C) 1-port Serial Device Server
FT5702 Series	(-10°C to 60°C) 2-port RS232/422/485 Self-Healing Ring Fiber Modem

Surge Protection Device SPD

EtherWAN Systems, Inc., one of the leading global providers of network solutions, launches the PD Series, the Surge Protection Device (SPD) product line, with total surge protection current up to 10kA. The PD1041 features two RJ45 ports compatible with pass-through data/power of standard Gigabit Ethernet/ Power over Ethernet, and a wide operating temperature range (-40°C to 75°C under 100Mbps throughput). It also passes CE, FCC, VCCI, UL497B and RoHS compliance requirements.

High electromagnetic interference, unstable electricity, and indirect lightning often generate undesired voltage surges toward the network equipment. When a surge occurs, the PD1041 will isolate the surge to the ground, thus the network devices, cables and data communications are free from additional damage. For example, the PD1041 can be DIN-rail mounted in a rooftop cabinet to connect with outdoor PoE speed dome cameras, wireless APs, or PoE switches, protecting the LAN devices and cables from crippled.

EtherWAN's hardened grade products are already designed in compliance with EN61000-4-5. The PD1041 can work with all EtherWAN products when higher level of data port protection is needed. Testing with PoE under 1Gbps transmission rate, the PD1041 has proven itself without CRC errors under 50°C temperature while other brands easily surrender at 30°C temperature environments. All explains the PD1041 is in high availability and reliability.

More Surge Protection products by EtherWAN will be introduced later in 2015; for instance, the one equipped with a pair of RJ11/2-pin terminal block sockets.

Surge Protection Device SPD

type	index
PD1041	Hardened Surge Protection Device – RJ45 (od -40°C do 75°C)

DLL Partners

Q2000 FO Monitor

*made in Poland*

Description

Q2000 FO MONITOR System is a set of assistive devices to maintain and oversee the optical access and backbone networks. The primary task of the system is permanent monitoring of the state of fibre network by automatically measuring the power level of optical signal at the beginning and end of a fiber optic line. Any change of network parameters for a specified value trigger an alarm. The whole process is managed by the SCADA system. Its main functions consist of collecting actual data (measurements), its visualization, alarming and data archiving.

Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, Control Engineering

Operational scheme
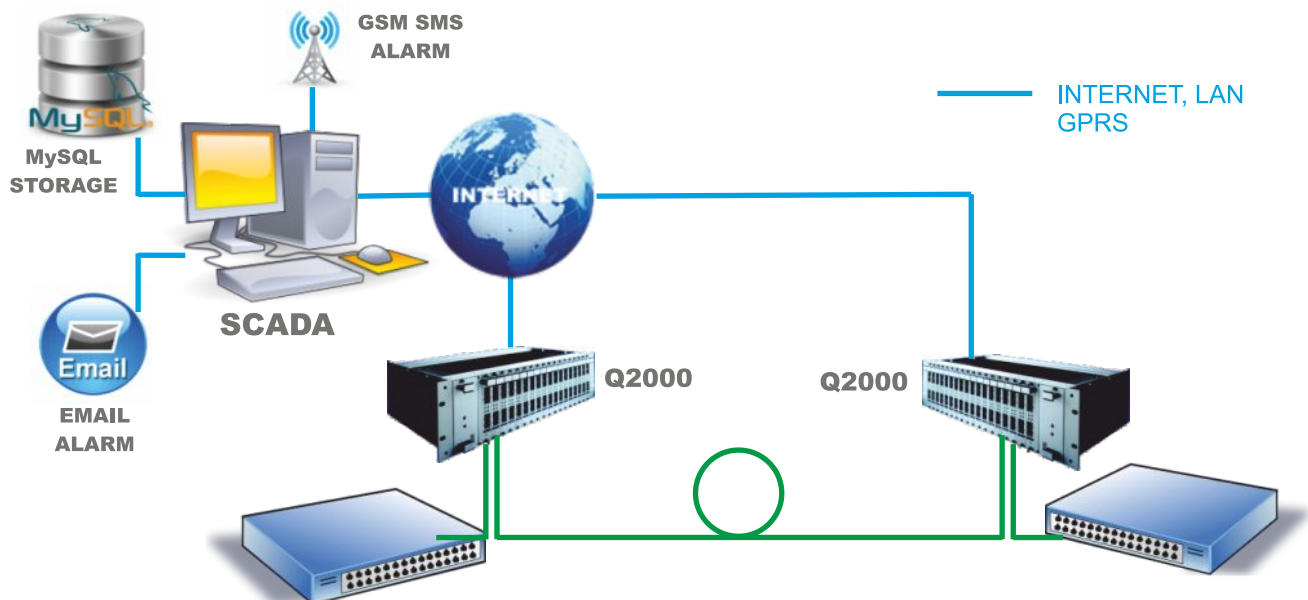
Properties

» Single and multimode fiber networks monitoring,
» Modular structure allows free configuration,
» Access to distributed network via Internet (TCP / IP),
» Redundant power supply.

Basic functions

» Single and multimode fiber networks monitoring,
» Monitoring a condition of receivers and transmitters (only by using transmission signal to network monitoring),
» Overstep selected alarming levels,
» Archiving data by the MySQL database,
» Measurement results visualized on line graphs,
» Events' notifications via EMAIL, SMS,
» Network visualization by GOOGLE Maps.

Standard equipment

» Power supply cable,
» Mounting screw M6 (4 pcs),
» Instruction (1 pc).

Photos
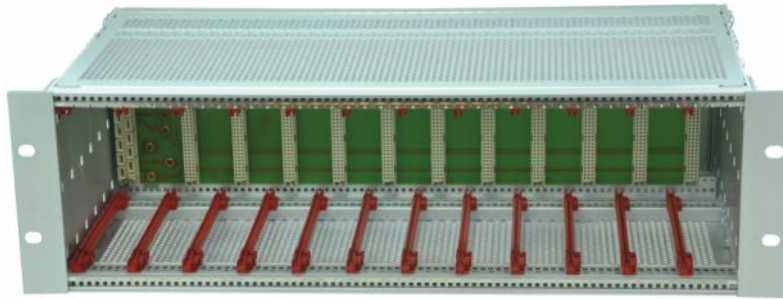
Q2001

Q2401   Q2402   Q2202

Q2601   Q2501   Q2502

How to order

Q2001	Chassis 19" 3U 12 ports, 1 port for power supply Q2601 module
Q2002	Chassis 19" 3U 12 ports, 2 ports for power supply Q2601 module
Q2401	Ethernet module 10/100TX
Q2402	Ethernet module 10/100TX + optical power monitor
Q2202	Optical power monitor module
Q2601	Power supply module 90 ÷ 254 AC, 12V 8,3A
Q2403	GPRS module
Q2801	GSM SMS module
Q2501	Ethernet media converter 10/100/1000TX-SFP SX/LX
Q2502	Ethernet switch 1x10/100/1000TX + 2xSFP SX/LX
Q2010	FO Monitor Application

Informations

Data sheet does not show all of Q2000 possibilities. Each fiber-optic network is characterized by different parameters. The Q2000 system is universal and can be adapted to work in different environments. Welcome to attend the system presentation. This is the best way to acquaint with the measurements' possibilities offered by the system Q2000.

FTTH Components

Box HomeBox Q-Fiber

Termination Boxes FTTH/FTTB

Optic Distribution Frames FTTB-D2OA/D3OB

Column Distribution FTTH Frame Q-Fiber

Fiber Optic SC-SOC Connectors Q-Fiber

Access Cable FTTH

Cable FTTH DAC GOSNA

Cable FTTH DAC GUSNA

Box HomeBox Q-Fiber

made in **Poland**

Description

Box HomeBox Q-Fiber is designed for installation in any multi-family apartment building in a place where telecommunication cables converge with the technical room, and telecommunication outlets of the apartment. Homebox is available as **HomeSBox** - surface mounting, or **HomeFBox** - flush mounted. Both types are in two sizes: Mini and Big.

The box includes provision for mounting devices such as TVK modems, routers, RF amplifiers, media converters, splitters, etc. Installation of the TV sockets (F), LAN RJ45 (keystone) and fibre optic adapters provided on a special for this purpose designed panel. Box enclosure is made of steel sheet with a thickness of 1mm. The doors can be equipped with EURO-Lock or sliding lock. The housing is provided with holes to facilitate introduction of cables into the box.

Application
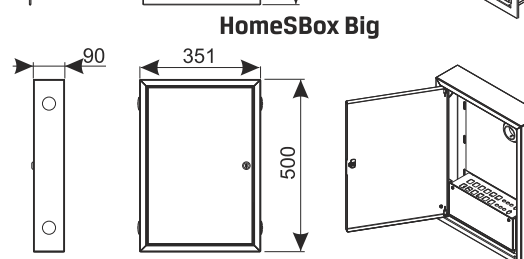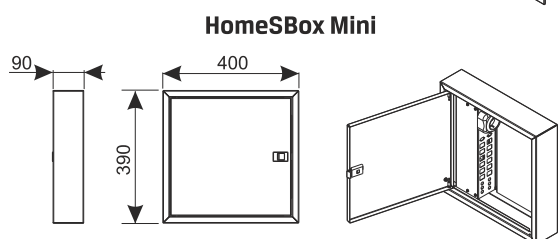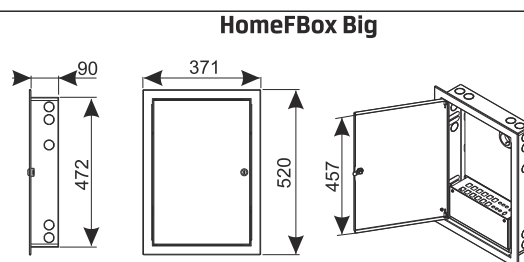
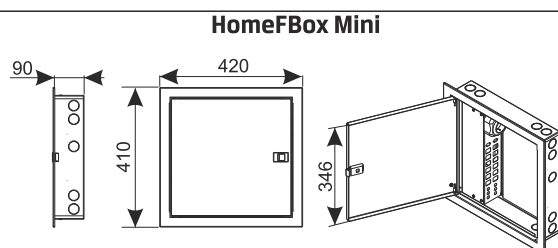Telecommunication, Audio, TV, alarm, Intercom, CCTV, DATA

Functions / Features

» Optimal dimensions and volume.
» Made from the highest quality components,
» Easily manage logical tracks,
» Casual reconfiguration endpoint
» Made of steel sheet with a thickness of 1 mm,
» Housing surface-mounted or flush-mounted,
» Patch field for 12 keystone modules, 6 holes for connector type F and 2 holes for adapters SC / APC sx,
» Fibre Cassette allows you to place up to 24 splices,
» RAL 7035, another to order,
» Electrical connection 230V.

Informtions

This solution is in line with recent Polish standards in the field of residential building wiring. This makes it easy to create installations in accordance with the Regulation of the Minister of Transport, Construction and Maritime Economy of 6 November 2012 concerning the requirement for the construction of telecommunications installation in any new building.

Dimensions

HomeFBox Mini

90 / 420 / 410 / 346

HomeFBox Big

90 / 371 / 472 / 520 / 457

HomeSBox Mini

90 / 400 / 390

HomeSBox Big

90 / 351 / 500

How to order

HomeFBoxMini-x - flush mounted,
HomeFBoxBig-x - flush mounted,
HomeSBoxMini-x- surface mounted,
HomeSBoxBig-x- surface mounted,
x- lock type (Z - EURO-Lock or P - sliding lock)

Additional equipment

» Pigtail SC / APC 9/125 microns, single mode 2.0m,
» RG6 coaxial cable.
» 9/125 SM fibre optic cable, two fibres ,
» 5e cable U / UTP PVC grey 200MHz 305m,
» Keystone adapter connector F (F-socket / F-socket), colour white,
» Media converters,
» Module 5e UTP RJ45 keystone,
» Adapter SC / APC simplex
» Video module, Audio module,
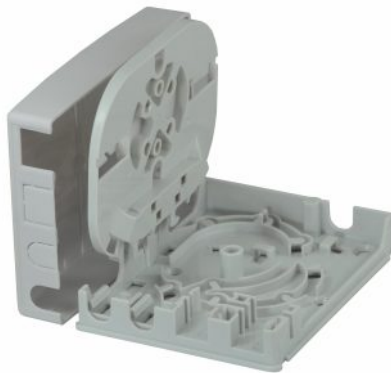» Splice protector.

FTTH-108 Termination Box

Description

Termination box FTTH-108
» FTTH-108 is designed for wall mount applications
» Maximum capacity: 4 fibers
» ROHS compliance

Properties

» Resistance to vibration and shock
» Modern and innovating design
» Made of engineering plastic material
» Available for SC and LC adapters

Photos

How to order

FTTH-108   FTTH-108 Termination box

Information

» Multiple cable entry points (cable diameter max. 6 mm)
» Maximum capacity: 4 fibers
» Size: 105,5 x 82,5 x 23,8 mm

Accessories

» Pigtails
» Adapters
» Splice protectors

FTTH-308 Termination Box

Description

Termination box FTTH-308
» FTTH-308 is designed for wall and pole mount applications
» Maximum capacity: 4 fibers
» ROHS compliance

Properties

» Resistance to vibration and shock
» Modern and innovating design
» Made of engineering plastic material
» Available for SC and LC adapter

Photos

How to order

FTTH-308   FTTH-308 Termination box

Information

» Cable ports: 3 x max. ø12 mm
» Maximum capacity: 4 fibers
» Size: 108,5 x 85 x 27 mm

Accessories

» Pigtails
» Adapters
» Splice protectors

FTTH-GPX Termination Box

Description

Termination box FTTH-GPX
» FTTH-GPX is designed for wall and pole mount applications
» Maximum capacity: 4 fibers
» ROHS compliance

Properties

» Resistance to vibration and shock
» Modern and innovating design
» Made of engineering plastic material
» Available for SC simplex adapters

Photos

How to order

FTTH-GPX   FTTH-GPX Termination box

Information

» Cable port: 1 x ø10 mm
» Maximum capacity: 4 fibers
» Size: 80 x 120 x 25 mm

Accessories

» Pigtails
» Adapters
» Splice protectors

FTTH-001 Termination Box

Description

Termination box FTTH-001
» FTTH-001 is designed for use in indoor applications
» Maximum capacity: 2 fibers
» Suitable to hold max 2 SC adapters
» The unit can be quickly installed within an office, house or communication room environment

Properties

» Economic design
» Ability to allow cables to enter from both sides of the unit
» Removable cover for easy access
» Compact profil

Photos

How to order

FTTH-001   FTTH-001 Termination box

Information

» Cable port: 4 x ø5 mm
» Maximum capacity: 2 fibers
» Size: 86 x 86 x 19 mm

Accessories

» Pigtails
» Adapters
» Splice protectors

FTTB-001 Termination Box

Description

Termination box FTTB-001
» FTTB-001 is designed for use in indoor wall mounting applications
» Maximum capacity: 24 fibers
» Easy installation
» Splice tray can be opening angle above 90°

Properties

» Light weight and small size
» Provide splice connection protection of fiber cables and pigtails
» Made of engineering plastic material
» Suitable to hold max 8 SC adapters

Photos

How to order

FTTB-001   FTTB-001 Termination box

Information

» Number of input cable ports: 2
» Maximum capacity: 24 fibers
» Size: 264 x 154 x 56 mm

Accessories

» Pigtails
» Adapters
» Splice protectors

FTTB-002 Termination Box

Description

Termination box FTTB-002
» FTTB-002 is designed for use in indoor wall mounting applications
» Maximum capacity: 12 fibers
» Easy installation
» Splice tray can be opening angle above 90°

Properties

» Light weight and small size
» Provide splice connection protection of fiber cables and pigtails
» Made of engineering plastic material

Photos

How to order

FTTB-002   FTTB-002 Termination box

Information

» Number of input cable ports: 2
» Maximum capacity: 12 fibers (for 2 splitter trails)
» Size: 264 x 154 x 56 mm

Accessories

» Pigtails
» Adapters
» Splice protectors

FTTH Components

FTTB-008 Termination Box

Description

Termination box FTTB-008
» FTTB-008 is designed for use in indoor wall mounting applications
» Maximum capacity: 12 fibers
» Suitable to hold 2 SC simplex or 6 LC duplex adapters
» Easy installation

Properties

» Light weight and small size
» Provide splice connection protection of fiber cables and pigtails
» Made of engineering plastic material

Photos

How to order

FTTB-008   FTTB-008 Termination box

Information

» Number of input cable ports: 2
» Maximum capacity: 12 fibers (for LC duplex connectors)
» Size: 183 x 169 x 19 mm

Accessories

» Pigtails
» Adapters
» Splice protectors

FTTB-D20A Termination Box

Description

FTTB-D20A Termination Box
» FTTB-D20A is designed for wall and pole mount applications,
» Maximum capacity: 16 fibers,
» ROHS compliance.

Properties

» Resistance to vibration and shock,
» Modern and innovating design,
» Made of engineering plastic material,
» Available for SC simplex adapters,
» Index of protection IP 67.

Photos

How to order

FTTB-D20A   FTTB-D20A Termination Box

Information

» 2 inlet ports (for cable with max diameter 12 mm),
» 16 outlet ports (for FTTH cables, patchcords),
» Maximum capacity: 16 fibers,
» Dimensions: 260 mm x 320 mm x 90 mm.

Accessories

» Pigtails,
» Adapters,
» Splice protectors.

FTTB-D30B Termination Box

Description

FTTB-D30B Termination Box
» FTTB-D30B is designed for wall and pole mount applications,
» Maximum capacity: 12 fibers,
» ROHS compliance.

Properties

» Resistance to vibration and shock,
» Modern and innovating design,
» Made of engineering plastic material,
» Available for SC adapters,
» Index of protection IP 67.

Photos

How to order

FTTB-D30B   FTTB-D30B Termination Box

Information

» 2 inlet ports (for cable with max diameter 12 mm),
» 16 outlet ports (for FTTH cables, patchcords),
» Maximum capacity: 12 fibers,
» Dimensions: 200 mm x 215 mm x 54 mm.

Accessories

» Pigtails,
» Adapters,
» Splice protectors.

Column Distribution FTTH Frame

made in **Poland**

Description

Column distribution FTTH frame is intended to build FTTH network in estate cottages. The housing is made of insulating, slow and self-extinguishing composite (polyester + fibreglass) resistant to weather conditions (UV). The module design allows fitting the housing to the foundation or cable pocket. The foundation closures can be dismounted without using additional tools, it allows easy fibre optic cables installation. Special design of the housing together with additional elements allows fast and easy equipment installation.

Application

FTTx, PON.

Properties
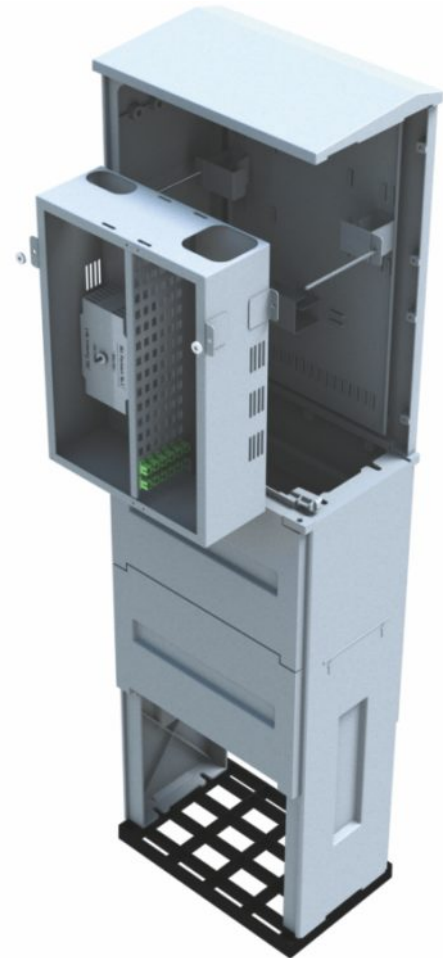
» Housing made of composite,
» Allows termination of the cables that reach the column from PABX side – customers cable and optical splitters,
» With space for reserve operative fibres terminated in the column, what helps in easy cabling installation in service car,
» RAL 7035 colour
» Protection rating IP54
» Mechanical resistance IK 10,
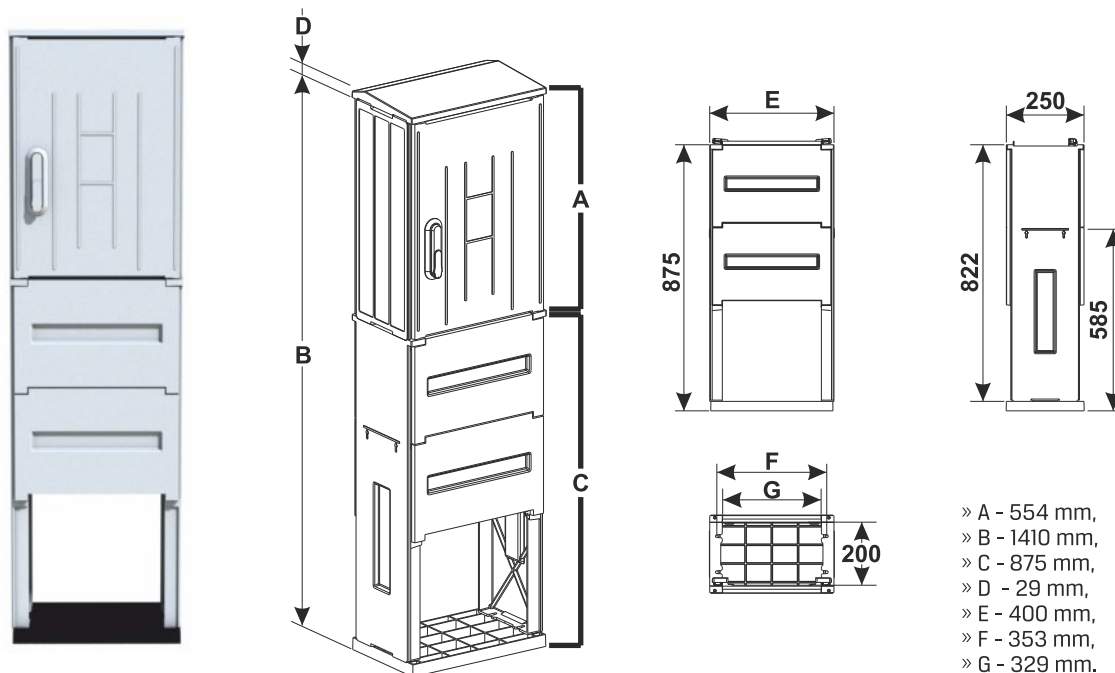» Dimensions 1440x400x250 [mm] height x width x depth

Information

» Accommodates 8 splicing cassettes DIN24 WHITE – allows 192 splices installation
» Commutation field allows 96 SC/E2000 sx adapters installation
» Weight 26kgs

Norms and certificates

» Protection rating IP54 according to EN 60529
» Mechanical resistance IK10 according to EN 50102

Dimensions

» A - 554 mm,
» B - 1410 mm,
» C - 875 mm,
» D - 29 mm,
» E - 400 mm,
» F - 353 mm,
» G - 329 mm.

Fibre optic SC-SOC connectors Q-Fiber

made in Poland

Description

Fibre optic SC-SOC connectors Q-Fiber is an innovative solution created for the needs of FTTX. Thanks to its small size (39mm) connector SC-SOC can be use as "no length" pigtail allowing direct termination of customers cable with connector and plugging into the device or outlet without using additional devices. It gives also savings in power budget of the FTTX network and that's very helpful for designers and fitters. The ferrule with output fibre is the most important element of the connector and it's polished in laboratory environment. Factory earned fibre extends only slightly out of the ferrule and hidden under the connectors housing splice gives hidden splice effect.
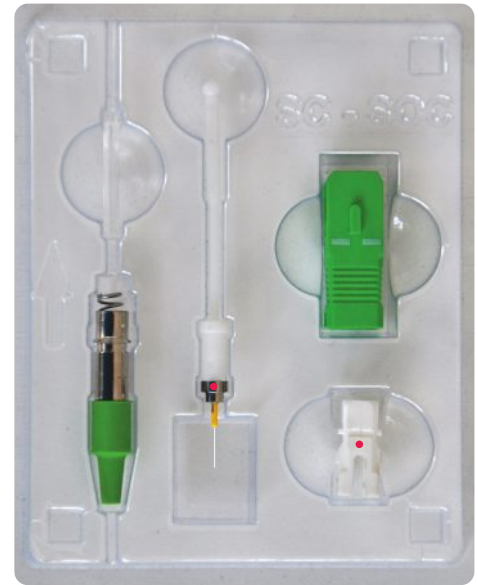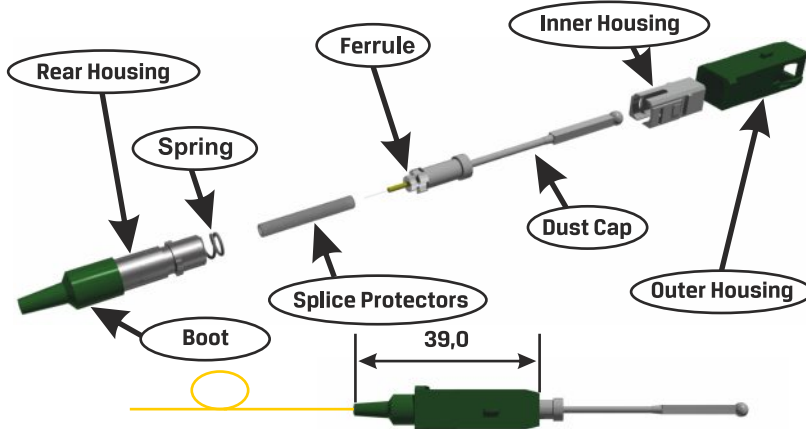
Application

Telecommunication, CATV, Monitoring, Industry, LAN, MAN, WAN, FTTx

Properties

» Ceramic ferrule
» In accordance with ZN-05/TP SA-044, ZN-96/TPSA-07, IEC 61754-4, IEC 61755
» In accordance with RoHS

Connector construction

Rear Housing
Ferrule
Inner Housing
Spring
Dust Cap
Boot
Splice Protectors
Outer Housing
39,0

Polishing standard

» APC 8°.

Parameters

| | Ceramic ferrule (SC) | |
| | SM/APC | |
	Standard	Premium
Maximum insertion loss [dB]	≤ 0,5 (klasa C)	≤ 0,25 (klasa B)
Typical insertion loss [dB]	≤ 0,25 (klasa C)	≤ 0,12 (klasa B)
Reflection [dB]	≥ 60 (klasa 1)	≥ 60 (klasa 1)
Radius of curvature [mm]	5 ÷ 12 (klasa C)	5 ÷ 12 (klasa B)
Apex offset [µm]	0 ÷ 50 (klasa C)	0 ÷ 50 (klasa B)
Maximum angle error [°]	0,3 (klasa C)	0,2 (klasa B)
Fiber height* [nm]	-100 ÷ A** (klasa C)	-60 ÷ A** (klasa B)

* negative value indicates the extension of a fibre
** calculated from the formula based on other geometric parameters, see technical requirements at www.dllpartners.de (or www.dll.com.pl)

Pictures

1

Ferrula SC-SOC
S.C.-SOC Holder
2

3

Spawanie
4

00.00dB
5

6

7

8
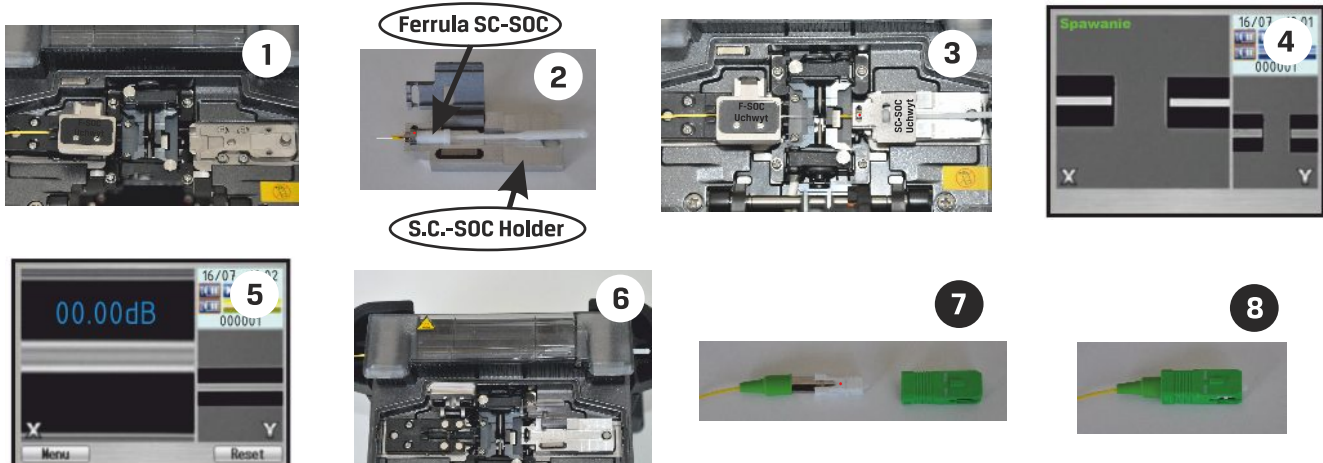
How to order

**SC - SOC**   -   fibre optic SC – SOC APC connector

Additional equipment

» SC -SOC Holder   – holder for splicer for SC-SOC connector,
» SOC Holder   – replaceable holder for splicer / fibre cutter.

Access cable FTTH

Description

Access Cable FTTH is used for indoor applications. G.657.A2 fiber allows for very easy and fast installation caused to minimum bend radius. Due to special cable construction, specialized tools for tube removing, are doesn't needed. LSZH coat provides flame and fire retardant halogen free.
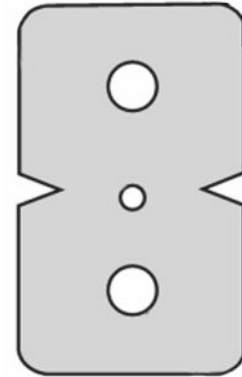
Application

Telecommunication, CATV, Monitoring, Industry, Networks (LAN, MAN, WAN), FTTX, PON.

Properties

» Any length (length tolerance is up to 3 m: 3%, above: 1%),,
» Standard color: yellow or black (other on request),
» Cable LSZH, UV stabilized
» Any connectors: SC, FC, ST, LC, MU, E2000, MT-RJ, DIN, other,
» Polishing standards: Flat, PC, UPC, APC 8°, APC 9°,
» Strength member: FRP.

Technical parameters

Cable type	Dimensions [mm]	Fiber quantity	Weight [kg/km]	Pulling tension [N]	Temperature range [°C]	Note
KDFTTH	2.0 x 3.0	1 - 2	7.9	250	- 20 / + 70	Strength member: FRP

Photos and dimensions
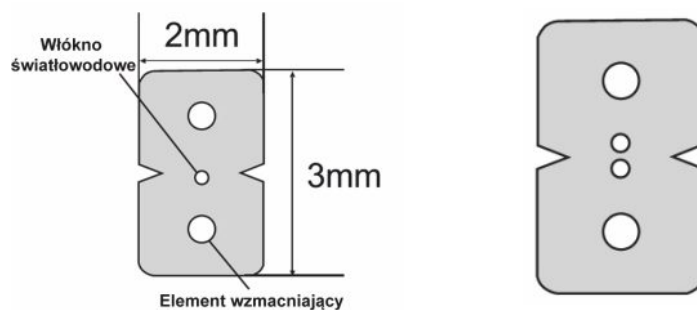
How to order

KDFTTH-1J   Access cable KDFTTH 1-fiber
KDFTTH-2J   Access cable KDFTTH 2-fiber

DLL
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Fiber Optic Cable FTTH DAC GOSNA

Description

Fiber Optic Cable DAC (Direct Access Cable) GOSNA (A/I-DQ(ZN)BH) is used for outdoor applications: in structured (data) wiring systems (campus backbone) and in networks for telecom, cable TV and/or broadcast. Suitable for direct burial. Easy to install in ducts, tunnels and trenches.
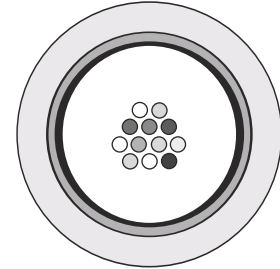
Application

Telecommunication, LAN, MAN, WAN, FTTx networks.
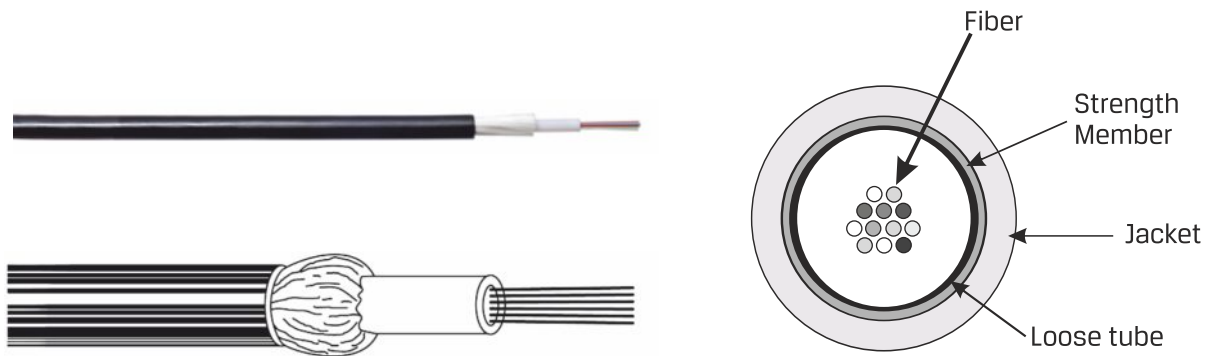
Photos

Fiber
Strength Member
Jacket
Loose tube

Cable specifications (construction in accordance with IEC 60794)

» Primary coated optical fibres: Ø 250 ± 15 um.
» Central tube, jelly filled (non-dripping and silicon-free) with up to 24 fibres.
» Individually colour coded optical fibres:
   1 – 12: red – natural – yellow – blue – green – violet – brown – black – orange - turquoise – pink and white.
   13 – 24: red – natural – yellow – blue – green – violet – brown – grey – orange – turquoise – pink and white with rings.
» Swellable yarns as strength members and for the longitudinal watertightness.
» Black UV resistant PE outer jacket.
» Identification: BELDEN OFC – "cable type" – number x type of fibre + date-, meter- and P./N marking.
» Predicted lifetime ›30 lat.

Mechanical and physical characteristics:

Temperature range:

Transport and storage	-30 do +70 C
Installation	-5 do +50 C
Operation	-30 do +70 C

Flame retardancy:

Flame retardancy	IEC 60332-1
Halogen-free	IEC 60754-2
corrosovity brak	
korozyjnych i toksycznych gazów	

Mechanical requirements:

Bending radii cable	static	10 x śred. zew.
	dynamic	15 x śred. zew.
Pulling tension	long term	≤700 N
	short term	≤1500 N
Bending radii for fibres and tubes	› 25 mm	
Watertightness	Yes	
Ø Central tube (for max. 24j)	3.3	
Ø nom./max (mm) (for max. 24j)	5.8 / 6.1	
Energy of flame (kJ/m)	762	
Weight (kg/km)	28	

How to order

Type	2	4	6	8	12	16	24
9/125 ITU G.657.A1	GOSNA02	GOSNA04	GOSNA06	GOSNA08	GOSNA12	GOSNA16	GOSNA24

Fiber Optic Cable FTTH DAC GUSNA

Description

Fiber Optic Cable DAC (Direct Access Cable) GUSNA (A/I-DQ(ZN)BH) for outdoor and indoor application use in structured (data) wiring systems such as campus backbone, building backbone (riser) and/or Horizontal cabling. Support all computer network applications such as FDDI, Gigabit Ethernet and ATM. GUSNA cable is easy to install in ducts, tunnels and trenches. Suitable for **direct burial**.
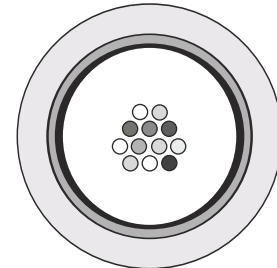
Application

Telecommunication, LAN, MAN, WAN, FTTx networks.
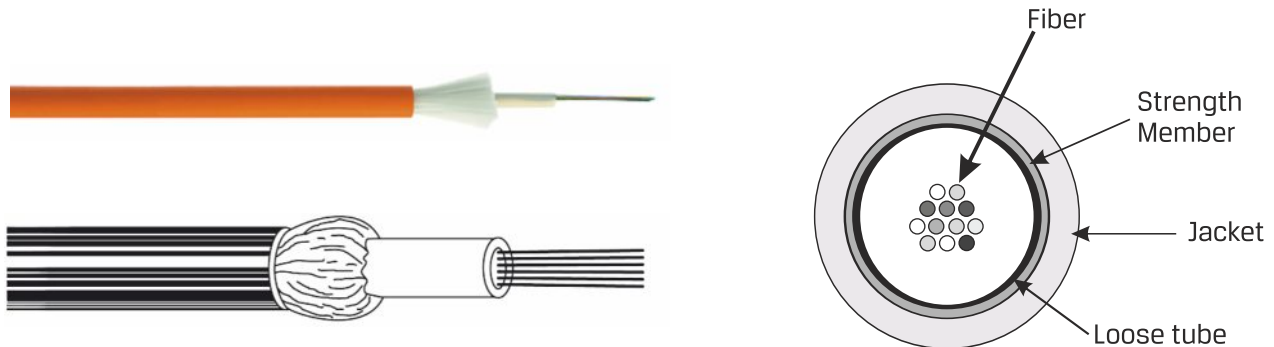
Photos

Fiber

Strength Member

Jacket

Loose tube

Cable specifications (construction in accordance with IEC 60794)

» Primary coated optical fibres: Ø 250 ± 15 um.
» Central tube, jelly filled (non-dripping and silicon-free) with up to 24 fibres.
» Individually colour coded optical fibres:
   1 – 12: red – natural – yellow – blue – green – violet – brown – black – orange - turquoise – pink and white.
   13 – 24: red – natural – yellow – blue – green – violet – brown – grey – orange – turquoise – pink and white with rings.
» Swellable (for the longitudinal watertightness) yarns as strength members and for the standard rodent protection.
» Orange halogen-free (FRNC/LSNH) outer jacket.
» Identification: BELDEN OFC – "cable type" – "number x type of fibre" +date-, meter- and P./N-marking.
» Predicted lifetime 〉30 years.

Mechanical and physical characteristics

Temperature range:

Transport and storage	-30 do +70 C
Installation	-5 do +50 C
Operation	-30 do +70 C

Flame retardancy:

Flame retardancy	IEC 60332-1
Halogen-free	IEC 60754-2
corrosovity brak	
korozyjnych i toksycznych gazów	

Mechanical requirements:

Bending radii cable	static	10 x śred. zew.
	dynamic	15 x śred. zew.
Pulling tension	long term	≤700 N
	short term	≤1500 N
Bending radii for fibres and tubes	〉25 mm	
Watertightness	Yes	
Ø Central tube (for max. 24j)	3.3	
Ø nom./max (mm) (for max. 24j)	5.8 / 6.1	
Energy of flame (kJ/m)	550	
Weight (kg/km)	37	

How to order

Type	2	4	6	8	12	16	24
9/125 ITU G.657.A1	GUSNA02	GUSNA04	GUSNA06	GUSNA08	GUSNA12	GUSNA16	GUSNA24

FTTH Components

Notes

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