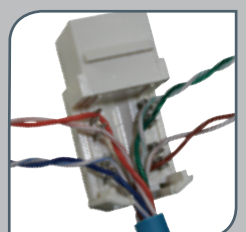
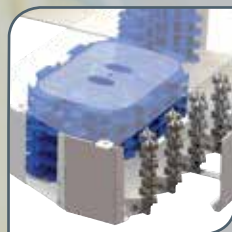
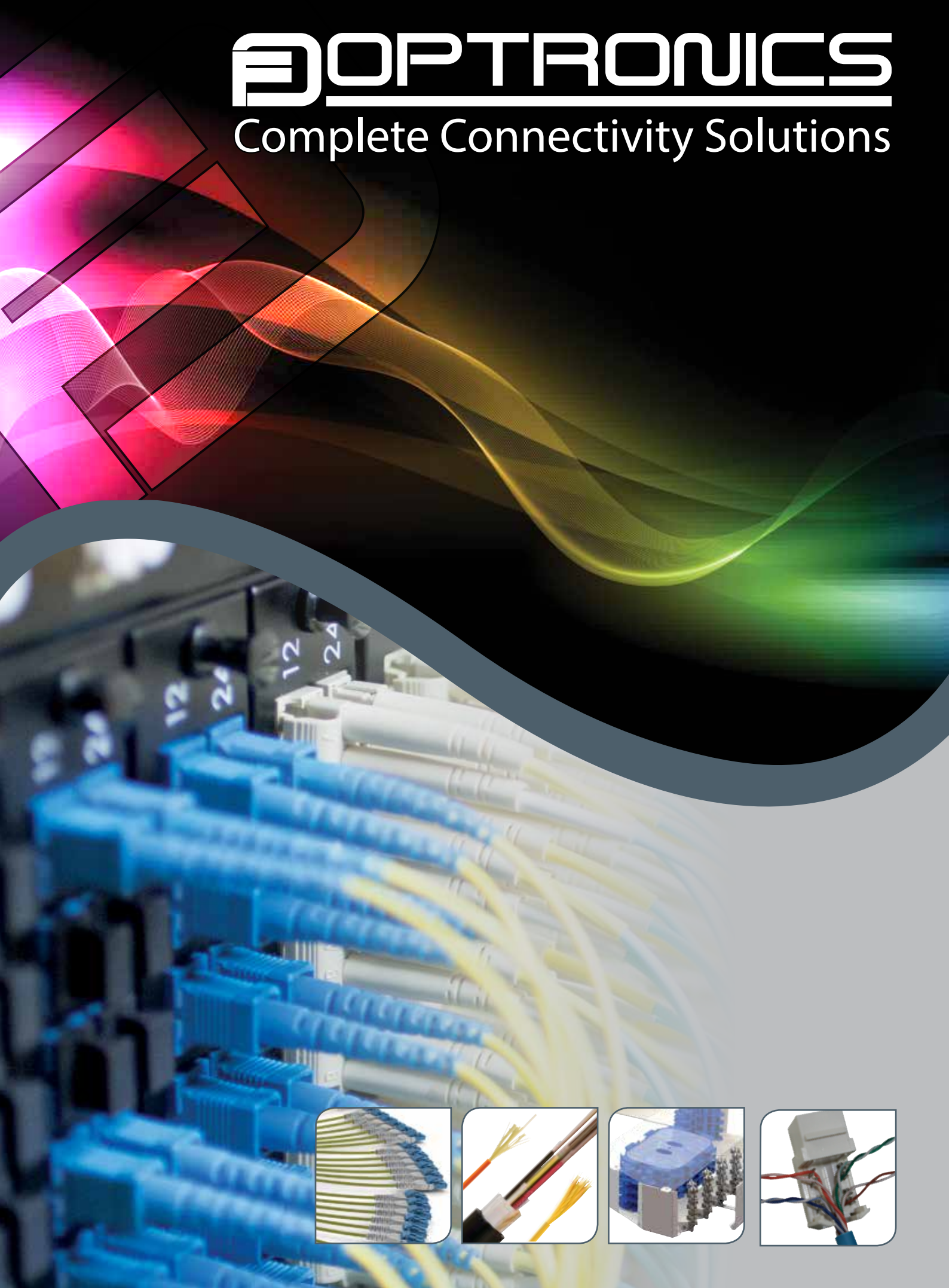


# FOPTRONICS

Complete Connectivity Solutions



## ABOUT OPTRONICS

### About Us

Optronics is a brand of fibre optic and copper networking products, for use in local and wide area networking and telecommunications applications.

Since 1974, Optronics has used it's expertise to build a comprehensive range of high quality network communications products which includes patch cords, pigtailed (multimode and singlemode), patch panels, wall and splice boxes (unloaded and customised), and a full range of accessories.

Based in Milton Keynes, UK, we have the facilities to support a vast array of customers; from small distributors and supporting specialist installers.

Optronics products are available directly or from distributors all over the world.

### Our History

- > Optronics founded in 1974
- > Established a Base in Milton Keynes, which is central to all the major UK national and international transport hubs
- > Moved to a purpose built building in 2002

### Our Capabilities

- > Multilingual sales personnel
- > Largest termination capacity in Europe
- > Manufacturing across two continents
- > Several partnerships globally
- > Proactively aiding our clients to secure new and existing customers through designing and manufacturing bespoke products in necessary quantities

### A Global Company

- > 120 Sales Executives employed
- > 18 Languages spoken
- > 24 hour design and engineering support capability
- > Global logistics service
- > Regions Covered
  - North South America
  - Europe
  - Africa
  - Middle East
  - Australasia
- > Optronics Limited. is registered in England and has regional offices in each major continent in the world.



Optronics Global HQ, Milton Keynes, UK



# Optronics

## Complete Solutions Catalogue

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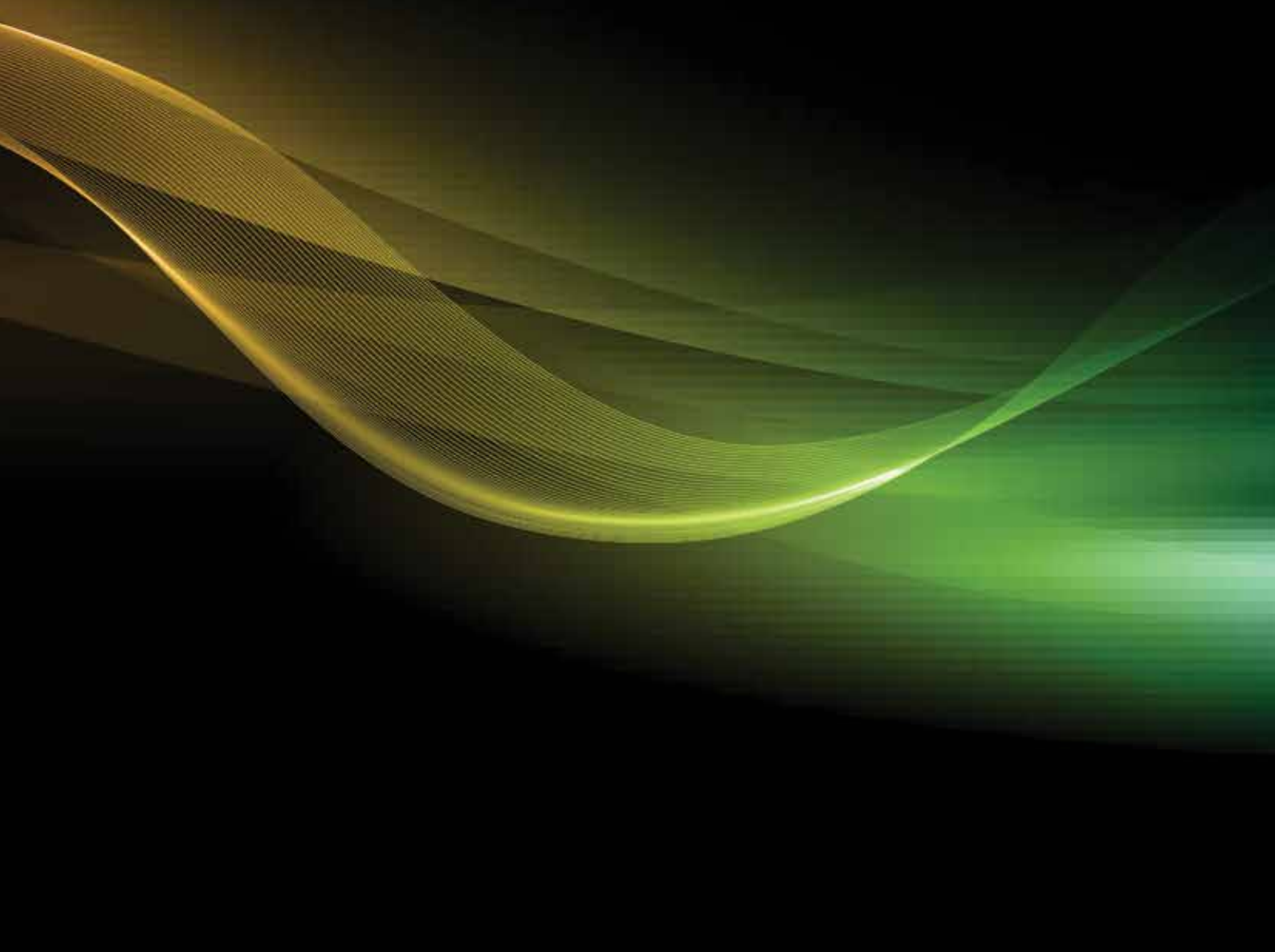
# Optical Fibre Assemblies

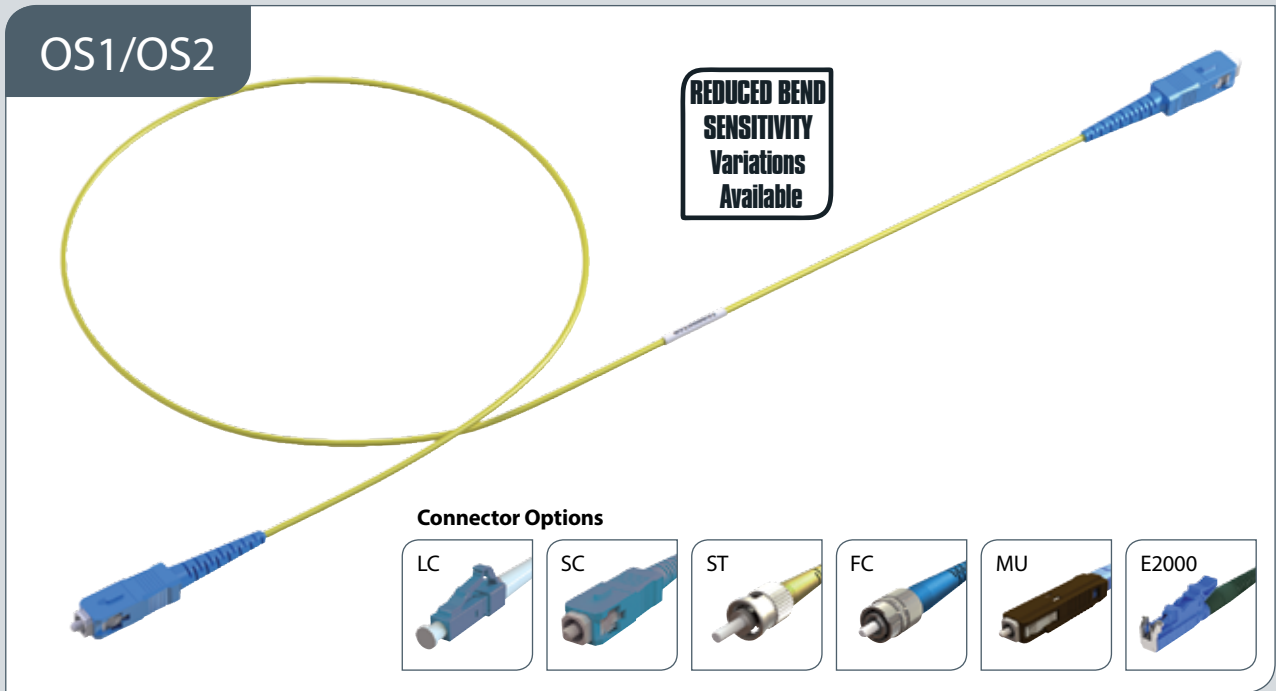
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# Patch Cords & Pigtails

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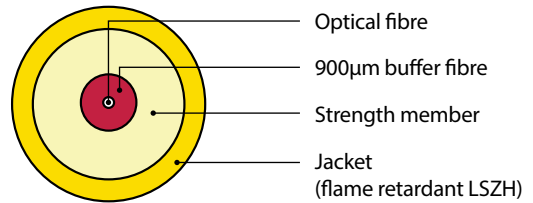




## Features & Specifications

- > Available in SC, ST, FC, LC, E2000 & MU connector styles
- > Standard product manufactured on 2.0mm or 2.8mm (nominal dia.) LSZH cable
- > Individual test sheet and unique product identification number for traceability
- > Low insertion loss ( $\leq 0.25\text{dB}$ ) & high return loss ( $\geq 55\text{dB}$ )
- > Yellow cable
- > Materials compliant to 2011/65/EU

### Cable Construction



## Technical Specifications

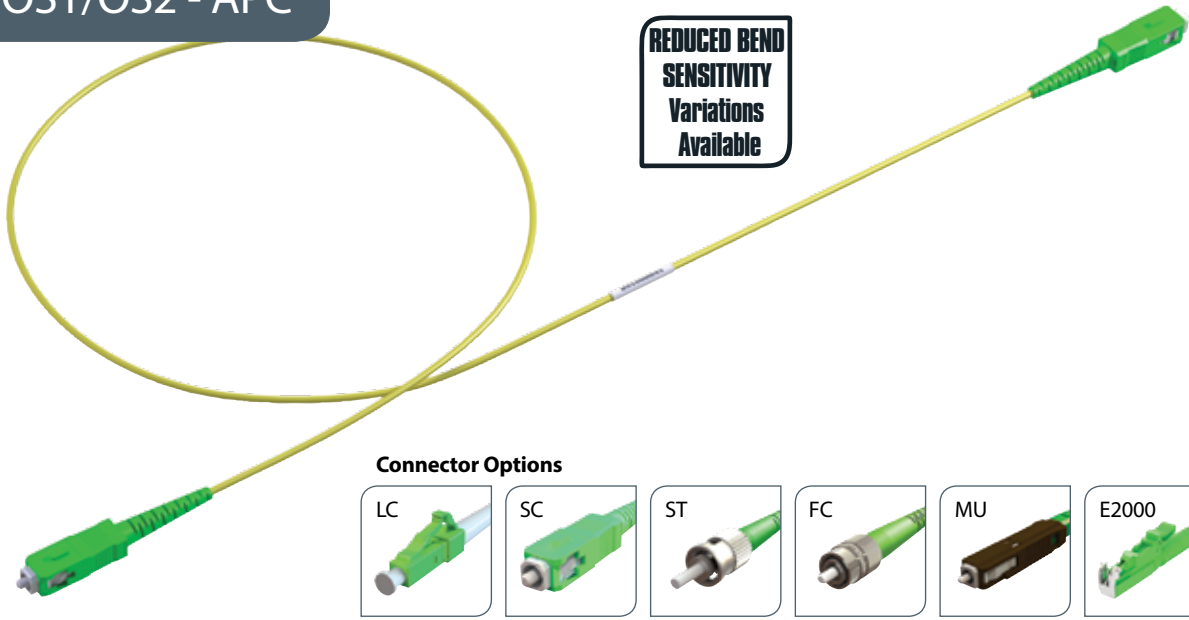
TEST	METHOD	SPECIFICATION
Connector Type Standards	IEC61574 series	-
Insertion Loss	IEC 61300-3-4	$\leq 0.25\text{dB}$
Flammability	IEC60332-1	-
Singlemode Return Loss UPC	IEC61300-3-6	$\geq 55\text{dB}$

ASSEMBLY SPECIFICATION	
Length of assembly	Tolerance
Less than 0.5m	-0/+0.10m
Between 0.5m and 5m	-0/+0.15m
Greater than 5m	-0/+0.20m

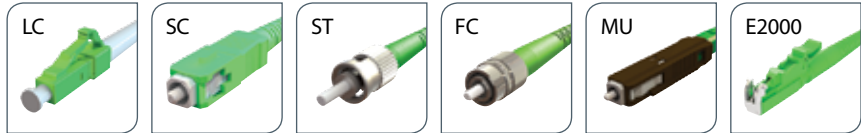
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OS1/OS2 - APC

**REDUCED BEND  
SENSITIVITY  
Variations  
Available**



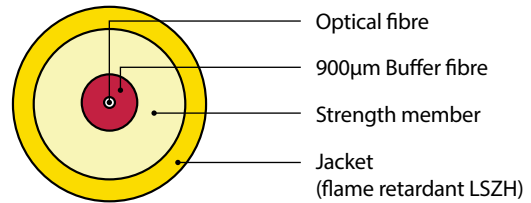
**Connector Options**



**Features & Specifications**

- > Available in SC, ST, FC, LC, E2000 & MU connector styles
- > Standard product manufactured on 2.0mm or 2.8mm (nominal dia.) LSZH cable
- > Individual test sheet and unique product identification number for traceability
- > Low insertion loss ( $\leq 0.25\text{dB}$ ) & high return loss ( $\geq 65\text{dB}$ )
- > Yellow cable
- > Materials compliant to 2011/65/EU

**Cable Construction**



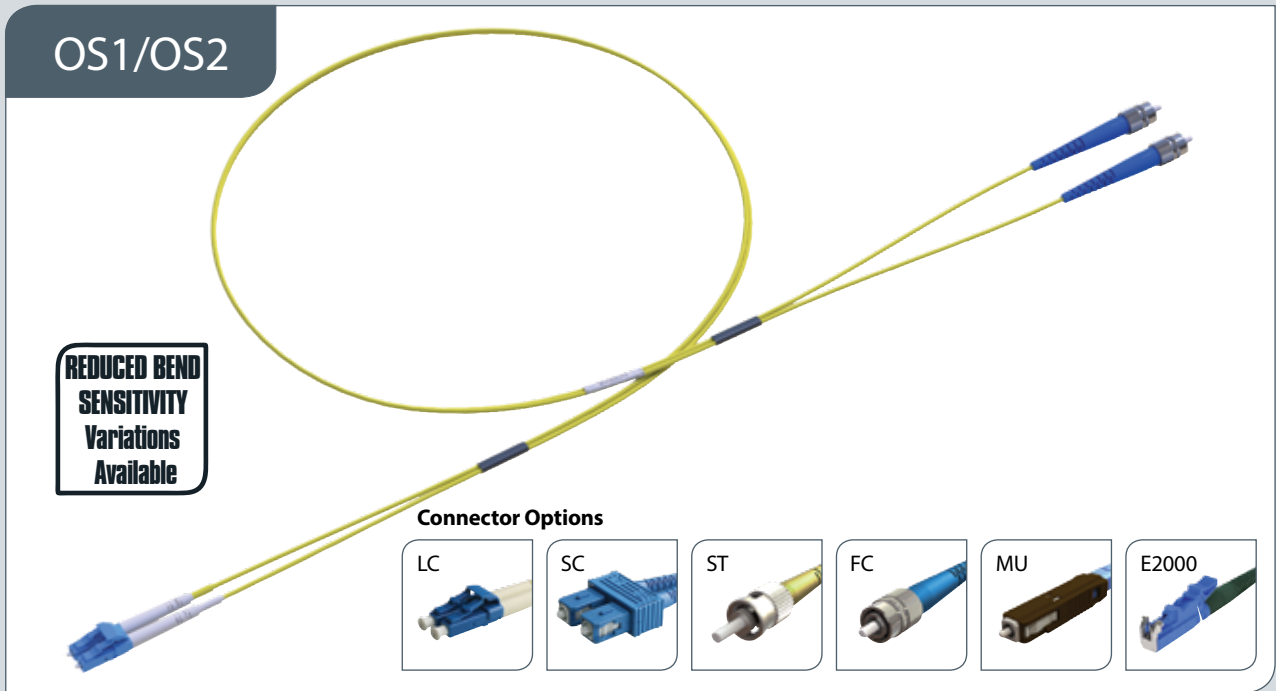
**Technical Specifications**

TEST	METHOD	SPECIFICATION
Connector Type Standards	IEC61574 series	-
Insertion Loss	IEC 61300-3-4	$\leq 0.25\text{dB}$
Flammability	IEC60332-1	-
Singlemode Return Loss UPC	IEC61300-3-6	$\geq 65\text{dB}$

ASSEMBLY SPECIFICATION	
Length of assembly	Tolerance
Less than 0.5m	-0/+0.10m
Between 0.5m and 5m	-0/+0.15m
Greater than 5m	-0/+0.20m

For ordering information see page 14

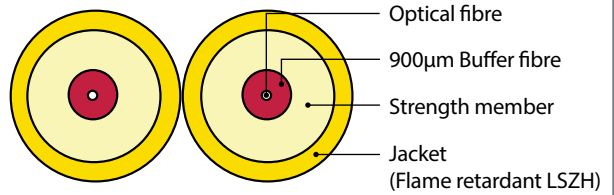




### Features & Specifications

- > Available in SC, ST, FC, LC, E2000 & MU connector styles
- > Standard product manufactured on 2.0mm or 2.8mm (nominal dia.) LSZH cable
- > Individual test sheet and unique product identification number for traceability
- > Low insertion loss ( $\leq 0.25\text{dB}$ ) & high return loss ( $\geq 55\text{dB}$ )
- > Yellow cable
- > Materials compliant to 2011/65/EU

### Cable Construction



### Technical Specifications

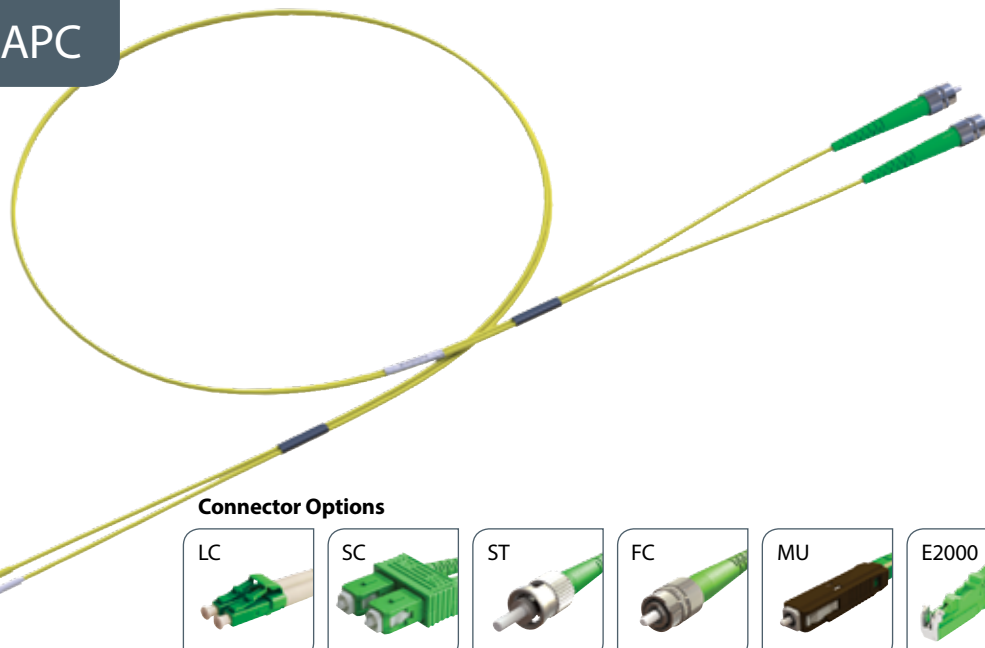
TEST	METHOD	SPECIFICATION
Connector Type Standards	IEC61574 series	-
Insertion Loss	IEC 61300-3-4	$\leq 0.25\text{dB}$
Flammability	IEC60332-1	-
Singlemode Return Loss UPC	IEC61300-3-6	$\geq 55\text{dB}$

ASSEMBLY SPECIFICATION	
Length of assembly	Tolerance
Less than 0.5m	-0/+0.10m
Between 0.5m and 5m	-0/+0.15m
Greater than 5m	-0/+0.20m

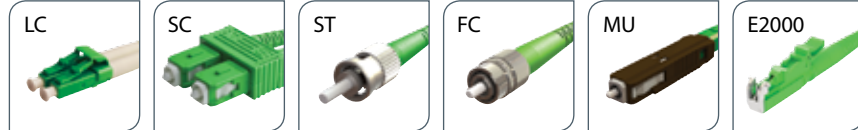
▶▶▶ For ordering information see page 14

OS1/OS2 APC

**REDUCED BEND SENSITIVITY Variations Available**



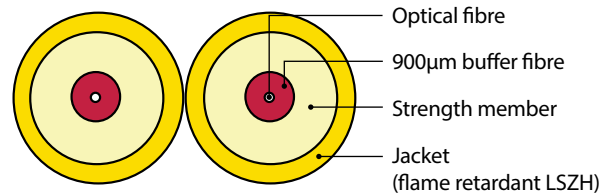
**Connector Options**



**Features & Specifications**

- > Available in SC, ST, FC, LC, E2000 & MU connector styles
- > Standard product manufactured on 2.0mm or 2.8mm (nominal dia.) LSZH cable
- > Individual test sheet and unique product identification number for traceability
- > Low insertion loss ( $\leq 0.25\text{dB}$ ) & high return loss ( $\geq 50\text{dB}$ )
- > Yellow cable
- > Materials compliant to 2011/65/EU

**Cable Construction**



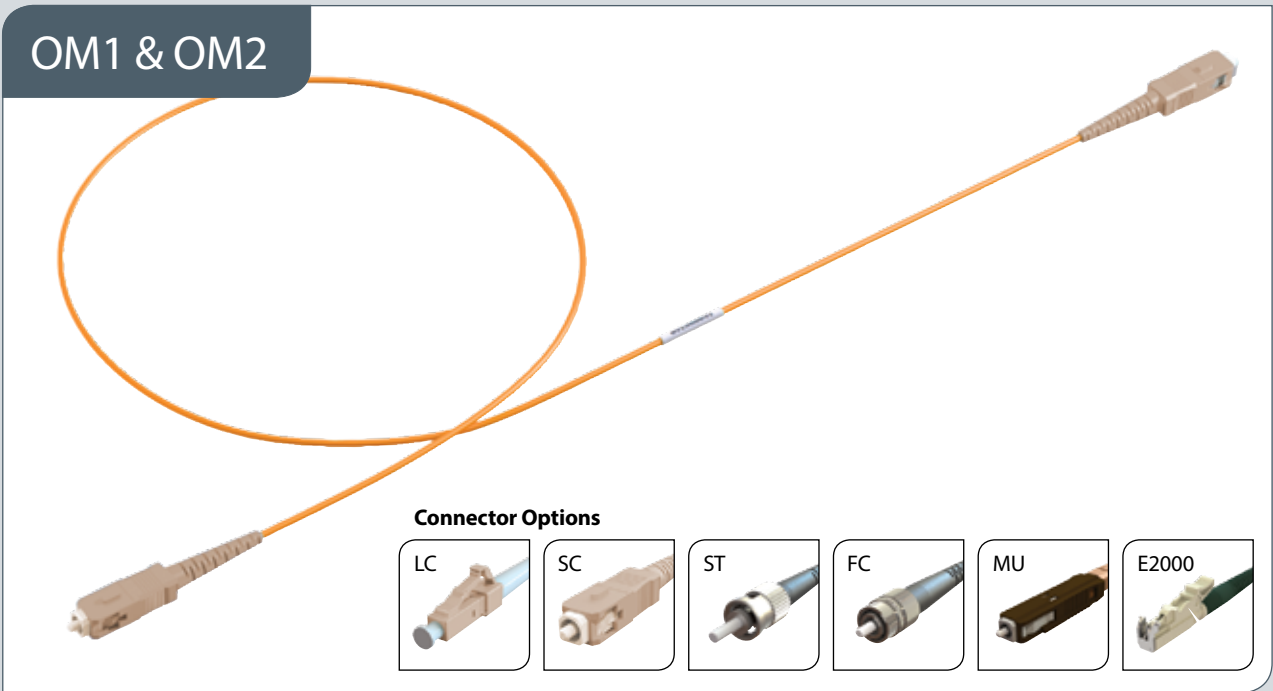
**Technical Specifications**

TEST	METHOD	SPECIFICATION
Connector Type Standards	IEC61574 series	-
Insertion Loss	IEC 61300-3-4	$\leq 0.30\text{dB}$
Flammability	IEC60332-1	-
Singlemode Return Loss UPC	IEC61300-3-6	$\geq 50\text{dB}$

ASSEMBLY SPECIFICATION	
Length of assembly	Tolerance
Less than 0.5m	-0/+0.10m
Between 0.5m and 5m	-0/+0.15m
Greater than 5m	-0/+0.20m

For ordering information see page 14

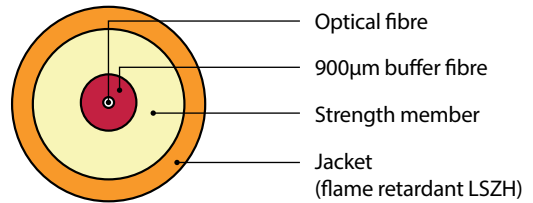
OM1 & OM2



Features & Specifications

- > Available in SC, ST, FC, LC, E2000 & MU connector styles
- > Standard product manufactured on 2.0mm or 2.8mm (nominal dia.) LSZH cable
- > Individual test sheet and unique product identification number for traceability
- > Low insertion loss ( $\leq 0.25\text{dB}$ )
- > Orange cable
- > Materials compliant to 2011/65/EU

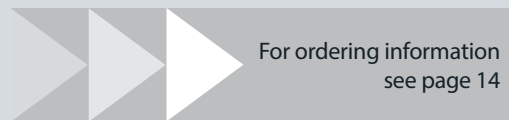
Cable Construction



Technical Specifications

TEST	METHOD	SPECIFICATION
Connector Type Standards	IEC61574 series	-
Insertion Loss	IEC 61300-3-4	$\leq 0.25\text{dB}$
Flammability	IEC60332-1	-

ASSEMBLY SPECIFICATION	
Length of assembly	Tolerance
Less than 0.5m	-0/+0.10m
Between 0.5m and 5m	-0/+0.15m
Greater than 5m	-0/+0.20m

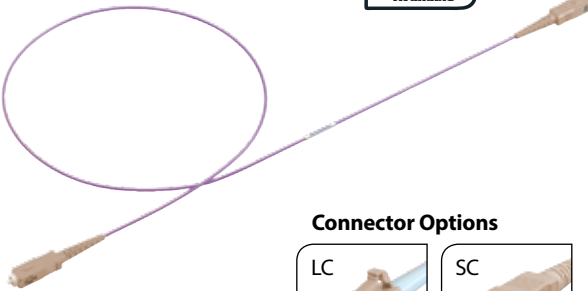




# OPTICAL FIBRE ASSEMBLIES | SIMPLEX PATCH CORDS - MULTIMODE (OM3 - OM4)

**OM3**

REDUCED BEND SENSITIVITY Variations Available



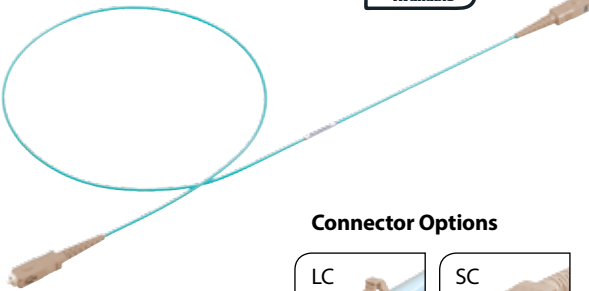
**Connector Options**

LC SC

ST FC MU E2000

**OM4**

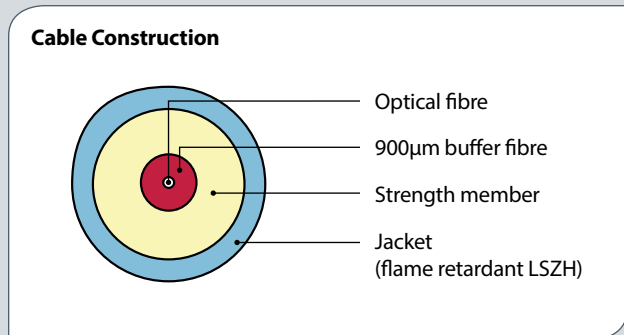
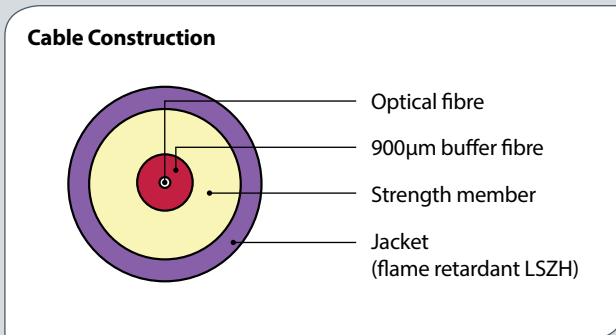
REDUCED BEND SENSITIVITY Variations Available



**Connector Options**

LC SC

ST FC MU E2000



## Features & Specifications

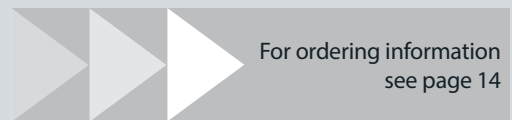
- > Available in SC, ST, FC, LC, E2000 & MU connector styles
- > Used in 10 Gigabit, Ethernet, Fast Ethernet and FDDI networks
- > Standard product manufactured on 2.0mm or 2.8mm (nominal dia.) LSZH cable. LSZH zip cable also available in 2mm (nominal dia.) cable

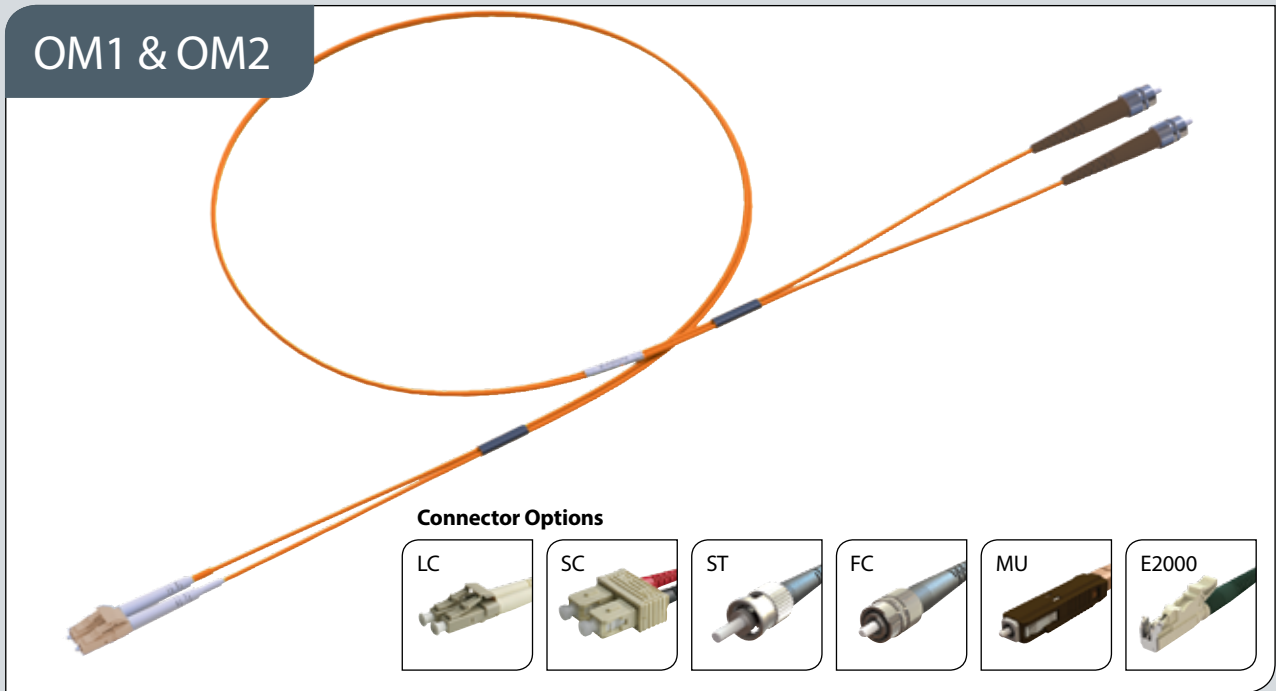
- > Low insertion loss ( $\leq 0.25\text{dB}$ )
- > Individual test sheet and unique product identification number for traceability
- > 850nm VCSEL based GbE (1000 base-SX) to support longer distance
- > Materials compliant to 2011/65/EU

## Technical Specifications

TEST	METHOD	SPECIFICATION
Connector Type Standards	IEC61574 series	-
Insertion Loss	IEC 61300-3-4	$\leq 0.25\text{dB}$
Flammability	IEC60332-1	-

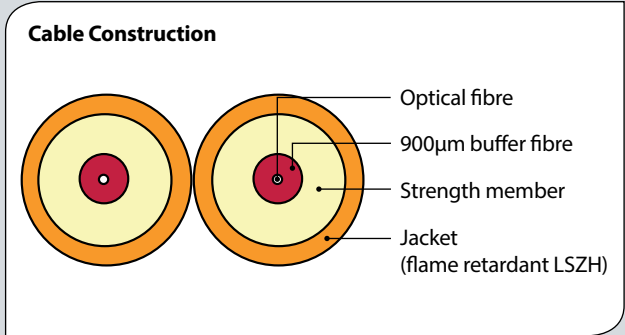
ASSEMBLY SPECIFICATION	
Length of assembly	Tolerance
Less than 0.5m	-0/+0.10m
Between 0.5m and 5m	-0/+0.15m
Greater than 5m	-0/+0.20m





### Features & Specifications

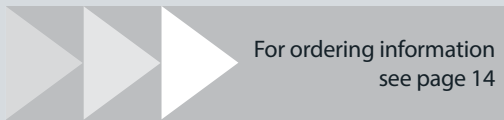
- > Available in SC, ST, FC, LC, E2000 & MU connector styles
- > Standard product manufactured on 2.0mm or 2.8mm (nominal dia.) LSZH cable, also available in 2mm (nominal dia.) cable on request
- > Individual test sheet and unique product identification number for traceability
- > Low insertion loss ( $\leq 0.25\text{dB}$ )
- > Orange cable as standard, also available in grey for OM1 on request
- > Materials compliant to 2011/65/EU



### Technical Specifications

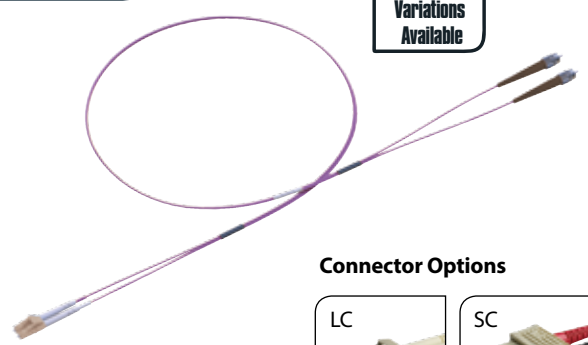
TEST	METHOD	SPECIFICATION
Connector Type Standards	IEC61574 series	-
Insertion Loss	IEC 61300-3-4	$\leq 0.25\text{dB}$
Flammability	IEC60332-1	-

ASSEMBLY SPECIFICATION	
Length of assembly	Tolerance
Less than 0.5m	-0/+0.10m
Between 0.5m and 5m	-0/+0.15m
Greater than 5m	-0/+0.20m



**OM3**

REDUCED BEND SENSITIVITY Variations Available



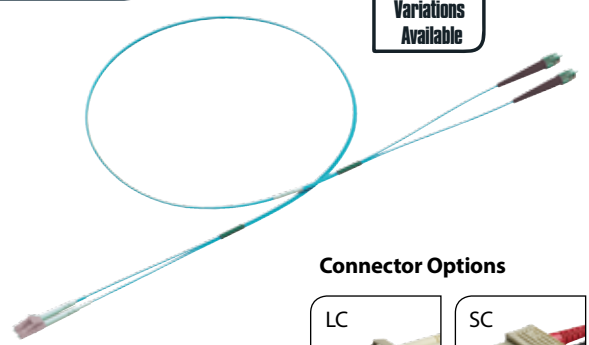
**Connector Options**

LC SC

ST FC MU E2000

**OM4**

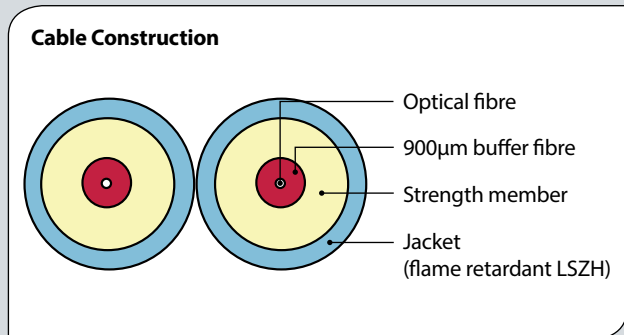
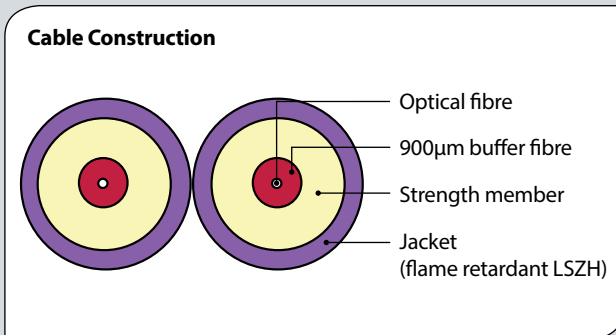
REDUCED BEND SENSITIVITY Variations Available



**Connector Options**

LC SC

ST FC MU E2000



## Features & Specifications

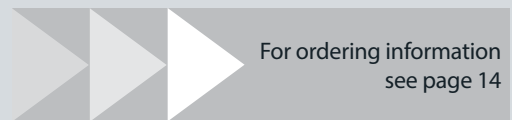
- > Available in SC, ST, FC, LC, E2000 & MU connector styles
- > Used in 10 Gigabit, Ethernet, Fast Ethernet and FDDI networks
- > Standard product manufactured on 2.0mm or 2.8mm (nominal dia.) LSZH cable, also available in 2mm (nominal dia.) cable on request

- > Low insertion loss ( $\leq 0.25\text{dB}$ )
- > Individual test sheet and unique product identification number for traceability
- > 850nm VCSEL based GbE (1000 base-SX) to support longer distance
- > Materials compliant to 2011/65/EU

## Technical Specifications

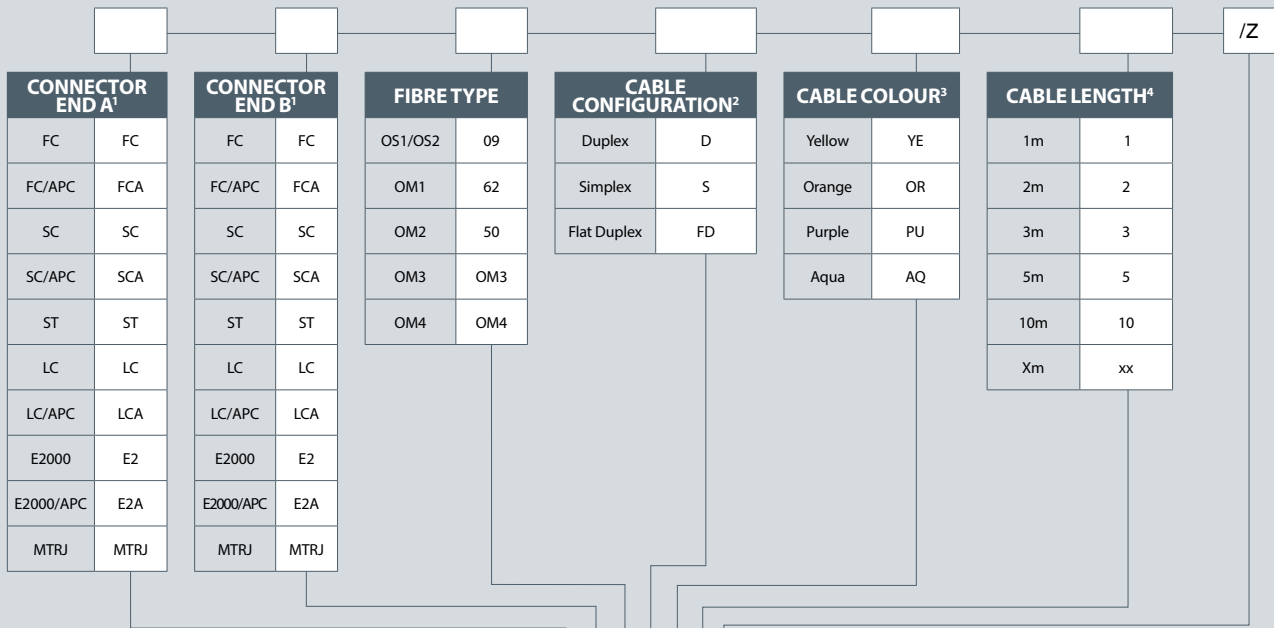
TEST	METHOD	SPECIFICATION
Connector Type Standards	IEC61574 series	-
Insertion Loss	IEC 61300-3-4	$\leq 0.25\text{dB}$
Flammability	IEC60332-1	-

ASSEMBLY SPECIFICATION	
Length of assembly	Tolerance
Less than 0.5m	-0/+0.10m
Between 0.5m and 5m	-0/+0.15m
Greater than 5m	-0/+0.20m





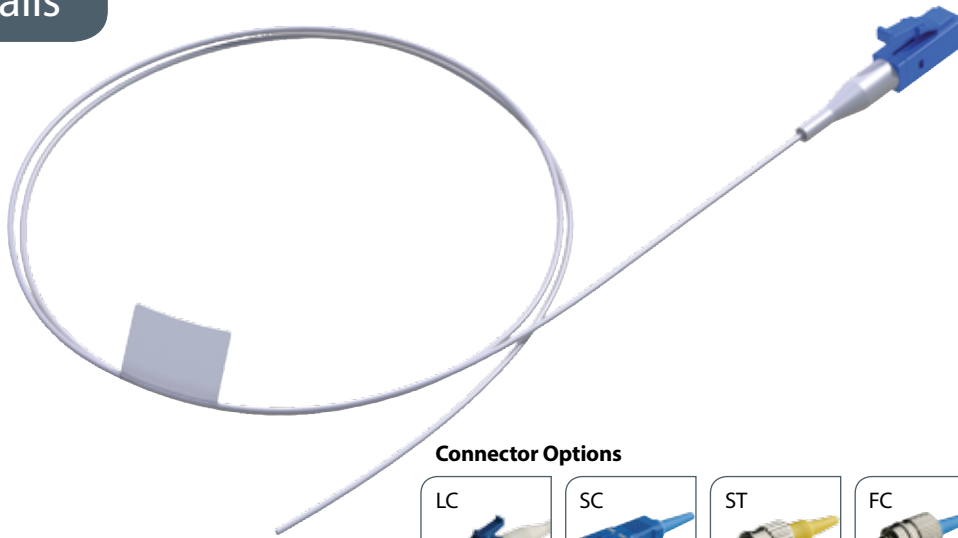
## Part Number Generator



Example Part Number: **FC FC 62 D OR 3 /Z**  
 Will configure an OM1 FC to FC duplex patch cord in orange 3 metres long.

<sup>1</sup>Other connectors available upon request.  
<sup>2</sup>mTRJ is available in MiniZip only.  
<sup>3</sup>Other colour options available for singlemode cable.  
<sup>4</sup>Other lengths available upon request.

Pigtails

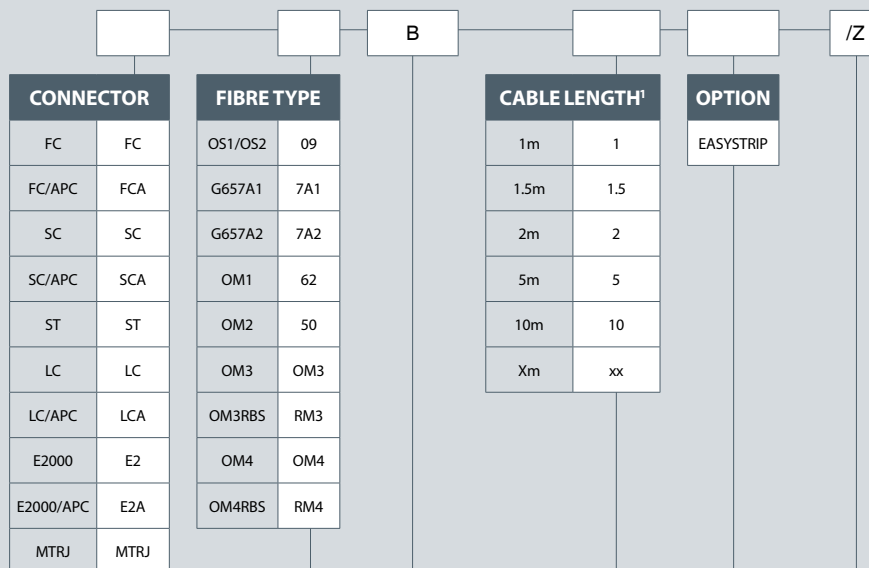


Connector Options



Standard cable is 900 micron tight buffer, colour white.

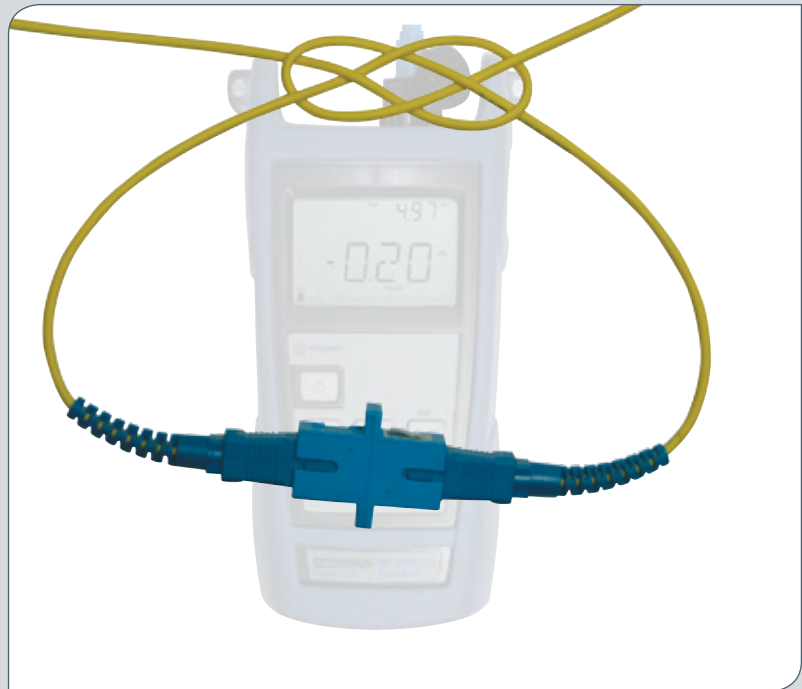
Part Number Generator



Example Part Number: LC OM3 B 10 - /Z  
 Will configure an LC OM3 pigtail 10 metres long.

\*Note: MOQ may apply, please call us for details  
 \*\* Other colour options available on request.  
 ¹Other lengths available upon request.

Reduced Bend Sensitivity Patch Cords



Features

Optronic patch cords and pigtails are available in both singlemode and multimode classes based on reduced bend sensitivity (RBS) fibre cable.

RBS patch cords exhibit much lower optical power loss under bend conditions while remaining compatible with conventional cabling. RBS patch cords are made with solid trench assisted optical fibre that is designed to reduce optical loss when the cable is bent. RBS patch cords provide the same high quality, mechanical features and optical performance

as our standard patch cords with the added capability of maintaining optical performance when bent or flexed.

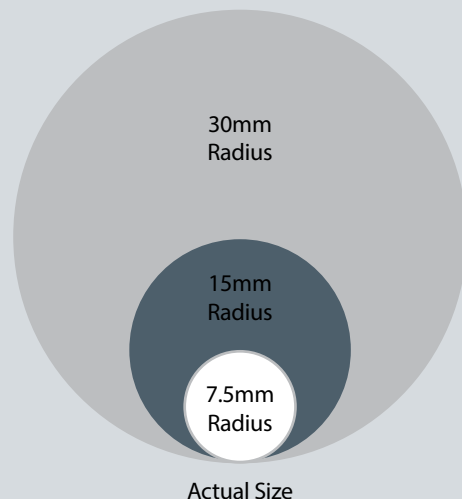
RBS patch cords are available for multimode (OM3 and OM4) and singlemode (OS2/ G.657A1 and G.657A2) networks.

**FTTH  
DATA CENTRE  
INSIDE EQUIPMENT  
HIGH UP-TIME  
TIGHT ROUTING**

Applications

RBS patch cords and pigtails are used in applications for which low loss in tight radius routing is important:

- > When routing cable around corners and in tight spaces is required, for example in FTTH installations in existing buildings
- > FTTH cabling in POPs, MDU distribution points and subscriber connections
- > Data Centres where network uptime is critical. For example, OM4 RBS patch cords will continue to provide data service when pinched by a cabinet door, whereas service would be lost with conventional OM4 patch cords
- > Generally, when small radius installation is needed or the cabling may be subjected to occasional small radius events



## Termination Specification

General mechanical and optical specifications of RBS patch cords are as per corresponding standard products including IEC and TIA/EIA standards conformance.

FIBRE CLASS	FIBRE STANDARD	GUIDELINE RADIUS	BEND PERFORMANCE			
Standard Multimode and Singlemode	-	30mm	-			
REDUCED BEND SENSITIVITY MULTIMODE			RADIUS	TURNS	LOSS AT 850 NM	LOSS AT 1300 NM
OM3 RBS	OM3	10mm	15mm	2	0.1dB	0.3dB
OM4 RBS	OM4		7.5mm	2	0.2dB	0.4dB
REDUCED BEND SENSITIVITY SINGLE MODE			LOSS AT 1550 NM			
			15MM RADIUS 10 TURNS	10MM RADIUS 1 TURN	7.5MM RADIUS 1 TURN	
G657A1		15mm	0.25dB	0.75dB	-	
G657A2		7.5mm	0.03dB	0.1dB	0.5dB	



Straight fibre as reference

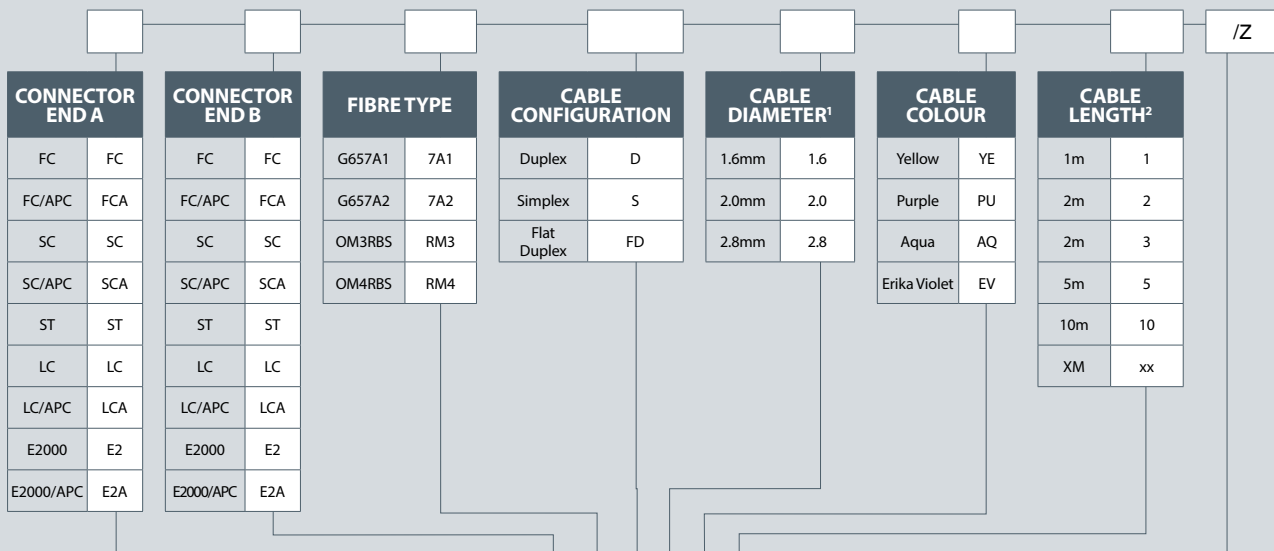


G.652.D > 15.10dB



RBS > 0.21dB

## Part Number Generator



Example Part Number: FC FC RM3 D 1.6 YE 10 /Z  
 Will configure an FC to FC 1.6mm Duplex OM3 reduced bend cable in yellow at 10 metres.

<sup>1</sup>1.6mm only available as singlemode.  
<sup>2</sup>Other lengths available upon request.



Premium Patch Cords



Optronics Premium range patch cords are suitable for low loss telecom, datacom, data centre and some critical applications. The patch cords provide flexible interconnection to active equipment, passive optical devices and cross-connects. The patch cords are terminated with

Premium range physical contact (singlemode & multimode) and angled physical contact (singlemode) zirconia ferrule connectors which are manufactured with precision factory mounting and polishing techniques which helps assure high transmission quality.

Features

- > Conform to IEC, EIA-TIA, or Telcordia performance requirements
- > Available in different fibre types
- > Available with different connector types
- > Available in standard and custom lengths
- > REACH / SvHC compliant
- > Materials compliant to 2011/65/EU

Application

- > Data centre
- > Telecommunication networks
- > High bandwidth 40G & 100G networks
- > CATV
- > LAN and WAN
- > FTTX

Connector Specification

OPTICAL PERFORMANCE	SINGLEMODE	MULTIMODE	CONFORMANCE
IL MAX/ Master (Acceptance)	0.15dB	0.15dB	IEC 61300-3-4
IL/Random (97%)	0.30dB	0.25dB	IEC 61300-3-34
Ave/Master*	0.12dB	0.08dB	IEC 61300-3-4
Ave/Random*	0.12dB	0.10dB	IEC 61300-3-34
Return Loss	55/65dB	-	IEC 61300-3-6
MECHANICAL PROPERTIES	CRITERIA*		CONFORMANCE
Mechanical endurance	500 matings		IEC 61300-2-2
Vibration	10-55 Hz, 0.75 amplitude		IEC 61300-2-1
Drop	Drop height 1m, 5 drops		IEC 61300-2-12
Cable retention	Magnitude 70N		IEC 61300-2-4
Cable torsion	1.5kg - 2.5kg for 2mm - 3mm cable diameter		IEC 61300-2-5

\* The change in attenuation for all the above listed criteria shall be a maximum of 0.20dB

## Termination Specification

CONNECTOR TYPE	CONFORMANCE	SM	MM	SM DUPLEX	MM DUPLEX
SC connector	IEC 61754-4	SM PC- Blue APC-Green	MM PC- Beige	SM PC- Blue APC-Green with clips	MM PC- Beige with clips Boot -Red & Black
LC connector	IEC 61754-20	SM PC- Blue APC-Green Boot-White	MM PC- Beige Boot-White	SM PC- Blue APC-Green with clips Boot-White	MM PC- Beige with clips Boot-White
ST connector	IEC 61754-2	SM PC- Yellow boot	MM PC- Black boot	SM PC- Yellow boot	MM PC- Red & Black boot
FC connector	IEC 61754-13	SM PC- Blue boot APC-Green boot	MM PC- Black boot	SM PC- Blue boot APC-Green boot	MM PC- Black boot

**IMPORTANT:**

Please note that the LC 2mm connectors have heatshrink that acts as cable retention. Clips will be provided for channel identification of duplex FC and ST patch cords.

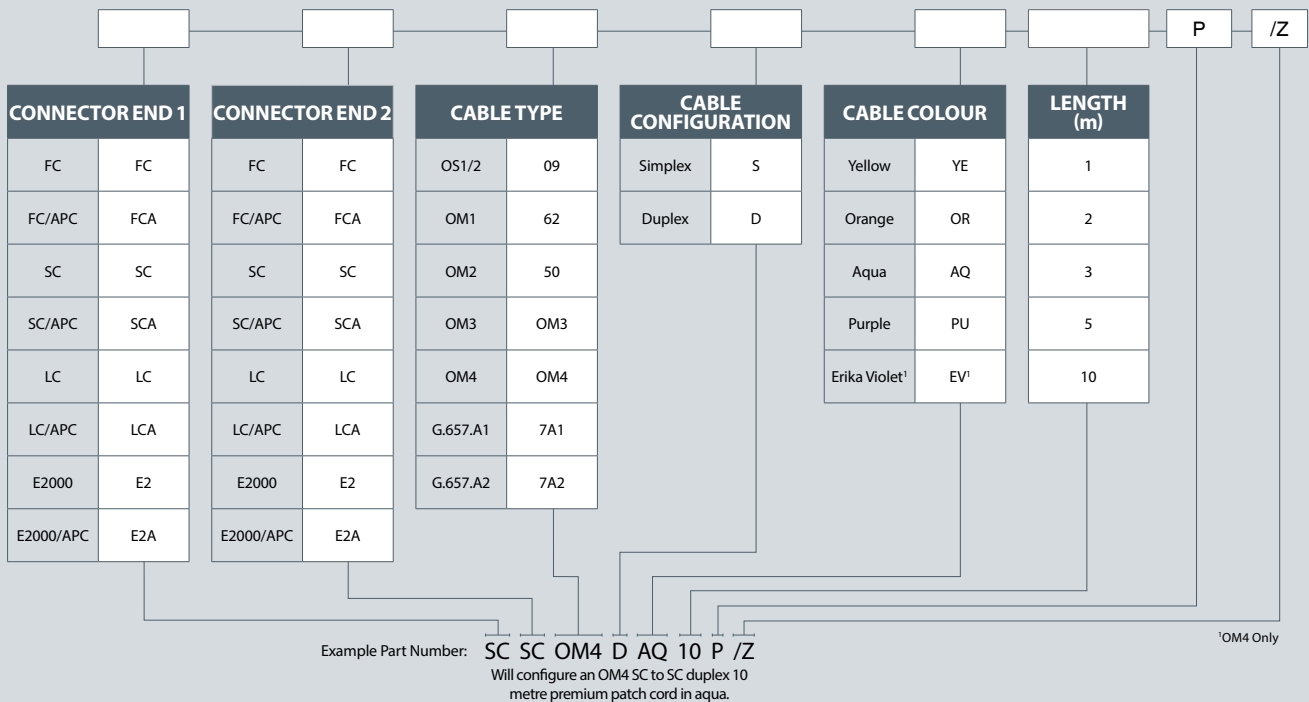
## Cable Specification

CHARACTERISTICS	UNITS	SIMPLEX	DUPLEX
Cable Material		LSZH or PVC	LSZH or PVC
Strength Member		Aramid	Aramid
Crush	N	1000	1000
Operating Temperature	°C	-20 to +60	-20 to +60
Secondary Buffer Diameter (2.0mm and 2.8mm)	µm	900±50	900±50
Secondary Buffer Diameter (1.6mm)	µm	600±50	600±50
Minimum Bending Radius	mm	10D (installed) 20D (loaded)	10D (installed) 20D (loaded)

**IMPORTANT:**

The patch cords are available in standard length of 1m, 2m, 3m, 5m, and 10m. For other lengths please contact Optronic for the actual lead times.

## Part Number Generator



## Master Test Leads



The Optronics range of Master Test Leads is suitable for general optical performance test applications. The test leads are terminated with the highest quality physical contact (singlemode) and

angled physical contact (singlemode) zirconia ferrule connectors. The connectors are manufactured with precision mounting and polishing techniques which help assure high transmission quality.

### Features

- > Conform to IEC, EIA-TIA, and Telcordia performance requirements
- > Supplied with ultra tight geometry singlemode and multimode optical fibre
- > Available with different connector types
- > Available in standard and custom lengths
- > Precision glass geometry
- > Concentricity, end face geometry, IL, RL certificate
- > REACH / SvHC compliant
- > Materials compliant to 2011/65/EU

### Application

- > Testing labs
- > Critical telecom and data centre application
- > Instrumentation

### Termination Specification

OPTICAL PERFORMANCE	SINGLEMODE	MULTIMODE	CONFORMANCE
IL MAX/ Master (Acceptance)	0.10dB	0.15dB	IEC 61300-3-4
IL/Random (97%)	0.20dB	0.25dB	IEC 61300-3-34
Ave/Master*	0.08dB	0.08dB	IEC 61300-3-4
Ave/Random*	0.08dB	0.10dB	IEC 61300-3-34
Return Loss	55/65dB	-	IEC 61300-3-6
MECHANICAL PROPERTIES	CRITERIA*		CONFORMANCE
Mechanical endurance	500 matings		IEC 61300-2-2
Vibration	10-55 Hz, 0.75 amplitude		IEC 61300-2-1
Drop	Drop height 1m, 5 drops		IEC 61300-2-12
Cable retention	Magnitude 70N		IEC 61300-2-4
Cable torsion	1.5kg - 2.5kg for 2mm - 3mm cable diameter		IEC 61300-2-5

\*The change in attenuation for all the above listed criteria shall be a maximum of 0.10dB

## Cable Specification

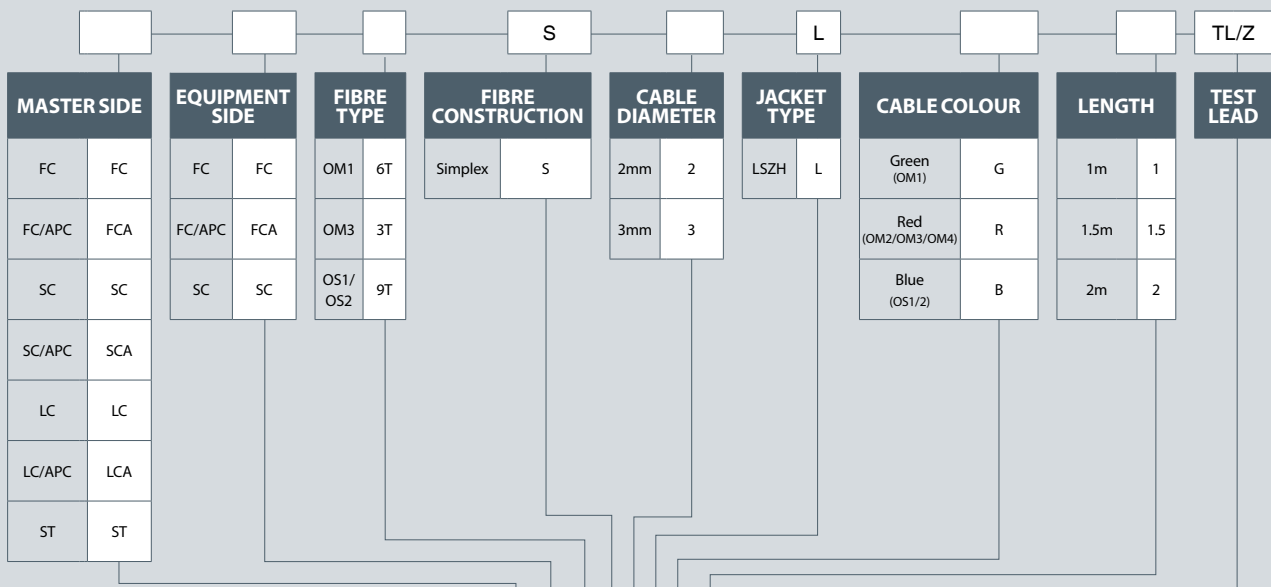
CHARACTERISTICS	UNITS	SIMPLEX
Cable Material		LSZH
Strength Member		Aramid
Crush	N	1000
Operating Temperature	°C	-20 to 60
Colour		SM – Blue OM1 - Green OM3 - Red

## Fibre Specification

CHARACTERISTICS	UNITS	SINGLEMODE
Cladding Diameter	µm	125±0.4
Core/Cladding Concentricity Error	µm	≤0.3
Cladding Non Circularity	%	≤0.3
Mode Field Diameter (mfd) @ 1310nm	µm	9.0±0.4
Mode Field Diameter (mfd) @ 1550nm	µm	10.1±0.5

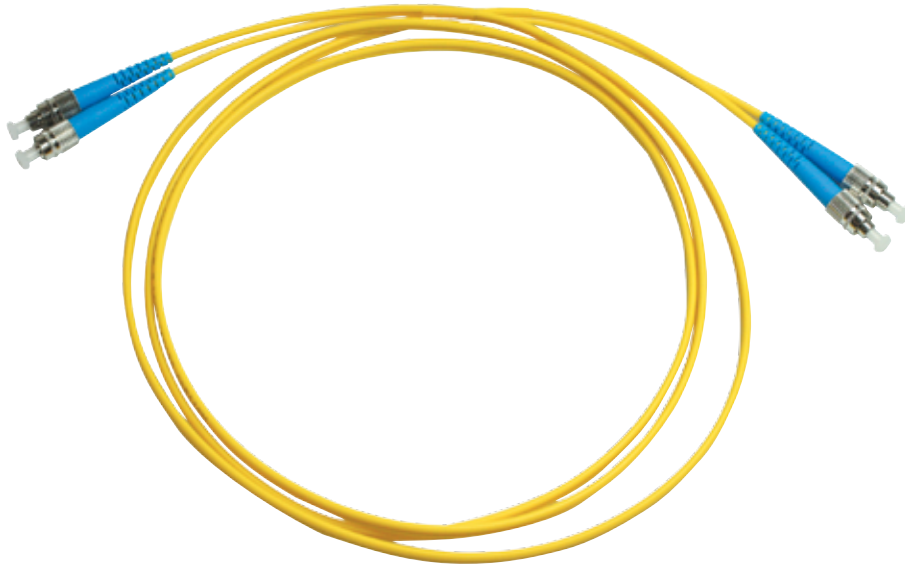
CHARACTERISTICS	UNITS	MULTIMODE
Cladding Diameter	µm	125±1
Core Diameter	µm	50±1
Core/Cladding Concentricity Error	µm	≤ 1.5
Cladding Non Circularity	%	≤ 1.0
Numerical Aperture		0.2±0.015

## Part Number Generator



Example Part Number: FC FC 6T S 2 L G 1.5 TL/Z  
 Will configure a 1.5 metre, FC to FC, OM1 simplex, LSZH test lead with a green jacket.

## High Performance Patch Cords (Typical 0.08dB IL)



Optronics High Performance singlemode Patch cords are a range of “best in class” patch cords employing highest grade components, manufacturing processes and test methods that offer excellent

performance for demanding telecommunications and data centre applications. High Performance Patch cords are used where low loss budgets are essential and may be considered for splice replacement.

### Features

- > Conform to IEC, EIA-TIA, or Telcordia performance requirements
- > Grade A singlemode connector class applied
- > Special high accuracy G.652D photonics fibre
- > End face geometry result data included
- > REACH / SvHC compliant
- > Materials compliant to 2011/65/EU

### Application

- > Data centre
- > Telecommunication networks
- > High bandwidth 40G & 100G networks
- > CATV
- > LAN and WAN
- > FTTX
- > Broadband network

### Termination Specification

OPTICAL PERFORMANCE	SINGLEMODE	CONFORMANCE
IL MAX/ Master (Acceptance)	0.10dB	IEC 61300-3-4
IL/Random (97%)	0.20dB	IEC 61300-3-34
Ave/Master*	0.08dB	IEC 61300-3-4
Ave/Random*	0.08dB	IEC 61300-3-34
Return Loss	55/65dB	IEC 61300-3-6
MECHANICAL PROPERTIES	CRITERIA*	CONFORMANCE
Mechanical endurance	500 matings	IEC 61300-2-2
Vibration	10-55 Hz, 0.75 amplitude	IEC 61300-2-1
Drop	Drop height 1m, 5 drops	IEC 61300-2-12
Cable retention	Magnitude 70N	IEC 61300-2-4
Cable torsion	1.5kg - 2.5kg for 2mm - 3mm cable diameter	IEC 61300-2-5

\* The change in attenuation for all the above listed criteria shall be a maximum of 0.10dB



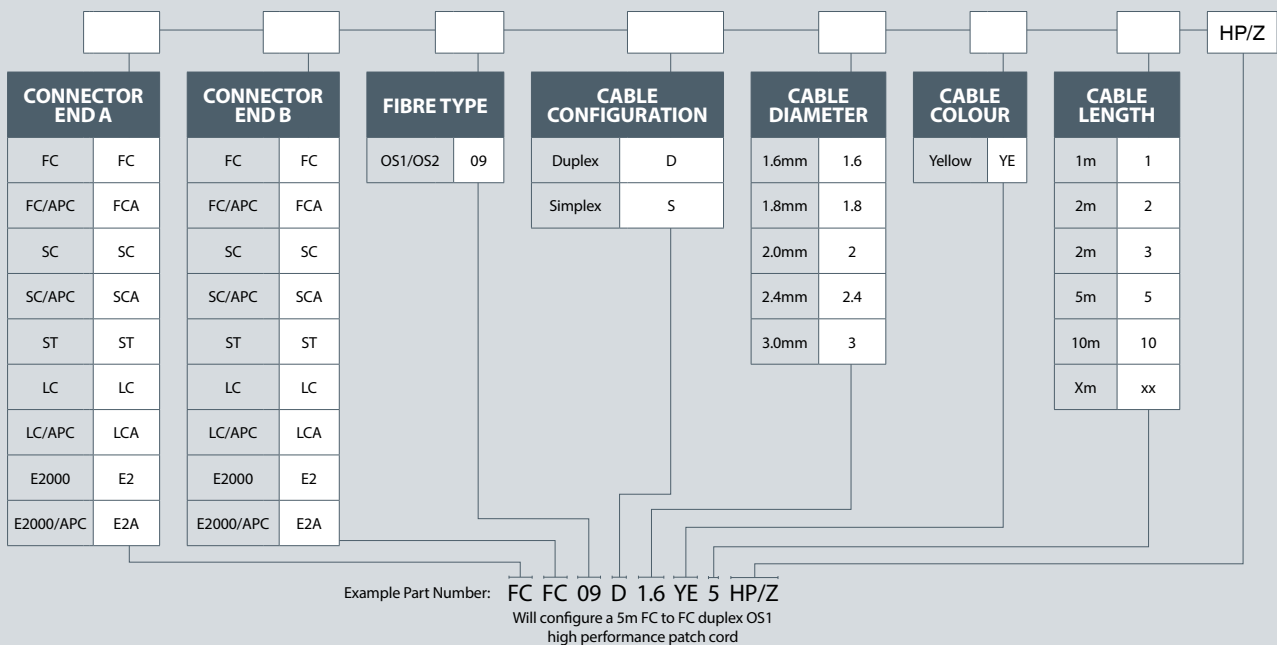
## Cable Specification

CHARACTERISTICS	UNITS	SIMPLEX
Cable Material		LSZH
Strength Member		Aramid
Crush	N	1000
Operating Temperature	°C	-20 to 60
Secondary Buffer Diameter (2.0mm and 2.8mm)	µm	900±50
Secondary Buffer Diameter (1.6mm and 1.8mm)	µm	600±50
Colour		SM – Yellow

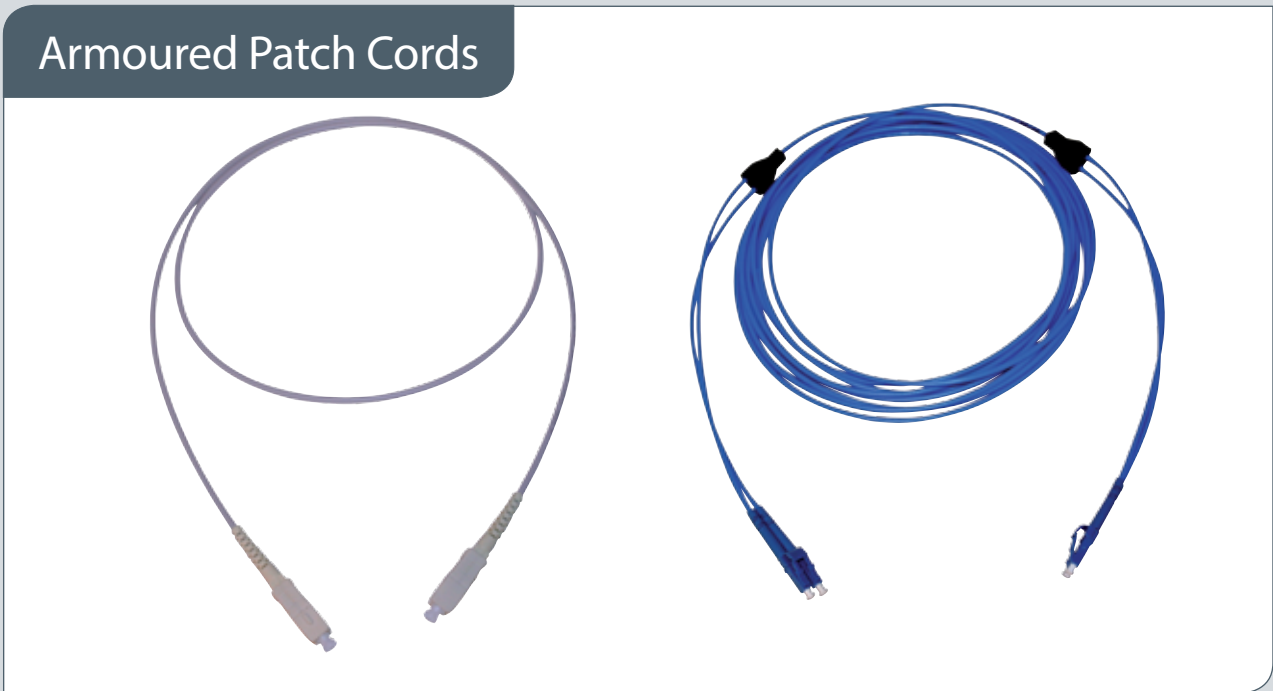
## Fibre Specification

CHARACTERISTICS	UNITS	SINGLEMODE
Cladding Diameter	µm	125±0.4
Core/Cladding Concentricity Error	µm	≤0.3
Cladding Non Circularity	%	≤0.7
Polarization Mode Dispersion (PMD)	Ps/(km) <sup>1/2</sup>	≤0.06
Mode Field Diameter (mfd) @ 1310nm	µm	9.0±0.4
Mode Field Diameter (mfd) @ 1550nm	µm	10.1±0.5

## Part Number Generator



## Armoured Patch Cords



FibreFab armoured patch cords are used in customer premises, central offices and in harsh environments. The patch cords provide flexible interconnection to active equipment, passive optical devices and cross-connects. Armoured patch cords are constructed with

an helical stainless steel tape over a buffered fibre surrounded by a layer of aramid and stainless steel mesh with an outer jacket. FibreFab patch cords are terminated with our standard range of connectors, all quality tested to meet FibreFab and international standards.

### Features

- > SC, LC, ST and FC connectors
- > Available in low smoke zero halogen (LSZH) jacket
- > Conforms to IEC, EIA-TIA or Telcordia performance requirements
- > Available in different fibre types
- > Available in standard and custom lengths
- > REACH / SvHC compliant
- > Materials compliant to 2011/65/EU

### Application

- > Telecommunication networks
- > CATV
- > LAN and WAN
- > FTTX
- > Broadband network
- > Military application

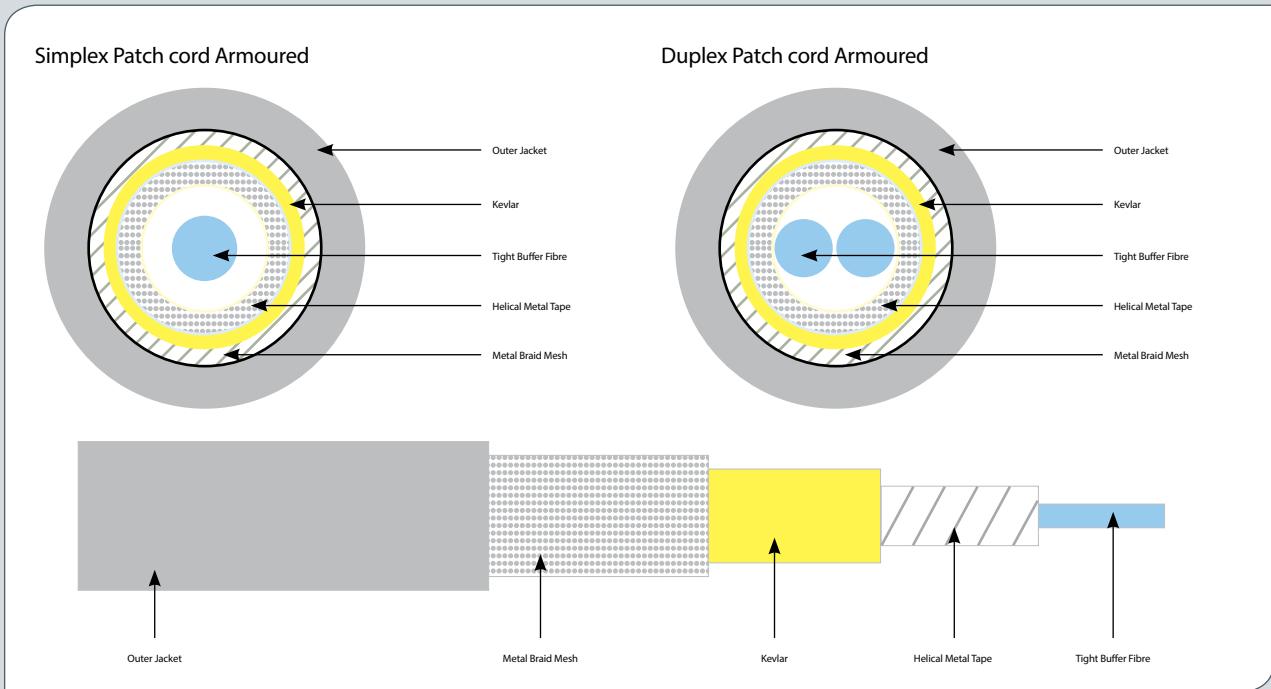
### Fibre Specification

CHARACTERISTICS	
Attenuation (dB/km) Singlemode	0.38@1310nm / 0.25 @1550nm
Chromatic Dispersion (ps/nm x km) Singlemode	3.0 @ 1310nm / 18.0 @1550nm
Attenuation (dB/km) Multimode	2.8@850nm / 0.8 @1300nm

### Cable Specification

CHARACTERISTICS	SIMPLEX	DUPLEX
Cable Material	LSZH	LSZH
Strength Member	Aramid	Aramid
Crush (N) short term	3000	3000
Crush (N) long term	200	200
Operating Temperature (°C)	-20 to 60	-20 to 60
Fire Specification	IEC 60332-1	IEC 60332-1

# OPTICAL FIBRE ASSEMBLIES | ARMoured PATCH CORDS

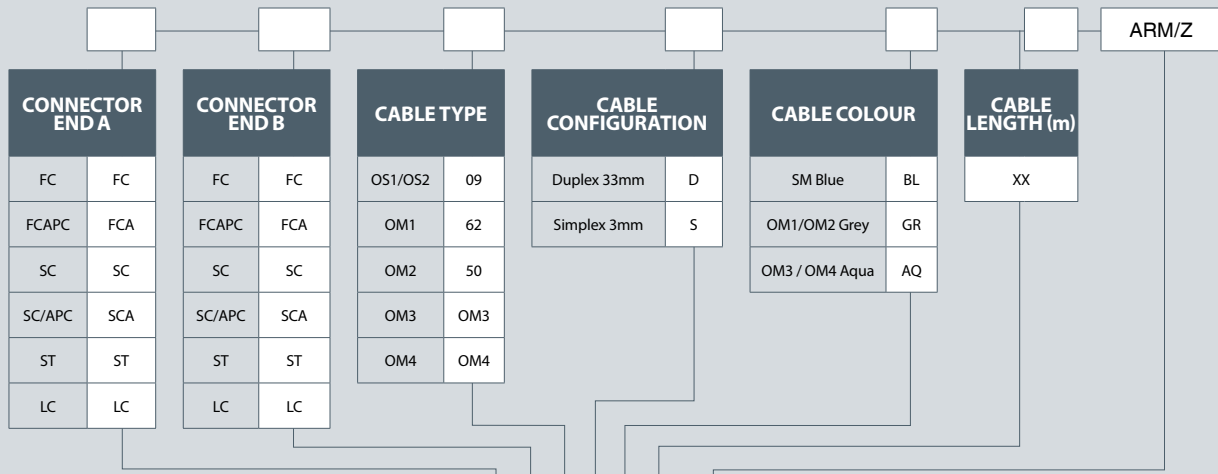


## Connector Performance

OPTICAL PERFORMANCE	SINGLEMODE	MULTIMODE	CONFORMANCE
IL Max/Master (Acceptance)	0.3dB	0.3dB	IEC 61300-3-4
Ave/Master*	0.18dB	0.2dB	IEC 61300-3-4
Ave/Random*	0.18dB	-	IEC 61300-3-34
Return Loss Singlemode UPC/APC	50/60 dB	-	IEC 61300-3-6

\* UPC/APC

## Part Number Generator



Example Part Number: **FC FC 09 D BL 10 ARM/Z**  
 Will configure a 10 metre, FC to FC, OS1 duplex armoured patch cord with a blue jacket.

## Attenuated Patch Cords



Optronic attenuated patch cords are used to attenuate the optical signal in a link. Attenuated patch cords can be installed in place of conventional patch cords to provide a constant level of attenuation with a return loss of  $\geq 50$ dB.

The attenuated patch cord can be used to replace the

conventional cable assembly and attenuator combination. It is a compact, multi-purpose, passive device designed to operate at wavelengths of 1310 and 1550nm.

Attenuated patch cords can be provided with LC, SC, ST and FC connector styles as per customer requirements.

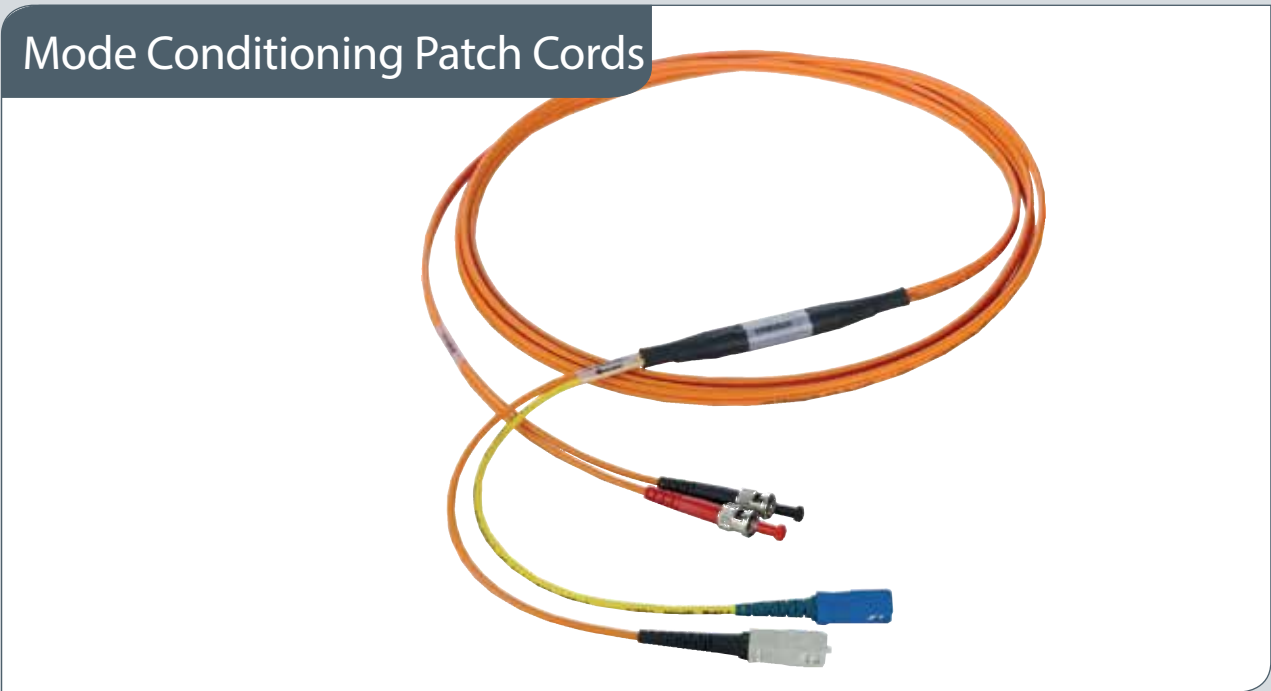
### Features

- > Provides the functions of attenuator and cable assembly simultaneously
- > Low back reflection
- > 100% insertion loss testing
- > Connector varieties available
- > Conforms to the requirements of EIA/TIA standards
- > Inexpensive and compact

### Application

- > Telecommunication networks
- > CATV
- > LAN and WAN
- > Attenuation values available  
01= 1dB, 02= 2dB, 03= 3dB, 04= 4dB, 05= 5dB  
06= 6dB, 07= 7dB, 08= 8dB, 09= 9dB, 10= 10dB  
15= 15dB, 20= 20dB

## Mode Conditioning Patch Cords



Multimode optical fibre links, that use laser based transmitters, may be limited in bandwidth to values less than half those of the over-filled launch bandwidth. Mode conditioning patch cords are designed to allow the use of laser transmitters in 62.5/125 (OM1) or 50/125 (OM2) multimode fibre optic cabling systems.

These assemblies allow long wavelength 1300nm signals to be transmitted, over good quality fibre, at distances of up to 550m. The Optronic mode conditioning cable assembly, improves performance by moving the singlemode launch to an offset position, increasing the mode fill and reducing DMD.

### Connectors available

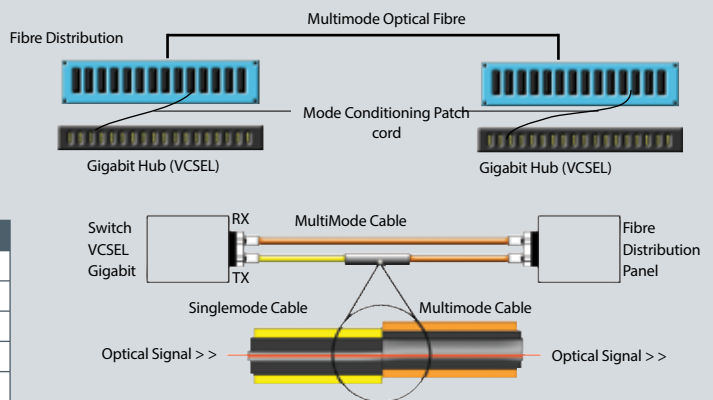
- > Types: FC, FC/APC, ST, SC, SC/APC, LC, MTRJ, MU
- > Length: 2m ± 10mm (Other lengths available to order)
- > Each patch cord is individually packaged and identified for traceability
- > A test certificate is supplied for each assembly

### Technical Specifications

DESCRIPTION	MULTIMODE	
	62.5/125	50/125
Operating Wavelength	1300nm	
Maximum Insertion Loss:	0.5dB	
Coupled Power Ratio (CPR):	28 to 40dB	12 to 20dB
Back Reflection:	S/M Channel: M/M Channel:	-30dB -20dB
Connector Finish	PC or APC	
Sheath Colour	Orange (yellow for SM leg)	

Please call the sales team for ordering information

### Mode Conditioning Principle

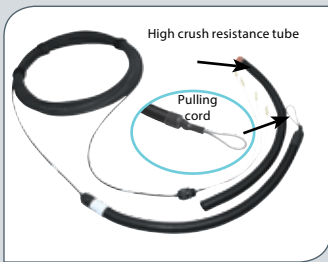




# Pre Terminated Assemblies

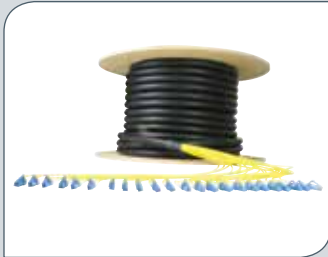
Introduction	29
FirstLight Micro	30
FirstLight Nano	32
FirstLight Prime	34
<i>"Four Innovative Building Blocks"</i>	36
FirstLight Prime Cable Assemblies	38
Pre-Terminated Multifibre	40
Fan Out Kits	42





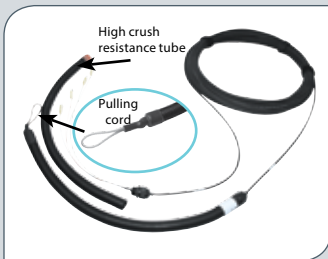
**OPTION 1. FIRSTLIGHT CLASSIX LOOSE TUBE**

Optronics multicore loose tube cable assemblies feature improved mechanical and optical properties for use in external cabling environments. Assembly tails are protected by reinforced tubing. Cable strength members are attached directly to the pulling element, assuring safe and effective assembly installation.



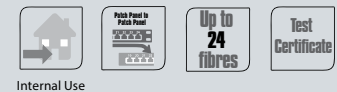
**OPTION 2. FULL BREAKOUT ASSEMBLIES**

Optronics multicore full breakout cable assemblies are ideal for short cable runs where a direct connection to equipment or panels is required. The 2mm patch cord style cable subunits are ruggedised, to protect the optical fibre in the demanding environments outside the patch panel or Optical Distribution Frame (ODF).



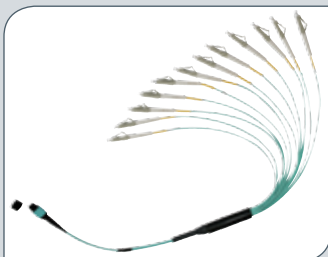
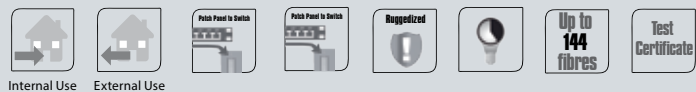
**OPTION 3. FIRSTLIGHT CLASSIX**

The FirstLight Classix factory made, quality controlled fibre optic assembly is specified for short internal optical links. The 900µm tight buffer presentation lends itself to installation within a patch panel, wall box or ODF.



**OPTION 4. FIRSTLIGHT PRIME**

FirstLight Prime is a special design platform for multifibre optical cable assemblies. It utilises the patented FirstLight Prime transition module which guarantees superior tensile strength and crushing resistance. The high density design can scale from 4 up to 144 fibres and can feature both 900µm as well as ruggedised 2/3mm tails terminated with MPO/MTP or discreet connectors.



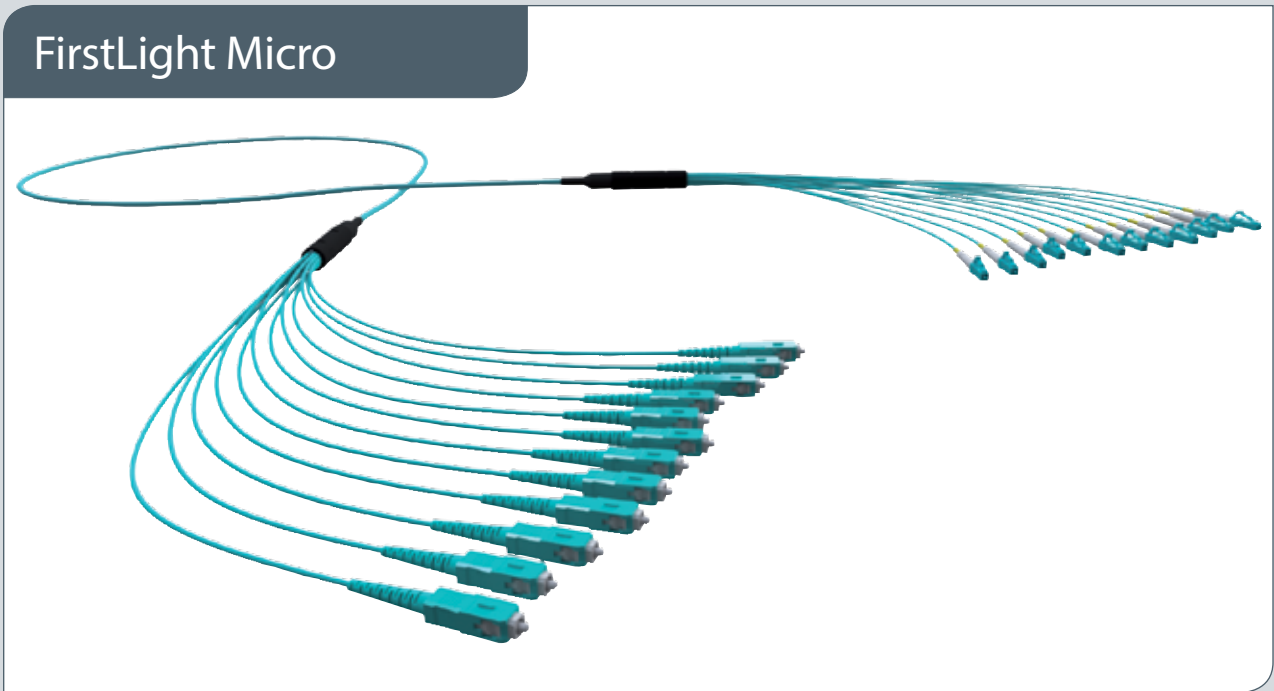
**OPTION 5. MPO/MTP FAN OUT ASSEMBLIES**

Optronics MPO/MTP ruggedised fan out assemblies route multifibre MPO/MTP connections into discreet connectors. They are used to directly interconnect MPO/MTP cassettes, panels or backbone MPO/MTP assemblies with the active equipment, saving costly data centre rack space and easing fibre management.



**OPTION 6. MPO/MTP TRUNK ASSEMBLIES**

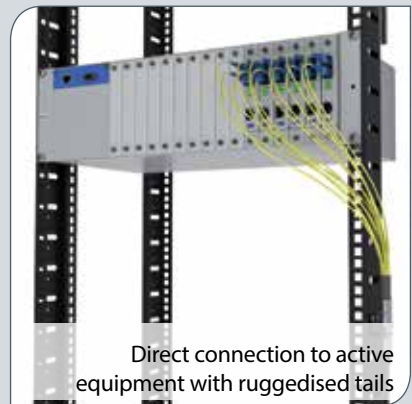
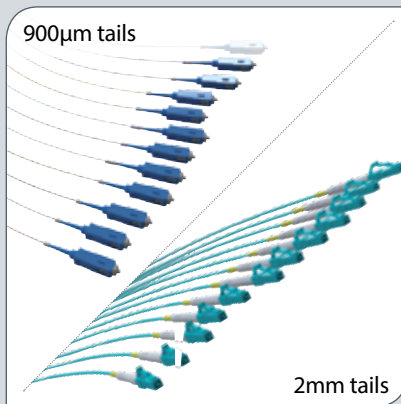
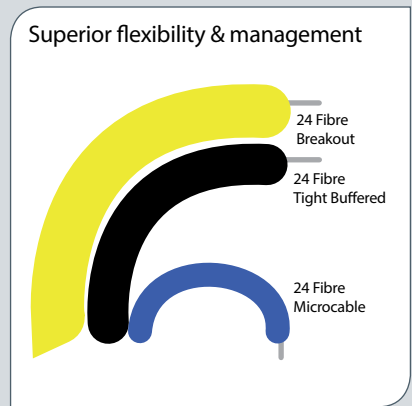
MPO/MTP trunk multicore cable assemblies facilitate rapid deployment of high density backbone cabling in data centres and other high fibre environments reducing network installation or re-configuration time and cost.



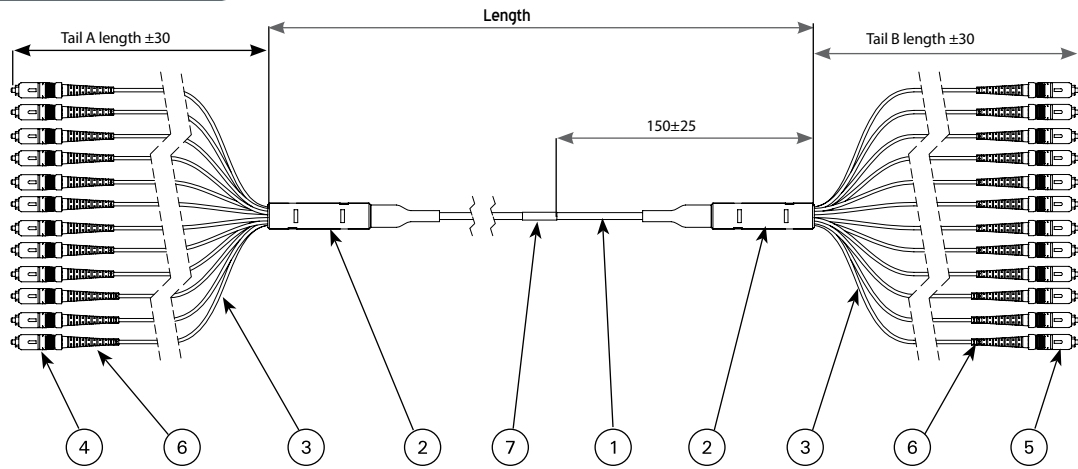
The FirstLight Micro cable assembly perfectly complements our traditional full breakout product offerings. It offers a smaller, more flexible and compact product whilst providing the improved optical performance of its microcable structure. The 2mm patch cord style tails are ruggedised, to protect the optical

fibre in the demanding environments outside the patch panel or ODF.

The network topology can be reduced and simplified by direct connection; bypassing wall boxes, ODFs or fibre patch panels, the end result is greatly improved fibre management.

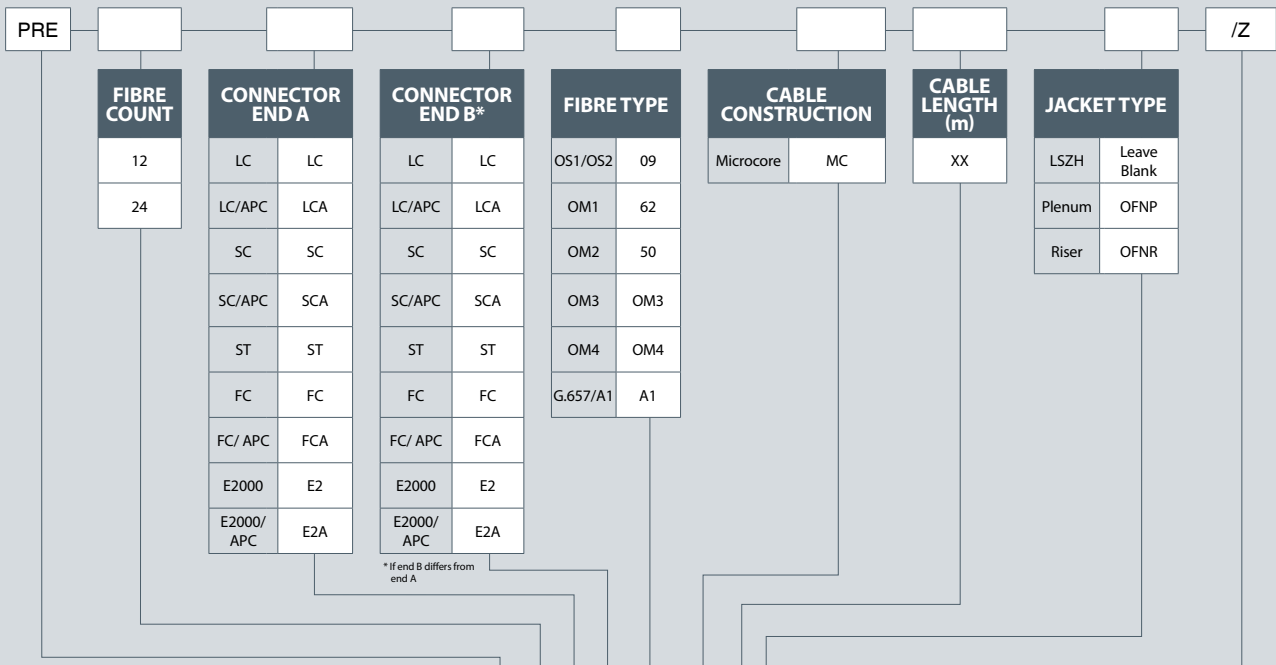


Drawing



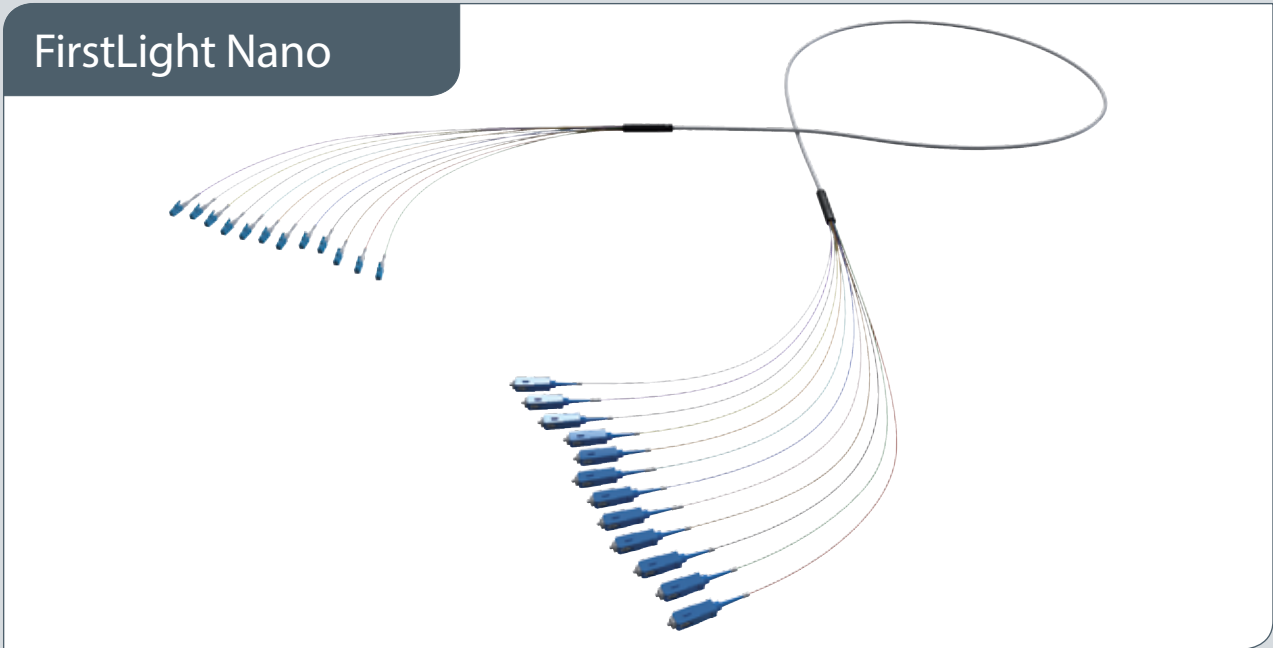
- 1. 12 fibre micro cable
  - 2. Ruggedised breakout module
  - 3. 2mm furcation tubing
  - 4. Connector assembly end 1
  - 5. Connector assembly end 2
  - 6. Channel identification marker (C-Clip)
  - 7. Serial number label (Wrap around)
- All dimensions in mm  
Length of tails typically 1 metre

Part Number Generator



Example Part Number: **PRE 24 LC LC OM4 MC 10 - /Z**  
 Will configure a 24 fibre LC to LC OM4 micro core  
 LSZH pre-terminated 10 metre cable.

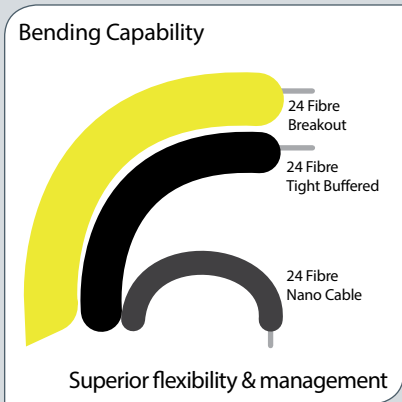
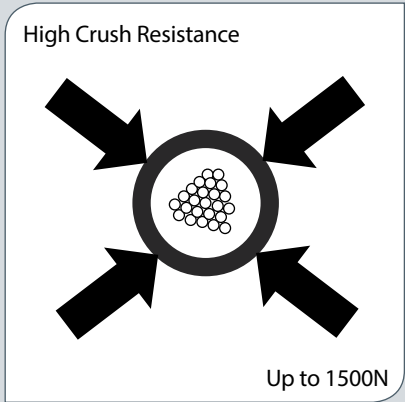
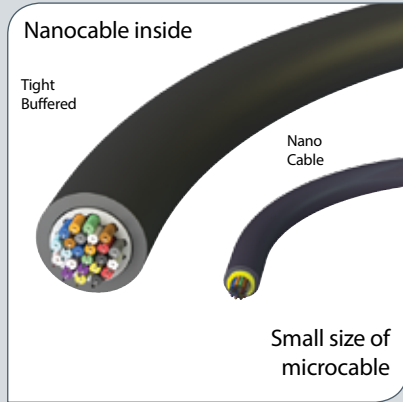
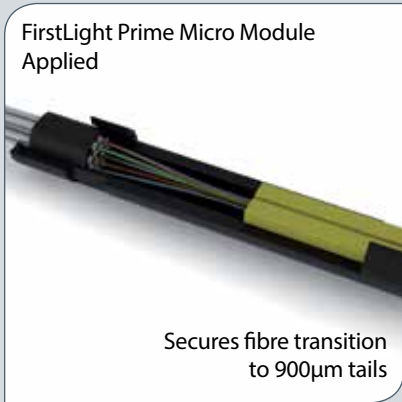




The FirstLight Nano Cable assembly features a small, compact size of Nanocable and provides flexibility though a ruggedised

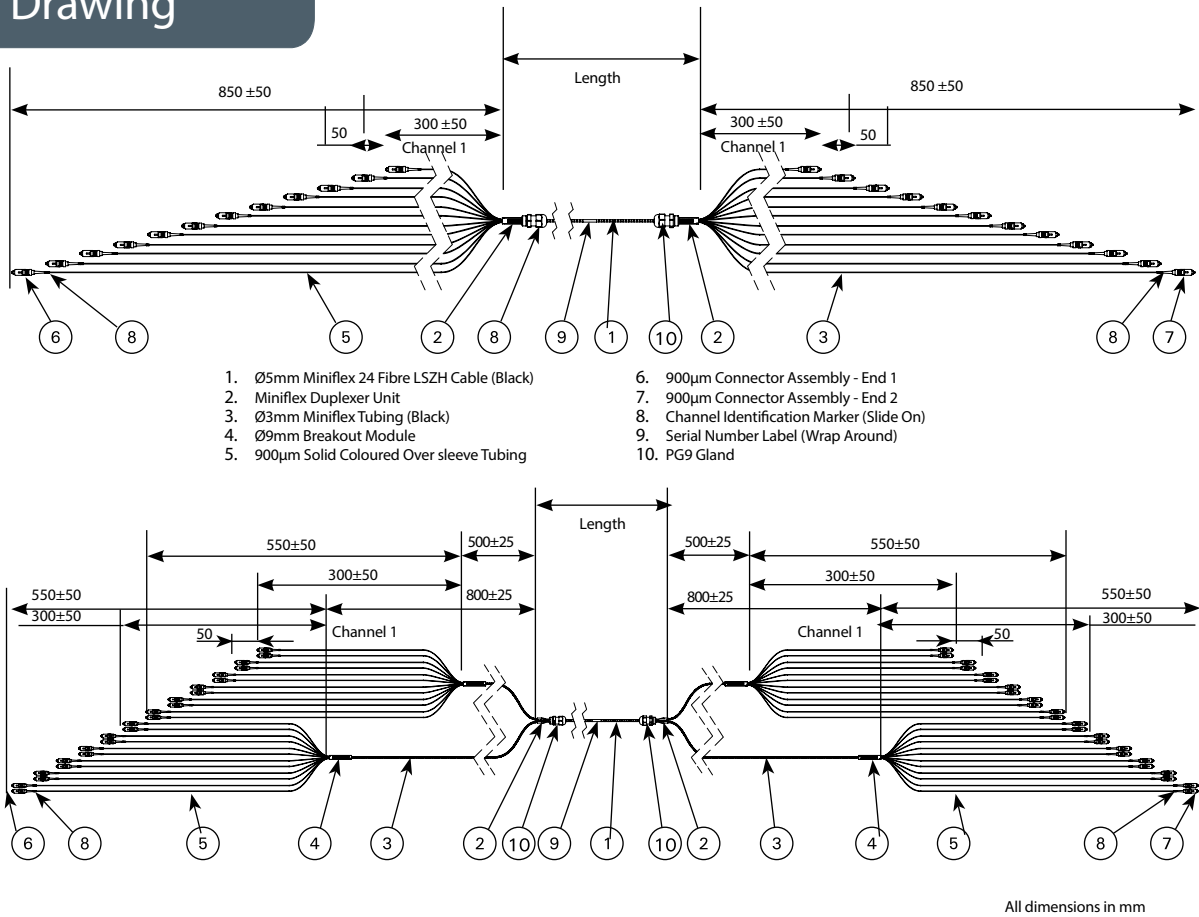
product with the improved optical performance of the Nanocable structure.

- > Extremely small size
- > High Crushing resistance - up to 1500N
- > Can be bent around tight corners
- > 900um tails for installation inside fibre management - ODFs, panels
- > Ideal for FTTH application - small size of ruggedised for drop class for assemblies.
- > Ideal for data centre - small size in high density environment
- > Secure FirstLight Prime breakout module



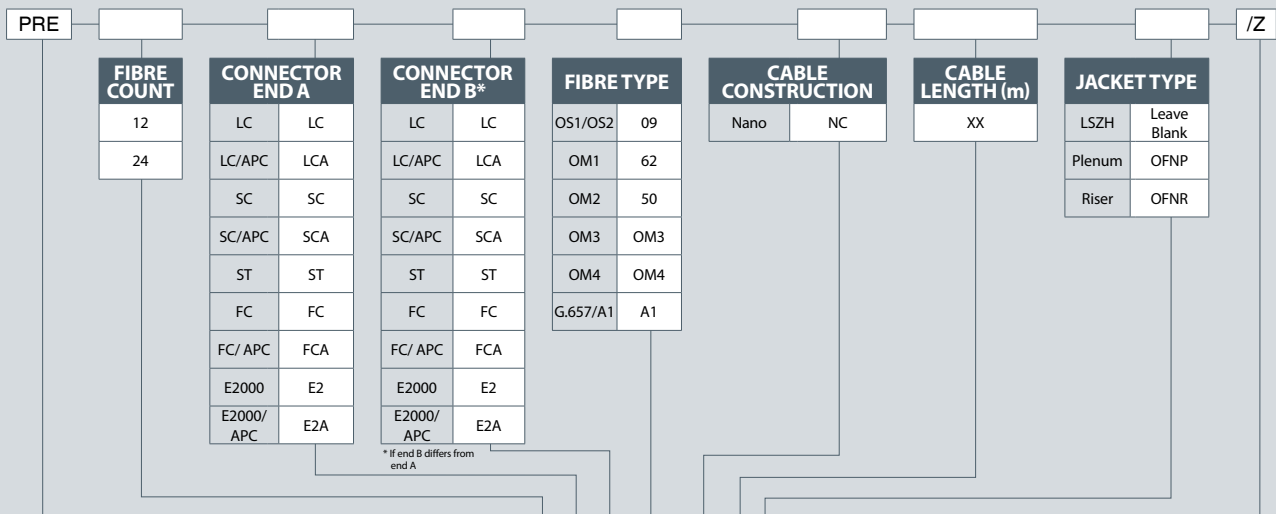


Drawing



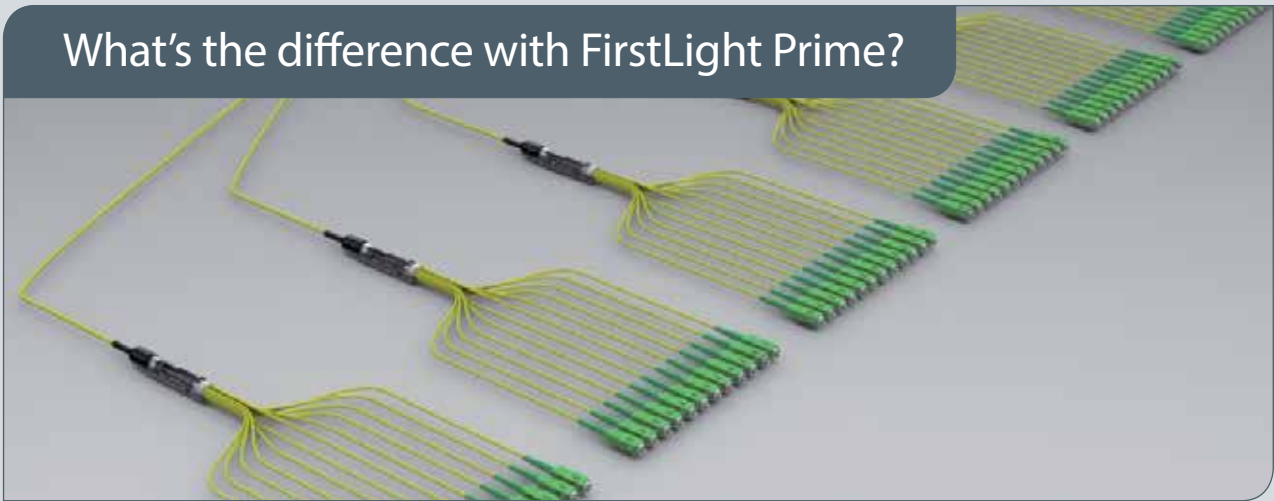
All dimensions in mm

Part Number Generator



Example Part Number: PRE 24 LC LC OM4 NC 10 - /Z  
 Will configure a 24 fibre LC to LC OM4 LSZH nano pre-terminated 10 metre cable.

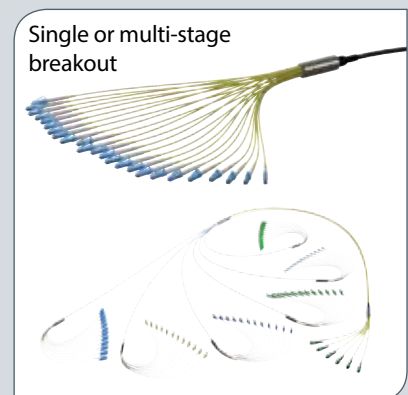
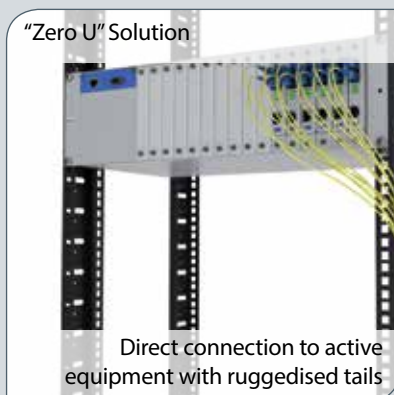
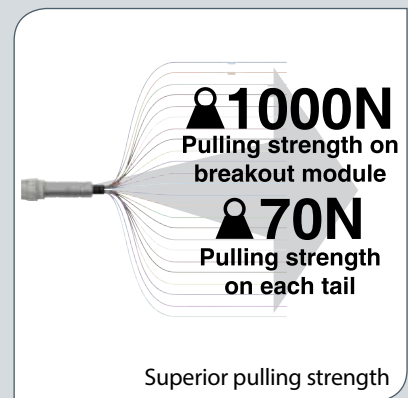
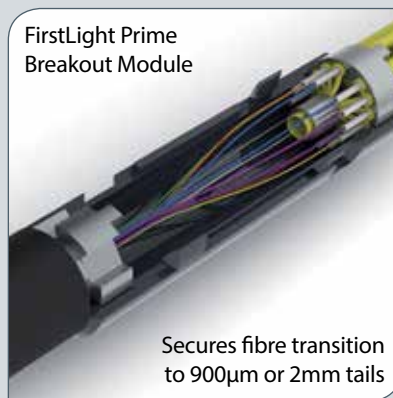
## What's the difference with FirstLight Prime?



The Optronic FirstLight Prime is the range of premium optical fibre assemblies, utilising the patented FirstLight Prime transition module. The design can offer assemblies from 4 to 144 cores fibre cables and guarantee superior tensile strength and crush resistance (true 1000 Newton pulling strength). This technology platform is the ideal choice for long trunks requiring improved

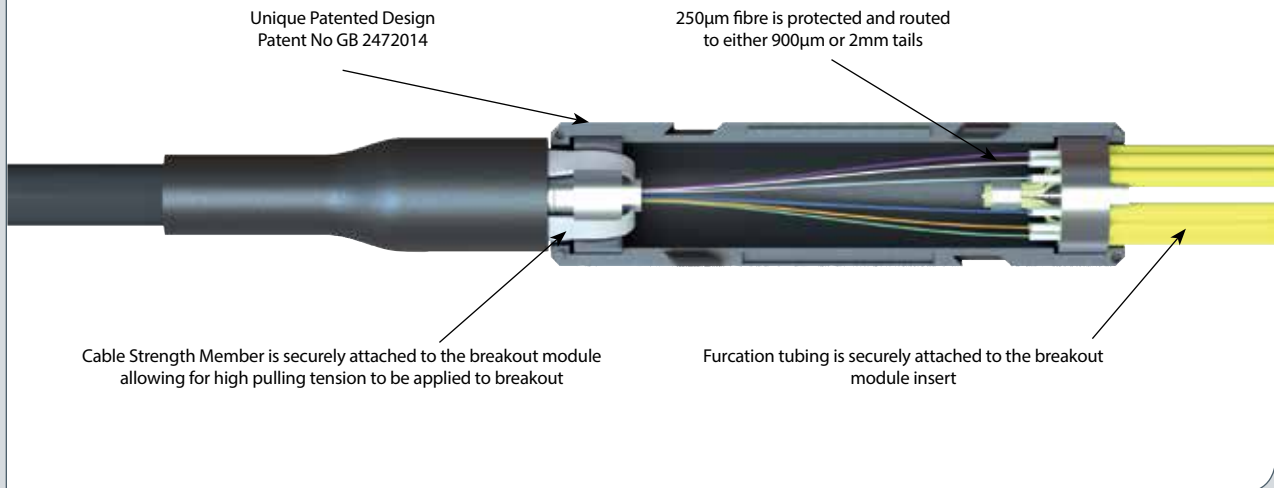
physical properties or high core count trunk assemblies. These cables can be assembled with both MPO/MTP and discrete connectors and can also be used as trunk or ruggedised MPO/MTP Fan Outs in data centres, providing cabinet to cabinet connections without the need of fibre jumpers. Innovative dry loose tube cable construction offers superior physical and optical performance.

- > High (4-144) fibre counts
- > High tensile strength and crush resistance
- > Can be secured to cabinet mounting profile for saving space
- > Zero-U solutions available
- > Compact cable and module dimension easing duct and rack congestions
- > Reduced interconnection topology improves power budget
- > FirstLight Prime module applied
- > MPO/MTP or discrete connector interface
- > 900µm or 2mm tails



## FirstLight Prime Breakout Module

*"Provides a secure transition and protection of fibres when breaking out to 900µm or 2mm tails"*



*"Unique construction - Patented design provides very high 1000N pulling tension"*

Patent No. GB 2472014



Micro Module  
Up to 12 tails



Mini Module  
Up to 24 tails



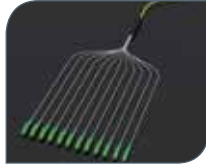
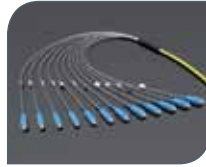
Maxi Module  
Up to 48 tails



Mega Module  
Up to 144 tails

## Micro Breakout Module

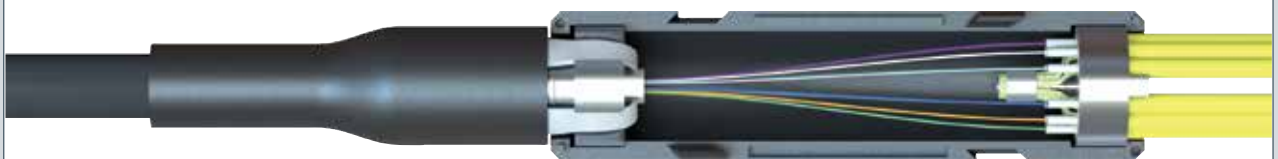
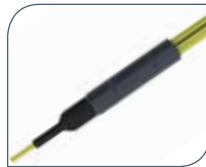
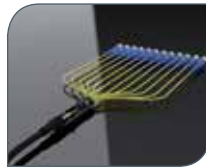
- > Up to 12 x 900µm tails
- > Small 9mm diameter
- > Plastic bodied



Patent No. GB 2472014

## Mini Breakout Module

- > Up to 24 x 900µm tails
- > Up to 12 x 2mm tails
- > 15mm diameter
- > Plastic bodied

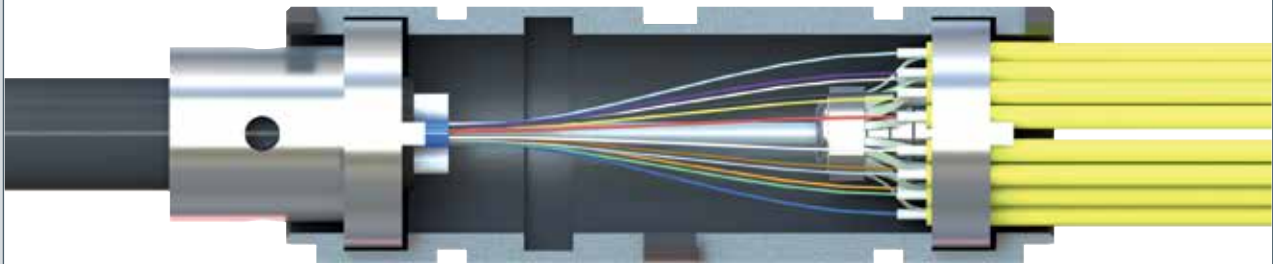


Patent No. GB 2472014



## Maxi Breakout Module

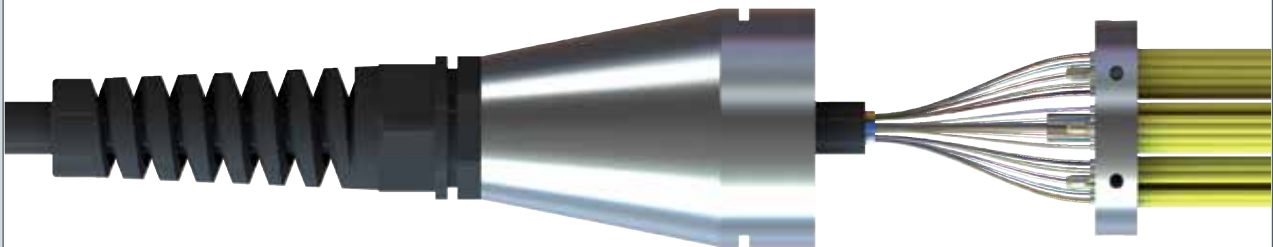
- > Up to 48 x 900µm tails
- > Up to 24 x 2mm tails
- > 21mm diameter
- > Rugged metal body



Patent No. GB 2472014

## Mega Breakout Module

- > Up to 144 x 900µm tails
- > Up to 72 x 2mm tails
- > 50mm diameter
- > Rugged metal body



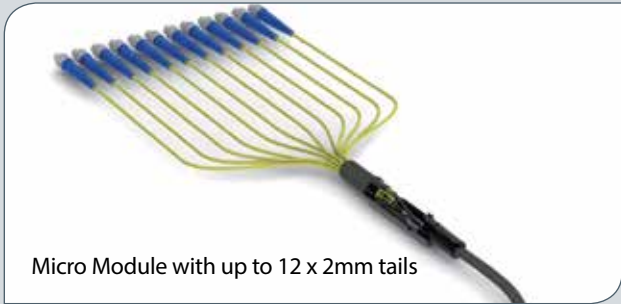
Patent No. GB 2472014



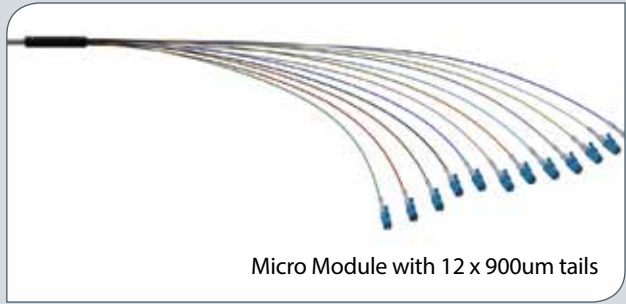
## High Density Pre-Terminated Multifibre FirstLight Prime Cable Assemblies

FirstLight Prime is a special design platform for multifibre optical cable assemblies. It utilises the patented FirstLight Prime transition module and guarantees superior tensile strength and crushing resistance. The high density design can scale from 4 up

to 144 fibres and can feature both 900µm and ruggedised 2mm tail leads. Assemblies can comprise of both multifibre MPO/MTP and discrete connectors, making the FirstLight Prime a flexible hybrid solution for diverse applications in data centres.



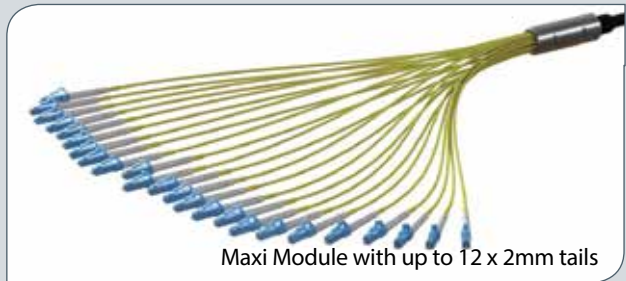
Micro Module with up to 12 x 2mm tails



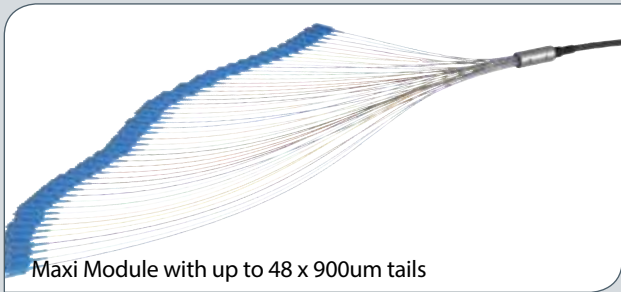
Micro Module with 12 x 900um tails



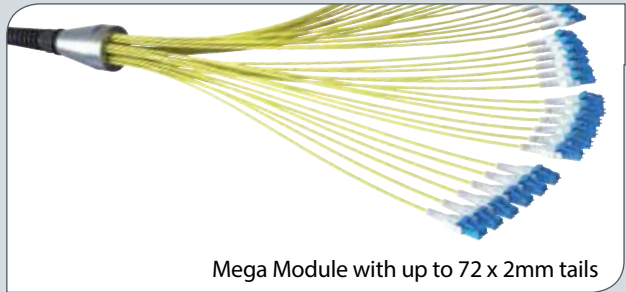
Mini Module with up to 24 x 900um tails



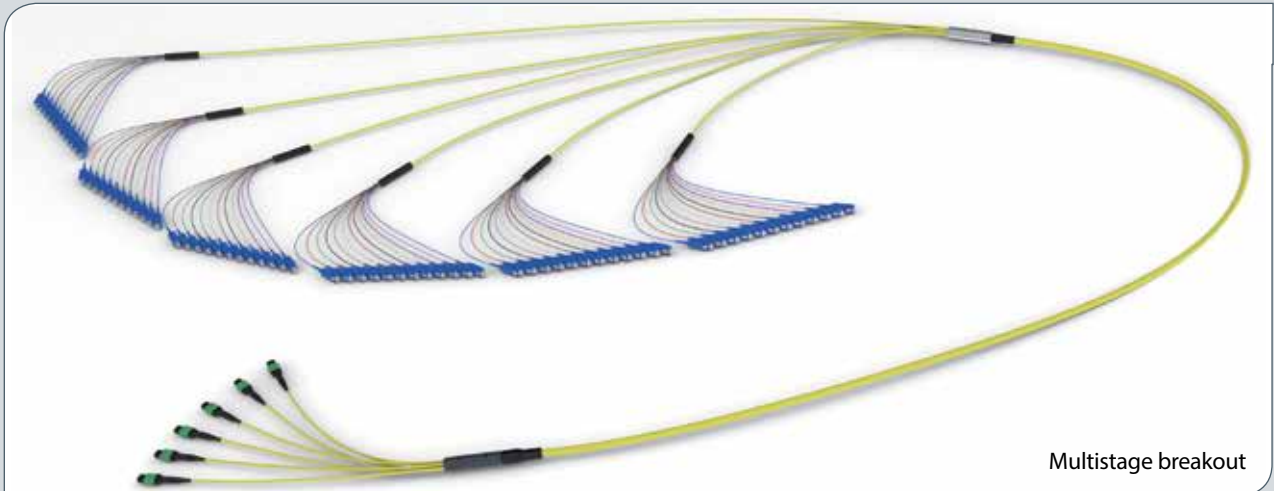
Maxi Module with up to 12 x 2mm tails



Maxi Module with up to 48 x 900um tails

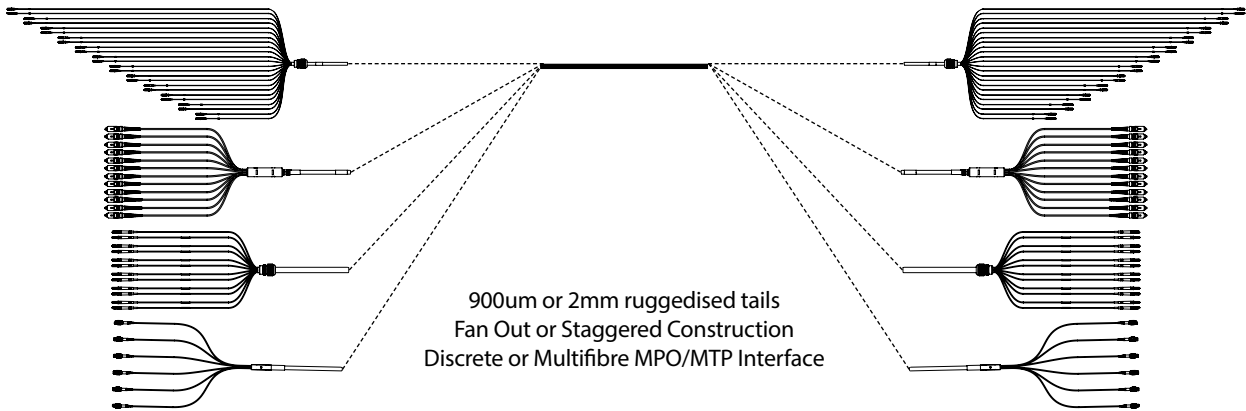


Mega Module with up to 72 x 2mm tails



Multistage breakout

Drawing



Product Configurator

PRE	FIBRE COUNT		CONNECTOR END A		CONNECTOR END B*		FIBRE TYPE		CABLE CONSTRUCTION		CABLE LENGTH (m)	JACKET TYPE		/Z
	2	LC	LC	LC	LC	OS1/OS2	09	Dry Loose Tube 900µm	DLTP	XX	LSZH	Leave Blank		
	4	LC/APC	LCA	LC/APC	LCA	OM1	62	Dry Loose Tube 2mm	DLTR		Plenum	OFNP		
	6	SC	SC	SC	SC	OM2	50	Loose Tube 900µm	LTP		Riser	OFNR		
	8	SC/APC	SCA	SC/APC	SCA	OM3	OM3	Loose Tube 2mm	LTR					
	12	ST	ST	ST	ST	OM4	OM4							
	16	FC	FC	FC	FC	G.657/A1	A1							
	24	FC/APC	FCA	FC/APC	FCA									
	48	E2000	E2	E2000	E2									
		E2000/APC	E2A	E2000/APC	E2A									

\* If end B differs from end A

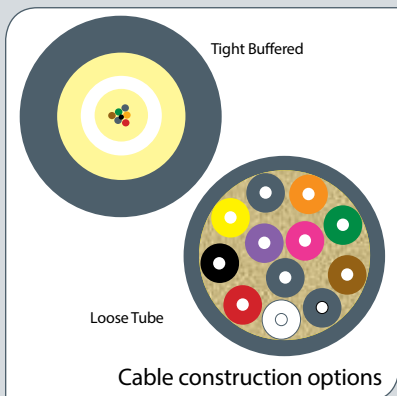
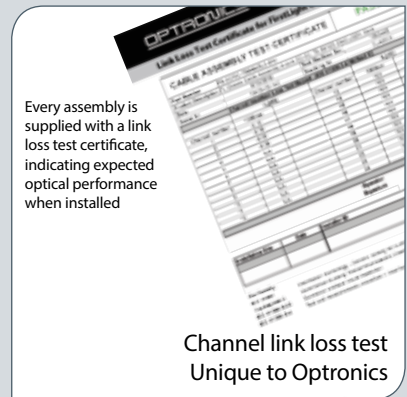
Example Part Number: PRE 24 LC LC OM4 DLTP 10 - /Z  
Will configure a 24 fibre LC to LC OM4 LSZH 900um dry loose tube pre-terminated 10 metre cable.

Pre-Terminated Multifibre

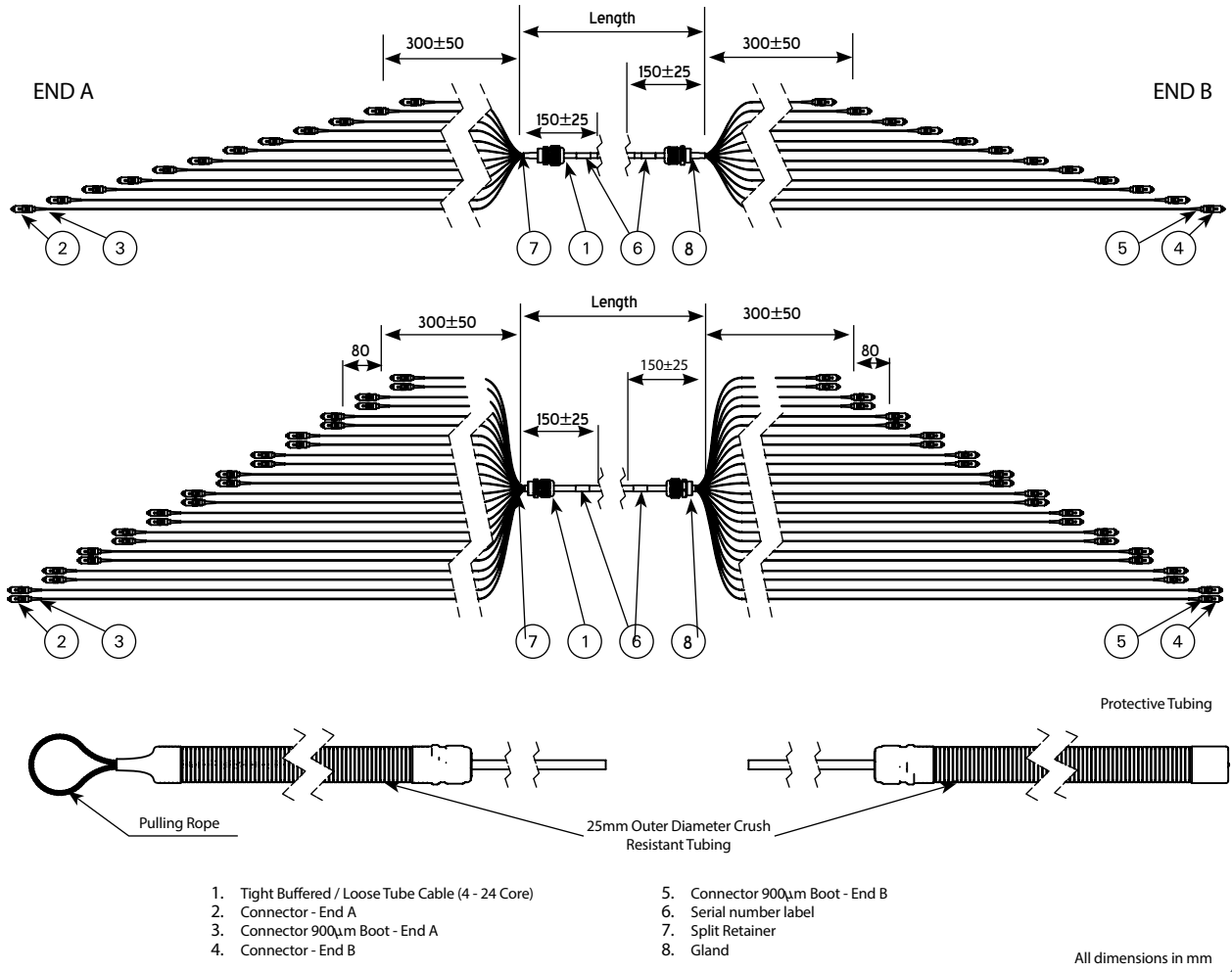


This FirstLight, factory made, quality controlled, fibre optic assembly can be built using distribution tight buffer cable and is designed for short internal optical links. FirstLight Loose Tube Assemblies feature improved mechanical and optical properties ideal for use in internal / external cabling environments. The 900µm presentation lends itself to installation within a patch panel, a wall box or an Optical

Distribution Frame (ODF). Crush resistant protective tubing assures secure transportation and installation. The high strength pulling element allows fast, safe and effective pulling. The overall assembly and packing are light and compact, reducing transport cost and storage space. Installation waste is also reduced. A unique Optronics link loss certificate accompanies all FirstLight multifibre assemblies.



Drawing

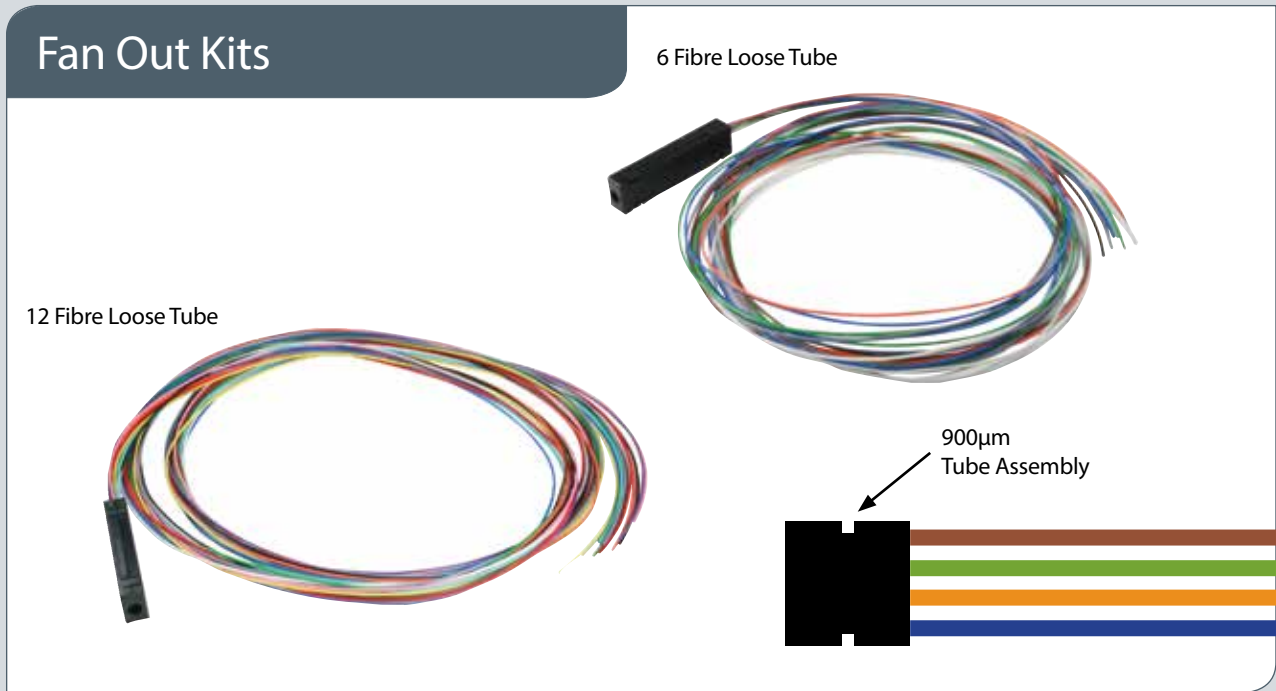


Product Configurator

PRE [ ] [ ] [ ] [ ] [ ] [ ] [ ] /Z

TERMINATED FIBRE COUNT	CONNECTOR A (PULLING EYE)	CONNECTOR B	FIBRE TYPE	CABLE CONSTRUCTION	LENGTH (m)
02	SC	Open end (XX)	OM1 62	Tight Buffered TB	XX
04	LC	SC	OM2 50	Loose Tube LT	
06	FC	LC	OM3 OM3		
08	ST	FC	OM4 OM4		
12	E2 (E2000)	ST			
16		E2 (E2000)			
24					
48					





Indoor Buffer Tube Fan out Kits are specifically designed for the termination of 6 and 12 Fibre loose tube cables. These fan out kits provide the ultimate solution for those users who wish to field-install connectors. The kits provide the most compact, easy-to-install fan out solution which requires no additional

hardware or space than that required for terminating tight-buffered cables. The Fan out Kit features a 900µm fan out assembly that is colour coded to match the fibres you are terminating. The Fan out assembly is available for 6 or 12 fibre units in a length of 1.2m.

## Features

- > Coloured fan out tubing
- > Compact design
- > Bend radius protection
- > 900µm tails
- > Internal/external application

## Application

- > Field termination of loose tube cables into indoor cross-connects

## Benefits

- > Cost effective
- > Time saving on site
- > Makes loose tube fibre easier to work with

## Technical Specification

TUBING SPECIFICATION	
I.D	0.5 +/- 0.05mm
O.D	0.9 +/- 0.05mm
Max Tensile Load	45N
Min Bend Radius	13mm
Crush Resistance	52N/cm Max
Temperature Range	-45°C to +85°C

## Ordering Information

DESCRIPTION	PART NUMBER
Fan Out Kit Loose Tube. 6 Fibre 1.2m	KFO6LT1/Z
Fan Out Kit Loose Tube. 12 Fibre 1.2m	KFO12LT1/Z



# Data Centre Solutions

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# Multi Fibre High Density Connectivity System

## Rapid Deployment

A factory terminated optical fibre cabling solution is a simple, yet scalable, reliable method of network deployment. Installation time compared to traditional fibre cabling systems can be reduced by up to 75%. Simply pull, plug and complete installation on time, eliminating all unpredictable field termination variables.

## High Performance and Reliability

A combination of high quality branded components and Optronics' manufacturing quality control guarantees products are of the highest standard. State -of-the-art MTP manufacturing facilities provide high performance assemblies for the most demanding applications.

## Cost Saving

Installation time involving a costly highly qualified workforce can be reduced to a minimum. A customised tailor-made system means that there is no waste of connectors or fibre cable.

## Scalability

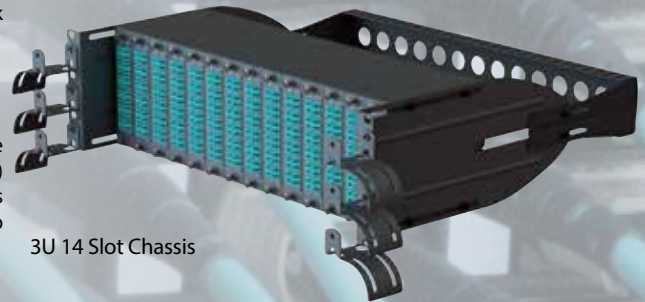
The ever increasing demand for higher bandwidth rates requires more complex networks. A modular system is the choice to ease future expansion and for quick and easy system re-configuration.

## High Density

Thousands of optical ports can be hosted in a SAN (Storage Area Network) or contemporary data centre. Optronics High Density Systems allow for scaling up to 144 fibres in a single assembly.

## Next Generation Network Proof

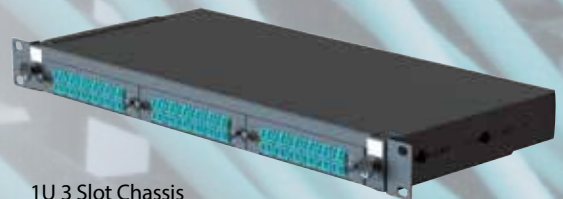
The evolving future protocols of 40 and 100Gbps Ethernet utilise parallel optics. With MTP connections in your network the infrastructure will be unchanged and easily fit into the new network standard topologies.



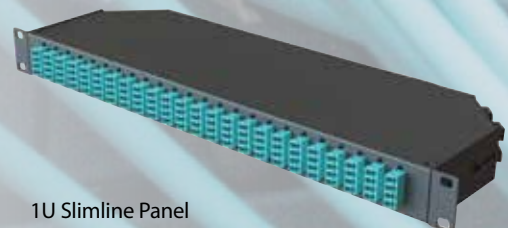
3U 14 Slot Chassis



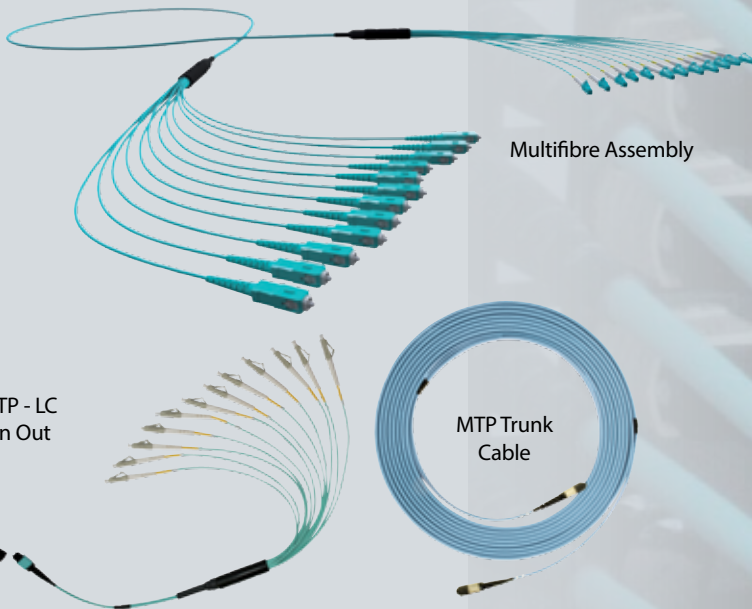
High Density 1U 5 Slot Chassis



1U 3 Slot Chassis



1U Slimline Panel



Multifibre Assembly

MTP - LC Fan Out

MTP Trunk Cable



# MTP The Right Solution

To reduce deployment time and improve project ROI

## Unique

The Optronics MTP cabling solution utilises MTP branded MPO connectors manufactured by US Conec Ltd. The MTP connector features a multifibre ferrule and provides rapid connection of 12 or 24 fibres.

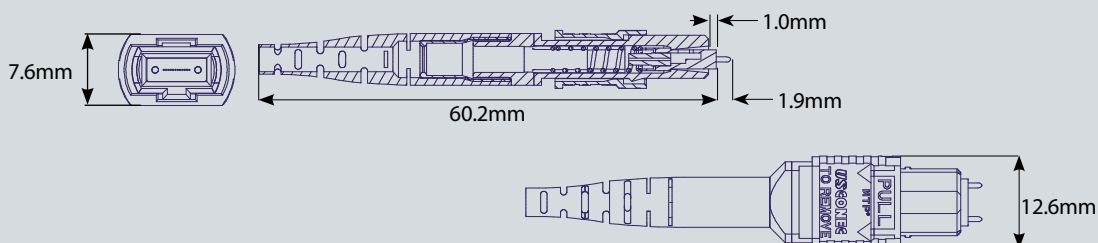
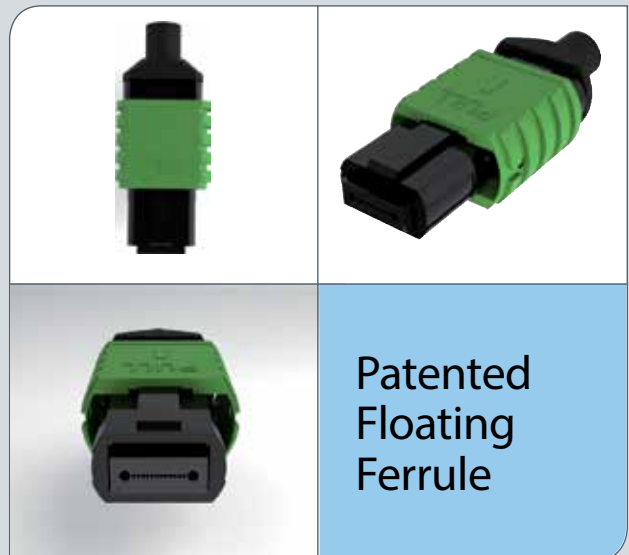
US Conec MTP connector introduces many features which give technical superiority over the standard MPO design providing excellent physical and optical properties. The integrity of the connection is provided by latches within the adaptor which are secured into place on the connector with a spring loaded mechanism. Precision alignment is achieved with specially designed guide pins. MTP connectors have a unique removable housing which allows for a quick change of gender, ferrule cleaning, interferometric inspection or connector re-work.

## Features

- > 12 / 24 fibres ferrule
- > Patented floating ferrule design ensures fibre contact integrity
- > Low loss Elite version
- > Patented elliptical guide pin tip to minimise ferrule debris
- > Ruggedised round cable, oval cable and bare ribbon options available
- > Housing is removable for quick change of pin clamps and easy ferrule cleaning / re-polishing
- > Alignment achieved with high precision guide pins
- > Family of bulkhead adaptors available

## Applications

- > Fibre channel - SAN
- > Parallel optics
- > Infiniband
- > Data Centre infrastructure
- > Optical backplane connections
- > Optical switch and routers
- > Emerging 40 and 100Gbs Ethernet

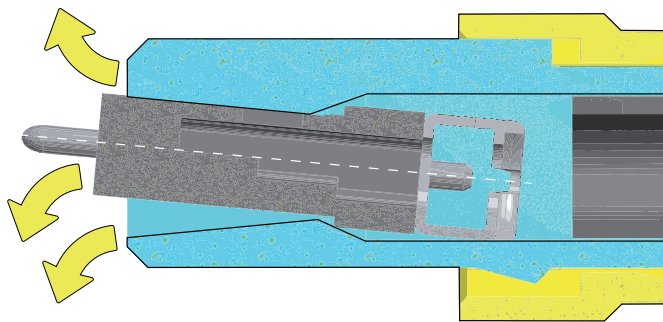


# MTP Innovative design features

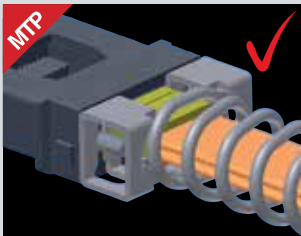
Improve optical performance and reliability

## Floating Ferrule

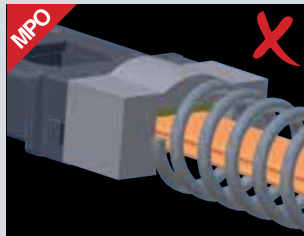
The MT ferrule can move freely inside the MTP housing while mated. This protects it from strain during side load and improves optical performance and reliability.



## Optimised Internal Components

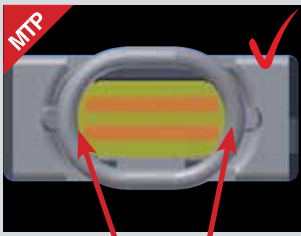


MTP recessed metal pin clamp and oval spring.

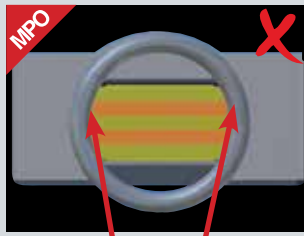


MPO's feature a plastic pin clamp and round spring. The spring is not constrained and may damage the ribbon.

## Oval Spring



MTP oval spring provides more ribbon clearance, enhancing mechanical performance.



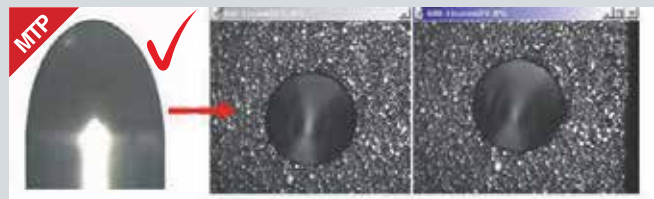
MPO round spring allows less ribbon clearance, limiting mechanical performance.

## Improved MTP Pin Clamp



MTP Recessed pin clamp makes pin transfer impossible

## Elliptical Guide Pin



MTP Guide Pin

Round pin inside ferrule  
No damage or debris



MPO Guide Pin

Sharp edged pins cause damage, reducing durability

## Removable Housing

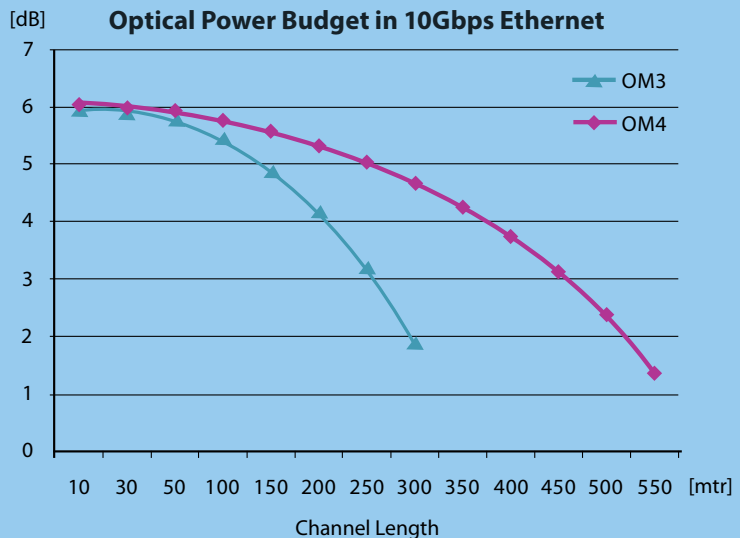


Allows easy transition from male to female and vice versa  
Allows re-polishing

	12 FIBRE				24 FIBRE	48 FIBRE
						
INSERTION LOSS	MTP Elite Singlemode MT Ferrule	Standard Singlemode MT Ferrule	MTP Elite Multimode MT Ferrule	Standard Multimode MT Ferrule	MTP Elite Multimode MT Ferrule	MTP Multimode MT Ferrule
	<b>BEST IN CLASS</b> 0.10dB Typical 0.35dB Max	0.25dB Typical 0.75dB Max	<b>BEST IN CLASS</b> 0.10dB Typical 0.35dB Max	0.20dB Typical 0.60dB Max	0.20dB Typical 0.60dB Max	
RETURN LOSS	>55dB (Angle Polish)	>55dB (Angle Polish)	>20dB	>20dB	>20dB	
OPERATIONAL TEMP	- 40°C to + 70°C	- 40°C to + 70°C	- 40°C to + 70°C	- 40°C to + 70°C	- 40°C to + 70°C	

# Why high quality MTP matters

**In high end data centre application quality of connectors matters!** Power budget in high performance networks like 8/10Gbps Fibre Channel or 10Gbps Ethernet must be carefully controlled. In 300m OM3 channel total connection losses must be lower than 1.5dB! High quality low loss MTP connectors are the only choice for high end application.

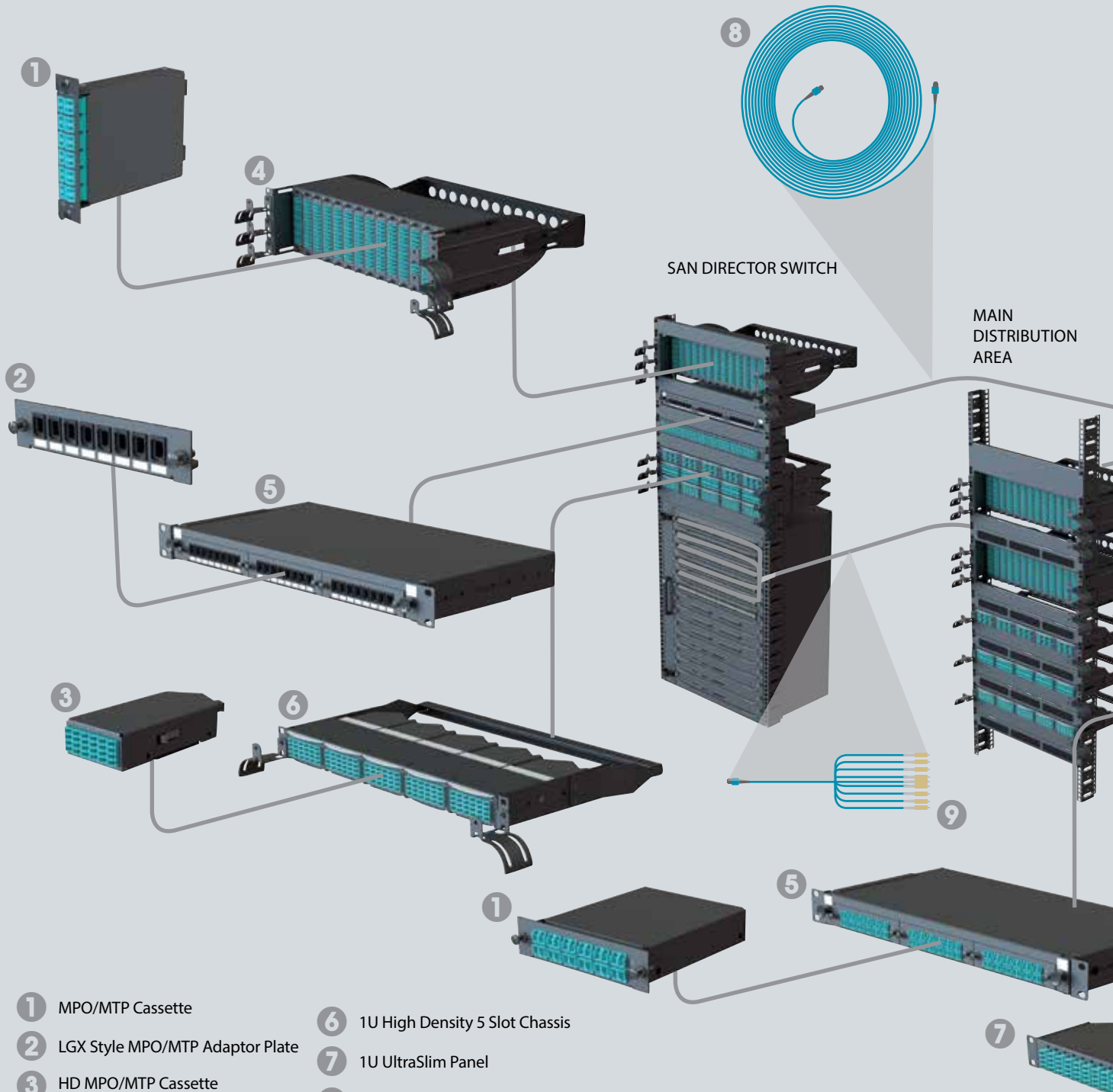




High  
Density

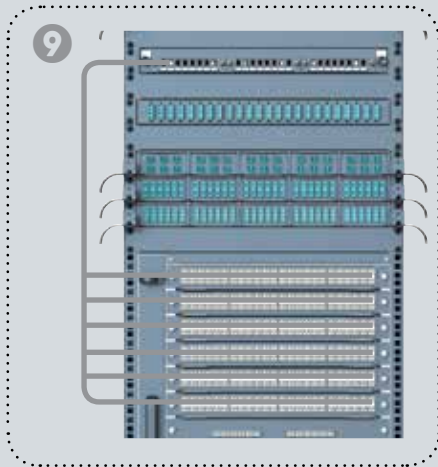
Flexible  
Architecture

Advanced  
Technology

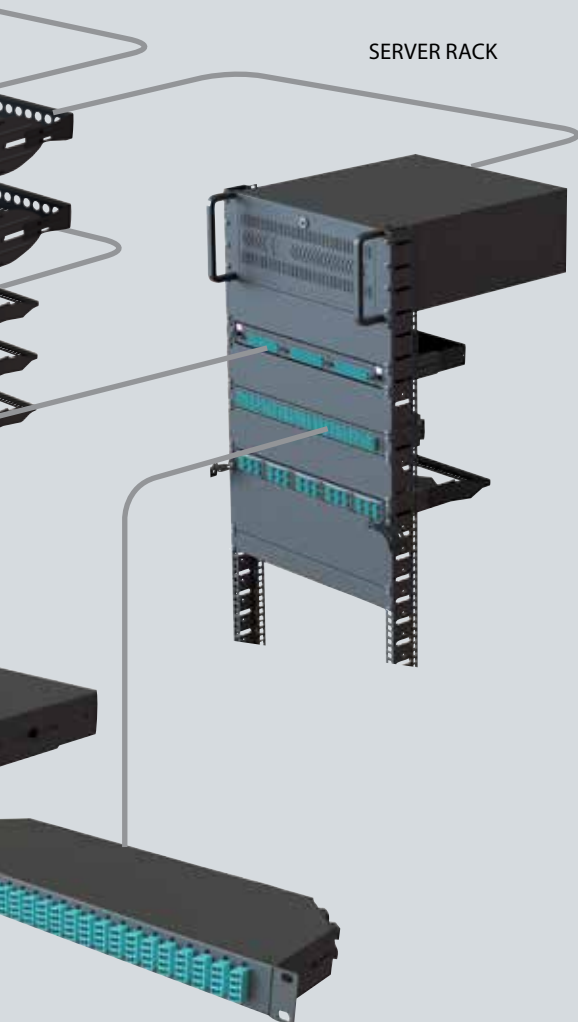


- 1 MPO/MTP Cassette
- 2 LGX Style MPO/MTP Adaptor Plate
- 3 HD MPO/MTP Cassette
- 4 3U 14 Slot Chassis
- 5 1U 3 Slot Chassis
- 6 1U High Density 5 Slot Chassis
- 7 1U UltraSlim Panel
- 8 MPO/MTP Trunk Cable
- 9 MTP/MTP - LC Fan Out Cable

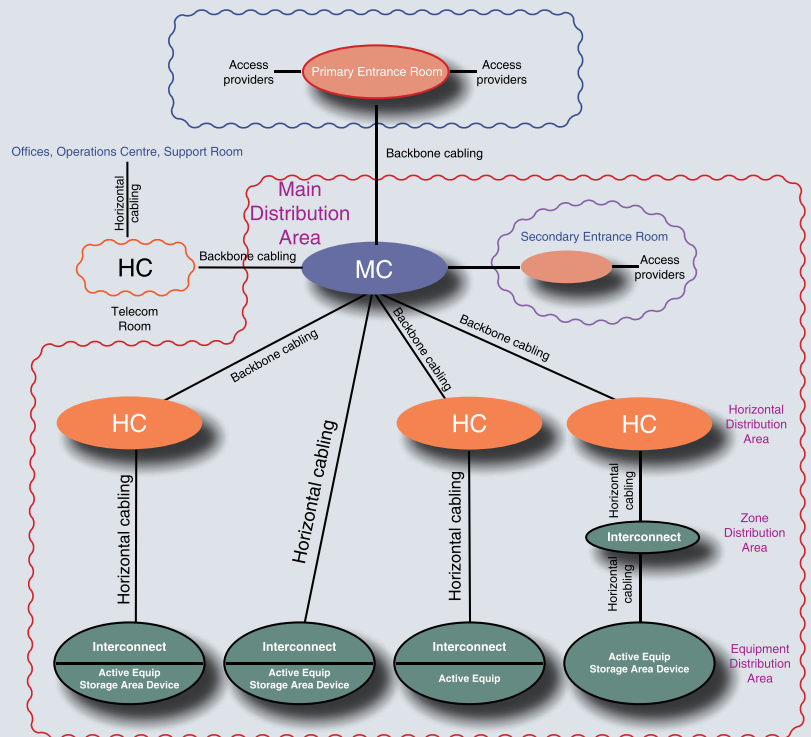
In the enterprise environment all data must be stored and archived by storage area networks (SAN). Data centre backbone products like SAN directors support hundreds of optical ports therefore single cabinets must host thousands of optical interconnections and patch cords. SAN must feature high density and modularity for easy re-configuration of cabling infrastructure.



SERVER RACK



## Enterprise Data Centre Topology



The amount of enterprise data transmitted and stored is continuing to grow exponentially. Data centres which host a large number of interconnections between servers, switches and storage devices are especially affected. Contemporary SAN (Storage Area Network) can contain thousands of FC (Fibre Channel) ports. Mission-critical applications require the highest reliability, as no downtime is acceptable. New trends and technologies like server virtualisation will require even more bandwidth and increase the demand for high density low insertion loss cabling.

**Data centre cabling infrastructure guidance was introduced by standard bodies in Europe (EN50173-5) and America (TIA/EIA-942);**

### Entrance Room

The primary entrance room is the demarcation point between the access provider and the data centre cabling.

### Main Distribution Area (MDA)

The main distribution area is the centre of the cabling system including the main cross-connect.

### Horizontal Distribution Area (HDA)

The HDA is the transition point between backbone and horizontal cabling.

### Zone Distribution Area (ZDA)

If additional cross connect between the HDA and active equipment is needed- zone distribution area is implemented.

### Equipment Distribution Area (EDA)

The equipment distribution area houses the racks and cabinets that hold the computing and storage modules.

# MTP Cassette Modules

Optronics MTP Cassette Modules provide secure transition between MTP and LC or SC discrete connectors. They are used to interconnect MTP backbones with LC or SC patching.

Modular system allows for rapid deployment of high density data centre infrastructure as well as improved troubleshooting and re-configuration during moves, adds and changes. Cassettes can be mounted in 1U or 3U 19" multislots chassis.

MTP Cassettes contain factory controlled and tested MTP-LC Fan Outs to deliver optical performance and reliability. Premium versions of low loss MTP Elite and LC or SC connectors are offered featuring low insertion loss for demanding power budget high speed networks.

## Features

- > MTP (US Conec) brand MPO standard compliant multifibre connector
- > LC (SFF Data Centre standard), SC discrete interface
- > OS1/2, OM3, OM4 fibre grades (OM1 and OM2 available)
- > 12 and 24 fibre versions - 12 LC (Duplex) / SC (Simplex) adaptors
- > Polarity A (standard), B or C
- > Factory terminated and tested
- > High performance zirconia sleeve adaptors

## Benefits

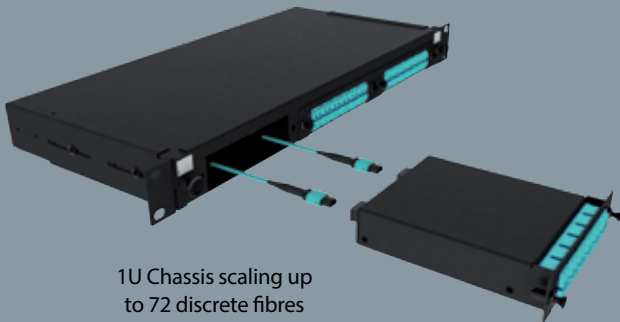
- > Rapid Deployment - factory terminated modular system saves installation and re-configuration time during moves, adds and changes
- > MTP Interface - MTP US Conec brand components feature superior optical and mechanical properties
- > Optimised Performance - low loss MTP Elite, discrete Premium connectors and OM4 fibre assures low insertion losses and power penalties in tight power budget high speed network environment
- > High Density - 12 or 24 fibre cassettes can be mounted in 1 U scaling up to 72 or in 3 U scaling up to 336 discrete connectors
- > Reliability - 100% tested- combination of high quality components and Optronics manufacturing quality control guarantees product to the highest standards



## Application

- > Data Centre Infrastructure
- > Storage Area Network- Fibre Channel
- > Parallel Optics

### Compatibility:



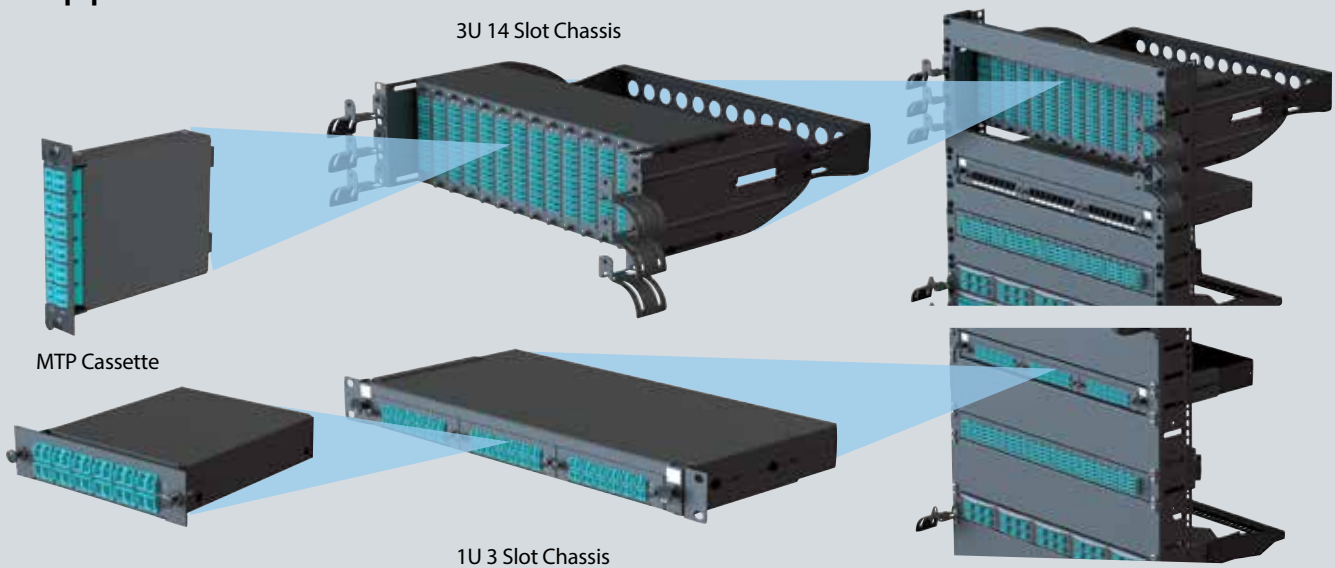
1U Chassis scaling up to 72 discrete fibres see page 52



3U Chassis scaling up to 336 discrete fibres see page 52

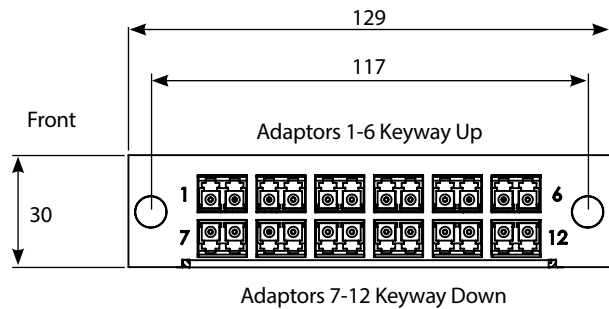
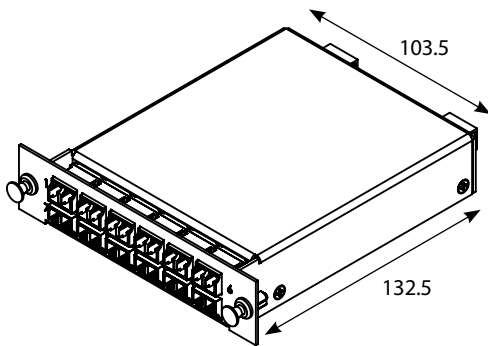


## Application

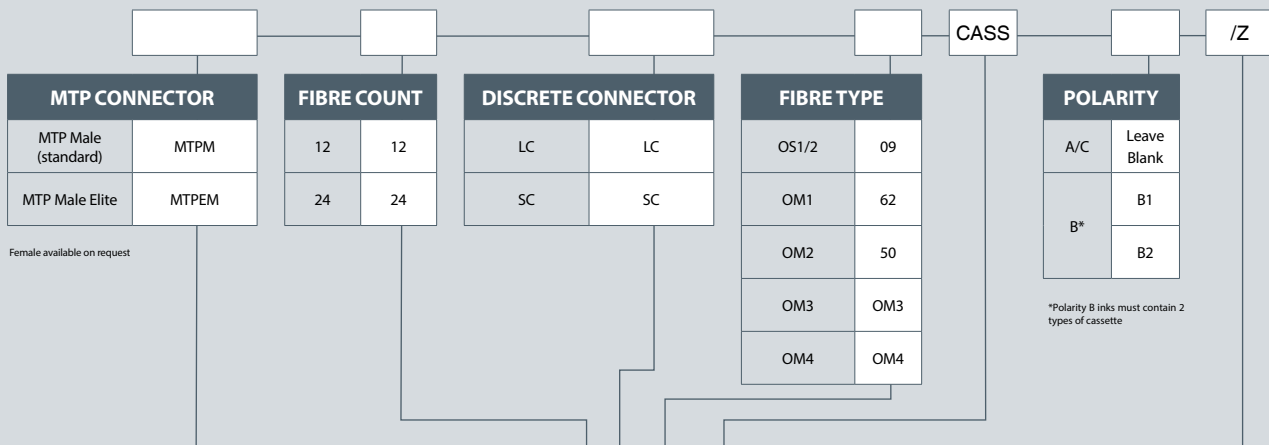


## Technical Drawing

All dimensions in mm



## Part Number Generator



Example Part Number: **MTPM 24 LC OM4 CASS /Z**  
 MTPM24LCOM4CASS/Z configures a 24 fibre OM4 cassette with MTP male rear and LC front interface, polarity method A or C.

## 1U 3 Port Sliding Patch Panel For MTP Modules

Optronics offers an innovative, robust 1U sliding patch panel. This panel has been designed to accept up to 3 LGX Modules or MTP cassettes within a 1U space. The ability to use a full array of adaptor types offers a flexible solution to the end user, enabling them to incorporate a multifunctional panel. This allows easy access during installation or re-work with no disturbance of the existing cable or fibres. In addition to the array of adaptors the panel also offers multiple cable entry solutions including up to 6 standard cable entry points for loose tube, tight buffer, steel tape armoured cable or a pre-terminated assembly.



1U Chassis  
scaling up to  
72 discrete fibres  
Part Number: S13XXX00/Z

### Applications

- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor applications

### Features

- > Up to 3 LGX/MTP modules in 1U
- > Multiple adaptor options available
- > 24 adaptor positions
- > Individually labelled ports
- > 45° open working angle
- > Accepts loose tube, distribution and pre-terminated cables
- > REACH/SvHC and UL rated
- > Fits standard 19" cabinet

## Ultra High Density 14 Slot 3U LGX Style Chassis For MTP Modules

Optronics offers an innovative, robust, high density 3U Chassis. This panel has been designed to accept up to 14 LGX style cassettes.

The ability to use a full array of adaptor types offers a flexible solution to the end user, plus, during installation or re-work this multifunctional chassis allows for easy access without disturbing the existing cable or fibres.

In addition to the array of adaptors, the chassis also offers multiple cable entry solutions: MTP trunk cables connected to 14 individual MTP cassettes with up to 24 fibres in each, loose tube cable connecting to 14 individual extended cassettes to allow standard splicing or 14 LGX style modules for pre-terminated solutions. Making this chassis one of the most flexible on the market.



3U Chassis  
scaling up to  
336 discrete fibres  
Part Number: LGXCHASSIS/Z

### Applications

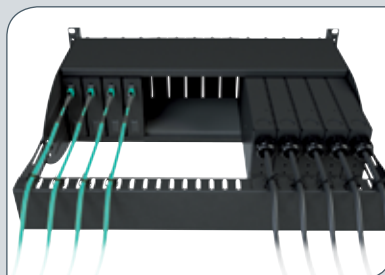
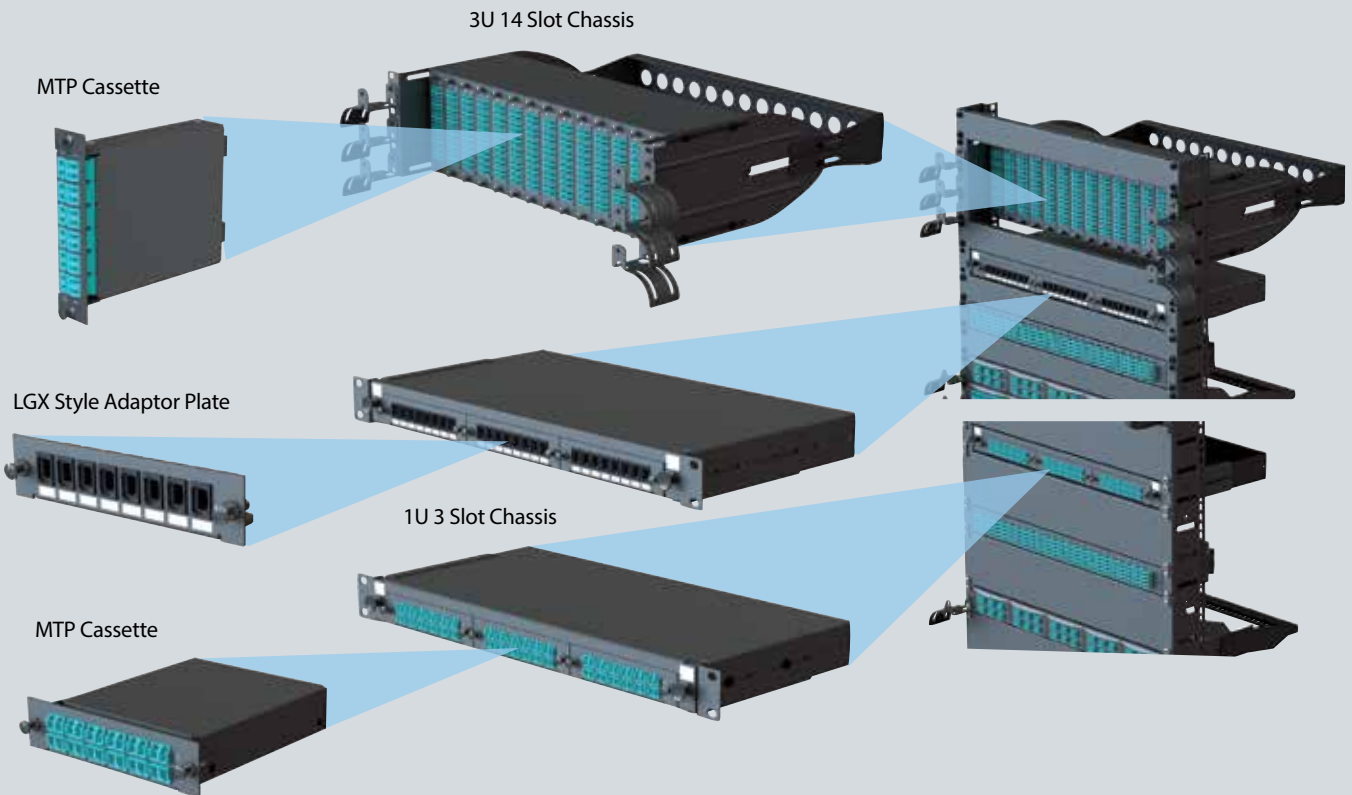
- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor applications

### Features

- > Up to 14 LGX style adaptor plates/cassettes
- > Up to 14 x 24 fibre MTP cassettes
- > Multiple adaptor options available
- > Fully integrated fibre management
- > Splicing option available
- > Flat pack for easy shipment
- > Patch cord exit retrofit cable management available
- > 30mm bend radius maintained throughout
- > Accepts loose tube, distribution cable and MTP trunk cable
- > REACH/SvHC and UL rated
- > Fits standard 19" cabinet
- > Rear cable management bar as standard











## Applications



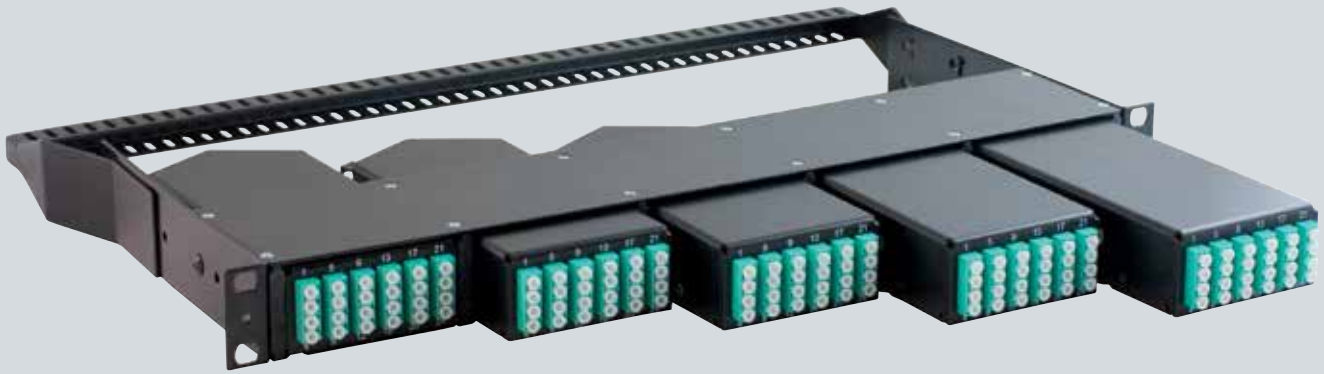
## Ordering Information

DESCRIPTION	PART NUMBER
1U 3 Port Modular Patch Panel for use with MTP Cassette Modules	S13XX00/Z
3U 14 Port Modular Patch Panel for use with MTP Cassette Modules	LGXCHASSIS/Z

## Adaptor Plates

<b>MTP TO MTP</b>  8 adaptor 	<b>L06</b> L08MTP08/Z	<b>LC MULTIMODE QUAD</b>  6 adaptor 	<b>L03</b> L03LQM06/CAS/Z
<b>LC MULTIMODE DUPLEX</b>  8 adaptor 	<b>L01</b> L01LCM08/CAS/Z	<b>SC MULTIMODE DUPLEX</b>  6 adaptor 	<b>L03</b> L03SCM06/CAS/Z

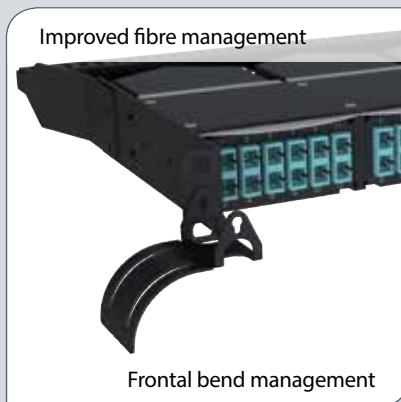
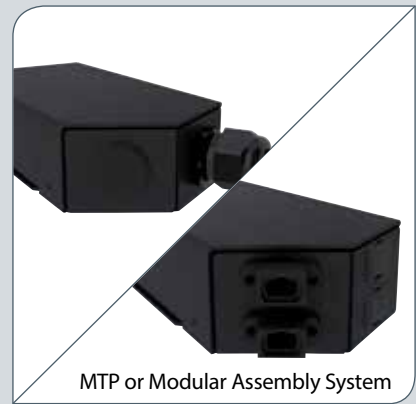
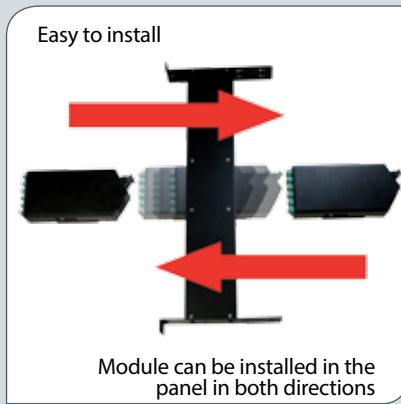
# 1U Ultra High Density Modular Patch Panel System



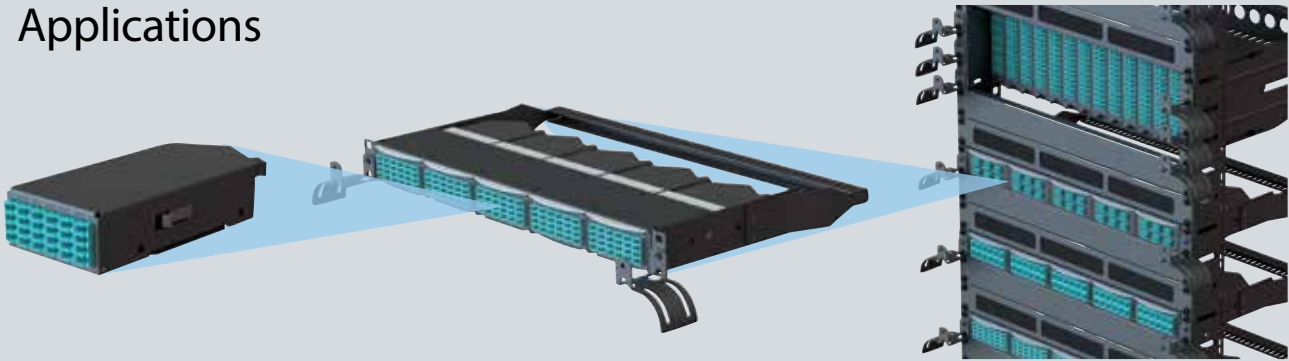
Optronic's innovative, high density patch panel is designed to accommodate up to 120 discrete connections within a 1U panel space or 480 connections when utilising a multifibre MTP interface. The panel accepts up to 5 modules,

each module accepts incoming fibres from either MTP trunk cables or directly terminated cable being connected to the module. Each module is supplied with a separate labelling card for ease of channel identification.

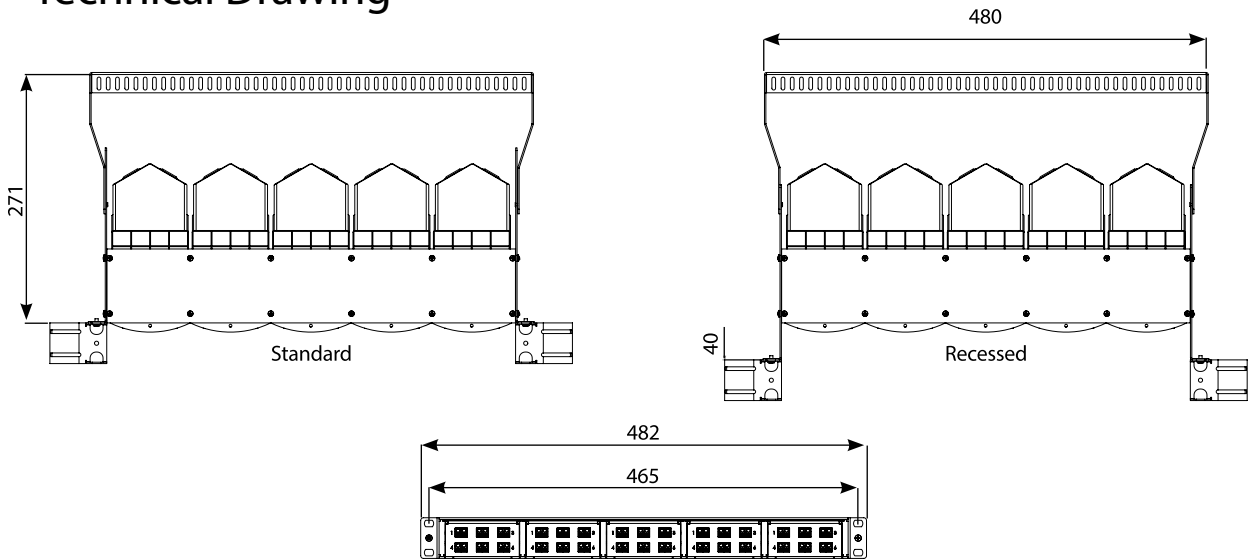
Cable entry is managed via a retrofit management bar allowing entry from either the left or the right hand side. Exiting patch cords are managed by a retrofit bracket allowing cables to be routed in any direction.



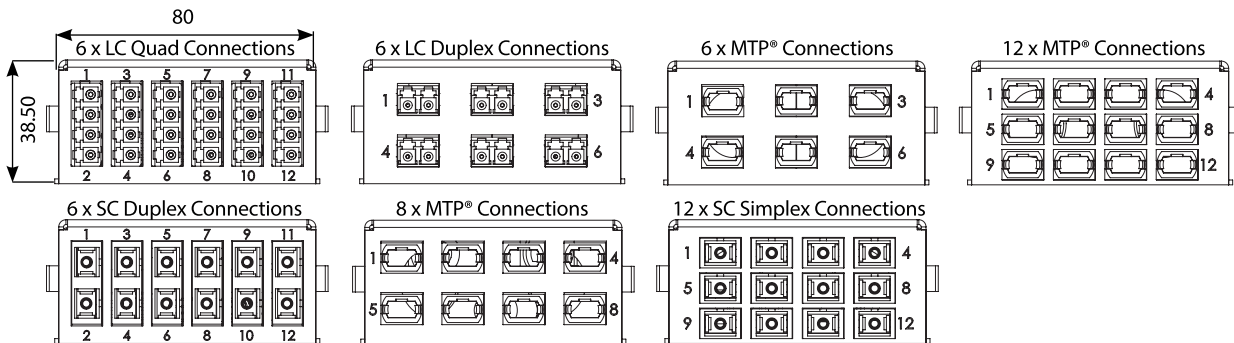
## Applications



## Technical Drawing



## Pluggable Module Options



All dimensions in mm

## Ordering Information

DESCRIPTION	PART NUMBER
High Density Modular Panel (unloaded)	HDCHASSIS/Z

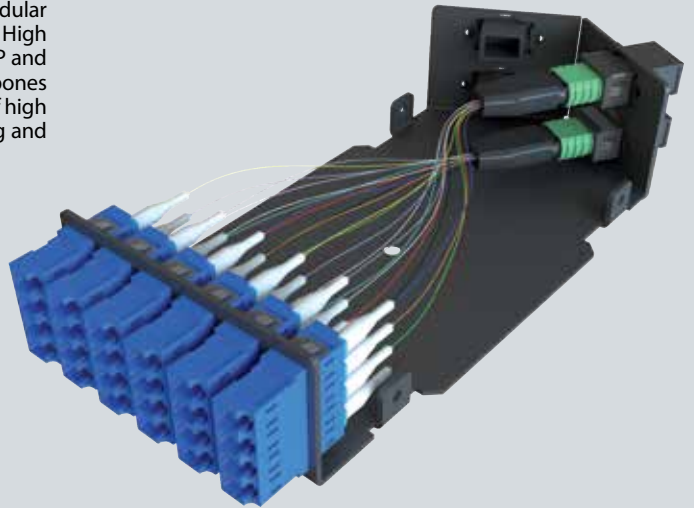


# High Density MTP Cassette

The High Density MTP cassette system is compatible with a 1U 5 slot modular chassis scaling up to 120 discrete fibres in a 1U space. Optronics' High Density MTP Cassette Modules provide secure transition between MTP and LC or SC discrete connectors. They are used to interconnect MTP backbones with LC or SC patching. Modular systems allow for rapid deployment of high density data centre infrastructure as well as improved troubleshooting and re-configuration during moves, adds and changes.

## Features

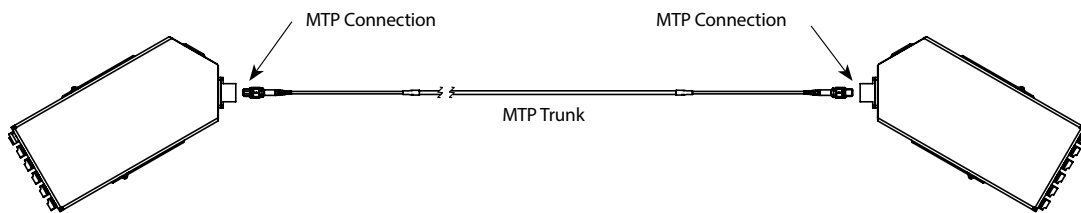
- > Compatible with High Density Modular 5 Slot Chassis
- > MTP (US Conec) brand MPO standard compliant multifibre connector
- > LC (SFF Data Centre standard), SC discrete interface
- > OS1/2, OM3, OM4 fibre grades (OM1 and OM2 available)
- > 12 and 24 fibre versions
- > Polarity A (standard), B or C
- > Factory terminated and tested
- > High performance zirconia sleeve adaptors



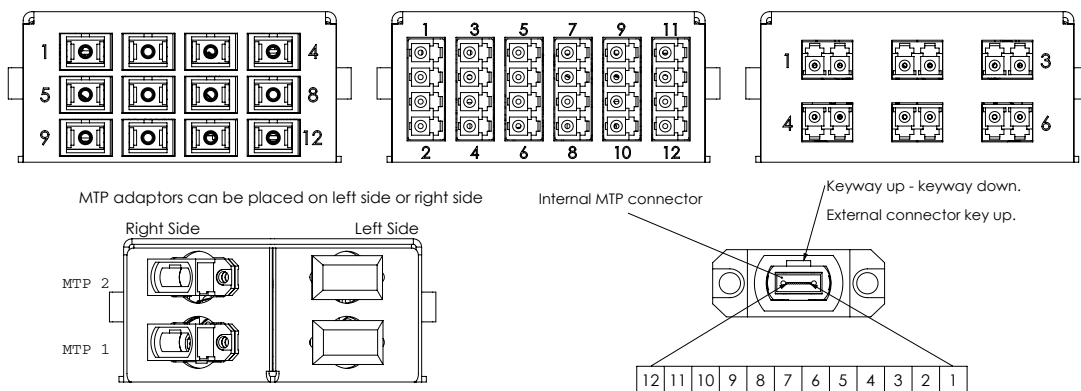
**“Increase Fibre Density to 120 in 1U”**

## Benefits

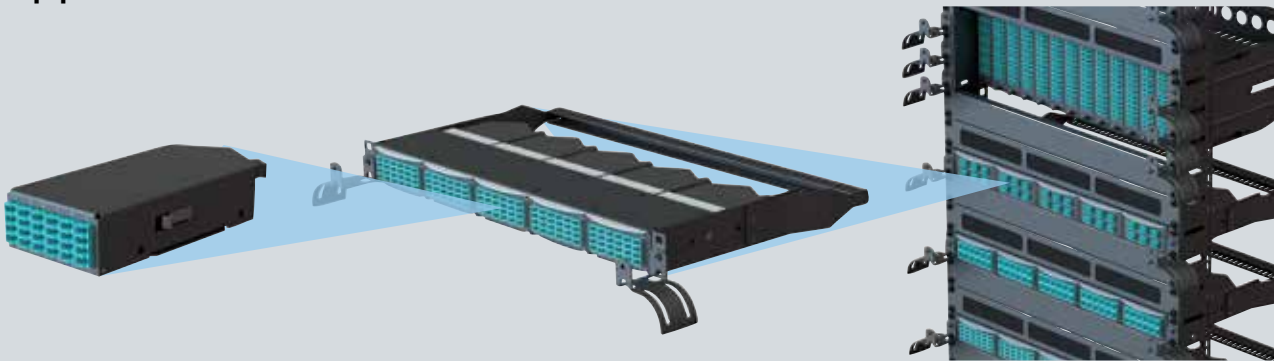
- > Rapid Deployment - factory terminated modular system saves installation and re-configuration time during moves, adds and changes
- > MTP Interface- MTP US Conec brand components feature superior optical and mechanical properties
- > Optimised Performance- low loss MTP Elite, discrete Premium connectors and OM4 fibre assures low insertion losses and power penalties in tight power budget high speed network environment
- > High Density- 5 x fibre cassettes can be mounted in 1U chassis scaling up to 120 discrete fibres in 1U
- > Reliability- 100% tested- combination of high quality components and Optronics manufacturing quality control guarantees product to the highest standards



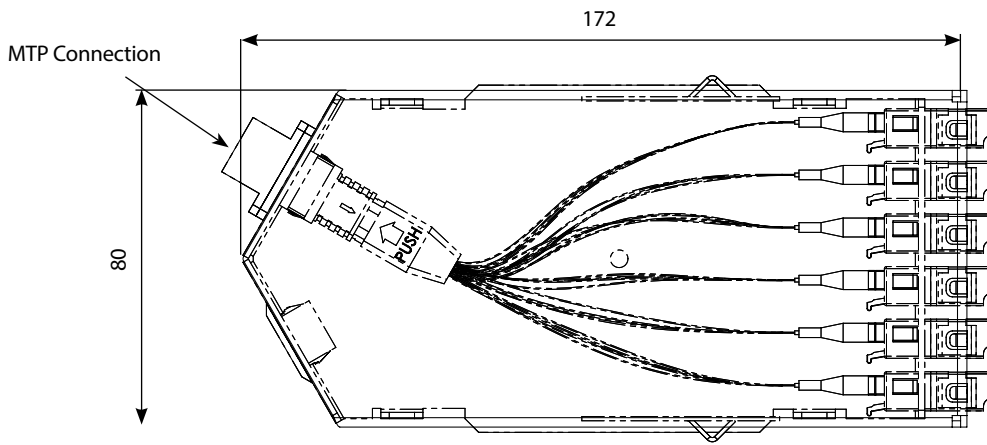
## Pluggable Module Options



## Application



## Technical Drawing



All dimensions in mm

## Part Number Generator

MTP CONNECTOR		FIBRE COUNT		DISCRETE CONNECTOR		FIBRE TYPE		POLARITY	
MTP Male (standard)	MTPM	12	12	LC	LC	OS1/2	09	A/C	Leave Blank
MTP Male Elite	MTPEM	24	24	SC	SC	OM1	62	B*	B1
						OM2	50		B2
						OM3	OM3		
						OM4	OM4		

Female available on request

\*Polarity B inks must contain 2 types of cassette

Example Part Number: **MTPM 24 LC OM4 HD /Z**  
 MTPM24LCOM4HD/Z will configure a 24 fibre OM4 cassette with MTP male rear and LC front interface, polarity method A or C.



# High Density Modular Assembly



***“Reduce the number of interconnections in modular systems, improve power budget”***

Optronic’s High Density modular system features an innovative design allowing for a plug and play pre-terminated system configuration. Cable assemblies can be directly terminated and installed in the cassettes for fast and easy installation. Direct connection to the

front cassette interface minimises the number of interconnections improving power budget and network cost. Multifibre MTP Interface as well as discrete fibre can be applied. Different configuration options allow for combinations of modules with terminated tails.

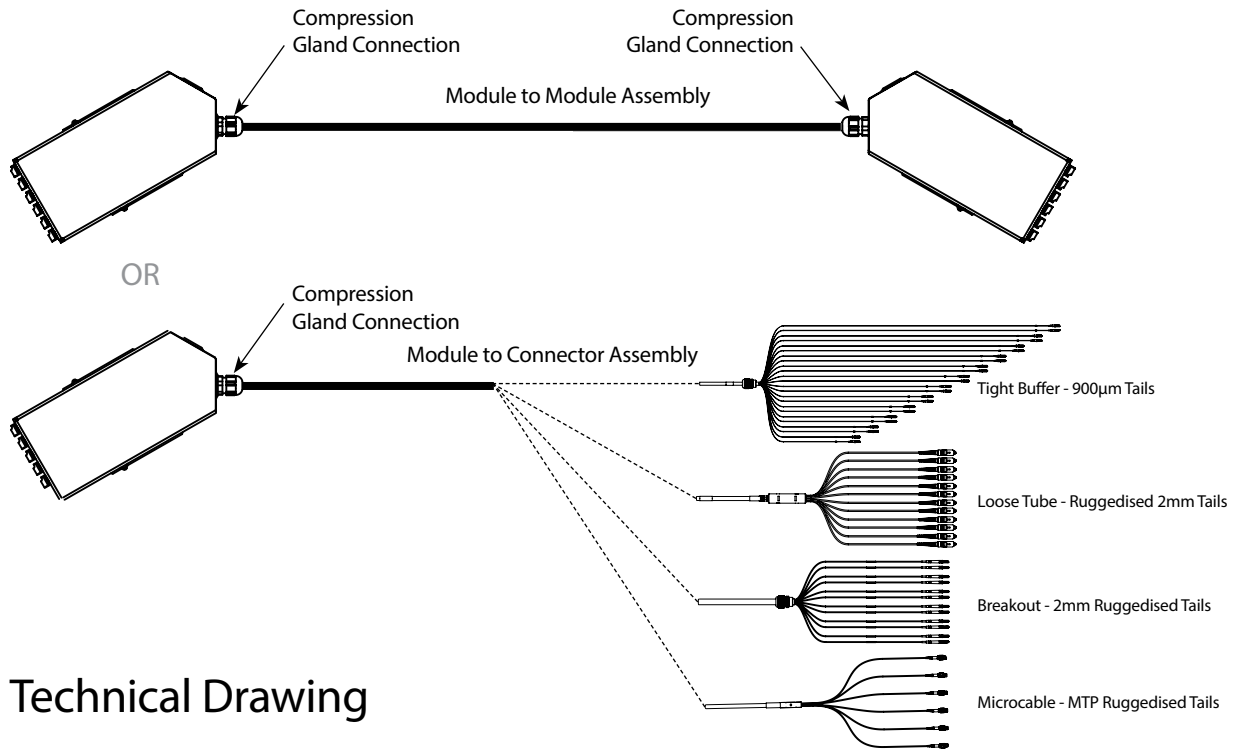
## Features

- > OS1/2, OM1, OM2, OM3, OM4 fibre grades
- > Distribution - TB, micro cable, loose tube cable types available
- > Factory terminated and tested
- > Ruggedised 2mm or 900µm tails available
- > Improved Power Budget – collapsed network infrastructure minimises the number of interconnections
- > Ultra High Density- up to 12 MTP adaptors per cassette

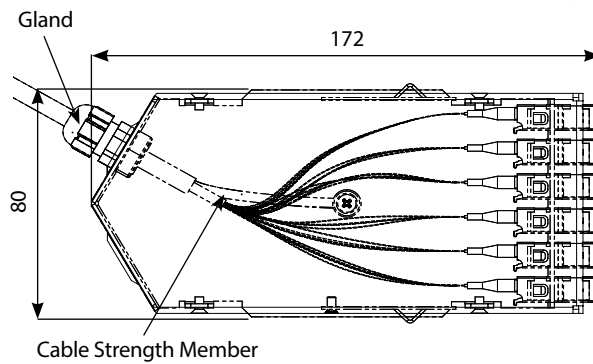
## Benefits

- > MTP Interface - MTP US Conec brand components feature superior optical and mechanical properties.
- > Optimised Performance - low loss MTP Elite, discrete Premium connectors and OM4 fibre assures low insertion losses and power penalties in tight power budget high speed network environment
- > High Density - ruggedised Fan Out allows for direct connection between backbone and active equipment eliminating rack space usage
- > Rapid Deployment- factory terminated modular system saves installation and re-configuration time during moves, adds and changes
- > Reliability - 100% tested- combination of high quality components and Optronic’s manufacturing quality control guarantees product to the highest standards

### Application



### Technical Drawing

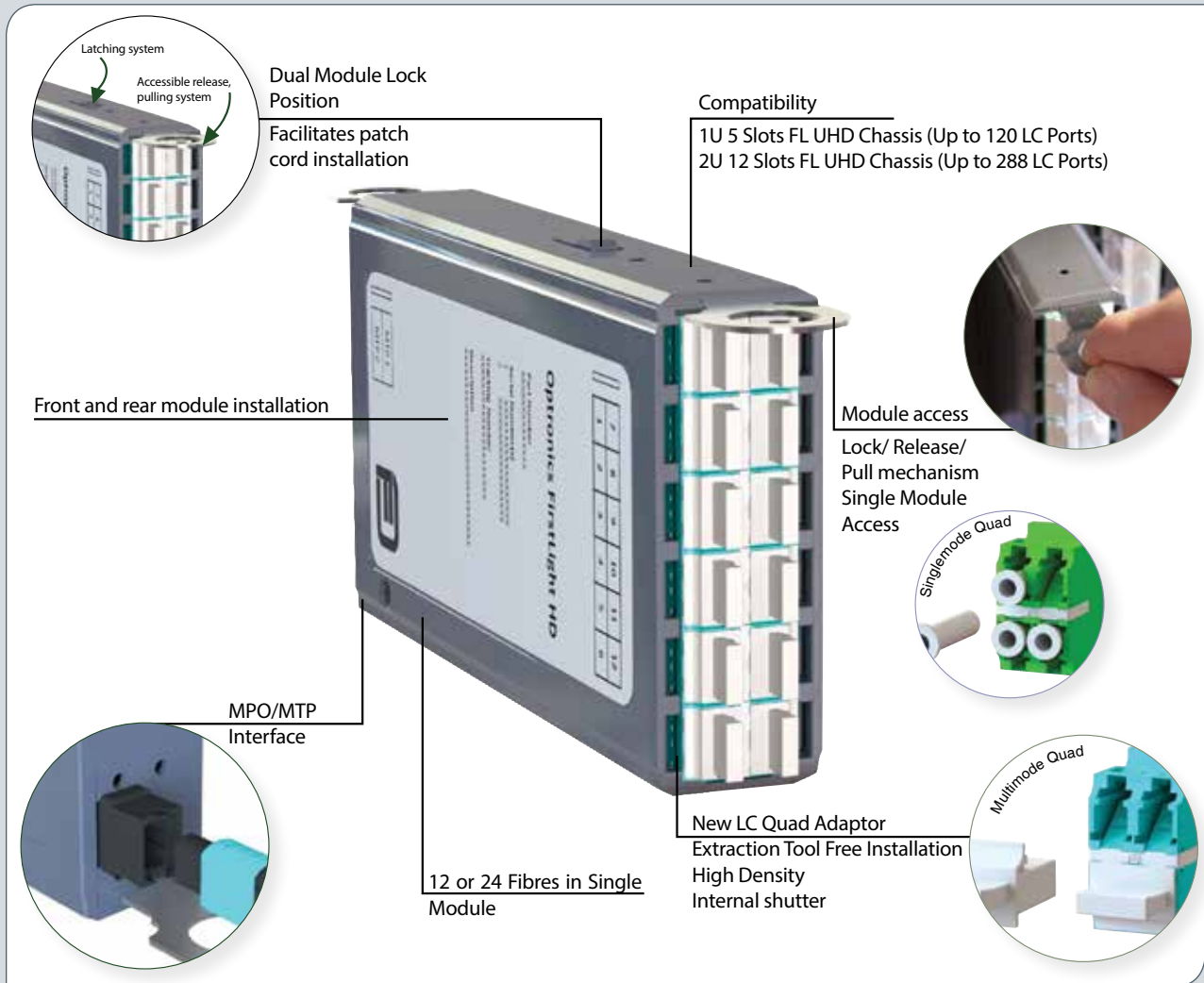


All dimensions in mm

### Product Configurator

								/Z
FIBRE COUNT	END A MODULE INTERFACE	END B STYLE	END B INTERFACE	FIBRE TYPE	CABLE CONSTRUCTION	ASSEMBLY LENGTH	ASSEMBLY TYPE	
24	LC	Module	LC	OM4	Tight Buffer	1 to 200m	Standard	
Up to 144 MTP	SC	900µm Tails	SC		Breakout		Premium/Elite	
	MTP Male	2mm Tails	MTP		Micro cable			
	MTP Female				Loose Tube			

# FirstLight Ultra High Density MPO/MTP Module



FirstLight Ultra High Density Modules provide an interface between MPO/MTP Trunks and LC interface of active equipment. Pre-assembled MPO/MTP modules improve the speed of installation. Modules with external MPO/MTP ports can be easily connected to trunks. Single MPO/MTP port connection provides mating typically for 12 or 24 fibres at one time. Modules are

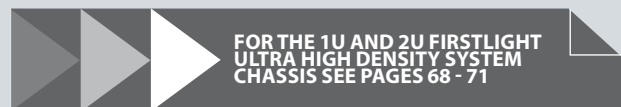
compact improving space management in a high fibre density environment. Modular systems can be easily disconnected and reconfigured for fast add ons or system change reconfigurations. New design of adaptor footprint is implemented for the handling of ultra high density infrastructure.

## Features

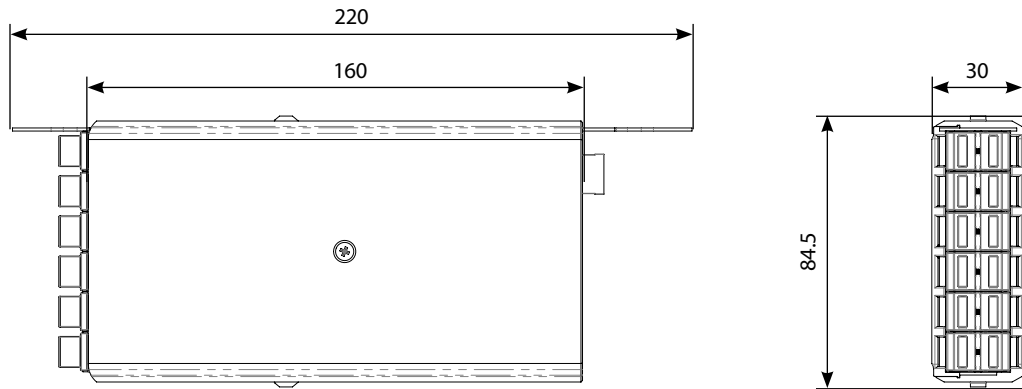
- > 12 and 24 fibres modules
- > Compatible with 1U 5 x Modules Chassis and 2U 12 x Modules Chassis
- > Premium LC, SC premium interface
- > Premium MPO/MTP ELITE interface
- > SM and MM (OM3/OM4) Versions
- > Polarity A, B or C

## Applications

- > TIA/EIA-568-C.3 and IEC 11801
- > IEC-61754-7 & EIA/TIA-604-5
- > Compliant to Directive 2002/95/EC (RoHS) and REACH SvHC
- > IEC-60793



## Technical Drawing



All dimensions in mm

## Standards Compliance

- > TIA/EIA-568-C.3 and IEC 11801
- > IEC-61754-7 & EIA/TIA-604-5
- > Compliant to Directive 2002/95/EC, REACH SvHC
- > IEC-60793

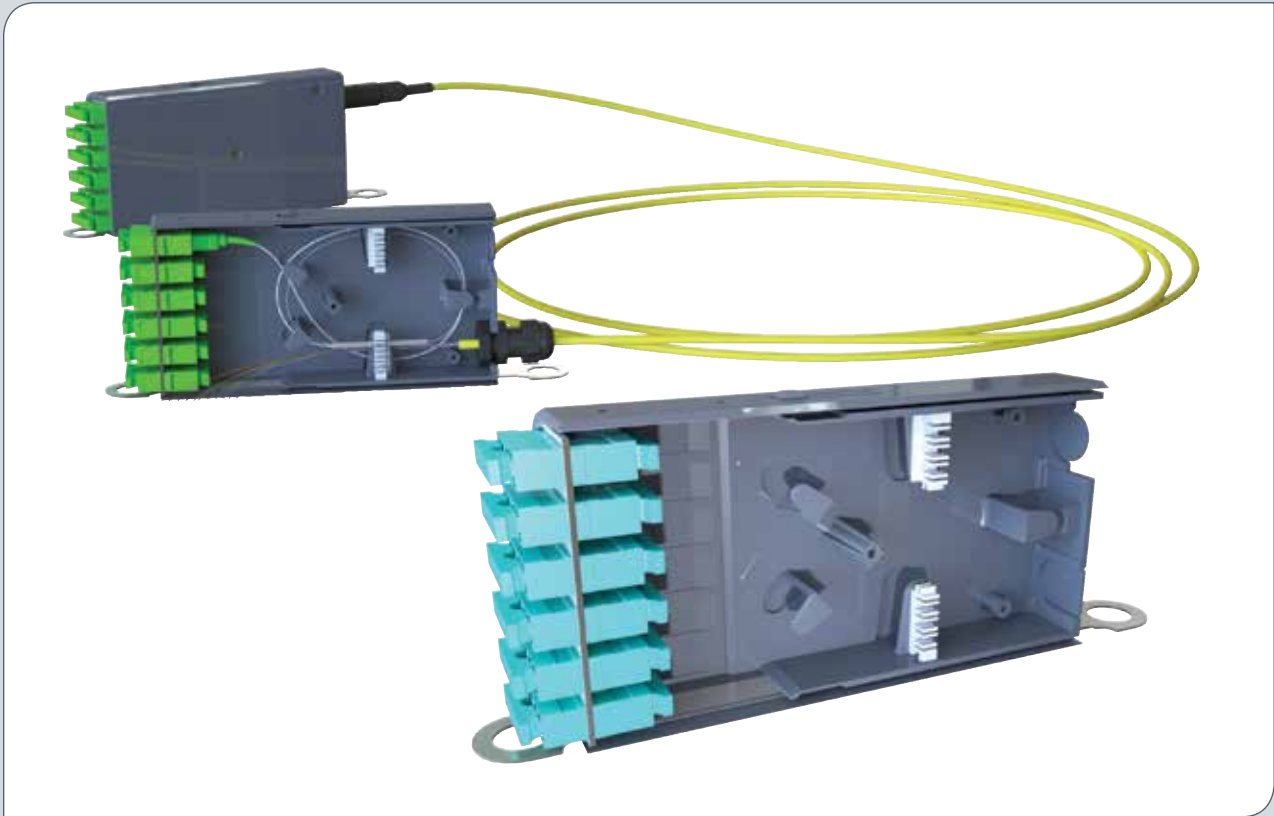
## Termination Performance

CONNECTOR MATING	IL AVERAGE	IL MAX	RETURN LOSS
MTP Elite (MM)	0.10dB	0.35dB	NA
LC, SC Premium (MM)	0.08dB	0.15dB	NA
MTP Elite (SM)	0.10dB	0.35dB	>60dB
LE, SC Premium (SM)	0.12dB	0.15dB	>55/65dB

## Specifications

DESCRIPTION	
Fibre	SM: G.652D, MM: OM3/OM4 (ISO/IEC 60793)
Adaptors	MPO/MTP IEC-61754 & EIA/TIA-604-5 Body Colour: Black Polarity: Keyway up- Keyway down Grey: Polarity B Keyway up- Keyway up LC QUAD (IEC 61754-20) Body Colour: AQUA (MM- OM3/OM4), Blue (SM/UPC), Green (SM/APC) SC DX (IEC-61754-14) Body Colour: Beige (MM- OM3/OM4), Blue (SM/UPC), Green (SM/APC)
Module material	ABS
Module colour	RAL7015
Operating temperature	-20oC to +60oC
Storage temperature	-40oC to +70oC

## FirstLight Ultra High Density Splice Module



FirstLight High Density modules can feature internal splice management housing up to 12 x splice positions. 2U chassis is the platform to house 288 splices in 2U size.

### Features

- > SC/LC interface
- > Up to 12 splices per module

### Applications

- > Enterprise/ Campus networks
- > LAN
- > Central office/ POP

### Specifications

DESCRIPTION	
Adaptors	LC QUAD (IEC 61754-20) Body Colour: AQUA (MM), Blue (SM/UPC), Green (SM/APC) SC DX (IEC-61754-14) Body Colour: Beige (MM), Blue (SM/UPC), Green (SM/APC)
Module material	ABS
Module colour	RAL7015

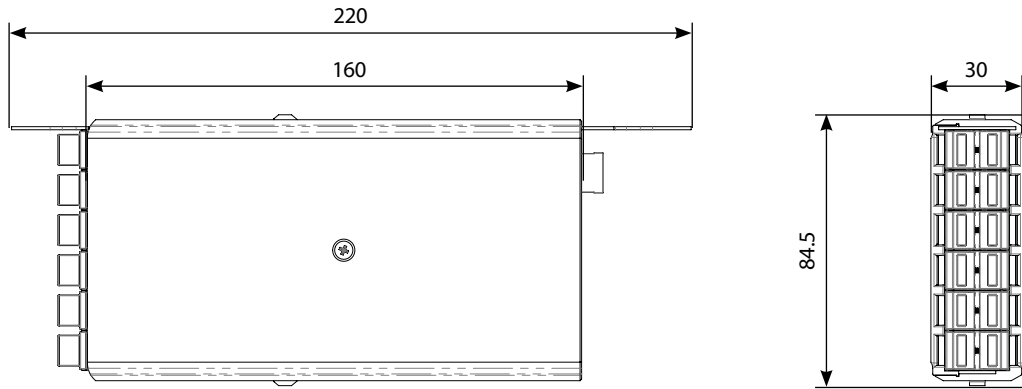
### Connector Performance

CONNECTOR MATING	IL AVERAGE	IL MAX	RETURN LOSS
MTP Elite (MM)	0.10 dB	0.35 dB	NA
MTP (MM)	0.20 dB	0.60 dB	NA
LC, SC (MM)	0.15dB	0.30dB	NA
LC, SC Premium (MM)	0.08dB	0.15dB	NA
MTP Elite (SM)	0.10 dB	0.35 dB	>60dB
MTP (SM)	0.25 dB	0.75 dB	>60dB
LC, SC (SM)	0.18dB	0.25dB	>55/65dB*
LC, SC Premium (SM)	0.12dB	0.30dB	>55/65dB*

\* UPC/APC

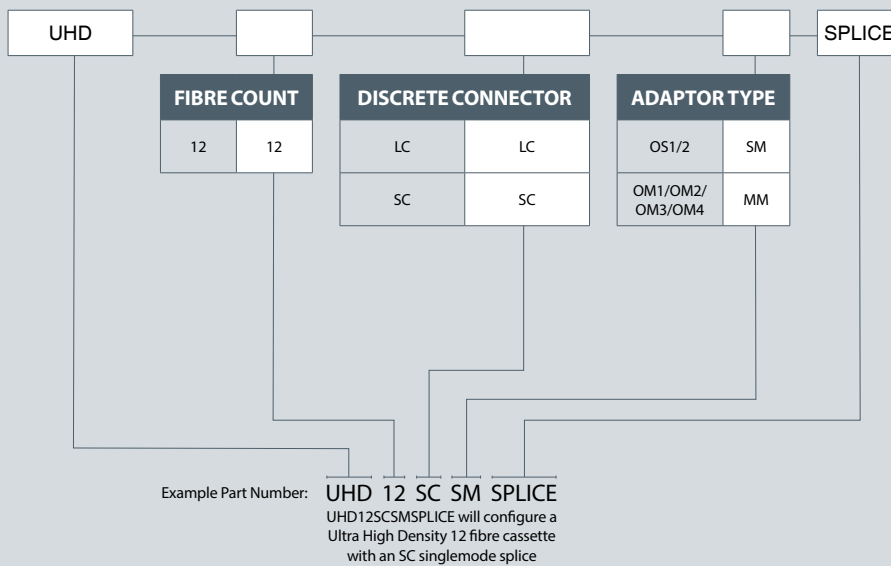


## Technical Drawing

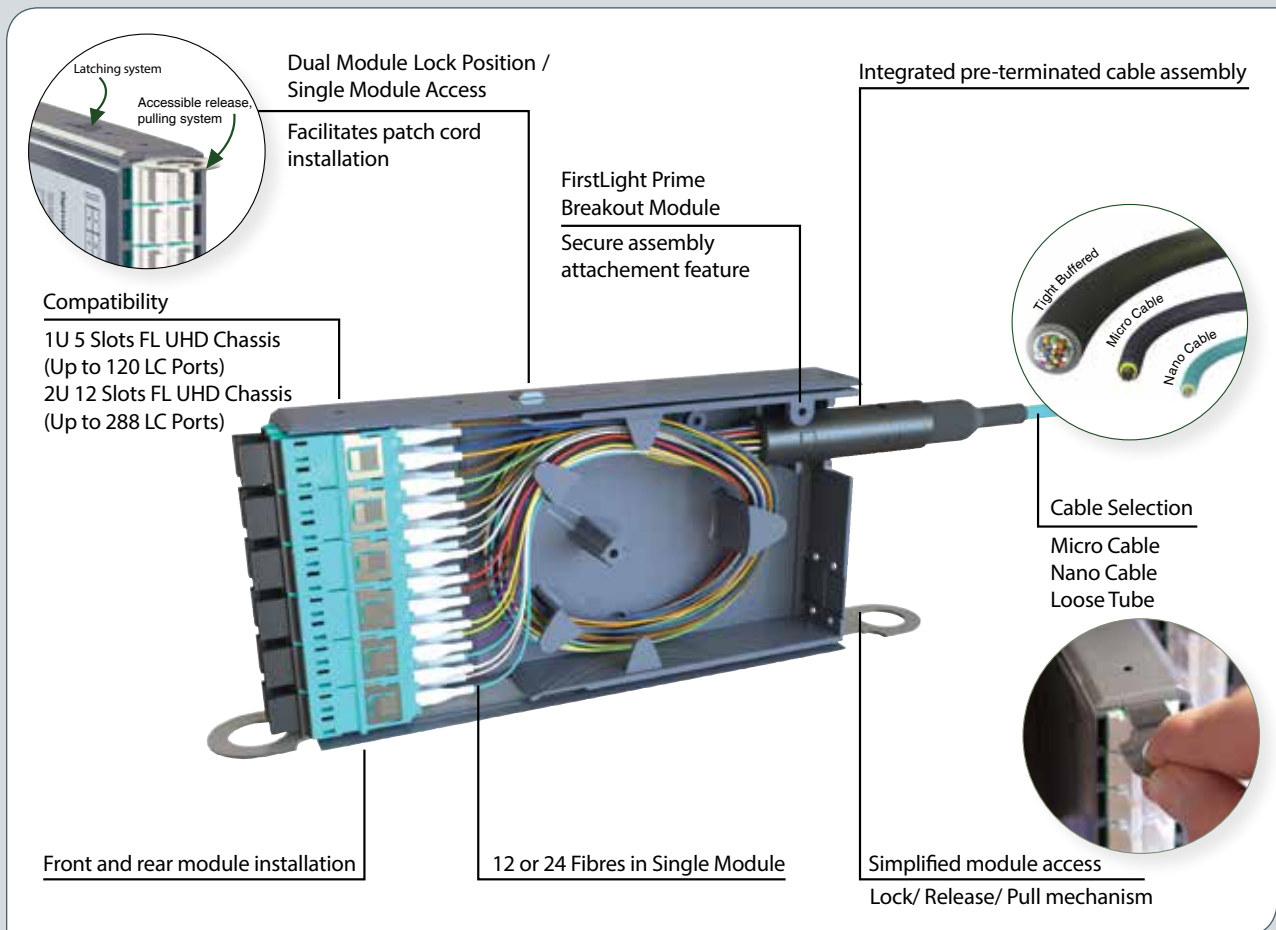


All dimensions in mm

## Part Number Generator



## FirstLight Ultra High Density Pre-Terminated Module



FirstLight Ultra High Density Modules are the platform for hosting pre-terminated cable assemblies. Solution brings advantage of speed installation, improved power budget as well as improved economics (lower amount of interconnections). Assemblies can be pre-installed inside modules in the factory and supplied to the installation site for instant deployment

ready to operate. Alternatively if required pre-terminated cables can be fitted inside module post installation in the field. Variety of configuration is available intermixing "No plug, just play" modules with MPO/MTP trunks and modules, splice modules and variety of multifibre cable assemblies.

### Features

- > Factory made and tested modules
- > Up to 24 fibres
- > High performance
- > Reduced amount of interconnections
- > Improved power budget
- > Improved economics
- > 12 and 24 fibres modules
- > Compatible with 1U 5 x Modules Chassis and 2U 12 x Modules Chassis Premium LC, SC premium interface Premium MPO/MTP ELITE interface

### Applications

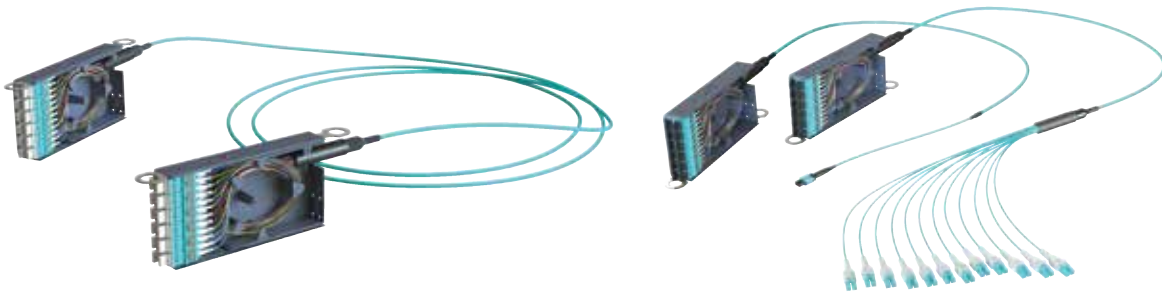
- > Data centre
- > Storage area network
- > Enterprise/Campus
- > Central office/ POP

### Standards Compliance

- > TIA/EIA-568-C.3 and IEC 11801
- > IEC-61754-7 & EIA/TIA-604-5
- > Compliant to Directive 2002/95/EC (RoHS) and REACH SvHC
- > IEC-60793

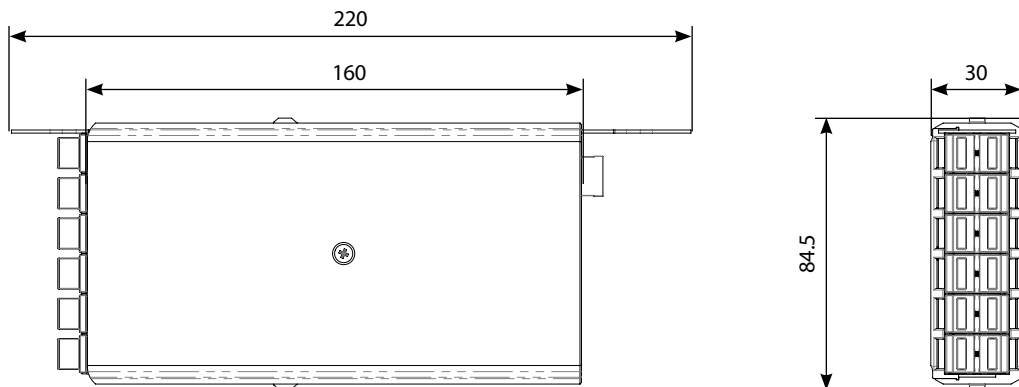
## Multiple Configuration Scenarios

Module to Module, Module to MTP Trunk, Module to Discrete Trunks, Module to MTP assembly, Module to Fan Out



## Technical Drawing

All dimensions in mm



## Specifications

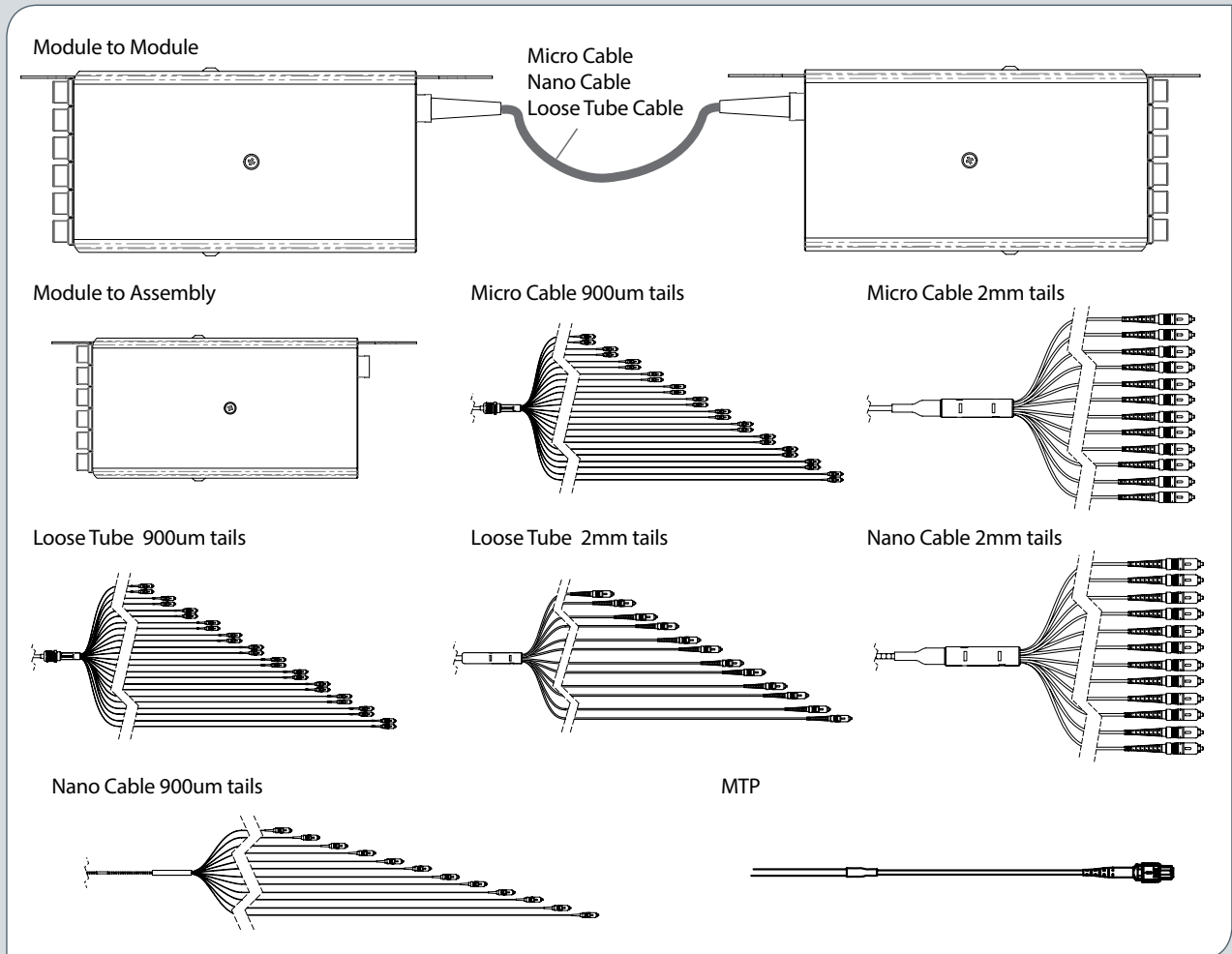
DESCRIPTION	
Fibre	SM: G.652D, MM: OM3/OM4 (ISO/IEC 60793)
Adaptors	LC QUAD (IEC 61754-20) AQUA (MM), Blue (SM/UPC), Green (SM/APC) SC DX (IEC-61754-14) Beige (MM), Blue (SM/UPC), Green (SM/APC)
Cable types	Micro Cable, Nano Cable, Loose Tube
Module material	ABS
Module colour	RAL7015
Operating temperature	-20oC to +60oC
Storage temperature	-40oC to +70oC

## Connector Performance

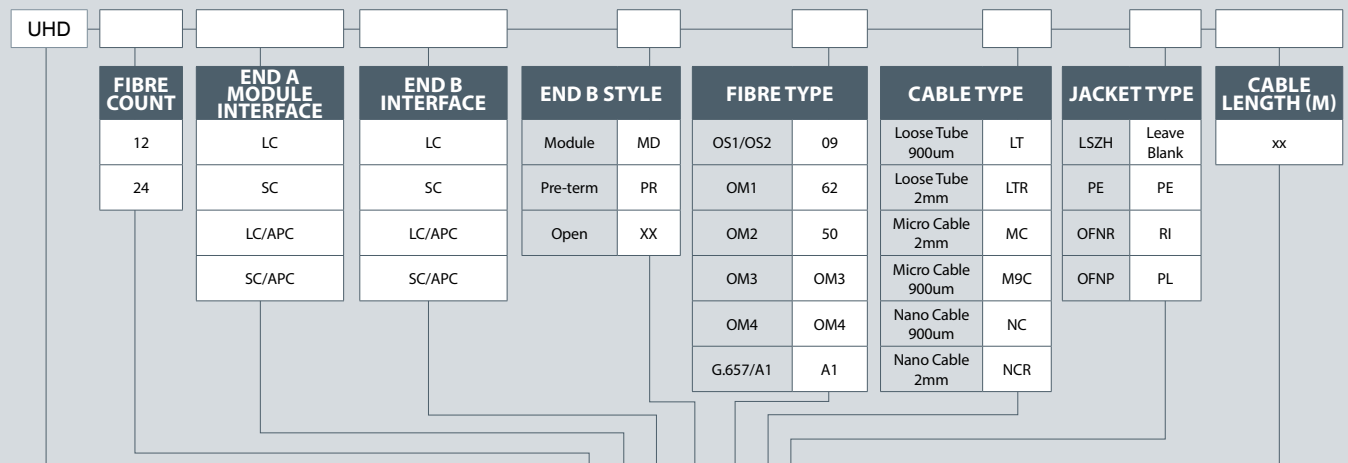
CONNECTOR MATING	IL AVERAGE	IL MAX	RETURN LOSS
MTP Elite (MM)	0.10 dB	0.35 dB	NA
MTP (MM)	0.20 dB	0.60 dB	NA
LC, SC (MM)	0.15dB	0.30dB	NA
LC, SC Premium (MM)	0.08dB	0.15dB	NA
MTP Elite (SM)	0.10 dB	0.35 dB	>60dB
MTP (SM)	0.25 dB	0.75 dB	>60dB
LC, SC (SM)	0.18dB	0.25dB	>55/65dB*
LC, SC Premium (SM)	0.12dB	0.30dB	>55/65dB*

\* UPC/APC

# Configurations



# Part Number Generator



Example Part Number: **UHD 12 LC LC MD 09 LT - 10**  
 UH12LCLCMD09PRE10TB has created assembly - LC Singlemode 12 fibre module to LC module loose tube LSZH cable at 10 meter.



# FirstLight Ultra High Density MPO/MTP Adaptor Module



## Description

MPO/MTP adaptor modules are used to interconnect MPO/MTP trunks, pigtails, patch cords or ruggedised MPO/MTP fanouts. MPO/MTP adaptor interface reduces rack space usage. Substituting MPO/MTP module with adaptor plate reduces amount of interconnections and improves power budget and network economics.

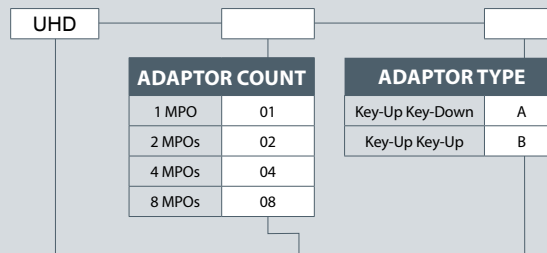
## Features

- > MPO/MTP adaptor plates
- > Up to 8 MPO/MTP adaptors per plate
- > Key-Up Key-Down adaptors option (Standard ploarity A/C)
- > Key-Up Key-Up adaptors option (Polarity B)
- > 5 adaptor plates in 1U, 12 adaptor plates in 2U

## Applications

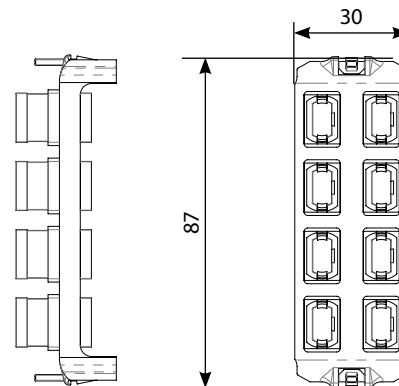
- > Data centre
- > Storage area network
- > Director switch cabling solution

## Part Number Generator

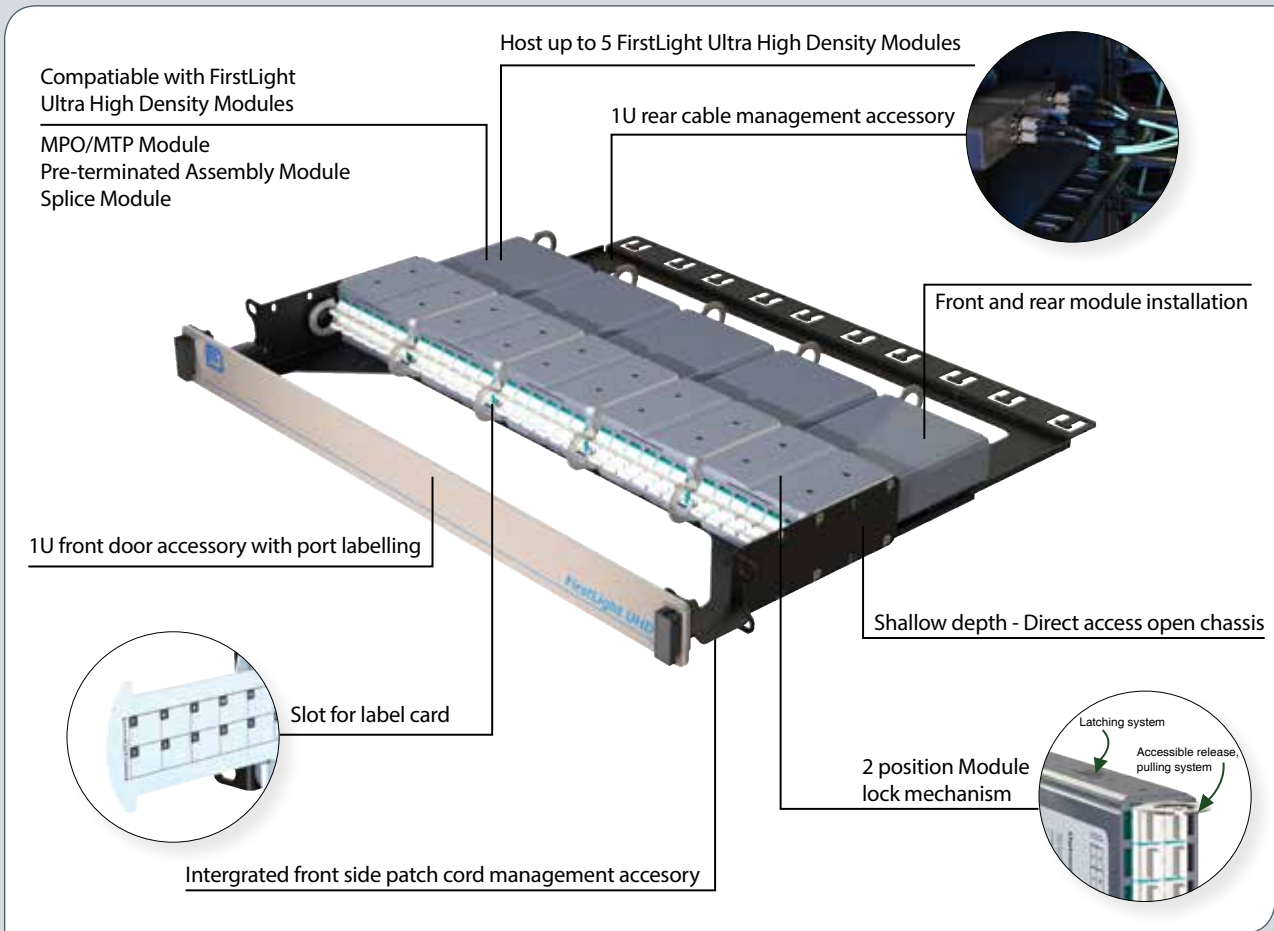


Example Part Number: **UHD 01 A**  
 UHD01B will configure an ultra high density single adaptor Key-Up Key-Down module

## Technical Drawing



# FirstLight Ultra High Density 1U Chassis



FirstLight 1U Ultra High Density (FL UHD) Chassis is the part of the system for high density fibre optics infrastructure management in Data Centres, Telecommunication and

Enterprise environment. 1U chassis can house up to 5 x FL UHD Modules- design allows to scale up to 120x LC ports and 960 fibres using MPO/MTP Interface.

## Features

- > Ultra High Density
- > Up to 120 LC ports in 1U
- > Up to 960 fibres using MPO/MTP Interface
- > Compact size for installation inside shallow depth racks
- > Open chassis free access module installation
- > Secure easy access lock/release mechanism
- > Front and rear module access
- > Facilitated patch cord installation
- > Cable management accessories

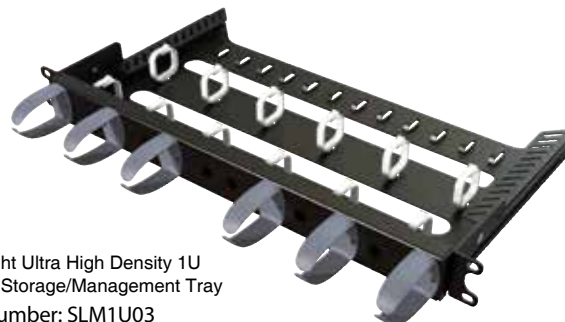
## Applications

- > Data centre storage area networks
- > Central office, POP
- > LAN
- > Enterprise campus

## Accessories

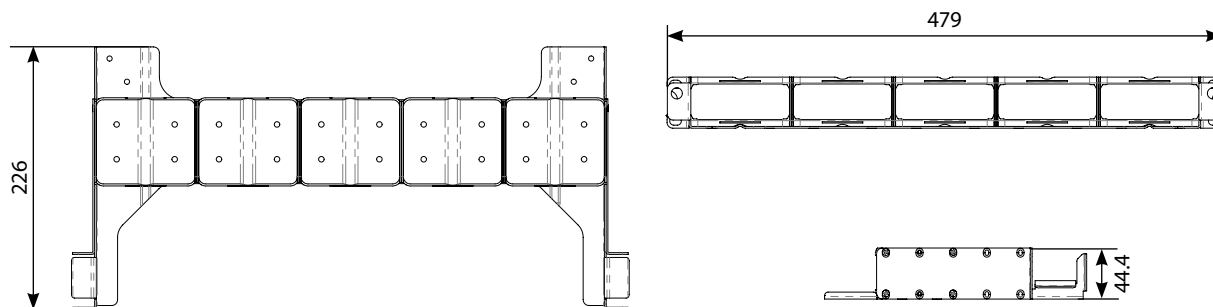


FirstLight Ultra  
High Density 1U Front  
Management Bar  
Part Number: 1UCABLEBAR01



FirstLight Ultra High Density 1U  
Sliding Storage/Management Tray  
Part Number: SLM1U03

## Technical Drawings



## Specifications

DESCRIPTION	VALUE
Height	44.4mm 1U
Width	479mm
Depth (Base including brackets)	226mm
Maximum Number of UHD Modules	5
Operating Temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	RoHS, Reach/SVHC
<b>External Chassis - Side wall</b>	
Material	ABS
Colour	RAL 7015
<b>1U Side brackets and Rear Cable Management</b>	
Material	Cold Rolled Steel
Material Thickness	1.5mm
Colour	RAL 9004
<b>1U Front Door</b>	
Material	Aluminium

# FirstLight Ultra High Density 1U Chassis

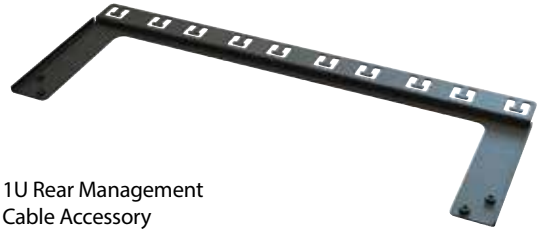
## Product Accessories



FirstLight Ultra High Density 5 Module Chassis 19" 1U with Front Door and Rear Cable Management  
Part Number: UHD1UFDRM



FirstLight Ultra High Density 5 Module Chassis 19" 1U  
Part Number: UHD1U



1U Rear Management Cable Accessory  
Part Number: UHDRM1U03

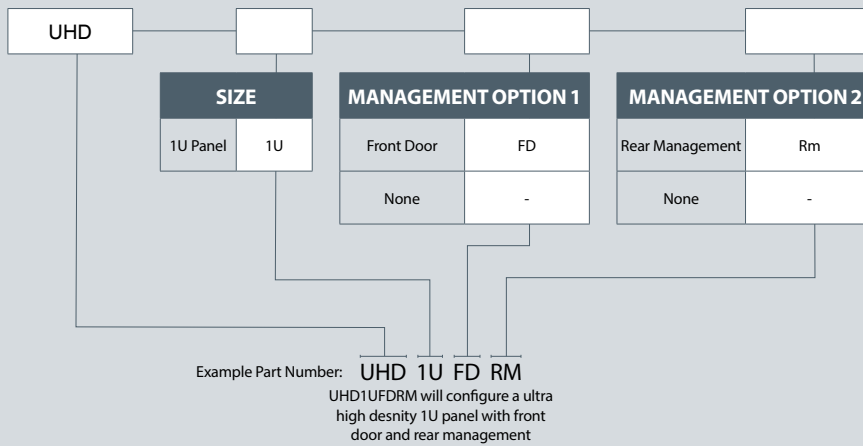


1U Front Door Accessory  
Part Number: UHDDR03



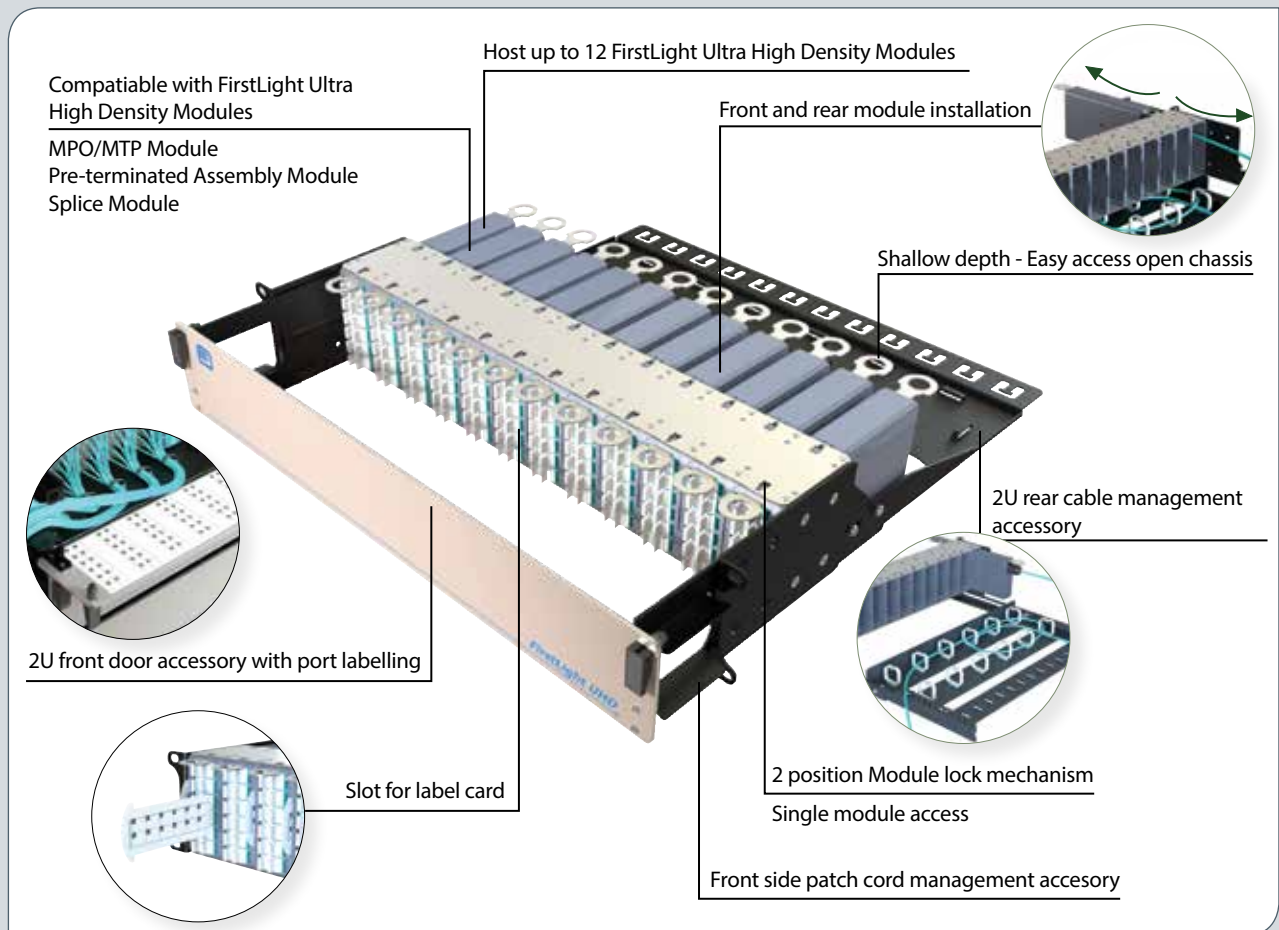
FirstLight Ultra High Density Blank Module  
Part Number: UHDBL01

## Part Number Generator





# FirstLight Ultra High Density 2U Chassis



FirstLight 2U Ultra High Density (FL UHD) Chassis is the part of the system for high density fibre optics infrastructure management in Data Centers, Telecommunication and Enterprise network

environment. 1U chassis can house up to 12 x FL UHD Modules- design allows to scale up to 288x LC ports and 2304 fibres using MPO/MTP Interface.

## Features

- > Ultra High Density
- > Up to 288 LC ports in 2U
- > Up to 2304 fibres using MPO/MTP Interface
- > Compact size for installation inside shallow depth racks
- > Open chassis free access module installation
- > Secure easy access lock/release mechanism
- > Front and rear module access
- > Facilitated patch cord installation
- > Cable management accessories

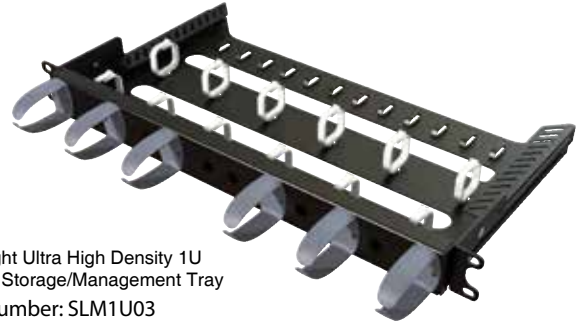
## Applications

- > Data centre storage area networks
- > Central office, POP
- > LAN
- > Enterprise campus

## Accessories

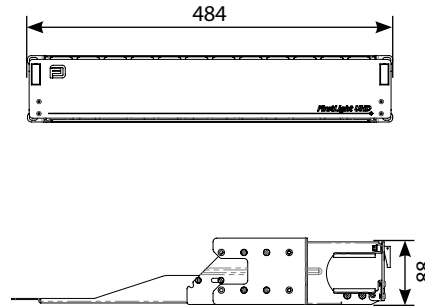
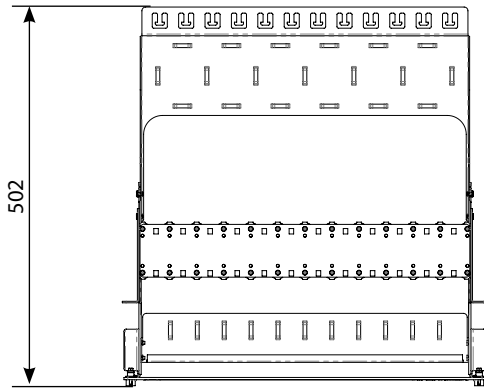


FirstLight Ultra  
High Density 1U Front  
Management Bar  
Part Number: 1UCABLEBAR01



FirstLight Ultra High Density 1U  
Sliding Storage/Management Tray  
Part Number: SLM1U03

## Technical Drawings



## Specifications

DESCRIPTION	VALUE
Height	889mm 2U
Width	484mm
Depth (Full Configuration)	502mm
Maximum Number of UHD Modules	12
Operating Temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	RoHS, Reach/SVHC
<b>External Chassis - Side wall</b>	
Material	ABS
Colour	RAL 7015
<b>External Chassis Top and Bottom plate</b>	
Material	Aluminium
Thickness	1.5mm
<b>2U Side brackets and Rear Cable Management</b>	
Material	Cold Rolled Steel
Material Thickness	1.5mm
Colour	RAL 9004
<b>2U Front Door</b>	
Material	Aluminium

# FirstLight Ultra High Density 2U Chassis

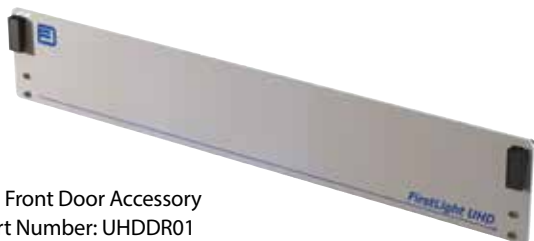
## Product Accessories



FirstLight Ultra High Density 12 Module Chassis 19" 2U with Front Door and Rear Management  
Part Number: UHD2UFDRM



FirstLight Ultra High Density 12 Module Chassis 19" 2U  
Part Number: UHD2U



2U Front Door Accessory  
Part Number: UHDDR01



2U Rear Management Cable Accessory  
Part Number: UHDRM2U03

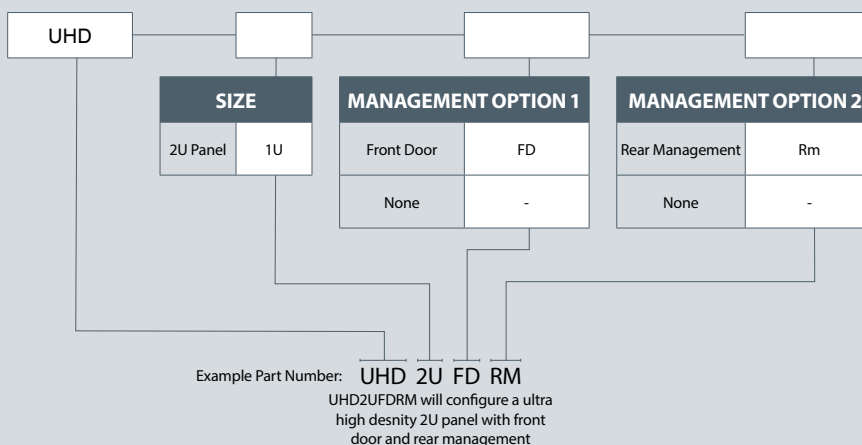
FirstLight Ultra High Density Side Brackets  
Part Number: DDM03



FirstLight Ultra High Density Blank Module  
Part Number: UHDBL01



## Part Number Generator



## UltraSlim Panel



Optronic's MTP UltraSlim Quick Panels provide secure transitions between MTP and LC or SC discrete connector interfaces. They are used to interface MTP backbones with LC or SC patching and active equipment connections.

The pre-populated panel allows rapid deployment of high density data centre infrastructure as well as improved trouble shooting and re-configuration during moves, adds and changes.

The shallow depth of the UltraSlim Panel makes it suitable for copper racking systems.

The MTP UltraSlim Panels contain factory controlled and tested MTP-LC/SC fan outs to deliver optical performance and reliability. Low loss MTP Elite and LC/SC Premium versions are offered featuring significantly improved low insertion losses for demanding low power budget high speed networks.

### Features

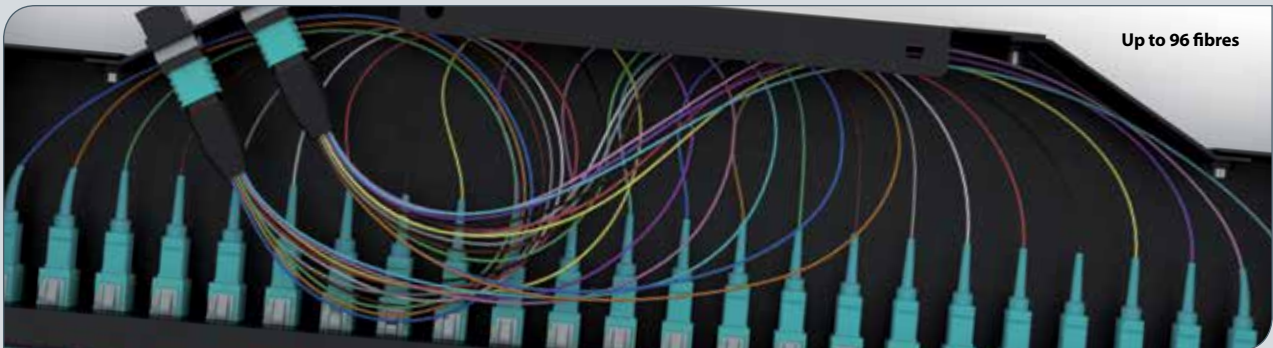
- > Available in OS1/2, OM1, OM2, OM3 and OM4 fibre grades.
- > Up to 8 MTP (US Conec) brand MPO standard compliant multifibre connector rear entry ports
- > Front LC (SFF Data Centre standard), SC discrete interface
- > Up to 48 (LC DX) or 96 (LC Quad) fibres panel capacity
- > Factory terminated and tested

### Applications

- > Data communication applications
- > Data Centre infrastructure
- > Storage Area Network- Fibre Channel
- > Emerging 40 and 100Gbps Protocols

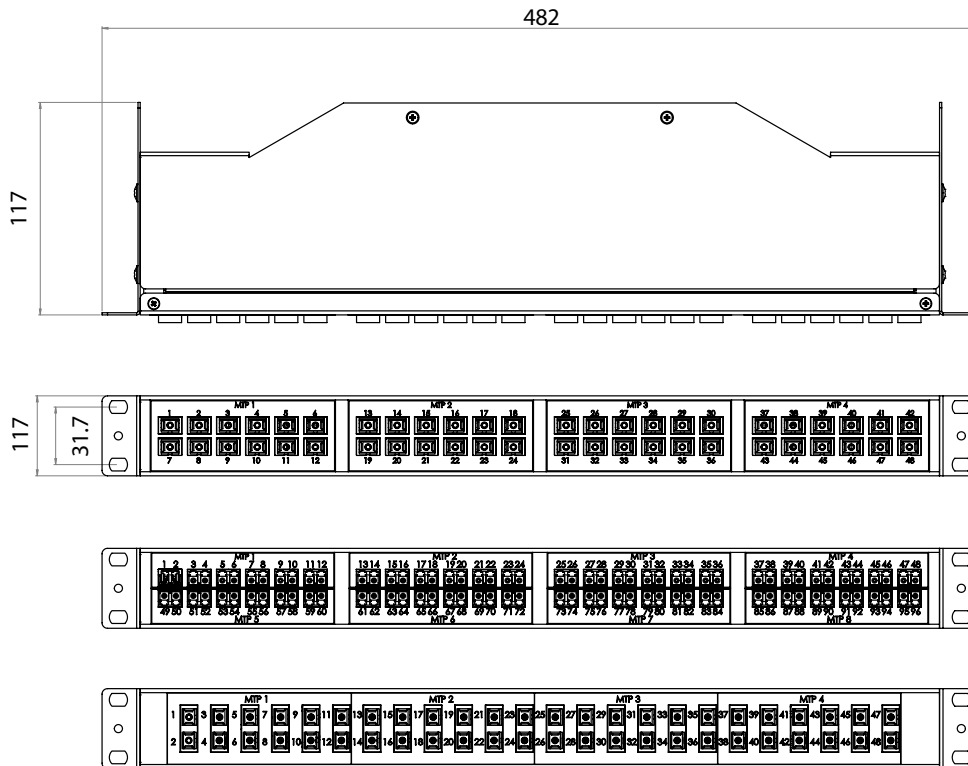
### Benefits

- > Rapid Deployment- factory terminated modular system saves installation and re-configuration time during moves, adds and changes
- > Easy Installation- open rear entry MTP ports guarantee easy cabling access and facilitate connection to MTP backbone trunks system
- > Compact 1U Size- short depth make panel compatible with low dimension copper racking system
- > MTP Interface- MTP US Conec brand components feature superior optical and mechanical properties
- > Optimised Performance- low loss MTP Elite, discrete premium connectors and OM4 fibre assures low insertion losses and power penalties in tight power budget, high speed network environment
- > High Density- 1U panel can scale up to 96 discrete LC connectors and up to 8 MTP rear interfaces
- > Reliability- 100% Tested- combination of high quality components and Optronic's manufacturing quality control guarantees product to the highest standards



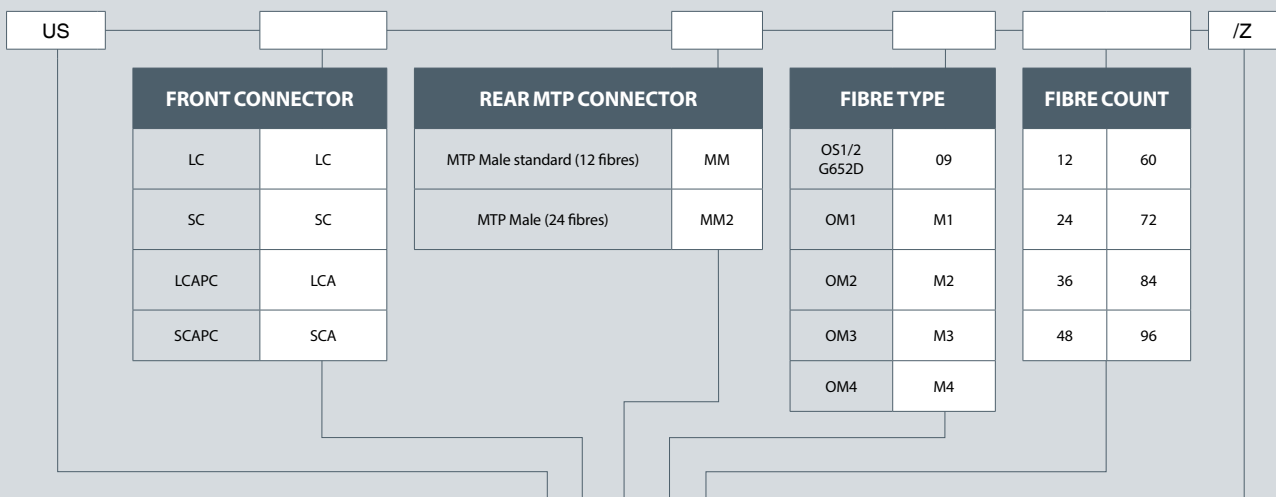


### Technical Drawing



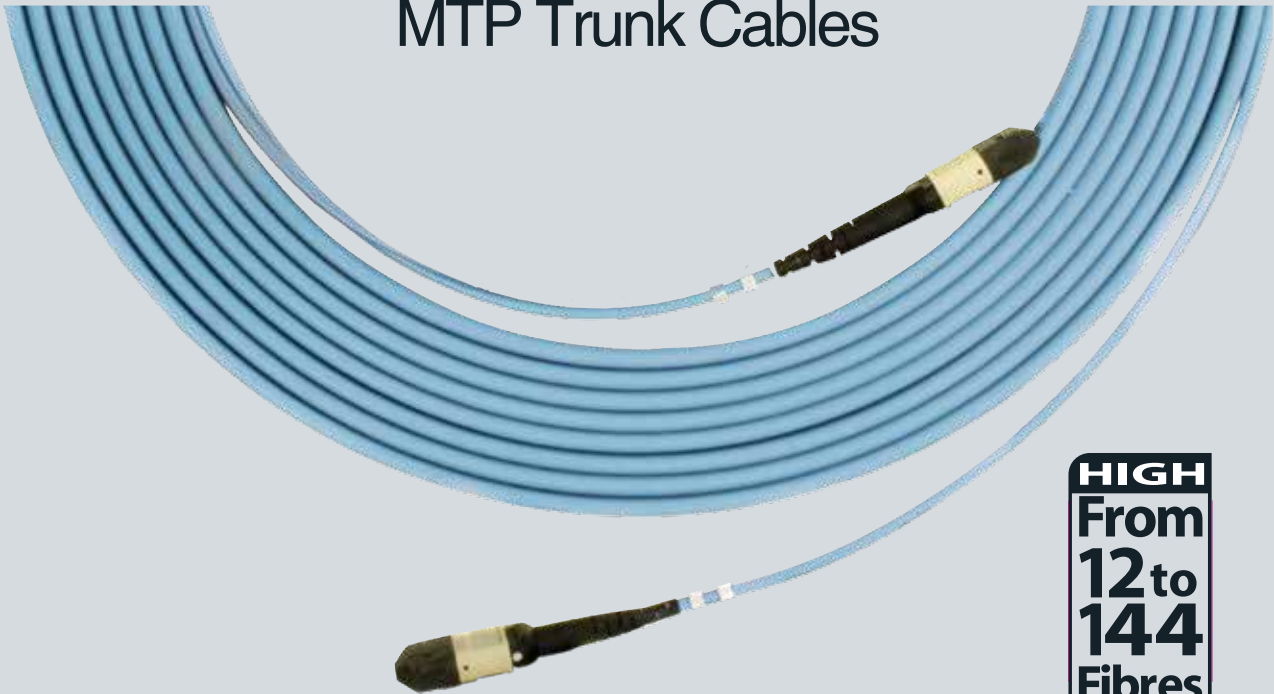
All dimensions in mm

### Part Number Generator



Example Part Number: **US LC MM M4 48 /Z**  
 USLCMMM48/Z will configure an MTP UltraSlim panel with 48 OM4 fibres and LC front interface. (12 fibre MTP ferrule applied)

# Ultra High Density Pre-Terminated MTP Trunk Cables



**HIGH**  
**From**  
**12 to**  
**144**  
**Fibres**  
**DENSITY**

Optronics MTP trunk multicore cable assemblies facilitate rapid deployment of high density backbone cabling in data centres and other high fibre environments reducing network installation or re-configuration time and cost. They are used to interconnect cassettes, panels or ruggedised MTP Fan Outs, spanning MDA, HDA and EDA zones.

MTP trunk assemblies are offered in most fibre types as standard 12 to 144 core versions using a compact and rugged microcable structure. The compact cables optimise cable-way use and improve airflow.

Optronics MTP trunks are built with highest quality components. Standard MTP as well low loss Elite versions are offered featuring low insertion loss for demanding high speed networks where power budgets are critical.

## Benefits

- > MTP Interface - MTP US Conec brand components feature superior optical and mechanical properties
- > Optimised Performance - low loss MTP Elite, discrete Premium connectors and OM4 fibre assures low insertion losses and power penalties in tight power budget high speed network environment
- > High Density - multifibre connector and compact dimension of ruggedised Microcable ease space in costly data centre environments
- > Rapid Deployment - factory terminated modular system saves installation and re-configuration time during moves, adds and changes
- > Reliability - 100% tested- combination of high quality components and Optronics manufacturing quality control guarantees product to the highest standards
- > Next Generation Network Proof - emerging high speed protocol are going to use MTP interface- your cabling infrastructure remains unchanged

## Features

- > OS1/2, OM3, OM4 Fibre Grades (OM1 and OM2 available)
- > 12, 24 and 48 Core Microcable Trunk
- > LSZH, OFNP, OFNR Cable Jacket
- > Female (standard) and Male MTP connectors
- > Polarity A (standard), B or C
- > Factory terminated and tested

## Applications

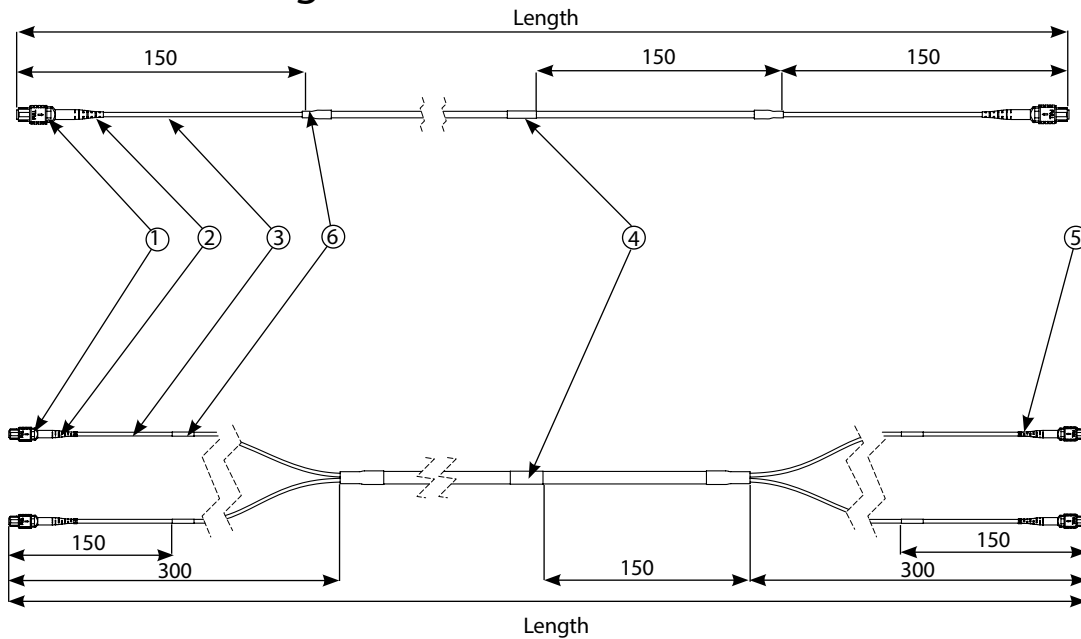
- > Data Centre Infrastructure
- > Storage Area Network- Fibre Channel
- > Parallel Optics
- > Infiniband
- > Emerging 40 and 100Gbps Protocols

## Standards Compliance

TIA/EIA-568-C.3 and ISO/IEC 11801  
IEC-61754-7 & EIA/TIA-604-5  
NFPA 262 (OFNP) or IEC 60332 (LSZH)  
TIA/EIA 568-B.1-7  
Compliant to Directive  
2002/95/EC (RoHS) and  
REACH SvHC



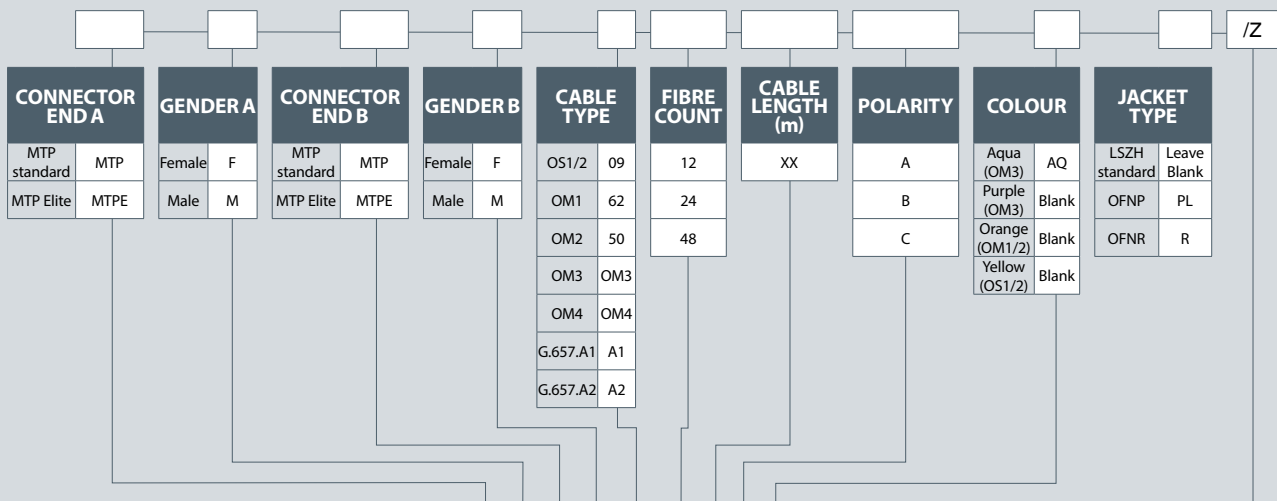
### Technical Drawing



- 1. MTP Connector
- 2. MTP Connector Boot
- 3. Fibre Optic Microcable
- 4. Serial Number Label
- 5. Channel ID Clip
- 6. Heat shrink

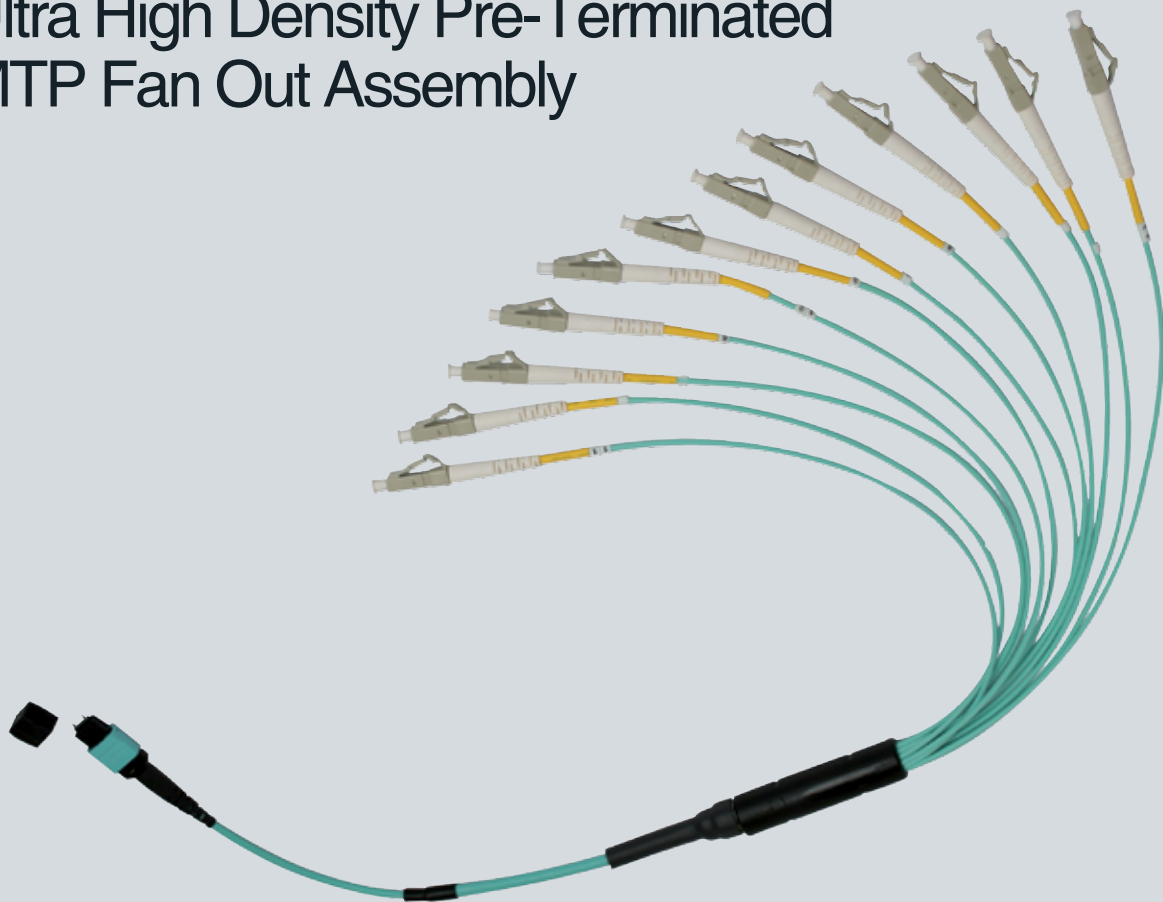
All dimensions in mm

### Part Number Generator



Example Part Number **MTP F MTP F OM3 12 16 A AQ /Z**  
 MTPFMPFOM31216AAQLS/Z will configure a 16 metre, 12 Core, MTP female to MTP female, OM3, LSZH trunk assembly with polarity method A and an Aqua jacket.

# Ultra High Density Pre-Terminated MTP Fan Out Assembly



Optronics MTP ruggedised Fan Out assemblies route multifibre MTP connection into discrete connectors. They are used to directly interconnect MTP cassettes, panels or backbone MTP assemblies with the active equipment, saving costly data centre rack space and easing fibre management.

MTP Fan Out assemblies are offered in most fibre types as standard 12 to 144 core versions using a compact and rugged microcore structure. The compact cables optimise cable-way use and improve airflow.

Optronics MTP Fan Out are built with highest quality components. Standard MTP as well low loss Elite versions are offered featuring low insertion loss for demanding high speed networks where power budgets are critical.

## Benefits

- > MTP Interface - MTP US Conec brand components feature superior optical and mechanical properties
- > Optimised Performance - low loss MTP Elite, discrete Premium connectors and OM4 fibre assures low insertion losses and power penalties in tight power budget high speed network environment
- > High Density - ruggedised Fan Out allows for direct connection between backbone and active equipment eliminating rack space usage
- > Rapid Deployment - factory terminated modular system saves installation and re-configuration time during moves, adds and changes
- > Reliability - 100% tested- combination of high quality components and Optronics manufacturing quality control guarantees product to the highest standards

## Features

- > OS1/2, OM3, OM4 Fibre Versions (OM1 and OM2 available)
- > 12, 24 and 48 Core Microcable Trunk Assemblies
- > LSZH, OFNP, OFNR Cable Jacket
- > Female or Male MTP connectors
- > Factory Terminated and Tested

## Technical Specification

- > Data Centre Infrastructure
- > Storage Area Network
- > Fibre Channel

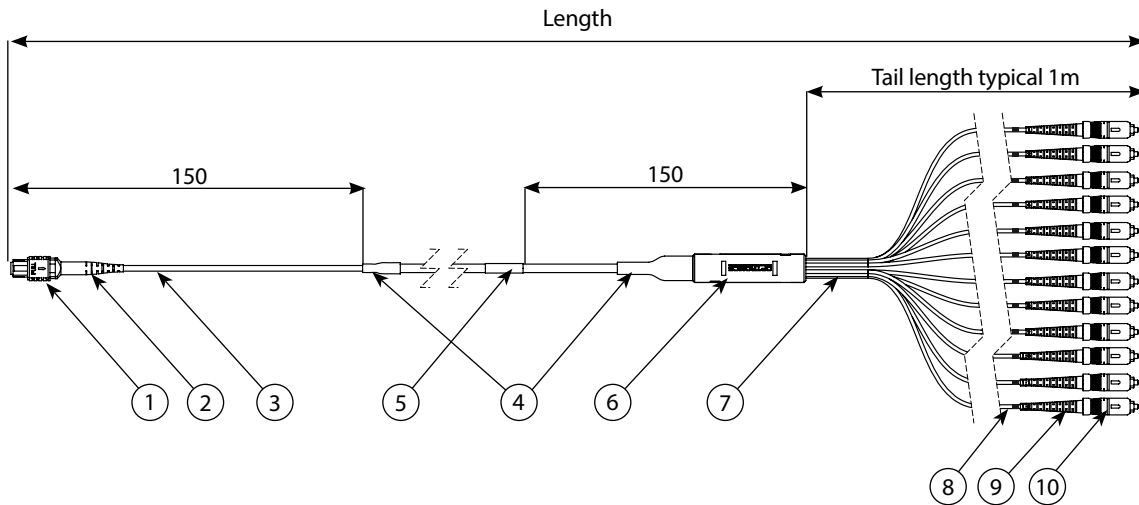
## Standards Compliance

TIA/EIA-568-C.3 and ISO/IEC 11801  
IEC-61754-7 & EIA/TIA-604-5  
NFPA 262 (OFNP) or IEC 60332 (LSZH)  
TIA/EIA 568-B.1-7  
Compliant to Directive  
2002/95/EC (RoHS) and  
REACH SvHC





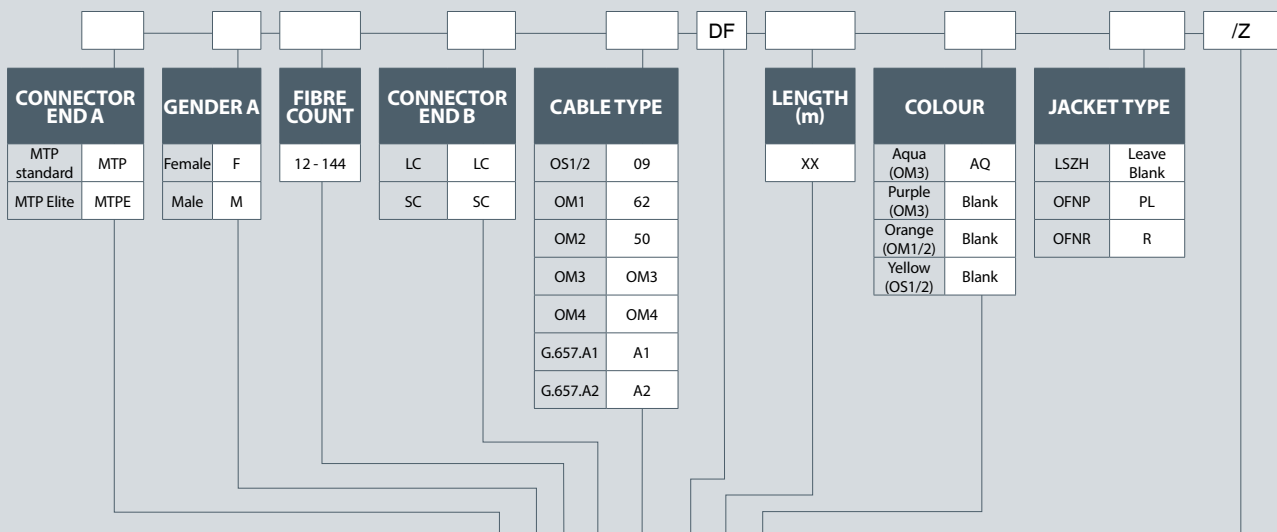
### Technical Drawing



- 1. MTP Connector
- 2. MTP Connector Boot
- 3. Fibre Optic Microcable
- 4. Heat shrink
- 5. Serial Number Label
- 6. Breakout Module
- 7. 2mm Furcation Tubes
- 8. ID Clip
- 9. Discreet Connector Boot
- 10. Discreet Connector

All dimensions in mm

### Part Number Generator



Example Part Number: **MTP F 12 LC OM3 DF 16 AQ /Z**  
 MTPFLCOM312DF16AQLS/Z will configure a 16 metre, 12 core, MTP female to LC OM3, LSZH ruggedised Fan Out with an Aqua jacket.

# MTP Ruggedised Pigtail

The Optronics MTP ruggedised pigtail enables rapid deployment of a high density backbone / horizontal cabling, this reduces installation time and cost.

The small footprint of the MTP interface simplifies and reduces the amount of front patch panel adaptor space compared to traditional discrete connectors. The ruggedised 5/3mm construction allows for longer pigtail lengths enabling splice management to be located outside the patch panel racks.

These MTP pigtail assemblies feature colour coded fibres for easy splice identification.

The MTP interface is compatible with next generation networks and parallel optics protocols, making any network utilising this product future proof.

## Features

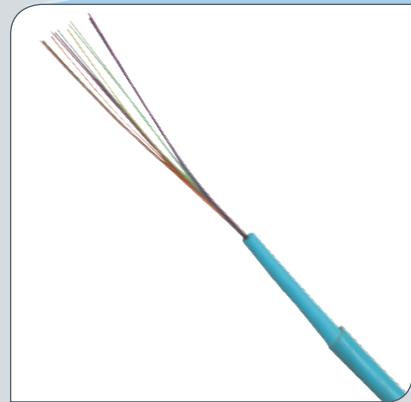
- > Multifibre MTP connector interface
- > Fibres are colour coded as per IEC 60304 MTP interface
- > OS1/2, OM3, OM4 fibre grades (OM1 and OM2 available)
- > Ruggedised 5/3mm Microcable pigtail construction with 250µm fibres in 3mm tube.
- > Low smoke zero halogen LSZH, Plenum OFNP, Riser OFNR buffer
- > Factory terminated and tested

## Benefits

- > MTP interface reduces front panel adaptor space
- > Increased speed of installation
- > Ruggedised pigtails allow for splicing to be done remotely away from the equipment zone
- > Next generation networks proof

## Applications

- > Telecom and datacom application
- > Patch panels, wall boxes, ODFs and splice cassettes
- > Supports high speed multi channel video, data and voice services in metropolitan and access networks
- > ATM, SONET and WDM, ETHERNET, FIBRE CHANNEL



## Standards Compliance

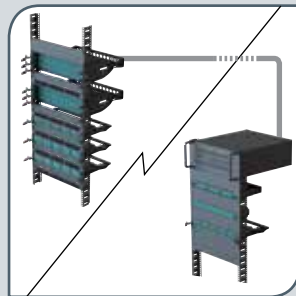
- > TIA/EIA-568-C.3 and ISO/IEC 11801
- > IEC-61754-7 & EIA/TIA-604-5
- > IEC 60332
- > Compliant to Directive 2002/95/EC (RoHS) and REACH SvHC
- > IEC-60793

On-site MTP splicing system



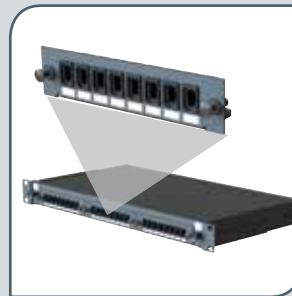
Flexible on site termination

Long ruggedised MTP pigtail



Splice management outside equipment zone

Reduce size of patching interface



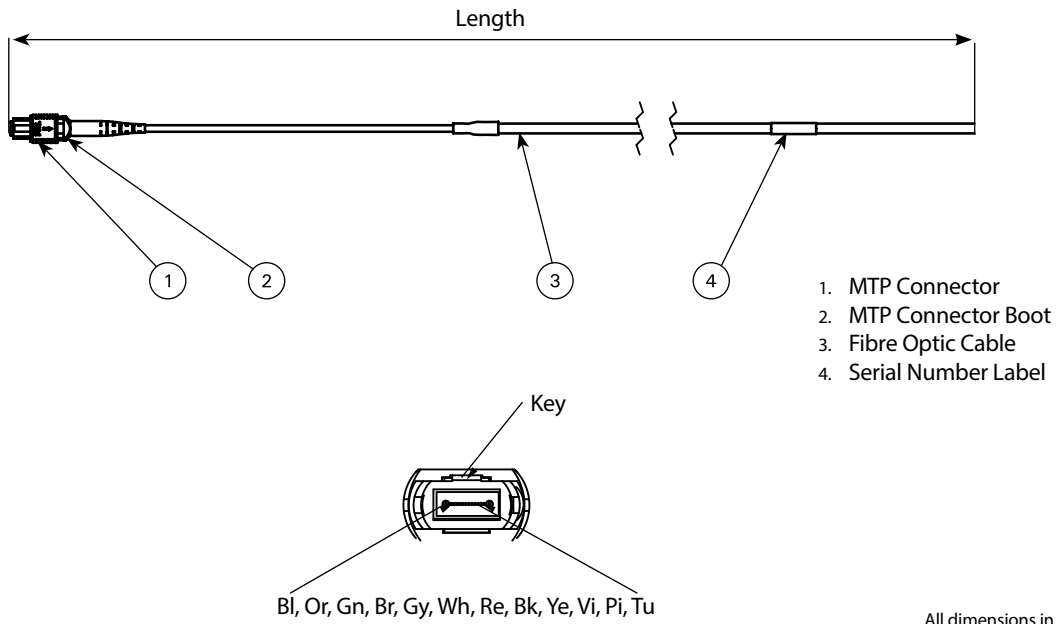
Cost effective compact system

No dedicated site survey required



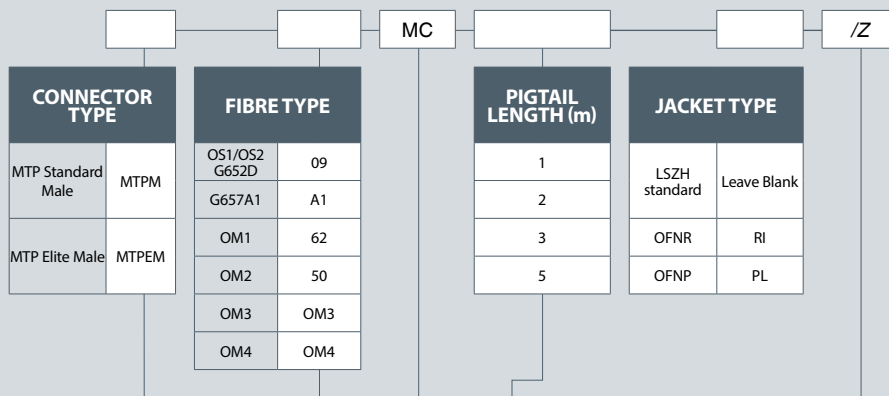
Fast, economic installation

### Technical Drawing



All dimensions in mm

### Part Number Generator



Example Part Number: **MTPM 09 MC 3 /Z**

This part number will configure a 3 metre singlemode OS1/2 G652D MTP ruggedised pigtail with a standard MTP male connector



NB: coloured splice protectors are available upon request

## Cable Performance

FIBRE TYPE (ISO/IEC 11801)	OS1/OS2	OM1	OM2	OM3	OM4
Attenuation Coefficient [dB/km]	0.38 Max (1300nm)	3.5 Max (850nm)	3.5 Max (850nm)	3.5 Max (850nm)	3.5 Max (850nm)
	0.25 Max (1300nm)	1.5 Max (1300nm)	1.5 Max (1300nm)	1.5 Max (1300nm)	1.5 Max (1300nm)
	0.34 Typ (1550nm)	2.9 Typ (850nm)	2.7 Typ (850nm)	2.7 Typ (850nm)	2.7 Typ (850nm)
	0.19 typ (1550nm)	1.2 typ (1300nm)	0.9 typ (1300nm)	0.9 typ (1300nm)	0.9 typ (1300nm)
Minimum Bandwidth: Overfilled Launch [Mhz-km]	NA	200 (850nm)	500 (850nm)	1500 (850nm)	3500 (850nm)
		500 (1300nm)	500 (1300nm)	500 (1300nm)	500 (1300nm)
Minimum Bandwidth: Laser Effective Modal Bandwidth [Mhz-km]	NA	NA	NA	2000 (850nm)	4700 (850nm)

## Connector Performance - MTP

CONNECTOR MATING	IL AVERAGE STANDARD	IL MAX STANDARD	IL AVERAGE PREMIUM	IL MAX PREMIUM	RETURN LOSS	IL MAX	RETURN LOSS
MTP Elite (MM)	0.20 dB	0.35 dB	NA	MTP Elite (SM)	0.18 dB	0.25 dB	>60dB
MTP (MM)	0.35 dB	0.60 dB	NA	MTP (SM)	0.25 dB	0.75 dB	>60dB
LC, SC (MM)	0.15dB	0.30dB	NA	LC, SC (SM)	0.18dB	0.25dB	>55/65dB*
LC, SC Premium (MM)	0.08dB	0.15dB	NA	LC, SC Premium (SM)	0.12dB	0.15dB	>55/65dB*

\* UPC/APC

## Connector Performance - Traditional

CONNECTOR TYPE	CONFORMANCE	SINGLEMODE	MULTIMODE	SM DUPLEX	MM DUPLEX
SC connector	IEC 61754-4	SM PC- Blue APC-Green	MM PC- Beige	SM PC- Blue APC-Green with clips	MM PC- Beige with clips Boot -Red & Black
LC connector	IEC 61754-20	SM PC- Blue APC-Green Boot-White	MM PC- Beige Boot-White	SM PC- Blue APC-Green with clips Boot-White	MM PC- Beige with clips Boot-White
ST connector	IEC 61754-2	SM PC- Yellow boot	MM PC- Black boot	SM PC- Yellow boot	MM PC- Red & Black boot
FC connector	IEC 61754-13	SM PC- Blue boot APC-Green boot	MM PC- Black boot	SM PC- Blue boot APC-Green boot	MM PC- Black boot



## Multifibre connectivity for duplex channels

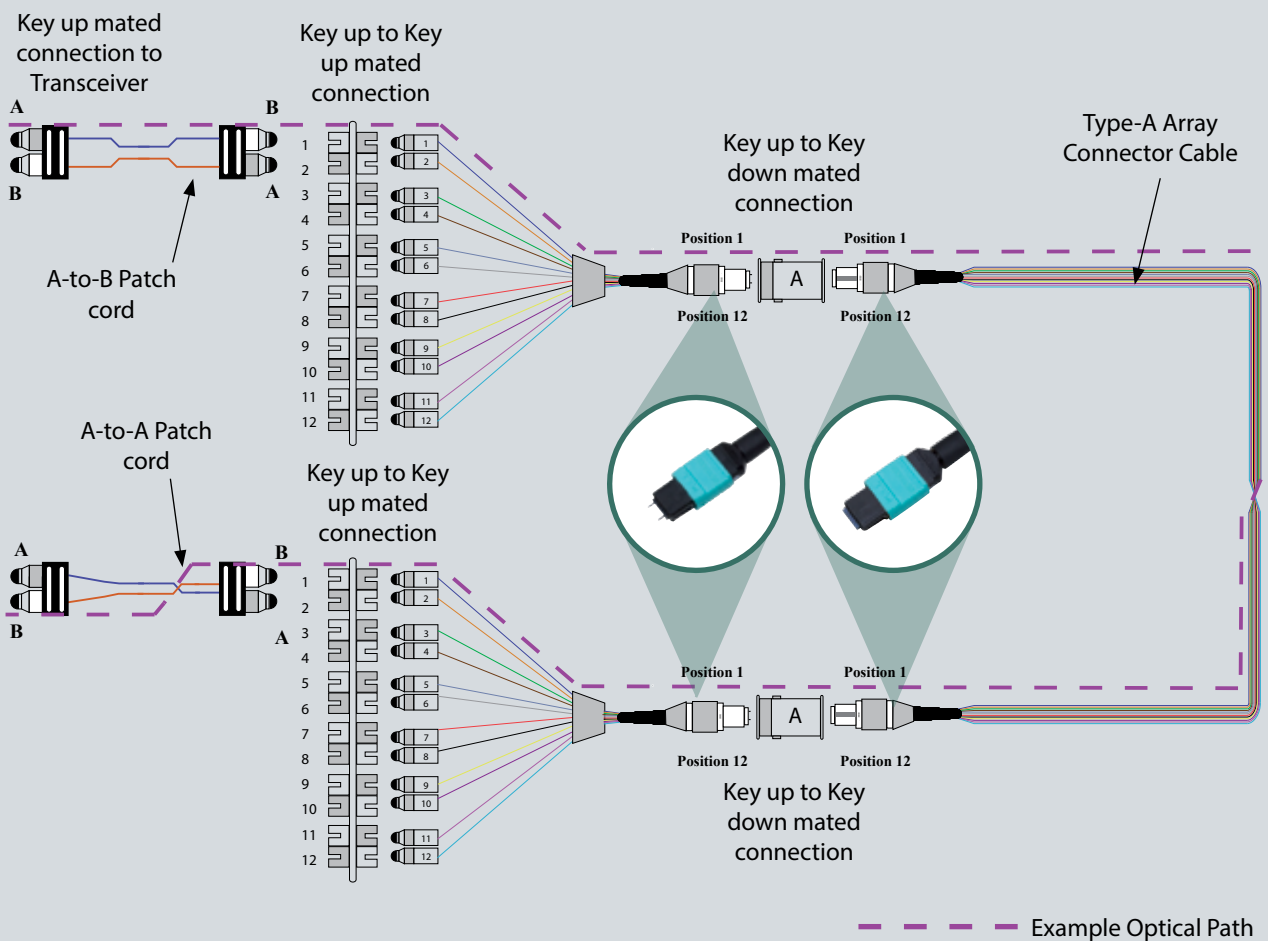
In order to successfully implement multifibre connectivity for duplex channels, it is important to maintain bidirectional transmission paths. The cabling must provide the correct signal polarity; the transmitter at one end must connect to the receiver at the other end. These methods of maintaining polarity have been standardised. See TIA/EIA 568-B.1-7 (guidelines for maintaining polarity using array connectors) for more detail. The guidelines cover typical system configurations containing the following:

- > Multifibre trunks with 12 fibre MTP connectors at either end
- > Cassettes or modules where there is an MTP to duplex connector transition
- > Duplex patch cords used to connect the active equipment to the cabling system

All of the connectors and adaptors in this system are keyed to make sure the connectors mate with the correct orientation. Keying deals with MPO orientation but it does not ensure fibre pair polarity.

Optronics MTP components are supplied to Method A as a standard. Method B and Method C components are also available. Please refer to the standards and select the correct polarity method to suit your network.

### Illustration - Connectivity method A for duplex channels



For ease of illustration the type -A cable is shown with a twist

# Channel Link Performance

We know that every network is different. Optronics tailor made systems guarantee best efficient and cost effective solutions.

The implementation of high bandwidth SAN protocols yields a reduced power budget. When considering SAN network design particular attention must be paid to the number of interconnections, fibre grade and transmission protocol.

## SOLUTION:

### The Elite MTP and Premium LC

The Elite MTP and Premium LC grade discrete connectors with reduced insertion losses can reallocate power of interconnection losses to cover longer channel length.

### High Bandwidth Fibre - OM4

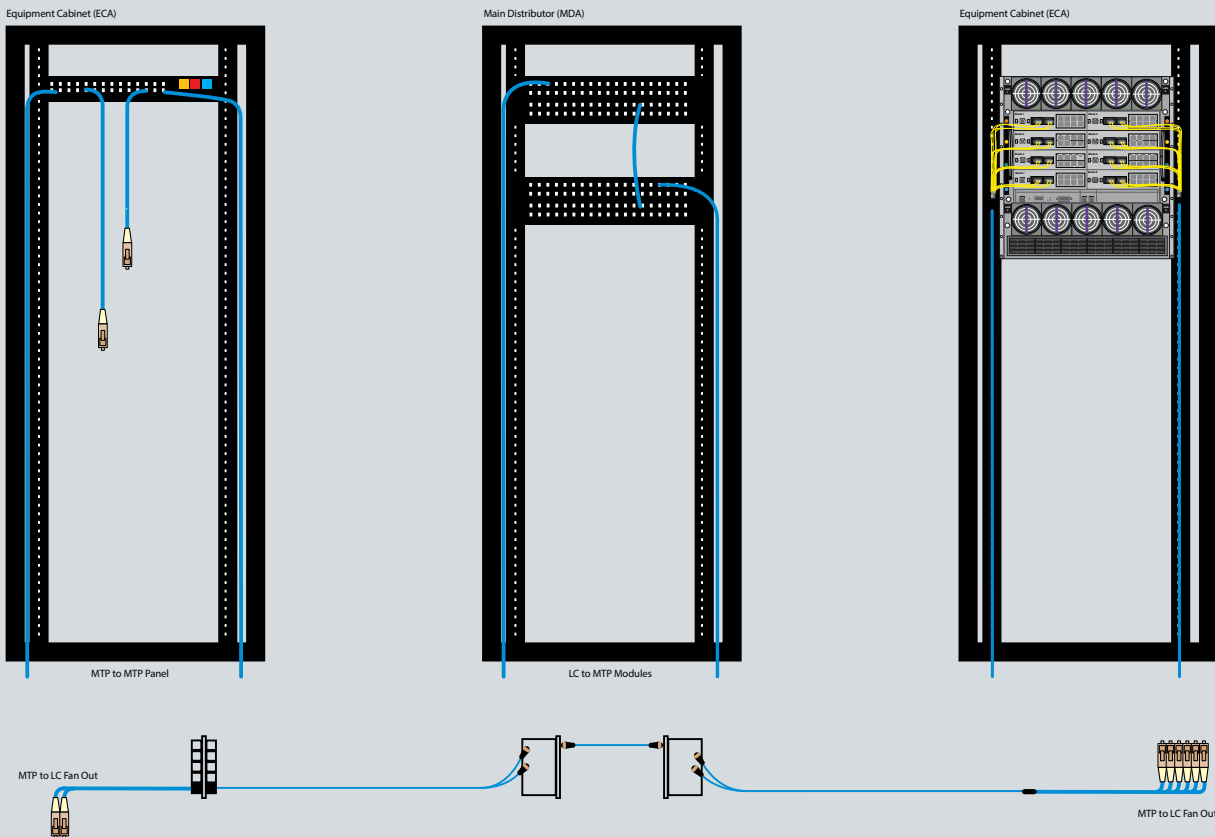
Using high bandwidth fibre, dispersion is lowered and it is possible to reduce the ISI penalty and reallocate power to cover interconnection losses or fibre attenuation.

### Reduced Topology

The reduction of the number of interconnections saves valuable power budget. The ruggedised MTP - LC fan reduces the need for MTP cassettes or MTP adaptor plates saving valuable racking space in high density environments like director switch racking.

Optronics' in house technical expertise and custom developed Data Centre SAN design software, enables us to approach network design and examine accurately network performance to accommodate the most cost and performance effective design.

FULL INFRASTRUCTURE				
CONNECTOR CL:	100M SPAN			
	OM3	OM3	OM4	OM4
	Standard	Premium / Elite	Standard	Elite
INTERC NR	4 x MTP, 4 x LC	4 x MTP, 4 x LC	4 x MTP, 4 x LC	4 x MTP, 4 x LC
Loss Budget	5.70dB	5.70dB	5.99dB	5.99dB
Average Link Loss	2.1dB	1.4dB	2.1dB	1.4dB
Max Link Loss	3.5dB	2.2dB	3.5dB	2.2dB
COLLAPSED INFRASTRUCTURE				
CONNECTOR CL:	100M SPAN			
	OM3	OM3	OM4	OM4
	Standard	Premium / Elite	Standard	Elite
INTERC NR	3 x MTP, 2 x LC	3 x MTP, 2 x LC	3 x MTP, 2 x LC	3 x MTP, 2 x LC
Loss Budget	5.70dB	5.70dB	5.99dB	5.99dB
Average Link Loss	1.4dB	1.0dB	1.4dB	1.0dB
Max Link Loss	2.5dB	1.7dB	2.6dB	1.8dB



# OptiPop R Cassette Cleaner



The OPTIPOP R is a cassette style fibre optic connector cleaner system that can be refilled for reducing cleaning costs. It uses a densely woven micro-fibre cleaning fabric to remove harmful contaminants off of the ferrule end face. The OPTIPOP R cassette cleaning tool will accommodate all single fibre connections. Optronics versions of the OPTIPOP R cassette cleaning tools are designed specially for cleaning multifibre connector systems including the MTP Brand Connectors, standard MPO and MTRJ connectors for both singlemode and multimode connectors. The customised OPTIPOP R cassette cleaning tool will accommodate the alignment guide pins on male MT ferrules.

The cleaning fabric is pre-washed and produces less than 70 pcs/CFM of particles > 1mm in size, making this system excellent for use in any production environment including clean rooms.

- > MTPCLEANREEL-F/Z - For cleaning all single fibre and female MPO/MTP ferrule connectors
- > MTPCLEANREEL-M/Z - For cleaning male (with guide pins) MPO/MTP connectors
- > MTPRCR/Z - OPTIPOP Refill 6 Pack. Replacement reels for all OPTIPOP R cassettes
- > Replacement reels are easy to install and reduce the cost per cleaning 400+ clean
- > Eliminates electrostatic charge
- > The washed, ultra clean micro-fibre cloth captures debris and other contamination
- > The cloth is robust, it does not fray or leave any fibrous materials behind
- > The most cost effective high-end cleaning solution available



## Ordering Information

DESCRIPTION	PART NUMBER
Female MPO/MTP ferrule cleaner	MTPCLEANREEL-F/Z
Male MPO/MTP ferrule cleaner	MTPCLEANREEL-M/Z
OPTIPOP Refill 6 Pack	MTPRCR/Z

# MPO/MTP Cleaning Tools

The US Conec IBC™ Brand Cleaners are mechanical cleaning tools designed to clean connectors residing in an adaptor or faceplate and unmated connectors. The IBC™ Brand Cleaning tools use a novel dry cleaning strand to gently sweep and lift away dust and residues from the connector end face.

- > IBC™ Brand Cleaner SC – Cleans SC, ST, FC, and E2000 connectors with a UPC
- > IBC™ Brand Cleaner LC – Cleans LC and MU connectors with a UPC and APC polish



## Features/Benefits

- > Simple pushing motion to engage tool
- > Audible CLICK to alert the operator when the tool is fully engaged
- > Over 525+ engagements per unit
- > Dry cleaning strand removes the need for solvents
- > Crush resistant to over 250N
- > Impact resistant to survive drops over 1.5m

## Applications

- > Telecom Central Offices
- > Data Centres
- > Cable Television Head End
- > Outside Plant and Fibre To The Home
- > Fibre to The Antenna for WiMax and Cellular Networks
- > Fibre Optic Broadcasting including HDTV
- > Fibre Optic Military and Civilian Aviation
- > Military and Civilian Maritime Optical Networks
- > Fibre Optic Satellite Communication Systems

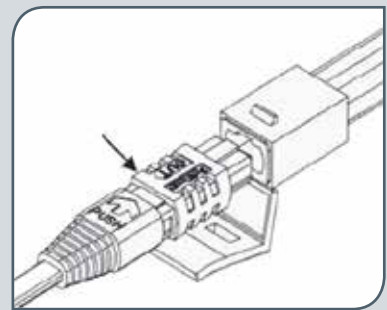
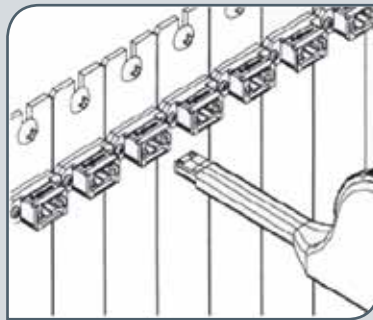
## Ordering Information

DESCRIPTION	PART NUMBER
IBC™ Brand Cleaner SC – SC, ST, FC, and E2000 connectors	214-53A/2.5/Z
IBC™ Brand Cleaner LC – LC and MU connectors	214-53A/1.25/Z



# MPO/MTP Cleaning Tools

The MPO cleaner is a high-performance device designed for cleaning the ferrule end faces of MPO connectors. This tool cleans the fibre end face without the use of alcohol, cleaning all 12 fibres at once.

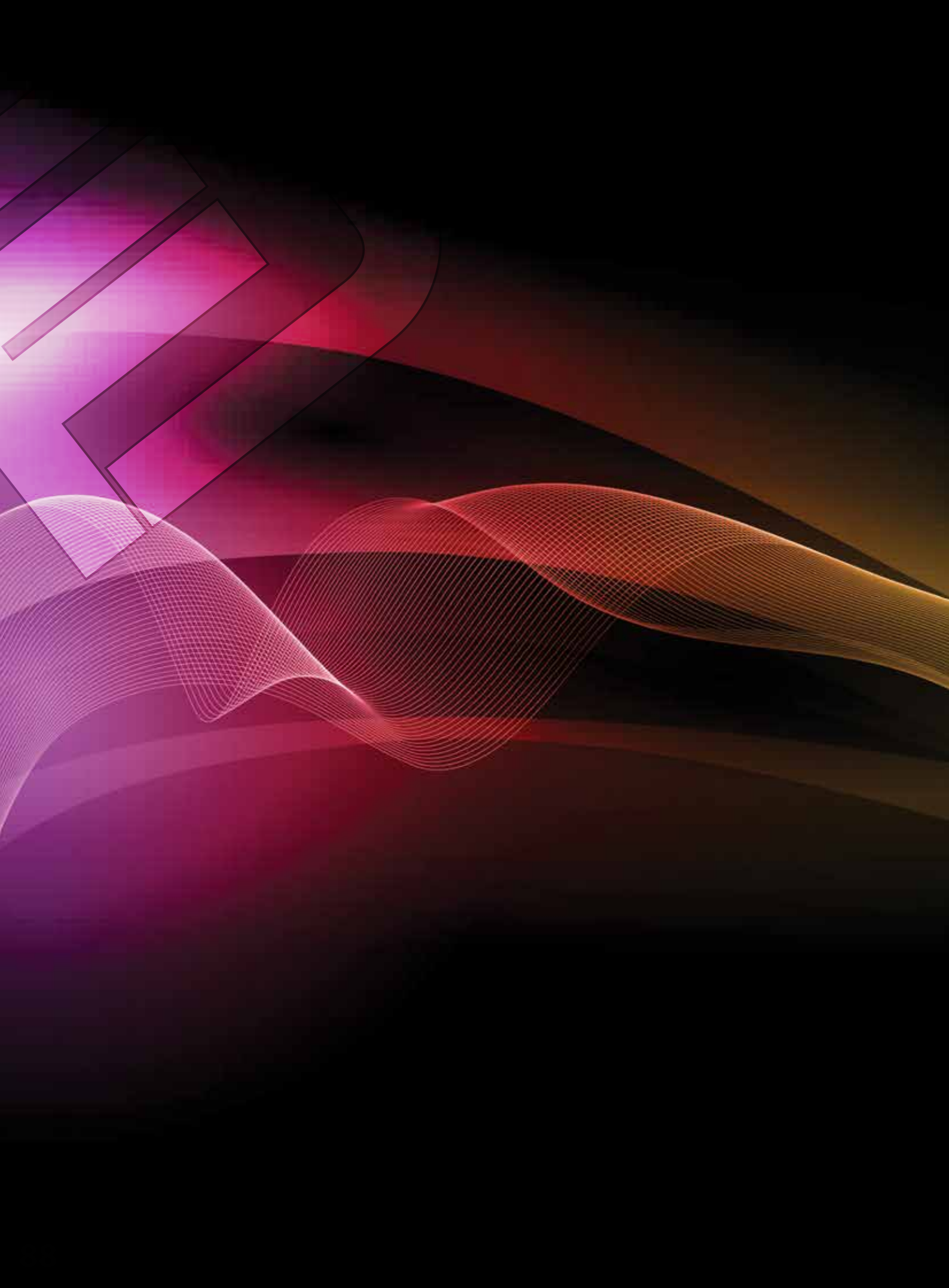


## Features/Benefits

- > Cleans male and female MPO/MTP ferrule
- > Simple dial turn engagement is easy to operate
- > Nozzle is keyed for precise alignment of the cleaning tip to the fibre array
- > Alignment cap lid opens for cleaning the unmated connectors Intermateability with FOCIS-5 (MPO)
- > Capable of cleaning MPO ferrules inside or outside an MPO adaptor
- > Capable of cleaning ferrules with or without guide pins
- > 500 cleanings

## Ordering Information

DESCRIPTION	PART NUMBER
MPO Cleaner	MPOCLEANER1/Z



# Telecoms

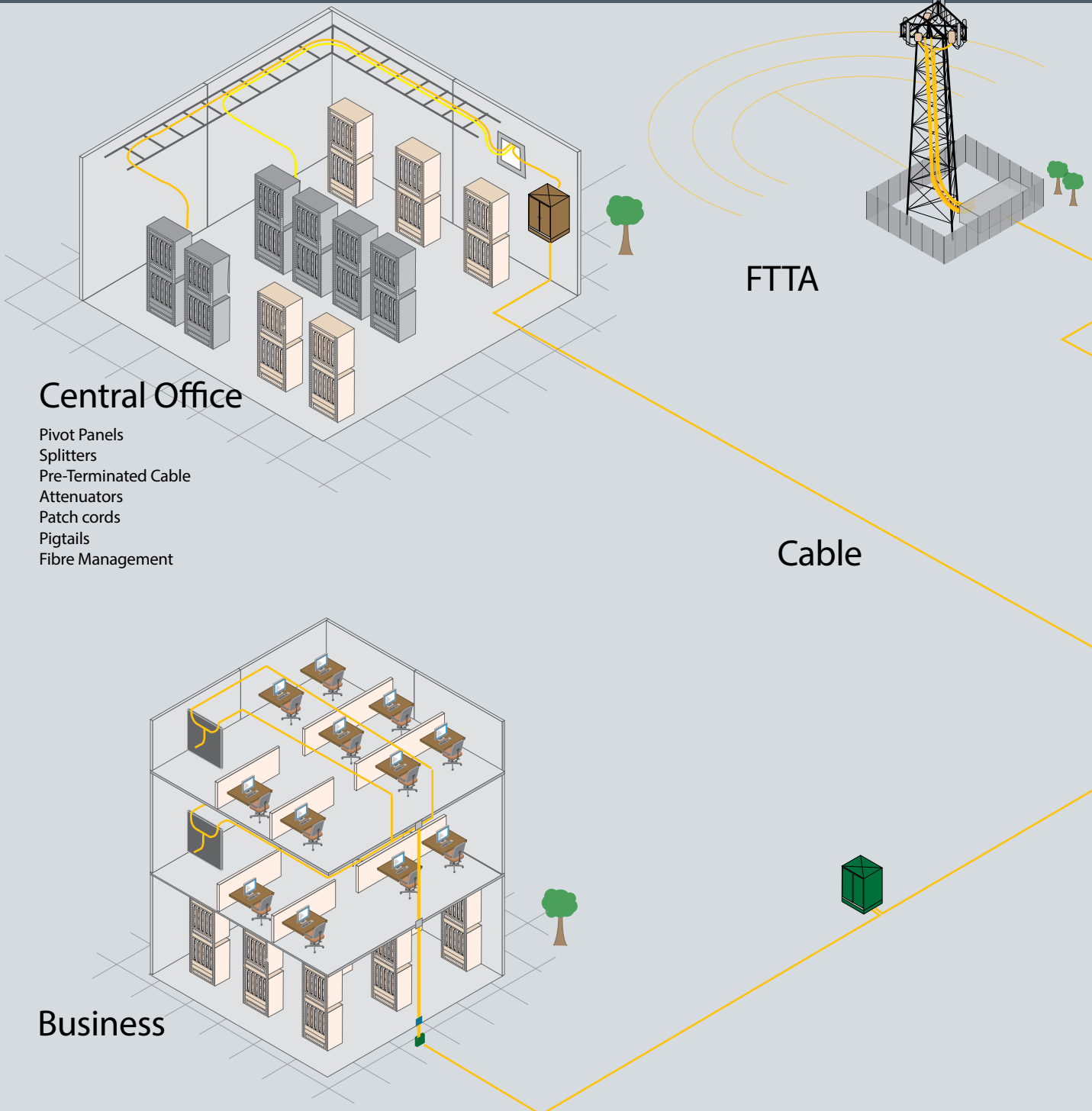
FTTx Solutions	90
Fibre To The x	91
FTTx Cables	92
FTTH OSP/Fibre Management	118
FTTH Splitting and Distribution	123



# FTTx Solutions

Bandwidth demands are increasing and competition to supply highest bandwidth is fierce. Choosing the right high performance connectivity solution for the access network is essential.

The Optronics FTTx product range offers a flexible, high specification solution that can be tailored and configured to meet specific network requirements, offering a mix of connectivity solutions for the central office/POP, distribution point/node and customer premise.



## Central Office

- Pivot Panels
- Splitters
- Pre-Terminated Cable
- Attenuators
- Patch cords
- Pigtails
- Fibre Management

FTTA

Cable

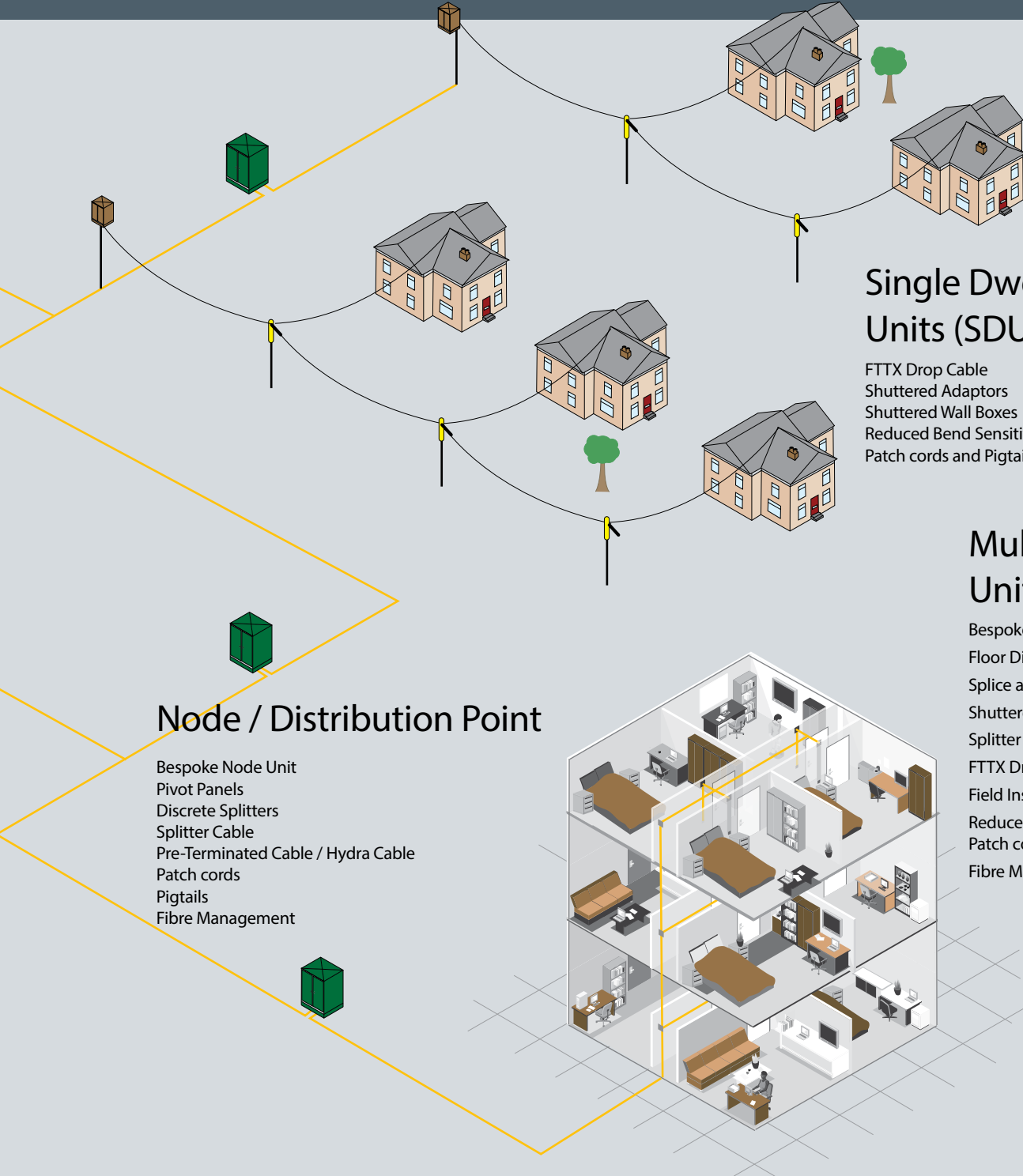
## Business



# Fibre To The x

Fibre to the x is the growing market within the Telecommunications sector. While PONs (passive optical networks) are emerging as the favoured approach by many Operators, PTP (point to point) is being deployed globally. Regardless of the network infrastructure, connectivity plays a fundamental role in the union of a fibre network.

To support the growing applications and opportunities in FTTx Optronics has developed a complete connectivity solution supported by our own pre-terminated assemblies expertise. Our connectivity solutions are fostered by a range of products for splitting, distribution, patching and splicing. Market demand shows requirements for a modular, easy to use solution that can be tailored for specific customer requirements.



## Node / Distribution Point

- Bespoke Node Unit
- Pivot Panels
- Discrete Splitters
- Splitter Cable
- Pre-Terminated Cable / Hydra Cable
- Patch cords
- Pigtails
- Fibre Management

## Single Dwelling Units (SDUs)

- FTTx Drop Cable
- Shuttered Adaptors
- Shuttered Wall Boxes
- Reduced Bend Sensitivity
- Patch cords and Pigtails

## Multi Dwelling Units (MDUs)

- Bespoke Node Unit
- Floor Distribution
- Splice and Patch Boxes
- Shuttered Adaptors
- Splitter Cable
- FTTx Drop Cable
- Field Installable Connectors
- Reduced Bend Sensitivity
- Patch cords & Pigtails
- Fibre Management

## Telecoms

# FTTx Cables

Fibre Specifications	93
900µm Buffered Pigtail Fibre	96
Reduced Bend Sensitivity Singlemode Optical Fibre	97
Tight Buffered Distribution Cable	98
Flat Drop Cable	100
Loose Tube Drop Cable	101
Light Duty Drop Cable	102
Micro Cable	103
Multi Loose Tube Access and Distribution Cable	105
External SLT Figure of 8 Aerial Drop Cable	110
Round Duplex Drop Cable	111
Internal Dry Loose Tube Drop Cable	112
Internal Dry Loose Tube Riser Cable	113

Optronics has designed a range of cables specifically for the fibre within the access network. Our range of cables are constructed single to multi element

Optronics has developed a range of completely dry compact fibre optic cables to meet the requirements of the FTTH access and pre term interconnect market places. The completely gel free dry core and dry tube designs are ideal for low and high fibre count pre-termination and rapid on site installation by connectorisation or splicing.

The cables are available with a

range of jacket and protection options for internal/external and external environments including Access, Riser and Drop. Water blocking of cable cores and tubes is achieved by the use of Super Absorbent Polymer (SAP) polymer materials which eliminate the need for gel materials.

Environmental resistance of outdoor cables is provided by black Polyethylene (PE) jacketing, and enhanced fire performance is achieved by the use of Low Smoke Zero Halogen (LSZH) jacketing material on indoor/outdoor cables. SZ reverse oscillation stranding is used with multi

tube cables and in the riser to give easy breakout at each floor without the need to cut and splice fibres travelling to other floors.

Optronics dry FTTH cables meet the requirements of IEC 60793 the optical fibre specification and IEC 60794 the generic cable requirement specification. A long product lifetime is achieved through adherence to ITU design criteria recommendations.

Optronics offer these cable for splicing or with factory made high quality pre-termination to suit a customer's specific requirements.

# ITU-T G.652D Low Water Peak Singlemode Optical Fibre

Optronics specification for standard OS1 / OS2 9/125 ITU-T G.652D LWP singlemode optical fibre. Cabled values are given where appropriate. All fibre parameters meet or exceed the following Low Water Peak (LWP) singlemode requirements:

- > ITU-T G.652D
- > IEC 60793-2-50 type B1.3
- > ISO/IEC 11801 OS-1
- > TIA/EIA 492-CAAB
- > Telcordia GR-20-CORE

## Applications

- > Operational in the entire 1260nm to 1625nm wavelength range
- > Low chromatic dispersion in the 1310nm operating window
- > Low attenuation at the 1383nm water peak region
- > Operational in the 1360nm to 1460nm wavelength extended band
- > All OS1 / OS2 Optronics cable constructions including tight buffered, loose tube and ribbon
- > Supports 1Gb/s up to an indicative 5km in data networks
- > Supports high speed multi channel video, data and voice services in metropolitan and access networks
- > ATM, SONET and WDM



## Technical Specification

PARAMETER	UNIT	VALUE	PARAMETER	UNIT	VALUE
<b>GENERAL CHARACTERISTICS</b>			Typical attenuation cabled @ 1625nm <sup>#</sup>	dB/km	≤0.25
LWP Singlemode optical fibre with doped silica core and silica cladding. Dual layer UV cured acrylic resin primary coatings.			Chromatic dispersion @ 1310nm	(ps/nm-km)	≤3.00
			Chromatic dispersion @1550nm	(ps/nm-km)	≤18.00
<b>GEOMETRICAL CHARACTERISTICS</b>			Chromatic dispersion @1625nm	(ps/nm-km)	≤22.00
Mode field diameter at 1310nm	µm	9.2 ± 0.6	Cabled cut off wavelength λ <sub>ccf</sub>	nm	≤1260
Mode field diameter at 1550nm	µm	10.1 ± 0.8	Zero dispersion wavelength λ <sub>0</sub>	nm	≥1300
Cladding non circularity	%	≤1.0			≤1322
Cladding Diameter	µm	125 ± 0.9	Zero dispersion slope S <sub>0</sub> at λ <sub>0</sub>	ps/(km <sup>2</sup> -km)	≤0.090
Cladding non circularity	%	≤0.7	Numerical aperture (NA)		0.14 ± 0.015
Coating non circularity	%	≤6.0	Polarisation mode dispersion (PMD)	(ps/√km)	≤0.2
Core/cladding concentricity error	µm	≤0.5	Fibre irregularities point and whole length @ 1310nm & 1550nm	dB	≤0.05
Coating/cladding concentricity error	µm	≤12	Group refractive index @1310nm		1.4660-1.4677
External diameter (uncoloured)	µm	242 ± 8	Group refractive index @ 1550nm & 1625nm		1.4670-1.4682
Fibre curl radius	m	≥4	<b>ENVIRONMENTAL CHARACTERISTICS</b>		
<b>TRANSMISSION CHARACTERISTICS</b>			Fibre temperature dependence -60°C to +85°C	dB/km	≤0.05
Maximum attenuation fibre @ 1310nm	dB/km	≤0.35	Fibre temperature and humidity cycling -10°C to +85°C, 98% R.H.	dB/km	≤0.05
Maximum attenuation fibre @ 1383nm	dB/km	≤0.35	Fibre watersoak dependence 23°C for 30 days	dB/km	≤0.05
Maximum attenuation fibre @ 1550nm	dB/km	≤0.21	<b>MECHANICAL CHARACTERISTICS</b>		
Maximum attenuation fibre @ 1625nm	dB/km	≤0.24	Proof test fibre strain for 1 second equivalent	%	1
Maximum attenuation cabled @ 1310nm <sup>#</sup>	dB/km	≤0.38	Bending dependence 100 turns 60mm diameter 1310nm, 1550nm and 1625nm	dB	≤0.05
Maximum attenuation cabled @ 1550nm <sup>#</sup>	dB/km	≤0.25			
Maximum attenuation cabled @ 1625nm <sup>#</sup>	dB/km	≤0.28	Typical mean coating strip force	N	1.0 to 3.0
Typical attenuation cabled @ 1310nm <sup>#</sup>	dB/km	≤0.34			
Typical attenuation cabled @ 1550nm <sup>#</sup>	dB/km	≤0.19			

<sup>#</sup> Standard OTDR testing wavelengths  
<sup>†</sup> Testing at 1625nm on request



# ITU-T G.657 A1 Reduced Bend Sensitivity Singlemode Optical Fibre

Optronics specification for standard 9/125 ITU-T G.657.A1 reduced bend sensitivity (RBS) singlemode optical fibre. Optronics ITU-T G.657.A1 optical fibre is fully compatible with ITU-T G.652D optical fibre. Cabled values are given where appropriate. All fibre parameters meet or exceed the following requirements:

- > ITU-T G.652D
- > ITU-T G.657.A1
- > IEC 60793-2-50 type B1.3 and B6.a
- > Telcordia GR-20-CORE
- > ISO/IEC 11801 OS-1
- > ANSI/ICEA S-87-2-50



## Features

- > The fibre is ideal for installation under tight bend conditions in CATV and FTTH networks
- > Incorporates all the features of ITU-T G.652D optical fibre including Low Water Peak (LWP) benefits, 1 Gb/s up to an indicative 5km in data networks and supports ATM, SONET and WDM technologies
- > All ITU-T G.657A Optronics cable constructions including FTTH tight buffered, loose tube and ribbon
- > Supports high speed multi channel video, data and voice services in metropolitan and access networks

## Technical Specification

PARAMETER	UNIT	VALUE	PARAMETER	UNIT	VALUE
<b>GENERAL CHARACTERISTICS</b>			Chromatic dispersion @ 1310nm	(ps/nm-km)	≤3.0
Low bend sensitivity Singlemode optical fibre with doped silica core and silica cladding. Dual layer UV cured acrylic resin primary coatings.			Chromatic dispersion @1550nm	(ps/nm-km)	≤18.0
<b>GEOMETRICAL CHARACTERISTICS</b>			Chromatic dispersion @1625nm	(ps/nm-km)	≤22.0
Mode field diameter at 1310nm	µm	9.0 ± 0.4	Cabled cut off wavelength λ <sub>ccf</sub>	nm	≤1260
Mode field diameter at 1550nm	µm	10.1 ± 0.5	Zero dispersion wavelength λ <sub>0</sub>	nm	≥1300 ≤1322
Cladding non circularity	%	≤0.7	Zero dispersion slope S <sub>0</sub> at λ <sub>0</sub>	ps/(km <sup>2</sup> -km)	≤0.090
Cladding diameter	µm	124.8 ± 0.9	Polarisation mode dispersion (PMD)	(ps/√km)	≤0.2
Cladding non circularity	%	≤0.7	Fibre irregularities point and whole length @ 1310nm & 1550nm	dB	≤0.05
Coating non circularity	%	≤6.0	Group refractive index @1310nm		1.466 - 1.467
Core/cladding concentricity error	µm	≤0.5	Group refractive index @ 1550nm & 1625nm		1.467 - 1.468
Coating/cladding concentricity error	µm	≤12	<b>ENVIRONMENTAL CHARACTERISTICS</b>		
External diameter (uncoloured)	µm	242 ± 10	Fibre temperature dependence -60°C to +85°C	dB/km	≤0.05
Fibre curl radius	m	≥4	Fibre temperature and humidity cycling -10°C to +85°C, 98% R.H.	dB/km	≤0.05
<b>TRANSMISSION CHARACTERISTICS</b>			Fibre watersoak dependence 23°C for 30 days	dB/km	≤0.05
Maximum attenuation fibre @ 1310nm	dB/km	≤0.35	<b>MECHANICAL CHARACTERISTICS</b>		
Maximum attenuation fibre @ 1383nm	dB/km	≤0.35	Proof test fibre strain for 1 second equivalent	%	1
Maximum attenuation fibre @ 1550nm	dB/km	≤0.21	Bending dependence 1 turn 10mm radius 1550nm	dB	≤0.75
Maximum attenuation fibre @ 1625nm	dB/km	≤0.23	Bending dependence 1 turn 10mm radius 1625nm	dB	≤1.5
Maximum attenuation cabled @ 1310nm <sup>#</sup>	dB/km	≤0.38	Bending dependence 10 turn 15mm radius 1550nm	dB	≤0.25
Maximum attenuation cabled @ 1550nm <sup>#</sup>	dB/km	≤0.25	Bending dependence 10 turn 10mm radius 1625nm	dB	≤1.0
Maximum attenuation cabled @ 1625nm <sup>#</sup>	dB/km	≤0.28	Typical mean coating strip force	N	1.0 to 3.0
Typical attenuation cabled @ 1310nm <sup>#</sup>	dB/km	≤0.34			
Typical attenuation cabled @ 1550nm <sup>#</sup>	dB/km	≤0.19			
Typical attenuation cabled @ 1625nm <sup>#</sup>	dB/km	≤0.25			

<sup>#</sup> Standard OTDR testing wavelengths  
<sup>®</sup> Testing at 1625nm on request



# ITU-T G.657 A2 Reduced Bend Sensitivity Singlemode Optical Fibre

Optronics specification for standard 9/125 ITU-T G.654.A2 reduced bend sensitivity (RBS) trench assisted singlemode optical fibre. Optronics ITU-T G.657.A2 optical fibre is fully compatible with ITU-T G.652D optical fibre. Cabled values are given where appropriate. All fibre parameters meet or exceed the following requirements:

- > ITU-T G.657.A2
- > IEC 60793-2-50 type B6b
- > TIA/EIA-492-AAAA
- > Telcordia GR-20-CORE

G.657 compliant fibre in Fibre-to-the-Home networks offers significant added value to the network installers. Bend radii in fibre guidance ports can be reduced as well as minimum bend radii in wall and corner mountings.

## Features

- > Low macrobending loss at very low radii ( $\leq 15\text{mm}$ )
- > Compatibility with other G.652 single-mode fibre installations
- > Low bending at partial bends in themm bend radius range
- > Low microbending loss

## Technical Specification

OPTICAL SPECIFICATIONS (UNCABLED FIBRE)			
<b>ATTENUATION</b>		<b>dB/km</b>	
1310nm		0.33 - 0.35	
1383nm*		0.32 - 0.35	
1460nm		0.25	
1550nm		0.19 - 0.20	
1625nm		0.20 - 0.21	
<small>*Including H2-aging according to IEC 60793-2-50, type B.1.3 Other values available on request.</small>			
<b>ATTENUATION WITH BENDING</b>			
<b>NUMBER OF TURNS</b>	<b>MANDREL RADIUS (mm)</b>	<b>WAVELENGTH</b>	<b>ATTENUATION (dB)</b>
10	15	1550	$\leq 0.03$
10	15	1625	$\leq 0.1$
1	10	1550	$\leq 0.1$
1	10	1625	$\leq 0.2$
1	7.5	1550	$\leq 0.5$
1	7.5	1625	$\leq 1.0$
<b>CUTOFF WAVELENGTH</b>			
Cable cutoff wavelength ( $\lambda_{ccf}$ )			$\leq 1260\text{nm}$
<b>ATTENUATION VS. WAVELENGTH</b>	<b>WAVELENGTH RANGE</b>	<b>REFERENCE <math>\lambda</math> (nm)</b>	<b>dB/km</b>
	1285 - 1330nm	1310	$\leq 0.03$
	1525 - 1575nm	1550	$\leq 0.02$
	1460 - 1625nm	1550	$\leq 0.04$
<b>POINT DISCONTINUITIES</b>		No point discontinuity greater than 0.05 dB at 1310nm and 1550nm.	
<b>MODE FIELD DIAMETER</b>			
<b>Wavelength (nm)</b>		<b>(<math>\mu\text{m}</math>)</b>	
1310		8.5 - 9.3	
1550		9.4 - 10.4	
<b>CHROMATIC DISPERSION</b>			
Zero dispersion wavelength ( $\lambda_0$ )		1300 - 1324nm	
Slope (S0) at $\lambda_0$		$\leq 0.092 \text{ ps}/(\text{nm}^2 \cdot \text{km})$	
Chromatic Dispersion			
Zero dispersion wavelength ( $\lambda_0$ )		1300 - 1324nm	
Slope (S0) at $\lambda_0$		$\leq 0.092 \text{ ps}/(\text{nm}^2 \cdot \text{km})$	
<b>POLARIZATION MODE DISPERSION (PMD)</b>			
			<b>(ps/<math>\sqrt{\text{km}}</math>)</b>
PMD link design value**			$\leq 0.06$
Max. individual fibre			$\leq 0.1$
<small>** According to IEC 60794 -3, Ed 3 (Q=0.01%)</small>			



## Benefits

- > Allows shorter radius storage of fibre over length leading to more compact installations
- > Is more forgiving for installation errors in fibre management systems and or splice protection devices
- > Allows for tight in-building installations
- > Allows for small volume patch panel installations
- > Allows for highly demanding cable designs including ribbons

# 900µm Buffered Pigtail Fibre

Optronic secondary coated 900µm fibres are ideal for use within splice trays or in other protected environments. These fibres are available in either standard or easy-strip formats and in twelve different colours for easy identification.

900µm OS1/OS2 9/125 (ITU-T G.652D) singlemode 900µm buffered pigtail range.

- > Choice of fibre types
- > Choice of buffering material and stripping options
- > Robust 900µm secondary coated fibres for ease of termination
- > Standard white buffer colour
- > Also available in 12 standard colours on request

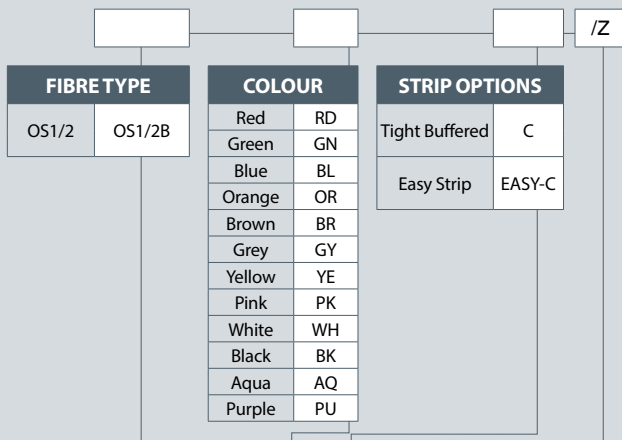
## Applications

- > Pigtails
- > Internal interconnect
- > Ideal for a wide range of telecoms, datacoms and process control applications where ruggedisation is required
- > Data centres
- > Suitable for repeated handling in patch panels and racks
- > Suitable for all standard connector types

## Technical Specifications

DESCRIPTION		1-CORE	
Outer Diameter	mm		0.9
Weight	kg/km		0.9
Max. Load (installation)	N		6
Max. Load (installed)	N		3
Min. Bend Radius (installation)	mm		30
Min. Bend Radius (installed)	mm		30
Temperature Range	°C		-20~+70

## Part Number Generator



Example Part Number: OS1B PU EASY-C /Z  
 OS1BPUEASY-C configures OS1 easy strip fibre with a purple jacket



Pigtail

Plastic Storage Case

Plastic Reel

Colour Options

# ITU-T G.657 A2 Reduced Bend Sensitivity Singlemode Optical Fibre

Round duplex fibre optic patch cable is constructed with two tight buffered fibres protected by aramid yarns and an LSZH jacket. Ideal for use in office LAN connections, patch cords, pigtails and internal point-to-point links where frequent handling is likely (e.g. data cabinets, equipment rooms, user outlets). Utilising 600µm or 900µm buffered fibre, the cable unit is suitable for use with industry standard connectors and can be easily made into a patch cord.

## Applications

- > Patch cords
- > Pigtails
- > Internal inter-connections

## Features

- > Choice of fibre type
- > Choice of outer diameter
- > High strength aramid yarn strength members for ease of handling
- > Easy to strip
- > LSZH jacket

## Technical Specification

DESCRIPTION		2-CORE LSZH	2-CORE LSZH
Outer Diameter	mm	3.0	5.0
Weight	kg/km	8	20.9
Max. Load (installation)	N	190	160
Max. Load (installed)	N	80	80
Minimum Bend Radius (installation)	Times diameter	20	20
Minimum Bend Radius (installed)	Times diameter	10	10
Fire Performance		LSZH	LSZH
Operating Temp.	°C	-20~+60	-20~+60
Storage Temp.	°C	-20~+60	-20~+70
Installation Temp.	°C	-20~+60	-20~+60
Crush Resistance	N/100mm	1000	1000

## Ordering Information

DESCRIPTION	PART NUMBER
<b>OS1/OS2 9/125µm SINGLEMODE</b>	
2-Core 3mm	OS1ROUND3YE-C
2-Core 5mm	OS1ROUNDYE-C
<b>ITU-T G.657A1 YELLOW</b>	
2-Core 3mm	7A1ROUND3AQ-C
2-Core 5mm	7A1ROUNDAQ-C
<b>ITU-T G.657A2 YELLOW</b>	
2-Core 3mm	7A2ROUND3AQ-C
2-Core 5mm	7A2ROUNDAQ-C

Other diameters are available upon request



# Tight Buffered Distribution Cable (4-24 Fibres)

Tight Buffered Internal Distribution Cables are constructed of 900µm buffered fibres surrounded by E-glass strength members jacketed in an LSZH outer jacket.

## Applications

- > Internal cable for installation in trunking, under floor or ceiling spaces
- > Fibre backbones in riser and horizontal configurations

## Features

- > Choice of fibre type
- > Colour coded fibres
- > High strength E-glass rodent resistant yarn strength members for ease of handling
- > LSZH jacket
- > Easy to strip

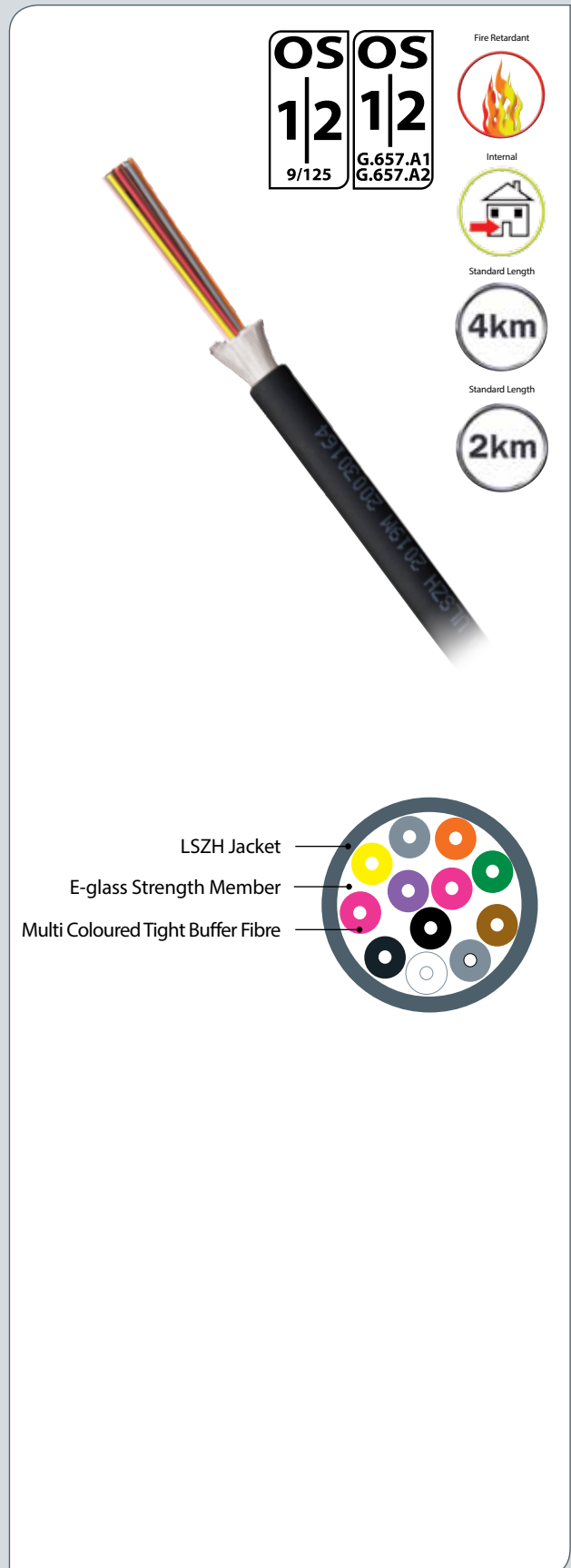
## Technical Specification

DESCRIPTION		4 CORE LSZH	8 CORE LSZH	12 CORE LSZH	24 CORE LSZH
Outer Diameter	mm	4.8 ±0.3	5.8 ±0.3	6.5 ±0.3	7.5 ±0.3
Weight	kg/km	26	34	40	61
Max. Load (installation)	N	600	750	750	900
Max. Load (installed)	N	300	375	375	450
Min. Bend Radius (installation)	mm	96	116	130	150
Min. Bend Radius (installed)	mm	48	58	65	75
Fire Performance		LSZH	LSZH	LSZH	LSZH
Operating Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Storage Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Installation Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Crush Resistance	N/100mm	1000	1000	1000	1000

## Ordering Information

DESCRIPTION	PART NUMBER
ITU-T G.657A1 Yellow	7A1TB**UBK-C
ITU-T G.657A2 Yellow	7A2TB**UBK-C

Where \*\* is the fibre count between 4 & 24  
 Other diameters are available upon request  
 RBS Multimode available on request  
 Subunitised Distribution Cables available up to 144f





# Dry Single Loose Tube (2-24 Fibres)

The indoor/outdoor single loose tube cables consist of 2 to 24, 250µm individually coloured optical fibres in a single waterblocked dry loose tube with helically applied waterblocking rodent resistant E-glass or aramid non metallic strength members and Low Smoke Zero Halogen (LSZH) jacket.

## Applications

- > Ideal for internal/external duct applications
- > Suitable for one or both end pre termination

## Features

- > Colour coded fibres
- > Compact 250µm dry loose tube construction
- > E-glass yarn for rodent resistance
- > LSZH jacket for optimised fire performance

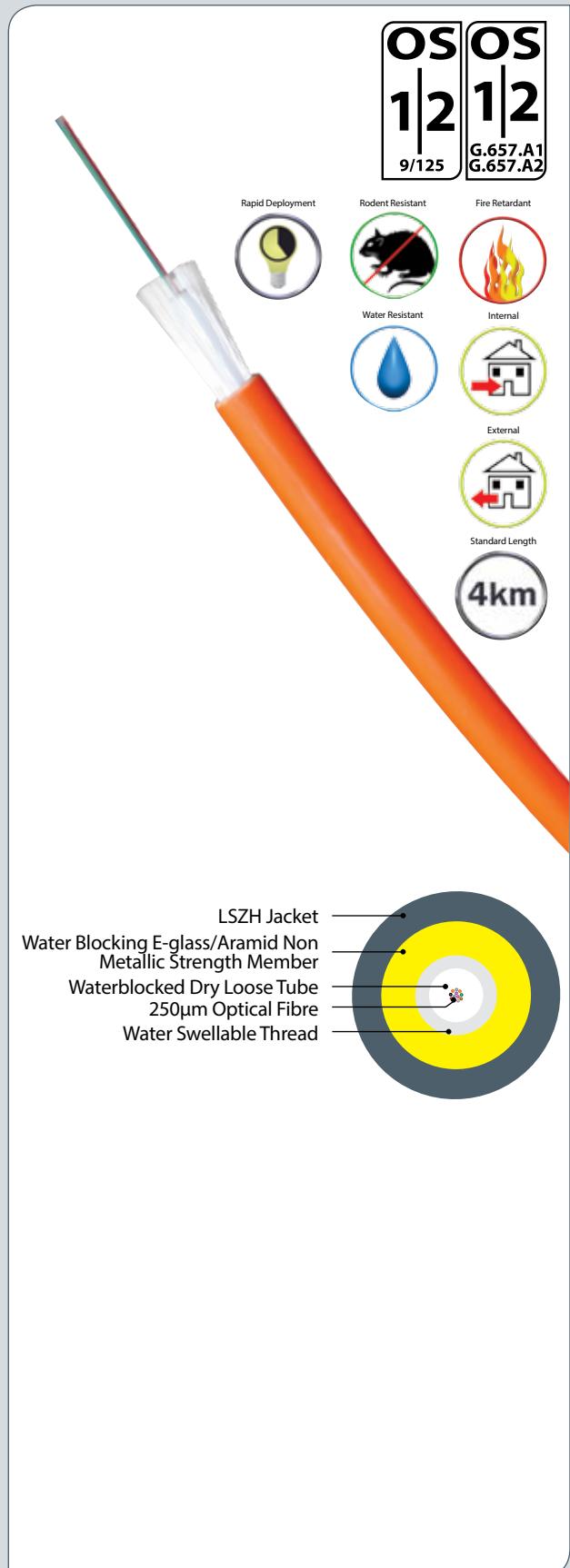
## Technical Specifications

DESCRIPTION		2 TO 24 CORE	
		ARAMID	E-GLASS
Outer Diameter	mm	6.4 ±0.3	6.4 ±0.3
Weight	kg/km	48	50
Max. Load (installation)	N	1000	1000
Max. Load (installed)	N	500	500
Min. Bend Radius (installation)	mm	130	130
Min. Bend Radius (installed)	mm	65	65
Fire Performance		LSZH	LSZH
Operating Temp.	°C	-20~+60	-20~+70
Storage Temp.	°C	-20~+60	-20~+70
Installation Temp.	°C	-20~+60	-20~+70
Crush Resistance	N/100mm	2000	2000

## Ordering Information

DESCRIPTION	PART NUMBER
OS1 ITUT G.652D 250 m Single dry loose tube	OS1DT**OYE
OS1 ITUT G.652D 250 m Single dry loose tube aramid	OS1DTA**OYE
OS2 ITUT G.652D 250 m Single dry loose tube	OS2DT**OYE
OS2 ITUT G.652D 250 m Single dry loose tube aramid	OS2DTA**OYE
G.657A 250m Single dry loose tube RR ULSZH	57ADT**OYE
G.657A 250m Single dry loose tube aramid ULSZH	57ADTA**OYE

Where \*\* is the fibre count between 2 & 24  
Optional black jacket code is UBK



# All Dielectric 250µm FTTH Flat Drop Cable

ITU-T G.652D, ITU-T & ITU-T G.657B all dielectric Fibre To The Home (FTTH) drop cable consists of 2 core, 250µm individually coloured optical fibres with Fibre Reinforced Plastic (FRP) strength members and Low Smoke Zero Halogen (LSZH) jacket.

## Applications

- > Internal FTTH applications horizontal and riser, including clipping to surfaces such as skirting boards

## Features

- > Choice of fibre types
- > Individually coloured optical fibres
- > Notched construction for easy stripping
- > White LSZH jacket for internal use

## Technical Specifications

PARAMETER	UNIT	VALUE
Crush	N/100mm	400
Strength member		FRP
Storage temperature	°C	-20 to 70
Installation temperature	°C	-5 to 50
Operating temperature	°C	-20 to 70
Primary buffer diameter	µm	250
Fibre count	n	1 to 4
Nominal outer diameter	mm	2.0 x 3.0 ±0.2
Nominal weight	kg/km	11
Maximum tensile load	N	100
Minimum bend radius	mm	15
Plywood drum dimensions (Flange/Barrel/Width) 4km 2f to 12f	mm (approx)	F630/B300/W330
Drum weight with cable 4km	kg (approx)	52

## Ordering Information

DESCRIPTION	PART NUMBER
2 Core 250um FTTH ITU-T G.652D White jacket non metallic	SM02DRPWHT09
2 Core 250um FTTH ITU-T G.657B White jacket non metallic	SM02DRPWHT

The diagram illustrates the cable's construction and certifications. At the top right, two boxes specify the cable type: OS 1/2 9/125 and OS 1/2 G.657.A1 G.657.A2. Below these are icons for Fire Retardant, Internal use (house icon), Standard Length, and a 2km length marker. The central image shows the cable with the 'etisalat Approved' logo. A cross-sectional diagram at the bottom right identifies the LSZH Jacket, FRP Strength Member Rod, and 250µm Optical Fibre.

# 4 Fibre All Dielectric 250µm FTTH Loose Tube Rodent Resistant Drop Cable

ITU-T G.652D, ITU-T G.657A1 & ITU-T G.657A2 all dielectric Fibre To The Home (FTTH) indoor/outdoor drop cable containing 1, 2 or 4 250µm optical fibres in a single 1.7mm gel filled loose tube, waterblocking E-glass non metallic strength members and white Low Smoke Zero Halogen (LSZH) or black polyethylene (PE) jacket printed in black or white by the inkjet technique.

## Applications

- > Internal FTTH applications horizontal and riser, including clipping to surfaces such as skirting boards

## Features

- > Choice of fibre types
- > Individually coloured optical fibres
- > Robust loose tube construction for external water ingress protection
- > E-glass strength members for rodent resistance
- > White LSZH jacket (other colours are available) for internal use or black PE Jacket for environmental resistance

## Technical Specifications

PARAMETER	UNIT	VALUE
Crush	N/100mm	800
Strength member		E-glass
Storage temperature	°C	-20 to 60
Installation temperature	°C	-5 to 50
Operating temperature	°C	-20 to 60
Primary buffer diameter	µm	250
Fibre count	n	1, 2 or 4
Nominal outer diameter	mm	4.2 ± 0.2
Nominal weight	kg/km	22
Maximum tensile load	N	500
Minimum bend radius	mm	15
Plywood drum dimensions (Flange/Barrel/Width)	mm (approx)	F760/B340/W380
Drum weight with cable 4km	kg (approx)	LSZH 100
Drum length	km	4

## Ordering Information

DESCRIPTION	PART NUMBER
250um FTTH ITU-T G.652D LT Int/Ext Drop White	OS1DROPLT**UWH
250um FTTH ITU-T G.657A1 LT Int/Ext Drop White	7A1DROPLT**UWH
250um FTTH ITU-T G.657A2 LT Int/Ext Drop White	7A2DROPLT**UWH
250um FTTH ITU-T G.652D LT Ext Drop Black	OS1DROPLT**PBK
250um FTTH ITU-T G.657A1 LT Ext Drop Black	7A1DROPLT**PBK
250um FTTH ITU-T G.657A2 LT Ext Drop Black	7A2DROPLT**PBK



# Light Duty Non Metallic Armoured SLT Rodent Resistant Drop Cable

Optronics 2 to 12 fibre OS1/OS2 (ITU-T G.652D) singlemode 250µm single loose tube light duty non metallic armoured internal/external rodent resistant duct, direct burial and drop cable.

The single loose tube cable consists of 2 to 12, 250µm optical fibres in a single gel filled loose tube with waterblocking E-glass non metallic strength members. Ripcord for jacket removal and black LSZH (Low Smoke Zero Halogen) jacket with dual opposed embedded FRP (Fibre Reinforced Plastic) armour rods.

## Applications

- > Suitable for internal/external duct and direct burial applications
- > Suitable for environments where impact and crush protection is required
- > Ideal for FTTH Drop applications

## Features

- > Choice of fibre types
- > Individually coloured optical fibres
- > Non metallic armouring for enhanced impact and crush resistance
- > FRP rods and E-glass yarn for rodent resistance
- > Compact 250µm loose tube construction
- > Flame retardant LSZH jacket for enhanced fire performance
- > Black jacket for external use and resistance to UV radiation including sunlight

## Technical Specifications

PARAMETER	UNIT	VALUE
Crush	N/100mm	2000
Strength member		FRP/E-glass
Storage temperature	°C	-30 to 70
Installation temperature	°C	-10 to 50
Operating temperature	°C	-40 to 70
Primary buffer diameter	µm	250
Fibre count	n	2, 4, 6, 8 & 12
Nominal outer diameter	mm	5.8 ± 0.2
Nominal weight	kg/km	43
Maximum tensile load	N	600
Minimum bend radius	mm	Installed 58 Loaded 90
Plywood drum dimensions (Flange, Barrel, Width)	mm (approx)	F900, B450, W680
Drum weight with cable 4km	kg (approx)	188
Drum length	km	2 or 4

## Ordering Information

DESCRIPTION	PART NUMBER
ITU-T G.652D Singlemode 250µm Single tube Light Duty Armoured LSZH Jacketed Int/Ext Cable Black	OS1LTNMA**UBK



# Micro Cable Single Jacket LSZH (2-24 Fibres)

Optronics 2 to 24 fibre 250µm cables with aramid strength members and single LSZH jacket. The cables consist of 2 to 24, 250µm OS1/OS2(ITU-T G.652D), ITU-T G.657A1 & ITU-T G.657A2 singlemode optical fibres in a 2.95mm Low Smoke Zero Halogen (LSZH) inner jacket with aramid strength members.

## Applications

- > Ideal for internal inter-connect using MPO or MTP connectivity
- > Specialist cable for high density connectivity including Data Centres

## Features

- > Individually coloured optical fibres
- > Compact 250µm high fibre density construction
- > All dielectric construction with aramid yarn for physical protection and mechanical strength
- > Single LSZH jacket for internal use

## Technical Specifications

PARAMETER	UNIT	VALUE
Crush	N/100mm	500
Strength member		Aramid
Storage temperature	°C	-20 to 60
Installation temperature	°C	-40 to 60
Operating temperature	°C	-20 to 60
Primary buffer diameter	µm	250
Fibre count	n	2 to 24
Nominal outer diameter	mm	2.95 ± 0.1
Nominal weight	kg/km	7
Maximum tensile load	N	Short term 200 Long term 60
Minimum bend radius	mm	Installed 30mm Loaded 60mm
Plywood drum dimensions (Flange/Barrel/Width)	mm (approx)	F500/B220/W330
Drum weight with cable 4km	kg (approx)	10

## Ordering Information

DESCRIPTION	PART NUMBER
OS1 ITU-T G.652D 2f to 24f Single Jacket Micro Cable Yellow	OS1MICROSJ**UYE
OS2 ITU-T G.652D 2f to 24f Single Jacket Micro Cable Yellow	OS2MICROSJ**UYE
ITU-T G.657A1 2f to 24f Single Jacket Micro Cable Yellow	7A1MICROSJ**UYE
ITU-T G.657A2 2f to 24f Single Jacket Micro Cable Yellow	7A2MICROSJ**UYE

Where \*\* is the fibre count between 1 and 4. Other jacket colours are available



# Micro Cable Double Jacket LSZH (2-24 Fibres)

Optronics 2 to 24 fibre 250µm cables with aramid strength members and double LSZH jackets. The cables consist of 2 to 24, 250µm OS1/OS2 (ITU-T G.652D), ITU-T G.657A1 & ITU-T G.657A2 singlemode optical fibres in a 2.95mm Low Smoke Zero Halogen (LSZH) inner jacket with aramid strength members. Aramid non metallic strength members and final 4.5mm LSZH jacket.

## Applications

- > Ideal for internal inter-connect using MPO or MTP connectivity
- > Specialist cable for high density connectivity including Data Centres

## Features

- > Individually coloured optical fibres
- > Compact 250µm high fibre density construction
- > All dielectric construction with aramid yarn for physical protection and mechanical strength
- > Double LSZH jackets for internal use

## Technical Specifications

PARAMETER	UNIT	VALUE
Crush	N/100mm	1000
Strength member		Aramid
Storage temperature	°C	-20 to 60
Installation temperature	°C	-40 to 60
Operating temperature	°C	-20 to 60
Primary buffer diameter	µm	250
Fibre count	n	2 to 24
Nominal outer diameter	mm	4.5 ±0.2
Nominal weight	kg/km	22
Maximum tensile load	N	Short term 400 Long term 150
Minimum bend radius	mm	Installed 45mm Loaded 90mm
Plywood drum dimensions (Flange/Barrel/Width)	mm (approx)	F500/B220/W330
Drum weight with cable 4km	kg (approx)	25

## Ordering Information

DESCRIPTION	PART NUMBER
OS1 ITU-T G.652D 2f to 24f Double Jacket Micro Cable Yellow	OS1MICRO**UYE
OS2 ITU-T G.652D 2f to 24f Double Jacket Micro Cable Yellow	OS2MICRO**UYE
ITU-T G.657A1 2f to 24f Double Jacket Micro Cable Yellow	7A1MICRO**UYE
ITU-T G.657A2 2f to 24f Double Jacket Micro Cable Yellow	7A2MICRO**UYE

# 5 Element External Completely Dry Multi Loose Tube FTTH Access and Distribution Cable

Optronics up to 40 fibre, 5 element, completely dry, ITU-T G.652D singlemode, 250µm, multi dry loose tube, rodent resistant, external dry core duct cables with rodent resistant E-glass strength members and a High Density Polyethylene (HDPE) jacket

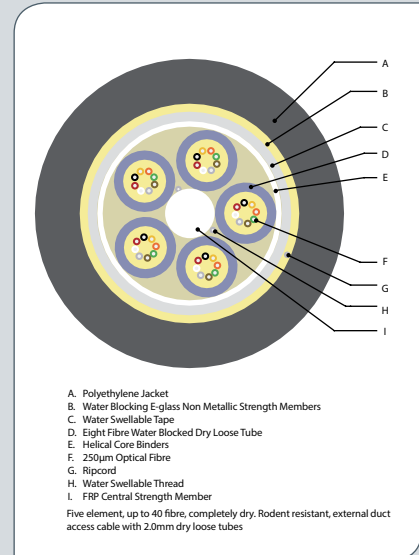
The 5 element multi loose tube cable construction consists of up to 40, 250µm optical fibres in 8 fibre waterblocked dry loose tubes and fillers where appropriate. The tubes are SZ stranded around a Fibre Reinforced Plastic (FRP) central strength member with water swellable threads and water swellable tape. Helically applied waterblocking E-glass non metallic strength members with ripcord and black High Density Polyethylene (HDPE) jacket.

## Applications

- > Ideal for external duct FTTH Access and Distribution applications
- > Suitable for external applications where environmental resistance is required
- > Suitable for one or both end pre-termination

## Cable Specifications (IEC 60794)

PARAMETER	UNIT	VALUE
Crush	N/100mm	1000
Strength member		FRP/E-glass
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-40 to 70
Nominal weight	kg/km	73
Fibre count	n	8, 16, 24, 32, 40
Nominal outer diameter	mm	9.6 ± 0.4
Maximum tensile load (Short Term)	N	2700
Maximum tensile load (Long Term)	N	1200
Minimum bend radius	mm	Installed 95
Minimum bend radius	mm	Loaded 190
Drum length	km	2 or 4



## Features

- > Colour coded fibres
- > Compact 250µm dry loose tube construction
- > E-glass yarn for rodent resistance
- > PE jacket for environmental protection and water permeation resistance

## Optical Fibre Specifications (IEC 60793)

Please refer to fibre ITU-T G.652D fibre datasheet

## Tube Identification (IEC 60304)

NO	1	2	3	4	5
Fibre	Blue	Orange	Green	Brown	Grey

Natural fillers to be used where appropriate

## Fibre Identification (IEC 60304)

NO	1	2	3	4
Fibre	Blue	Orange	Green	Brown
NO	5	6	7	8
Fibre	Grey	White	Red	Black

## Ordering Information

DESCRIPTION	PART NUMBER
ITU-T G.652D 250µm 5 element multi tube FTTH RR PE	5LOS1LG009**PBK

Where \*\* is the fibre count between 8 and 40

# 6 Element External Completely Dry Multi Loose Tube FTTH Access and Distribution Cable

Optronics 48 fibre, 6 element, completely dry, ITU-T G.652D singlemode, 250µm, multi dry loose tube, rodent resistant, external dry core duct cables with rodent resistant E-glass strength members and a High Density Polyethylene (HDPE) jacket

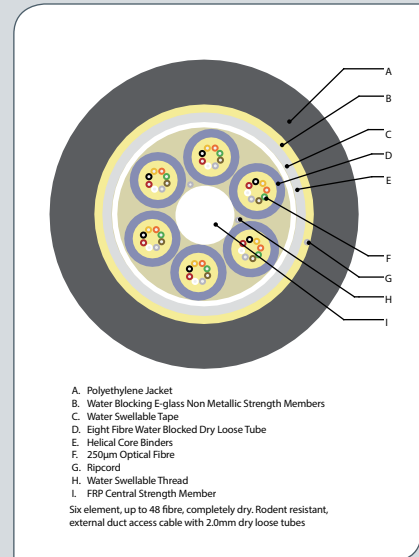
The 6 element multi loose tube cable construction consists of 48 250µm optical fibres in 8 fibre waterblocked dry loose tubes. The tubes are SZ stranded around a Fibre Reinforced Plastic (FRP) central strength member with water swellable threads and water swellable tape. Helically applied waterblocking E-glass non metallic strength members with ripcord and black High Density Polyethylene (HDPE) jacket.

## Applications

- > Ideal for external duct FTTH Access and Distribution applications
- > Suitable for external applications where environmental resistance is required
- > Suitable for one or both end pre-termination

## Cable Specifications (IEC 60794)

PARAMETER	UNIT	VALUE
Crush	N/100mm	1000
Strength member		FRP/E-glass
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-40 to 70
Nominal weight	kg/km	72
Fibre count	n	72
Nominal outer diameter	mm	10.3 ± 0.4
Maximum tensile load (Short Term)	N	2700
Maximum tensile load (Long Term)	N	1400
Minimum bend radius	mm	Installed 103
Minimum bend radius	mm	Loaded 206
Drum length	km	2 or 4



## Features

- > Colour coded fibres
- > Compact 250µm dry loose tube construction
- > E-glass yarn for rodent resistance
- > PE jacket for environmental protection and water permeation resistance

## Optical Fibre Specifications (IEC 60793)

Please refer to fibre ITU-T G.652D fibre datasheet

## Tube Identification (IEC 60304)

NO	1	2	3	4	5	6
Fibre	Blue	Orange	Green	Brown	Grey	White

Natural fillers to be used where appropriate

## Fibre Identification (IEC 60304)

NO	1	2	3	4
Fibre	Blue	Orange	Green	Brown
NO	5	6	7	8
Fibre	Grey	White	Red	Black

## Ordering Information

DESCRIPTION	PART NUMBER
ITU-T G.652D 250µm 6element multi tube FTTH RR PE	6LOS1LG01072PBK



# 8 Element External Completely Dry Multi Loose Tube FTTH Access and Distribution Cable

Optronics 56 to 64 fibre, 5 element, completely dry, ITU-T G.652D singlemode, 250µm, multi dry loose tube, rodent resistant, external dry core duct cables with rodent resistant E-glass strength members and a High Density Polyethylene (HDPE) jacket

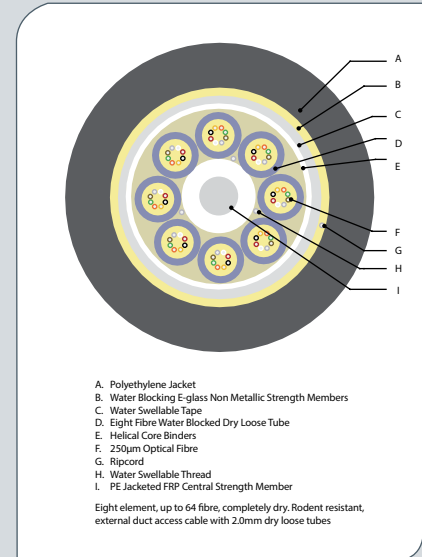
The 8 element multi loose tube cable construction consists of up to 56 to 64, 250µm optical fibres in 8 fibre waterblocked dry loose tubes and fillers where appropriate. The tubes are SZ stranded around a polyethylene (PE) jacketed Fibre Reinforced Plastic (FRP) central strength member with water swellable threads and water swellable tape. Helically applied waterblocking E-glass non metallic strength members with ripcord and black High Density Polyethylene (HDPE) jacket.

## Applications

- > Ideal for external duct FTTH Access and Distribution applications
- > Suitable for external applications where environmental resistance is required
- > Suitable for one or both end pre-termination

## Cable Specifications (IEC 60794)

PARAMETER	UNIT	VALUE
Crush	N/100mm	1000
Strength member		FRP/E-glass
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-40 to 70
Nominal weight	kg/km	95
Fibre count	n	56 & 64
Nominal outer diameter	mm	11.5 ± 0.4
Maximum tensile load (Short Term)	N	2700
Maximum tensile load (Long Term)	N	1500
Minimum bend radius	mm	Installed 115
Minimum bend radius	mm	Loaded 230
Drum length	km	2 or 4



## Features

- > Colour coded fibres
- > Compact 250µm dry loose tube construction
- > E-glass yarn for rodent resistance
- > PE jacket for environmental protection and water permeation resistance

## Optical Fibre Specifications (IEC 60793)

Please refer to fibre ITU-T G.652D fibre datasheet

## Tube Identification (IEC 60304)

NO	1	2	3	4	5	6	7	8
Fibre	Blue	Orange	Green	Brown	Grey	White	Red	Black

Natural fillers to be used where appropriate

## Fibre Identification (IEC 60304)

NO	1	2	3	4
Fibre	Blue	Orange	Green	Brown
NO	5	6	7	8
Fibre	Grey	White	Red	Black

## Ordering Information

DESCRIPTION	PART NUMBER
ITU-T G.652D 250µm 8 element multi tube FTTH RR PE	8LOM1LG011**PBK

Where \*\* is the fibre count between 8 and 40

# 10 Element External Completely Dry Multi Loose Tube FTTH Access and Distribution Cable

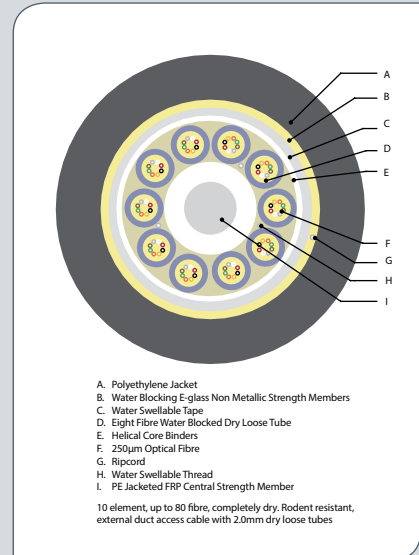
Optronics 72 to 80 fibre, 10 element, completely dry, ITU-T G.652D singlemode, 250µm, multi dry loose tube, rodent resistant, external dry core duct cables with rodent resistant E-glass strength members and a High Density Polyethylene (HDPE) jacket. The 10 element multi loose tube cable construction consists of 72 to 80, 250µm optical fibres in 8 fibre waterblocked dry loose tubes and fillers where appropriate. The tubes are SZ stranded around a polyethylene (PE) jacketed Fibre Reinforced Plastic (FRP) central strength member with water swellable threads and water swellable tape. Helically applied waterblocking E-glass non metallic strength members with ripcord and black High Density Polyethylene (HDPE) jacket.

## Applications

- > Ideal for external duct FTTH Access and Distribution applications
- > Suitable for external applications where environmental resistance is required
- > Suitable for one or both end pre-termination

## Cable Specifications (IEC 60794)

PARAMETER	UNIT	VALUE
Crush	N/100mm	1000
Strength member		FRP/E-glass
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-40 to 70
Nominal weight	kg/km	116
Fibre count	n	72, 80
Nominal outer diameter	mm	12.9 ± 0.4
Maximum tensile load (Short Term)	N	2700
Maximum tensile load (Long Term)	N	1600
Minimum bend radius	mm	Installed 130
Minimum bend radius	mm	Loaded 260
Drum length	km	2 or 4



## Features

- > Colour coded fibres
- > Compact 250µm dry loose tube construction
- > E-glass yarn for rodent resistance
- > PE jacket for environmental protection and water permeation resistance

## Optical Fibre Specifications (IEC 60793)

Please refer to fibre ITU-T G.652D fibre datasheet

## Tube Identification (IEC 60304)

NO	1	2	3	4	5	6	7	8	9	10
Fibre	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet

Natural fillers to be used where appropriate

## Fibre Identification (IEC 60304)

NO	1	2	3	4
Fibre	Blue	Orange	Green	Brown
NO	5	6	7	8
Fibre	Grey	White	Red	Black

## Ordering Information

DESCRIPTION	PART NUMBER
ITU-T G.652D 250µm 10 element multi tube FTTH RR PE	10LOM1LG012**PBK

Where \*\* is the fibre count between 8 and 40

# 12 Element External Completely Dry Multi Loose Tube FTTH Access and Distribution Cable

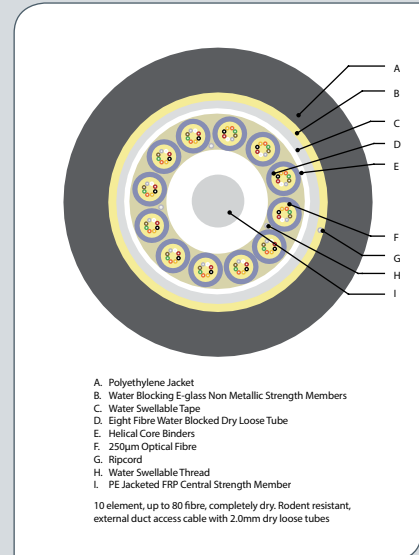
Optronics 88 to 96 fibre, 12 element, completely dry, ITU-T G.652D singlemode, 250µm, multi dry loose tube, rodent resistant, external dry core duct cables with rodent resistant E-glass strength members and a High Density Polyethylene (HDPE) jacket. The 12 element multi loose tube cable construction consists of 88 to 96, 250µm optical fibres in 8 fibre waterblocked dry loose tubes and fillers where appropriate. The tubes are SZ stranded around a polyethylene (PE) jacketed Fibre Reinforced Plastic (FRP) central strength member with water swellable threads and water swellable tape. Helically applied waterblocking E-glass non metallic strength members with ripcord and black High Density Polyethylene (HDPE) jacket.

## Applications

- > Ideal for external duct FTTH Access and Distribution applications
- > Suitable for external applications where environmental resistance is required
- > Suitable for one or both end pre-termination

## Cable Specifications (IEC 60794)

PARAMETER	UNIT	VALUE
Crush	N/100mm	1000
Strength member		FRP/E-glass
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-40 to 70
Nominal weight	kg/km	138
Fibre count	n	88, 96
Nominal outer diameter	mm	14.2 ± 0.4
Maximum tensile load (Short Term)	N	2700
Maximum tensile load (Long Term)	N	1600
Minimum bend radius	mm	Installed 140
Minimum bend radius	mm	Loaded 280
Drum length	km	2 or 4



## Features

- > Colour coded fibres
- > Compact 250µm dry loose tube construction
- > E-glass yarn for rodent resistance
- > PE jacket for environmental protection and water permeation resistance

## Optical Fibre Specifications (IEC 60793)

Please refer to fibre ITU-T G.652D fibre datasheet

## Tube Identification (IEC 60304)

NO	1	2	3	4	5	6	7	8	9	10	11	12
Fibre	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

Natural fillers to be used where appropriate

## Fibre Identification (IEC 60304)

NO	1	2	3	4
Fibre	Blue	Orange	Green	Brown
NO	5	6	7	8
Fibre	Grey	White	Red	Black

## Ordering Information

DESCRIPTION	PART NUMBER
ITU-T G.652D 250µm 12 element multi tube FTTH RR PE	12LOS1LG013**PBK

Where \*\* is the fibre count between 8 and 40

# External Single Loose Tube Figure of 8 FTTH Metallic Aerial Drop Cable

Optronics 2 to 8 fibre ITU-T G.652D singlemode, 250µm, single loose tube, external F8 aerial drop cable

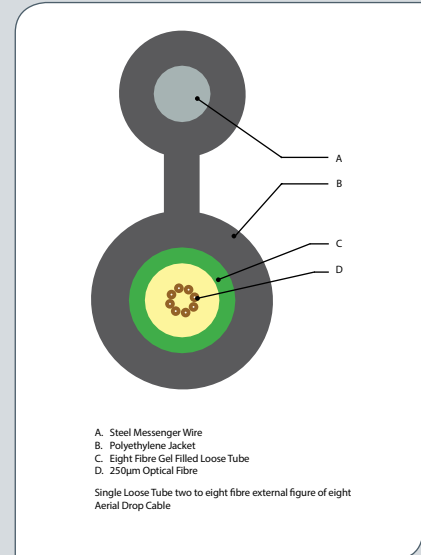
The single loose tube cable consists of 2 to 8, 250µm optical fibres in a single gel filled loose tube with a steel messenger wire strength member and a PE jacket.

## Applications

- > Suitable for aerial cable applications up to 50m single span
- > Ideal for dropping down from telegraph poles in FTTH networks
- > Ideal for FTTH intra building aerial links
- > Suitable for outdoor duct environments

## Cable Specifications (IEC 60794)

PARAMETER	UNIT	VALUE
Crush	N/100mm	1000
Strength member		Steel
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-40 to 70
Nominal weight	kg/km	47
Fibre count	n	2, 4, 6, 8
Nominal outer diameter	mm	10.2 ±0.3 5.1 ±0.3
Maximum tensile load (Short Term)	N	1000
Maximum tensile load (Long Term)	N	500
Minimum bend radius	mm	Installed 50
Minimum bend radius	mm	Loaded 100
Drum length	km	2 or 4



## Features

- > ITU-T G.652D optical fibre
- > Colour coded fibres
- > Compact 250µm loose tube construction
- > PE jacket for environmental protection and water permeation resistance

## Optical Fibre Specifications (IEC 60793)

Please refer to fibre ITU-T G.652D fibre datasheet

## Tube Identification (IEC 60304)

NO	1	2	3	4	5	6	7	8
Fibre	Blue	Orange	Green	Brown	Grey	White	Red	Black

Natural fillers to be used where appropriate

## Fibre Identification (IEC 60304)

NO	1	2	3	4
Fibre	Blue	Orange	Green	Brown
NO	5	6	7	8
Fibre	Grey	White	Red	Black

## Ordering Information

DESCRIPTION	PART NUMBER
ITU-T G.652D 250µm Single tube PE metallic FTTH aerial Drop	OLOS1LTD**PBK

Where \*\* is the fibre count between 2 and 8



# 3.0mm Round Duplex FTTH Drop Cable with Aramid Strength Members

Optronics Round Duplex, 3.0mm, 2 fibre, ITU-T G.657A singlemode, 900µm, tight buffered internal cable with aramid strength members and a LSZH jacket.

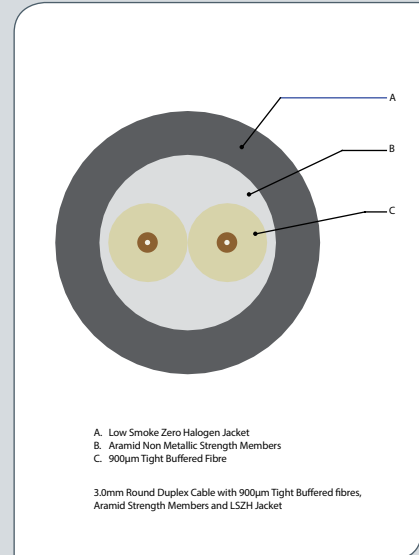
The Round Duplex cables consist of 2, 900µm optical fibres with longitudinally applied aramid non metallic strength members and white LSZH jacket.

## Applications

- > FTTH horizontal drop
- > Pigtails and Patch cords
- > Internal inter-connect including pre-termination

## Cable Specifications (IEC 60794)

PARAMETER	UNIT	VALUE
Crush	N/100mm	1000
Strength member		Aramid
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-40 to 70
Nominal weight	kg/km	8
Fibre count	n	2
Nominal outer diameter	mm	3.0 ±0.2
Maximum tensile load (Short Term)	N	250
Maximum tensile load (Long Term)	N	100
Minimum bend radius	mm	Installed 10D
Minimum bend radius	mm	Loaded 20D
Drum length	km	2 or 4



## Features

- > Aramid strength members for ease of handling
- > Robust 900µm tight buffered fibres for ease of termination
- > Easy stripping
- > LSZH jacket for internal use

## Optical Fibre Specifications (IEC 60793)

Please refer to fibre ITU-T G.657A fibre datasheet

## Fire Performance

FIRE TEST DESCRIPTION	FIRE TEST SPECIFICATION
Smoke emission	IEC 61034-1 & 2
Flammability	IEC 60332-1
Acid gas emission	IEC 60754-1 & 2

## Fibre Identification (IEC 60304)

NO	1	2
Fibre	Blue	Orange

## Ordering Information

DESCRIPTION	PART NUMBER
2-Core 3.0mm ITU-T G.657A FTTH round duplex drop white Jacket 900µm	OL657A3DURLG016UWH

Other jacket colours are available

# Internal Drop Dry Loose Tube Cables with Aramid Strength Members

Optronics up to 8 fibre ITU-T G.652D singlemode, 250µm, single dry loose tube internal duct cables

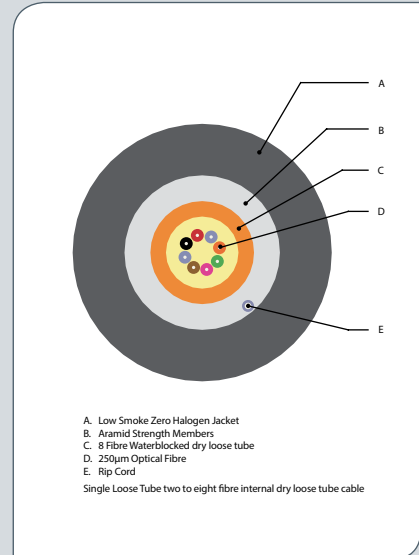
The single loose tube cables consist of 2 to 8, 250µm, individually coloured optical fibres in a single waterblocked dry loose tube with helically applied aramid non metallic strength members and a yellow Low Smoke Zero Halogen (LSZH) jacket with ripcord.=

## Applications

- > Suitable for internal FTTH drop applications
- > Suitable for one or both end pre terms and on site termination
- > Suitable for internal riser collapsed backbone applications

## Cable Specifications (IEC 60794)

PARAMETER	UNIT	VALUE
Crush	N/100mm	1000
Strength member		Aramid
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-40 to 70
Nominal weight	kg/km	138
Fibre count	n	88, 96
Nominal outer diameter	mm	5.0 ±0.3
Maximum tensile load (Short Term)	N	500
Maximum tensile load (Long Term)	N	250
Minimum bend radius	mm	Installed 50
Minimum bend radius	mm	Loaded 100
Drum length	km	2 or 4



## Features

- > ITU-T G.652D optical fibre
- > Colour coded optical fibres
- > Gel free loose tube construction with aramid strength members for ease of handling and termination
- > Compact 250µm dry loose tube construction
- > Flame retardant LSZH jacket for enhanced fire performance

## Optical Fibre Specifications (IEC 60793)

Please refer to fibre ITU-T G.652D fibre datasheet

## Tube Identification (IEC 60304)

NO	1	2	3	4	5	6	7	8
Fibre	Blue	Orange	Green	Brown	Grey	White	Red	Black

Natural fillers to be used where appropriate

## Fire Performance

FIRE TEST DESCRIPTION	FIRE TEST SPECIFICATION
Smoke emission	IEC 61034-1 & 2
Flammability	IEC 60332-1
Acid gas emission	IEC 60754-1 & 2

## Ordering Information

DESCRIPTION	PART NUMBER
ITU-T G.652D 250µm Single dry tube drop LSZH	OS1LG016**UYE

Where \*\* is the fibre count between 2 and 8

# 5 Element Internal Completely Dry Multi Loose Tube FTTH Riser Cable

Optronics 40 fibre, 5 element, completely dry, ITU-T G.652D singlemode, 250µm, multi loose tube, rodent resistant, internal FTTH riser cables with Low Smoke Zero Halogen (LSZH) jacket.

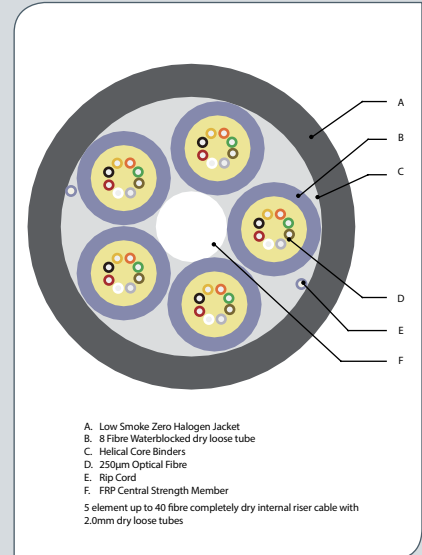
The 5 element multi loose tube cable construction consists of the 40, 250µm optical fibres in 8 waterblocked dry loose tubes that are SZ stranded around a Fibre Reinforced Plastic (FRP) central strength member with a yellow LSZH jacket.

## Applications

- > Ideal for use in internal riser applications in FTTH installations
- > Suitable for internal applications
- > Suitable for one or both end pre-termination

## Cable Specifications (IEC 60794)

PARAMETER	UNIT	VALUE
Crush	N/100mm	1000
Strength member		FRP
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-40 to 70
Nominal weight	kg/km	39
Fibre count	n	8, 16, 24, 32, 40
Nominal outer diameter	mm	8.9 ± 0.3
Maximum tensile load (Short Term)	N	550
Maximum tensile load (Long Term)	N	230
Minimum bend radius	mm	Installed 90
Minimum bend radius	mm	Loaded 180
Drum length	km	2 or 4



## Features

- > SZ stranded core for easy tube breakout at each floor
- > Colour coded fibres
- > Compact 250µm dry loose tube construction
- > Reduced thickness flame retardant LSZH jacket for enhanced fire performance and easy removal to reveal the cable core

## Optical Fibre Specifications (IEC 60793)

Please refer to fibre ITU-T G.652D fibre datasheet

## Tube Identification (IEC 60304)

NO	1	2	3	4	5	6	7	8
Fibre	Blue	Orange	Green	Brown	Grey	White	Red	Black

Natural fillers to be used where appropriate

## Fire Performance

FIRE TEST DESCRIPTION	FIRE TEST SPECIFICATION
Smoke emission	IEC 61034-1 & 2
Flammability	IEC 60332-1
Acid gas emission	IEC 60754-1 & 2

## Ordering Information

DESCRIPTION	PART NUMBER
ITU-T G.652D 250µm 5 element multi tube FTTH Riser LSZH	5LOS1LG004**UYE

Other jacket colours are available

# 6 Element Internal Completely Dry Multi Loose Tube FTTH Riser Cable

Optronics 48 fibre, 6 element, completely dry, ITU-T G.652D singlemode, 250µm, multi loose tube, rodent resistant, internal FTTH riser cables with a Low Smoke Zero Halogen (LSZH) jacket.

The 6 element multi loose tube cable construction consists of the 48, 250µm optical fibres in 8 fibre waterblocked dry loose tubes, that are SZ stranded around a Fibre Reinforced Plastic (FRP) central strength member with a LSZH jacket.

## Applications

- > Ideal for use in internal riser applications in FTTH installations
- > Suitable for internal applications
- > Suitable for one or both end pre-termination

## Cable Specifications (IEC 60794)

PARAMETER	UNIT	VALUE
Crush	N/100mm	1000
Strength member		FRP
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-40 to 70
Nominal weight	kg/km	76
Fibre count	n	48
Nominal outer diameter	mm	7.6 ± 0.3
Maximum tensile load (Short Term)	N	1350
Maximum tensile load (Long Term)	N	650
Minimum bend radius	mm	Installed 75
Minimum bend radius	mm	Loaded 150
Drum length	km	2 or 4

## Optical Fibre Specifications (IEC 60793)

Please refer to fibre ITU-T G.652D fibre datasheet

## Tube Identification (IEC 60304)

NO	1	2	3	4	5	6	7	8
Fibre	Blue	Orange	Green	Brown	Grey	White	Red	Black

Natural fillers to be used where appropriate

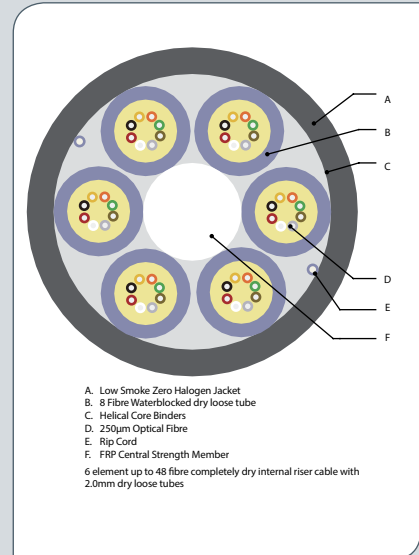
## Fire Performance

FIRE TEST DESCRIPTION	FIRE TEST SPECIFICATION
Smoke emission	IEC 61034-1 & 2
Flammability	IEC 60332-1
Acid gas emission	IEC 60754-1 & 2

## Ordering Information

DESCRIPTION	PART NUMBER
ITU-T G.652D 250µm 6 element multi tube FTTH Riser LSZH	6LOS1LG00548UYE

Other jacket colours are available



## Features

- > SZ stranded core for easy tube breakout at each floor
- > Colour coded fibres
- > Compact 250µm dry loose tube construction
- > Reduced thickness flame retardant LSZH jacket for enhanced fire performance and easy removal to reveal the cable core



# 8 Element Internal Completely Dry Multi Loose Tube FTTH Riser Cable

Optronics 56 to 64 fibre, 8 element, completely dry, ITU-T G.652D singlemode, 250µm, multi loose tube, rodent resistant, internal FTTH riser cables with a Low Smoke Zero Halogen (LSZH) jacket.

The 8 element multi loose tube cable construction consists of the 56 to 64, 250µm optical fibres in 8 waterblocked dry loose tubes (with fillers where appropriate) which are SZ stranded around a jacketed Fibre Reinforced Plastic (FRP) central strength member with a yellow LSZH jacket.

## Applications

- > Ideal for use in internal riser applications in FTTH installations
- > Suitable for internal applications
- > Suitable for one or both end pre-termination

## Cable Specifications (IEC 60794)

PARAMETER	UNIT	VALUE
Crush	N/100mm	1000
Strength member		FRP
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-40 to 70
Nominal weight	kg/km	66
Fibre count	n	56, 64
Nominal outer diameter	mm	8.8 ± 0.3
Maximum tensile load (Short Term)	N	1800
Maximum tensile load (Long Term)	N	1000
Minimum bend radius	mm	Installed 90
Minimum bend radius	mm	Loaded 180
Drum length	km	2 or 4

## Optical Fibre Specifications (IEC 60793)

Please refer to fibre ITU-T G.652D fibre datasheet

## Fibre Identification (IEC 60304)

NO	1	2	3	4	5	6	7	8
Fibre	Blue	Orange	Green	Brown	Grey	White	Red	Black

Natural fillers to be used where appropriate

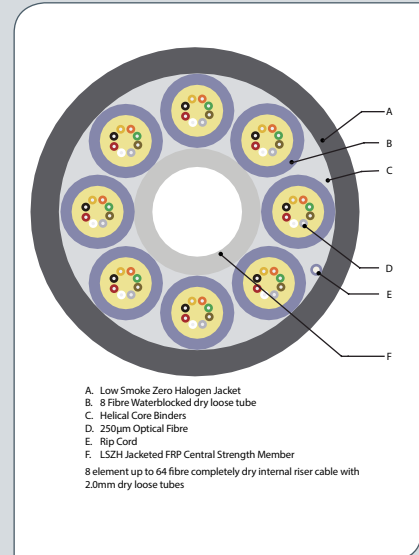
## Tube Identification (IEC 60304)

NO	1	2	3	4
Fibre	Blue	Orange	Green	Brown
NO	5	6	7	8
Fibre	Grey	White	Red	Black

## Ordering Information

DESCRIPTION	PART NUMBER
ITU-T G.652D 250µm 5 element multi tube FTTH Riser LSZH	8LOS1LG006**UYE

Where \*\* is the fibre count between 56 and 64



## Features

- > SZ stranded core for easy tube breakout at each floor
- > Colour coded fibres
- > Compact 250µm dry loose tube construction
- > Reduced thickness flame retardant LSZH jacket for enhanced fire performance and easy removal to reveal the cable core

## Fire Performance

FIRE TEST DESCRIPTION	FIRE TEST SPECIFICATION
Smoke emission	IEC 61034-1 & 2
Flammability	IEC 60332-1
Acid gas emission	IEC 60754-1 & 2

# 10 Element Internal Completely Dry Multi Loose Tube FTTH Riser Cable

Optronics 72 to 80 fibre, 10 element, completely dry, ITU-T G.652D singlemode, 250µm, multi loose tube, rodent resistant, internal FTTH riser cables with a Low Smoke Zero Halogen (LSZH) jacket.

The 10 element multi loose tube cable construction consists of the 72 to 80, 250µm optical fibres in 8 waterblocked dry loose tubes (with fillers where appropriate) which are SZ stranded around a jacketed Fibre Reinforced Plastic (FRP) central strength member with a yellow LSZH jacket.

## Applications

- > Ideal for use in internal riser applications in FTTH installations
- > Suitable for internal applications
- > Suitable for one or both end pre-termination

## Cable Specifications (IEC 60794)

PARAMETER	UNIT	VALUE
Crush	N/100mm	1000
Strength member		FRP
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-40 to 70
Nominal weight	kg/km	90
Fibre count	n	72, 80
Nominal outer diameter	mm	10.2 ± 0.3
Maximum tensile load (Short Term)	N	2100
Maximum tensile load (Long Term)	N	1300
Minimum bend radius	mm	Installed 100
Minimum bend radius	mm	Loaded 200
Drum length	km	2 or 4

## Optical Fibre Specifications (IEC 60793)

Please refer to fibre ITU-T G.652D fibre datasheet

## Fibre Identification (IEC 60304)

NO	1	2	3	4	5	6	7	8
Fibre	Blue	Orange	Green	Brown	Grey	White	Red	Black

## Tube Identification (IEC 60304)

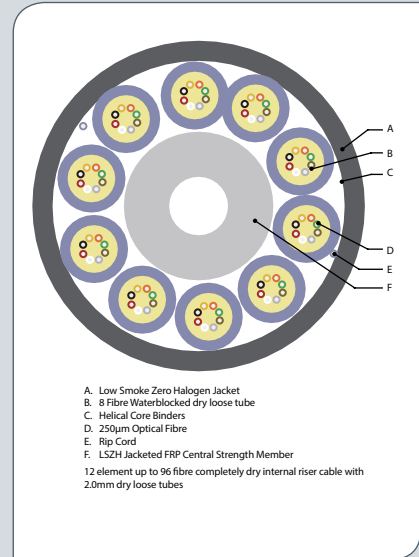
NO	1	2	3	4
Fibre	Blue	Orange	Green	Brown
NO	5	6	7	8
Fibre	Grey	White	Red	Black

Natural fillers to be used where appropriate

## Ordering Information

DESCRIPTION	PART NUMBER
ITU-T G.652D 250µm 10 element multi tube FTTH Riser LSZH	10LOS1LG007**UYE

Where \*\* is the fibre count between 72 and 80



## Features

- > SZ stranded core for easy tube breakout at each floor
- > Colour coded fibres
- > Compact 250µm dry loose tube construction
- > Reduced thickness flame retardant LSZH jacket for enhanced fire performance and easy removal to reveal the cable core

## Fire Performance

FIRE TEST DESCRIPTION	FIRE TEST SPECIFICATION
Smoke emission	IEC 61034-1 & 2
Flammability	IEC 60332-1
Acid gas emission	IEC 60754-1 & 2

# 12 Element Internal Completely Dry Multi Loose Tube FTTH Riser Cable

Optronics 88 to 96 fibre, 12 element, completely dry, ITU-T G.652D singlemode, 250µm, multi loose tube, rodent resistant, internal FTTH riser cables with a Low Smoke Zero Halogen (LSZH) jacket.

The 12 element multi loose tube cable construction consists of the 88 to 96, 250µm optical fibres in 8 waterblocked dry loose tubes (with fillers where appropriate), SZ stranded around a jacketed Fibre Reinforced Plastic (FRP) central strength member with a yellow LSZH jacket.

## Applications

- > Ideal for use in internal riser applications in FTTH installations
- > Suitable for internal applications
- > Suitable for one or both end pre-termination

## Cable Specifications (IEC 60794)

PARAMETER	UNIT	VALUE
Crush	N/100mm	1000
Strength member		FRP
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-40 to 70
Nominal weight	kg/km	117
Fibre count	n	88 & 96
Nominal outer diameter	mm	11.5 ± 0.3
Maximum tensile load (Short Term)	N	2300
Maximum tensile load (Long Term)	N	1500
Minimum bend radius	mm	Installed 115
Minimum bend radius	mm	Loaded 230
Drum length	km	2 or 4

## Optical Fibre Specifications (IEC 60793)

Please refer to fibre ITU-T G.652D fibre datasheet

## Fibre Identification (IEC 60304)

NO	1	2	3	4	5	6	7	8	9	10	11	12
Fibre	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

## Tube Identification (IEC 60304)

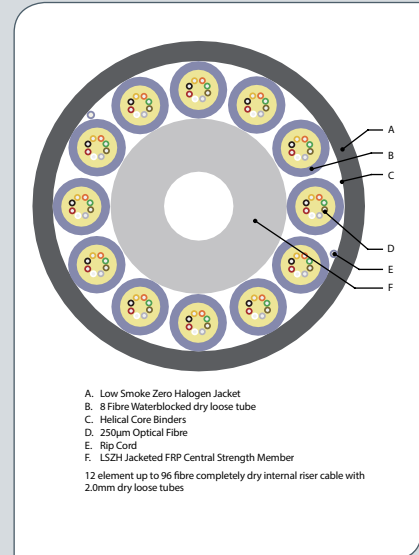
NO	1	2	3	4
Fibre	Blue	Orange	Green	Brown
NO	5	6	7	8
Fibre	Grey	White	Red	Black

Natural fillers to be used where appropriate

## Ordering Information

DESCRIPTION	PART NUMBER
ITU-T G.652D 250µm 12 element multi tube FTTH Riser LSZH	12LOS1LG008**UYE

Where \*\* is the fibre count between 56 and 64



## Features

- > SZ stranded core for easy tube breakout at each floor
- > Colour coded fibres
- > Compact 250µm dry loose tube construction
- > Reduced thickness flame retardant LSZH jacket for enhanced fire performance and easy removal to reveal the cable core

## Fire Performance

FIRE TEST DESCRIPTION	FIRE TEST SPECIFICATION
Smoke emission	IEC 61034-1 & 2
Flammability	IEC 60332-1
Acid gas emission	IEC 60754-1 & 2

Telecoms

# FTTH OSP/Fibre Management

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Optronics offers an array of OSP (outside plant) and CP (customer premise) products for a range of applications including FTTx, core, metro and long haul applications.

The Optronics range of environmentally sealed enclosures, wall boxes, cabinets, distributions

hubs and home outlets can be delivered as an off the shelf solution compatible with all cable types for both internal and external applications. In parallel with this and to suit the dynamics of a continuously changing market, bespoke products can be fabricated to specific customer requirements.



# External Customer Splice Box

The Optronics external termination box is designed for use on the external wall of residential or small business premises. The unit houses a single splice tray and allows fibres from externally fed cables (Blown Fibre or conventional), to be spliced to pigtails for connection to the optical network unit. Pigtail fibres or patch cords are routed through the external wall fabric via a rear entry port and are protected by 25mm diameter conduit. The unit can also be used as a transition point between internal and external cable.

## Features

- > Compact wall mounted unit typically used for residential and small business premises
- > Removable cover fitted with re-enterable seal. Water ingress protection to IP66
- > Tamper-proof cover security screws available as an option (refer to optional items)
- > Unit manufactured from UV resistant material
- > Standard kit supplied complete with all components necessary to splice an external cable to four pigtails. For applications where 12 fibres are to be spliced, extra splice protectors will be required
- > Rear cable entry port allows pigtails or patch cords to enter the customer premises
- > All fibres are positively managed to 30mm minimum bend radius
- > Cable up to 13mm in diameter can be accommodated with a cable gland
- > Cable interstices can be sealed against water/gas ingress at the entry port if required
- > Compatible with Blown Fibre products
- > Sealed to remain IP rated
- > Easy cable access

## Specifications

PARAMETER	UNIT	VALUE
Number of splice trays		1
Maximum fibre capacity		12
Maximum cable diameter	mm	18
Required space envelope	mm	(W) 220 X (H) 150 X (D) 50
Operating temperature	°C	20 to 50

## Testing

PARAMETER	VALUE
Optical	Tested 1310nm, 1550nm, 1625nm
Dry heat	BS EN 60068-2-2 Test Bb
Damp heat	IEC 60068-2-3: 1969
Change of temperature	IEC 60068-2-14: 1984
Vibration	IEC 600068-2-6:1995
Shock	IEC 60068-2-27:1987
IP rating	66
Packing dimensions (mm)	(W) 230 X (H) 160 X (D) 60
Packed weight (kg)	0.55
Net weight (kg)	0.50

## Ordering Information

DESCRIPTION	PART NUMBER
2 fibre SC-SC/A	Contact Sales
4 fibre SC-SC/A	Contact Sales
8 fibre SC-SC/A	Contact Sales
12 fibre SC-SC/A	Contact Sales



## Materials

ELEMENT	MATERIAL
Wall Box	FR ABS dark grey
Splice tray	FR ABS light grey RAL 7035

# Compact Termination Box

The Optronics compact termination box is designed for use in residential and business applications for the termination of up to four fibres. The wall box enables the installation of either a single Sirocco Blown Tube cable using up to a 4 fibre blown unit or two 2 fibre ruggedised cables to be spliced to four SC pigtails (PC or APC), which connect to adaptors at the base of the unit. The unit can be quickly installed within an office, house or communication room environment.

## Features

- > Ergonomic design
- > Ability to allow cables to enter from rear or bottom of the unit
- > All fibres are positively managed to maintain a 30mm minimum bend radius
- > Optional Removable rear entry cable management
- > Flip tray to allow access to connectorised tails and cable entry
- > Compact, low profile, wall mounted unit used for small and large business premises
- > Removable cover for easy access
- > Tamper-proof cover security screws available as an option
- > Unit manufactured from fire resistant UL94-V0 rated material
- > Patch cords exit unit on bottom face and are protected by two protection covers
- > Standard colour white. Other colours available on request



## Specifications

PARAMETER	UNIT	VALUE
Number of splice trays		1
Maximum fibre capacity		4
Maximum cable diameter	mm	10
Required space envelope	mm	(L) 80 X (W) 120 X (D) 25
Operating temperature	°C	20 to 50

## Materials

ELEMENT	MATERIAL
Cap	FR high impact polystyrene
Base	FR high impact polystyrene
Splitter trays	FR high impact polystyrene

## Testing

PARAMETER	VALUE
Optical	Tested 1310nm, 1550nm, 1625nm
Dry heat	BS EN 60068-2-2 Test Bb
Damp heat	IEC 60068-2-3: 1969
Change of temperature	IEC 60068-2-14: 1984
Vibration	IEC 600068-2-6:1995
Shock	IEC 60068-2-27:1987
IP rating	66
Packing dimensions (mm)	(W) 230 X (H) 160 X (D) 60
Packed weight (kg)	0.55
Net weight (kg)	0.50

## Ordering Information

DESCRIPTION	PART NUMBER
2 fibre SC-SC/A	Contact Sales
4 fibre SC-SC/A	Contact Sales

# Internal Customer Splice Box

The Optronics internal termination box is designed for use in residential, small and large businesses premises. The unit houses a single splice tray and allows fibres from internal or external cables to be spliced to pigtails for connection to the optical network unit. The unit can be quickly installed within a home, office or communication room environment. Internal or external cable can enter the unit from the bottom of the box or through the wall.

## Features

- > Compact wall mounted unit used for residential, small and large business premises
- > Removable cover for easy access
- > Tamper-proof cover security screws available as an option (refer to optional items)
- > Unit manufactured from UL94-V0 rated material
- > Tray cover provides circuit protection and contains fibre ID label
- > Single hinged splice tray enables access for working.
- > Pigtails exit from the bottom of the unit
- > Up to 12 SC type pigtails and adaptors can be accommodated
- > All fibre are positively bend managed to a 30mm minimum bend radius
- > Easy cable entry points
- > Optional resin pack allows box to be sealed against water/gas ingress
- > Compatible with Blown Fibre Products
- > Sealed to remain IP rated



## Specifications

PARAMETER	UNIT	VALUE
Number of splice trays		1
Maximum fibre capacity		12
Maximum cable diameter	mm	18
Required space envelope	mm	(W) 220 X (H) 150 X (D) 50
Operating temperature	°C	20 to 50

## Materials

ELEMENT	MATERIAL
Wall box	FR ABS light grey RAL 7035
Splice tray	FR ABS light grey RAL 7035

## Testing

PARAMETER	VALUE
Optical	Tested 1310nm, 1550nm, 1625nm
Dry heat	BS EN 60068-2-2 Test Bb
Damp heat	IEC 60068-2-3: 1969
Change of temperature	IEC 60068-2-14: 1984
Vibration	IEC 60068-2-6:1995
Shock	IEC 60068-2-27:1987
IP rating	45
Packing dimensions (mm)	(W) 230 X (H) 160 X (D) 60
Packed weight (kg)	0.55
Net weight (kg)	0.50

## Ordering Information

DESCRIPTION	PART NUMBER
2 fibre SC-SC/A	Contact Sales
4 fibre SC-SC/A	Contact Sales
8 fibre SC-SC/A	Contact Sales
12 fibre SC-SC/A	Contact Sales

## FTTH Subscriber Outlet

The Optronic internal customer outlet box is designed for use inside the home. The operator has the choice of using the box unloaded or equipped with one or two adaptors, the box is designed with an integrated shutter to apply with safety standards.

### Features

- > Multi cable entry points
- > Integrated heat shrink splice holder
- > Holds up to 4 single fibres
- > Integrated fibre management
- > Integrated shutter
- > Integrated shutter protects against laser exposure and dust
- > Pigtailed exit from the bottom of the unit



### Specifications

PARAMETER	VALUE
Maximum single fibre count	4
Maximum number of heat splice	4
Number of shuttered outlets	2
Number of cable entry points	8
Dimension (mm)	(W) 86 x (H) 86 x (D) 25
Colour	White
Material	ABS

### Ordering Information

DESCRIPTION	PART NUMBER
FTTH User outlet unloaded	CSB07/Z
Splice Enclosure up to 144 splices	Contact Sales
2 Fibre SC-SC/A	Contact Sales



## Telecoms

# FTTH Splitting and Distribution

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Within the PON environment, a signal needs to be distributed or split into nodes, adjoining networks, central offices and subscribers. Optronics offers a complete range of high specification, fused and planar splitters qualified to Telcordia GR1221, GR1209 and IEC

standards. Splitter technology in Telecommunications is predominantly used to send the signal from the central office to offices/homes. Optronics offer a comprehensive range of SM and PM splitters and WDMs. The Optronics range of splitters

are fabricated in a world class manufacturing facility fully equipped with clean rooms and cutting edge fabrication equipment. Optronics splitters are available with various packaging options and a variety of connector options to meet customer requirements.

# Splitter Solutions 1xN and 2xN

## Range

Optronics offer a range of standard products including splitters, jumpers, pigtails, WDM, CWDM, FDH (Fibre Distribution Hub) specifically designed for the growing FTTH market.

## Bespoke Products

Steady growth and non-generic applications within the telecommunications industry has introduced requirements for new and bespoke products.

There is no standard generic solution for a PON (Passive Optical Network)– operators in every country are opting for differing models and solution. This indicates that many of the applications are now becoming bespoke. Optronics works closely with operators, cable companies and OEM's globally. Our team has developed a keen understanding of developments and growing applications within the FTTH market.

## POP, ONU, PON and P2P

There are fundamental applications for key products between the POP (Point of Presence) to the ONU (Optical Node Units) in a PON or P2P (Point to Point) environment as base level connectivity or distribution. Because of the ever changing demands in the market place Optronics have realised the need to offer a range of non-standard products.

## Splitters

Splitters are a key component within a PON. Although the specification remains the same, the physical characteristics of the product must be flexible to accommodate the varying applications between the POP and the ONU. Optronics realise this requirement and offer a full range of standard and customised splitter products.



# Splitter Solutions 1xN and 2xN



FibreFab have developed a patented splitter solution. The PLC splitter is housed inside a Fibrefab breakout unit to offer a ruggedized zero U splitter solution for POP, MDU and node applications within but not limited to the access network. The product is versatile, easy to install and can be deployed within a host of cabinets or racks where passive splitting is required.

## Features

- > Zero U
- > Ruggedised
- > Designed to meet Telcordia standards

## Applications

- > Central office
- > POP
- > MDU
- > Node/Distribution point



## Specifications 1xN

PARAMETER	RANGE	1X2	1X4	1X8	1X16	1X32	1X64
Operating Wavelength (nm)		1260 ~1650					
Insertion Loss without connector (dB)	Max. (P/S)	3.8/4.0	7.2/7.4	10.5/10.7	13.5/13.7	16.5/16.9	20.5/21.0
Insertion Loss with connector (dB)	Max. (P/S)	4.3/4.5	7.5/7.7	11.0/11.2	14.0/14.2	17.0/17.5	21.0/21.5
Loss Uniformity without connector (dB)	Max.	0.6	0.6	0.8	1.2	1.5	2.5
Loss Uniformity with connector (dB)	Max.	0.6	0.8	1.0	1.4	1.7	2.5
Polarization Dependent Loss (dB)	Max.	0.2	0.2	0.3	0.3	0.3	0.4
Return Loss (dB)	Min (P/S)	55/50					
Directivity (dB)	Min	55					
Operating Temperature (°C)		-40 to 85					
Storage Temperature (°C)		-40 to 85					
Fibre Type		G652.D compliant or customer specified					
Fibre Length (Bare Splitter) (m)		1.0					
Connector Type		Customer specified					

## Specifications 2xN

PARAMETER	RANGE	2X2	2X4	2X8	2X16	2X32
Operating Wavelength (nm)		1260 ~1650				
Insertion Loss without connector (dB)	Max. (P/S)	3.9/4.2	7.5/7.8	11.2/11.5	14.2/14.5	17.4/17.7
Insertion Loss with connector (dB)	Max. (P/S)	4.4/4.7	8.0/8.3	11.7/12.0	14.7/15.0	17.9/18.2
Loss Uniformity without connector (dB)	Max.	0.8	1.5	1.5	1.8	2.0
Loss Uniformity with connector (dB)	Max.	0.8	1.7	1.7	2.0	2.5
Polarization Dependent Loss (dB)	Max.	0.2	0.2	0.4	0.4	0.4
Return Loss (dB)	Min (P/S)	55/50				
Directivity (dB)	Min	55				
Operating Temperature (°C)		-40 to 85				
Storage Temperature (°C)		-40 to 85				
Fibre Type		G652.D compliant or customer specified				
Fibre Length (Bare Splitter) (m)		1.0				
Connector Type		Customer specified				



# Splitter Solutions 1xN and 2xN

## FirstLight Ultra High Density System

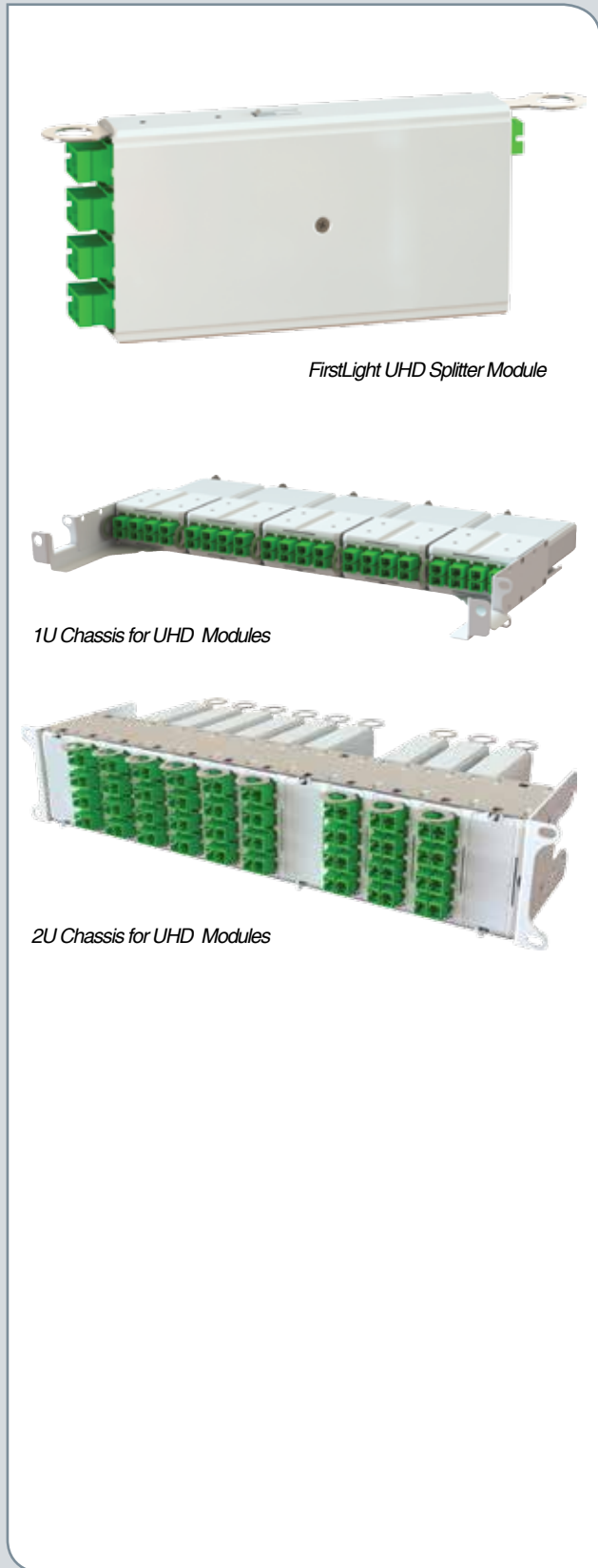
FirstLight Ultra High Density System is designed for high density fibre optics infrastructure management in Data Centres, Telecommunication and Enterprise environment.

### Features

- > Ultra High Density
- > Up to 120 LC ports in 1U or 288 LC ports in 2U
- > Compact size for installation inside shallow depth racks
- > Open chassis free access module installation
- > Secure easy access lock/release mechanism
- > Front and rear module access
- > Facilitated patch cord installation
- > Cable management accessories

### Applications

- > Data centre storage area networks
- > Central office, POP
- > LAN
- > Enterprise campus

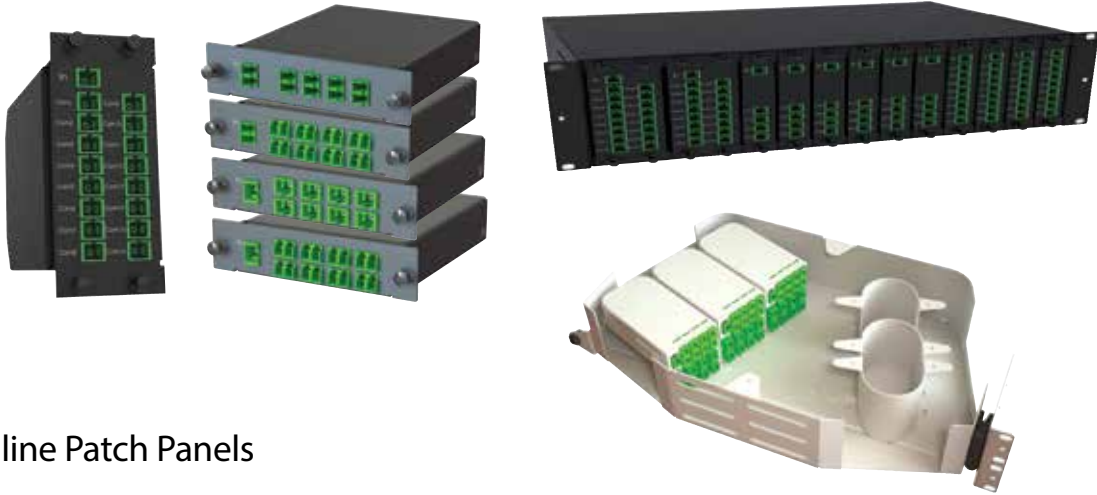




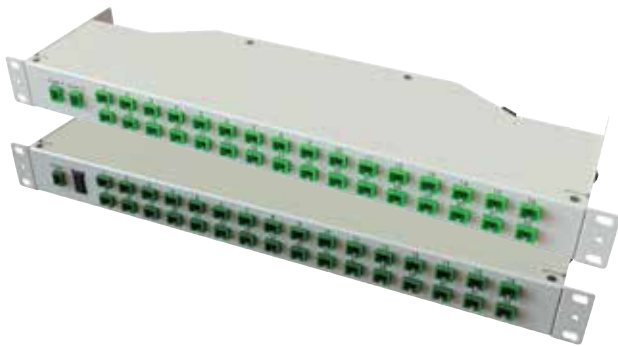
# Splitter Solutions 1xN and 2xN

## Other Splitter Packaging Options

Modular Cassette and Chassis Solutions



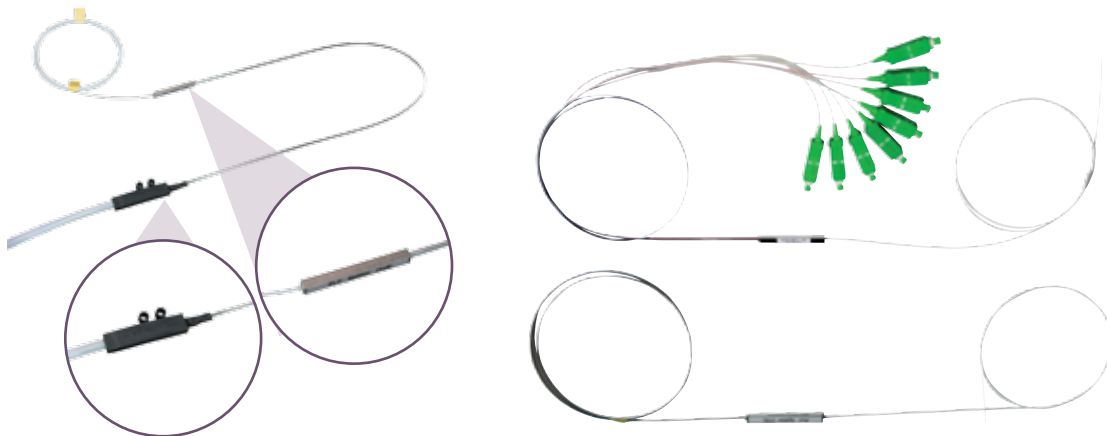
## Slimline Patch Panels



## ABS Boxes



## Case Ribbon



# Compact 900µm PLC Splitter

Optronics has introduced a range of highly reliable, high performance compact splitters. The compact splitter is specifically design to remove the need for a ribbon fibre to 900µm fibre fan-out unit, with the 900µm cable exiting directly from the PLC housing.

## Features

- > Designed to meet Telcordia standards
- > Compact housing design for small space applications
- > Low IL and PDL
- > Excellent uniformity
- > High specification connectors available



## Technical Specification

PARAMETERS	1X2	1X4	1X8	1X16	1X32	2X4	2X8	2X16	2X32
Operating Wavelength (nm)	1260~1650								
Insertion Loss (MAX, dB)	3.8	7.2	10.5	13.5	16.5	7.5	11.2	14.2	17.4
Loss Uniformity (MAX, dB)	0.4	0.6	0.8	1.2	1.5	1.2	1.5	1.8	2
PDL (MAX, dB)	0.3	0.2	0.3	0.3	0.3	0.2	0.4	0.4	0.4
Return Loss (dB)	55	55	55	55	55	55	55	55	55
Directivity (dB)	55	55	55	55	55	55	55	55	55
Temperature Range (°C)	-40 + 85								
Fibre Type	G652.D or G657.A1								
Fibre Length (m)	1.2(±0.1) or customer specified								
Connector Type	Customer specified								
Dimensions (L x W x H, mm)	60x7x4	60x7x4	60x7x4	60x12x5	80x20x6	60x7x4	60x7x4	80x12x5	100x20x6

Notes:

All measurements were performed at room temperature, at wavelength 1310nm & 1550nm. Coupling losses at the interfaces between the splitter chip and I/O fibres are included. When adding a connector, add a maximum of 0.25dB insertion loss per connector.

# Compact 900µm PLC Splitter

## Part Number Generator

PCS																		/Z				
TYPE	CONFIG		WAVELENGTH		CABLE TYPE		PACKAGE STYLE		INPUT CONNECTOR TYPE		OUTPUT CONNECTOR TYPE		FIBRE TYPE		LEAD LENGTH INPUT <sup>2</sup> (m)		LEAD LENGTH OUTPUT <sup>2</sup> (m)					
															1	2	1	2				
PCS	1x2	102	1310/1550nm	A	900um	1	Case ribbon	A	None	A	None	A	G652D	D	1	1	1	1				
	1x4	104	1310/1490/1550nm	B	900um	1	Breakout unit	B	E2000/UPC	B	E2000/UPC	B	G657A	A	15	15	15	15				
	1x8	108	Broadband 1260-50nm	C			900um Lockless Type	C	E2000/APC	C	E2000/APC	C			2	2	2	2				
	1x16	116					2&3mm module	D	FC/UPC	D	FC/UPC	D			25	25	25	25				
	1x32	132	*Splitters requiring 2mm & 3mm cable will be supplied in a plastic module with flying pigtails	A			FC/APC	E	FC/APC	E	FC/APC	E			3	3	3	3				
	2x2	202																	LC/UPC	F	LC/UPC	F
	2x4	204																	LC/APC	G	LC/APC	G
	2x8	208																	MU/APC	H	MU/APC	H
	2x16	216																	MU/UPC	I	MU/UPC	I
	2x32	232																	SC/APC	J	SC/APC	J
																			SC/UPC	K	SC/UPC	K
																			ST/UPC	L	ST/UPC	L

\*Other lengths available upon request

Example Part Number: PCS 102 A 1 A G G D 1 1 /Z

# Fused Splitters (SM)

## 1x2 Splitter

1x2 Splitter standard wavelength windows are centered at 1310nm and 1550nm. The Optronics high performance Fused Bi-Conical Taper process (FBT) bidirectional singlemode 1x2 splitters are designed for ease of use in optical systems to split the signal from one fibre into two output fibre lines with ultra low loss. These devices can also be used to combine two signals into one. Fabricated using the state of the art FBT process the splitters operate over a wide range of wavelengths. These splitters are available in both 1x2 and 2x2 configurations. Single window and broadband 1x2 splitters are available on request.

## 1x3 Splitter

Optronics high performance bidirectional singlemode splitters are used to split light from one fibre into three outgoing fibre lines with ultra low loss. This device is a highly compact all-fibre splitter fabricated using the state of the art Fused Bi-Conical Taper process (FBT). The splitter will operate in either 1310nm or 1550nm wavelengths

## 1x4 Monolithic Fused Splitter

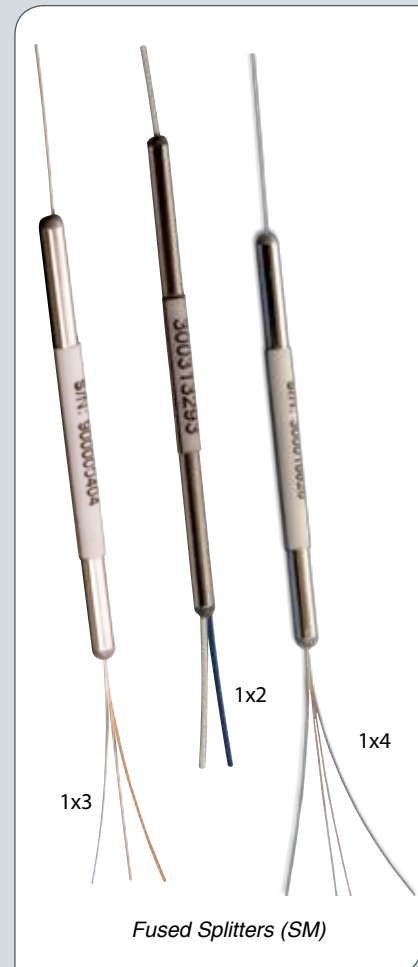
Optronics Truly Fused 1x4 1x2 splitters are specifically designed and optimised for Fibre to the Home (FTTH) applications. Manufactured using state of the art Fused Bi-Conical Taper process (FBT), these splitters exhibit uniform performance over the entire optical band from 1260-1630nm with near zero excess loss. The epoxy free optical path of the Optronics monolithic fused splitter provides good power handling capability.

## Applications

- > FTTx
- > Power splitting
- > CATV networks
- > Power monitoring
- > Fibre optic sensors
- > PON
- > Fibre communication systems

## Features

- > Near zero excess loss
- > Low back reflection
- > Thermally stable
- > Low PDL
- > Accurate split ratio
- > All-fibre technology Fused Bi-Conical Taper process (FBT)
- > Excellent uniformity
- > Qualified to GR1209 and GR1221 telcordia standards
- > Available in single, dual window or broadband





# Fused Splitters (SM)

## Part Number Generator

TYPE		CONFIG		WAVELENGTH		CABLE TYPE		FIBRE TYPE		INPUT CONNECTOR TYPE		OUTPUT CONNECTOR TYPE		FIBRE TYPE		LEAD LENGTH INPUT <sup>2</sup> (m)		LEAD LENGTH OUTPUT <sup>2</sup> (m)		
FBT	S																			/Z
		1x2	A1	1310/1550nm	A	250um	0	Singlemode	A	None	A	None	A	G652D	D	1	1	1	1	
		1x2	A2	1310/1490/1550nm	B	900um	1			E2000/UPC	B	E2000/UPC	B	G657A	A	15	15	15	15	
		1x2	A3	Broadband 1260-1625nm	C	2mm <sup>1</sup>	2			E2000/APC	C	E2000/APC	C			2	2	2	2	
		1x2	A4			3mm <sup>1</sup>	3			FC/UPC	D	FC/UPC	D			25	25	25	25	
		1x2	A5							FC/APC	E	FC/APC	E			3	3	3	3	
		1x2	A6							LC/UPC	F	LC/UPC	F							
		1x3	B							LC/APC	G	LC/APC	G							
		1x4	C							MU/APC	H	MU/APC	H							
		2x2	D							MU/UPC	I	MU/UPC	I							
		2x4	E							SC/APC	J	SC/APC	J							
										SC/UPC	K	SC/UPC	K							
										ST/UPC	L	ST/UPC	L							

<sup>1</sup> Splitters requiring 2mm & 3mm cable will be supplied in a plastic module with flying pigtails

<sup>2</sup> Other lengths available upon request

Example Part Number: SA1A0AGGD11/Z

# Fused Polarisation Maintaining Splitters (PM)

The Optronics range of Polarisation Maintaining (PM) fused splitters has been developed to offer the designer flexibility in optimizing system performance. The proven Fused Bi-Conical Taper process (FBT) technology base has been utilised to optimise specific device parameter, reflected in product categorisation. The splitters give excellent loss performance whilst preserving the integrity of the input on-axis polarisation state. All of the splitter options offer very low excess loss, good polarization isolation, and are available in a range of splitting ratios from 1% to 50% and have 1x2, 1x3 or 2x2 configurations and 3x3 configurations.

## Applications

- > Low excess loss
- > High extinction ratio
- > High power handling
- > Qualified to GR-1209 telcordia

## Features

- > Optical amplifier
- > Power monitoring
- > Coherent communication
- > Fibre gyroscope



980 / 1550nm Fused Bi-Conical Taper process (FBT) PM Splitter

## Part Number Generator

TYPE		CONFIG		WAVELENGTH		CABLE TYPE		FIBRE TYPE		INPUT CONNECTOR TYPE		OUTPUT CONNECTOR TYPE		FIBRE TYPE		LEAD LENGTH INPUT <sup>2</sup> (m)		LEAD LENGTH OUTPUT <sup>2</sup> (m)		/Z
FBT	S													PM Fibre Mode Number						
	S	1x2	A	1310/1550nm	A	250um	0	Singlemode	A	None	A	None	A	A	A	1	1	1	1	
		1x3	B	1310/1490/1550nm	B	900um	1			E2000/UPC	B	E2000/UPC	B			15	15	15	15	
		1x4	C	Broadband 1260-1625nm	C	2mm <sup>1</sup>	2			E2000/APC	C	E2000/APC	C			2	2	2	2	
		2x2	D		3mm <sup>1</sup>	3	FC/UPC			D	FC/UPC	D	25			25	25	25		
		2x4	E				FC/APC			E	FC/APC	E	3			3	3	3		
										LC/UPC	F	LC/UPC	F							
										LC/APC	G	LC/APC	G							
										MU/APC	H	MU/APC	H							
										MU/UPC	I	MU/UPC	I							
										SC/APC	J	SC/APC	J							
										SC/UPC	K	SC/UPC	K							
										ST/UPC	L	ST/UPC	L							

<sup>1</sup> Splitters requiring 2mm & 3mm cable will be supplied in a plastic module with flying pigtails

<sup>2</sup> Other lengths available upon request

Example Part Number: SAA0AGGA11/Z

# Wavelength Division Multiplexer

Optronics high performance WDMs have been specifically designed for multiplexing two different signals into a single fibre or splitting two signals into separate wavelengths from an incoming fibre. The Optronics 1310/1550nm WDM can be integrated into single fibre bidirectional systems.

## Features

- > Near zero excess loss
- > Low back reflection
- > Thermally stable
- > Low PDL
- > All-fibre technology FBT
- > Excellent uniformity
- > Qualified to GR1209 and GR1221 Telcordia standards
- > Compact packaging

## Applications

- > FTTx
- > Telecommunications networks
- > CATV networks
- > Fibre optic T&M equipment
- > Fibre optic sensor
- > PON
- > Fibre communication systems

## Specifications

PARAMETER	UNITS	1310/1550	1310/1490	980/1550
Operating Wavelength	nm	1310/1550 ±15	1310/1490 ± 10	980/1550 ± 10
Maximum Insertion Loss*	dB	0.2	0.3	0.2
Isolation	dB	20	17	20
Directivity	dB	≥50		
Operating Temperature	°C	-40 to 85		
Storage Temperature	°C	-40 to 70		
Fibre Type		Corning SMF-28		Corning 1060

\* Values given are maximum, please contact Optronics for typical and minimum values.



## Dimensions

PARAMETER	VALUE
Light - 250µm Coated Fibre	3.0mm (Diameter) x 55mm (Length)
Medium - 900µm Tube	3.05mm (Diameter) x 65mm (Length)
Heavy - 3mm Jacketed Cable	96.5mm (Length) x 12mm (Breadth) 10mm (Height)

## Product Range

DESCRIPTION	PART NUMBER
WDM	Contact Sales

# Low Loss CWDM 2ch, 4ch, 8ch 16ch

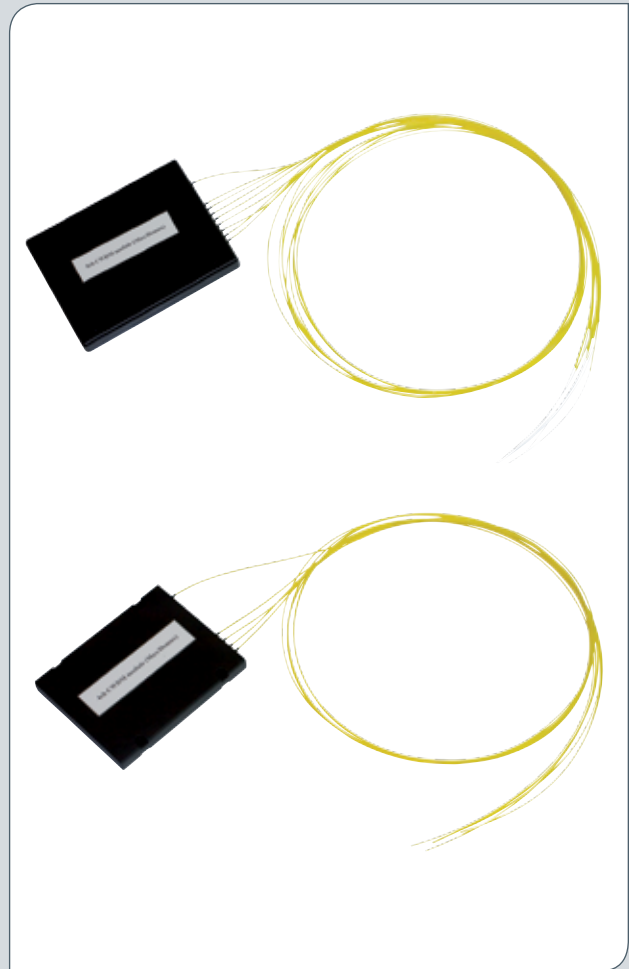
Optronics low loss Coarse Wavelength Division Multiplexer (CWDM) modules are cascaded with 1x2 CWDM components. The module features wide pass band, low insertion loss, high channel isolation, high stability and reliability.

## Features

- > Wide pass band
- > High isolation
- > Low insertion loss
- > High stability and reliability

## Applications

- > CWDM systems



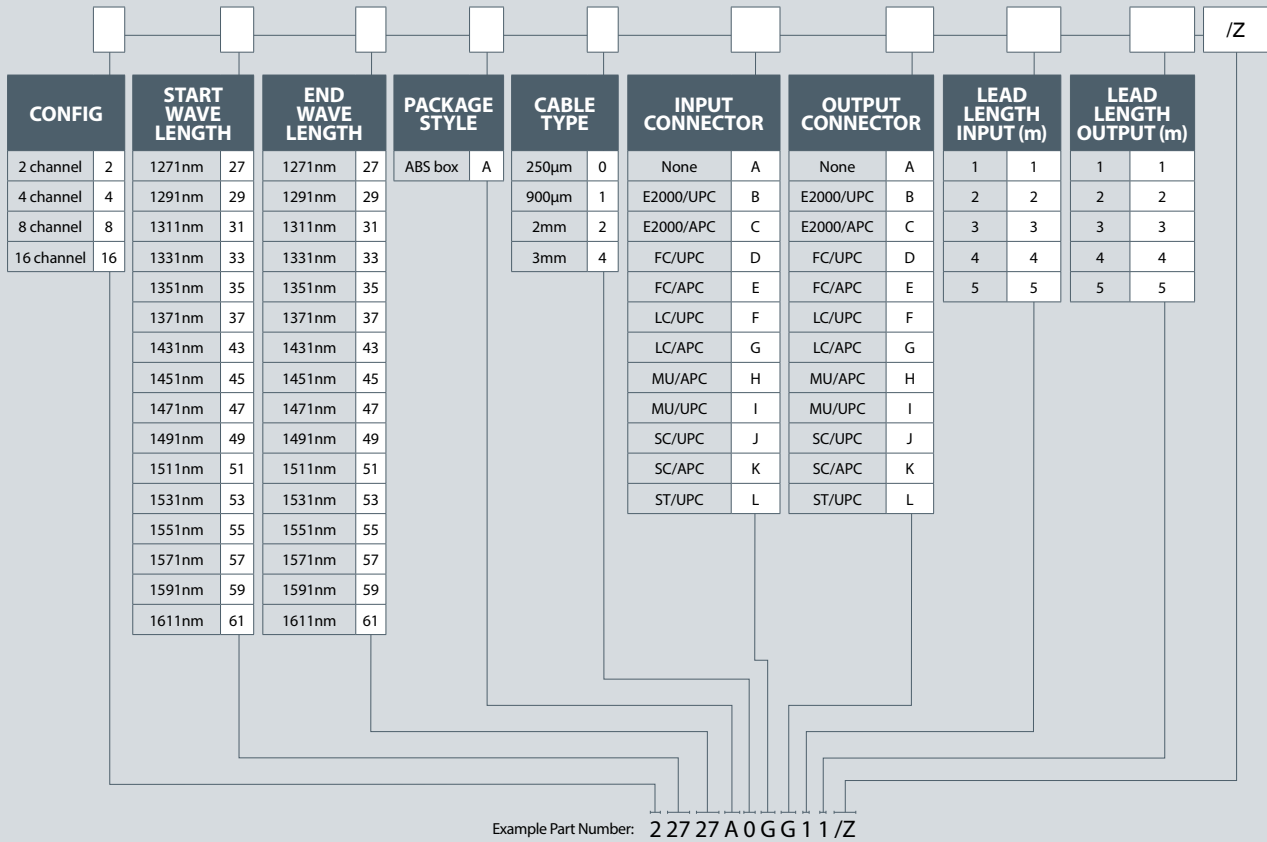
## Technical Specification

PARAMETER	2 CHANNELS	4 CHANNELS	8 CHANNELS	16 CHANNELS
Central wavelength (nm)	1271, 1291, 1311, 1331, 1351, 1371, 1391, 1411, 1431 1451, 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611			
Insertion loss (dB)	0.6	1.8	2.5	3.5
Channel space (nm)				20
Channel bandwidth (nm)				c ± 6.5
Channel flatness (dB)				0.4
Channel uniformity (dB)				1.0
Isolation (dB)	Demux adjacent channel		30	
	Demux non-adjacent channel		40	
	Mux or Reflection channel		15	
Directivity (dB)				55
Return loss (dB)				50
PDL (dB)				0.15
PMD (ps)				0.1
Wavelength thermal stability (nm/ °C)				0.003
Insertion loss thermal stability (dB/ °C)				0.005
Power handling (mW)				500
Operating temperature (°C)				0 ~ +70
Storage temperature (°C)				-40 ~ +85
Dimensions (mm)	φ 5.5x34	100x80x10	125x96x16	141x115x18

\*The above specification is without connectors  
 \*\*Other specifications can be supplied to customer requirements



# Part Number Generator

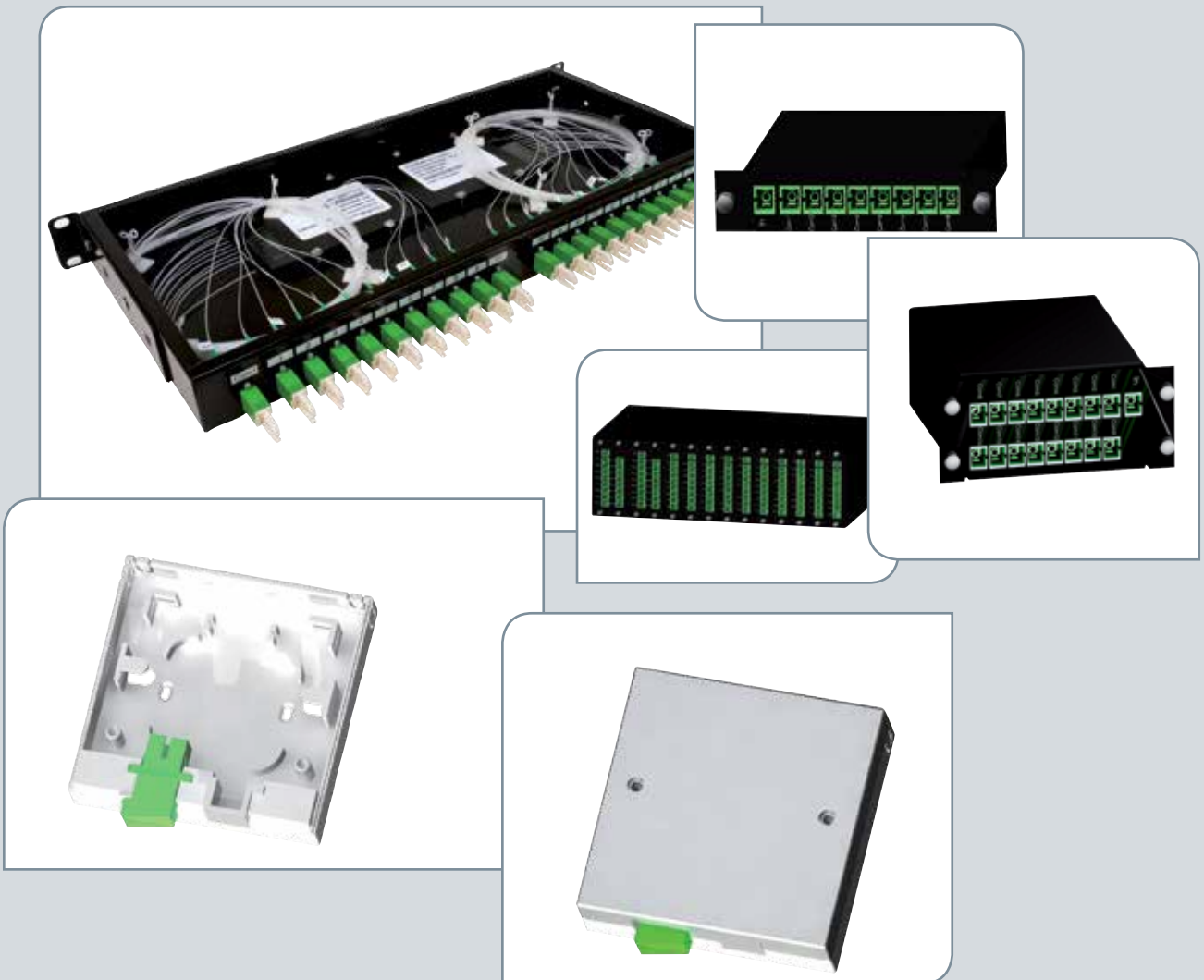
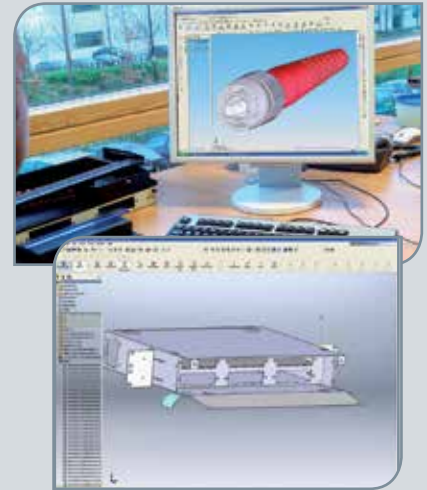


## Bespoke Value Added Products

Market dynamics are changing, Optronics has seen a growth in the need for innovative, customer specific products required for individual operator needs. To support these developments Optronics has dedicated our global R&D resource to work on customer bespoke products. The team has extensive expertise in fibre and fibre management CAD drawing plus our multi-cultural approach ensures a holistic and versatile view on changing customer needs.

Optronics' strength lays in our capability to take a concept and then design new products right through to pre-production we pride ourselves in always getting to the core of the issue and then working with the customer for fast delivery. Our design facilities span the globe, providing us, and in turn the customer, with engineering expertise across the spectrum.

Optronics uses SolidWorks and e-drawings to offer a full concept to production manufacturing service.



Optronics have supplied CWDM, PLC and WDM products in the above packaging.

# Fibre Optic Cable

Labelling Conventions	138
Primary Buffered 250µm Optical Fibres	139
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Drop Cable	146
Tight Buffered Cable	148
Breakout Cable	150
Loose Tube	151

## OPTICAL FIBRE CABLE | LABELLING CONVENTIONS

The following icons are used throughout this catalogue to represent the fibre optic cable specification, features and value added services that Optronics can offer:

### FIBRE SPECIFICATIONS



Note: RBS Fibres are also available in mm.



Note: RBS Fibres are also available in mm.

### FIBRE CABLE FEATURES

Water Resistant



Fire Retardant



Rodent Resistant



External Use



Internal Use



Rapid Deployment



Standard Length



Telecommunications



### LSZH (LOW SMOKE ZERO HALOGEN) PERFORMANCE REQUIREMENTS

- > EC 61034-1 & 2 Smoke Emission
- > IEC 60332-1 Flammability
- > IEC 60754- 1 Toxicity
- > IEC 60754- 2 Acid Gas Emission
- > Limiting Oxygen Index (LOI) not less than 30 in accordance with ISO 4589-2 or equivalent.



## G.652D OS1/OS2 Singlemode Optical Fibre

Optronic specification for ITU-T G.652D 9/125 singlemode optical fibre exceeds the OS1/OS2 singlemode requirement. Low Water Peak (LWP) singlemode optical fibre with doped silica core and silica cladding; dual layer UV cured acrylic primary coatings. All fibre parameters meet or exceed the following LWP singlemode requirements.

Detailed technical specification are available on request:

- > ITU-T G.652D
- > IEC 60793-2-50 type B1.3
- > ISO/IEC 11802 OS1/OS2
- > TIA/EIA 492-CAAB
- > Telcordia GR-20-CORE
- > We also offer ITU-T G.657A1 and ITU-T G.657A2 Reduced Bend Sensitivity (RBS) Singlemode Optical Fibres



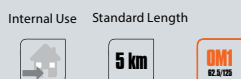
- > Operational in the entire 1260nm to 1625nm wavelength range
- > Low chromatic dispersion in the 1310nm operating window
- > Low attenuation at the 1383nm water peak region
- > Operational in the 1360nm to 1460nm wavelength extended band
- > All OS1/OS2 Optronic cable constructions including tight buffered, loose tube and ribbon
- > Supports 1 Gb/s up to an indicative 5km in data networks
- > Supports high speed multi channel video, data and voice services in metropolitan and access networks
- > ATM, SONET and WDM

## 62.5/125 OM1 Multimode Optical Fibre

Optronic specifications for standard OM1 62.5/125 graded-index multimode optical fibre with doped silica core and silica cladding. Dual layer UV cured acrylic resin primary coatings. All fibre parameters meet or exceed the following 62.5/125 requirements.

Detailed technical specifications are available on request:

- > IEC 60793-2-10 type A1b
- > ISO/IEC 11802 OM1
- > TIA/EIA-492AAAA



- > Gigabit Ethernet in high speed LAN networks, over an indicative 275m link length at 850nm wavelength
- > Legacy networks including Ethernet, fast Ethernet and FDDI
- > All OM1 Optronic cable constructions, including tight buffered, loose tube and ribbon
- > Data centres
- > Premises cabling in data networks including backbone, riser and horizontal
- > Supports video, data and voice services

## 50/125 OM2, OM3 & OM4 Multimode Optical Fibre

Optronic specification for standard OM2, OM3 & OM4, 50/125 graded-index multimode optical fibre with doped silica core and silica cladding. Dual layer UV cured acrylic resin primary coatings. All fibre parameters meet or exceed the following generic and laser-optimised 50/125 requirements.

Detailed technical specifications are available on request:

- > ITU-T G.651.1
- > OM2 to IEC 60793-2-10 type A1a.1. OM3 to IEC 60793-2-10 type A1a.2, OM4 to IEC60793-2-10A1a.3
- > ISO/IEC 11801 OM2, OM3, OM4
- > OM2 to TIA/EIA-492AAAB, OM3 to TIA / EIA-492AAAC, TIA/EIA-492AAAD
- > We also offer Reduced Bend Sensitivity (RBS) Multimode Optical Fibres



- > OM2 for use in 1 Gb/s high speed LAN networks over a 550m indicative link length at 850nm wavelength using a laser launch
- > OM3 for use in 10 Gb/s high speed LAN networks over a 300m indicative link length at 850nm wavelength using a laser launch
- > OM3 for use in 1 Gb/s high speed LAN networks over a 1000m indicative link length at 850nm wavelength using a laser launch
- > OM4 for use in 10 Gb/s high speed LAN networks over a 550m indicative link length at 850nm wavelength using a laser launch
- > OM4 for use in 1 Gb/s high speed LAN networks over a 1000m indicative link length at 850nm wavelength using a laser launch
- > High speed and legacy networks including Gigabit Ethernet, Fast Ethernet and Ethernet
- > All OM2, OM3 & OM4 Optronic cable constructions including tight buffered, loose tube and ribbon
- > Data centres
- > Premises cabling in data networks including backbone, riser and horizontal
- > Supports video, data and voice services

## LSZH (Low Smoke Zero Halogen) Performance Requirements

FIBRE TEST DESCRIPTION	FIBRE TEST SPECIFICATION
Smoke Emission	IEC 61034-1&2
Flammability	IEC 60332-1

FIBRE TEST DESCRIPTION	FIBRE TEST SPECIFICATION
Toxicity	IEC 60754-1
Acid Gas Emission	IEC 60754-1

## Secondary Coated Fibre - Ideal for Pigtails



Optronics secondary coated 900µm fibre cables are ideal for use within splice trays or in other protected environments. These fibres are available in either standard or easy-strip formats and in twelve different colours for easy identification.

### Features

- > Choice of fibre types - 900µm OM1, OM2, OM3, OM4 multimode or OS1/OS2 (ITU-T G.652D), ITU-T G.657A1, ITU-T G.657A2 singlemode
- > Choice of buffering material and stripping options
- > Robust 900µm tight buffered fibres for ease of termination
- > Standard white buffer colour
- > Also available in the 12 standard ISO colours on request

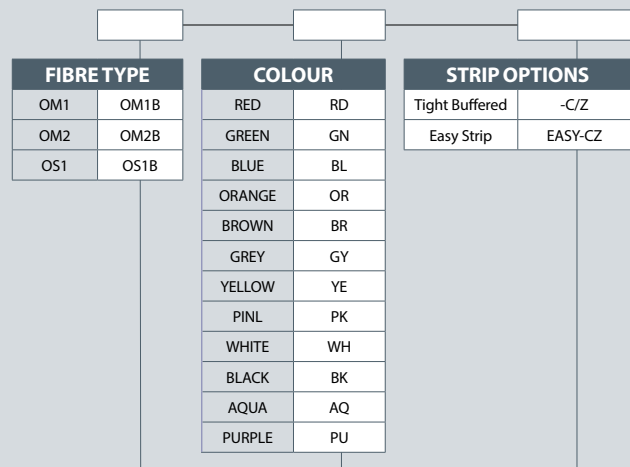
### Applications

- > Pigtails
- > Internal interconnect
- > Ideal for a wide range of telecoms, datacoms and process control applications where ruggedisation is required
- > Data centres
- > Suitable for repeated handling in patch panels and racks
- > Suitable for all standard connector types

### Technical Specifications

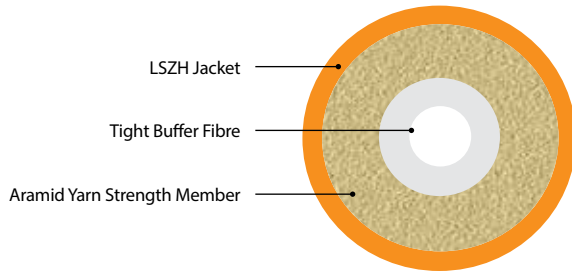
DESCRIPTION	1-CORE	
Outer diameter	mm	0.9
Weight	kg/km	0.9
Max. Load (installation)	N	6
Max. Load (installed)	N	3
Min. Bend Radius (installation)		30mm
Min. Bend Radius (installed)		30mm
Temperature Range	°C	-20~+60

### Part Number Generator



Example Part Number: **OM1B PU EASY-C/Z**  
 IM1BPUEASY-C/Z will configure OM1 easy strip secondary coated fibre in purple

## Simplex Patch Cable (1 Fibre)



This simplex fibre optic patch cable is ideal for use in office LAN connections, patch cords, pigtails and internal point-to-point links where frequent handling is likely. Utilising Simplex 2.0mm or 3.0mm, single fibre OM1, OM2, OM3, OM4 multimode or OS1/OS2 (ITU-T G.652D), ITU-T G.657A1 & ITU-T G.657A2 singlemode 600µm / 900µm tight buffered internal cable with aramid strength

members and LSZH jacket, these simplex cables consist of 1, 600µm buffered optical fibre with longitudinally applied aramid non metallic strength members and a low smoke zero halogen (LSZH) jacket and are suitable for use with industry standard connectors and can be easily made into a patch cord or pigtail.

### Features

- > Choice of fibre type
- > Choice of outer diameter
- > Aramid yarn strength members
- > Easy to strip
- > LSZH jacket

### Applications

- > Patch cords
- > Pigtails
- > Internal interconnections

### Ordering Information

### Technical Specifications

DESCRIPTION		1-CORE LSZH				
Outer diameter	mm	1.6	1.8	2.0	2.4	3.0
Weight	kg/km	2.3	2.6	3.6	5.2	7.5
Max. Load (installation)	N	70	80	100	100	125
Max. Load (installed)	N	35	40	60	60	80
Min. Bend Radius (installation)		20D	20D	20D	20D	20D
Min. Bend Radius (installed)		10D	10D	10D	10D	10D
Fire Performance		LSZH	LSZH	LSZH	LSZH	LSZH
Operating Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60	-20~+60
Storage Temp.	°C	-20~+60	20~+60	20~+60	20~+60	20~+60
Installation Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60	-20~+60
Max Crush Resistance	N/100mm	1000	1000	1000	1000	1000

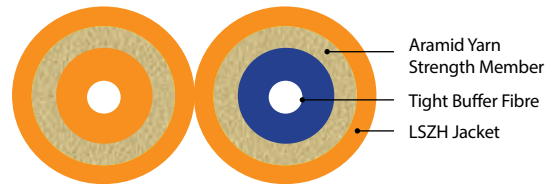
FIBRES	DIA.	TYPE	JACKET	PART NUMBER
1	2.0mm	OM1	Orange	OM1SIMOR2mM6-C
1	2.0mm	OM2	Orange	OM2SIMOR2mM6-C
1	2.0mm	OM3	Aqua	OM3SIMAQ2mM6-C
1	2.0mm	OM3	Purple	OM3SIMPU2mM6-C
1	2.0mm	OM4	Aqua	OM4SIMAQ2mM6-C
1	2.0mm	OM4	Erika Violet	OM4SIMEV2mM6-C
1	2.0mm	OS1/OS2 ITU-T G.652D	Yellow	OS1SIMYE2SM6-C
1	2.0mm	ITU-T G.657A1	Yellow	7A1SIMYE2SM6-C
1	2.0mm	ITU-T G.657A2	Yellow	7A2SIMYE2SM6-C

Other diameters are available upon request

FIBRES	DIA.	TYPE	JACKET	PART NUMBER
1	3.0mm	OM1	Orange	OM1SIMOR-C
1	3.0mm	OM2	Orange	OM2SIMOR-C
1	3.0mm	OM3	Aqua	OM3SIMAQ-C
1	3.0mm	OM3	Purple	OM3SIMPU-C
1	3.0mm	OM4	Aqua	OM4SIMAQ-C
1	3.0mm	OM4	Erika Violet	OM4SIMEV-C
1	3.0mm	OS1/OS2 ITU-T G.652D	Yellow	OS1SIMYE-C
1	3.0mm	ITU-T G.657A1	Yellow	7A1SIMYE-C
1	3.0mm	ITU-T G.657A2	Yellow	7A2SIMYE-C

Other diameters are available upon request

## Zip Duplex Patch Cable (2 Fibres)



This zip duplex fibre optic patch cable is constructed with two simplex units joined together with a central web. Ideal for use in office LAN connections, patch cords, pigtails and internal point-to-point links where frequent handling is likely (e.g. data cabinets, equipment rooms, user outlets). Utilising duplex 1.6mm, 1.8mm, 2.0mm or 2.8mm, 2 fibre, OM1, OM2, OM3, OM4 multimode or OS1/OS2 (ITU-T G.652D), ITU-T

G.657A1 & ITU-T G.657A2 singlemode 600µm/900µm tight buffered internal cable with aramid strength members and LSZH jacket, the duplex cables consist of 2 optical fibres with longitudinally applied aramid non metallic strength members and low smoke zero halogen (LSZH) shotgun jacket, the cable is suitable for use with industry standard connectors and can be easily made into a patch cord.

## Technical Specifications

DESCRIPTION	2-CORE LSZH				
Outer diameter	mm	1.6*3.3	1.8*3.7	2.0*4.1	2.8*5.7
Weight	kg/km	4.6	5.4	8.2	13.2
Max. Load (installation)	N	140	160	200	300
Max. Load (installed)	N	70	80	100	160
Min. Bend Radius (installation)		20D	20D	20D	20D
Min. Bend Radius (installed)		10D	10D	10D	10D
Fire Performance		LSZH	LSZH	LSZH	LSZH
Operating Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Storage Temp.	°C	20~+60	20~+60	20~+60	20~+60
Installation Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Max Crush Resistance	N/100mm	1000	1000	1000	1000

## Features

- > Choice of fibre type
- > Choice of outer diameter
- > Aramid yarn strength members
- > Easy to strip
- > LSZH jacket

## Applications

- > Patch cords
- > Pigtails
- > Internal interconnections

## Ordering Information

FIBRES	DIA.	TYPE	JACKET	PART NUMBER
2	2.0mm	OM1	Orange	OM1ZIPOR2MM6-C
2	2.0mm	OM2	Orange	OM2ZIPOR2MM6-C
2	2.0mm	OM3	Aqua	OM3ZIQAQ2MM6-C
2	2.0mm	OM3	Purple	OM3ZIPP2MM6-C
2	2.0mm	OM4	Aqua	OM4ZIQAQ2MM6-C
2	2.0mm	OM4	ErikaViolet	OM4ZIPEV2MM6-C
2	2.0mm	OS1/OS2 ITU-TG.652D	Yellow	OS1ZIPYE2MM6-C
2	2.0mm	ITU-TG.657A1	Yellow	7A1ZIPYE2MM6-C
2	2.0mm	ITU-TG.657A2	Yellow	7A2ZIPYE2MM6-C

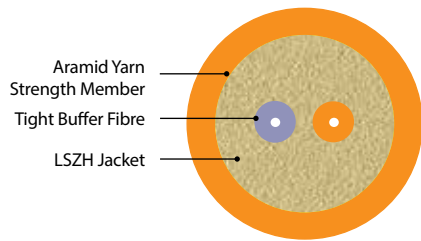
Other diameters are available upon request

FIBRES	DIA.	TYPE	JACKET	PART NUMBER
2	2.8mm	OM1	Orange	OM1ZIPOR-C
2	2.8mm	OM2	Orange	OM2ZIPOR-C
2	2.8mm	OM3	Aqua	OM3ZIQAQ-C
2	2.8mm	OM3	Purple	OM3ZIPP2MM6-C
2	2.8mm	OM4	Aqua	OM4ZIQAQ-C
2	2.8mm	OM4	ErikaViolet	OM4ZIPEV-C
2	2.8mm	OS1/OS2 ITU-TG.652D	Yellow	OS1ZIPYE-C
2	2.8mm	ITU-TG.657A1	Yellow	7A1ZIPYE-C
2	2.8mm	ITU-TG.657A2	Yellow	7A2ZIPYE-C

Other diameters are available upon request



## Round Duplex Patch Cable (2 Fibres)



Optronics round duplex fibre optic patch cable is constructed with two tight buffered fibres protected by aramid yarns and an LSZH jacket. Ideal for use in office LAN connections, patch cords, pigtailed and internal point-to-point links where frequent handling is likely (e.g. data cabinets, equipment rooms, user outlets). Utilising 3.0mm or 5.0mm, 2 fibre OM1, OM2, OM3, OM4 multimode or OS1/OS2 (ITU-TG.652D),

ITU-T G.657A1, ITU-T G.657A2 singlemode 600µm or 900µm tight buffered internal cable with aramid strength members and LSZH jacket, the round duplex cables consist of 2, 900µm optical fibres with longitudinally applied aramid non metallic strength members and low smoke zero halogen (LSZH) jacket and is suitable for use with industry standard connectors and can be easily made into a patch cord.

### Features

- > Choice of fibre type
- > Choice of outer diameter
- > High strength aramid yarn strength members for ease of handling
- > Easy to strip
- > LSZH jacket

### Applications

- > Patch cords
- > Pigtailed
- > Internal interconnections

### Technical Specifications

DESCRIPTION		2-CORE LSZH	2-CORE LSZH
Outer Diameter	mm	3.0	5.0
Weight	kg/km	8	20.9
Max. Load (installation)	N	190	190
Max. Load (installed)	N	80	80
Min. Bend Radius (installation)		20D	20D
Min. Bend Radius (installed)		10D	10D
Fire Performance		LSZH	LSZH
Operating Temp.	°C	-20~+60	-20~+60
Storage Temp.	°C	-20~+60	20~+60
Installation Temp.	°C	-20~+60	-20~+60
Crush Resistance	N/100mm	1000	1000

### Ordering Information

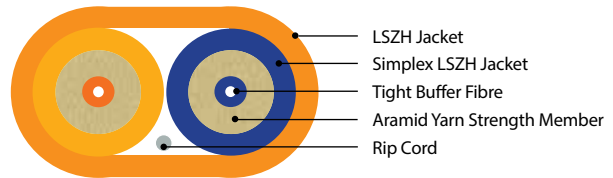
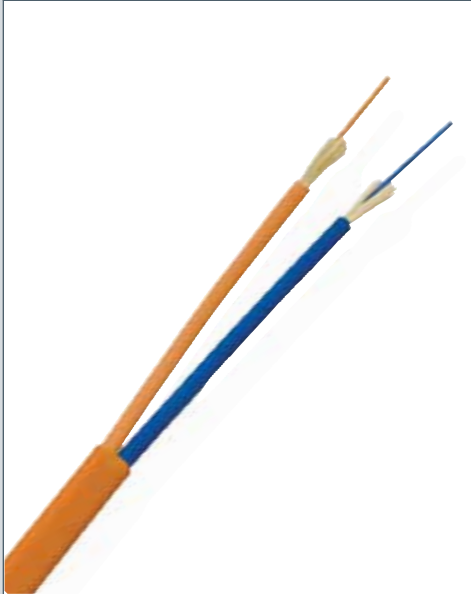
FIBRES	DIA.	SIZE	TYPE	JACKET	PART NUMBER
2	5.0mm	900µm	OM1	Orange	OM1DUR59UOR
2	5.0mm	900µm	OM2	Orange	OM2DUR59UOR
2	5.0mm	900µm	OM3	Aqua	OM3DUR59UAQ
2	5.0mm	900µm	OM3	Purple	OM3DUR59UPU
2	5.0mm	900µm	OM4	Aqua	OM4DUR59UAQ
2	5.0mm	900µm	OM4	Erika Violet	OM4DUR59UEV
2	5.0mm	900µm	OS1/OS2 ITU-T G.652D	Yellow	OS1DUR59UYE
2	5.0mm	900µm	ITU-T G.657A1	Yellow	7A1DUR59UYE
2	5.0mm	900µm	ITU-T G.657A2	Yellow	7A2DUR59UYE

Other diameters are available upon request

FIBRES	DIA.	SIZE	TYPE	JACKET	PART NUMBER
2	3.0mm	900µm	OM1	Orange	OM1DUR39UOR
2	3.0mm	900µm	OM2	Orange	OM2DUR39UOR
2	3.0mm	900µm	OM3	Aqua	OM3DUR39UAQ
2	3.0mm	900µm	OM3	Purple	OM3DUR39UPU
2	3.0mm	900µm	OM4	Aqua	OM4DUR39UAQ
2	3.0mm	900µm	OM4	Erika Violet	OM4DUR39UEV
2	3.0mm	900µm	OS1/OS2 ITU-T G.652D	Yellow	OS1DUR39UYE
2	3.0mm	900µm	ITU-T G.657A1	Yellow	7A1DUR39UYE
2	3.0mm	900µm	ITU-T G.657A2	Yellow	7A2DUR39UYE

Other diameters are available upon request

## Flat Duplex Patch Cable (2 Fibres)



Optronics flat duplex fibre optic patch cable is constructed with two simplex units held together with an overall LSZH jacket. Ideal for use in office LAN connections, patch cords, pigtailed and internal point-to-point links where frequent handling is likely (e.g. data cabinets, equipment rooms, user outlets). Utilising 2 fibre 900µm tight buffered internal flat twin duplex cables with LSZH jackets and ripcord, the cables consists of 2, 900µm OM1, OM2,

OM3, OM4 multimode or OS1/OS2 (ITU-T G.652D), ITU-T G.657A1, ITU-T G.657A2 singlemode optical fibres in a 2.0mm or 2.8mm Low Smoke Zero Halogen (LSZH) jacketed simplex subunit with aramid strength members. The simplex subunits are laid up together with a ripcord and final LSZH jacket, and is suitable for use with industry standard connectors and can be easily made into a patch cord.

## Technical Specifications

DESCRIPTION		2-CORE LSZH	2-CORE LSZH
Outer diameter	mm	3.0 x 5.0	3.8 x 6.6
Weight	kg/km	11	24
Max. Load (installation)	N	250	250
Max. Load (installed)	N	125	125
Min. Bend Radius (installation)	mm	20D	20D
Min. Bend Radius (installed)	mm	10D	10D
Fire Performance		LSZH	LSZH
Operating Temp.	°C	-20~+60	-20~+60
Storage Temp.	°C	20~+60	20~+60
Installation Temp.	°C	-20~+60	-20~+60
Max Crush Resistance	N/100mm	1000	1000

## Features

- > Choice of fibre type
- > Choice of outer diameter
- > High strength aramid yarn strength member
- > Easy to strip
- > LSZH jacket
- > LSZH overall jacket

## Applications

- > Patch cords
- > Pigtailed
- > Internal interconnections

## Ordering information

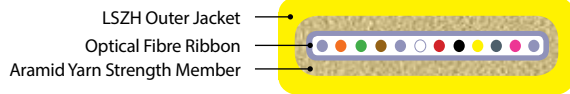
FIBRES	DIA.	TYPE	JACKET	PART NUMBER
2	2.0mm	OM1	Orange	OM1FLATORANGE2
2	2.0mm	OM2	Orange	OM2FLATORANGE2
2	2.0mm	OM3	Aqua	OM3FLATAQUA2
2	2.0mm	OM3	Purple	OM3FLATPURPLE2
2	2.0mm	OM4	Aqua	OM4FLATAQUA2
2	2.0mm	OM4	ErikaViolet	OM4FLATERIKAVIOLET2
2	2.0mm	OS1/OS2 ITU-TG.652D	Yellow	OS1FLATYELLOW2
2	2.0mm	ITU-TG.657A1	Yellow	7A1FLATYELLOW2
2	2.0mm	ITU-TG.657A2	Yellow	7A2FLATYELLOW2

Other diameters are available upon request

FIBRES	DIA.	TYPE	JACKET	PART NUMBER
2	2.8mm	OM1	Orange	OM2FLATORANGE
2	2.8mm	OM2	Orange	OM3FLATAQUA
2	2.8mm	OM3	Aqua	OM3FLATPURPLE
2	2.8mm	OM3	Purple	OM4FLATAQUA
2	2.8mm	OM4	Aqua	OM4FLATERIKAVIOLET
2	2.8mm	OM4	ErikaViolet	OS1FLATYELLOW
2	2.8mm	OS1/OS2 ITU-TG.652D	Yellow	7A1FLATYELLOW
2	2.8mm	ITU-TG.657A1	Yellow	7A2FLATYELLOW
2	2.8mm	ITU-TG.657A2	Yellow	7A2FLATYELLOW2

Other diameters are available upon request

## Flat Ribbon Patch Cable (4-12 Fibres)



Optronics flat ribbon fibre optic patch cable is constructed with 4-12 ribbonised optical fibres protected by soft aramid yarns and an LSZH jacket. Ideal for use in office LAN connections, as patch cords

and for internal point-to-point links where frequent handling is likely (e.g. data cabinets, equipment rooms, user outlets).

### Features

- > Choice of fibre type
- > Choice of outer diameter
- > High strength aramid yarn strength members for ease of handling
- > Easy to strip
- > LSZH jacket

### Applications

- > Internal inter-connections

### Technical Specifications

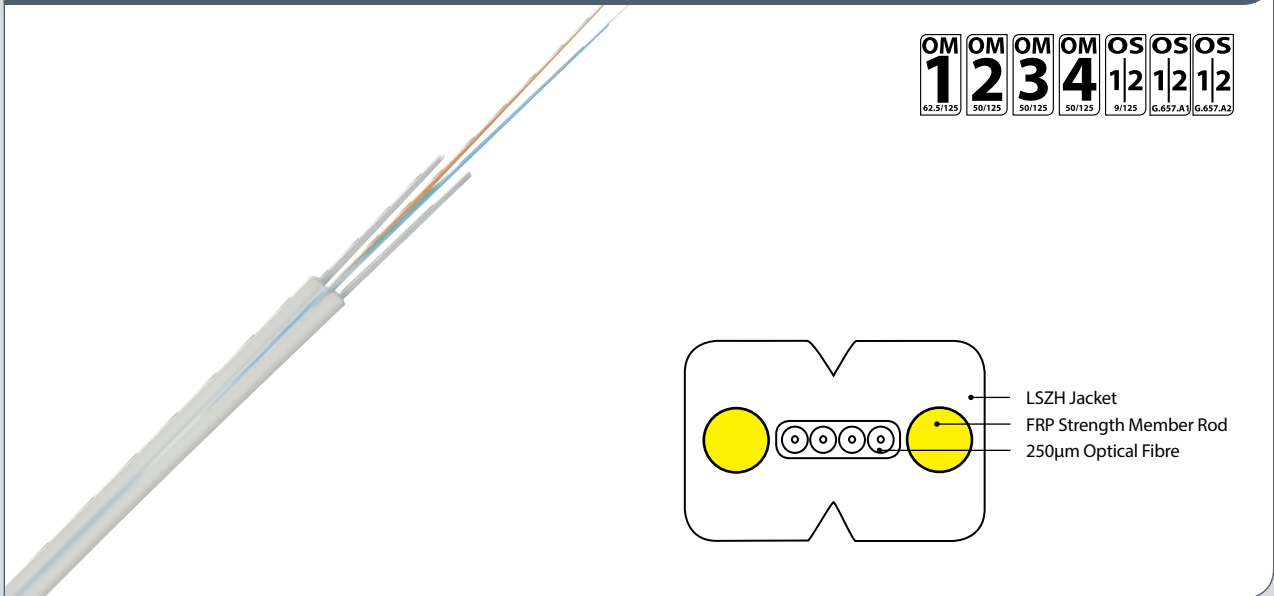
DESCRIPTION		4-CORE LSZH	6-CORE LSZH	8-CORE LSZH	12-CORE LSZH
Outer Diameter	mm	3.5*2.5	3.8*2.5	4.5*2.5	5.0*2.5
Weight	kg/km	12	13	15	17
Max. Load (installation)	N	200	200	200	200
Max. Load (installed)	N	80	80	80	80
Min. Bend Radius (installation)	Times	35	35	35	35
Min. Bend Radius (installed)	Times	25	25	25	25
Jacket Type		LSZH	LSZH	LSZH	LSZH
Operating Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Storage Temp.	°C	20~+60	20~+60	20~+60	20~+60
Installation Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Crush Resistance	N/100mm	500	500	500	500

### Ordering information

DESCRIPTION	PART NUMBER
OM1	OM1RIBBONOR**-C
OM2	OM2RIBBONOR**-C
OM3	OM3RIBBONAQ**-C
OM4	OM4RIBBONAQ**-C
OS1/OS2	OS1RIBBONYE**-C

Where \*\* is the fibre count between 4 & 12

## All Dielectric 250µm FTTH Flat Internal Drop Cable (1-4 Fibres)



ITU-T G.652D, ITU-T G.657A1 & ITU-T G.657A2 all dielectric Fibre-To-The-Home (FTTH) drop cable consisting of 1 to 4, 250µm, individually

coloured optical fibres with Fibre Reinforced Plastic (FRP) strength members and Low Smoke Zero Halogen (LSZH) jacket.

### Technical Specifications

DESCRIPTION	UNIT	VALUE
Crush	N/100mm	400
Strength member		FRP
Storage temperature	°C	-20 to 70
Installation temperature	°C	-5 to 50
Operating temperature	°C	-20 to 70
Primary buffer diameter	µm	250
Fibre count	n	1 to 4
Nominal outer diameter	mm	2.0 x 3.0 ±0.2
Nominal weight	kg/km	11
Maximum tensile load	N	100
Minimum bend radius	mm	15
Plywood drum dimensions 4km 2f to 12f	mm (approx) (Flange/Barrel/Width)	630/300/330
Drum weight with cable 4km	kg (approx)	52

### Features

- > Choice of fibre type
- > Individually coloured optical fibres
- > Notched construction for easy stripping
- > White LSZH jacket for internal use

### Applications

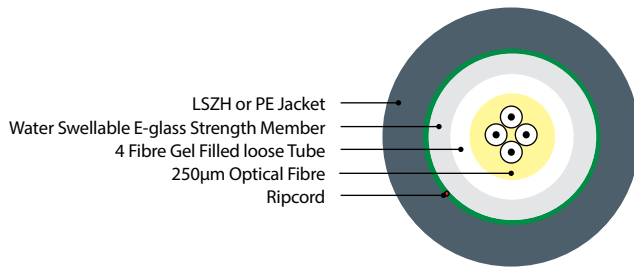
- > Internal FTTH applications horizontal and riser
- > Clipping to surfaces including skirting boards

### Ordering information

DESCRIPTION	PART NUMBER
250µm FTTH OM1 White jacket non metallic	OM1FLATDROPXXNUWH
250µm FTTH OM2 White jacket non metallic	OM2FLATDROPXXNUWH
250µm FTTH OM3 White jacket non metallic	OM3FLATDROPXXNUWH
250µm FTTH OM4 White jacket non metallic	OM4FLATDROPXXNUWH
250µm FTTH ITU-T OS1/OS2 G.652D Singlemode White jacket non metallic	OS1FLATDROPXXNUWH
250µm FTTH ITU-T G.657A1 White jacket non metallic	7A1FLATDROPXXNUWH
250µm FTTH ITU-T G.657A2 White jacket non metallic	7A2FLATDROPXXNUWH



## All Dielectric 250µm FTTH Loose Tube Internal/External Rodent Resistant Drop Cable (4 Fibres)



ITU-T G.652D, ITU-T G.657A1 & ITU-T G.657A2 all dielectric Fibre-To-The-Home (FTTH) indoor/outdoor drop cable containing 1, 2 or 4, 250µm, optical fibres in a single, 1.7mm, gel filled loose

tube, waterblocking E-glass non metallic strength members and white Low Smoke Zero Halogen (LSZH) or black polyethylene (PE) jacket printed in black or white by the inkjet technique.

### Features

- > Choice of fibre types
- > Individually coloured optical fibres
- > Robust loose tube construction for external water ingress protection
- > E-glass strength members for rodent resistance
- > White LSZH jacket (other colours are available) for internal use or black PE jacket for environmental resistance

### Applications

- > Internal/External FTTH applications horizontal, riser and duct
- > Clipping to surfaces including skirting boards

### Technical Specifications

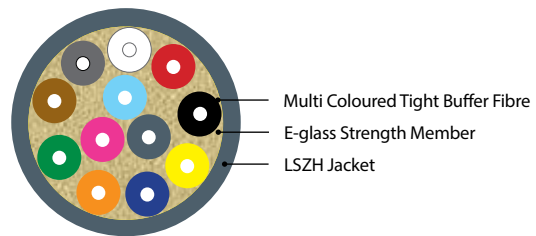
DESCRIPTION	UNIT	VALUE
Crush	N/100mm	800
Strength member		E-glass
Storage temperature	°C	-20 to 60
Installation temperature	°C	-5 to 50
Operating temperature	°C	-20 to 60
Nominal weight (LSZH/PE)	kg/km	22/16
Primary buffer diameter	µm	250
Fibre count	n	1, 2 or 4
Nominal outer diameter	mm	4.2 ± 0.2
Maximum tensile load	N	500
Minimum bend radius	mm	15
Drum length	km	4
Plywood drum dimensions	mm (approx) (Flange/Barrel/Width)	760/340/380
Drum weight with cable 4km (LSZH/PVC)	kg (approx)	100/76

### Ordering information

DESCRIPTION	PART NUMBER
250µm FTTH ITU-T G.652D LT Int/Ext Drop White	OS1DROPLT**UWH
250µm FTTH ITU-T G.657A1 LT Int/Ext Drop White	7A1DROPLT**UWH
250µm FTTH ITU-T G.657A2 LT Int/Ext Drop White	7A2DROPLT**UWH
250µm FTTH ITU-T G.652D LT Ext Drop Black	OS1DROPLT**PBK
250µm FTTH ITU-T G.657A1 LT Ext Drop Black	7A1DROPLT**PBK
250µm FTTH ITU-T G.657A2 LT Ext Drop Black	7A2DROPLT**PBK

Where \*\* is the fibre count of 1, 2 or 4

## Tight Buffered Distribution Cable (4-24 Fibres)



Optronics tight buffered internal distribution cables are constructed of 4, 8, 12 and 24 fibre OM1, OM2, OM3, OM4 multimode or OS1/OS2 (ITU-T G.652D), ITUT G.657A1 singlemode 900µm tight secondary buffered rodent resistant

cables with a Low Smoke Zero Halogen (LSZH) jacket. These distribution cables consist of 4 to 24, 900µm tight secondary buffered optical fibres with rodent resistant E-glass non metallic strength members and black LSZH jacket.

### Technical Specifications

DESCRIPTION		4-CORE LSZH	8-CORE LSZH	12-CORE LSZH	24-CORE LSZH
Outer diameter	mm	4.8±0.3	5.8±0.3	6.5±0.3	8.9±0.3
Weight	kg/km	26	34	40	61
Max. Load (installation)	N	600	750	750	900
Max. Load (installed)	N	300	375	375	450
Min. Bend Radius (installation)		96D	116D	130D	150D
Min. Bend Radius (installed)		48D	58D	65D	75D
Jacket Type		LSZH	LSZH	LSZH	LSZH
Operating Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Storage Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Installation Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Max Crush Resistance	N/100mm	1000	1000	1000	1000

### Features

- > Choice of fibre type
- > Colour coded fibres
- > High strength E-glass rodent resistant yarn strength member
- > Easy to strip
- > LSZH jacket

### Applications

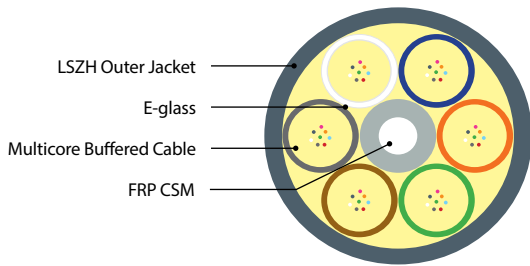
- > Internal cable for installation in trunking, under floor or ceiling spaces
- > Fibre backbones in riser and horizontal configurations

### Ordering information

DESCRIPTION	PART NUMBER
OM1 900µm Distribution Black	OM1TB**UBK-C
OM2 900µm Distribution Black	OM2TB**UBK-C
OM3 900µm Distribution Black	OM3TB**UBK-C
OM4 900µm Distribution Black	OM4TB**UBK-C
OS1/OS2 ITU-T G.652D 900µm Distribution Black	OS1TB**UBK-C
ITU-T G.657A1 900µm Distribution Black	7A1TB**UBK-C

Where \*\* is the fibre count either 4, 8, 12 or 24

## Tight Buffered Cable Multicore (36-96 Fibres)



36, 48, 72 or 96 fibre, 900µm OM1, OM2, OM3, OM4 multimode or OS1/OS2 (ITU-T G.652D), ITU-T G.6527A1 singlemode stranded subunit rodent resistant distribution cable with E-glass strength members and Low Smoke Zero Halogen (LSZH) jacket. 36 & 48 fibre, stranded subunit rodent resistant distribution cable consisting of up to 4, 12 fibre subunits and filler when necessary.

Each subunit consists of 12, 900µm tight secondary buffered optical fibres with E-glass non metallic strength members and LSZH jacket. The individually coloured 6mm outside diameter (OD) subunits are helically stranded around an FRP central strength member with polyester wrapping tape, ripcord and LSZH final jacket.

### Features

- > Choice of fibre type
- > Colour coded fibres for easy identification
- > E-glass
- > FRP Central Strength Member
- > Easy to strip
- > LSZH jacket
- > Lightweight and compact

### Applications

- > Internal cable for horizontal distribution or riser applications

### Technical Specifications

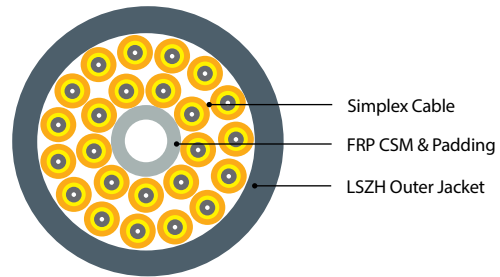
DESCRIPTION		36-CORE LSZH	48-CORE LSZH	72-CORE LSZH	96-CORE LSZH
Outer diameter	mm	17.4±0.5	17.4±0.5	21.6±0.5	25.5±0.5
Weight	kg/km	237	237	397	571
Max. Load (installation)	N	2800	2800	4600	5000
Max. Load (installed)	N	1500	1500	2000	2200
Min. Bend Radius (installation)	mm	350	350	440	500
Min. Bend Radius (installed)	mm	175	175	220	250
Jacket Type		LSZH	LSZH	LSZH	LSZH
Operating Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Storage Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Installation Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Max Crush Resistance	N/100mm	1500	1500	1500	1500

### Ordering information

DESCRIPTION	PART NUMBER
OM1 900µm 4 element subunit Distribution Black	OM1TBME**UBK-C
OM2 900µm 4 element subunit Distribution Black	OM2TBME**UBK-C
OM3 900µm 4 element subunit Distribution Black	OM3TBME**UBK-C
OM4 900µm 4 element subunit Distribution Black	OM4TBME**UBK-C
OS1/OS2 ITU-T G.652D 900µm 4 element subunit Distribution Black	OS1TBME**UBK-C
ITU-T G.657A1 900µm 4 element subunit Distribution Black	7A1TBME**UBK-C

Where \*\* is the fibre count either 36, 48, 72 or 96

## Breakout Cable (4-24 Fibres)



Full OM1, OM2, OM3, OM4 multimode or OS1/OS2 (ITU-T G.652D), ITU-T G.657A1 singlemode Breakout cable consisting of up to 24, 2.0mm Low Smoke Zero Halogen (LSZH) simplex cables each consisting of 1, 900µm tight secondary buffered optical fibre with longitudinally applied aramid non metallic

strength members and low smoke zero halogen (LSZH) jacket. The individually numbered simplex subunits are helically stranded in two layers around a LSZH jacketed Fibre Reinforced Plastic (FRP) non metallic central strength member with polyester wrapping tape, ripcord and LSZH final jacket.

## Technical Specifications

DESCRIPTION		4 CORE LSZH	6 CORE LSZH	8 CORE LSZH	12 CORE LSZH	24 CORE LSZH
Outer diameter	mm	7.0	8.2	9.4	11.8	14.1
Weight	kg/km	46	63	86	139	159
Max. Load (installation)	N	500	1000	1100	1400	1400
Max. Load (installed)	N	270	600	700	800	800
Min. Bend Radius (installation)	mm	70	80	95	120	120
Min. Bend Radius (installed)	mm	140	160	190	240	240
Jacket Type		LSZH	LSZH	LSZH	LSZH	LSZH
Operating Temp.	°C	0~+50	0~+50	0~+50	0~+50	0~+50
Storage Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60	-20~+60
Installation Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60	-20~+60
Max Crush Resistance	N/100mm	1000	1000	1000	1000	1000

## Features

- > Choice of fibre type
- > Colour coded fibres
- > High strength aramid yarn strength member
- > LSZH jacket
- > Easy to strip

## Applications

- > Internal cable for installation in trunking, under floor or ceiling spaces
- > Fibre backbones in riser and horizontal configurations

## Ordering information

DESCRIPTION	PART NUMBER
2.0mm OM1 62.5/125 Breakout Orange jacket and subunits LSZH	OM1BO**UOR
2.0mm OM2 50/125 Breakout jacket and subunits LSZH	OM2BO**UOR
2.0mm OM3 50/125 Breakout Aqua jacket and subunits LSZH	OM3BO**UAQ
2.0mm OM3 50/125 Breakout Purple jacket and subunits LSZH	OM3BO**UPU
2.0mm OM4 50/125 Breakout Aqua jacket and subunits LSZH	OM4BO**UAQ
2.0mm OM4 50/125 Breakout Erika Violet jacket and subunits LSZH	OM4BO**UEV
2.0mm OS1/OS2 ITU-T G.652D Singlemode Breakout Yellow jacket and subunits LSZH	OS1BO**UYE
2.0mm ITU-T G.657A1 Singlemode Breakout Yellow jacket and subunits LSZH	7A1BO**UYE

Where \*\* is the fibre count either 4, 6, 8, 12 or 24



## Dry Single Loose Tube (2-24 Fibres)



2 to 24 fibre OM1, OM2, OM3, OM4 multimode, OS1/OS2 (ITU-T G.652D), ITU-T G.657A1 or ITU-T G.657A2 singlemode 250µm single dry loose tube internal/external duct cables The single loose tube cables consist of 2 to

24, 250µm individually coloured optical fibres in a single waterblocked dry loose tube with helically applied waterblocking aramid non metallic strength members and Low Smoke Zero Halogen (LSZH) jacket.

### Features

- > Colour coded fibres
- > Compact 250µm dry loose tube construction
- > E-glass yarn for rodent resistance
- > LSZH jacket for optimised fire performance

### Applications

- > Ideal for internal/external duct applications
- > Suitable for one or both end pre termination

### Technical Specifications

DESCRIPTION		2 TO 24 CORE ARAMID	2 TO 24 CORE E-GLASS
Outer Diameter	mm	6.4 ±0.3	6.4 ±0.3
Weight	kg/km	48	50
Max. Load (installation)	N	1000	1000
Max. Load (installed)	N	500	500
Min. Bend Radius (installation)	mm	130	130
Min. Bend Radius (installed)	mm	65	65
Fire Performance		LSZH	LSZH
Operating Temp.	°C	-20~+60	20~+60
Storage Temp.	°C	-20~+60	20~+60
Installation Temp.	°C	-20~+60	20~+60
Crush Resistance	N/100mm	2000	2000

### Ordering information

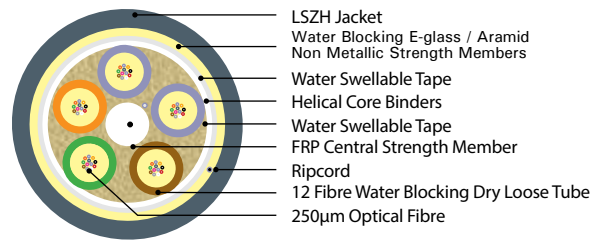
DESCRIPTION	PART NUMBER
OM1 250µm Single Dry Loose Tube Aramid Orange LSZH	OM1DTA**UOR
OM2 250µm Single Dry Loose Tube Aramid Orange LSZH	OM2DTA**UOR
OM3 250µm Single Dry Loose Tube Aramid Aqua LSZH	OM3DTA**UAQ
OM3 250µm Single Dry Loose Tube Aramid Purple LSZH	OM3DTA**UPU
OM4 250µm Single Dry Loose Tube Aramid Aqua LSZH	OM4DTA**UAQ
OM4 250µm Single Dry Loose Tube Aramid Erika Violet LSZH	OM4DTA**UEV
OS1/OS2 ITU-T G.652D 250µm Single Dry LT Aramid	OS1DTA**UYE
ITU-T G.657A1 250µm Single Dry LT Aramid Yellow LSZH	7A1DTA**UYE
ITU-T G.657A2 250µm Single Dry LT Aramid Yellow LSZH	7A2DTA**UYE

Where \*\* is the fibre count between 2 & 24 - Optional black jacket code is UBK

DESCRIPTION	PART NUMBER
OM1 250µm Single Dry Loose Tube RR Orange PVC Riser	OM1DTE**ROR
OM2 250µm Single Dry Loose Tube RR Orange PVC Riser	OM2DTE**ROR
OM3 250µm Single Dry Loose Tube RR Aqua PVC Riser	OM3DTE**RAQ
OM3 250µm Single Dry Loose Tube RR Purple PVC Riser	OM3DTE**RPU
OM4 250µm Single Dry Loose Tube RR Aqua PVC Riser	OM4DTE**RAQ
OM4 250µm Single Dry Loose Tube RR Erika Violet PVC Riser	OM4DTE**REV
OS1/OS2 ITU-T G.652D 250µm Single Dry LT RR Yellow	OS1DTE**RYE
ITU-T G.657A1 250µm Single Dry LT RR Yellow PVC Riser	7A1DTE**RYE
ITU-T G.657A2 250µm Single Dry LT RR Yellow PVC Riser	7A2DTE**RYE

Where \*\* is the fibre count between 2 & 24 - Optional black jacket code is UBK

## Dry Multi Loose Tube (24-144 Fibres)



The up to 12 element internal/external multi loose tube cable construction consists of up to 144, 250µm optical fibres in up to 12 fibre waterblocked dry loose tubes with fillers where appropriate. The tubes are SZ stranded around an LSZH

jacketed fibre reinforced plastic (FRP) central strength member with water swellable threads and water swellable tape. Helically applied waterblocking E-glass or aramid non-metallic strength members with ripcord and LSZH jacket.

## Technical Specifications

DESCRIPTION		24 TO 60 CORE	72 CORE	96 CORE	144 CORE
Outer Diameter	mm	9.6±0.4	10.3±0.4	11.5±0.4	14.2 ±0.4
Weight	kg/km	96	104	127	190
Max. Load (installation)	N	1500	1500	1500	1500
Max. Load (installed)	N	600	600	600	600
Min. Bend Radius (installation)	mm	190	206	230	280
Min. Bend Radius (installed)	mm	95	103	115	140
Fire Performance		LSZH	LSZH	LSZH	LSZH
Operating Temp.	°C	-40~+70	-40~+70	-40~+70	-40~+70
Storage Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Installation Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60
Crush Resistance	N/100mm	2000	2000	2000	2000

## Features

- > Colour coded fibres
- > Compact 250µm dry loose tube construction
- > E-glass yarn for rodent resistance
- > LSZH jacket option for optimised fire performance

## Applications

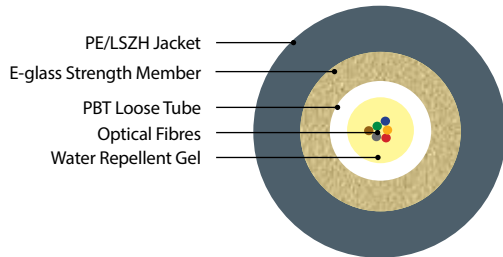
- > Ideal for internal/external duct applications
- > Suitable for one or both end pre-termination

## Ordering information

DESCRIPTION	PART NUMBER
OM1 E-glass	OM1MDLTE***UOR
OM1 Aramid	OM1MDLTA***UOR
OM2 E-glass	OM2MDLTE***UOR
OM2 Aramid	OM2MDLTA***UOR
OM3 E-glass	OM3MDLTE***UAQ
OM3 Aramid	OM3MDLTA***UAQ
OM4 E-glass	OM4MDLTE***UAQ
OM4 Aramid	OM4MDLTA***UAQ
OS1/OS2 E-glass	OS1MDLTE***UYE
OS1/OS2 Aramid	OS1MDLTA***UYE

Where \*\*\* is the fibre count between 24 & 144

## Single Loose Tube Cable (2-24 Fibres)



2 to 24 fibre OM1, OM2, OM3, OM4 multimode or OS1/OS2 (ITU-T G.652D) singlemode 250µm single loose tube external duct cables with E-glass strength members and polyethylene (PE) or Low Smoke Zero

Halogen (LSZH) jacket. The single loose tube cables consist of 2 to 24, 250µm optical fibres in a single gel filled loose tube with E-glass non-metallic strength members and black PE or LSZH jacket with ripcord.

### Features

- > Choice of fibre type
- > Choice of coded fibres
- > E-glass strength members for rodent resistance
- > Flame retardant LSZH jacket option for enhanced fire performance
- > Compact 250µm loose tube construction

### Applications

- > Suitable for internal / external duct applications
- > Suitable for environments where rodent resistance is required
- > Ideal for intra building links in campus environments

### Technical Specifications

DESCRIPTION		4-12 CORE	14-24 CORE
Outer diameter	mm	6.5±0.3	6.7±0.3
Weight (PE/LSZH)	kg/km	29/47	35/48
Max. Load (installation)	N	1000	1000
Max. Load (installed)	N	500	500
Min. Bend Radius (installation)	mm	20D	20D
Min. Bend Radius (installed)	mm	10D	10D
Jacket Type		LSZH	LSZH
Operating Temp.	°C	-20~+60	-20~+60
Storage Temp.	°C	-20~+60	-20~+60
Installation Temp.	°C	-20~+60	-20~+60
Max Crush Resistance	N/100mm	1000	1000

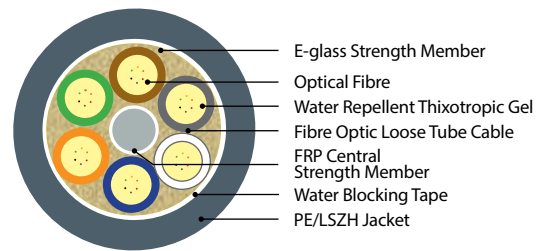
### Ordering information

DESCRIPTION	PART NUMBER	DESCRIPTION	PART NUMBER
OM1 PE	OM1LT**PBK-C	OM3 LSZH	OM3LT**UBK-C
OM1 LSZH	OM1LT**UBK-C	OM4 PE	OM4LT**PBK-C
OM2 PE	OM2LT**PBK-C	OM4 LSZH	OM4LT**UBK-C
OM2 LSZH	OM2LT**UBK-C	OS1/OS2 PE	OS1LT**PBK-C
OM3 PE	OM3LT**PBK-C	OS1/OS2 LSZH	OS1LT**UBK-C

Where \*\* is the fibre count between 2 & 24

Where \*\* is the fibre count between 2 & 24

## Multi Loose Tube Cable (24-144 Fibres)



Up to 144 fibre, 5 to 12 element dry core OM1, OM2, OM3, OM4 multimode or OS1/OS2 (ITU-T G.652D) singlemode 250µm multi loose tube rodent resistant external duct cables with E-glass strength members, and high density polyethylene (HDPE) or Low Smoke Zero Halogen (LSZH) jacket. The multi loose tube cable construction consists of up to 144, 250µm optical fibres in

12 fibre gel filled loose tubes with fillers where appropriate, SZ stranded around a fibre reinforced plastic (FRP) central strength member with water swellable threads and water swellable tape. Helically applied waterblocking E-glass non-metallic strength members with ripcord and black high density polyethylene (HDPE) or Low Smoke Zero Halogen (LSZH) jacket.

### Technical Specifications

DESCRIPTION		24 TO 60-CORE	72 CORE	96 CORE	122 CORE	144 CORE
Outer diameter	mm	10.5±0.4	11.1±0.4	12.6±0.4	14.1±0.4	15.6±0.4
Weight (PE/LSZH)	kg/km	90/116	97/125	121/157	148/196	178/239
Max. Load (installation)	N	1500	1500	1500	1500	1500
Max. Load (installed)	N	600	600	600	600	600
Min. Bend Radius (installation)	mm	210	220	250	280	310
Min. Bend Radius (installed)	mm	105	110	125	140	155
Operating Temp.	°C	-40~+70	-40~+70	-40~+70	-40~+70	-40~+70
Storage Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60	-20~+60
Installation Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60	-20~+60
Max Crush Resistance	N/100mm	2000	2000	2000	2000	2000

### Features

- > Choice of fibre type
- > Colour coded fibres
- > Compact 250µm loose tube construction
- > PE jacket for environmental protection and water permeation resistance
- > Flame retardant LSZH jacket option for enhanced fire performance

### Applications

- > PE jacket: suitable for external duct applications
- > LSZH jacket: suitable for Internal/external applications
- > Suitable for applications where environmental resistance is required

### Ordering information

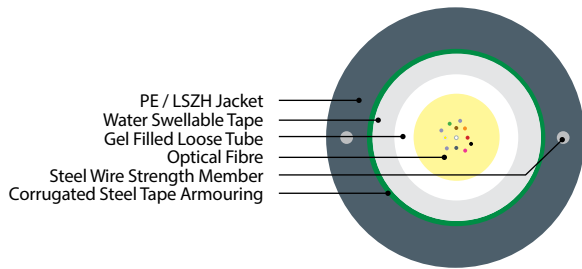
DESCRIPTION	PART NUMBER	DESCRIPTION	PART NUMBER
OM1 PE	OM1MLT**PBK-C	OM3 LSZH	OM3MLT**UBK-C
OM1 LSZH	OM1MLT**UBK-C	OM4 PE	OM4MLT**PBK-C
OM2 PE	OM2MLT**PBK-C	OM4 LSZH	OM4MLT**UBK-C
OM2 LSZH	OM2MLT**UBK-C	OS1/OS2 PE	OS1MLT**PBK-C
OM3 PE	OM3MLT**PBK-C	OS1/OS2 LSZH	OS1MLT**UBK-C

Where \*\* is the fibre count between 24 & 144

Where \*\* is the fibre count between 24 & 144



## STA SLT Cable with Steel Wire Strength Members (2-12 Fibres)



2 to 12 fibre OM1, OM2, OM3, OM4 multimode or OS1/OS2 (ITU-T G.652D) singlemode 250µm single loose tube metallic armoured external duct and direct burial cables with steel wire strength members, and Low Smoke Zero Halogen (LSZH) or polyethylene (PE) jacket.

The single loose tube cable consists of 2 to 12, 250µm optical fibres in a single gel filled loose tube with longitudinally applied water swellable tape, Corrugated Steel Tape (CST) armouring and black LSZH or PE jacket with radially opposed steel wire strength members.

### Features

- > Choice of fibre types
- > Colour coded fibres
- > CST armouring for enhanced impact and crush resistance
- > Compact 250µm loose tube construction
- > Flame retardant LSZH jacket for enhanced fire performance or PE jacket for environmental protection and water permeation resistance

### Applications

- > Suitable for internal/external duct and direct burial applications
- > Suitable for environments where impact protection is required
- > Ideal for intra building links in campus environments

### Technical Specifications

DESCRIPTION	UNIT	VALUE
Crush	N/100mm	2000
Strength member		Steel
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-20 to 60
Nominal weight (LSZH/PE)	kg/km	150/106
Fibre count	n	2, 4, 6, 8, & 12
Nominal outer diameter	mm	10.0 ±0.3
Maximum tensile load (Short Term)	N	1200
Maximum tensile load (Long Term)	N	600
Minimum bend radius (Installed)	mm	100
Minimum bend radius (Loaded)	mm	200

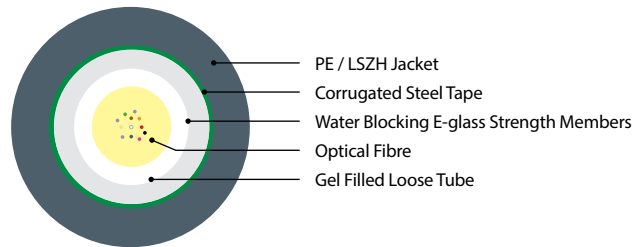
### Ordering information

DESCRIPTION	PART NUMBER	DESCRIPTION	PART NUMBER
OM1 PE	OM1LTSTW**PBK	OM3 LSZH	OM3LTSTW**UBK
OM1 LSZH	OM1LTSTW**UBK	OM4 PE	OM4LTSTW**PBK
OM2 PE	OM2LTSTW**PBK	OM4 LSZH	OM4LTSTW**UBK
OM2 LSZH	OM2LTSTW**UBK	OS1/OS2 PE	OS1LTSTW**PBK
OM3 PE	OM3LTSTW**PBK	OS1/OS2 LSZH	OS1LTSTW**UBK

Where \*\* is the fibre count between 2 & 12

Where \*\* is the fibre count between 2 & 12

**STA SLT Rodent Resistant Cable with E-glass Strength Member (2-24 Fibres)**



2 to 24 fibre OM1, OM2, OM3, OM4 multimode or OS1/OS2 (ITU-T G.652D) singlemode 250µm single loose tube metallic armoured internal/external rodent resistant duct and direct burial cables with E-glass strength members, and Low Smoke Zero Halogen (LSZH) or High Density Polyethylene

(HDPE) jacket. The single loose tube cables consists of 2 to 24, 250µm optical fibres in a single gel filled loose tube with longitudinally applied E-glass non-metallic strength members, Corrugated Steel Tape (CST) armouring and LSZH or HDPE jacket.

**Technical Specifications**

DESCRIPTION	UNIT	VALUE
Crush	N/100mm	2000
Strength member		E-glass
Storage temperature	°C	-20 to 60
Installation temperature	°C	-20 to 60
Operating temperature	°C	-20 to 60
Nominal weight 2f to 12f (LSZH/HDPE)	kg/km	95/73
Nominal weight 14f to 24f (LSZH/HDPE)	kg/km	110/86
Fibre count	n	2, 4, 6, 8, 12, 16 & 24
Nominal outer diameter 2f to 12f	mm	8.5 ±0.3
Nominal outer diameter 14f to 24f	mm	9.2 ±0.3
Maximum tensile load (Short Term)	N	1000
Maximum tensile load (Long Term)	N	500
Minimum bend radius (Installed)	mm	10D
Minimum bend radius (Loaded)	mm	20D

**Features**

- > Choice of fibre type
- > Choice of outer diameter
- > CST armouring for enhanced impact, crush and rodent resistance
- > Compact 250µm loose tube construction
- > Flame retardant LSZH jacket for enhanced fire performance or HDPE jacket for environmental protection and water permeation resistance

**Applications**

- > Suitable for internal/external duct or direct burial applications
- > Suitable for environments where impact protection is required
- > Ideal for intra building links in campus environments

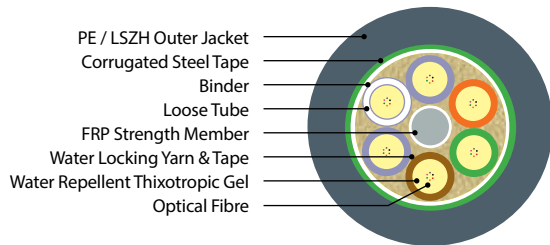
**Ordering information**

DESCRIPTION	PART NUMBER	DESCRIPTION	PART NUMBER
OM1 PE	OM1LTSTA**PBK	OM3 LSZH	OM3LTSTA**UBK
OM1 LSZH	OM1LTSTA**UBK	OM4 PE	OM4LTSTA**PBK
OM2 PE	OM2LTSTA**PBK	OM4 LSZH	OM4LTSTA**UBK
OM2 LSZH	OM2LTSTA**UBK	OS1/OS2 PE	OS1LTSTA**PBK
OM3 PE	OM3LTSTA**PBK	OS1/OS2 LSZH	OS1LTSTA**UBK

Where \*\* is the fibre count between 2 & 24

Where \*\* is the fibre count between 2 & 24

## Multi Loose Tube CST Cable (24-144 Fibres)



The multi loose tube cable construction consists of up to up to 12 elements and a maximum of 144, 250µm optical fibres in 12 fibre gel filled loose tubes with fillers where appropriate, SZ stranded around a jacketed Fibre Reinforced Plastic (FRP) central strength member with

water swellable threads and water swellable tape. Helically applied waterblocking E-glass non-metallic strength members with ripcord. Corrugated Steel Tape (CST) armouring and black High Density Polyethylene (HDPE) or Low Smoke Zero Halogen (LSZH) jacket.

### Features

- > Choice of fibre type
- > Colour coded fibres
- > High water resistant
- > High crush resistant
- > PE / LSZH jacket

### Applications

- > Suitable for external applications

### Technical Specifications

DESCRIPTION		24 TO 60-CORE	72-CORE	96-CORE	120-CORE	144-CORE
Outer diameter	mm	12.0±0.4	12.6±0.4	14.1±0.4	15.6±0.4	17.1±0.4
Weight (PE/LSZH)	kg/km	166/199	173/208	207/251	243/299	284/344
Max. Load (installation)	N	1500	2900	2900	3300	3300
Max. Load (installed)	N	600	1400	1500	1600	1600
Min. Bend Radius	mm	240	252	280	320	340
Min. Bend Radius (installed)	mm	120	126	140	160	170
Operating Temp.	°C	-40~+70	-40~+70	-40~+70	-40~+70	-40~+70
Storage Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60	-20~+60
Installation Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60	-20~+60
Max Crush Resistance	N/100mm	3000	3000	3000	3000	3000

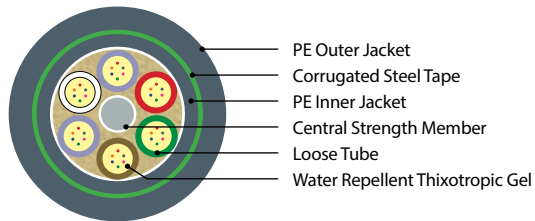
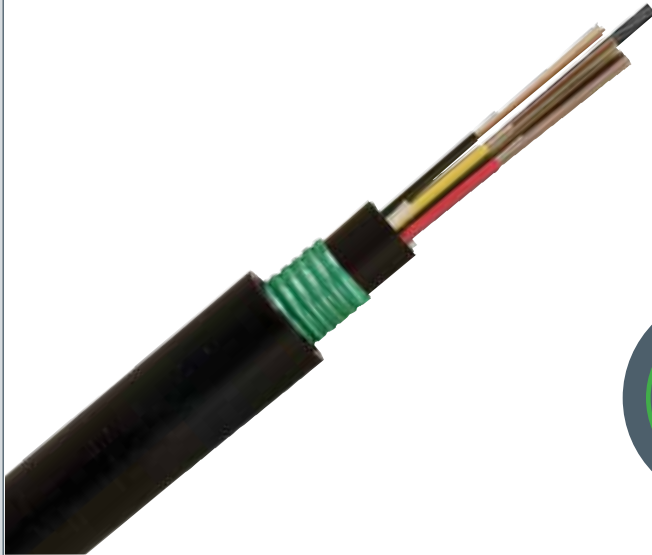
### Ordering information

DESCRIPTION	PART NUMBER	DESCRIPTION	PART NUMBER
OM1 PE	OM1MLTSTA***PBK-C	OM3 LSZH	OM3MLTSTA***UBK-C
OM1 LSZH	OM1MLTSTA***UBK-C	OM4 PE	OM4MLTSTA***PBK-C
OM2 PE	OM2MLTSTA***PBK-C	OM4 LSZH	OM4MLTSTA***UBK-C
OM2 LSZH	OM2MLTSTA***UBK-C	OS1/OS2 PE	OS1MLTSTA***PBK-C
OM3 PE	OM3MLTSTA***PBK-C	OS1/OS2 LSZH	OS1MLTSTA***UBK-C

Where \*\* is the fibre count between 24 & 144

Where \*\* is the fibre count between 24 & 144

MLT Double Jacket Cable (24-144 Fibres)



The multi loose tube cable construction consists of up to up to 12 elements and a maximum of 144, 250µm optical fibres in 12 fibre gel filled loose tubes with fillers where appropriate, SZ stranded around a jacketed Fibre Reinforced Plastic (FRP) central strength

member with water swellable threads and water swellable tape. Helically applied waterblocking E-glass non-metallic strength members with ripcord. Inner PE jacket, Corrugated Steel Tape (CST) armouring and black High Density Polyethylene (HDPE).

Technical Specifications

DESCRIPTION		24 TO 60 CORE	72 CORE	96 CORE	120 CORE	144 CORE
Outer Diameter	mm	14.0 ±0.5	14.6 ±0.5	16.1 ±0.5	17.6 ±0.5	19.1 ±0.5
Weight	kg/km	210	219	257	298	343
Max. Load (installation)	N	2700	2800	2900	3300	3300
Max. Load (installed)	N	1300	1400	1500	1600	1600
Min. Bend Radius (installation)	mm	280	290	320	350	380
Min. Bend Radius (installed)	mm	140	145	160	175	190
Operating Temp.	°C	-40~+70	-40~+70	-40~+70	-40~+70	-40~+70
Storage Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60	-20~+60
Installation Temp.	°C	-20~+60	-20~+60	-20~+60	-20~+60	-20~+60
Crush Resistance	N/100mm	4000	4000	4000	4000	4000

Features

- > Choice of fibre type
- > Colour coded fibres
- > High water resistant

Applications

- > Suitable for external applications in ducts, direct burial or river crossing

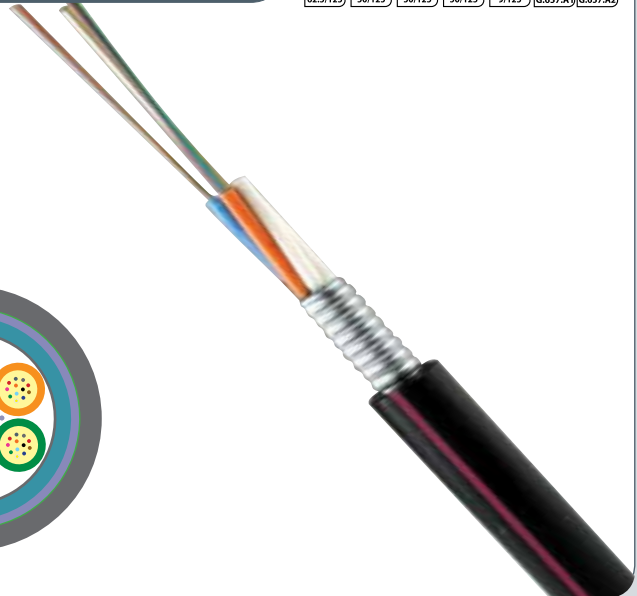
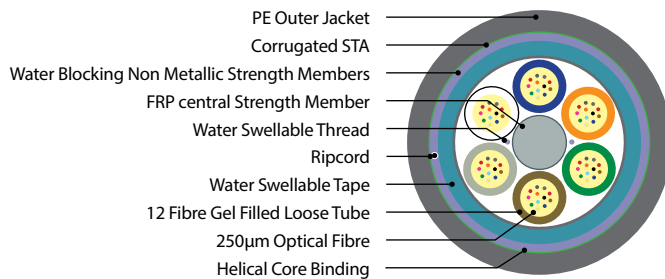
Ordering information

DESCRIPTION	PART NUMBER
OM1 250 µm Multi tube PE CST PE	OM1DSTA***PBK
OM2 250 µm Multi tube PE CST PE	OM2DSTA***PBK
OM3 250 µm Multi tube PE CST PE	OM3DSTA***PBK
OM4 250 µm Multi tube PE	OM4DSTA***PBK
OS1/OS2 ITU-T G.652D 250µm multi tube PE CST PE	OS1DSTA***PBK

Where \*\* is the fibre count between 24 & 144



## Armoured Direct Burial Cable (12-144 Fibres)



The multi element multi loose tube cable construction consists of up to 144, 250µm optical fibres in 12 fibre gel filled loose tubes with fillers where appropriate, SZ stranded around a fibre reinforced plastic (FRP) central strength member with water

swellable threads and water swellable tape. Helically applied non-metallic strength members with ripcord. Corrugated steel tape (CST) armouring and black High Density Polyethylene (HDPE) jacket.

### Features

- > Step layer stranded construction (up to 144 fibres)
- > Corrugated steel tape as protection against rodents and mechanical damage
- > Thin and robust cable
- > Dry core construction
- > Wrapped in water swellable tape
- > Filled loose tube
- > Fibre relevant standards ITU-T G 652, G655, G656 or a combination
- > Cable relevant standards IEC 60793 and IEC 60794

### Applications

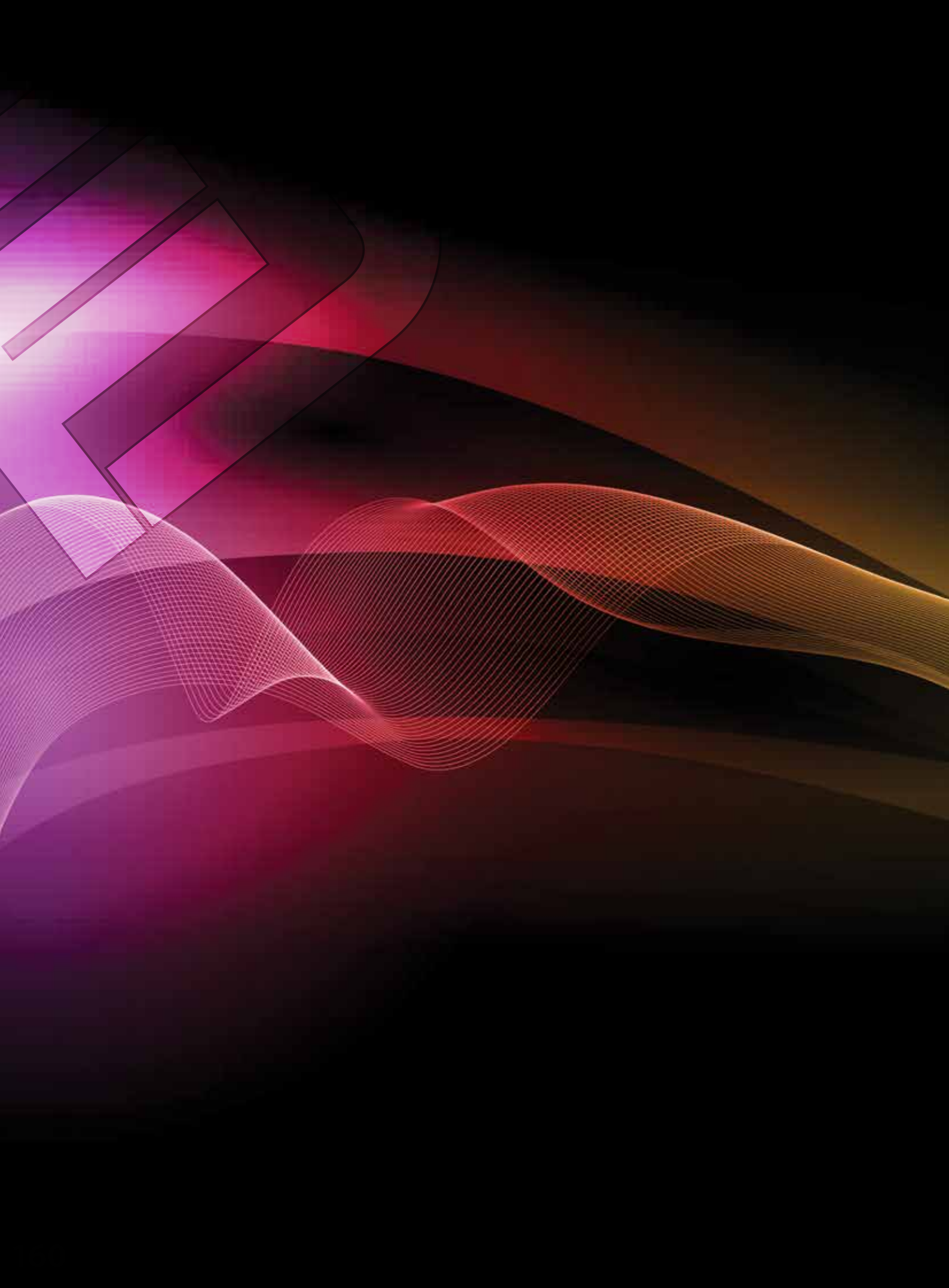
- > Direct buried
- > Used in application with high mechanical loads

### Technical Specifications

DESCRIPTION		12 CORE	24 CORE	36 CORE	48 CORE	60 CORE	72 CORE	96 CORE	120 CORE	144 CORE
Cable diameter*	mm	12.3	12.3	12.3	12.3	12.3	12.3	13.8	15.4	17.1
Cable Weight	kg/km	91	91	91	91	91	91	125	155	190
Max Tensile Load [installation]	N	2700	2700	2700	2700	2700	2700	2700	2700	2700
Fibres per loose tube		12	12	12	12	12	12	12	12	12
Number of loose buffer tube		1	2	3	4	5	6	8	10	12
Number of standing elements		6	6	6	6	6	6	8	10	12
Min. Bend Radius		20 x cable outer diameter (during laying and installation) 17.5 x cable outer diameter (installed)								
Installation Temp Range	°C	-5~+50C	-5~+50C	-5~+50C	-5~+50C	-5~+50C	-5~+50C	-5~+50C	-5~+50C	-5~+50C
Operation Temp Range	°C	-30~+70C	-30~+70C	-30~+70C	-30~+70C	-30~+70C	-30~+70C	-30~+70C	-30~+70C	-30~+70C
Transportation Temp Range	°C	-40~+70C	-40~+70C	-40~+70C	-40~+70C	-40~+70C	-40~+70C	-40~+70C	-40~+70C	-40~+70C

\*Other diameters available on request.

Call for ordering information



# Fibre Management

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## 1U Sliding Patch Panels



The Optronic sliding patch panel system in its basic form is supplied with the panels unloaded without adaptors ready for you to install the adaptor of your choice. The panel can also be pre-loaded complete with the required adaptor and simple splice management kit, or pre-loaded with pigtails to meet your project needs. The tray is locked in

place with two simple to operate plastic latches, when fully extended the tray is designed to lower to 45°, or move the tray to the side and it will lock to lower only 10°. This provides the perfect working platform for simple installation or easy maintenance and access even after the panel is installed in the rack.

### Features/Benefits

- > Recessed panel option
- > Recessed adaptors provide improved fibre management
- > No exposed screws
- > Screen printed for easy labelling
- > 45° working angle
- > Rear cable entry options
- > Panel numbers and rack number identification labels
- > High quality finish, no sharp edges

### Technical Specification

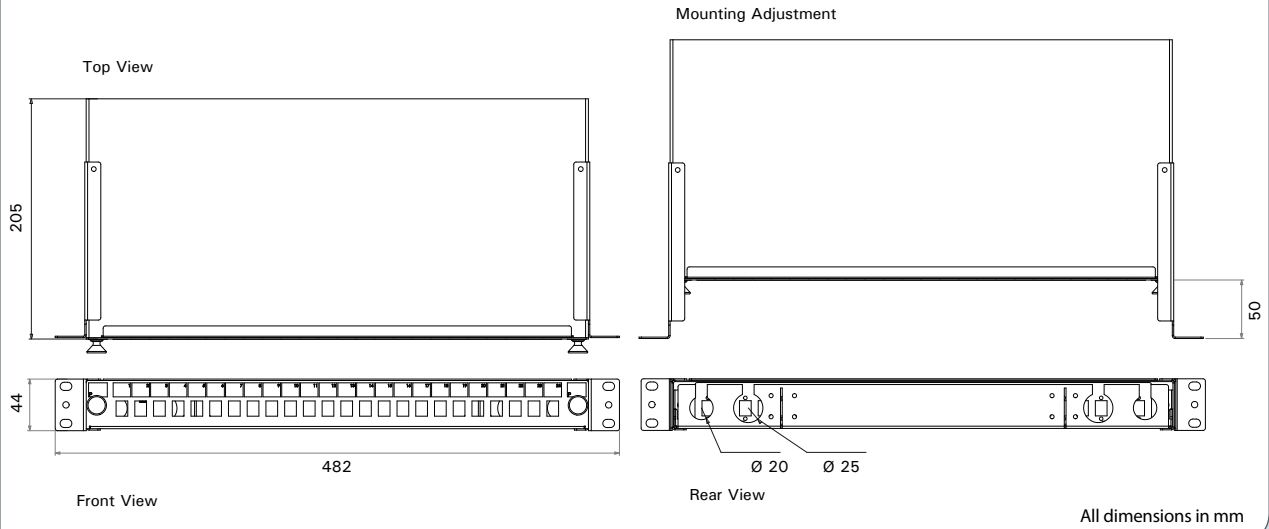
SLIDING PATCH PANELS	
Height	1U (44.4mm)
Width	483mm
Depth	200mm
Net Weight	2.4kg
Packaged Weight	2.7kg
Package Dimensions (WxLxH)	530mm x 55mm x 260mm
IP Rating	IP20
Suitable for adaptor type	SC Simplex (24 port), ST / FC (16 / 24 port), SC Duplex (12 / 24 port), E2000 (24 port), LC Duplex (24 port)
Mounting adjustment range	50mm
Cable entry 20mm	2
Cable entry 25mm	2
Material	Cold Rolled Steel
Material thickness	1.2mm
Material coating	Electrostatic Powder Coating
Colour	Black RAL 9004
Operating Temperature	-40°C to +60°C
Compliant to	RoHS, REACH / SvHC
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN 50173, IEC 60304, IEC 61754, EN 297-1



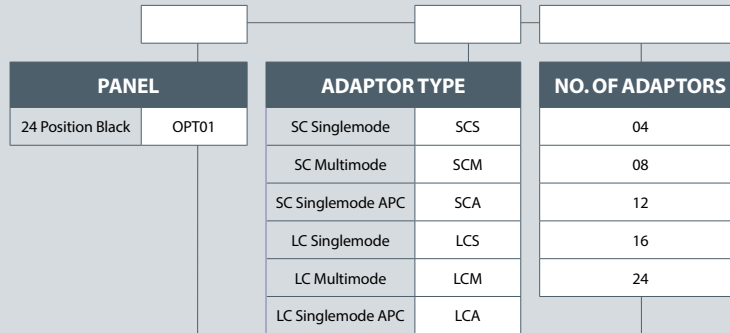
Fibre Management



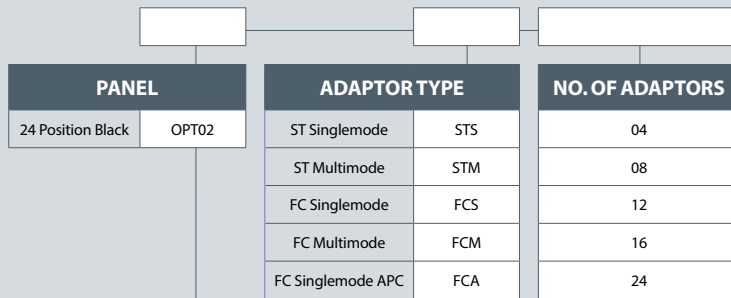
## Technical Drawings



## Ordering Information

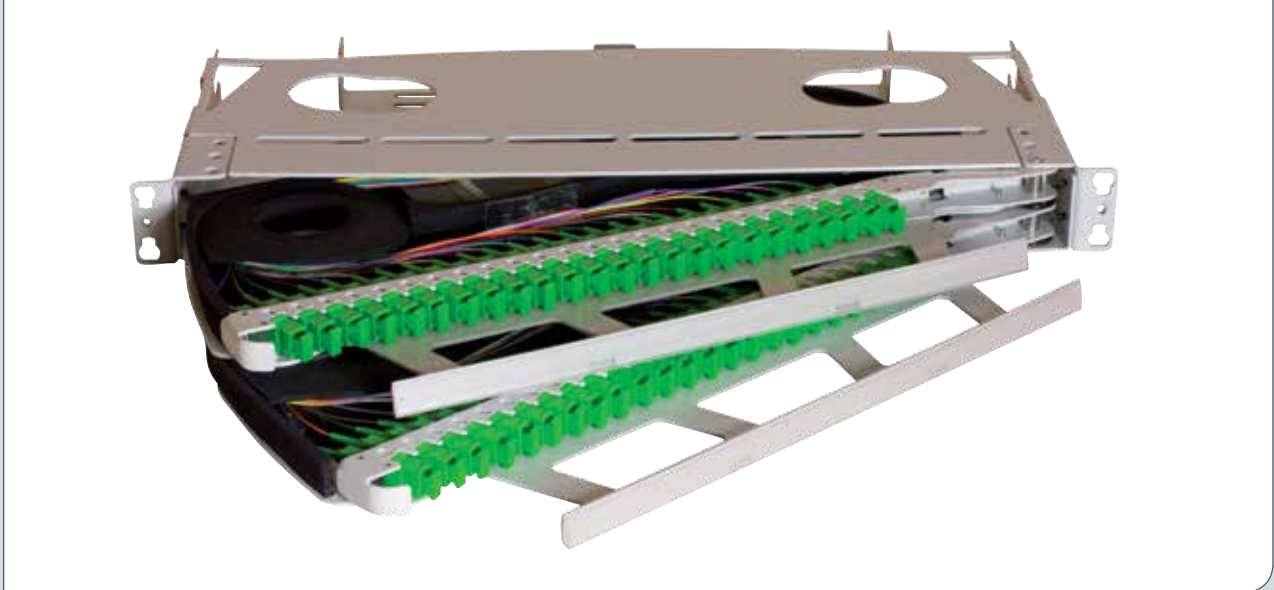


Example Part Number: **OPT01 LCS 24**  
 OPT01LCS24 will configure a black sliding patch panel with 24 LC singlemode adaptors



Example Part Number: **OPT02 STS 24**  
 OPT02STS24 will configure a black sliding patch panel with 24 ST singlemode adaptors

## P05 1U High Density Dual Tray Pivot Panel

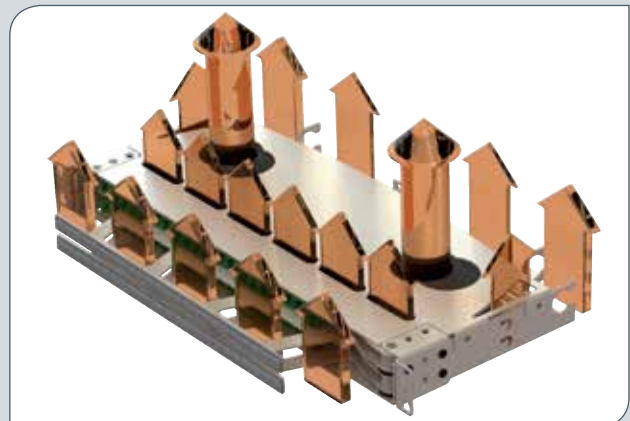
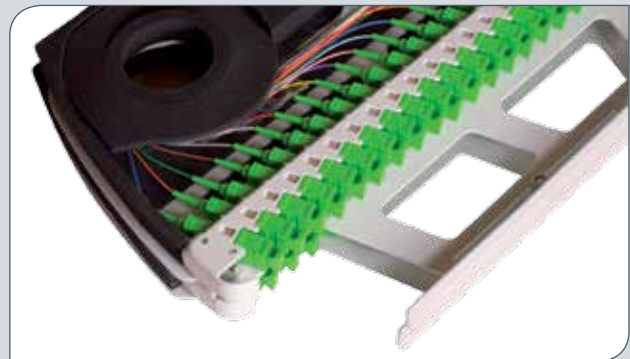


Optronics offers an innovative, high density pivot panel designed to accept 24 SC simplex footprint adaptors within each of two ½ U trays. Each tray fully manages the incoming fibres, pigtails and splices. The panel can pivot by up to 116° to allow easy access during installation or re-work with no disturbance of the existing cable or fibres. Angled adaptors route exiting patch cords

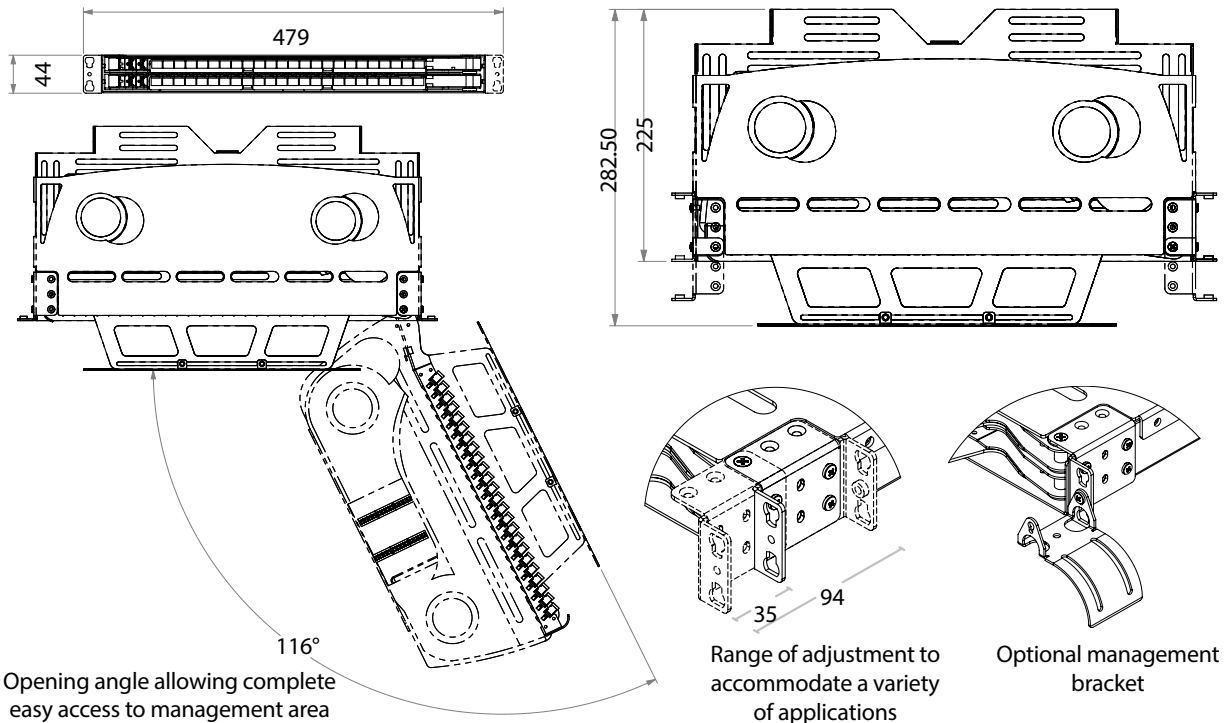
directly into the cabinet side management. An optional bracket maintains the minimum bend radius in any direction. The panel can be assembled to pivot in either direction, facilitating cable entry from either side. Ventilation tracts allow free flow of air through the panel, providing highly efficient cooling for active equipment.

### Features/Benefits

- > 48 SC simplex or LC duplex connections
- > Angled adaptors for reduced bend losses
- > Fully integrated fibre management
- > 1U overall with ½U individual trays
- > High flow ventilation
- > Side cable entry
- > Retrofit cable management for patch cord exit available
- > 30mm bend radius maintained throughout
- > Single layer interleaved splicing area
- > Individually labelled ports
- > REACH/SvHC
- > Available in standard colours and standard packaging
- > Fits standard 19" rack with adjustable positioning
- > Adjustable position with respect to frame
- > Individual cable tie and strength member tie points in each tray
- > Individual PG13.5 gland entry point for each tray
- > Cable entry from both sides dependant upon direction of pivot



## Technical Drawings



All dimensions in mm

## Technical Specification

1U DUAL TRAY PIVOTING PATCH PANEL	
Height	1U
Width	444mm
Depth	282.5mm
Net weight	3.0kg
IP rating	N/A
Suitable for Adaptor type	SC Simplex, LC Duplex
Number of Adaptor Positions	48
Mounting Adjustment range	64mm

1U DUAL TRAY PIVOTING PATCH PANEL	
Material	Cold-rolled steel
Material thickness	1.5mm
Material coating	Powder coating
Colour	Grey RAL7035
Operating temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	REACH/SvHC

## Ordering Information

DESCRIPTION	PART NUMBER
1U Pivoting Panel - Loaded with 48 x SC/APC Simplex Adaptors - Right Hand Pivot Assembly	P05SCA48RH/Z
1U Pivoting Panel - Loaded with 48 x SC/APC Simplex Adaptors - Left Hand Pivot Assembly	P05SCA48LH/Z
1U Pivoting Panel - Loaded with 24 x LC Duplex Singlemode adaptors - Left Hand Pivot Assembly	P05LCS24LH/Z
1U Pivoting Panel - Loaded with 24 x LC Duplex Singlemode adaptors - Right Hand Pivot Assembly	P05LCS24RH/Z
Optional cable management bracket	CMBRACKET/Z

## P06 High Density Pivot Panels



Optronics offers an innovative, high density pivot panel designed to accept 24 SC simplex footprint adaptors within each of the four ½U trays. Each tray fully manages the incoming fibres, pigtails and splices. The panel can pivot by up to 120° to allow easy access during installation or rework with no disturbance of the existing cable or fibres. Angled adaptors

route exiting patch cords directly into the cabinet side management. An optional bracket maintains the minimum bend radius in any direction. The panel can be assembled to pivot in either direction, facilitating cable entry from either side. Ventilation tracts allow free flow of air through the panel, providing highly efficient cooling for active equipment.

### Features/Benefits

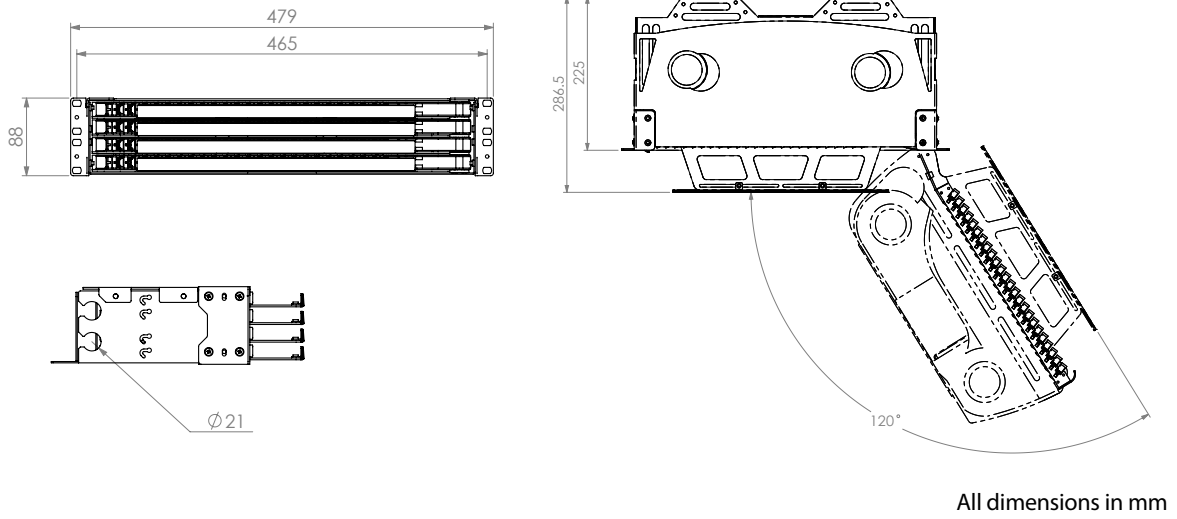
- > 96 SC simplex or LC duplex (pre-term only) connections
- > Angled adaptors for reduced bend losses
- > Fully integrated fibre management
- > 2U overall with ½u individual trays
- > High flow ventilation
- > Side cable entry
- > 30mm bend radius maintained throughout
- > Single layer interleaved splicing area
- > Individually labelled ports
- > Accepts both loose tube and distribution cable
- > REACH/SvHC
- > Available in standard colours and standard packaging
- > Fits standard 19" or ETSI rack with adjustable positioning
- > Adjustable position with respect to frame
- > Individual cable tie and strength member tie points in each tray
- > Individual PG13.5 Gland entry point for each tray
- > Cable entry from both sides dependent upon direction of pivot

### Applications

- > Telecom outside plant and ODF
- > Telecom CPE
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication ODF and distribution
- > Indoor and outdoor applications



## Technical Drawings



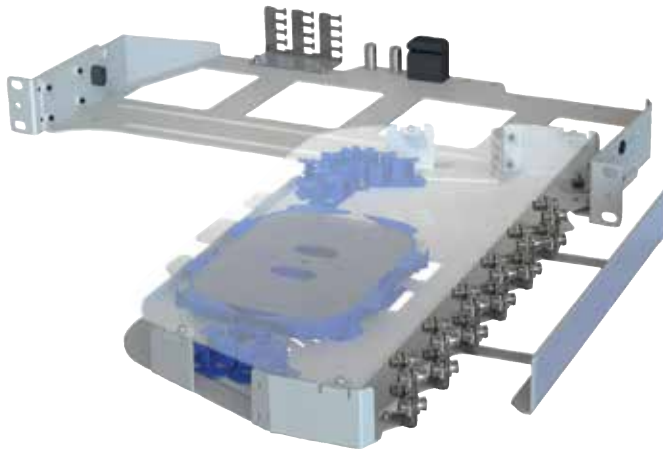
## Technical Specification

DESCRIPTION	
Height	2U
Width	479mm
Depth	286.5mm
Net weight	5.8kg
IP rating	N/A
Suitable for adaptor type	SC Simplex, LC Duplex (Pre-term only)
Number of adaptor positions	96
Mounting Adjustment range	64mm
Material	Cold-rolled steel
Material thickness	1.5mm
Material coating	Powder coating
Colour	Grey RAL7035
Operating temperature	-40°C to +60°C
Compliant to	REACH/SvHC
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1

## Ordering Information

DESCRIPTION	PART NUMBER
2U Pivot Panel – Loaded with 96 x SC/APC Simplex Adaptors - Right Hand Pivot Assembly	P06SCA96RH/Z
2U Pivot Panel – Loaded with 96 x SC/APC Simplex Adaptors - Left Hand Pivot Assembly	P06SCA96LH/Z
2U Pivot Panel – Loaded with 48 x LC Duplex Singlemode Adaptors - Right Hand Pivot Assembly	P06LCS48RH/Z
2U Pivot Panel – Loaded with 48 x LC Duplex Singlemode Adaptors - Left Hand Pivot Assembly	P06LCS48LH/Z
Optional Cable Management Bracket	CMBRACKET/Z

## P07 1U Pivot Patch Panel



Adaptor plates available



FC/ST



SC simplex/LC duplex/ E2000

Optronics offers an innovative, robust 1U pivot patch panel. This panel has been designed to accept up to 48 fibres housed within a 1U space. With the ability to use a full array of adaptor types offering

a flexible solution to the end user, enabling them to incorporate a multifunctional panel which allows easy access during installation or re-work with no disturbance of the existing cable or fibres.

### Features

- > Pivoting tray provides full access to adaptors and fibres whilst managing incoming cable length
- > Angled adaptor plates direct exiting patch cords to side management behind the removable front label plate
- > Holds up to 24 SC, LC, FC, ST or E2000 adaptors within 1U
- > Suitable for up to 4 incoming cables
- > The angled tray and minimal panel footprint increase airflow to aid equipment cooling
- > Tray can be assembled left or right handed, recessed or set forward to accommodate different racks
- > Tray secured by vibration dampening closing features
- > Splicing and fibre bend radius managed by the Optronics Speedway Splice Tray and Spool
- > Multiple adaptor options available
- > Accepts loose tube, distribution and pre-terminated cables
- > Shock and vibration tested
- > REACH/SvHC
- > Fits standard 19"

### Applications

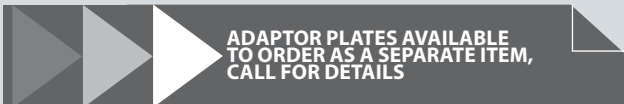
- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor and outdoor applications

### Technical Specification

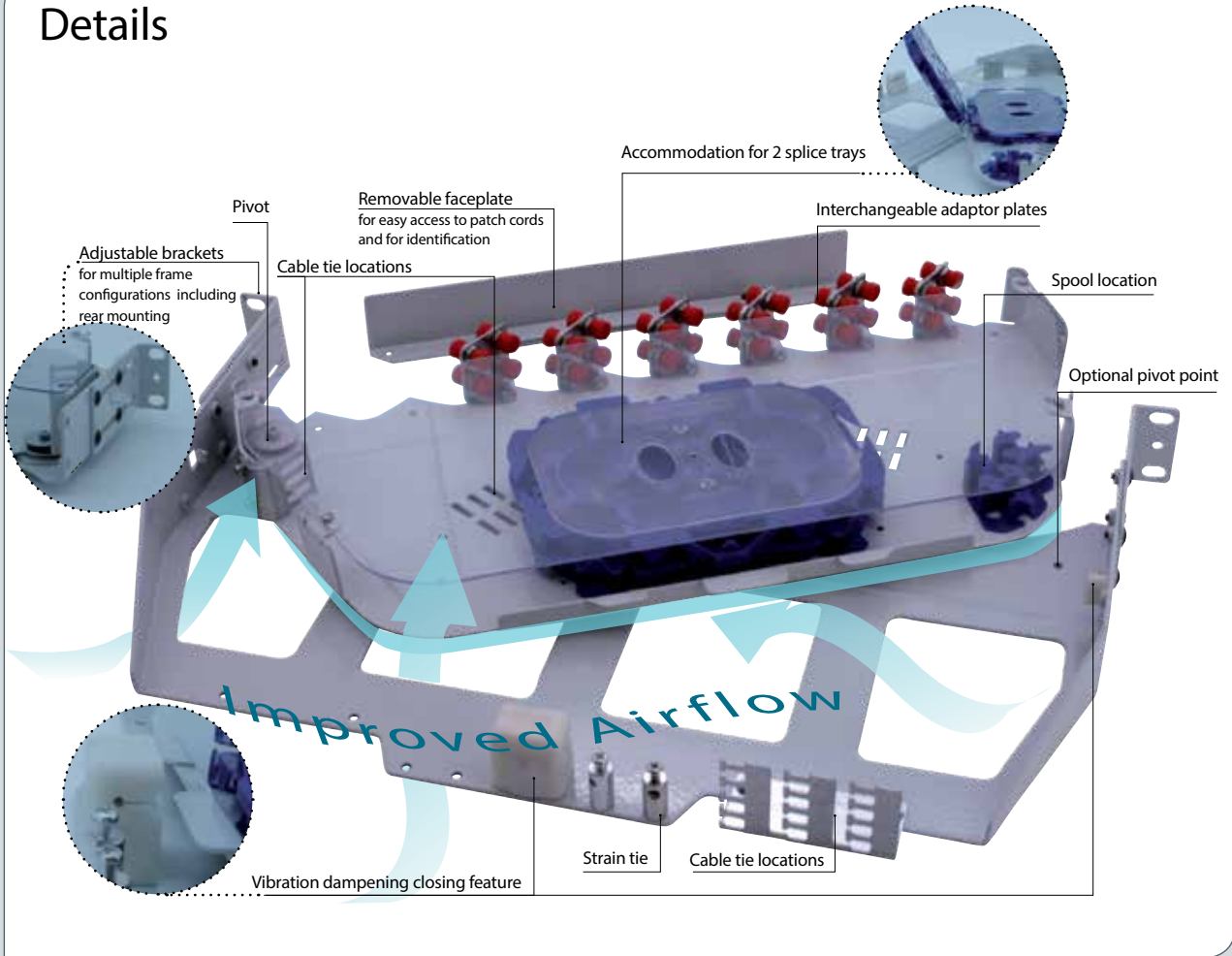
PIVOT PANEL	
Height	1U (44.4mm)
Width	482mm
Depth	274mm
Net weight	2.5 kg
Packaged weight	3 kg
Packaged dimensions (WxLxD)	450mm x 55mm x 260mm
IP rating	IP20
Suitable for adaptor type	ST, FC, SC Simplex, LC Duplex, E2000
Number of fibres	24 to 48
Mounting Adjustment range	50mm
Material	Cold-rolled steel
Material thickness	Tray: 1.2mm - Frame: 2.0mm
Material coating	Powder coating
Colour	Grey RAL 7035
Operating temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	REACH/SvHC

### Ordering Information

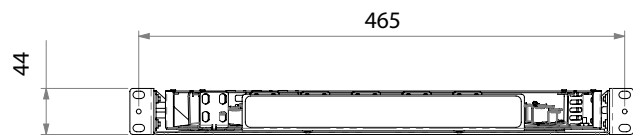
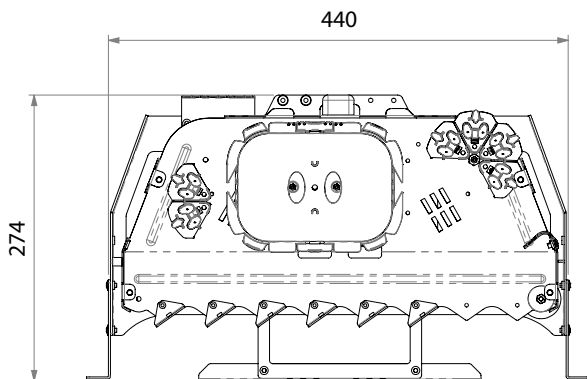
DESCRIPTION	PART NUMBER
1U Pivoting Patch Panel	P07XXX00/Z



## Details

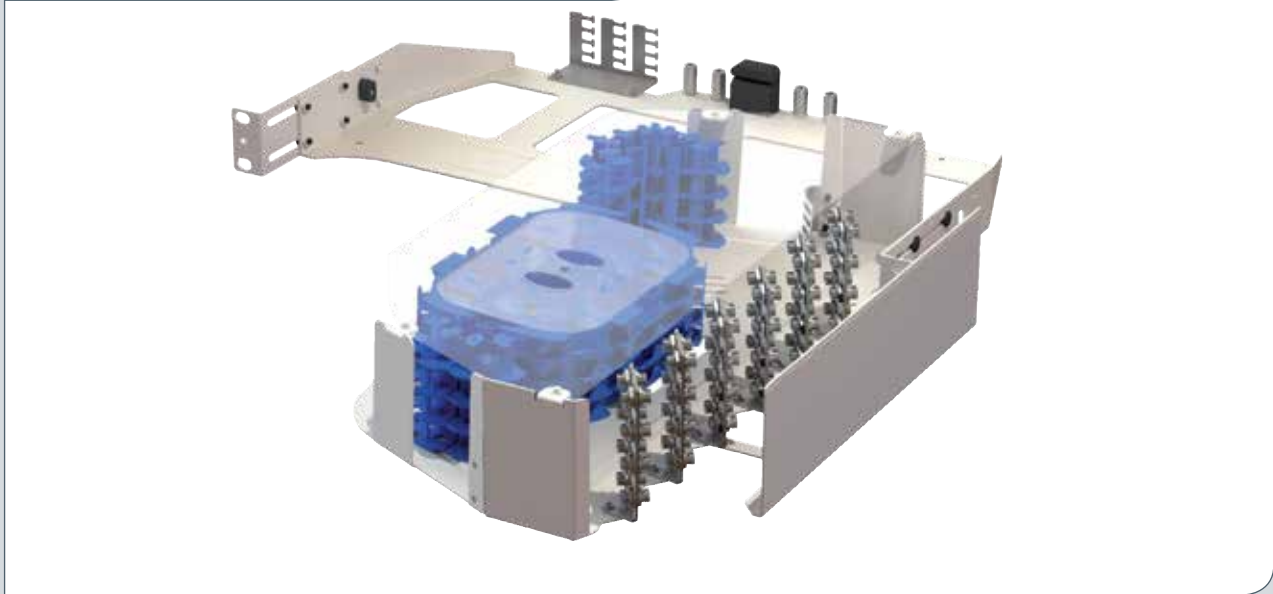


## Technical Drawings



All dimensions in mm

## P08 2U Pivot Patch Panel



Optronics offers an innovative, robust 2U pivot patch panel. This panel has been designed to accept up to 96 fibres housed within a 2U space. With the ability to use a full array of adaptor types offering

a flexible solution to the end user, enabling them to incorporate a multi functional panel which allows easy access during installation or re-work with no disturbance of the existing cable or fibres.

### Features

- > Pivoting tray gives full access to adaptors and fibres whilst managing incoming cable length
- > Angled adaptor plates direct patch cords to side management behind removable front label plate
- > Holds up to 48 SC, LC, FC, ST or E2000 adaptors in 2U
- > Suitable for up to 4 incoming cables
- > Angled tray and minimal panel foot print increase airflow to aid equipment cooling
- > Tray can be assembly left or right handed, and recessed or set forward to accommodate different racks
- > Tray secured by vibration dampening closing features
- > Splicing and fibre bend radius managed by Optronics's Speedway Splice Tray and Spool
- > Multiple adaptor options available
- > Accepts loose tube, distribution and pre terminated cables.
- > REACH/SvHC
- > Fits standard 19"

### Applications

- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor applications

### Technical Specification

PIVOT PANEL	
Height	2U (88.8mm)
Width	482mm
Depth	274mm
Net weight	3kg
Packaged weight	3.5kg
Packaged dimensions (WxLxD)	450mm x 98mm x 260mm
IP rating	IP20
Suitable for adaptor type	ST,FC,SC Simplex,LC Duplex, E2000
Number of fibre	48 to 96
Mounting Adjustment range	50mm
Material	Cold- rolled steel
Material thickness	1.2mm
Material coating	Powder coating
Colour	Grey RAL 7035
Operating temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754,EN297-1
Compliant to	REACH/SvHC

### Ordering Information

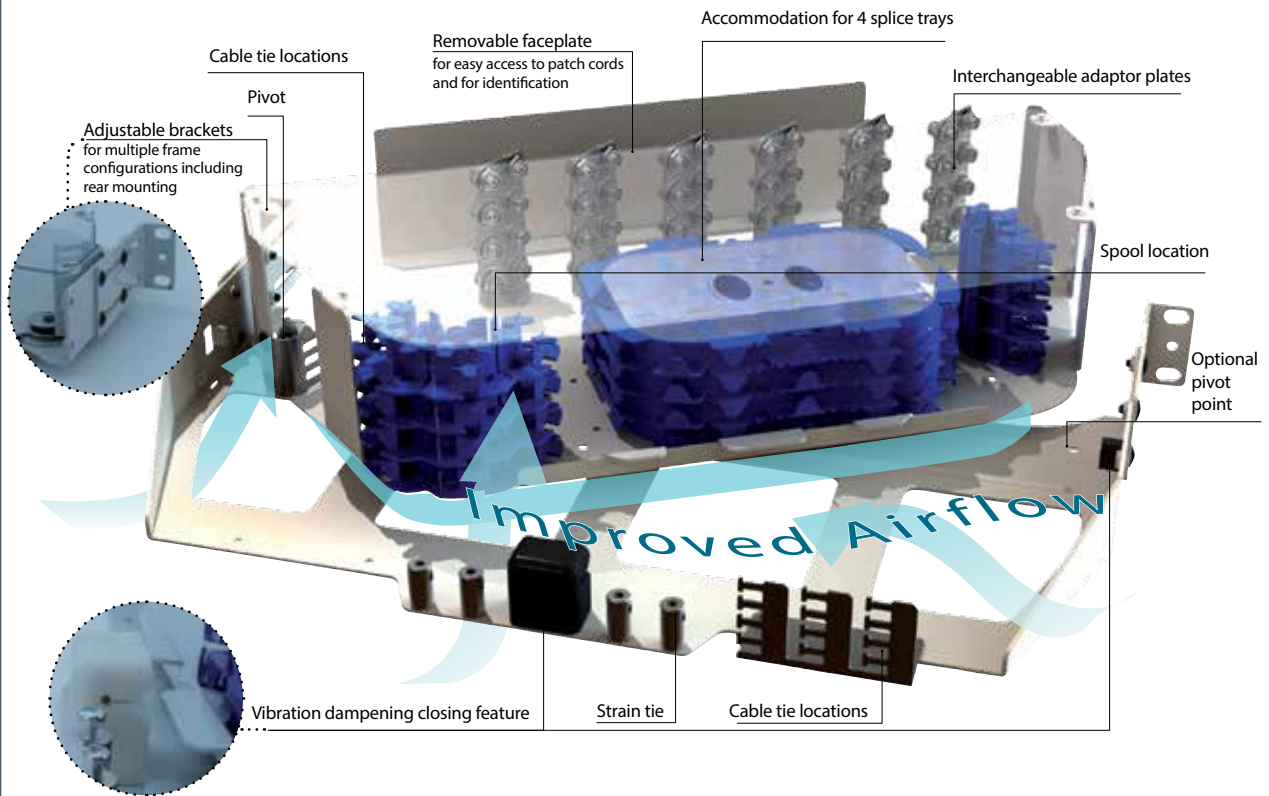
DESCRIPTION	PART NUMBER
2U Pivoting Patch Panel	P08XXX00/Z



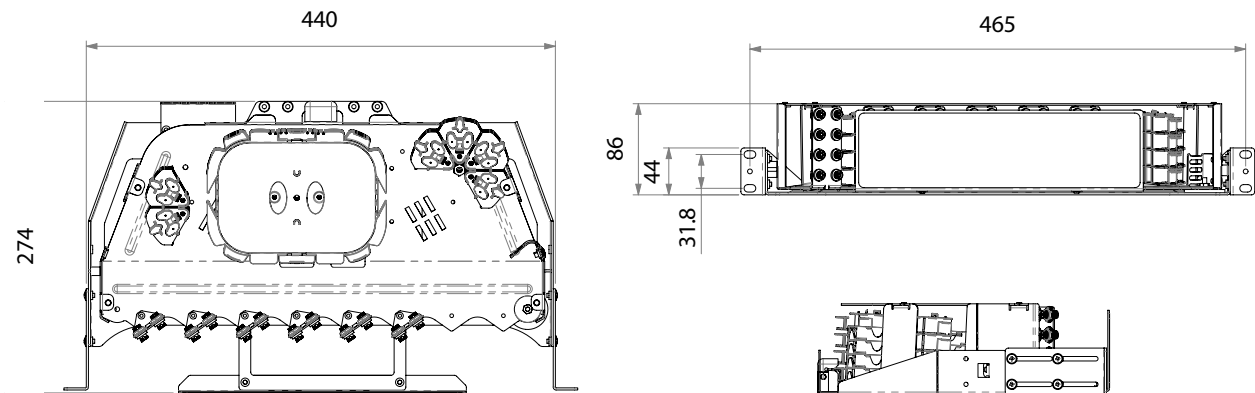
ADAPTOR PLATES AVAILABLE TO ORDER AS A SEPARATE ITEM, CALL FOR DETAILS



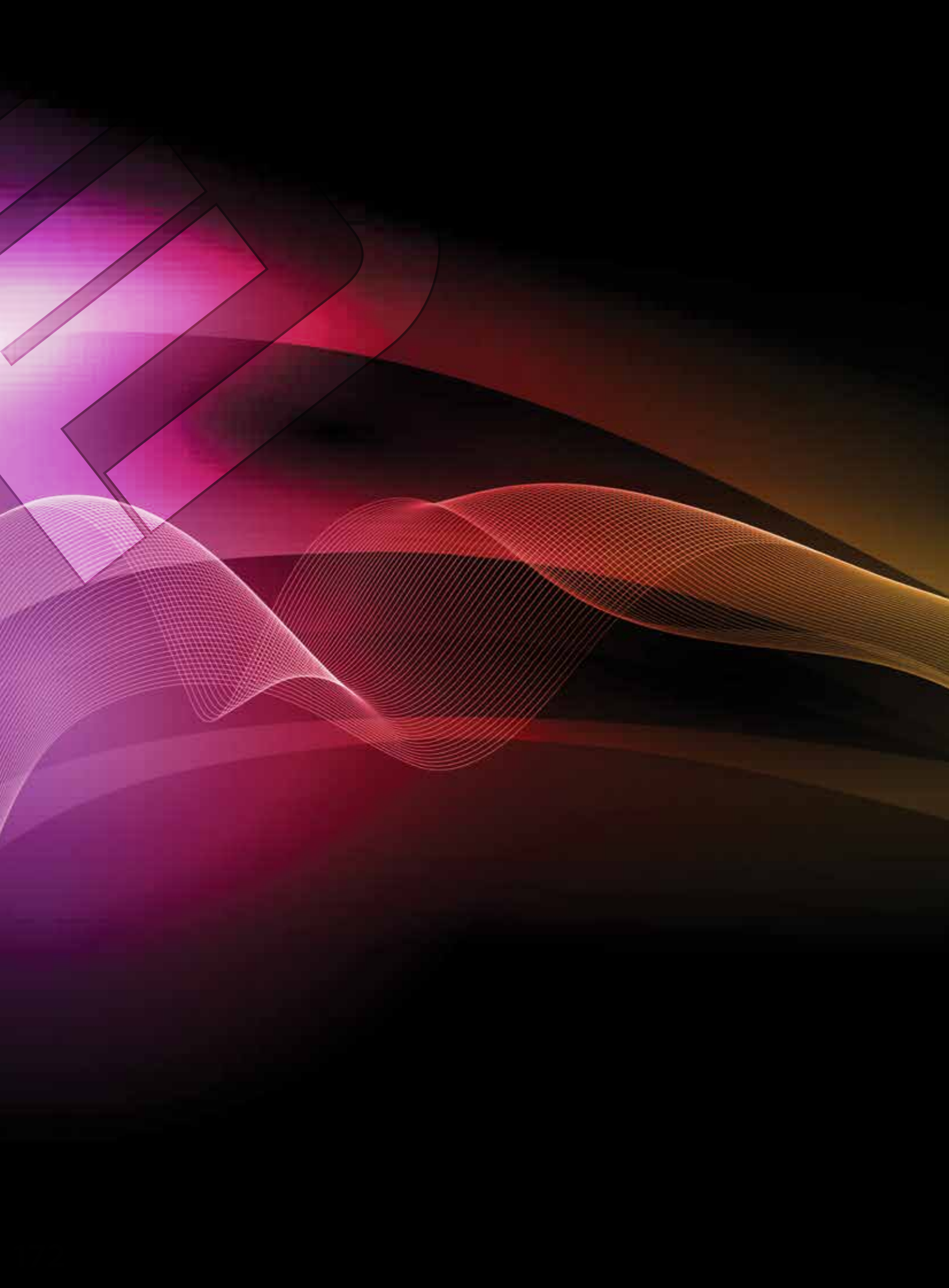
## Details



## Technical Drawings



All dimensions in mm










**Fibre Management**

# **Patch Panels for use with LGX Style Adaptor Modules**

LGX Style Adaptor Modules	174
AM Style Modular Patch Panels	175
LGX Style Splice Cassettes	183
3U 14 Slot High Density Chassis	186



## LGX Style Adaptor Modules

	<b>SC MULTIMODE SIMPLEX</b> L01 (8 ports/Adaptors) L01SCM08/Z Adaptor only Part No. SCUSPHRBEIGE		<b>LC MULTIMODE DUPLEX</b> L01 (8 ports/Adaptors) L01LCM08/Z Adaptor only Part No. LCDPXBEIGE
	<b>SC SINGLEMODE SIMPLEX</b> L01 (8 ports/Adaptors) L01SCS08/Z Adaptor only Part No. SCUSZR02		<b>LC SINGLEMODE DUPLEX</b> L01 (8 ports/Adaptors) L01LCS08/Z Adaptor only Part No. LCDPXBLUE
	<b>SC-APC SINGLEMODE SIMPLEX</b> L01 (8 ports/Adaptors) L01SCA08/Z Adaptor only Part No. SCAPCUSGREEN		<b>LC-APC DUPLEX</b> L01 (8 ports/Adaptors) L01LCA08/Z Adaptor only Part No. LCAPCUDGREEN
	<b>SC MULTIMODE DUPLEX</b> L03 (6 ports/Adaptors) L03SCM06/Z Adaptor only Part No. SCUDPHRBEIGE		<b>LC QUAD MULTIMODE</b> L03 (6 ports/Adaptors) L03LQM06/Z Adaptor only Part No. LCQUADBEIGE
	<b>SC SINGLEMODE DUPLEX</b> L03 (6 ports/Adaptors) L03SCS06/Z Adaptor only Part No. SCUDZR02BLUE		<b>LC QUAD SINGLEMODE</b> L03 (6 ports/Adaptors) L03LQS06/Z Adaptor only Part No. LCQUADBLUE
	<b>SC-APC SINGLEMODE DUPLEX</b> L03 (6 port/Adaptors) L03SCA06/Z Adaptor only Part No. SCAPCUDGREEN		<b>MJ</b> L01 (8 port/Adaptors) L01mTM08/Z Adaptor only Part No. MJUNITER
	<b>ST MULTIMODE</b> L02 (8 port/Adaptors) L02STM08/Z Adaptor only Part No. STUPHBR		<b>E2000 MULTIMODE</b> L01 (8 port/Adaptors) L01E2m08/Z Adaptor only Part No. E2UBEIGE
	<b>ST SINGLEMODE</b> L02 (8 port/Adaptors) L02STS08/Z Adaptor only Part No. STUZR02		<b>E2000 SINGLEMODE</b> L01 (8 port/Adaptors) L01E2S08/Z Adaptor only Part No. E2UBLUE
	<b>FC SINGLEMODE</b> L02 (8 port/Adaptors) L02FCS08/Z Adaptor only Part No. FCUPHBR-DD		<b>E2000-APC SINGLEMODE</b> L01 (8 port/Adaptors) L01E2A08/Z Adaptor only Part No. E2APCUGREEN
	<b>FC MULTIMODE</b> L02 (8 port/Adaptors) L02FCM08/Z Adaptor only Part No. FCUZR02-DD		<b>BLANK PLATE</b> L04/Z
	<b>FC-APC SINGLEMODE</b> L02 (8 port/Adaptors) L02FCA08/Z Adaptor only Part No. FCAPCUZR02-DD		

**Also available in grey**

LGX Style adaptor modules are also available in grey, to order please add "/G" to the part number for the correspondingly back version (above)

**E.G. L01LCM08/G**



## 1U AM Style Modular Patch Panel



Optronics offers a complete range of innovative, robust optical panels, designed in high-grade steel and aluminium with a hinged, smoked Plexiglas front safety door. The panels have been designed to accept MTP Cassettes or LGX-style adaptor plates in a wide variety of configurations.

This line of panels offers a highly flexible solution, enabling the installer to incorporate a multi-functional chassis which

allows easy access during installation or re-working with no disturbance to the existing cable or fibres.

This family of panels also offers multiple cable entry solutions allowing MPO/MTP trunks, pre-terminated cables or LT/TB/breakout cables to be easily connected internally via the highly flexible internal management spools or splice cassettes, making this panel one of the most flexible on the market.

### Features

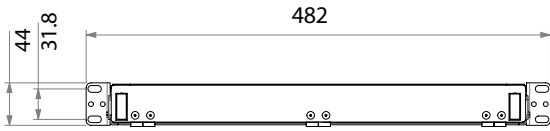
- > High grade steel and aluminium construction
- > Hinged front Plexiglas door
- > Aluminium slide rails
- > Powder coat finish in standard black
- > Flexible internal cable management
- > Fully flexible for 19" and 23" applications
- > Sliding tray for ease of installation
- > Integrated spring loaded tray retainer
- > Holds up to 3 cassettes or LGX style adaptor plates
- > Multiple adaptor options available, loaded or unloaded
- > Splicing option available
- > Side patch cord exit points
- > Removable quick access top covers
- > Removable front
- > Accepts loose tube, distribution cable and MTP trunk cable

### Technical Specification

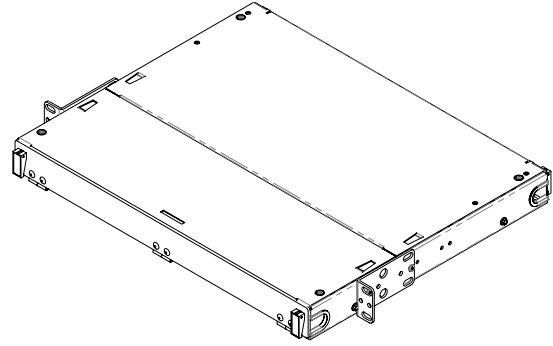
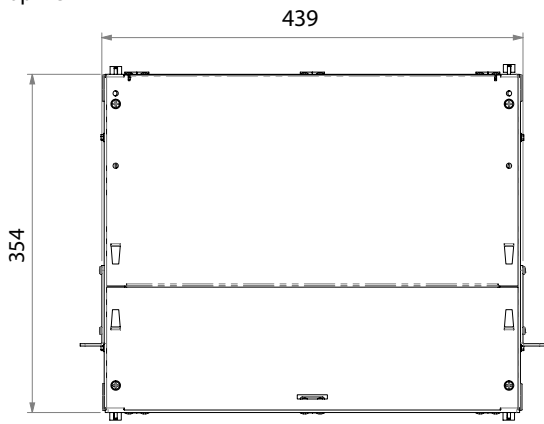
1U MODULAR PATCH PANEL CHASSIS	
Height	1U (44.4mm)
Width	432mm
Depth	356mm
Net weight	5.9kg
Packaged weight	6.3kg
Packaged dimensions (WxLxH)	444mm x 508mm x 102mm
IP rating	Not Applicable
Suitable for Adaptor type	LGX / MTP Cassettes
Number of ports	3
Material	Cold-rolled steel
Material coating	Powder coating
Material thickness	1.2mm
Colour	RAL 9004
Operating temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	REACH/SvHC

## 1U AM Style Modular Patch Panel

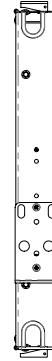
Front View



Top View



Side View



All dimensions in mm

## Ordering Information

DESCRIPTION	PART NUMBER
1U AM Style Modular Patch Panel	AM1U/Z

## 2U AM Style Modular Patch Panel



Optronics offers an innovative, robust, 2U sliding panel with a smoked Plexiglas hinged front door. This panel has been designed to accept up to 6 MTP cassettes or LGX style assemblies. The ability to use a full array of adaptor types offers a flexible solution to the end user, enabling them to incorporate a multi functional chassis, which allows easy access during installation or re-work with no disturbance of

the existing cable or fibres. In addition to the array of adaptors the panel also offers multiple cable entry solutions including MTP trunk cables connected to 6 individual MTP cassettes, with up to 24 fibres in each, or loose tube cable for splicing into standard splice cassettes. In providing standard splicing or pre terminated solutions, this panel is one of the most flexible on the market.

### Features

- > Up to 6 LGX components in 2U
- > 19" and 23" rack mountable
- > Sliding tray for ease of installation
- > Integrated spring loaded tray retainer
- > Up to 6 x 24 fibre MTP cassettes
- > Multiple adaptor options available
- > Splicing option available
- > Side patch cord exit
- > Hinged front Plexiglas door
- > Removable top cover
- > Accepts loose tube, distribution cable and MTP trunk cable.
- > REACH/SvHC

### Applications

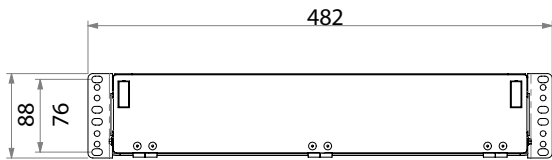
- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor applications

### Technical Specification

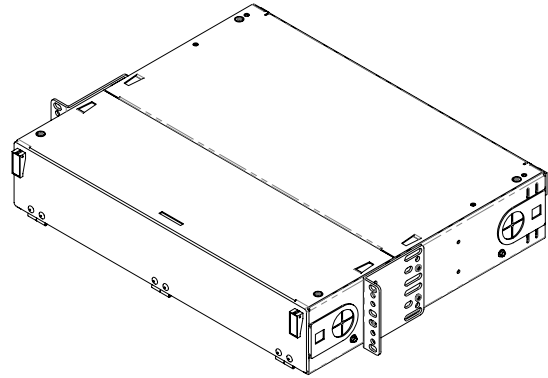
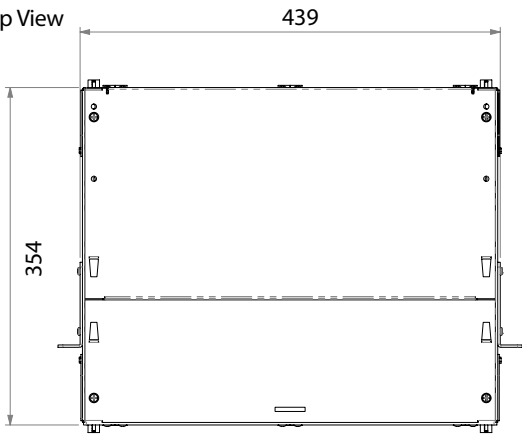
1U MODULAR PATCH PANEL CHASSIS	
Height	2U (88.9mm)
Width	432mm
Depth	356mm
Net weight	7.5kg
Packaged weight	8.0kg
Packaged dimensions (WxLxH)	510mm x 450mm x 170mm
Suitable for Adaptor type	LGX / MTP Cassettes
Number of ports	6
Material	Cold-rolled steel
Material coating	Powder coating
Material thickness	1.2mm
Colour	RAL 9004
Operating temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	REACH/SvHC

## 2U AM Style Modular Patch Panel

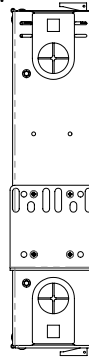
Front View



Top View



Side View



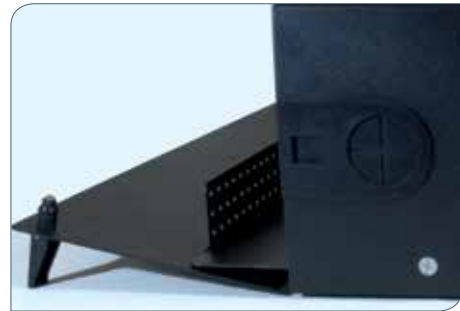
All dimensions in mm

## Ordering Information

DESCRIPTION	PART NUMBER
2U AM Style Modular Patch Panel	AM2U/Z



## 3U AM Style Modular Patch Panel



Optronics offers an innovative, robust, 3U sliding panel with a smoked Plexiglas hinged front door. This panel has been designed to accept up to 9 MTP cassettes or LGX style assemblies. The ability to use a full array of adaptor types offers a flexible solution to the end user, enabling them to incorporate a multi functional chassis which allows easy access during installation or re-work with no disturbance of the

existing cable or fibres. In addition to the array of adaptors, the panel also offers multiple cable entry solutions, MTP trunk cables connected to 9 individual MTP cassettes with up to 24 fibres in each, loose tube cable to be spliced into standard splice cassettes to allow standard splicing or pre terminated solutions, making this panel one of the most flexible on the market.

### Features/Benefits

- > Up to 9 LGX components in 3U
- > 19" and 23" rack mountable
- > Sliding tray for ease of installation
- > Integrated spring loaded tray retainer
- > Up to 9 x 24 fibre MTP cassettes
- > Multiple adaptor options available
- > Splicing option available.
- > Side patch cord exit
- > Hinged front Plexiglas door
- > Removable top cover
- > Accepts loose tube, distribution cable and MTP trunk cable
- > REACH/SvHC

### Applications

- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor applications

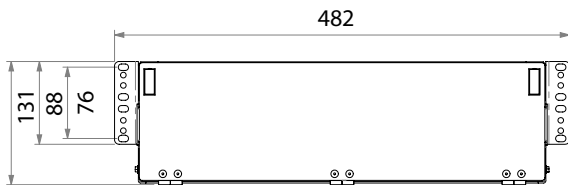
### Technical Specification

#### 1U MODULAR PATCH PANEL CHASSIS

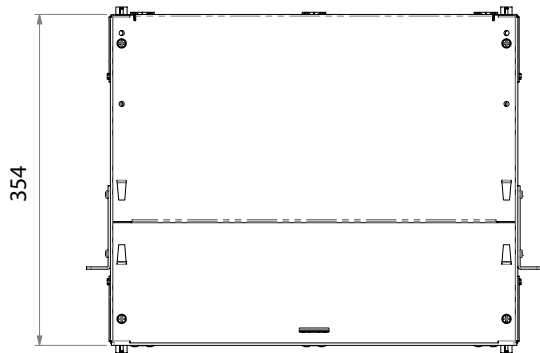
Height	3U (133.4mm)
Width	432mm
Depth	356mm
Net weight	8.0kg
Packaged weight	8.5kg
Packaged dimensions (WxLxH)	510mm x 450mm x 210mm
Suitable for Adaptor type	LGX / MTP Cassettes
Number of ports	9
Material	Cold-rolled steel
Material coating	Powder coating
Material thickness	1.2mm
Colour	RAL 9004
Operating temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	REACH/SvHC

## 3U AM Style Modular Patch Panel

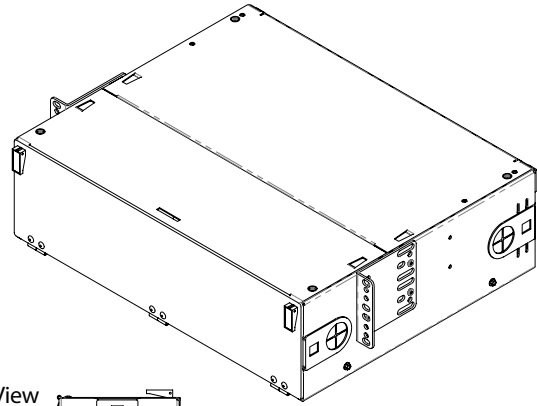
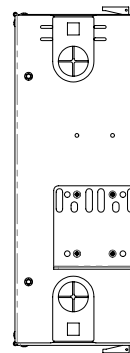
Front View



Top View



Side View



All dimensions in mm

## Ordering Information

DESCRIPTION	PART NUMBER
3U AM Style Modular Patch Panel	AM3U/Z

## 4U AM Style Modular Patch Panel



Optronics offers an innovative and robust, 4U sliding panel with a smoked Plexiglas hinged front door. This panel has been designed to accept up to 12 MTP cassettes or LGX style assemblies. The ability to use a full array of adaptor types offers a flexible solution to the end user, enabling them to incorporate a multi functional chassis, which allow easy access during installation or re-work with no disturbance of the

existing cable or fibres. In addition to the array of adaptors the panel also offers multiple cable entry solutions, MTP trunk cables connected to 12 individual MTP cassettes with up to 24 fibres in each, loose tube cable to be spliced into standard splice cassettes to allow standard splicing or pre terminated solutions, making this panel one of the most flexible on the market.

### Features

- > Up to 12 LGX components in 4U
- > 19" and 23" rack mountable
- > Sliding tray for ease of installation
- > Integrated spring loaded tray retainer
- > Up to 12 x 24 fibre MTP cassettes
- > Multiple adaptor options available
- > Splicing option available
- > Side patch cord exit
- > Hinged front Plexiglas door
- > Removable top cover
- > Accepts loose tube, distribution cable and MTP trunk cable
- > REACH/SvHC

### Applications

- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor applications

### Technical Specification

#### 1U MODULAR PATCH PANEL CHASSIS

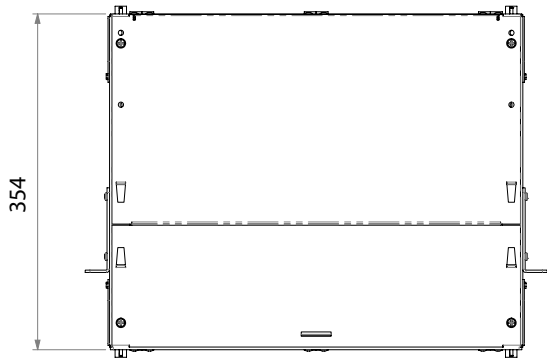
Height	4U (177.8mm)
Width	432mm
Depth	356mm
Net weight	9.0kg
Packaged weight	9.5kg
Packaged dimensions (WxLxH)	510mm x 450mm x 260mm
Suitable for Adaptor type	LGX / MTP Cassettes
Number of ports	12
Material	Cold-rolled steel
Material coating	Powder coating
Material thickness	1.2mm
Colour	RAL 9004
Operating temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	REACH/SvHC

## 4U AM Style Modular Patch Panel

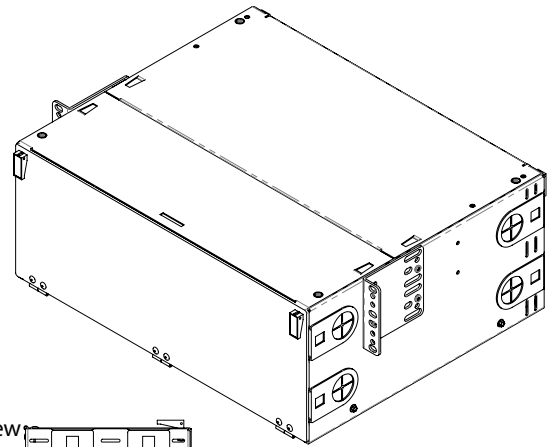
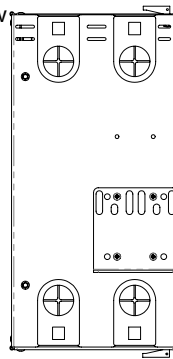
Front View



Top View



Side View



All dimensions in mm

## Ordering Information

DESCRIPTION	PART NUMBER
4U AM Style Modular Patch Panel	AM4U/Z



## LGX Style Splice Cassettes



This cassette offers a robust case to house the LGX modules used in patch panels with LGX footprints and the LGX 3U chassis. The case allows for up to 24 splices from pigtailed to incoming fibre from a cable,

it also includes a hole for a cable entry and cable gland plus strain tie locations as standard. The interchangeable LGX modules provide a flexible solution to the user allowing a range of different adaptor types.

### Features

- > Interchangeable LGX modules
- > Lightweight aluminium design
- > Multiple cable entry points
- > Strain tie Locations
- > Screw in LGX plates offer flexible solution
- > Wide range of adaptor types
- > Bend protected at all time

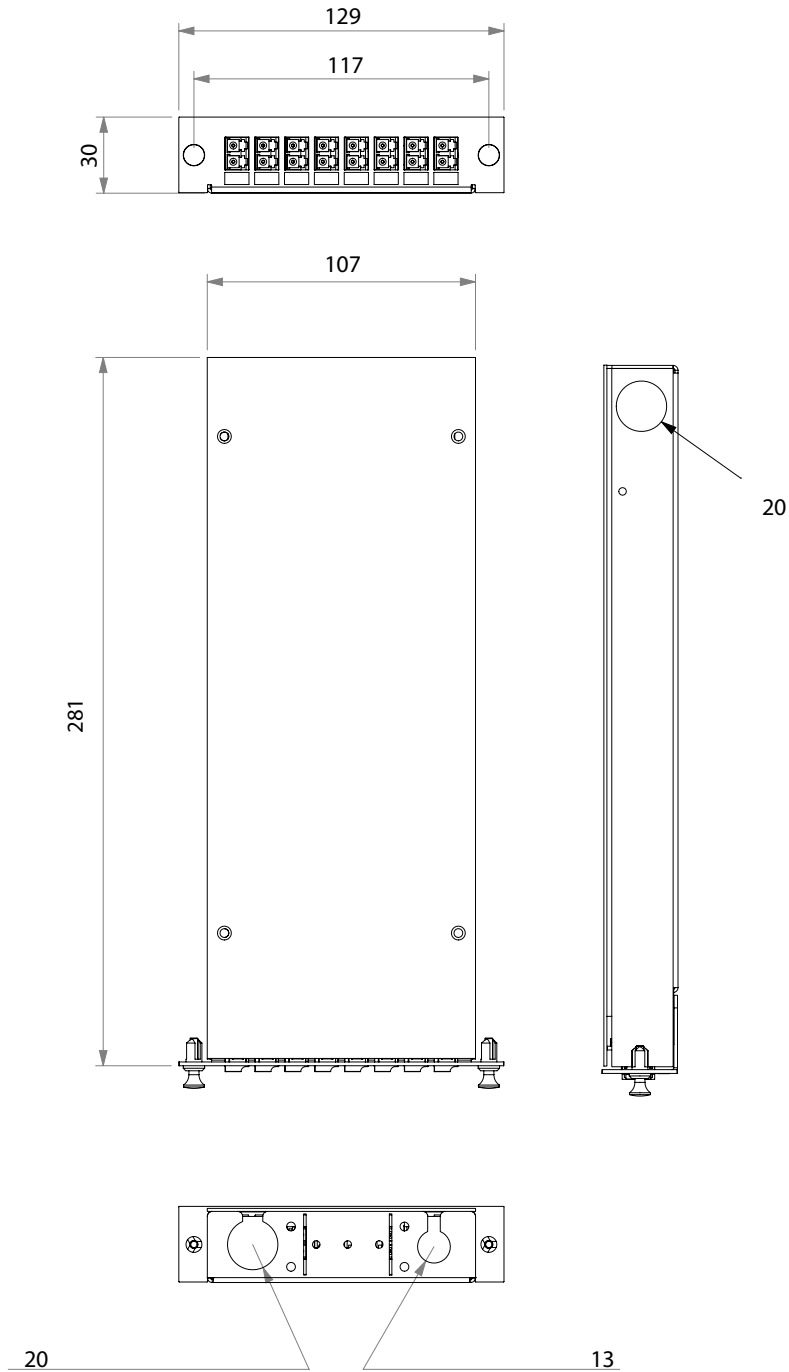
### Applications

- > Data Centre Infrastructure
- > Storage Area Network
- > Fibre Channel

### Technical Specification

LGX STYLE SPLICE CASSETTE	
Height	30mm
Width	107mm
Length	280mm
Net weight	270g
Packaged weight	370g
Packaged dimensions (WxLxH)	34mm x 166mm x 312mm
Cable Entry 13mm	1
Cable Entry 20mm	1
Material	Sheet Aluminium
Material thickness	1.2mm
Material finish	Electrostatic Powder coating
Colour	Black RAL 9004
Operating temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	REACH/SvHC

## LGX Style Splice Cassettes Technical Drawings



All dimensions in mm

## LGX Style Splice Cassettes

### Ordering Information

Choose the adaptor type you require the cassette to have.

	<b>FC-APC SINGLEMODE</b> L02 (8 port/Adaptors) L02FCA08/Z Adaptor only Part No. FCAPCUZR02-DD		<b>LC MULTIMODE DUPLEX</b> L01 (8 ports/Adaptors) L01LCM08/Z Adaptor only Part No. LCDPXBEIGE
	<b>SC MULTIMODE SIMPLEX</b> L01 (8 ports/Adaptors) L01SCM08/Z Adaptor only Part No. SCUSPHBRBEIGE		<b>LC SINGLEMODE DUPLEX</b> L01 (8 ports/Adaptors) L01LCS08/Z Adaptor only Part No. LCDPXBLUE
	<b>SC SINGLEMODE SIMPLEX</b> L01 (8 ports/Adaptors) L01SCS08/Z Adaptor only Part No. SCUSZR02		<b>LC-APC DUPLEX</b> L01 (8 ports/Adaptors) L01LCA08/Z Adaptor only Part No. LCAPCUDGREEN
	<b>SC-APC SINGLEMODE SIMPLEX</b> L01 (8 ports/Adaptors) L01SCA08/Z Adaptor only Part No. SCAPCUSGREEN		<b>LC QUAD MULTIMODE</b> L03 (6 ports/Adaptors) L03LQM06/Z Adaptor only Part No. LCQUADBEIGE
	<b>SC MULTIMODE DUPLEX</b> L03 (6 ports/Adaptors) L03SCM06/Z Adaptor only Part No. SCUDPHBRBEIGE		<b>LC QUAD SINGLEMODE</b> L03 (6 ports/Adaptors) L03LQS06/Z Adaptor only Part No. LCQUADBLUE
	<b>SC SINGLEMODE DUPLEX</b> L03 (6 ports/Adaptors) L03SCS06/Z Adaptor only Part No. SCUDZR02BLUE		<b>MJ</b> L01 (8 port/Adaptors) L01mTM08/Z Adaptor only Part No. MJUNITER
	<b>SC-APC SINGLEMODE DUPLEX</b> L03 (6 port/Adaptors) L03SCA06/Z Adaptor only Part No. SCAPCUDGREEN		<b>E2000 MULTIMODE</b> L01 (8 port/Adaptors) L01E2m08/Z Adaptor only Part No. E2UBEIGE
	<b>ST MULTIMODE</b> L02 (8 port/Adaptors) L02STM08/Z Adaptor only Part No. STUPHBR		<b>E2000 SINGLEMODE</b> L01 (8 port/Adaptors) L01E2S08/Z Adaptor only Part No. E2UBLUE
	<b>ST SINGLEMODE</b> L02 (8 port/Adaptors) L02STS08/Z Adaptor only Part No. STUZR02		<b>E2000-APC SINGLEMODE</b> L01 (8 port/Adaptors) L01E2A08/Z Adaptor only Part No. E2APCUGREEN
	<b>FC SINGLEMODE</b> L02 (8 port/Adaptors) L02FCS08/Z Adaptor only Part No. FCUPHBR-DD		<b>BLANK PLATE</b> L04/Z
	<b>FC MULTIMODE</b> L02 (8 port/Adaptors) L02FCM08/Z Adaptor only Part No. FCUZR02-DD		

## 3U 14 Slot High Density Chassis for use with LGX Style Splice Cassettes



3U Chassis  
scaling up to  
336 discrete fibres  
Part Number: LGXCHASSIS



Optronics offers this innovative and robust, high density 3U chassis, designed to accept up to 14 LGX style cassettes. The ability to use a full array of adaptor types offers a flexible solution to the end user, enabling them to incorporate a multi functional chassis which allows easy access during installation or re-work with no disturbance of the existing cable or fibres. In addition to the array

of adaptors, the chassis also offers multiple cable entry solutions including loose tube cable connecting to 14 individual extended cassettes to allow standard splicing or 14 LGX style modules for pre-terminated solutions, also MTP trunk cables connected to 14 individual MTP cassettes with up to 24 fibres in each. This flexibility makes this chassis one of the most flexible on the market.

### Features

- > Up to 14 LGX style adaptor plates/cassettes
- > Up to 14 x 24 fibre MTP cassettes
- > Multiple adaptor options available
- > Fully integrated fibre management
- > Splicing option available
- > Flat pack for easy shipment
- > Patch cord exit retrofit cable management available
- > 30mm bend radius maintained throughout
- > Accepts loose tube, distribution cable and MTP trunk cable
- > REACH/SvHC and UL rated
- > Fits standard 19" cabinet
- > Rear cable management bar as standard

### Applications

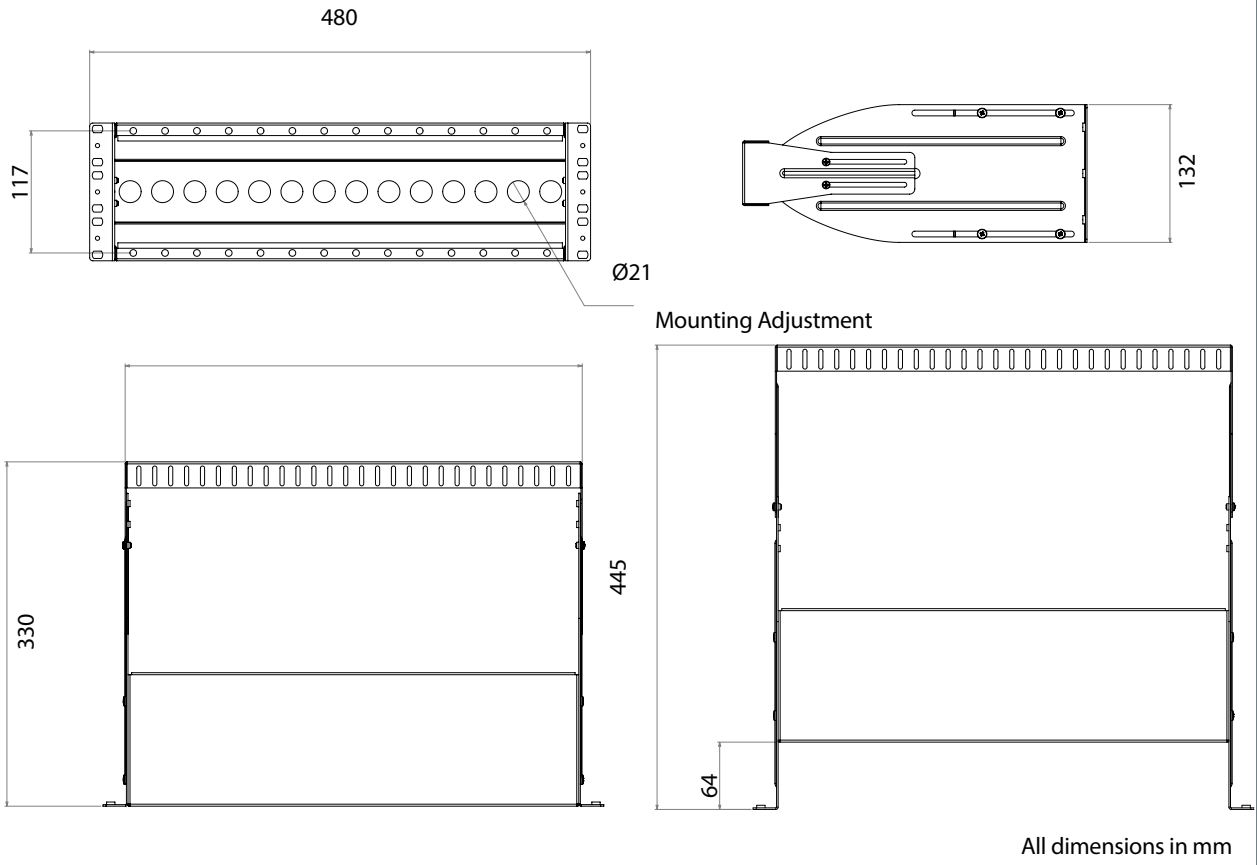
- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor applications

### Technical Specification

3U 14 SLOT HIGH DENSITY CHASSIS	
U Size	3U (133.2mm)
Width	480mm
Depth	335mm
Net weight	2.76 kgs
Packaged weight	3.24 kgs
Packaged dimensions (WxLxH)	490mm x 110mm x 240mm
IP rating	N/A
Suitable for Adaptor type	LGX / MTP Cassettes
Number of Module Positions	14
Mounting Adjustment range	64mm
Material	Cold- rolled steel
Material thickness	1.5mm
Material coating	Powder coating
Colour	RAL 9004 / RAL 7035
Operating temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	REACH/SvHC



**3U 14 Slot High Density Chassis**  
for use with LGX Style Splice Cassettes



Ordering Information

DESCRIPTION	PART NUMBER
3U 14 Port Modular Patch Panel for use with MTP Cassette Modules	LGXCHASSIS/Z

## Fibre Management

# MPO/MTP Patch Panels

MTP Cassettes Modules	189
1U 3 Slot High Density Chassis	191
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1U Ultra High Density Modular Patch Panel System	192
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LC Connector Extraction Tool	214
P99 1U Splice Panel	216

## MTP Cassettes Modules



Optronic MTP Cassette Modules provide secure transition between MTP and LC or SC discrete connectors. They are used to interconnect MTP backbones with LC or SC patching.

Modular system allows for rapid deployment of high density data centre infrastructure as well as improved troubleshooting and re-configuration during moves, adds and changes. Cassettes

can be mounted in 1U or 3U 19" multislotted chassis.

MTP Cassettes contain factory controlled and tested MTP-LC fan outs to deliver optical performance and reliability. Premium versions of low loss MTP Elite and LC or SC connectors are offered featuring low insertion loss for demanding power budget high speed networks.

### Features

- > MTP (US Conec) brand MPO standard compliant multifibre connector
- > LC (SFF Data Centre standard), SC discrete interface
- > OS1/2, OM3, OM4 fibre grades (OM1 and OM2 available)
- > 12 and 24 fibre versions - 12 LC (Duplex) / SC (Simplex) adaptors
- > Polarity A (standard), B or C
- > Factory terminated and tested
- > High performance zirconia sleeve adaptors

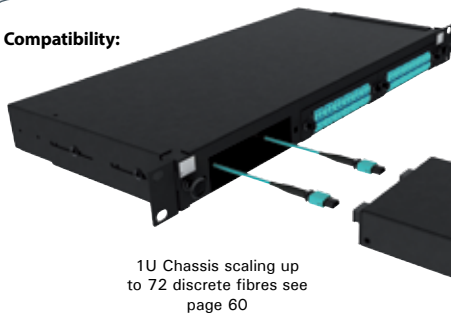
### Applications

- > Data Centre Infrastructure
- > Storage Area Network- Fibre Channel
- > Parallel Optics

### Benefits

- > Rapid Deployment - factory terminated modular system saves installation and re-configuration time during moves, adds and changes
- > MTP Interface - MTP US Conec brand components feature superior optical and mechanical properties
- > Optimised Performance - low loss MTP Elite, discrete Premium connectors and OM4 fibre assures low insertion losses and power penalties in tight power budget high speed network environment
- > High Density - 12 or 24 fibre cassettes can be mounted in 1U scaling up to 72 or in 3U scaling up to 336 discrete connectors
- > Reliability - 100% tested- combination of high quality components and Optronic manufacturing quality control guarantees product to the highest standards

#### Compatibility:

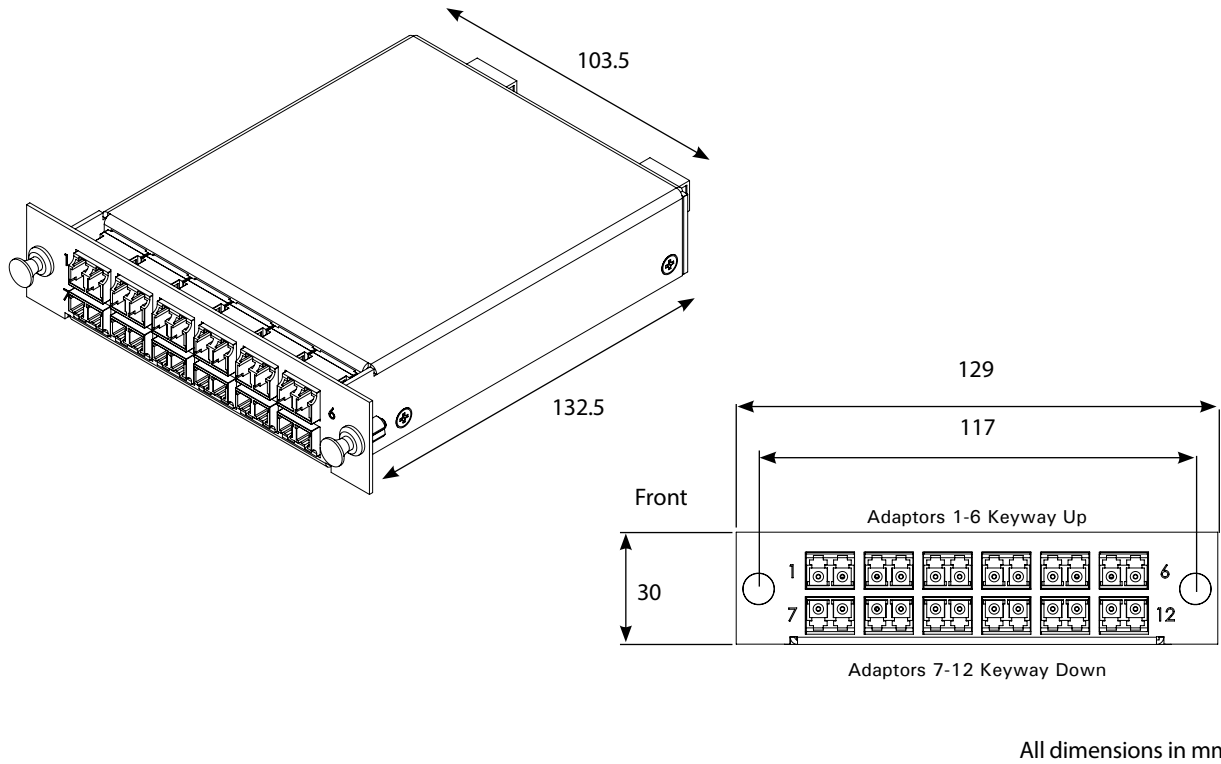


1U Chassis scaling up to 72 discrete fibres see page 60

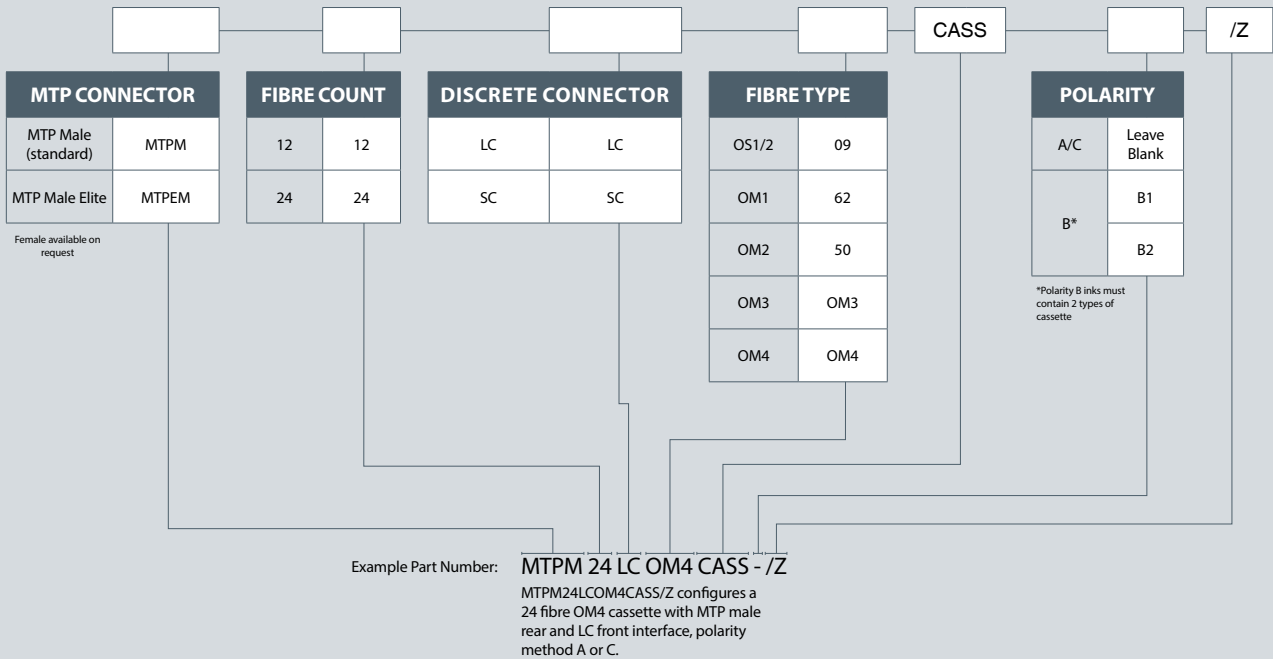


3U Chassis scaling up to 336 discrete fibres see page 59

## MTP Cassettes Modules



## Part Number Generator





## 1U 3 Slot High Density Chassis for use with MTP Cassette modules

1U Chassis  
scaling up to  
72 discrete fibres  
Part Number: S13XXX00



Optronics offers an innovative, robust 1U sliding patch panel. This panel has been designed to accept up to 3 MTP cassettes within a 1U space. The ability to use a full array of adaptor types offers a flexible solution to the end user, enabling them to incorporate a multi functional panel which allow easy access

during installation or re-work with no disturbance of the existing cable or fibres. In addition to the array of adaptors the panel also offers multiple cable entry solutions, up to 6 standard cable entry points for, loose tube, tight buffer, steel tape armoured cable or pre-terminated assembly.

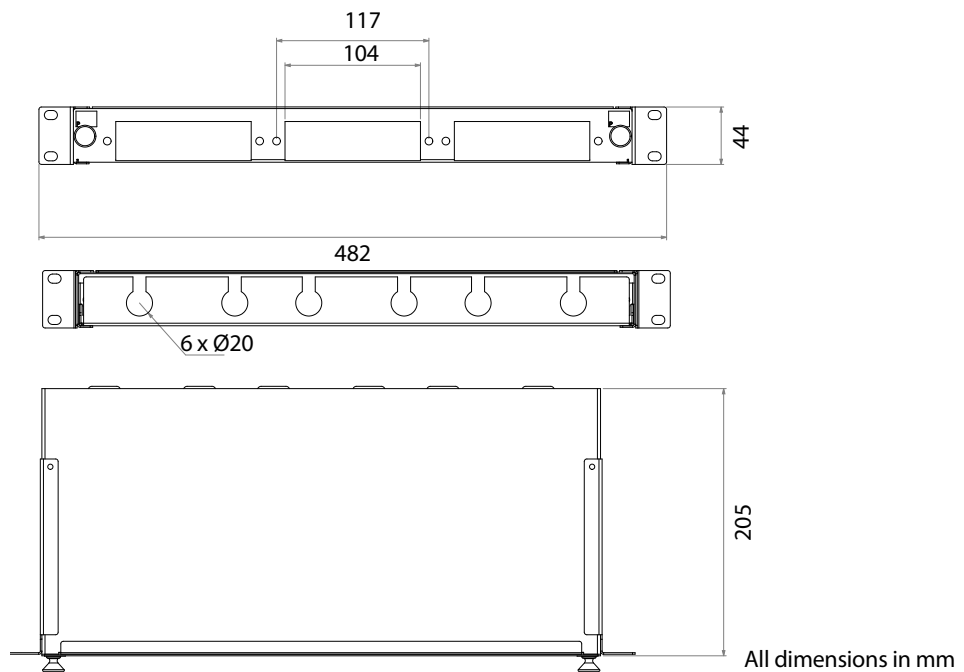
### Applications

- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor applications

### Features

- > Up to 3 LGX/MTP modules in 1U
- > Multiple adaptor options available
- > Individually labelled ports
- > 45° open working angle
- > Accepts loose tube, distribution and pre-terminated cables
- > REACH/SvHC and UL rated
- > Fits standard 19" cabinet

### Technical Drawings



### Ordering Information

DESCRIPTION	PART NUMBER
1U 3 Port Modular Patch Panel for use with MTP Cassette Modules	S13XXX00/Z

### 3U 14 Slot High Density Chassis for use with MTP Cassette modules



3U Chassis scaling up to 336 discrete fibres  
Part Number: LGXCHASSIS

Optronic offers an innovative and robust high density 3U Chassis. This panel has been designed to accept up to 14 MTP cassettes. The ability to use a full array of adaptor types offers a flexible solution to the end user, enabling them to incorporate a multi functional chassis (which allows easy access during installation or re-work) with no disturbance of the existing cable or fibres. In addition to MTP trunk cables, connected to 14 individual MTP cassettes with up to 24 fibres in each, this panel offers an array of adaptor options, multiple cable entry solutions including loose tube cable connecting to 14 individual extended cassettes to allow standard splicing or 14 LGX style modules for alternative pre-terminated solutions. This makes this chassis one of the most flexible on the market.

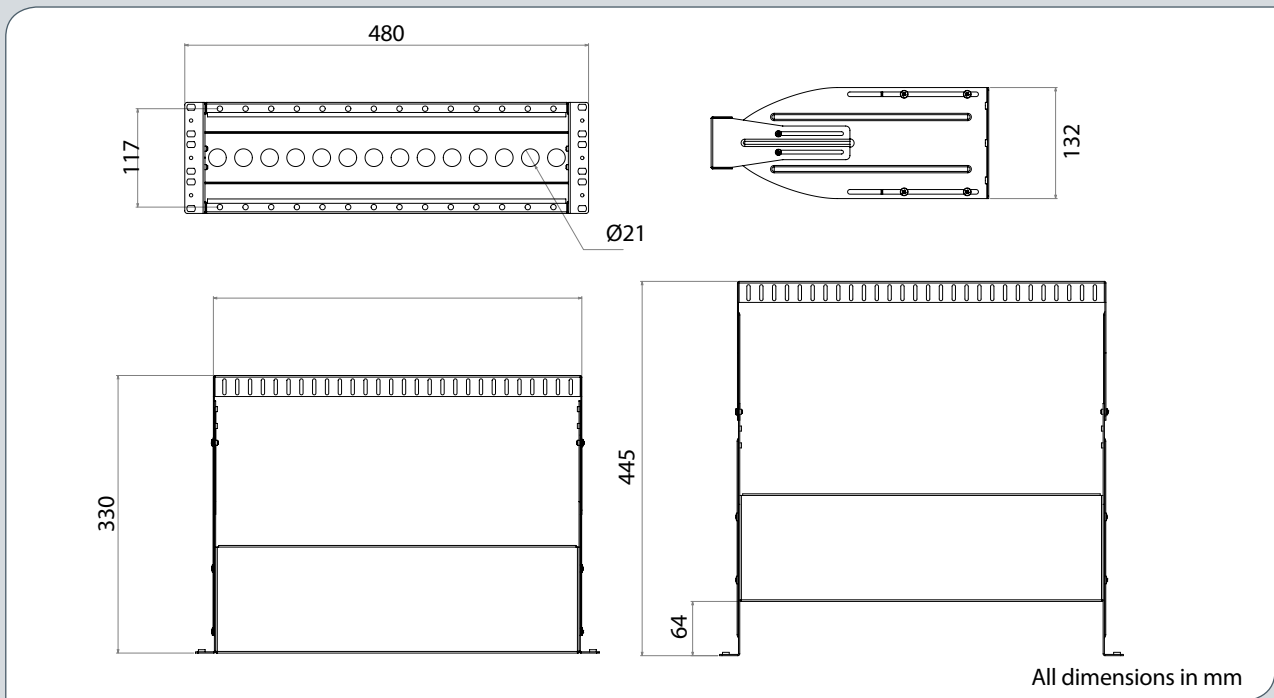
### Features

- > Up to 14 x 24 fibre MTP cassettes
- > Up to 14 LGX style adaptor plates/cassettes
- > Multiple adaptor options available
- > Fully integrated fibre management
- > Splicing option available
- > Flat pack for easy shipment
- > Patch cord exit retrofit cable management available
- > 30mm bend radius maintained throughout
- > Accepts loose tube, distribution cable and MTP trunk cable
- > REACH/SvHC and UL rated
- > Fits standard 19" cabinet
- > Rear cable management bar as standard

### Applications

- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor applications

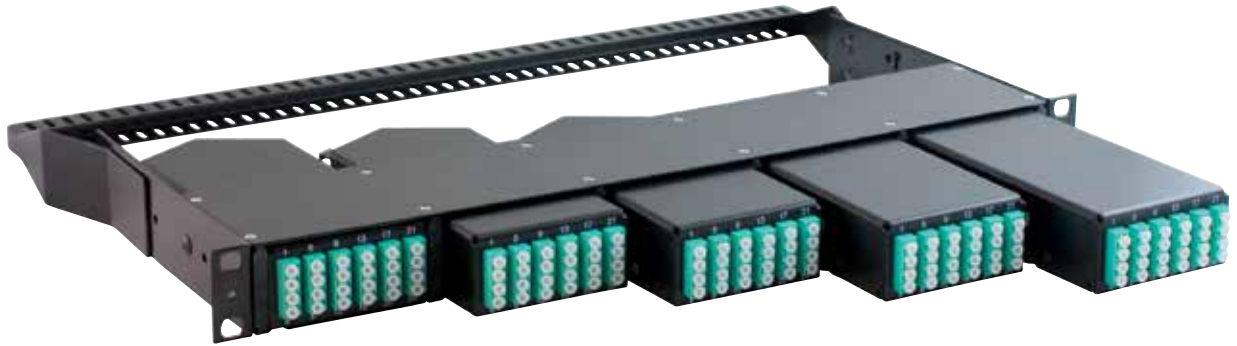
### Technical Drawings



### Ordering Information

DESCRIPTION	PART NUMBER
3U 14 Port Modular Patch Panel for use with MTP Cassette Modules	LGXCHASSIS/Z

## 1U Ultra High Density Modular Patch Panel System

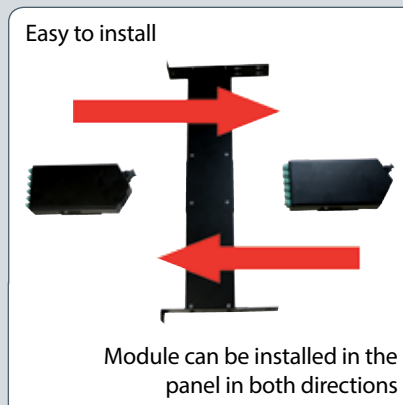


An innovative, high density, patch panel which is designed to accommodate up to 120 discrete connections within a 1U panel space or 480 connections when utilising a multifibre MTP interface. The panel accepts up to 5 modules,

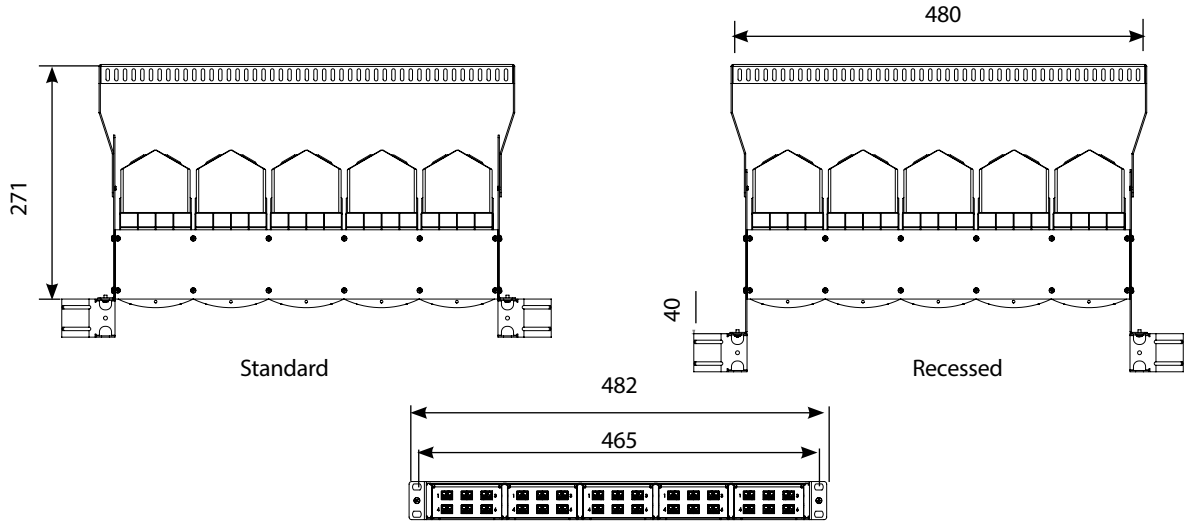
each module accepts incoming fibres from either MTP trunk cables or directly terminated cable being connected to the module.

Each module is supplied with a separate labelling card for ease of channel

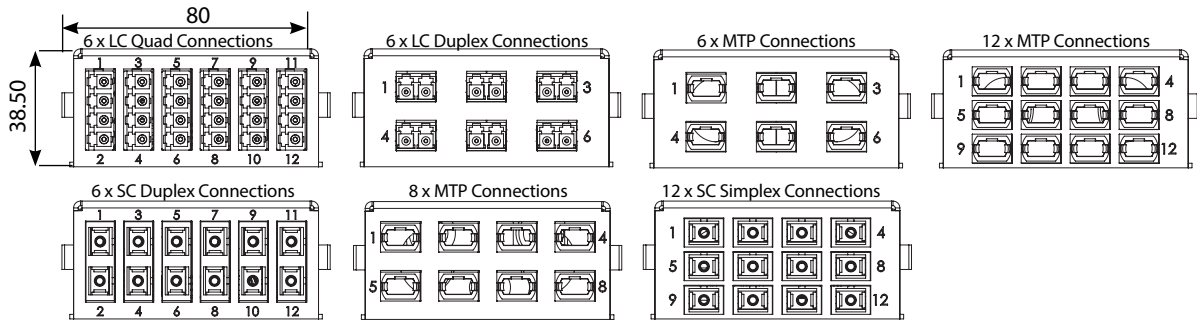
identification. Cable entry is managed via a retrofit management bar allowing entry from either the left or the right hand side. Exiting patch cords are managed by a retrofit bracket allowing cables to be routed in any direction.



## 1U Ultra High Density Modular Patch Panel System



### Pluggable Module Options



All dimensions in mm

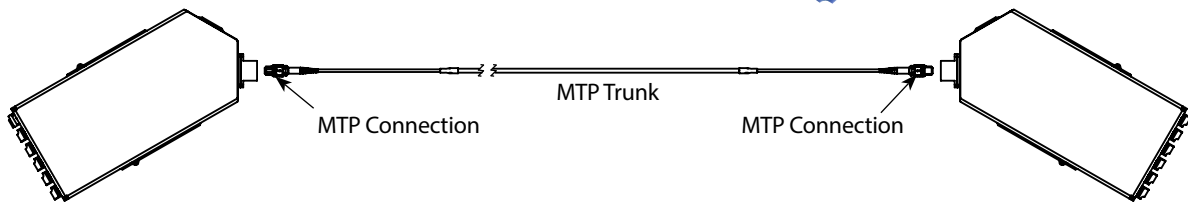
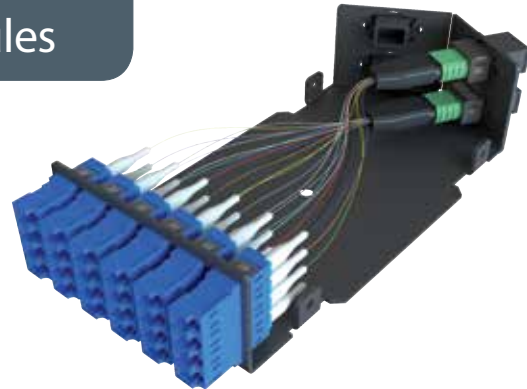
## Ordering Information

DESCRIPTION	PART NUMBER
High Density Modular Panel (unloaded)	HDCHASSIS/Z



## MTP High Density Cassette modules

“Increase Fibre Density to 120 in 1U”



The High Density MTP cassette system is compatible with a 1U 5 slot modular chassis scaling up to 120 discrete fibres in a 1U space. This High Density MTP Cassette Module provide a secure transition between MTP and LC or SC discreet connectors. They

are used to interconnect MTP backbones with LC or SC patching. Modular systems allow for rapid deployment of high density data centre infrastructure as well as improved troubleshooting and re-configuration during moves, adds and changes.

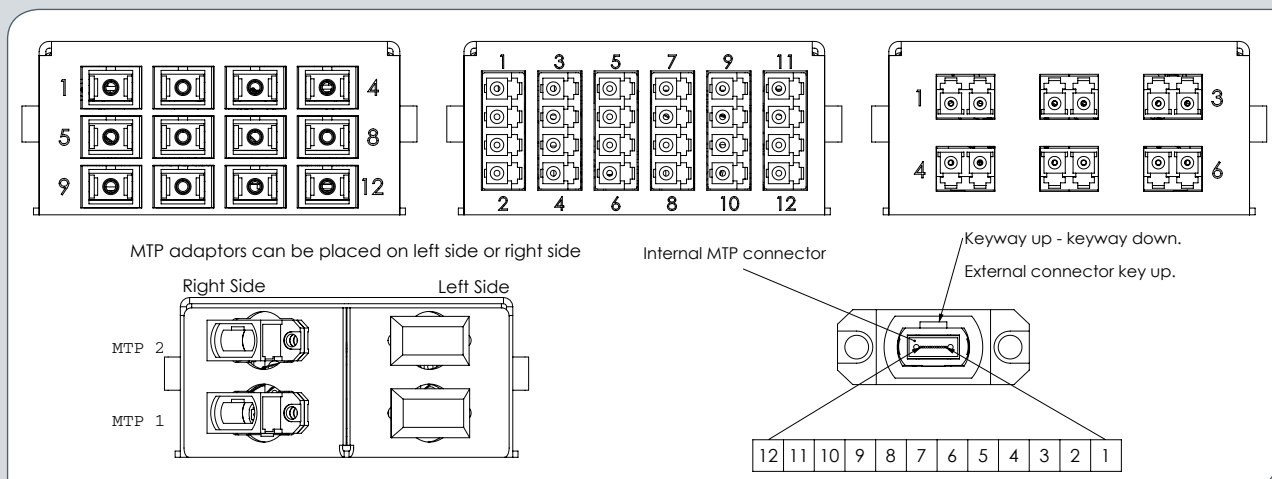
### Features

- > Compatible with High Density Modular 5 Slot Chassis
- > MTP (US Conec) brand MPO standard compliant multifibre connector
- > LC (SFF Data Centre standard), SC discreet interface
- > OS1/2, OM3, OM4 fibre grades (OM1 and OM2 available)
- > 12 and 24 fibre versions
- > Polarity A (standard), B or C
- > Factory terminated and tested
- > High performance zirconia sleeve adaptors

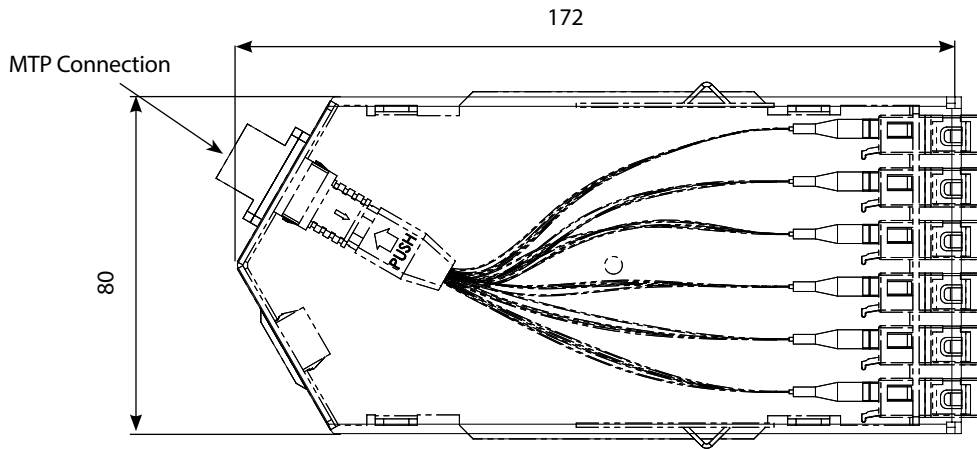
### Benefits

- > Rapid Deployment - factory terminated modular system saves installation and re-configuration time during moves, adds and changes.
- > MTP Interface- MTP US Conec brand components feature superior optical and mechanical properties.
- > Optimised Performance- low loss MTP Elite, discreet Premium connectors and OM4 fibre assures low insertion losses and power penalties in tight power budget high speed network environment.
- > High Density- 5 x fibre cassettes can be mounted in 1U chassis scaling up to 120 discrete fibres in 1U
- > Reliability - 100% tested- combination of high quality components and Optronics manufacturing quality control guarantees product to the highest standards

### Pluggable Module Options

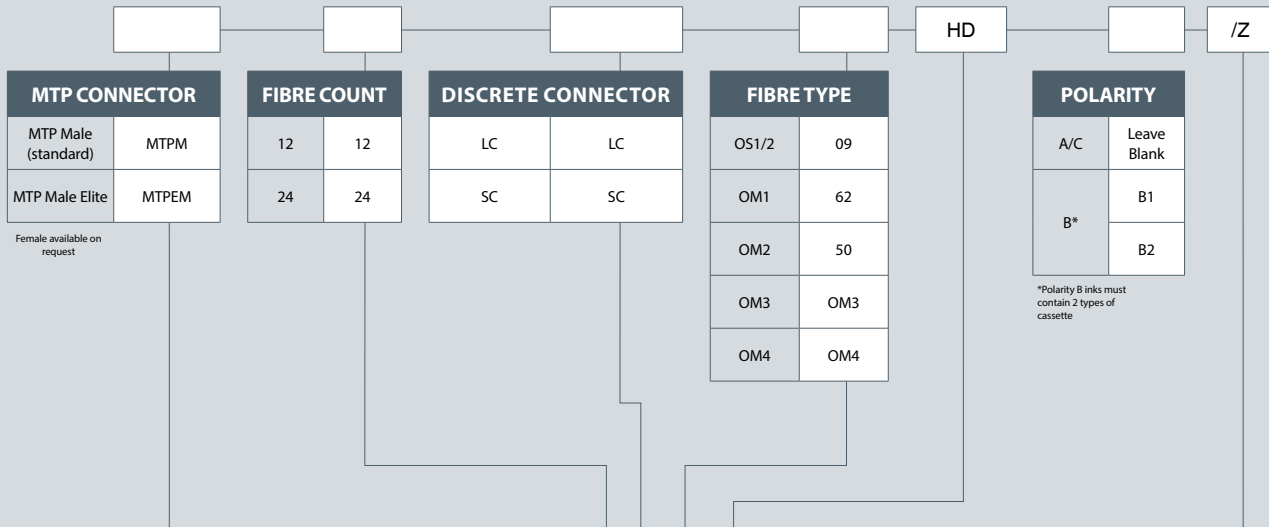


## MTP High Density Cassette modules



All dimensions in mm

## Part Number Generator



Example Part Number: **MTPM 24 LC OM4 HD /Z**  
 MTPM24LCOM4HD/Z will configure a 24 fibre OM4 cassette with MTP male rear and LC front interface, polarity method A or C.

## Modular High Density Assembly



Optronic's High Density modular system features an innovative design allowing for a plug and play pre-terminated system configuration. Cable assemblies can be directly terminated and installed in the cassettes for fast and easy installation. Direct connection to the front cassette

interface minimises the number of interconnections improving power budget and network cost. Multifibre MTP Interface as well as discrete fibre can be applied. Different configuration options allow for combinations of modules with terminated tails.

### Features

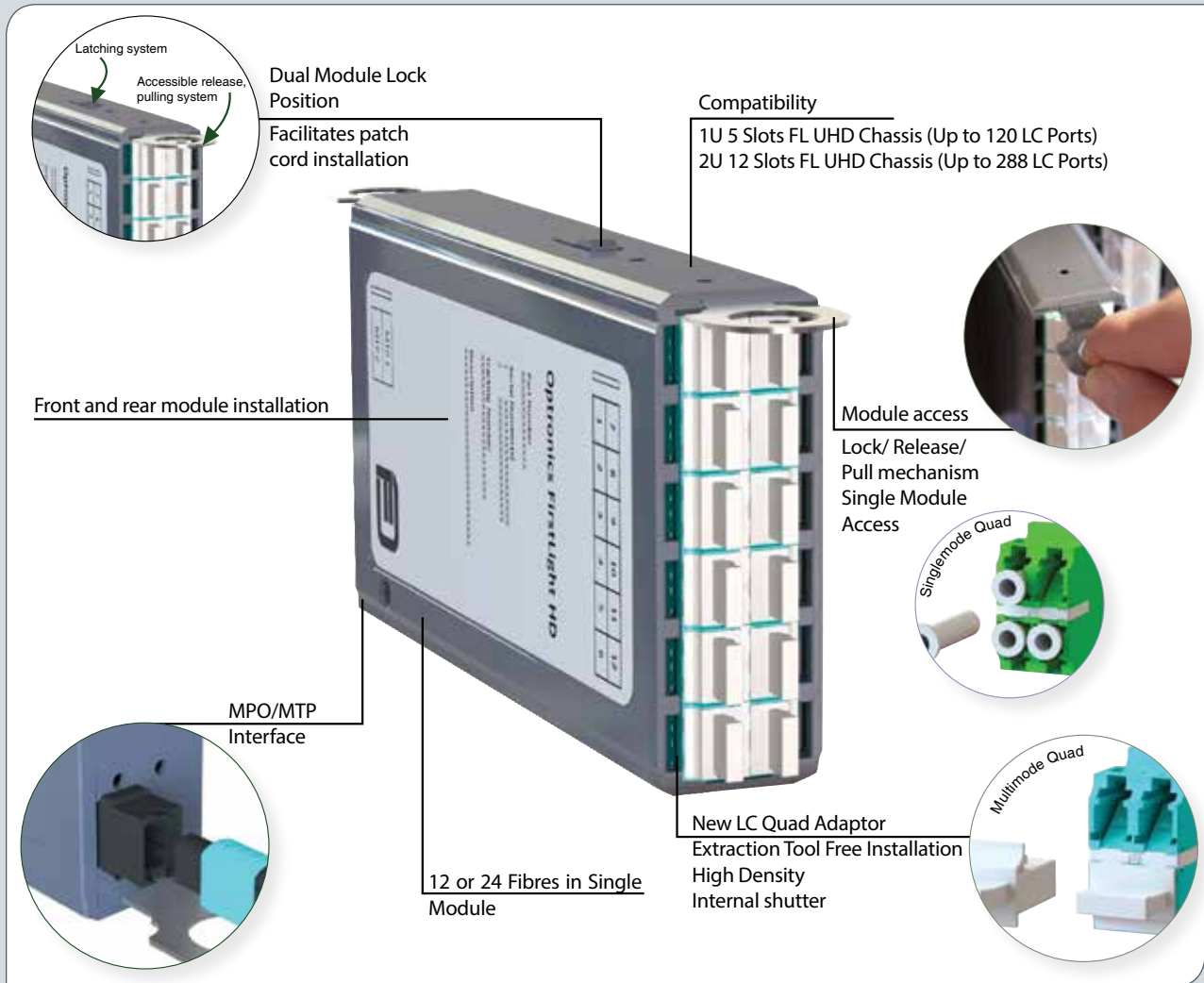
- > OS1/2, OM1, OM2, OM3, OM4 fibre grades
- > Distribution - TB, micro cable, loose tube cable types available
- > Factory terminated and tested
- > Ruggedised 2mm or 900µm tails available
- > Improved Power Budget – collapsed network infrastructure minimises the number of interconnections
- > Ultra High Density- up to 12 MTP adaptors per cassette

### Benefits

- > MTP Interface - MTP US Conec brand components feature superior optical and mechanical properties.
- > Optimised Performance - low loss MTP Elite, discrete Premium connectors and OM4 fibre assures low insertion losses and power penalties in tight power budget high speed network environment.
- > High Density - ruggedised fan outs allow for direct connection between backbone and active equipment
- eliminating rack space usage
- > Rapid Deployment- factory terminated modular system saves installation and re-configuration time during moves, adds and changes
- > Reliability - 100% tested- combination of high quality components and Optronic's manufacturing quality control guarantees product to the highest standards

***“Reduce the number of interconnections in modular systems, improve power budget”***

## FirstLight Ultra High Density MPO/MTP Module



FirstLight Ultra High Density Modules provide an interface between MPO/MTP Trunks and LC interface of active equipment. Pre-assembled MPO/MTP modules improve the speed of installation. Modules with external MPO/MTP ports can be easily connected to trunks. Single MPO/MTP port connection provides mating typically for 12 or 24 fibres at one time. Modules are

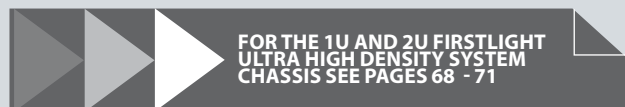
compact improving space management in a high fibre density environment. Modular systems can be easily disconnected and reconfigured for fast add ons or system change reconfigurations. New design of adaptor footprint is implemented for the handling of ultra high density infrastructure.

### Features

- > 12 and 24 fibres modules
- > Compatible with 1U 5 x Modules Chassis and 2U 12 x Modules Chassis
- > Premium LC, SC premium interface
- > Premium MPO/MTP ELITE interface
- > SM and MM (OM3/OM4) Versions
- > Polarity A, B or C

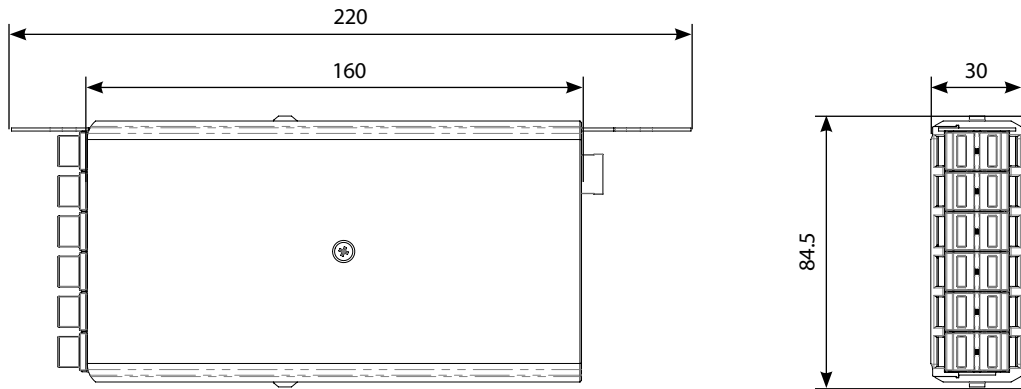
### Applications

- > TIA/EIA-568-C.3 and IEC 11801
- > IEC-61754-7 & EIA/TIA-604-5
- > Compliant to Directive 2002/95/EC (RoHS) and REACH SvHC
- > IEC-60793





## Technical Drawing



All dimensions in mm

## Standards Compliance

- > TIA/EIA-568-C.3 and IEC 11801
- > IEC-61754-7 & EIA/TIA-604-5
- > Compliant to Directive 2002/95/EC, REACH SvHC
- > IEC-60793

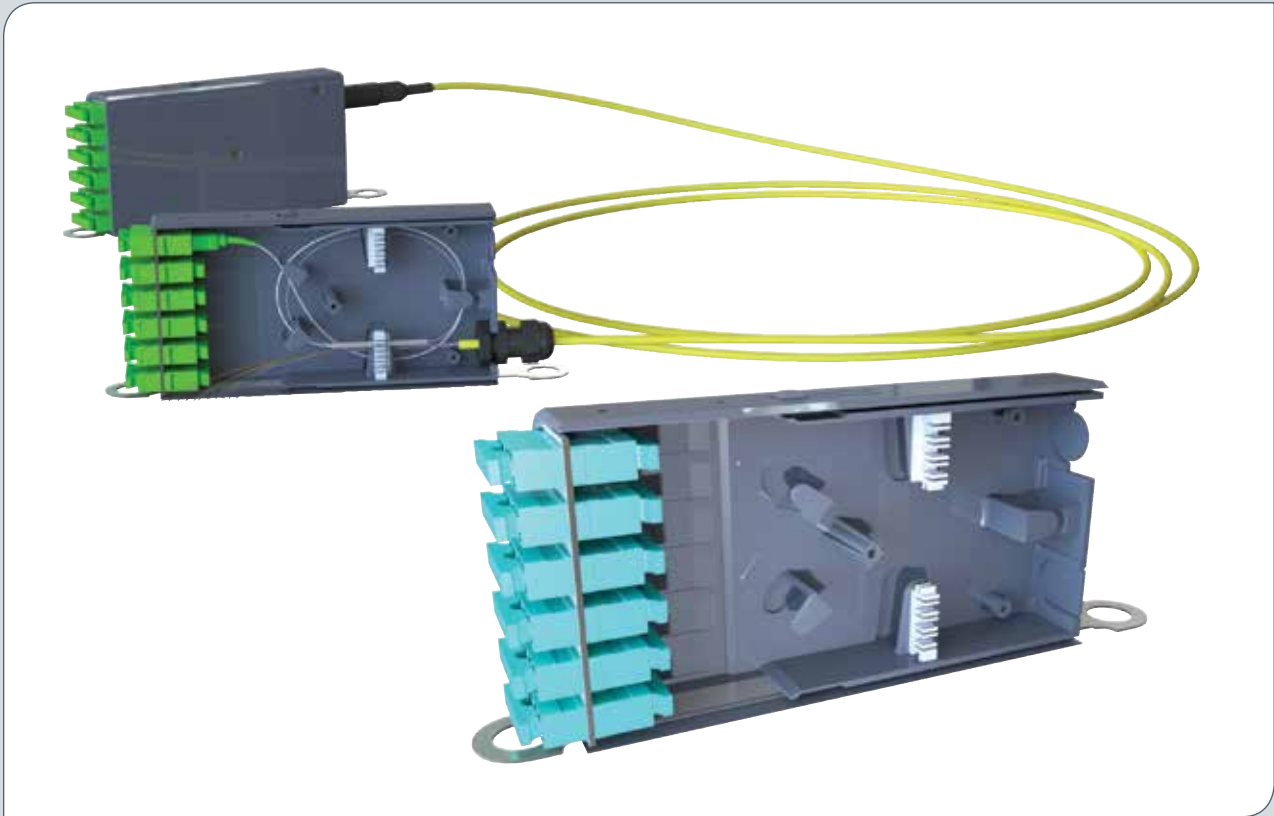
## Termination Performance

CONNECTOR MATING	IL AVERAGE	IL MAX	RETURN LOSS
MTP Elite (MM)	0.10dB	0.35dB	NA
LC, SC Premium (MM)	0.08dB	0.15dB	NA
MTP Elite (SM)	0.10dB	0.35dB	>60dB
LE, SC Premium (SM)	0.12dB	0.15dB	>55/65dB

## Specifications

DESCRIPTION	
Fibre	SM: G.652D, MM: OM3/OM4 (ISO/IEC 60793)
Adaptors	MPO/MTP IEC-61754 & EIA/TIA-604-5 Body Colour: Black Polarity: Keyway up- Keyway down Grey: Polarity B Keyway up- Keyway up LC QUAD (IEC 61754-20) Body Colour: AQUA (MM- OM3/OM4), Blue (SM/UPC), Green (SM/APC) SC DX (IEC-61754-14) Body Colour: Beige (MM- OM3/OM4), Blue (SM/UPC), Green (SM/APC)
Module material	ABS
Module colour	RAL7015
Operating temperature	-20°C to +60°C
Storage temperature	-40°C to +70°C

## FirstLight Ultra High Density Splice Module



FirstLight High Density modules can feature internal splice management housing up to 12 x splice positions. 2U chassis is the platform to house 288 splices in 2U size.

### Features

- > SC/LC interface
- > Up to 12 splices per module

### Applications

- > Enterprise/ Campus networks
- > LAN
- > Central office/ POP

### Specifications

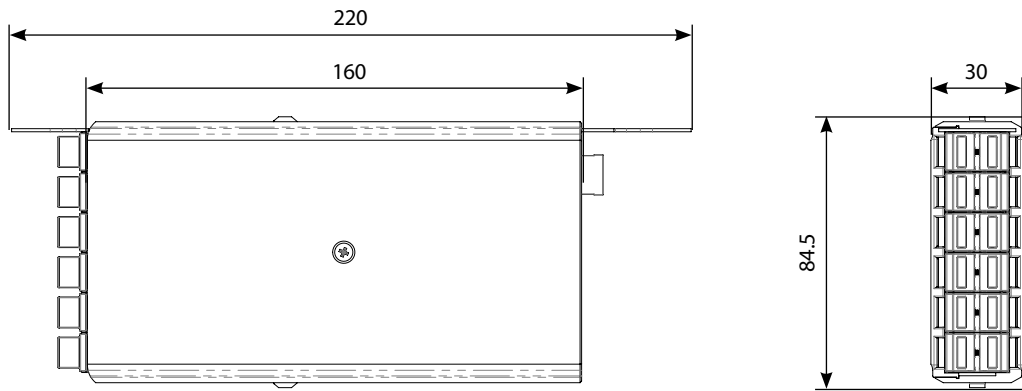
DESCRIPTION	
Adaptors	LC QUAD (IEC 61754-20) Body Colour: AQUA (MM), Blue (SM/UPC), Green (SM/APC) SC DX (IEC-61754-14) Body Colour: Beige (MM), Blue (SM/UPC), Green (SM/APC)
Module material	ABS
Module colour	RAL7015

### Connector Performance

CONNECTOR MATING	IL AVERAGE	IL MAX	RETURN LOSS
MTP Elite (MM)	0.10 dB	0.35 dB	NA
MTP (MM)	0.20 dB	0.60 dB	NA
LC, SC (MM)	0.15dB	0.30dB	NA
LC, SC Premium (MM)	0.08dB	0.15dB	NA
MTP Elite (SM)	0.10 dB	0.35 dB	>60dB
MTP (SM)	0.25 dB	0.75 dB	>60dB
LC, SC (SM)	0.18dB	0.25dB	>55/65dB*
LC, SC Premium (SM)	0.12dB	0.30dB	>55/65dB*

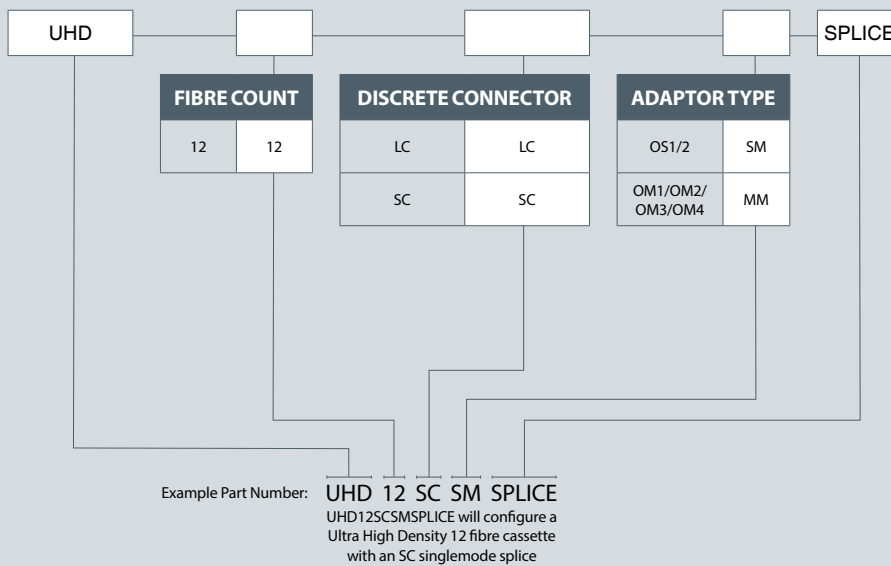
\* UPC/APC

## Technical Drawing

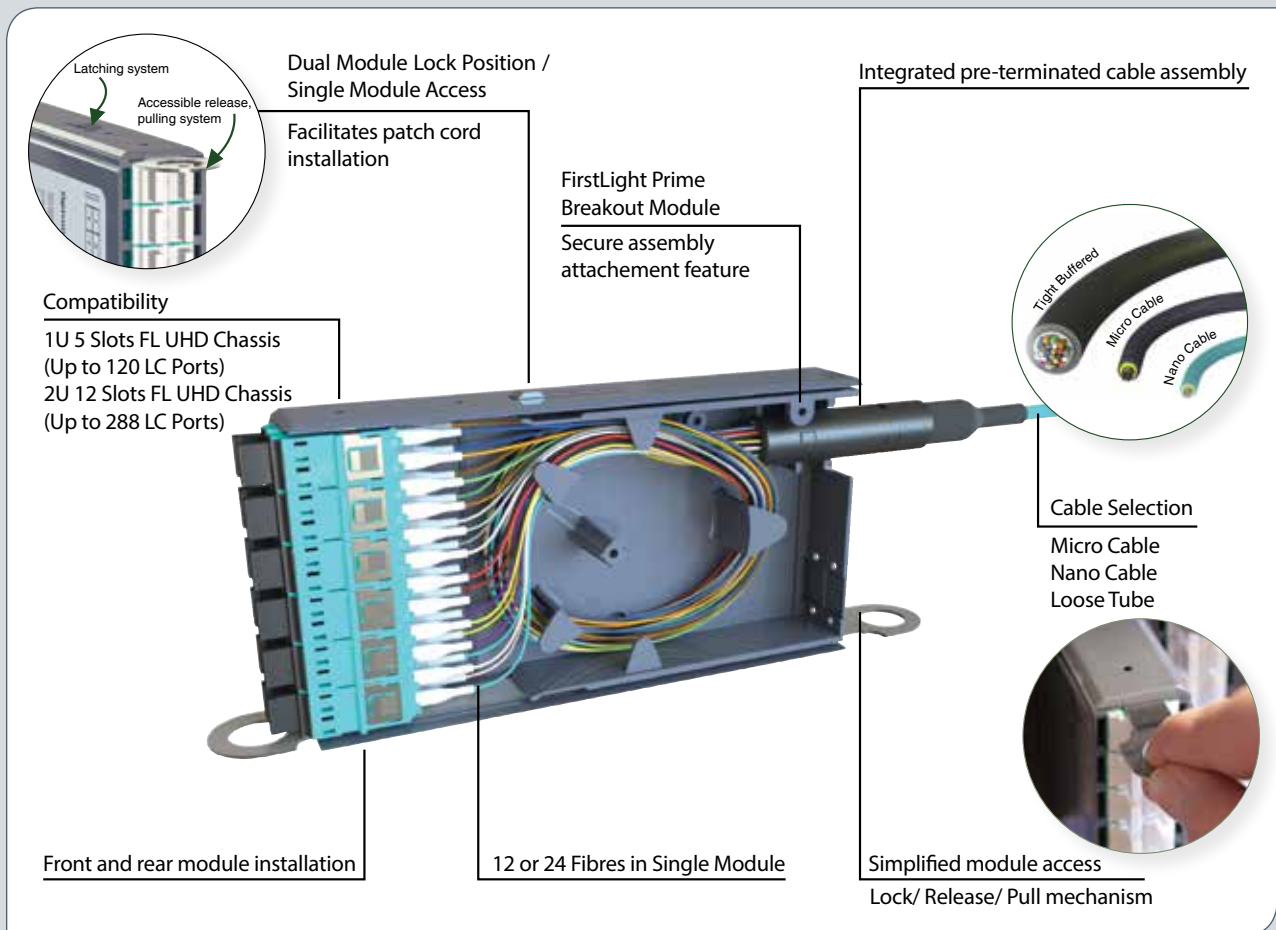


All dimensions in mm

## Part Number Generator



## FirstLight Ultra High Density Pre-Terminated Module



FirstLight Ultra High Density Modules are the platform for hosting pre-terminated cable assemblies. Solution brings advantage of speed installation, improved power budget as well as improved economics (lower amount of interconnections). Assemblies can be pre-installed inside modules in the factory and supplied to the installation site for instant deployment

ready to operate. Alternatively if required pre-terminated cables can be fitted inside module post installation in the field. Variety of configuration is available intermixing "No plug, just play" modules with MPO/MTP trunks and modules, splice modules and variety of multifibre cable assemblies.

### Features

- > Factory made and tested modules
- > Up to 24 fibres
- > High performance
- > Reduced amount of interconnections
- > Improved power budget
- > Improved economics
- > 12 and 24 fibres modules
- > Compatible with 1U 5 x Modules Chassis and 2U 12 x Modules Chassis Premium LC, SC premium interface Premium MPO/MTP ELITE interface

### Applications

- > Data centre
- > Storage area network
- > Enterprise/Campus
- > Central office/ POP

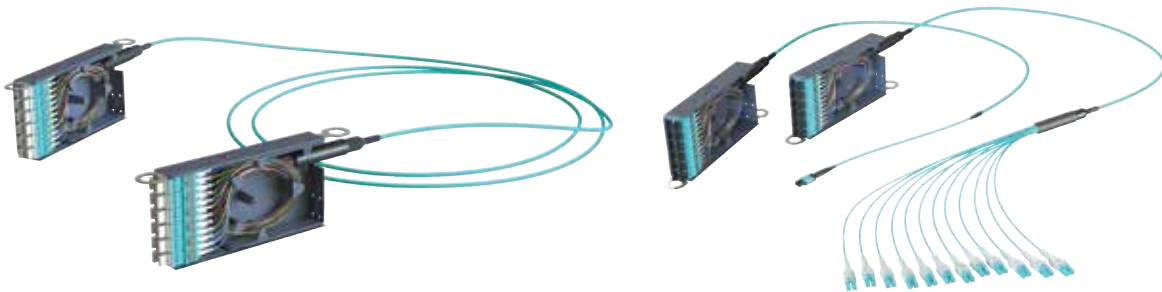
### Standards Compliance

- > TIA/EIA-568-C.3 and IEC 11801
- > IEC-61754-7 & EIA/TIA-604-5
- > Compliant to Directive 2002/95/EC (RoHS) and REACH SvHC
- > IEC-60793



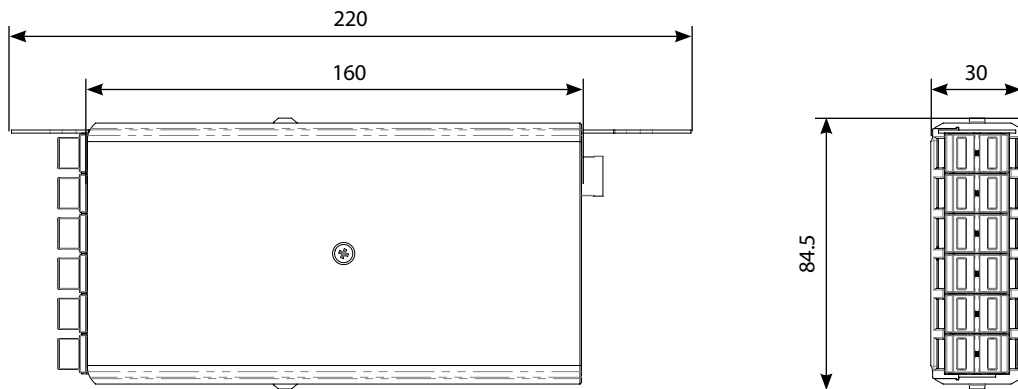
## Multiple Configuration Scenarios

Module to Module, Module to MTP Trunk, Module to Discrete Trunks, Module to MTP assembly, Module to Fan Out



## Technical Drawing

All dimensions in mm



## Specifications

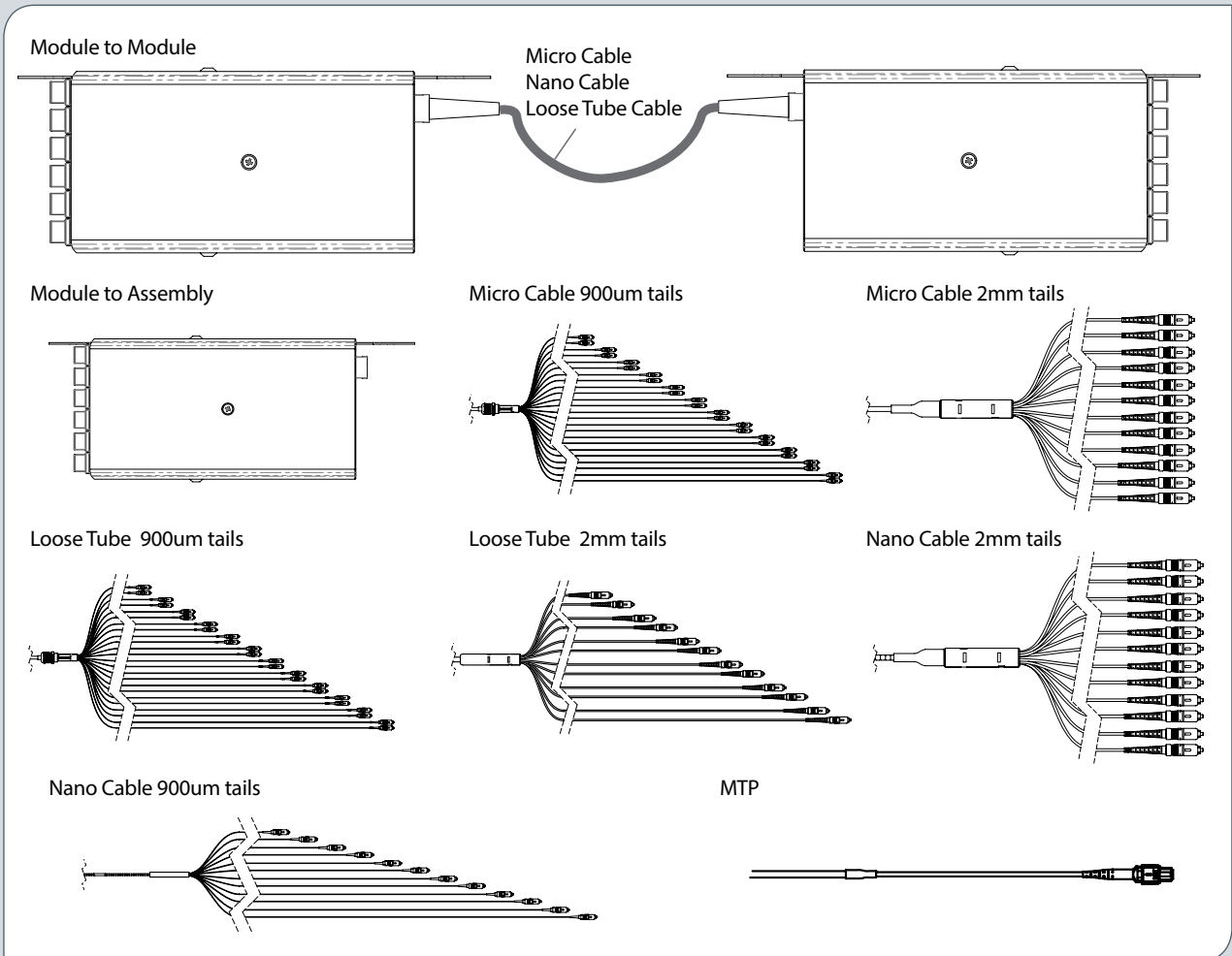
DESCRIPTION	
Fibre	SM: G.652D, MM: OM3/OM4 (ISO/IEC 60793)
Adaptors	LC QUAD (IEC 61754-20) AQUA (MM), Blue (SM/UPC), Green (SM/APC) SC DX (IEC-61754-14) Beige (MM), Blue (SM/UPC), Green (SM/APC)
Cable types	Micro Cable, Nano Cable, Loose Tube
Module material	ABS
Module colour	RAL7015
Operating temperature	-20°C to +60°C
Storage temperature	-40°C to +70°C

## Connector Performance

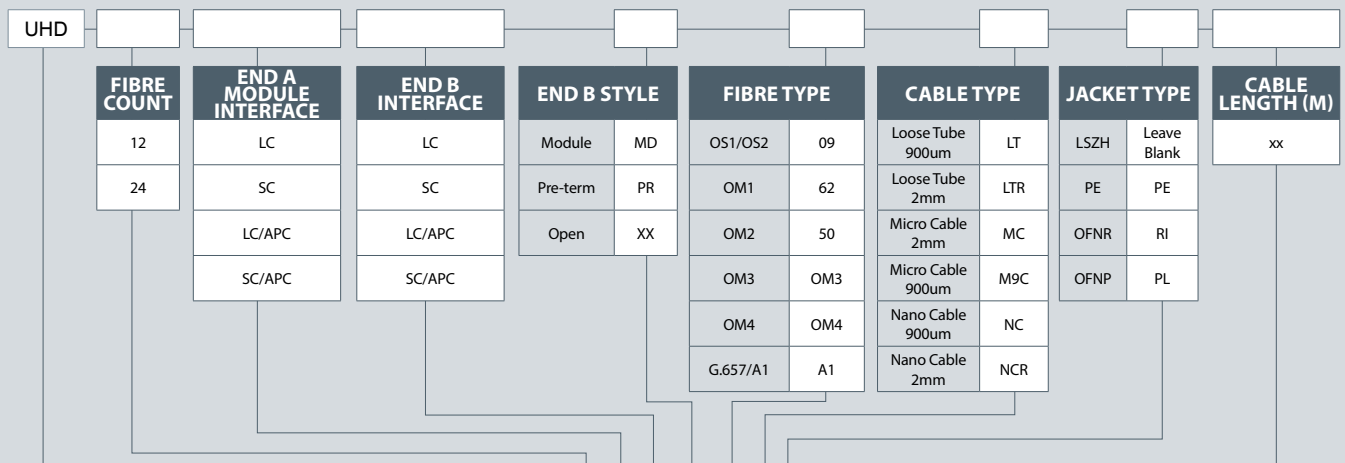
CONNECTOR MATING	IL AVERAGE	IL MAX	RETURN LOSS
MTP Elite (MM)	0.10 dB	0.35 dB	NA
MTP (MM)	0.20 dB	0.60 dB	NA
LC, SC (MM)	0.15dB	0.30dB	NA
LC, SC Premium (MM)	0.08dB	0.15dB	NA
MTP Elite (SM)	0.10 dB	0.35 dB	>60dB
MTP (SM)	0.25 dB	0.75 dB	>60dB
LC, SC (SM)	0.18dB	0.25dB	>55/65dB*
LC, SC Premium (SM)	0.12dB	0.30dB	>55/65dB*

\* UPC/APC

# Configurations



# Part Number Generator



Example Part Number: **UHD 12 LC LC MD 09 LT - 10**  
 UH12LCLCMD09PRE10TB has created assembly  
 - LC Singlemode 12 fibre module to LC module  
 loose tube LSZH cable at 10 meter.

## FirstLight Ultra High Density MPO/MTP Adaptor Module



### Description

MPO/MTP adaptor modules are used to interconnect MPO/MTP trunks, pigtails, patch cords or ruggedised MPO/MTP fanouts. MPO/MTP adaptor interface reduces rack space usage. Substituting MPO/MTP module with adaptor plate reduces amount of interconnections and improves power budget and network economics.

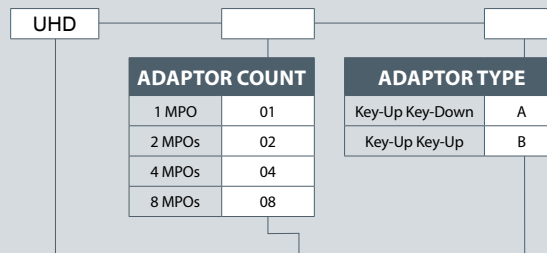
### Features

- > MPO/MTP adaptor plates
- > Up to 8 MPO/MTP adaptors per plate
- > Key-Up Key-Down adaptors option (Standard polarity A/C)
- > Key-Up Key-Up adaptors option (Polarity B)
- > 5 adaptor plates in 1U, 12 adaptor plates in 2U

### Applications

- > Data centre
- > Storage area network
- > Director switch cabling solution

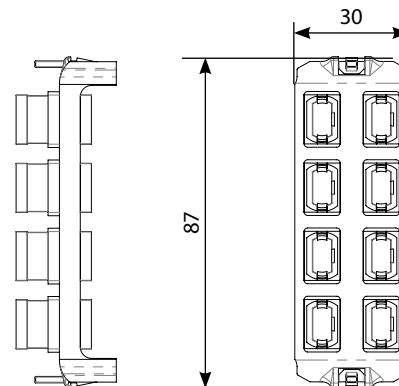
### Part Number Generator



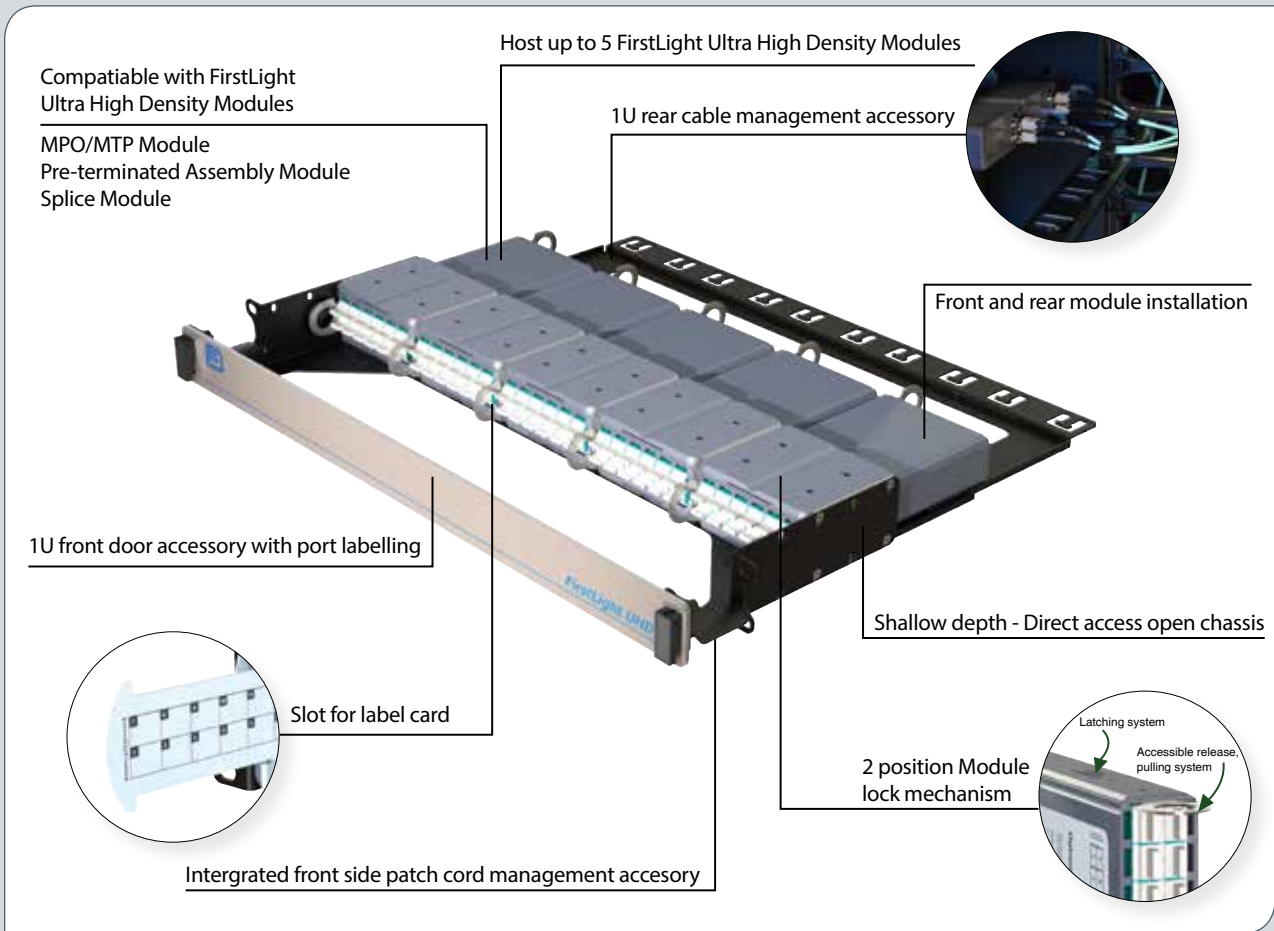
Example Part Number: **UHD 01 A**

UHD01B will configure an ultra high density single adaptor Key-Up Key-Down module

### Technical Drawing



# FirstLight Ultra High Density 1U Chassis



FirstLight 1U Ultra High Density (FL UHD) Chassis is the part of the system for high density fibre optics infrastructure management in Data Centres, Telecommunication and

Enterprise environment. 1U chassis can house up to 5 x FL UHD Modules- design allows to scale up to 120x LC ports and 960 fibres using MPO/MTP Interface.

## Features

- > Ultra High Density
- > Up to 120 LC ports in 1U
- > Up to 960 fibres using MPO/MTP Interface
- > Compact size for installation inside shallow depth racks
- > Open chassis free access module installation
- > Secure easy access lock/release mechanism
- > Front and rear module access
- > Facilitated patch cord installation
- > Cable management accessories

## Applications

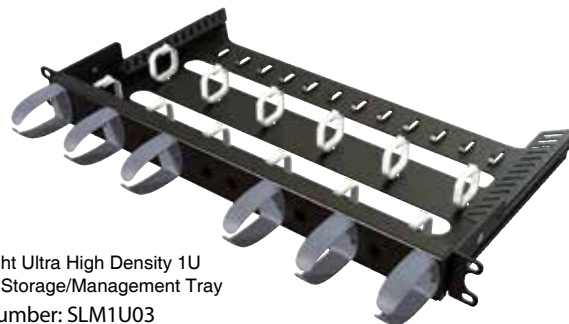
- > Data centre storage area networks
- > Central office, POP
- > LAN
- > Enterprise campus



## Accessories

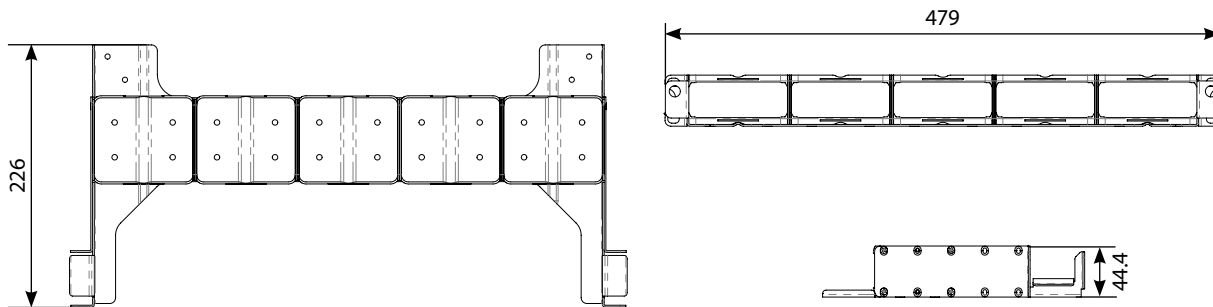


FirstLight Ultra  
High Density 1U Front  
Management Bar  
Part Number: 1UCABLEBAR01



FirstLight Ultra High Density 1U  
Sliding Storage/Management Tray  
Part Number: SLM1U03

## Technical Drawings



## Specifications

DESCRIPTION	VALUE
Height	44.4mm 1U
Width	479mm
Depth (Base including brackets)	226mm
Maximum Number of UHD Modules	5
Operating Temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	RoHS, Reach/SVHC
<b>External Chassis - Side wall</b>	
Material	ABS
Colour	RAL 7015
<b>1U Side brackets and Rear Cable Management</b>	
Material	Cold Rolled Steel
Material Thickness	1.5mm
Colour	RAL 9004
<b>1U Front Door</b>	
Material	Aluminium

# FirstLight Ultra High Density 1U Chassis

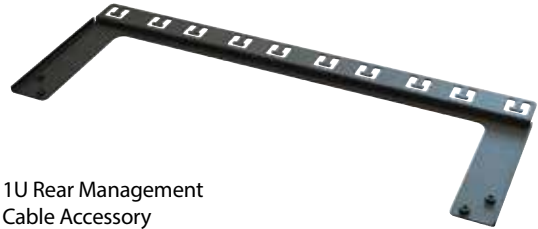
## Product Accessories



FirstLight Ultra High Density 5 Module Chassis 19" 1U with Front Door and Rear Cable Management  
Part Number: UHD1UFDRM



FirstLight Ultra High Density 5 Module Chassis 19" 1U  
Part Number: UHD1U



1U Rear Management Cable Accessory  
Part Number: UHDRM1U03

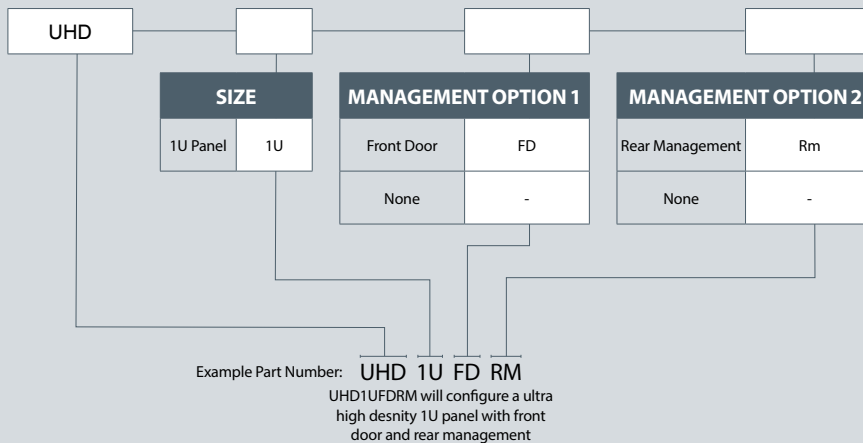


1U Front Door Accessory  
Part Number: UHDDR03

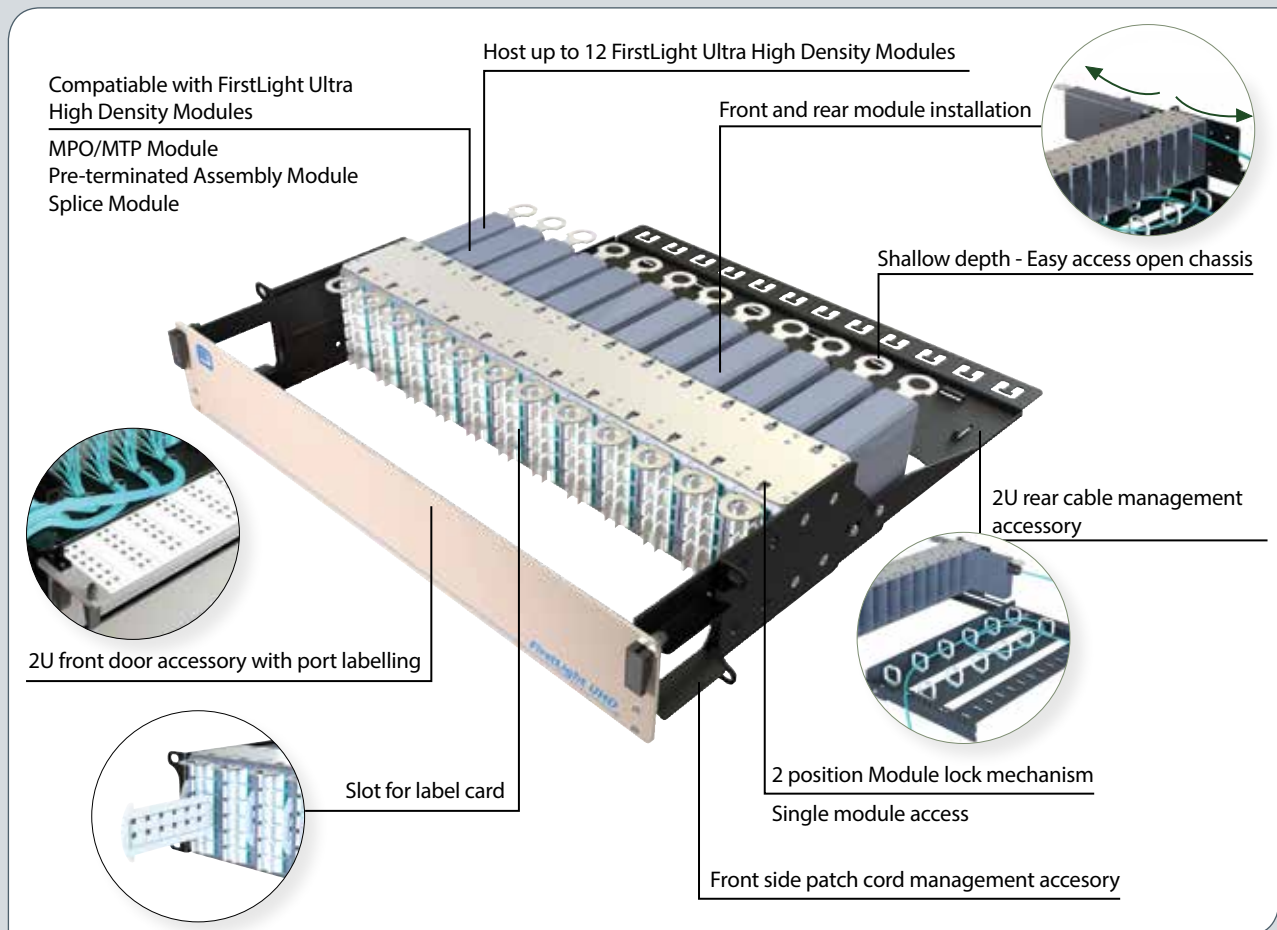


FirstLight Ultra High Density Blank Module  
Part Number: UHDBL01

## Part Number Generator



# FirstLight Ultra High Density 2U Chassis



FirstLight 2U Ultra High Density (FL UHD) Chassis is the part of the system for high density fibre optics infrastructure management in Data Centers, Telecommunication and Enterprise network

environment. 1U chassis can house up to 12 x FL UHD Modules- design allows to scale up to 288x LC ports and 2304 fibres using MPO/MTP Interface.

## Features

- > Ultra High Density
- > Up to 288 LC ports in 2U
- > Up to 2304 fibres using MPO/MTP Interface
- > Compact size for installation inside shallow depth racks
- > Open chassis free access module installation
- > Secure easy access lock/release mechanism
- > Front and rear module access
- > Facilitated patch cord installation
- > Cable management accessories

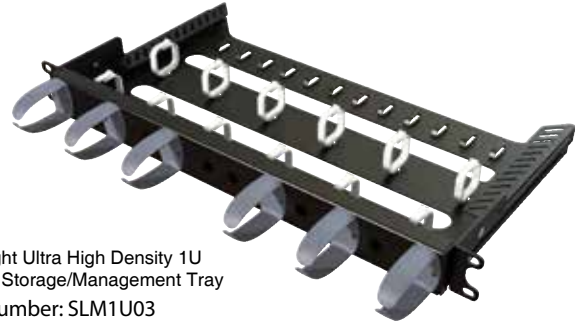
## Applications

- > Data centre storage area networks
- > Central office, POP
- > LAN
- > Enterprise campus

## Accessories

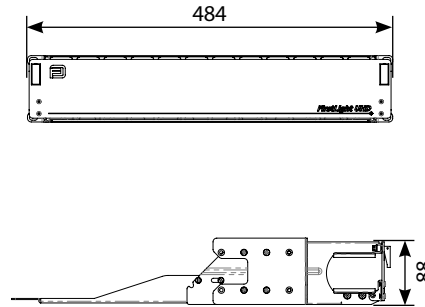
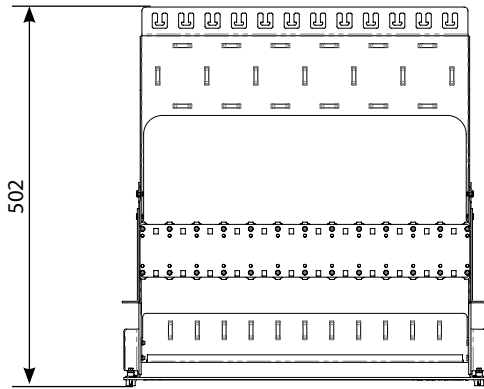


FirstLight Ultra  
High Density 1U Front  
Management Bar  
Part Number: 1UCABLEBAR01



FirstLight Ultra High Density 1U  
Sliding Storage/Management Tray  
Part Number: SLM1U03

## Technical Drawings



## Specifications

DESCRIPTION	VALUE
Height	889mm 2U
Width	484mm
Depth (Full Configuration)	502mm
Maximum Number of UHD Modules	12
Operating Temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	RoHS, Reach/SVHC
<b>External Chassis - Side wall</b>	
Material	ABS
Colour	RAL 7015
<b>External Chassis Top and Bottom plate</b>	
Material	Aluminium
Thickness	1.5mm
<b>2U Side brackets and Rear Cable Management</b>	
Material	Cold Rolled Steel
Material Thickness	1.5mm
Colour	RAL 9004
<b>2U Front Door</b>	
Material	Aluminium



# FirstLight Ultra High Density 2U Chassis

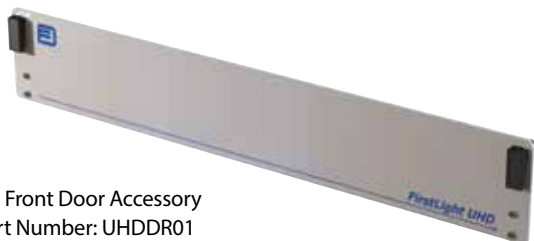
## Product Accessories



FirstLight Ultra High Density 12 Module Chassis 19" 2U with Front Door and Rear Management  
Part Number: UHD2UFDRM



FirstLight Ultra High Density 12 Module Chassis 19" 2U  
Part Number: UHD2U



2U Front Door Accessory  
Part Number: UHDDR01



2U Rear Management Cable Accessory  
Part Number: UHDRM2U03

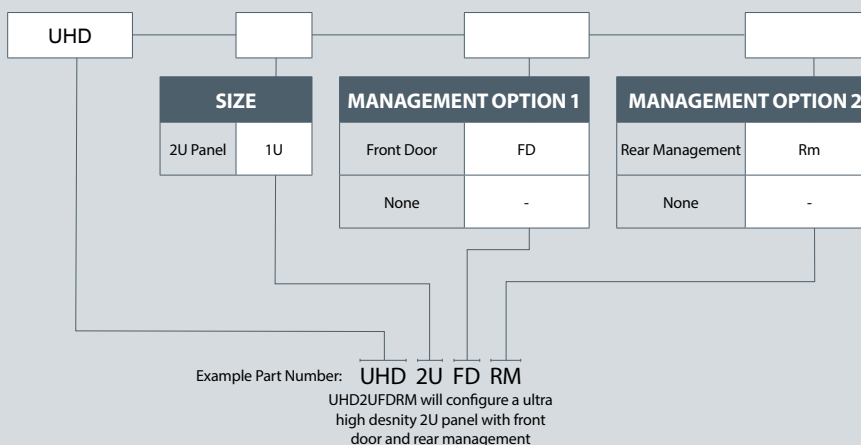
FirstLight Ultra High Density Side Brackets  
Part Number: DDM03



FirstLight Ultra High Density Blank Module  
Part Number: UHDBL01



## Part Number Generator



## UltraSlim Panel



Optronic's MTP UltraSlim Quick Panels provide secure transitions between MTP and LC or SC discrete connector interfaces. They are used to interface MTP backbones with LC or SC patching and active equipment connections.

The pre-populated panel allows rapid deployment of high density data centre infrastructure as well as improved trouble shooting and re-configuration during moves, adds and changes.

### Features

- > Available in OS1/2, OM1, OM2, OM3 and OM4 fibre grades.
- > Up to 8 MTP (US Conec) brand MPO standard compliant multifibre connector rear entry ports
- > Front LC (SFF Data Centre standard), SC discrete interface
- > Up to 48 (LC DX) or 96 (LC Quad) fibres panel capacity
- > Factory terminated and tested

### Benefits

- > Rapid Deployment- factory terminated modular system saves installation and re-configuration time during moves, adds and changes
- > Easy Installation- open rear entry MTP ports guarantee easy cabling access and facilitate connection to MTP backbone trunks system
- > Compact 1U Size- short depth make panel compatible with low dimension copper racking system
- > MTP Interface- MTP US Conec brand components feature superior optical and mechanical properties

The shallow depth of the UltraSlim Panel makes it suitable for copper racking systems.

The MTP UltraSlim Panels contain factory controlled and tested MTP-LC/SC fan outs to deliver optical performance and reliability. Low loss MTP Elite and LC/SC Premium versions are offered featuring significantly improved low insertion losses for demanding low power budget high speed networks.

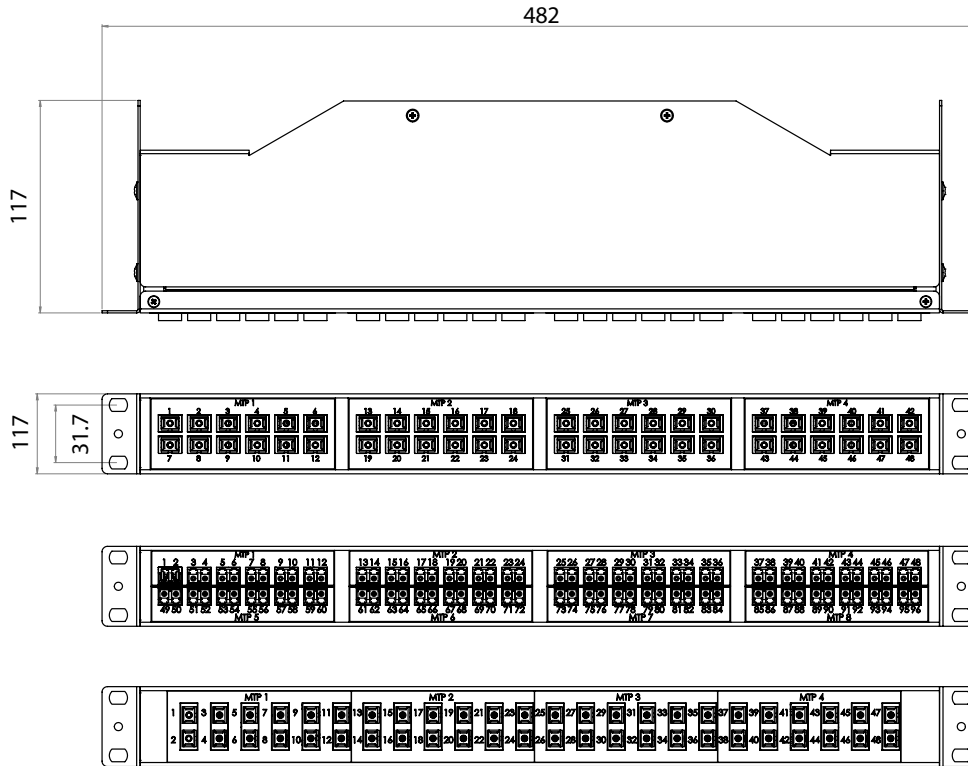
### Applications

- > Data communication applications
- > Data Centre infrastructure
- > Storage Area Network- Fibre Channel
- > Emerging 40 and 100Gbps Protocols

- > Optimised Performance- low loss MTP Elite, discrete premium connectors and OM4 fibre assures low insertion losses and power penalties in tight power budget, high speed network environment
- > High Density- 1U panel can scale up to 96 discrete LC connectors and up to 8 MTP rear interfaces
- > Reliability- 100% Tested- combination of high quality components and Optronic's manufacturing quality control guarantees product to the highest standards

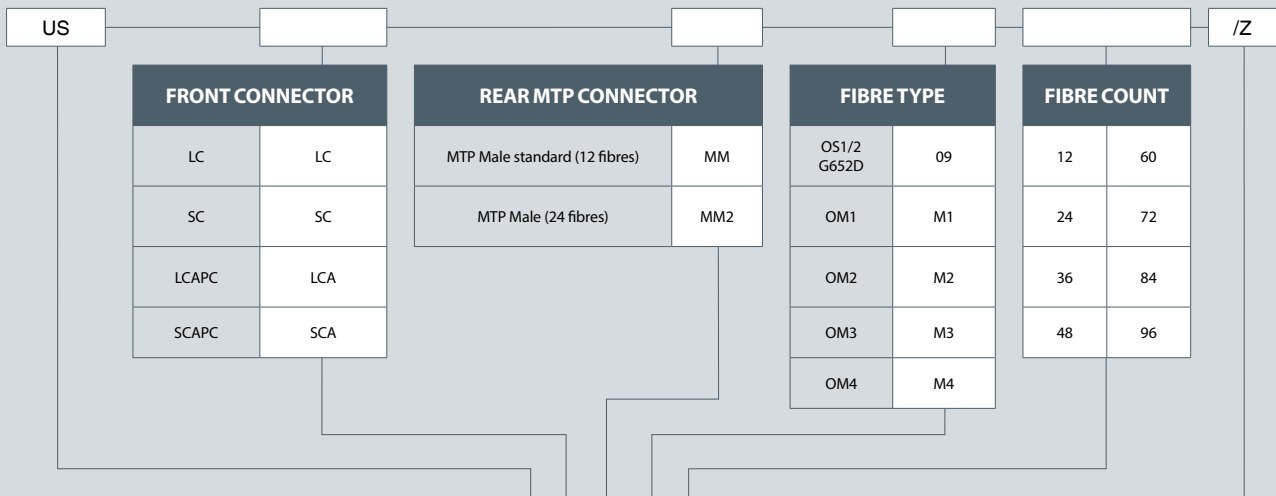


### Technical Drawing



All dimensions in mm

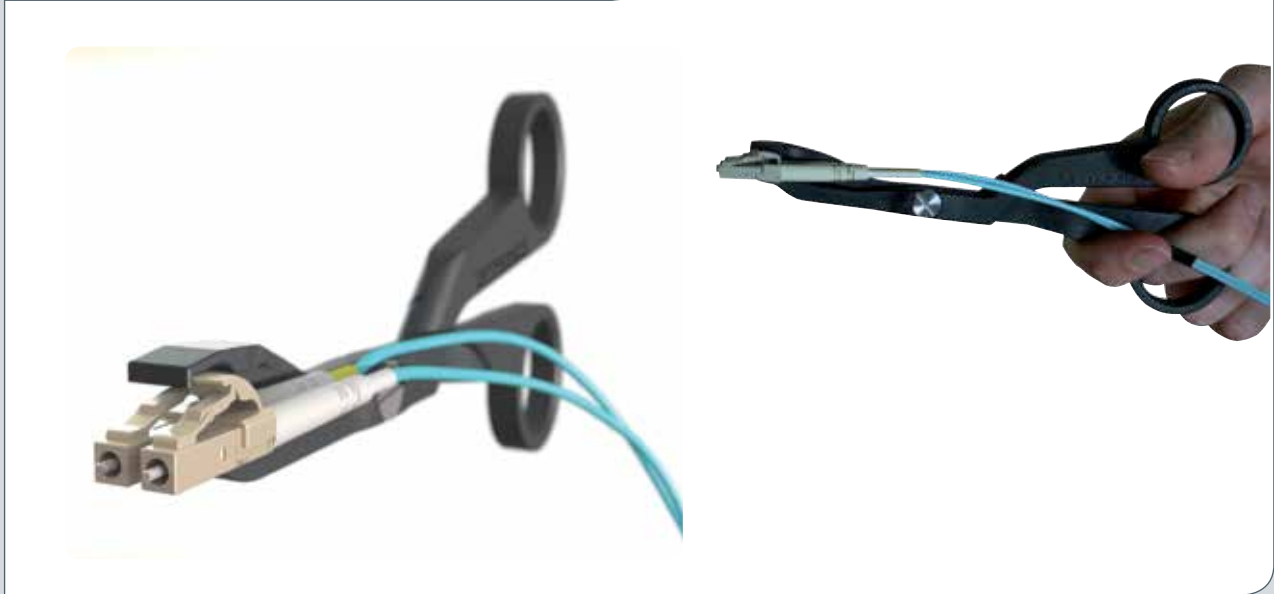
### Part Number Generator



Example Part Number: **US LC MM M4 48 /Z**  
 USLCMM48/Z will configure an MTP UltraSlim panel with 48 OM4 fibres and LC front interface. (12 fibre MTP ferrule applied)



## LC Connector Extraction Tool



In response to the ever increasing density of today's active equipment and associated ancillary management Optronics has developed the LC Extraction Tool. Designed to allow simple removal of LC duplex, simplex and pigtail connectors. This lightweight, moulded tool has specifically engineered jaws to allow the tool to extract LC connectors in all manner of high density systems. These jaws engage directly with the latching mechanism of the desired LC connector and allow its safe removal without interference of any of the adjacent connectors.

### Features/Benefits

- > Specifically engineered jaws fits all LC connector types
- > Ergonomic handle design
- > Lightweight, compact design easily fits in the pocket
- > Made from high quality robust engineering plastic

### Applications

- > High density patching field of LC connectors



Slim profile slides into densely populated areas



Specifically engineered jaws easily release connector latch



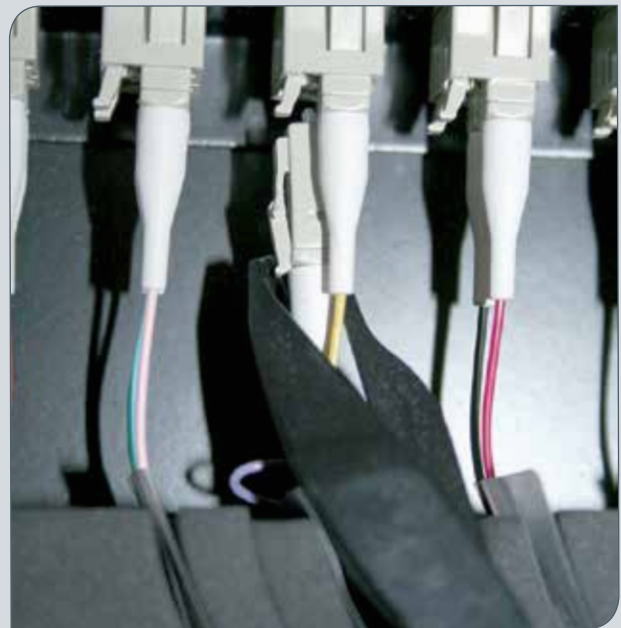
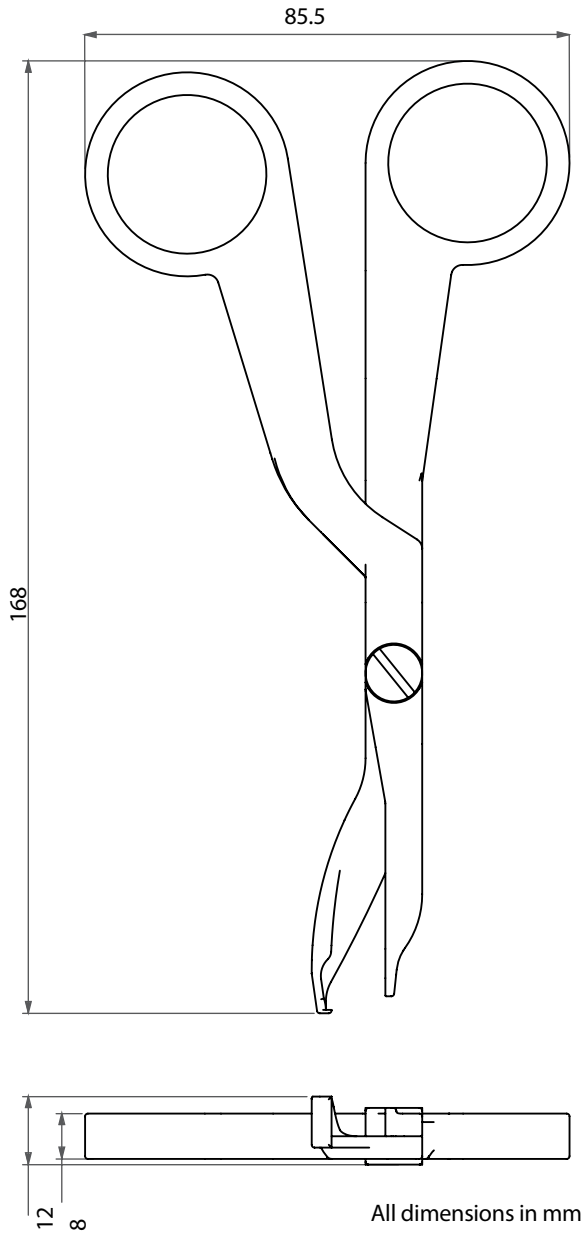
Jaw retains connector allowing it to be pulled free

### Technical Specification

LC CONNECTOR EXTRACTION TOOL	
Material	Glass filled PPS (Polyphenylene Sulphide)
Colour	Black



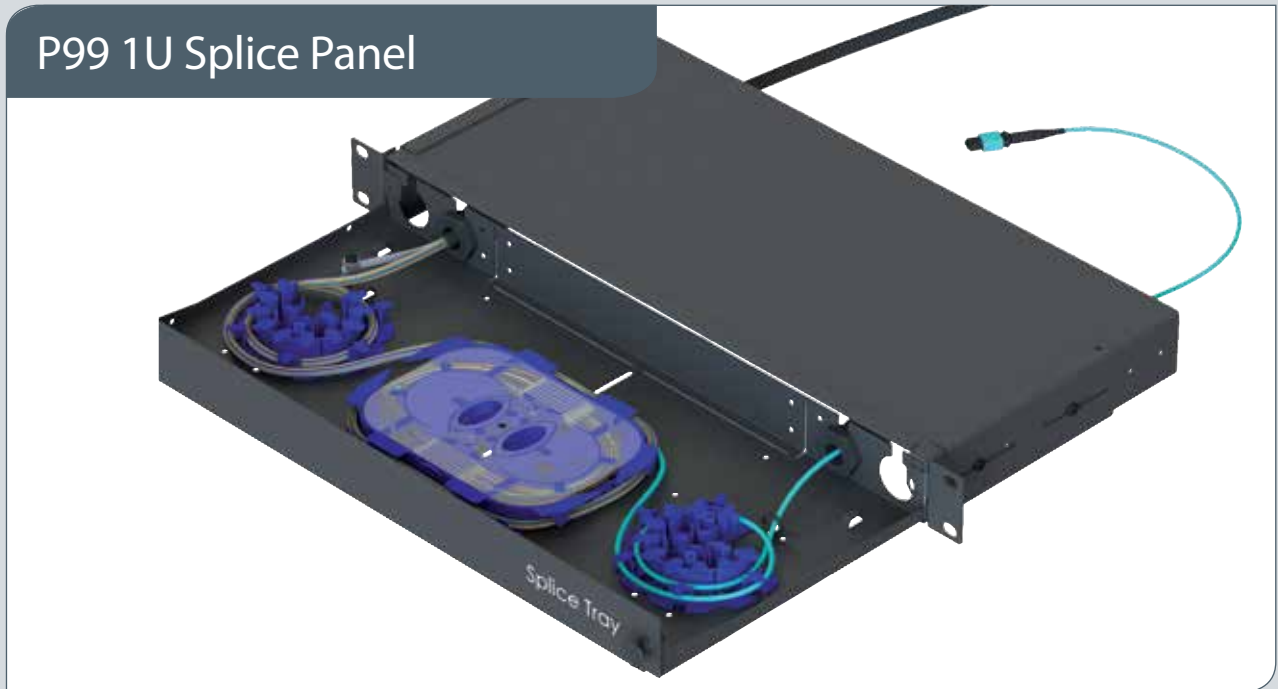
### Technical Drawing



### Ordering Information

DESCRIPTION	PART NUMBER
LC Connector Extraction Tool	OPT+LCTOOL/Z

P99 1U Splice Panel



Optronic offers an innovative and robust 1U splice panel. This panel has been designed to accept up to 48 fibres housed within a 1U space.

The new Optronic Speedway splice tray allows splicing of up to 24 fibres per tray using secondary buffered fibres without the need to strip back whilst still accommodating sufficient over

length for up to 2 re-splices.

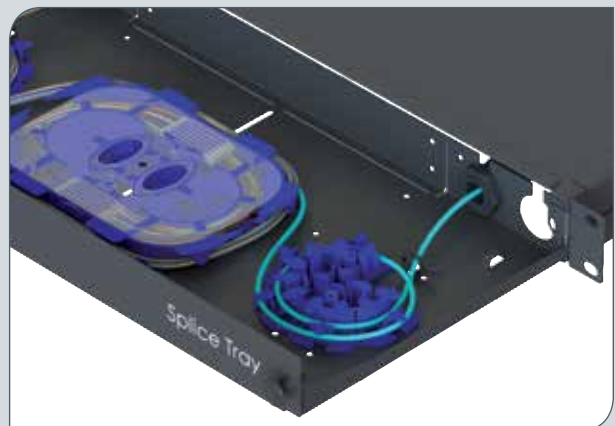
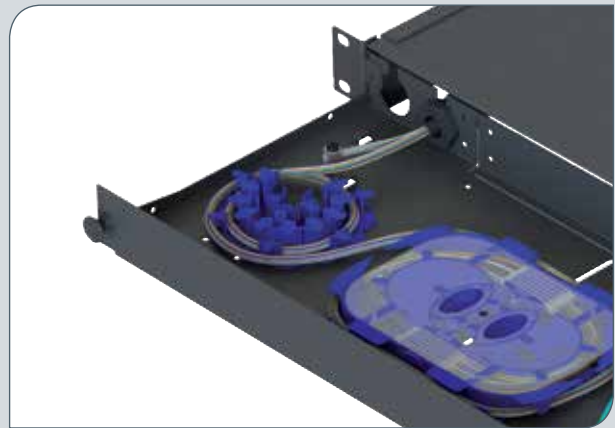
The use of the Optronic Speedway spool ensures the protection of fibre bend radii at all times, with the sliding function providing easy access during installation or re-work.

### Features

- > Suitable for up to 4 incoming cables
- > Splicing and fibre bend radius managed by the Optronic Speedway Splice Tray and Spool
- > Splicing for up to 48 fibres
- > REACH/SvHC
- > Fits standard 19"

### Applications

- > Data centres, premise installations, telecommunication networks. Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor applications



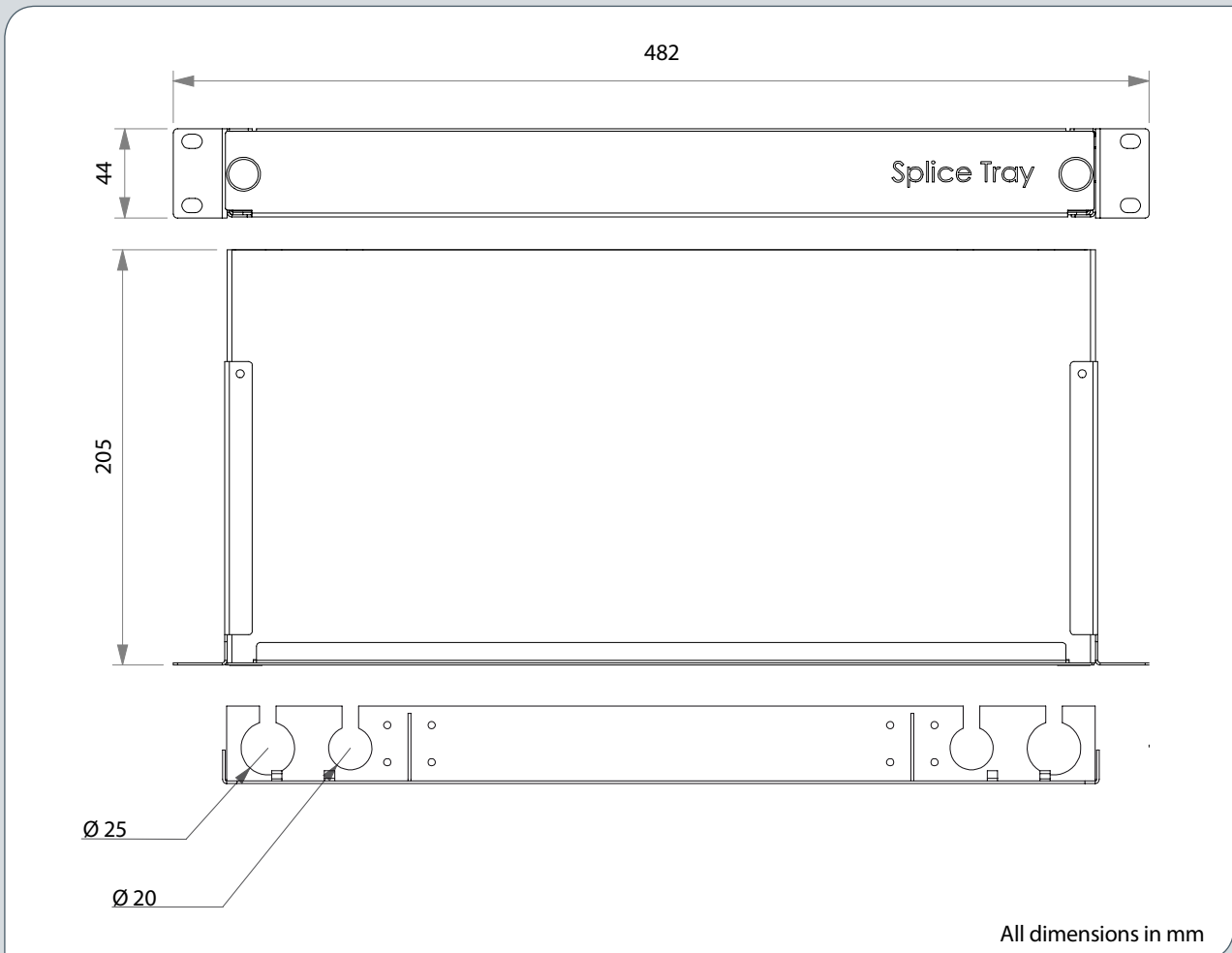
### Ordering Information

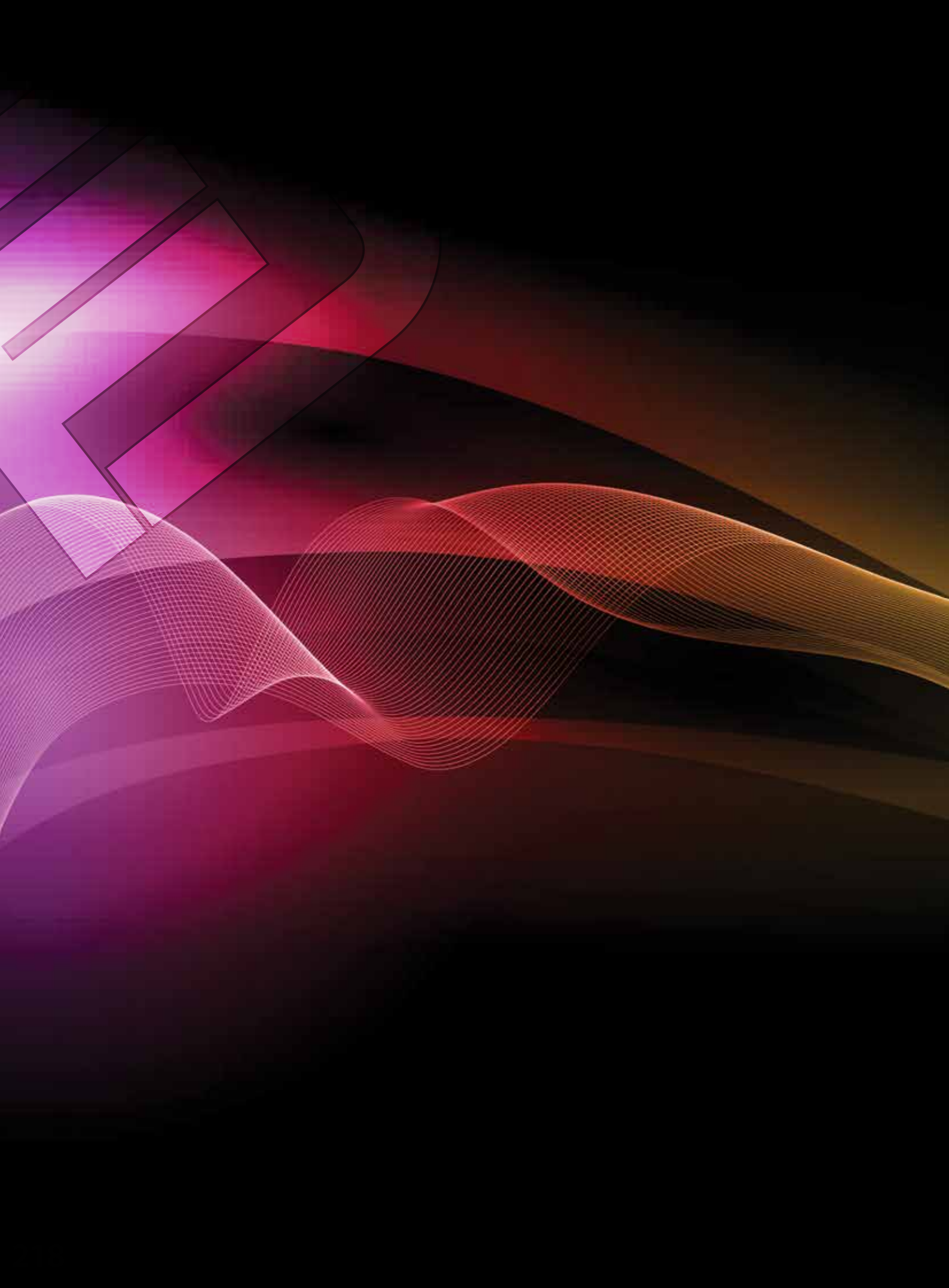
DESCRIPTION	PART NUMBER
1U Splice Panel	P99XXX00/Z

## Technical Specification

SPLICE PANEL	
Height	1U (44.4mm)
Width	482mm
Depth	205mm
Net Weight	2.4kg
Packaged Weight	2.7 kg
Package Dimensions (WxLxH)	530mm x 55mm x 260mm
IP Rating	IP20
Number of fibres	48
Mounting adjustment range	50mm
Gland Entry Points	2 x 20mm, 2 x 25mm
Material	Cold Rolled Steel
Material thickness	1.2mm
Material coating	Electrostatic Powder Coating
Colour	Black RAL 9004
Operating Temperature	-40°C to +60°C
Compliant to	REACH / SvHC
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN 50173, IEC 60304, IEC 61754, EN 297-1

## Technical Drawings








# Fibre Management Wall Boxes

Lockable Slimline Wall Boxes	220
Single and Double Door Lockable Low Profile Wall Boxes	225
Single and Double Door Lockable Standard Wall Boxes	230
AM Style Wall Boxes	236
Slimline Wall Boxes	242



# Lockable Slimline Wall Box



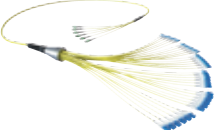
The Optronic wall box system can be supplied unloaded ready for the installer to load with their choice of adaptors, or pre-loaded with adaptors and pigtails ready for installation. With the ability to use a full array of adaptor types, this wall box offers a flexible solution to the end user which enables them to incorporate a multi functional wall mounted box (which allows easy access during installation or rework) with no disturbance to existing cable or fibres. In addition to the array of adaptors the box also offers multiple cable entry and exit solutions: up to 4 standard entry points for loose tube, tight buffered, preterminated, steel tape armoured cable and 2 slotted positions for patch cord exit.

- > Up to 24 fibre
- > Multiple adaptor options
- > 24 adaptor positions
- > REACH/SvHC
- > Lockable single door
- > Internal bend radius protection included
- > Internal applications
- > For use in multi dwelling units or demarcation points

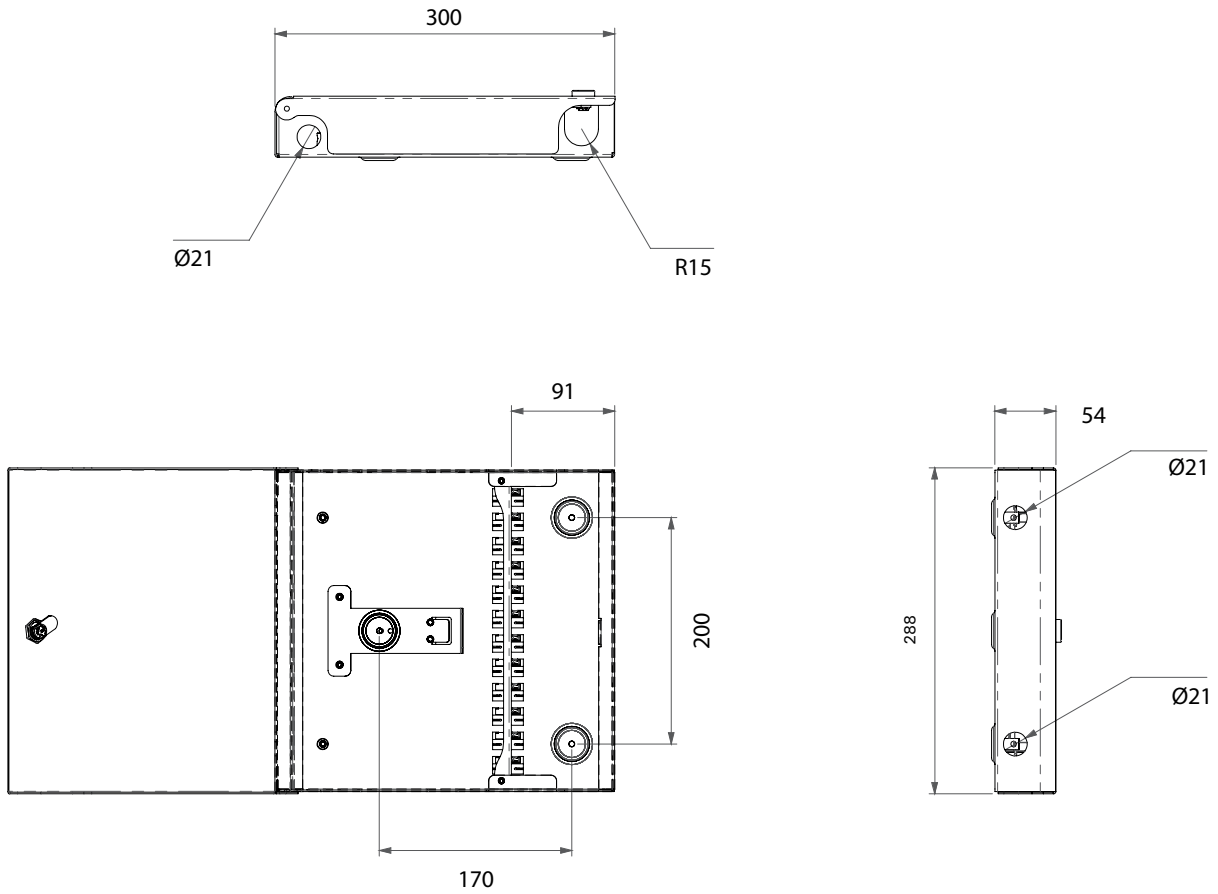


## Technical Specification

SLIMLINE WALL BOX	
Height	288mm
Width	300mm
Depth	54mm
Net Weight	3.3Kg
Packaged Weight	3.5Kg
Package Dimensions (WxLxH)	310mm x 300mm x 65mm
IP Rating	IP20
Suitable for adaptor type	SC Simplex, ST, FC, SC Duplex, LC, E2000
Number of doors	1
Cable entry 20mm	4
Material	Cold Rolled Steel
Material thickness	1.2mm
Material coating	Electrostatic Powder Coating
Colour	Grey (RAL7035)
Operating Temperature	-40°C to +60°C
Compliant to	REACH/SvHC
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN 50173, IEC 60304, IEC 61754, EN 297-1

ALSO AVAILABLE	
Full range of patch cords including LC, SC, ST, FC, MTRJ and E2000, simplex and duplex, LSZH and PVC, high performance and specialist applications	
Comprehensive range of pigtails in all major connector types, individually bagged and identified for full traceability	
Unique range of pre-terminated assemblies featuring our patented FirstLight Prime breakout modules	

## Technical Drawings



All dimensions in mm

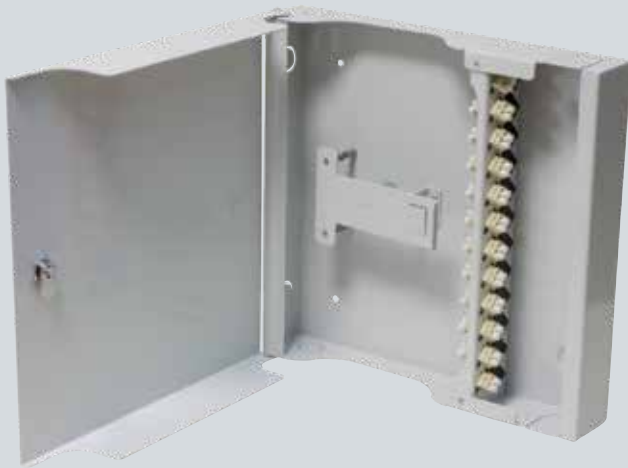
## In the box



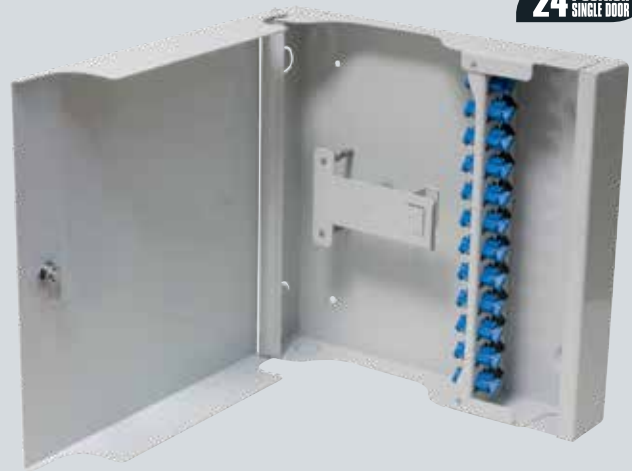
# W27 Lockable Slimline Wall Box

## 24 Position SC/LC/E2000

### up to 24 fibres



24 Position SINGLE DOOR



24 Position SINGLE DOOR

### Part Number Generator

W27											/Z
<b>ADAPTOR TYPE</b>											<b>NO. OF ADAPTORS</b>
	SC Simplex Multimode	SCM		E2000 Singlemode APC	E2A						04
	SC Simplex Singlemode	SCS		LC Multimode	LCM						08
	SCA Simplex Singlemode APC	SCA		LC Multimode	LCV						12
	E2000 Multimode	E2m		LC Singlemode	LCS						24
	E2000 Singlemode	E2S		LC Singlemode APC	LCA						

Example Part Number: **W27 LCS 24 /Z**  
 W27LCS24/Z will configure a wall box with 24 LC duplex singlemode adaptors



# W28 Lockable Slimline Wall Box

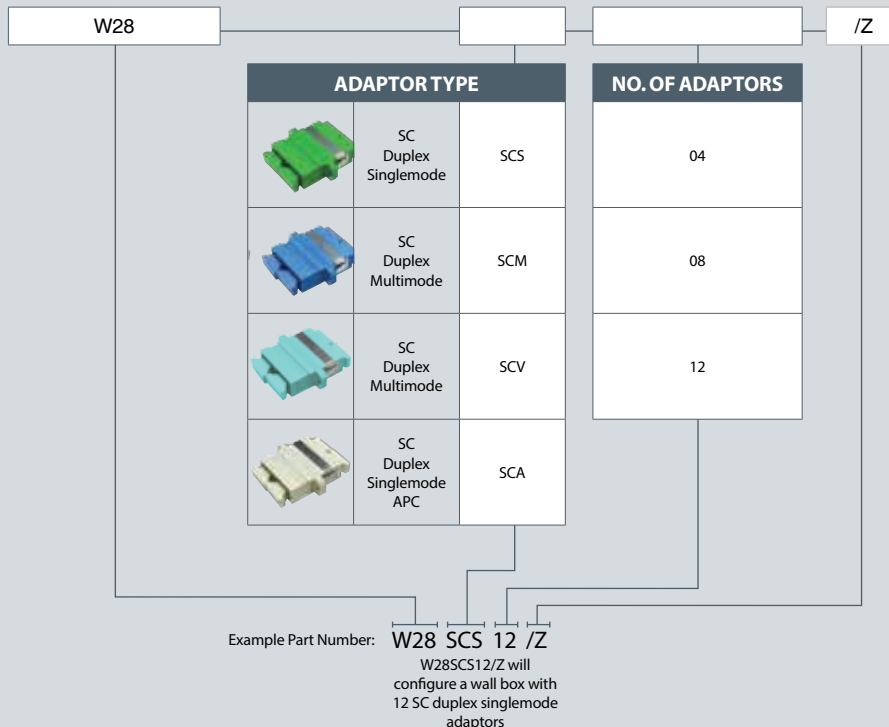
## 12 Position SC Duplex

### up to 24 fibres



**12** Position  
SINGLE DOOR

## Part Number Generator



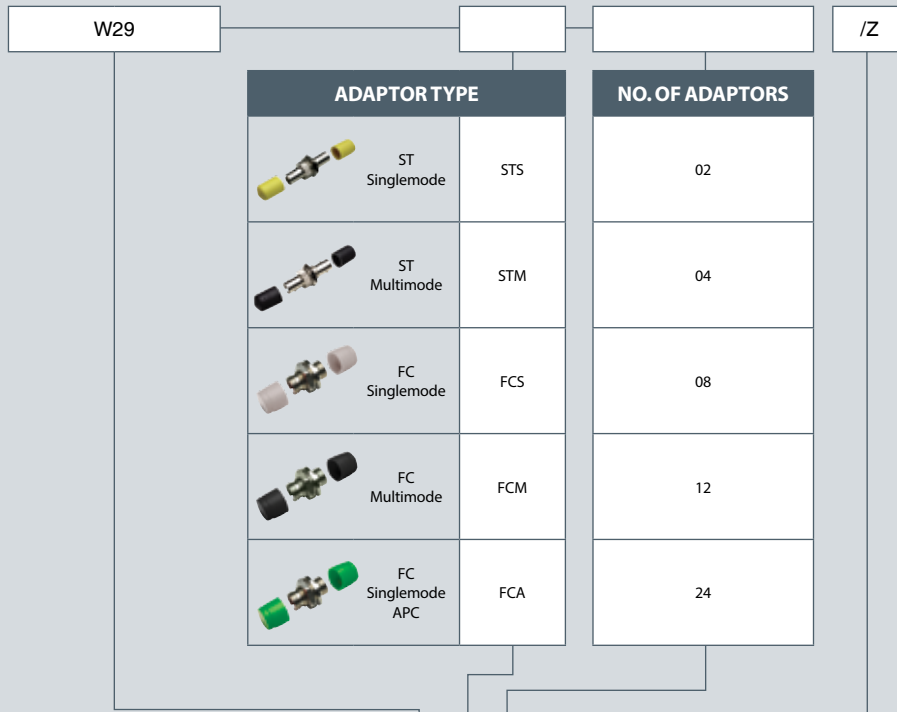
# W29 Lockable Slimline Wall Box

## 24 Position ST/FC

up to 24 fibres



### Part Number Generator



Example Part Number: **W29 STS 24 /Z**  
 W29STS24/Z will configure a wall box with 24 ST singlemode adaptors

# Single and Double Door Lockable Low Profile Wall Boxes

The Optronics wall box system can be supplied unloaded ready for the installer to load with their choice of adaptors, or pre-loaded with adaptors and pigtails ready for installation. With the ability to use a full array of adaptor types, this wall box offers a flexible solution to the end user, enabling them to incorporate a multi functional wall mounted box (which allows easy access during installation or rework) with no disturbance of existing cable or fibres. In addition to the array of adaptors the box also offers multiple cable entry and exit solutions: up to 8 standard entry points for loose tube, tight buffered, preterminated, steel tape armoured cable and 2 slotted positions for patch cord exit.

- > Up to 72 fibre
- > Multiple adaptor options
- > 36 adaptor positions
- > REACH/SvHC
- > available in single door and double door versions
- > internal bend radius protection included
- > Ideal Internal applications
- > For use in multi dwelling units or demarcation points within a network
- > Data centres or telecommunication networks



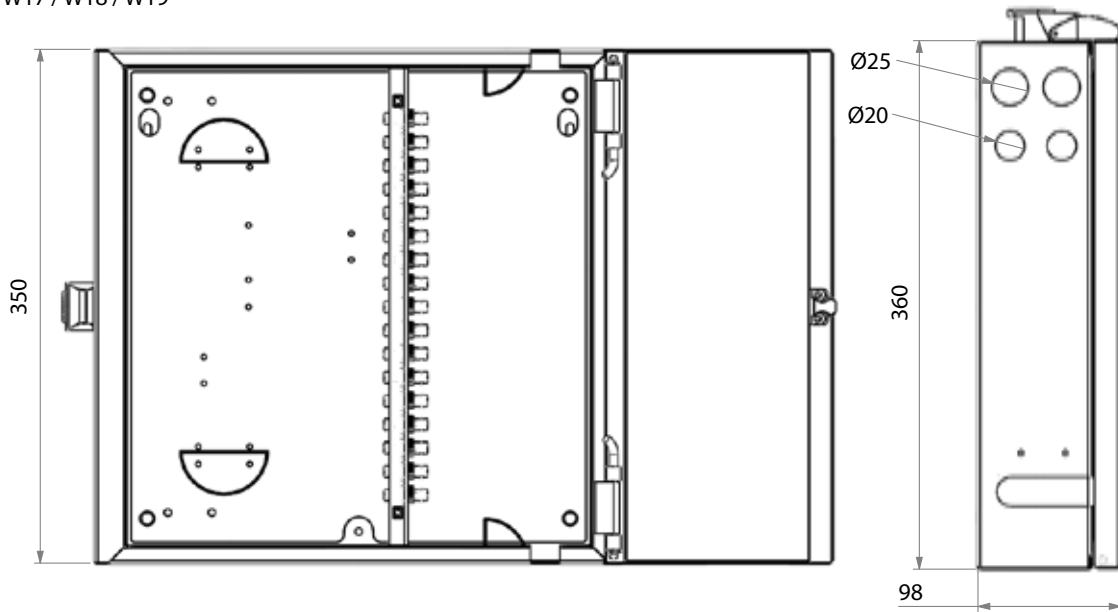
## Technical Specification

LOCKABLE WALL BOXES	SINGLE DOOR	DOUBLE DOOR
Height	360mm	360mm
Width	360mm	360mm
Depth	98mm	98mm
Net Weight	7 kg	7.5 kg
Packaged Weight	7.3 kg	7.5 kg
Package Dimensions	420 W x 400 D x 106 H	420 W x 400 D x 106 H
IP Rating	IP 20	IP 20
Suitable for adaptor type	SC Simplex LC Duplex E2000 MJ	SC Simplex LC Duplex E 2000 MJ
Number of doors	1	2
Cable entry	20mm	4 x 20mm
	25mm	4 x 25mm
Material	Cold Rolled Steel	Cold Rolled Steel
Material thickness	1.2mm	1.2mm
Material coating	Electrostatic Powder Coating	Electrostatic Powder Coating
Colour	Grey RAL 7035	Grey RAL 7035
Operating Temperature	-40°C to +60°C	-40°C to +60°C
Compliant to	REACH/SvHC	REACH/SvHC
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN 50173, IEC 60304, IEC 61754, EN 297-1	TIA/EIA 568.C, ISO/IEC 11801, EN 50173, IEC 60304, IEC 61754, EN 297-1

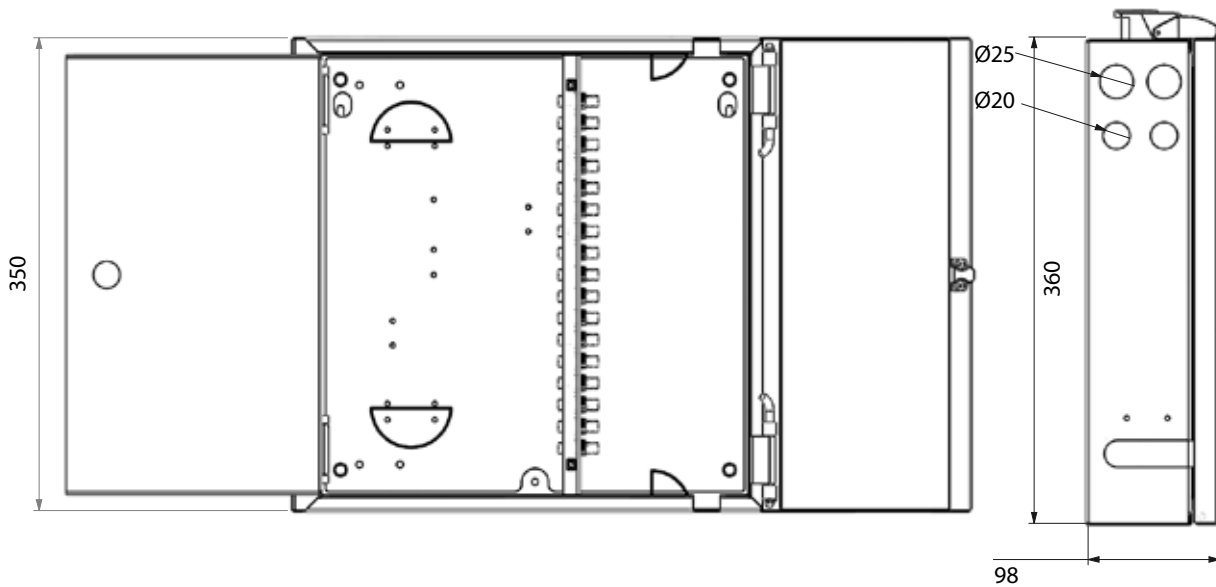
ALSO AVAILABLE	
Full range of patch cords including LC, SC, ST, FC, MTRJ and E2000, simplex and duplex, LSZH and PVC, high performance and specialist applications	
Comprehensive range of pigtails in all major connector types, individually bagged and identified for full traceability	
Unique range of pre-terminated assemblies featuring our patented FirstLight Prime breakout modules	

# Technical Drawings

W17/W18/W19



W20/W21/W22



All dimensions in mm



# W18 / W21 Lockable Low Profile Wall Box 48 Position ST/FC, up to 48 fibres

W18



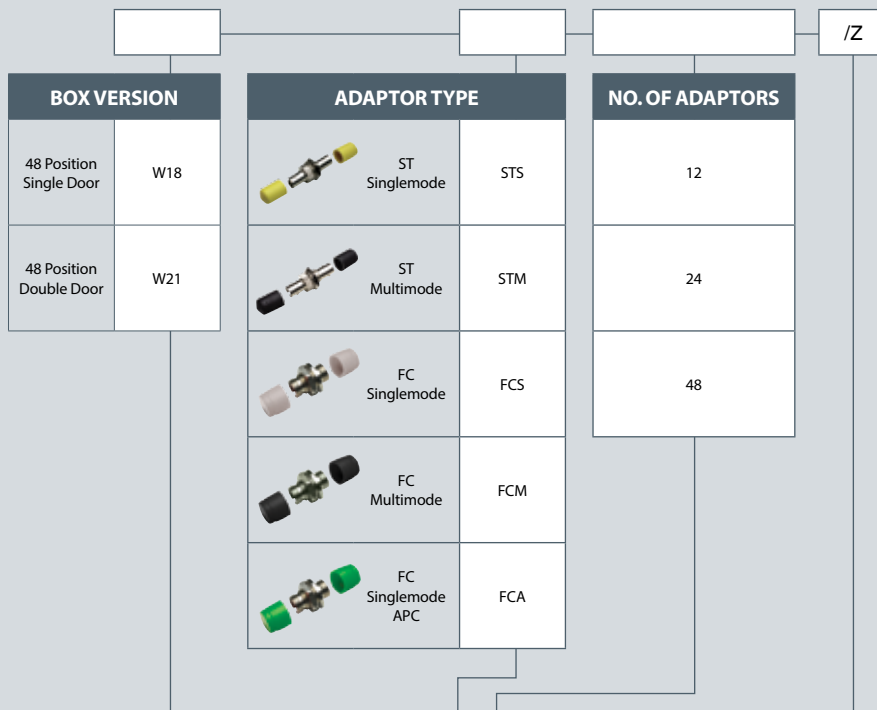
**48 Position SINGLE DOOR**

W21

**48 Position DOUBLE DOOR**



## Part Number Generator



Example Part Number: W18 STS 24 /Z

W18STS24/Z will configure a single door wall box with 24 ST singlemode adaptors

# W17 / W20 Lockable Low Profile Wall Box 36 Position SC/LC/E2000, up to 72 fibres

W17



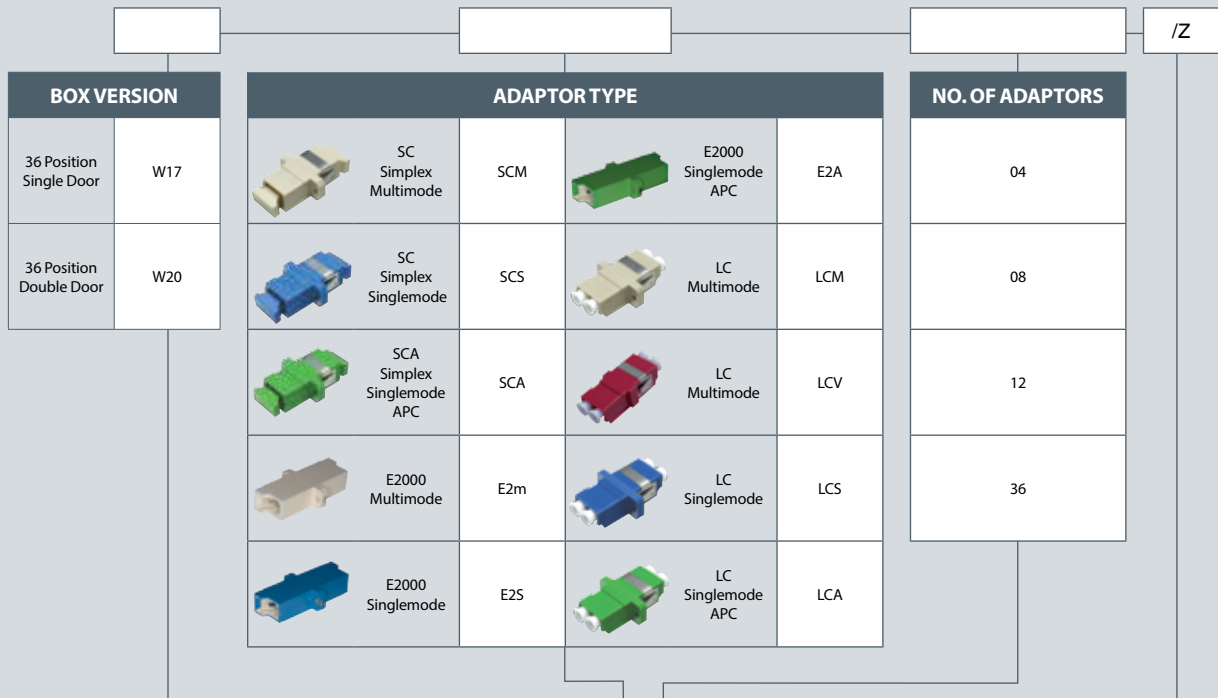
**36 Position SINGLE DOOR**

W20



**36 Position DOUBLE DOOR**

## Part Number Generator



Example Part Number: W17 LCS 36 /Z

W17LCS36/Z will configure a single door wall box with 36 LC duplex singlemode adaptors

# W19 / W22 Lockable Low Profile Wall Box 24 Position SC Duplex, up to 48 fibres

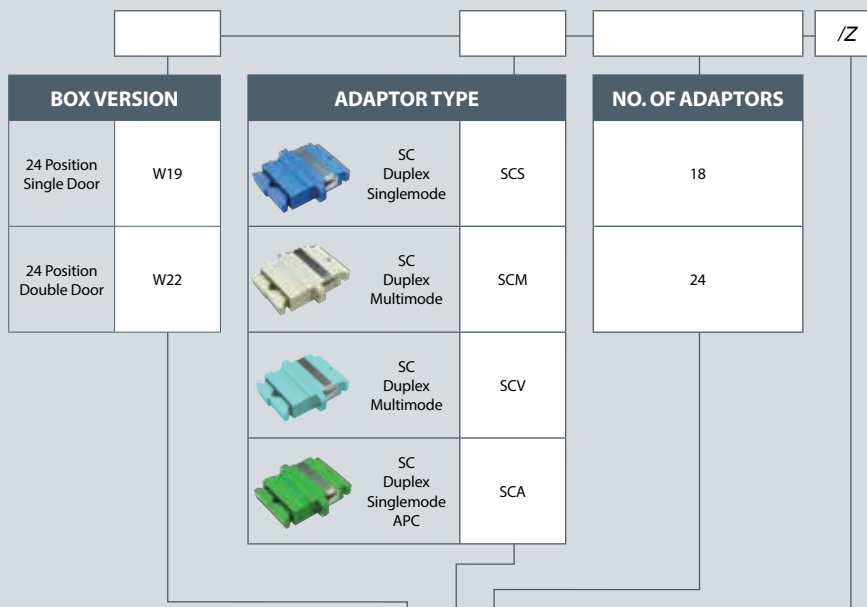
W19



W22



## Part Number Generator



Example Part Number: **W19 SCS 24 /Z**  
 W19SCS24/Z will configure a single door wall box with 24 SC duplex singlemode adaptors

# Single and Double Door Lockable Wall Boxes



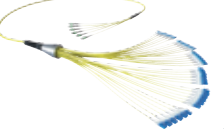
The Optronics wall box system in its basic form is supplied with the box unloaded ready for you to install the adaptor of your choice. The box can also be pre-loaded complete with the required adaptor or pre-loaded with pigtails to meet your project needs. The quality of construction that comes with the Optronics range of wallboxes ensures a safe, secure and aesthetically pleasing wallbox for your network.

- > Available in single and double door models
- > Double door models include two separate locks for security
- > Internal bend radius protection included
- > Cable entry and exit points can be knocked out to suit installation



## Technical Specification

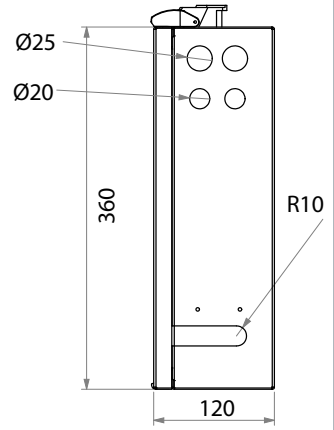
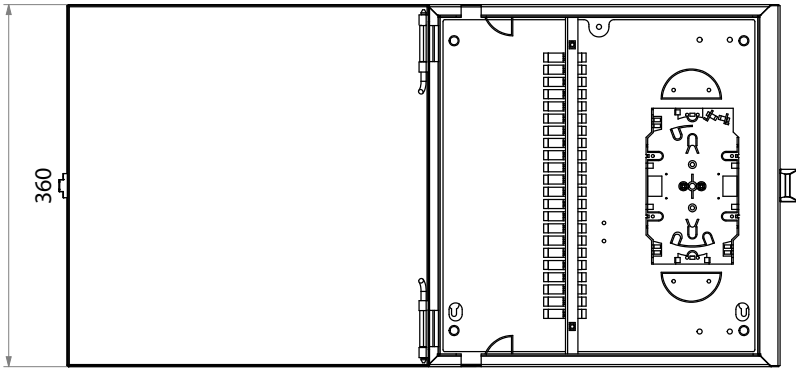
LOCKABLE WALL BOXES		SINGLE DOOR	DOUBLE DOOR
Height		360mm	360mm
Width		360mm	360mm
Depth		120mm	120mm
Net Weight		7.5kg	7.5kg
Packaged Weight		8kg	8kg
Package Dimensions (WxLxH)		420mm x 400mm x 130mm	
IP Rating		IP20	
Suitable for adaptor type		SC Simplex, ST/FC, E2000, LC Duplex, SC Duplex	
Number of doors		1 / 2	
Cable entry	20mm	4	
	25mm	4	
Material		Cold Rolled Steel	
Material thickness		1.2mm	
Material coating		Electrostatic Powder Coating	
Colour		Grey RAL 7035	
Operating Temperature		-40°C to +60°C	
Compliant to		REACH/SvHC	
Designed in accordance with		TIA/EIA 568.C, ISO/IEC 11801, EN 50173, IEC 60304, IEC 61754, EN 297-1.	

ALSO AVAILABLE	
Full range of patch cords including LC, SC, ST, FC, MTRJ and E2000, simplex and duplex, LSZH and PVC, high performance and specialist applications	
Comprehensive range of pigtails in all major connector types, individually bagged and identified for full traceability	
Unique range of pre-terminated assemblies featuring our patented FirstLight Prime breakout modules	

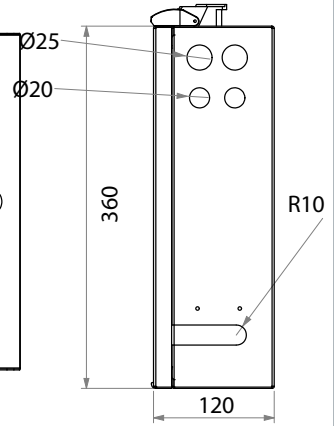
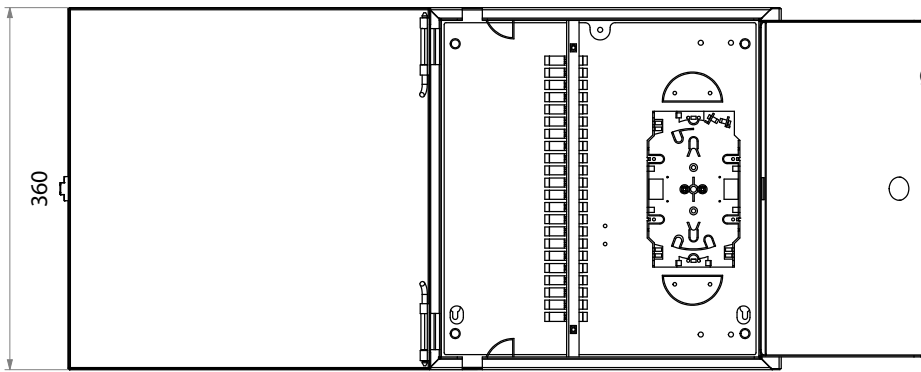


# Technical Drawings

W10 / W11 / W12 / W15



W06 / W07 / W08 / W09



All dimensions in mm

# W06 / W10 Lockable Wall Box 96 Position ST/FC, up to 96 fibres

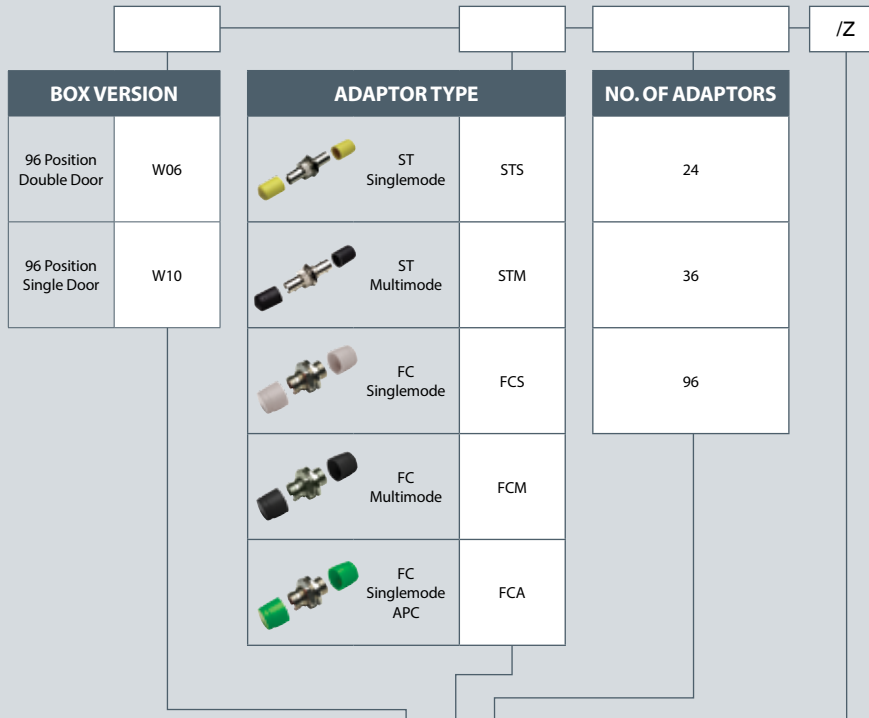
W06



W10



## Part Number Generator



Example Part Number: W06 STS 96 /Z

W06STS96/Z will configure a double door wall box with 96 ST singlemode adaptors

# W07 / W11 Lockable Wall Box 72 Position SC/LC/E2000, up to 144 fibres

W07



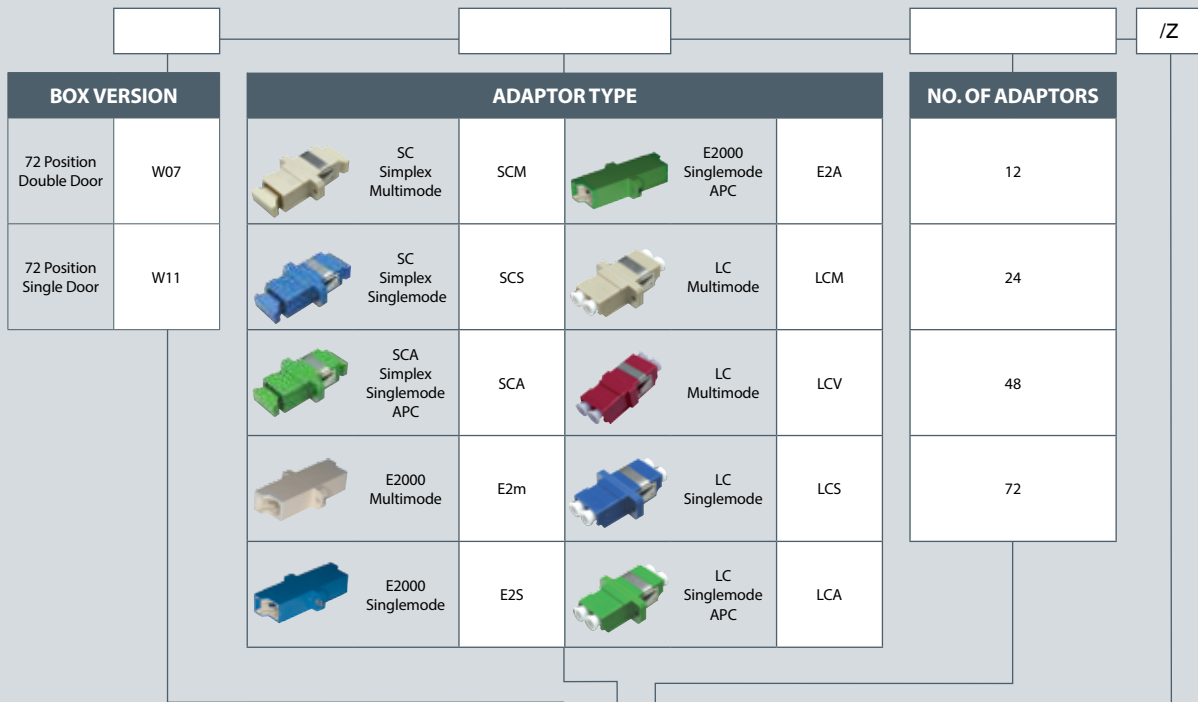
72 Position  
DOUBLE DOOR

W11



72 Position  
SINGLE DOOR

## Part Number Generator



Example Part Number: **W11 LCS 72 /Z**  
 W11LCS72/Z will configure a single door wall box with 72 LC duplex singlemode adaptors

# W08 / W12 Lockable Wall Box

## 48 Position SC Duplex, up to 96 fibres

W08



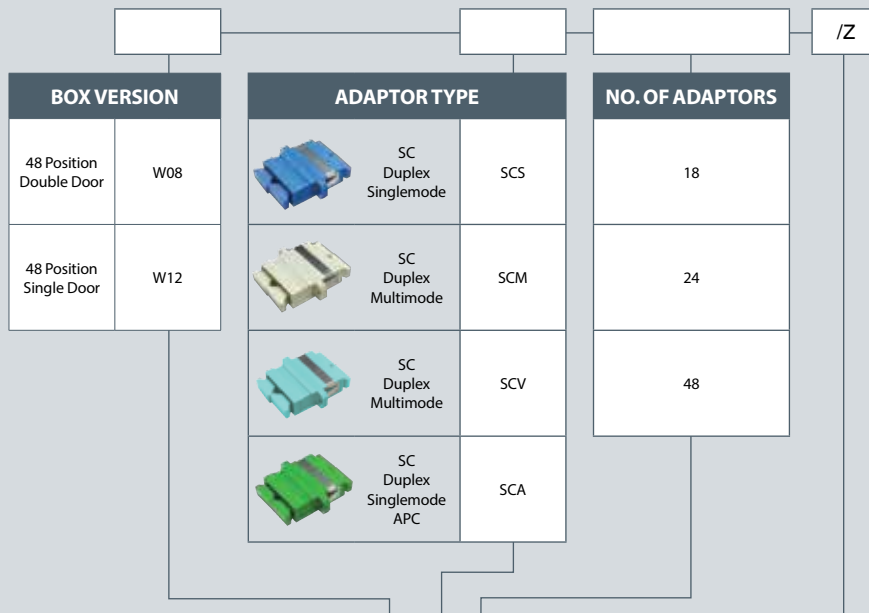
**48 Position**  
DOUBLE DOOR

W12



**48 Position**  
SINGLE DOOR

### Part Number Generator



Example Part Number: **W12 SCS 48 /Z**

W12SCS48/Z will configure a single door wall box with 48 SC duplex singlemode adaptors



# W09/W15 Lockable Wall Box 4 Position Modular, up to 96 fibres



**MODULAR  
DOUBLE DOOR**



**MODULAR  
SINGLE DOOR**

## Ordering Information

DESCRIPTION	PART NUMBER
Single door modular wall box	W09XXX00/Z
Double door modular wall box	W15XXX00/Z

For modules see page 174

# AM Style Lockable Dual Module Wall Box

Optronics offers a wide range of indoor wall mounted splice enclosures. The AMW enclosures offer a compact solution to the end user that has been designed to accept up to 2 LGX style assemblies.

With the ability to use a full array of adaptor types offering a flexible solution to the end user, enabling them to incorporate a multi functional enclosure (which allows easy access during installation or re-work) with no disturbance of the existing cable or fibres.

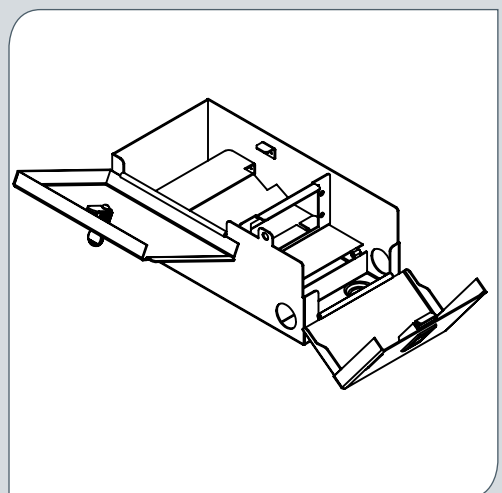
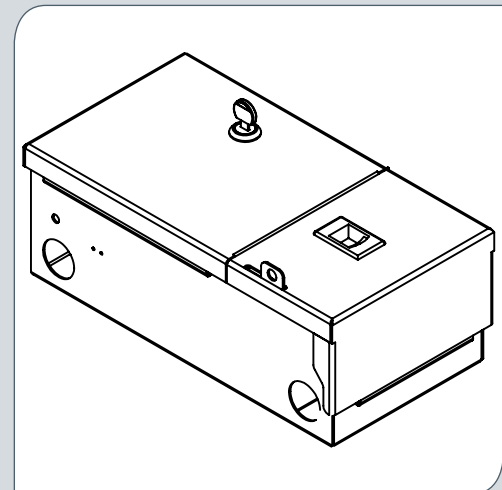
In addition to the array of adaptors the enclosure also offers multiple cable entry solutions. Fibre cable can be spliced or there are many pre terminated options, making this enclosure one of the most flexible on the market.

## Features

- > Up to 2 LGX components
- > Wall mountable
- > Multiple adaptor options available
- > Splicing option available
- > Lockable hinged door
- > Accepts loose tube and distribution cable
- > REACH/SvHC

## Applications

- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor applications

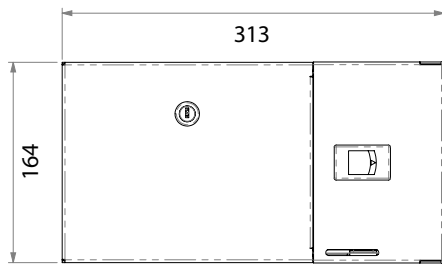
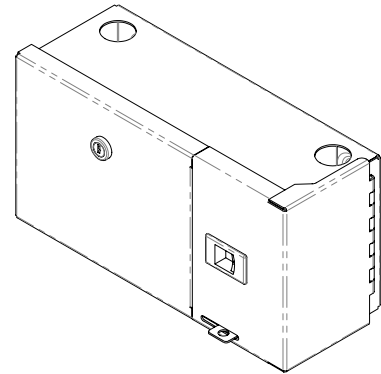
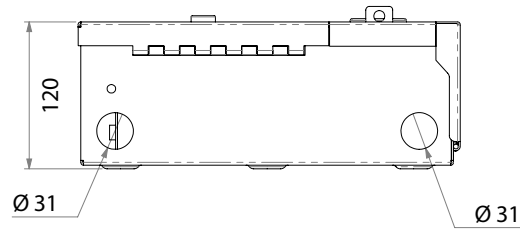


## Technical Specification

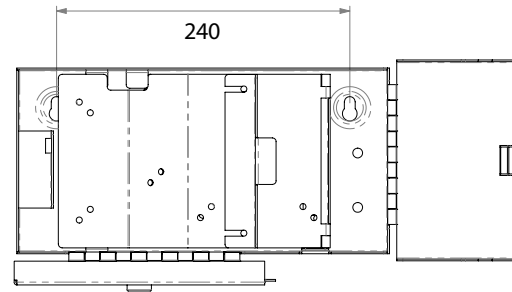
1U MODULAR PATCH PANEL CHASSIS	
Height	164mm
Width	313mm
Depth	120mm
Net weight	3.2kg
Packaged weight	3.5kg
Packaged dimensions (WxLxH)	230mm x 350mm x 160mm
Suitable for Adaptor type	LGX / MTP Cassettes
Number of module positions	2
Material	Cold-rolled steel
Material thickness	2.5mm
Material finish	Powder coating
Colour	RAL 9004
Operating temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN2971
Compliant to	REACH/SvHC

## Technical Drawings

Bottom View



Closed Front View



Opened Front View

All dimensions in mm

## Ordering Information

DESCRIPTION	PART NUMBER
Dual Module AM Style Lockable Wall Box	AMW2/Z

For modules see page 174

# AM Style Lockable Quad Module Wall Box

Optronics offers a wide range of indoor wall mounted splice enclosures. The AMW enclosures offer a compact solution to the end user that has been designed to accept up to 4 LGX style assemblies.

With the ability to use a full array of adaptor types offering a flexible solution to the end user, enabling them to incorporate a multi functional enclosure (which allows easy access during installation or re-work) with no disturbance of the existing cable or fibres.

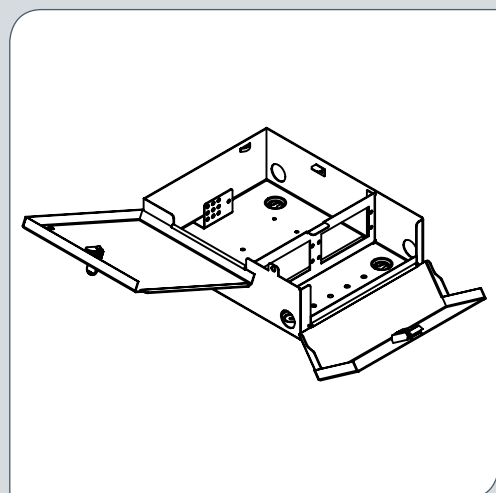
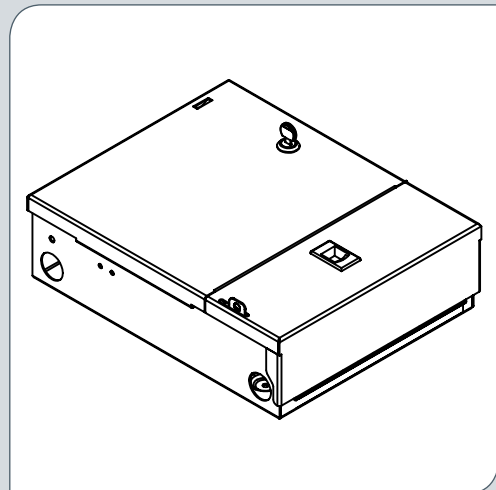
In addition to the array of adaptors the enclosure also offers multiple cable entry solutions. Fibre cable can be spliced or there are many pre terminated options, making this enclosure one of the most flexible on the market.

## Features

- > Up to 4 LGX components
- > Wall mountable
- > Multiple adaptor options available
- > Splicing option available
- > Lockable hinged door
- > Accepts loose tube and distribution cable
- > REACH/SvHC

## Applications

- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor applications



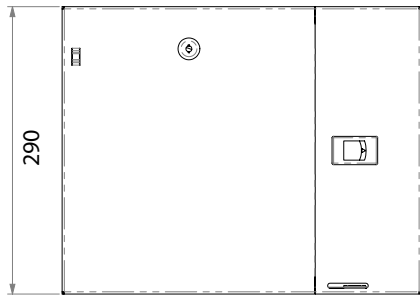
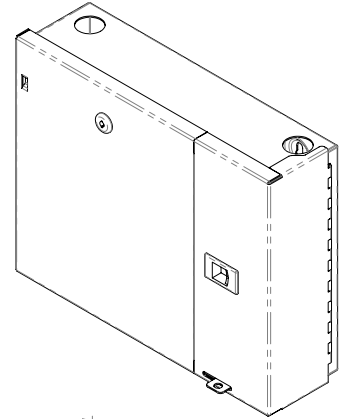
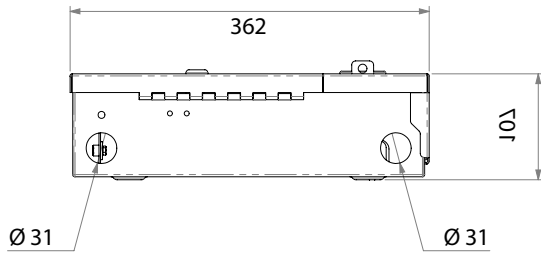
## Technical Specification

1U MODULAR PATCH PANEL CHASSIS	
Height	290mm
Width	362mm
Depth	107mm
Net weight	4.6kg
Packaged weight	5.2kg
Packaged dimensions (WxLxH)	360mm x 410mm x 160mm
Suitable for Adaptor type	LGX / MTP Cassettes
Number of module positions	4
Material	Cold-rolled steel
Material thickness	2.5mm
Material finish	Powder coating
Colour	RAL 9004
Operating temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	REACH/SvHC

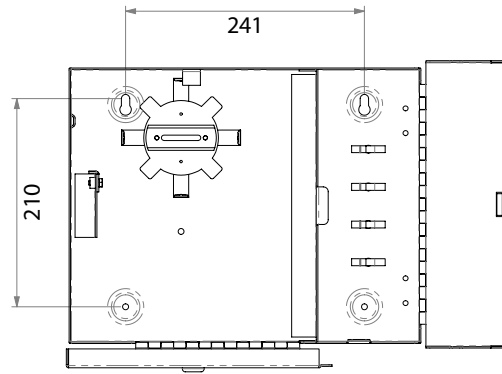


## Technical Drawings

Bottom View



Closed Front View



Opened Front View

All dimensions in mm

## Ordering Information

DESCRIPTION	PART NUMBER
Quad Module AM Style Lockable Wall Box	AMW4/Z

For modules see page 174

# AM Style Lockable Single Module Wall Box

Optronics offers a wide range of indoor wall mounted splice enclosures. The AMW enclosures offer a compact solution to the end user that has been designed to accept one LGX style assembly.

With the ability to use a full array of adaptor types offering a flexible solution to the end user, enabling them to incorporate a multi functional enclosure (which allows easy access during installation or re-work) with no disturbance of the existing cable or fibres.

In addition to the array of adaptors the enclosure also offers multiple cable entry solutions. Fibre cable can be spliced or there are many pre terminated options, making this enclosure one of the most flexible on the market.

## Features

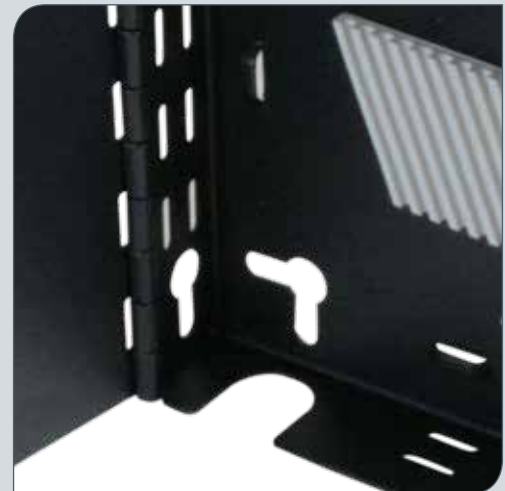
- > 1 LGX component
- > Wall mountable
- > Multiple adaptor options available
- > Splicing option available
- > Multiple fixing points
- > Hinged door
- > Accepts loose tube and distribution cable
- > REACH/SvHC

## Applications

- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor applications

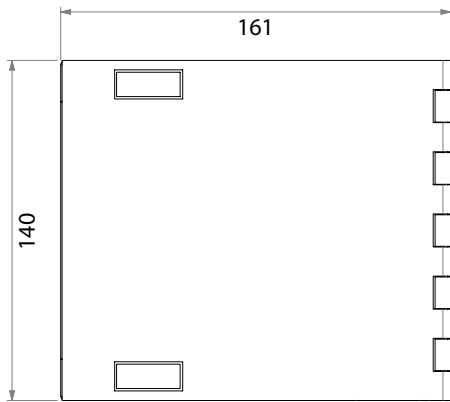
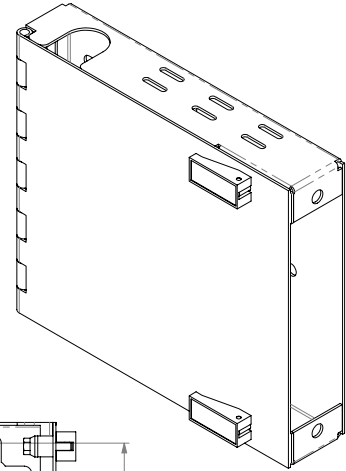
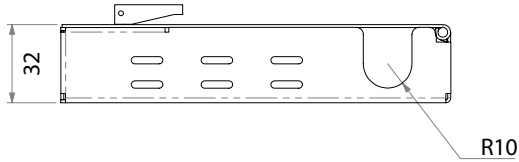
## Technical Specification

1U MODULAR PATCH PANEL CHASSIS	
Height	140mm
Width	161mm
Depth	32mm
Net weight	0.6kg
Packaged weight	0.7kg
Packaged dimensions (WxLxH)	180mm x 180mm x 55mm
Suitable for Adaptor type	LGX / MTP Cassettes
Number of module positions	1
Material	Cold-rolled steel
Material thickness	1.2mm
Material finish	Powder coating
Colour	RAL 9004
Operating temperature	-40°C to +60°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	REACH/SvHC

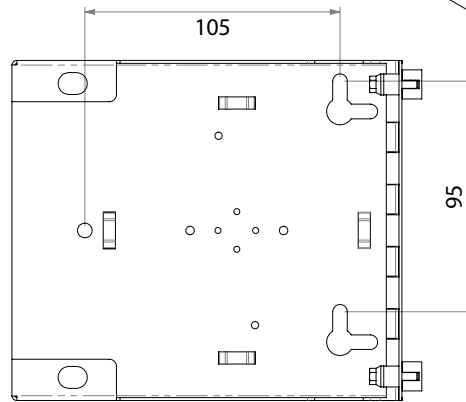


## Technical Drawings

Bottom View



Closed Front View



Opened Front View

All dimensions in mm

## Ordering Information

DESCRIPTION	PART NUMBER
Single Module AM Style Lockable Wall Box	AMW1/Z

For modules see page 174

# Slimline Wall Box



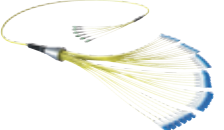
The slimline wall enclosure in its basic form is supplied unloaded with either a 12 port ST or 12 port SC plate installed. The enclosure can be pre-loaded with the required adaptor and a simple splice kit, or ST, FC, SC, LC or E2000 pigtails to meet your project needs.

- > Internal tie points
- > Cable entry points can be knocked out to suit installation
- > Solid construction with secure slam latch door
- > Slim-line design for installation where space is limited
- > Extended lid protects the exiting patch cords



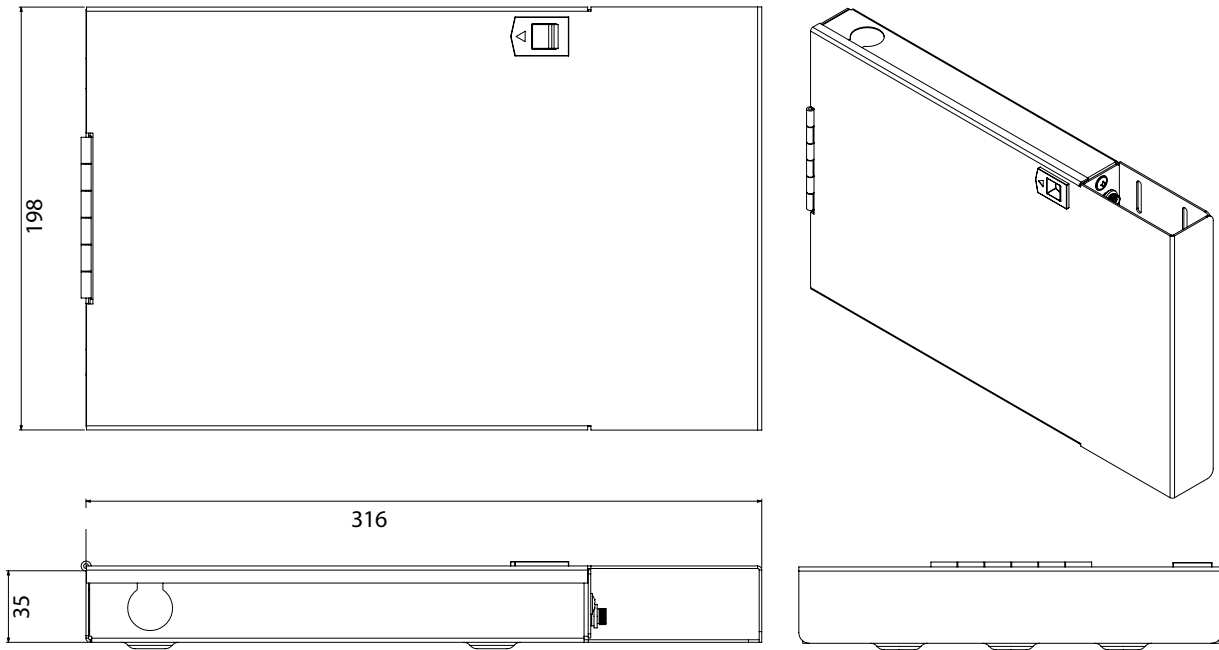
## Technical Specification

SLIMLINE WALL BOX	
Height	197mm
Width	316mm
Depth	35mm
Net Weight	1.5kg
Package Dimensions (WxLxH)	210mm x 325mm x 45mm
IP Rating	IP20
Suitable for adaptor type	SC Simplex (12 port), ST/FC (12 port), E2000 (12 port), LC Duplex (12 port)
Number of doors	1
Cable entry 20mm	3
Material	Cold Rolled Steel
Material thickness	1.2mm
Material coating	Electrostatic Powder Coating
Colour	Grey RAL 7035
Operating Temperature	-40°C to +60°C
Compliant to	REACH/SvHC
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN 50173, IEC 60304, IEC 61754, EN 297-1

ALSO AVAILABLE	
Full range of patch cords including LC, SC, ST, FC, MTRJ and E2000, simplex and duplex, LSZH and PVC, high performance and specialist applications	
Comprehensive range of pigtails in all major connector types, individually bagged and identified for full traceability	
Unique range of pre-terminated assemblies featuring our patented FirstLight Prime breakout modules	



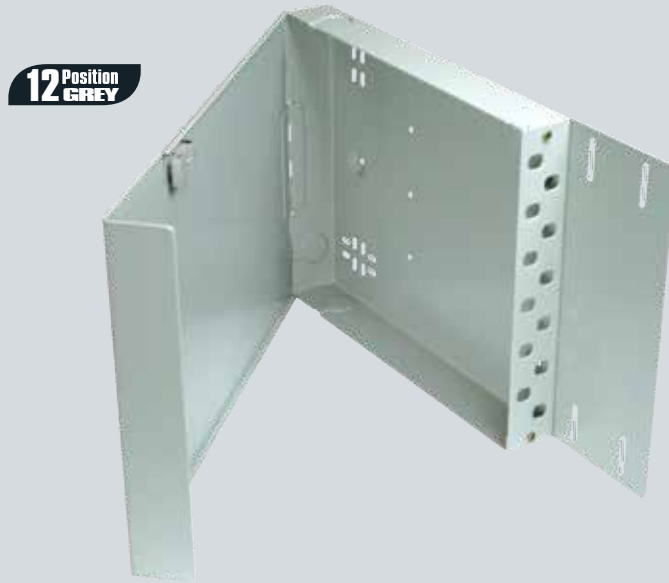
### Technical Drawings



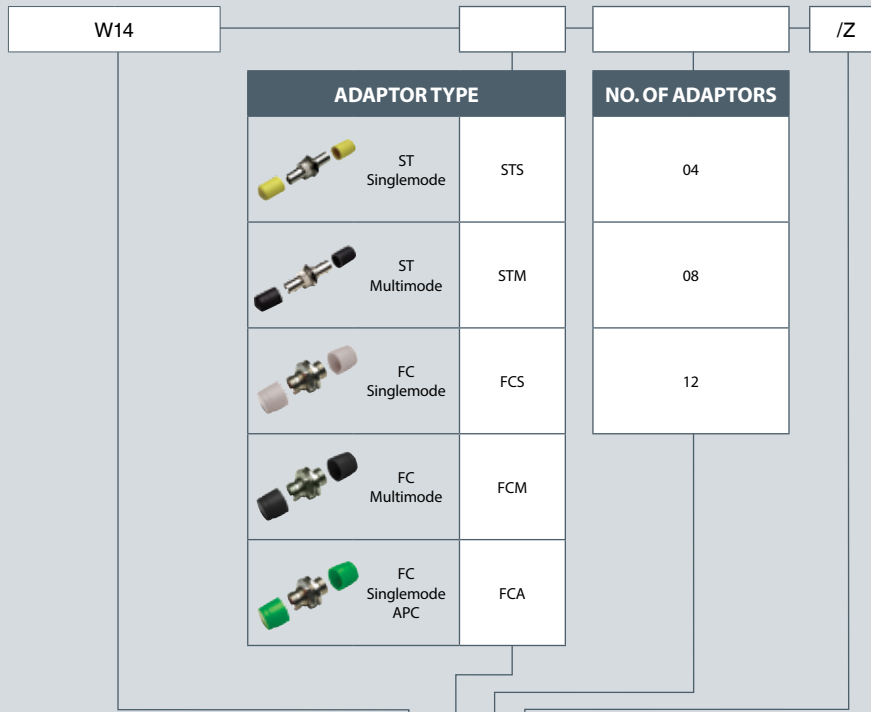
All dimensions in mm

# W14 Slimline Wall Box

## 12 Position ST/FC up to 12 fibres



### Part Number Generator

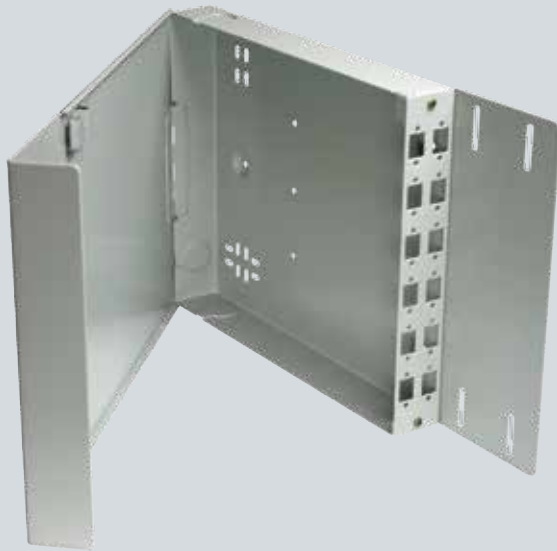


Example Part Number: W14 STS 12 /Z

W14STS12/Z will configure a wall box with 12 ST singlemode adaptors

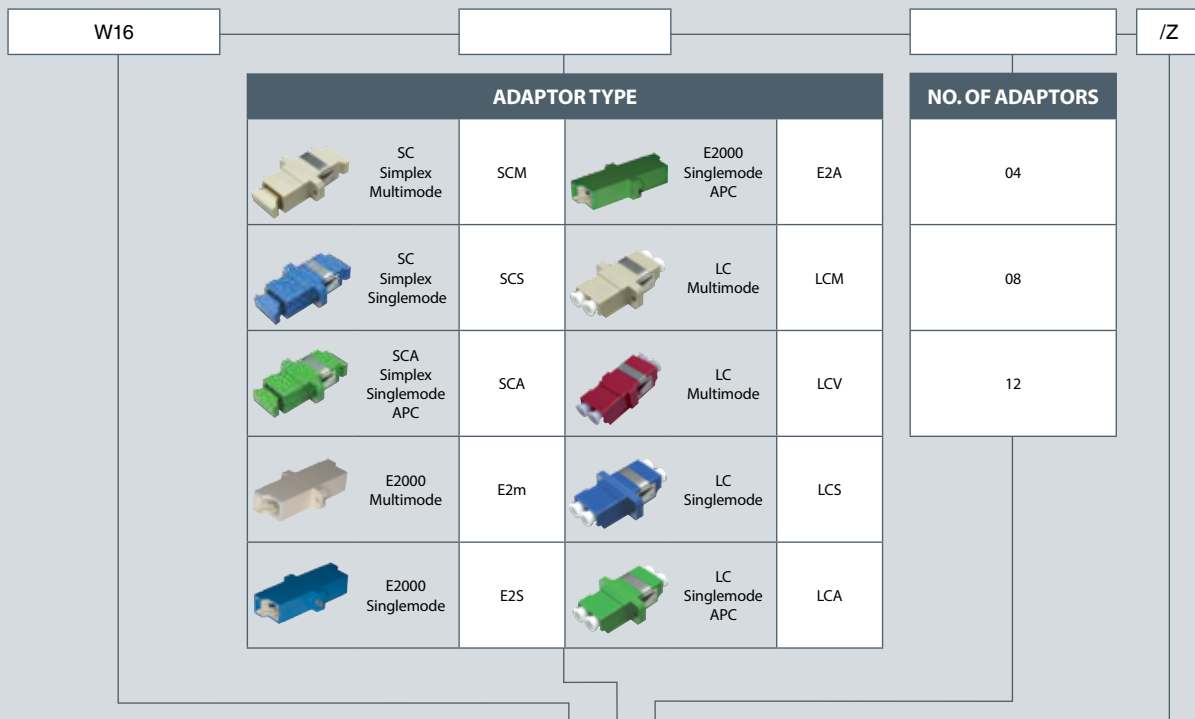
# W16 Slimline Wall Box

## 12 Position SC/LC/E2000 up to 24 fibres



**12 Position**  
**GREY**

### Part Number Generator



Example Part Number: **W16 LCS 24/Z**  
 W16LCS24/Z will configure a wall box with 24 LC duplex singlemode adaptors

# Fibre Management Enclosures

IP65 Indoor/Outdoor Distribution Boxes	247
Termination Boxes	251
Splice Enclosures	255



# IP65 Indoor/Outdoor Distribution Boxes

This lockable IP65 distribution box offers the ability to terminate 4 to 12 fibres housed in a strong robust ABS enclosure for indoor and outdoor applications. With the ability to use SC and LC adaptor types this distribution box offers a flexible solution to the end user, enabling them to incorporate a multi functional enclosure, which allows easy access during installation or re-work, with no disturbance of the existing cable or fibres.



W23

W24

W25



### ALSO AVAILABLE

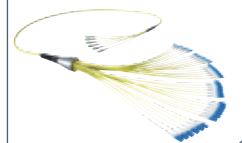
Full range of patch cords including LC, SC, ST, FC, MTRJ and E2000, simplex and duplex, LSZH and PVC, high performance and specialist applications



Comprehensive range of pigtails in all major connector types, individually bagged and identified for full traceability



Unique range of pre-terminated assemblies featuring our patented FirstLight Prime breakout modules



# W23 IP65 Indoor / Outdoor Distribution Box

## 8 Position up to 8 fibres

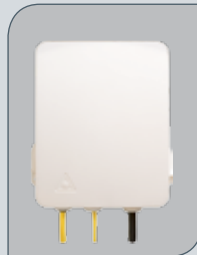
This IP65 distribution box offers the ability to terminate 8 fibres housed in a robust ABS enclosure for indoor and outdoor applications.

With the ability to use a full array of adaptor types this box offers a flexible solution to the end user, enabling them to incorporate a multi functional enclosure, which allows easy access during installation or re-work, with no disturbance of the existing cable or fibres.

In addition to the array of adaptors the enclosure also offers up to 8 exit points for patching cables and 1 standard cable entry point for loose tube, tight buffer, pre-terminated and steel tape armoured cable.

Each enclosure has integrated strength member tie positions and bend radius protection with the addition of a removable front door allowing for quick and easy installation.

- > Up to 8 fibres
- > Multiple adaptor options available
- > 8 adaptor positions
- > IP65
- > Accepts loose tube, distribution and pre terminated cables
- > Integrated bend radius protection
- > Sealing glands for up to 8 cables
- > Removable door for ease of installation
- > REACH/SvHC
- > Supplied with 12 heat shrink splice protectors
- > Supplied with transit tubing
- > Supplied with wall fixings and tie wraps



### Technical Specification

IP RATED DISTRIBUTION BOX FOR INTERNAL/EXTERNAL USE	
Height	210mm
Width	175mm
Depth	50mm
Net weight	0.44kg
Packed weight	0.52kg
Packaged dimensions (WxLxH)	215mm x 182mm x 51mm
IP rating	IP65
Suitable for adaptor type	SC Simplex LC Duplex
Number of fibres	8
Number of ports	8
Cable entry 20mm	1
Cable exit 20mm	2
Material	ABS
Colour	White
Operating temperature	-40°C to +50°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	REACH/SvHC

### Applications

- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor / outdoor applications

### Ordering Information

DESCRIPTION	PART NUMBER
8 Position IP65 Indoor/Outdoor Distribution Box	W23XXX00/Z

# W24 IP65 Indoor / Outdoor Distribution Box

## 6 Position up to 12 fibres

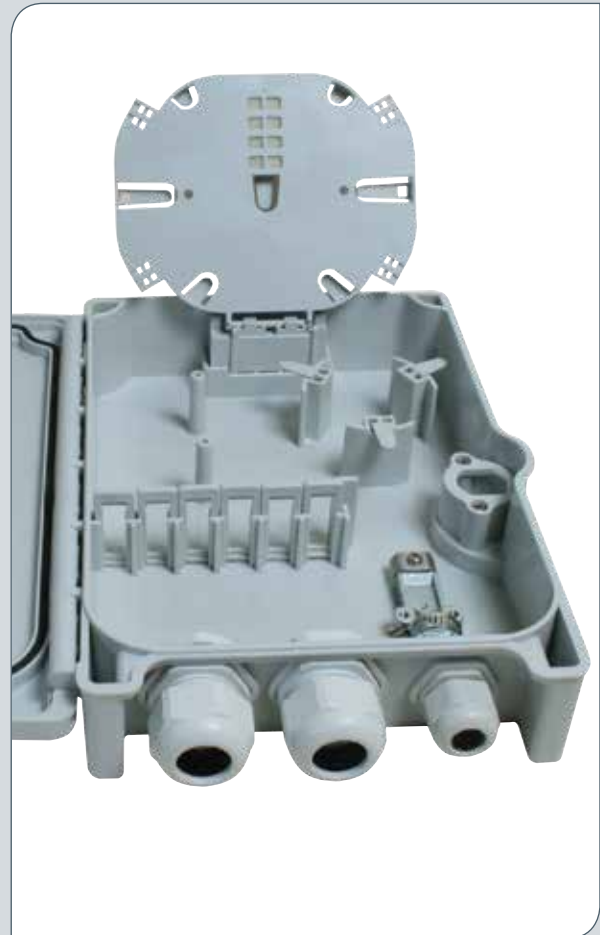
This lockable IP65 distribution box offers the ability to terminate 12 fibres housed in a robust ABS enclosure for indoor and outdoor applications.

With the ability to use a full array of adaptor types this box offers a flexible solution to the end user, enabling them to incorporate a multi functional enclosure, which allows easy access during installation or re-work, with no disturbance of the existing cable or fibres.

In addition to the array of adaptors the enclosure also offers up to 8 exit points for patching cables and 1 standard cable entry point for loose tube, tight buffer, pre- terminated and steel tape armoured cable.

Each enclosure has integrated strength member tie positions and bend radius protection with the addition of a removable front door allowing for quick and easy installation.

- > Up to 12 fibres
- > Multiple adaptor options available
- > 6 adaptor positions
- > IP65
- > Accepts loose tube, distribution and pre terminated cables
- > Integrated bend radius protection
- > Sealing glands for up to 12 cables
- > Lockable door
- > Removable door for ease of installation
- > REACH/SvHC
- > Supplied with 12 heat shrink splice protectors
- > Supplied with transit tubing
- > Supplied with wall fixings and tie wraps



### Technical Specification

IP RATED DISTRIBUTION BOX FOR INTERNAL/EXTERNAL USE	
Height	258mm
Width	186mm
Depth	61mm
Net weight	0.55kg
Packed weight	0.96kg
Packaged dimensions (WxLxH)	275mm x 197mm x 65mm
IP rating	IP65
Suitable for adaptor type	SC Duplex LC Quad
Number of fibres	12
Number of ports	6
Cable entry 20mm	1
Cable exit 20mm	2
Material	ABS
Colour	White
Operating temperature	-40°C to +50°C
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	REACH/SvHC

### Applications

- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor / outdoor applications

### Ordering Information

DESCRIPTION	PART NUMBER
6 Position IP65 Indoor/Outdoor Distribution Box	W24XXX00/Z

# W25 IP65 Indoor / Outdoor Distribution Box

## 2 Position up to 4 fibres

This Lockable IP65 distribution box offers the ability to terminate 4 fibres housed in a strong robust ABS enclosure for indoor and outdoor applications.

With the ability to use SC and LC adaptor types this box offers a flexible solution to the end user, enabling them to incorporate a multi functional enclosure, which allows easy access during installation or re-work, with no disturbance of the existing cable or fibres.

In addition to the array of adaptors the enclosure also offers up to 4 exit points for patching cables and 1 standard cable entry point for loose tube, tight buffer, pre-terminated and steel tape armoured cable.

Each enclosure has integrated strength member tie positions and bend radius protection with the addition of a removable front door allowing for quick and easy installation.

- > Up to 4 fibres
- > Removable splice tray for easy installation
- > Multiple adaptor options available
- > 2 adaptor positions
- > IP 65
- > Accepts loose tube, distribution and pre terminated cables
- > Integrated bend radius protection
- > Sealing glands for up to 4 cables
- > Lockable door
- > Removable door for ease of installation
- > REACH/SvHC
- > Supplied with 12 heat shrink splice protectors
- > Supplied with transit tubing
- > Supplied with wall fixings and tie wraps



## Technical Specification

IP RATED DISTRIBUTION BOX FOR INTERNAL/EXTERNAL USE	
Height	210mm
Width	156mm
Depth	48mm
Net weight	0.51kg
Packed weight	0.59kg
Packaged dimensions (WxLxH)	215mm x 157mm x 60mm
IP rating	IP65
Suitable for adaptor type	SC Simplex LC Duplex
Number of fibres	4
Number of ports	2
Cable entry 20mm	1
Cable exit 20mm	1
Material	ABS
Colour	White
Operating temperature	-40oC to +50oC
Designed in accordance with	TIA/EIA 568.C, ISO/IEC 11801, EN50173, IEC60304, IEC61754, EN297-1
Compliant to	REACH/SvHC

## Applications

- > Data centres, premise installations, telecommunication networks
- > Ethernet, Fibre Channel, ATM, LAN, MAN and WAN
- > Data communication and telecommunication networks
- > Indoor / outdoor applications

## Ordering Information



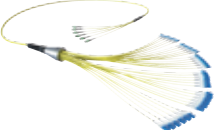
DESCRIPTION	PART NUMBER
2 Position IP65 Indoor/Outdoor Distribution Box	W25XXX00/Z



# Termination Boxes

The Optronics range of termination boxes are designed for use in residential and business applications for the termination of fibre optic cable. The boxes can be supplied either unloaded or loaded with the specified adaptors. A range of accessories for these products can be found at the end of this section.



ALSO AVAILABLE	
Full range of patch cords including LC, SC, ST, FC, MTRJ and E2000, simplex and duplex, LSZH and PVC, high performance and specialist applications	
Comprehensive range of pigtails in all major connector types, individually bagged and identified for full traceability	
Unique range of pre-terminated assemblies featuring our patented FirstLight Prime breakout modules	



# Compact Termination Box

The Optronics compact termination box is designed for use in residential and business applications for the termination of up to four fibres. The wall box enables the installation of either a single blown tube cable, using up to a 4 fibre blown unit or two 2 fibre ruggedised cables to be spliced to four SC pigtails (PC or APC), which connect to adaptors at the base of the unit. The unit can be quickly installed within an office, house or communication room environment.

- > Ability to allow cables to enter from rear or bottom of the unit
- > All fibres are positively managed to maintain a 30mm minimum bend radius
- > Tamper proof cover, security screws available as an option
- > Unit manufactured from fire resistant UL94-V0 rated material
- > Patch cords exit unit on bottom face and are protected by two protective covers
- > Ergonomic design
- > Optional removable rear entry cable management
- > Flip tray to allow access to pigtails and cable entry
- > Removable cover for easy access
- > Standard colour white. Other colours available on request

## Technical Specification

COMPACT TERMINATION BOX		
Number of splice trays		1
Maximum fibre capacity		4 Fibres
Maximum cable diameter (mm)		10
Maximum no. of customer feeds		4 Patch cords
Required space envelope (mm)		(L) 80 x (w) 120 x (d) 25
Operating temperature		-20°C to +50°C (5 to 95% RH)
Material	Cap	FR High Impact Polystyrene
	Base	FR High Impact Polystyrene
	Splitter trays	FR High Impact Polystyrene
Packing dimensions (WxLxH)		100 x 150 x 50mm
Packed weight		0.16 kg
Net weight		0.1 kg
Testing	Optical	Tested 1310nm, 1550nm and 1625nm
	Dry heat	BS EN 60068-2-2 Test Bb
	Damp heat	IEC 60068-2-3
	Change of temperature	IEC 60068-2-14
	Vibration	IEC 60068-2-6
	Shock	IEC 60068-2-27



## Ordering Information

DESCRIPTION	PART NUMBER
Compact Termination Box	CSB06/Z

# External IP45 Rated Termination Box

The Optronics internal termination box is designed for use in residential, small and large business premises. The unit houses a single splice tray and allows fibres from internal or external cables to be spliced to pigtails for connection to the optical network unit. The unit can be quickly installed within a home, office or communication room environment. Internal or external cable can enter the unit from the bottom or through the side of the box.

- > Compact wall mounted unit used for residential, small and large business premises
- > Tamper proof cover security screws available as an option (refer to optional items)
- > Tray cover provides circuit protection and contains fibre ID label
- > Removable cover for easy access
- > Unit manufactured from UL94-V0 rated material
- > Single hinged splice tray enables access for working
- > Patch cords exit from the bottom of the unit
- > Easy cable entry points
- > Compatible with Blown Fibre Products
- > Rated to IP45

## Technical Specification

TERMINATION BOX		
Number of splice trays		1
Maximum fibre capacity		12 Fibres
Maximum cable diameter		18mm
IP rating		45
Required space envelope		(w) 220 x (h) 150 x (d) 50mm
Operating temperature		-20°C to + 50°C (5 to 95% RH)
Material	Wall Box	FR ABS Light Grey RAL 7035
	Splice tray	FR ABS Light Grey RAL 7035
Packing dimensions (WxLxH)		230 x 160 x 60mm
Packed weight		0.87 kg
Net weight		0.57 kg
Testing	Optical	Tested 1310nm, 1550nm and 1625nm
	Dry heat	BS EN 60068-2-2 Test Bb
	Damp heat	IEC 60068-2-3
	Change of temperature	IEC 60068-2-14
	Vibration	IEC 60068-2-6
	Shock	IEC 60068-2-27

NB. Additional items required, 2mm splice protector must be used when installing 12 fibres



## Ordering Information

DESCRIPTION	PART NUMBER
External IP Rated Termination Box	CSB04/Z

# External IP55 Rated Termination Box

The Optronics termination box is designed for use on the external wall of residential or small business premises. The unit houses a single splice tray and allows fibres from externally fed cables (blown fibre or conventional) to be spliced to pigtails for connection to the optical network unit. Pigtail fibres or patch cords are routed through the external wall fabric via a rear entry/exit position and are protected by 25mm diameter conduit. The unit can also be used as a transition point between internal and external cable.

- > Tamper proof cover security screws available as an option (refer to optional items)
- > Rear cable entry/exit position allows pigtails or patch cords to enter the customer premise
- > Compact wall mounted unit typically used for residential and small business premises
- > Standard kit supplied complete with all components necessary to splice an external cable to four pigtails. For applications where 12 fibres are to be spliced (external to internal cable), extra splice protectors will be required
- > Cable interstices can be sealed against water/gas ingress at the entry/exit position if required using a quick set resin
- > All fibres are positively managed to 30mm minimum bend radius
- > Cable up to 13mm in diameter can be accommodated with a cable gland
- > Removable cover fitted with re-enterable seal
- > Water ingress protection to IP55
- > Unit manufactured from UV resistant material
- > Compatible with blown fibre products



## Technical Specification

COMPACT TERMINATION BOX		
Number of splice trays		1
Maximum fibre capacity		12 Fibres
Maximum cable diameter (mm)		18mm
Maximum no. of customer feeds		55
Required space envelope (mm)		(w) 220 x (h) 150 x (d) 50mm
Operating temperature		-20°C to + 50°C (5 to 95% RH)
Material	Cap	FR ABS Dark Grey RAL7042
	Base	FR ABS Dark Grey RAL7042
	Splitter trays (WxHxD)	230 x 160 x 60mm
Packing dimensions		0.87 kg
Packed weight		0.57 kg
Net weight		Tested 1310nm, 1550nm and 1625nm
Testing	Optical	BS EN 60068-2-2 Test Bb
	Dry heat	IEC 60068-2-3: 1969
	Damp heat	IEC 60068-2-14: 1984
	Change of temperature	IEC 60068-2-6: 1995
	Vibration	IEC 60068-2-27: 1987
	Shock	IEC 60068-2-27

NB. Additional items required, 2mm splice protector must be used when installing 12 fibres

## Ordering Information

DESCRIPTION	PART NUMBER
External IP Rated Termination Box	CSB05/Z

# Splice Enclosures

The Optronics range of fibre optic splicing enclosures are designed for various types of outdoor environments and application, easy installation and solid construction.



**ALSO AVAILABLE**

Optronics splice protectors are ideal to maintain the strength and environmental stability of optical fibre cables after fusion splicing

Comprehensive range of pigtails in all major connector types, individually bagged and identified for full traceability



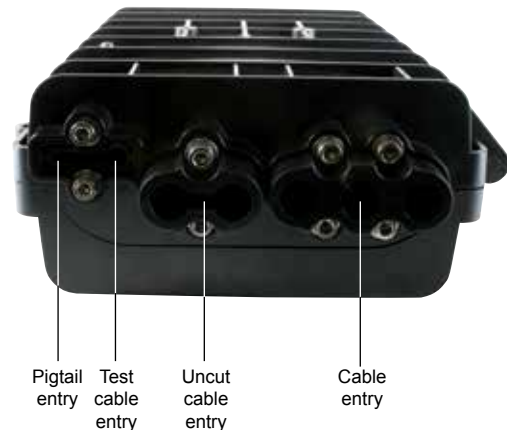


# Hinged Splice Enclosure

- > Opens via left hand hinge
- > Multi cable entry points
- > Integrated pressure valve
- > Integrated earth point
- > Holds up to 60 single fibres
- > Integrated fibre management
- > Mechanically sealed (compression)
- > Multi functional splicing options
- > Includes all splice protection
- > Includes wall mounting bracket and fixings
- > Can be pole mounted (optional extra)

## Technical Specification

SPECIFICATION	
Maximum single fibre count	60
Maximum fibres per tray	12
Maximum number of trays	5
Number of cable entry points	3
Suitable for cable diameters	8mm to 15mm
Number of pigtail outlets	4
Suitable for pigtail diameter	2mm
Number of uncut cable entry	1
Suitable for uncut cable diameter	8mm to 15mm
Number of test outlets	1
Suitable for test cable diameter	6mm
Sealing rating	IP68
Sealing method for all entry and exit	Mechanical (compression)
Height	300mm
Width	220mm
Depth	100mm
Weight	2.4Kg to 2.7Kg
Colour	Black
Material	ABS
Optimal operating temperature	-40°C to +65°C



## Ordering Information

DESCRIPTION	PART NUMBER
Hinged Fibre Splice Enclosure 12 splice	DOME05/Z
Hinged Fibre Splice Enclosure 24 splice	DOME06/Z
Hinged Fibre Splice Enclosure 36 splice	DOME07/Z
Hinged Fibre Splice Enclosure 48 splice	DOME08/Z
Hinged Fibre Splice Enclosure 60 splice	DOME09/Z
Pole mounting Kit	POLEKIT01/Z



# Small Splice Enclosure

The OPTR402 protects fibre optic splicing points in various installation conditions including aerial wires, manholes, wall, pole, ducts and direct burial. It is specifically designed for FTTH networks and is applicable to multi branching installations, and complies with the requirements for each point of the network. The OPTR402 provides easy and reliable installation and has high mechanical strength against most adverse environmental conditions. With the OPTR402, you can enhance your network system to a higher level.

## Technical Specifications

SPECIFICATION	
Size (mm) LxWxH	270 x 160 x 80
Weight (kg)	2
Inlet ports	4
Cable Dia.(mm)	3 ~ 10
No. of Splice Tray	2
Tray Capacity	12F (up to 24F)
Splice Capacity	24F (up to 48F)
Splice Method	Fusion, Mechanical, Connector
Splice Protector	Heat Shrinkable Sleeve, Mechanical Splicer
Tension Member	Galvanized Steel Wire, FRP, Wire
Water proof	IP67 (in accordance with Telcordia International Standard)

## Applications

- > Telecommunications
- > CATV Networks
- > Data Transmission and Industrial control
- > Video Transmission and Security

## Ordering Information

DESCRIPTION	PART NUMBER
Inline Aerial 12 Splice Enclosure	OPTR402-1/Z
Inline Aerial 24 Splice Enclosure	OPTR402-2/Z
Inline Aerial 48 Splice Enclosure	OPTR402-3/Z



# Medium Splice Enclosure

The OPTCD603 protects fibre optic splicing points in various installation conditions such as wires, manholes, walls, poles, ducts and direct burial. It is specifically designed for FTTH networks and is applicable to multi branching installation and complies with the requirements for each point of network. The OPTCD603 provides easy and reliable installation and has high mechanical strength against most adverse environmental conditions. With the OPTCD603, you can enhance your network system to a higher level.

## Technical Specifications

SPECIFICATION	
Size (mm) LxWxH	420 x 180 x 100
Weight (kg)	2.5
Inlet ports	6
Cable Dia.(mm)	3 ~ 22
No. of Splice Tray	3
Tray Capacity	245F (max 48F)
Splice Capacity	72F (max 144F)
Splice Method	Fusion, Mechanical, Connector
Splice Protector	Heat Shrinkable Sleeve, Mechanical Splicer
Tension Member	Galvanized Steel Wire, FRP, Wire
Water proof	IP67 (in accordance with Telcordia International Standard)

## Applications

- > Telecommunications
- > CATV Networks
- > Data Transmission and Industrial control
- > Video Transmission and Security



## Ordering Information

DESCRIPTION	PART NUMBER
Inline Aerial 24 Splice Enclosure	OPTCD603-1/Z
Inline Aerial 48 Splice Enclosure	OPTCD603-2/Z
Inline Aerial 72 Splice Enclosure	OPTCD603-3/Z

# Large Splice Enclosure

The OPTB603 protects fibre optic splices in various installation conditions including aerial mounting. The design has catch clips that assist in the sealing performance of the unit.

## Technical Specifications

DESCRIPTION	OPTB603A	OPTB603B
Size (mm) LxWxH	525 x 203 x 154	420 x 180 x 100
Weight (kg)	5	2.5
Inlet ports	6	6
Cable Dia.(mm)	8 ~ 22	3 ~ 22
No. of Splice Tray	Max. 6	3
Tray Capacity	24F (max. 48F)	24F (max. 48F)
Splice Capacity	144F (max. 288F)	72F (max. 144F)
Splice Method	Fusion, Mechanical, Connector	
Splice Protector	Heat Shrinkable Sleeve, Mechanical Splicer	
Tension Member	Galvanized Steel Wire, FRP, Wire	

## Applications

- > Ergonomic design
- > One-Touch catch clips to assist safety and reduce insertion time
- > Double gasket construction for improved sealing performance

## Ordering Information

DESCRIPTION	PART NUMBER
Splice Closure up to 288 splices	OPTB603A/Z
Splice Closure up to 144 splices	OPTB603B/Z



# Inline Splice Enclosure

The OPTB403A protects fibre optic splicing points in various installation conditions including mounting on cables, in manholes, ducts and on aerial cables. In addition to wall and direct burial applications.

It is specifically designed for FTTH networks and is applicable to multi branching installations, by using a mid-plate to increase core capacity. The flat type gasket ensures reliable sealing performance by preventing air and water leakage. This enclosure has high mechanical strength against most adverse environmental conditions.

## Technical Specifications

DESCRIPTION	OPTB403A-SS	OPTB403A-SD	OPTB403A-DD
Size (mm) LxWxH	435 x 205 x 113	435 x 205 x 167	435 x 205 x 221
Weight (kg)	2.8	3.8	4.8
Main Entry Ports	4 Ports/Enclosure	8 Ports/Enclosure	12 Ports/Enclosure
Sub Entry Ports	4 Ports / Main Entry Port		
Cable Dia.(mm)	6 ~ 20	6 ~ 20	6 ~ 20
No. of Splice Tray	4	6	8
Tray Capacity	24F (up to 48F)	24F (up to 48F)	24F (up to 48F)
Splice Capacity	96F (up to 192F)	144F (up to 288F)	192F (up to 384F)
Splice Method	Fusion, Mechanical, Connector		
Splice Protector	Heat Shrinkable Sleeve, Mechanical Splicer		
Tension Member	Galvanized Steel Wire, FRP		

## Applications

- > Telecommunications
- > CATV Networks
- > Data Transmission and Industrial control
- > Video Transmission and Security
- > Aerial / Duct Installations

## Terms and Definitions

- > SS-Type : Standard type splice enclosure without Mid-Plate
- > SD-Type : Standard type splice enclosure with a total of one Mid-Plate
- > DD-Type : Standard type splice enclosure with a total of two Mid-Plates

## Ordering Information

DESCRIPTION	PART NUMBER	
2 + 2 entry port enclosures	Inline 24 Splice, 1 Tray	OPTB403A-SS-1/Z
	Inline 48 Splice, 2 Tray	OPTB403A-SS-2/Z
	Inline 72 Splice, 3 Tray	OPTB403A-SS-3/Z
	Inline 96 Splice, 4 Tray	OPTB403A-SS-4/Z



DESCRIPTION	PART NUMBER	
4 + 4 entry port enclosures	Inline 120 Splice, 5 Tray	OPTB403A-SS-1/Z
	Inline 144 Splice, 6 Tray	OPTB403A-SS-2/Z
6 + 6 entry port enclosures	Inline 168 Splice, 7 Tray	OPTB403A-SS-3/Z
	Inline 192 Splice, 8 Tray	OPTB403A-SS-4/Z



# Dome Enclosure

The OPTB604A protects fibre optic splices while providing fast and easy no-cost, re-entry. It can be installed on aerial cables, in manholes, ducts and be mounted on poles. The enclosure provides reliable sealing performance, and the fibre splicing points are protected in a ribbed polypropylene dome that has high mechanical and environmental features. With six entry ports, the enclosure is applicable to in-line or mid-span branching methods. With the OPTB604A, you can enhance your network system to the highest level.

## Technical Specifications

SPECIFICATION	OPTB604A
Size (mm) LxWxH	174 x 208 x 522
Weight (kg)	2
Inlet ports	6
Cable Dia.(mm)	8 ~ 24
No. of Splice Tray	4
Tray Capacity	12F (up to 24F)
Splice Capacity	48F (up to 96F)
Splice Method	Fusion, Mechanical, Connector
Splice Protector	Heat Shrinkable Sleeve, Mechanical Splicer
Tension Member	Galvanized Steel Wire, FRP, Wire
Water proof	IP 68 (in accordance with Telcordia International Standard)

## Applications

- > Telecommunications
- > CATV Networks
- > Data / Video transmission and security
- > Industrial control
- > Video Transmission and Security
- > Aerial and duct installations

## Ordering Information

DESCRIPTION	PART NUMBER
Dome 24 Splice, 1 tray Enclosure	OPTB604A-1/Z
Dome 48 Splice, 2 trays Enclosure	OPTB604A-2/Z
Dome 72 Splice, 3 trays Enclosure	OPTB604A-3/Z
Dome 96 Splice, 4 trays Enclosure	OPTB604A-4/Z



