

Optical Fibre Infrastructure Solutions



About Warren & Brown Technologies

Warren & Brown Technologies (WBT) was originally established in 1921 as a tool-making factory in Melbourne, Australia. Since then, the company has evolved to become a leader in precision tools and telecommunications network connectivity infrastructure.

WBT has remained wholly Australian owned and operated for over 100 years. This commitment to the local design, manufacturing and technology industry has created hundreds of jobs and world leading solutions.

The main facility in Maidstone, Melbourne currently comprises of over 48,000sqm of office, manufacturing, R&D and warehouse space. In addition, WBT has expanded operations to include a presence in other states around Australia.

Recently the company has also expanded its global reach by opening up many regional offices and manufacturing facilities. These operations are overseen and integrated with WBT Australia.

We pride ourselves on being a global leader in the supply and manufacture of optical fibre and copper communications equipment, as well as torque setting equipment for automotive and industrial applications.



Australian
Owned and Operated



300+
Employees



3
Manufacturing facilities



6
Sales offices



Worldwide Distribution

We pride ourselves on being a global leader in the supply and manufacture of optical fibre and copper communications equipment, as well as torque setting equipment for automotive and industrial applications.

**We don't believe in network downtime,
anywhere and at anytime!**



Product Design & Manufacturing

innovative & world leading solutions



Fast Product Development Cycle

weeks not months



Proven Track Record

official supplier to NBN & Telstra



Technology Leadership

telecom, data centre & enterprise networks



Quality Products & Systems

ISO 9001 third party certified



Supply Chain Management

progressive logistics solutions

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Optical Distribution Frames (ODFs)

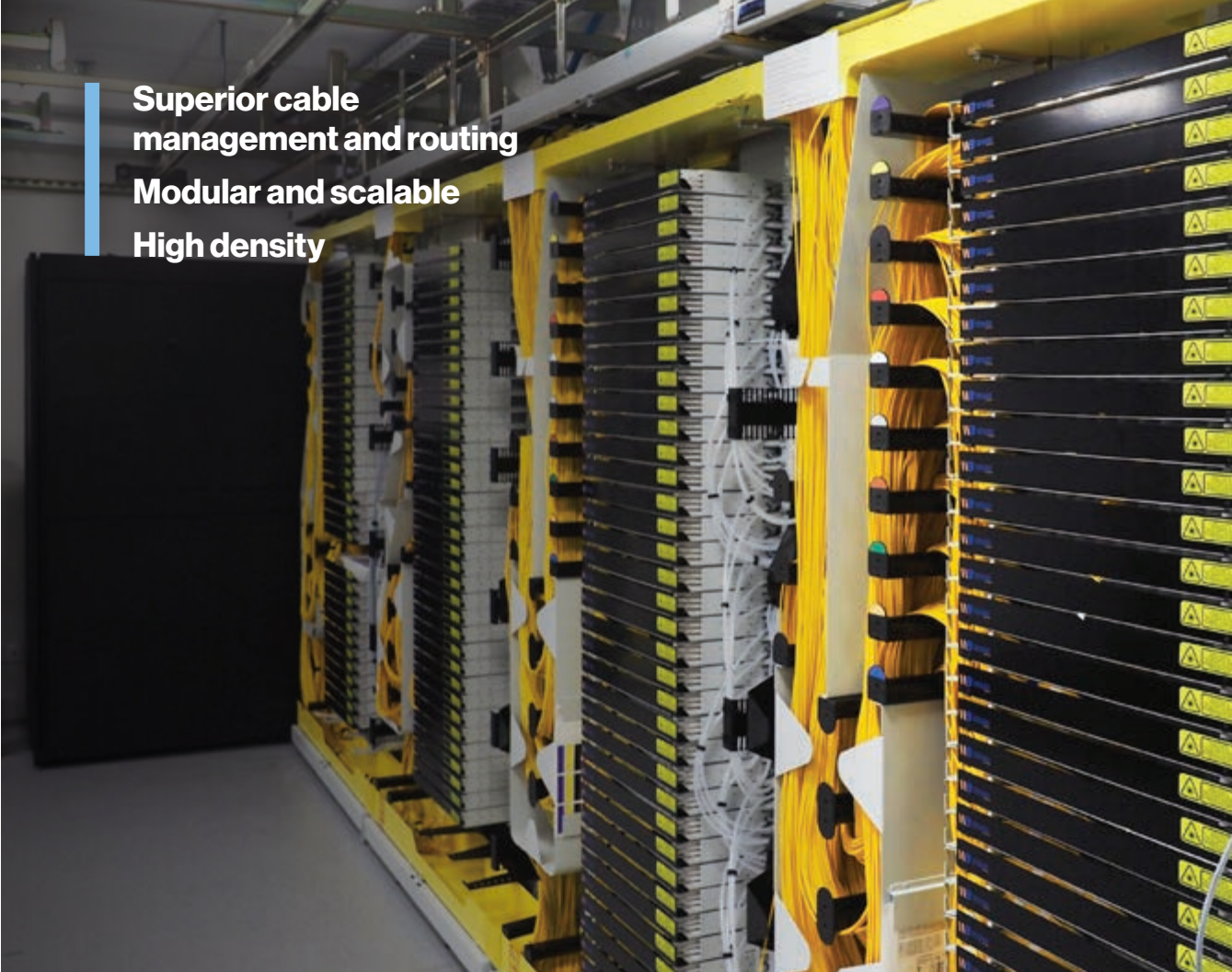
The Warren & Brown Technologies (WBT) multi-purpose HDODF (High Density Optical Distribution Frames) and MDODF (Medium Density Optical Distribution Frames) are complete systems, which provide end to end cable management, network distribution and connectivity optimisation.

Used with the appropriate Fibre Termination Panel (FTP), the WBT ODF can be deployed to suit a variety of applications in Telecom infrastructure or Data centre environments.

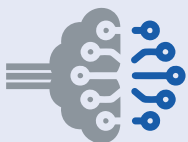
The design of the WBT optical distribution frames (ODFs) provide a perfect balance between high density connectivity, easy cable management and optical fibre patch cord protection. A variety of configurations & options are available, ensuring that these products can be easily integrated into any network. The WBT system provides unmatched versatility, usability and density.

The WBT ODF's provide the following advantages:

- Modular system, allowing growth and expansion by adding additional FOBOT's / FTP's as required
- Variety of sizes to suit any Telecom Exchange or Data Centre footprint
- Suits a variety of cable types – loose tube fibre, ribbon fibre, rollable or SWR cable, preterminated cables, MTP®/MPO fibre assemblies, distribution/riser cables, etc
- Fibre spools for slack storage of excess fibre lengths
- Integrated splicing and patching
- Ability to support high density MTP®/MPO cabling systems
- Most models are suitable for overhead or underfloor cable pathways
- Compatible with fibre ducting raceways and drop offs, as well as a provision for optional internal ducting raceway and cable pathways
- Provides physical network security
- Enables easier moves, adds and changes (MAC's)
- Can be provided with side panels and a variety of doors and locking options
- High density solution, utilising SC/A, LC, LC/A connectivity with splice/patch modules



**Superior cable
management and routing
Modular and scalable
High density**

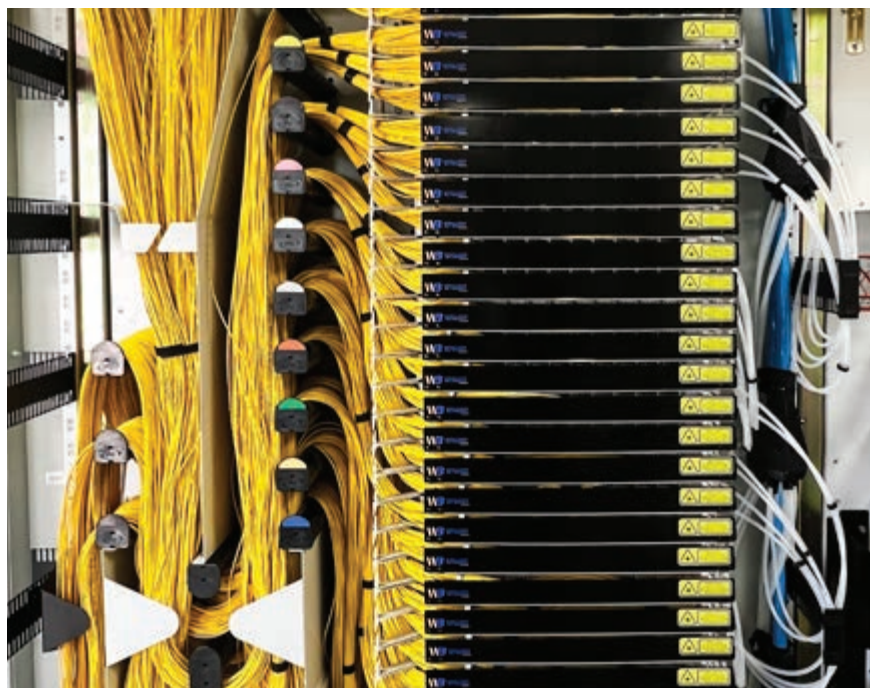


IntelliFOX

Patch cord management

The left hand side of the ODF is dedicated to optical fibre patch cord management, routing and slack storage. This section of the ODF completely segregates and protects delicate fibre patch leads from other heavier and robust cable types, including line cable and tubes. It is extremely important in a high density ODF to avoid crossing over and mixing up transport tubes and cable types, as the risk for damage and outages increases when there is no segregation.

Therefore, segregation of cable types is another important aspect of optimized fibre management and ensuring no damage to delicate optical fibres.



Line cable and tube management

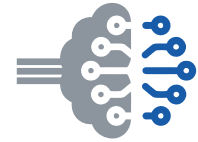
Ensuring the ODF has the capacity to not only bring in high density cables, but also breakout and manage each tube is extremely important.

With the WBT ODF, cable entry is possible from the top left or right, or bottom left.

For stranded loose tube cable, the cable enters via the top left side and runs down a separate channel behind the fibre management spools. The cable is then divided/broken out onto the Cable Breakout Plate (CBP) into smaller transport tubes and routed along the bottom tube support plate and up the right hand channel into the fibre trays.

For rollable ribbon cables, the cable enters from the top RHS of the ODF and can be broken out within the ODF, with each tube (sub-unit) being securely routed into each FTP. An example of this is shown below, with 3 x 1728F rollable ribbon cables being divided and distributed into each FTP.





IntelliFOX

310 series ODFs

300mm deep, single sided access



Dimensions	1,200mm (w) x 300mm (d) x 2,200mm (h)
Application	Telecom Carrier Network Data Centre meet me room Fibre entrance facility/room
Function	<ul style="list-style-type: none">Used with legacy 6008, 6010 series FTP's, or 7006 and 7016 series FTP's (High density solution)Larger patching management area (450mm wide)Larger patch-cord overhead duct entry into rack (220 x 100mm)Cable break-outs at subrack level – caters for up to 720 fibre cables

The TC4050310 Optical Distribution Frame (ODF) has been configured for stranded (loose tube) cables.

Features & benefits:

- The central rack area holds up to 19 x 2RU or 36 x 1RU subrack/panels, which are available separately
- 21" Rails for high density application while still allowing 19" mounting
- Integrated internal ducting for ODF suite deployment (back to back and/or side to side)
- Can be installed under superstructure or stand alone
- Cable slack management provided (can accommodate a maximum of 1.1m patch cord overlength)
- 1RU and 2RU subracks / FTP's providing capacity of:
 - 96 fibres, LC or LC/A ports per RU
 - 144 fibres, LC or LC/A ports per RU
 - 432 fibres, MTP/MPO per RU, using rollable ribbon fibre
 - 1RU and 2RU MTP/MPO chassis for modular cassettes and pre-terminated cable solutions with 96 fibres and 144 fibres per RU
- Internal ducting and pathways for ODF side by side and back to back installation and patch cord routing.
- Various door locking and security options, including electronic locks
- The central rack area holds up to 36 x 1RU subrack/panels, which are available separately
- 21" Rails for high density application while still allowing 19" mounting

ODF solution density:

- 96 Fibre LC or LC/A per RU solution – 3,648 fibres per single sided 300mm deep ODF
- 144 Fibre LC or LC/A per RU solution – 5,184 fibres per single sided 300mm deep ODF mounting

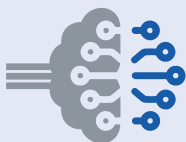
TC4050310E shown



PART NO.	DESCRIPTION
TC4050310W	ODF, Powder coated, RAL 9016 (Traffic White)
TC4050310E	ODF, Powder coated, RAL 7035 (Light Grey)

Accessories:

PART NO.	DESCRIPTION
TC4050-170DCKITE	Door & Side panel kit to suit 310, 313, 314 and 315 series ODF's
TC4050-170KITW1	Security electronic door set 1.2m wide, RAL 9016 traffic white
TC4050-170KIT	Security electronic door set 1.2m wide, RAL 7035 light grey
TC4050-170MKITE	Door set 1.2m wide, with standard two point lock, RAL 7035 light grey
TC4050-194EKIT	Side panel kit, RAL 7035 light grey
TC4050-194W1	Side panel kit, RAL 9016 traffic hite



IntelliFOX

313 series ODF

300mm deep, single sided access



Dimensions 1,200mm (w) x 300mm (d) x 2,200mm (h)

Application Telecom Infrastructure and Data Centre - Splice and Patch, Cross Connect, Internal Distribution, Meet me Room (MMR), Internal and zone distribution cabling

The 313 series ODF is a leading edge solution, which can be configured to support a variety of applications, including ultra high density splice/patch of incoming line cable, or as a patching / distribution frame.

This flexible solution wcan be deployed in a telecom carrier exchange, or in a Data Centre environment (MMR, cross connect frame, zone distribution frame).

One of the main benefits of the WBT ODF single sided access solution, is its ability to be placed against walls, back to back, or at the end of aisles, requiring minimal floor space.

Features & benefits:

- High density port count, based on LC/APC or LC/PC connectivity, thereby significantly reducing floor space and associated lease costs within the DC environment
- Premium fibre cable management. Simplified splicing, patching and cable management
- Optimized balance between density and usability, thereby minimizing points of failure and operational risks
- Various patch cord and connectivity options
- ODF suitability and compatibility with high density cable sizes for future expansion
- 1RU and 2RU subracks / FTP's providing capacity of:
 - 96 fibres, LC or LC/A ports per RU
 - 144 fibres, LC or LC/A ports per RU
 - 432 fibres, MTP/MPO per RU, using rollable ribbon fibre
 - 1RU and 2RU MTP/MPO chassis for modular cassettes and pre-terminated cable solutions with 96 fibres and 144 fibres per RU
- Internal ducting and pathways for ODF side by side and back to back installation and patch cord routing.
- Various door locking and security options, including electronic locks
- The central rack area holds up to 36 x 1RU subrack/panels, which are available separately
- 21" Rails for high density application while still allowing 19" mounting

ODF solution density:

- 96 Fibre LC or LC/A per RU solution – 3,648 fibres per single sided 300mm deep ODF
- 144 Fibre LC or LC/A per RU solution – 5,184 fibres per single sided 300mm deep ODF mounting

TC4050313DCE shown



PART NO.	DESCRIPTION
TC4050313DCE	UHDODF 1200mm x 300mm x 2200mm (top&bottom internal duct), 21" rails

PART NO.	DESCRIPTION
TC4050-170DCKITE	Door and side panel kit to suit 313 series ODF
TC4050-349KIT	Top/Bottom cut-outs filler plates
TC4050TMKIT	Underfloor mounting kit for HDODF
105X49-L2.5	Black transport tubing, 6.5 OD, 4.5 ID L=2.5M

ODF CAPACITY	PATCH CORD / FIBRE CAPACITY USING 2MM ROUND DUPLEX CABLE	PATCH CORD / FIBRE CAPACITY USING 2MM SIMPLEX	PATCH CORD / FIBRE CAPACITY USING 1.6MM SIMPLEX	MTP/MPO 3MM CORDS	EXCESS STORAGE LENGTH PER PATCH CORD
Patch cord capacities	3600 individual cords or 7200 fibres (duplex uniboot)	3600 cords / fibres	5,760 cords / fibres	1500 cords	1.7 metres

314 & 315 series ODF

300mm deep, semi internal cross connect, single sided access



Dimensions 1,200mm (w) x 300mm (d) x 2,200mm (h)

Application Telecom Infrastructure and Data Centre - Splice and Patch, Cross Connect, Internal Distribution, Meet me Room (MMR), Internal and zone distribution cabling

The 314 / 315 series ODF is a leading edge solution, which can be configured to support a variety of applications, including ultra high density splice/ patch of incoming line cable, or as a patching / distribution frame.

This ODF can be configured for top and bottom internal cross connects within a single ODF. As an example, various FTP's can be deployed in the bottom half of the ODF for incoming line cable, whilst the top half FTP's can be configured for outgoing distribution cabling, using a preterm MTP solution. There are many other deployment options, as this ODF can be easily configured by using a variety of FTP's.

The internal fibre spool arrangements have been optimised to provide maximum capacity for storage and cross connects within the ODF.

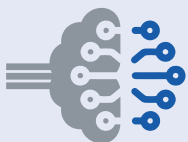
Therefore, most patchleads would route internally in the ODF, with only trunk, distribution or line cable exiting/ entering the ODF. However, there is also provision for some patchcords to exit/enter the ODF if required.

One of the main benefits of the WBT ODF single sided access solution, is its ability to be placed against walls, back to back, or at the end of aisles, requiring minimal floor space.



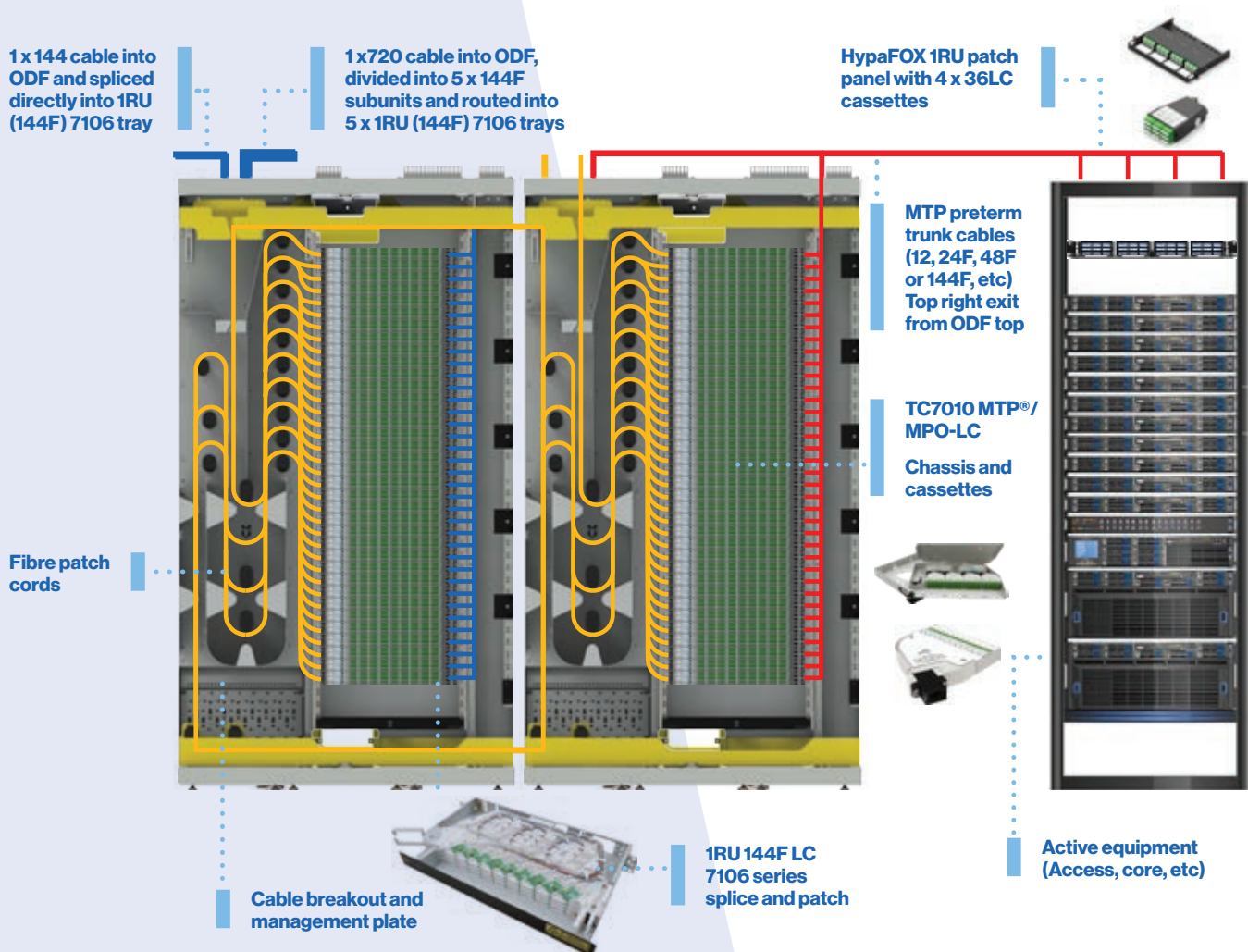
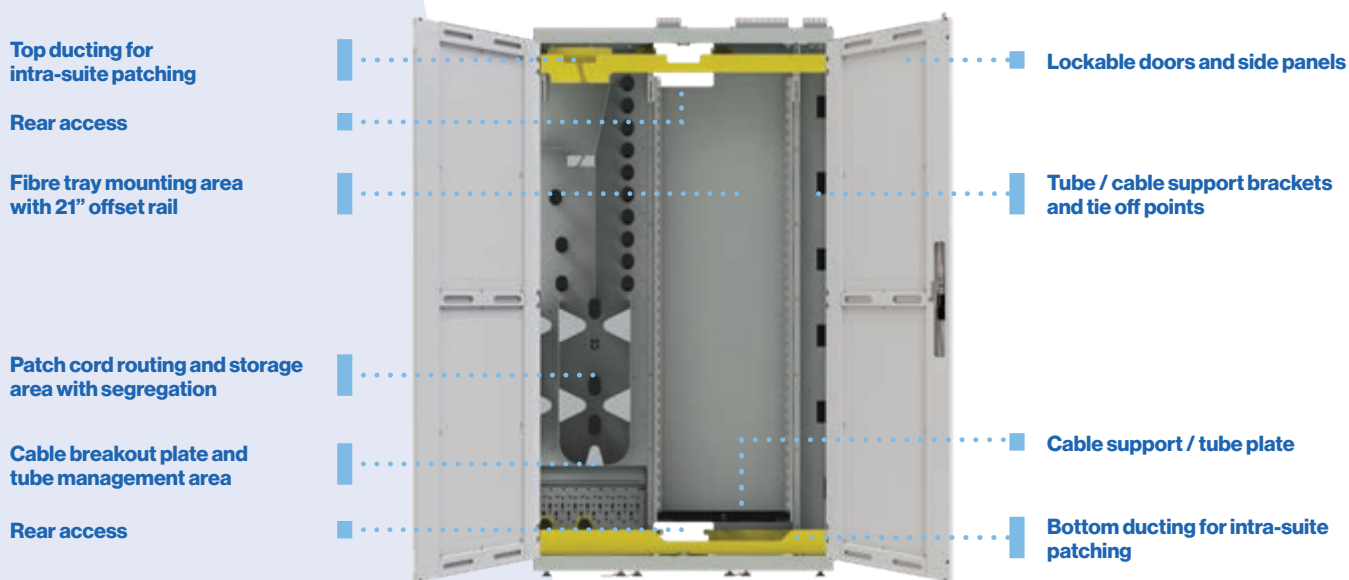
PART NO.	DESCRIPTION
TC4050314E	UHDODF 1200mm x 300mm x 2200mm, internal cross connect, 21" rails
TC4050315E	UHDODF 1200mm x 300mm x 2200mm, internal cross connect (top internal duct), 21" rails

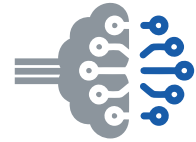
PART NO.	DESCRIPTION
TC4050-170DCKITE	Door and side panel kit to suit 313 series ODF
TC4050-349KIT-GY10	Duct cover side panels for 313 series ODF
TC4050TMKIT	Underfloor mounting kit for HDODF
105X49-L2.5	Black transport tubing, 6.5 OD, 4.5 ID L=2.5M



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ODF features and deployment example





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312 series ODF

300mm deep, single sided access



Dimensions 1,200mm (w) x 300mm (d) x 1,950mm (h)

Application Data Centre - Splice and Patch, Cross Connect
Intra-rack patching and cross connects

The 312 series ODF is a leading edge solution, which can be configured to splice/patch incoming line cable, as well as performing intra-rack cross patching. The bottom half of the ODF can be dedicated to splicing incoming line cable, proving a virtual demarcation point, while the top half of the ODF can be used for distribution cabling. All patching and patchcord routing is internal to the ODF, with sufficient slack storage for excess fibre patch cord lengths.

Suitable for use in a Data Centre environment, the lower 1,950mm height also enables it to be mounted underneath many low profile superstructures or enclosed cages. Furthermore, this ODF can be used solely for pre-terminated patching and distribution of internal cabling.

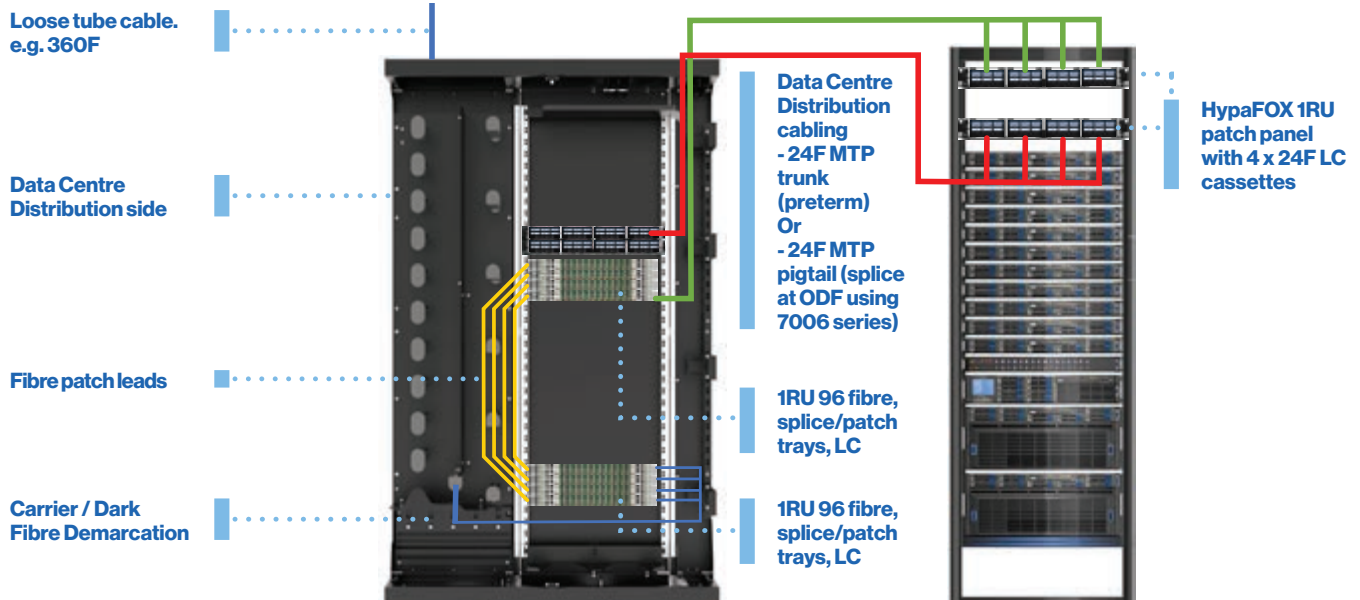
Features & benefits:

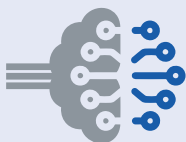
- Shallow depth footprint.
- Smaller footprint which condenses fibre management into a single ODF and is suitable for where there is minimal space. Bottom half of ODF is used for line cable splice/patch, and top half of ODF is used for distribution cabling
- ODF can accommodate patch only preterm solutions utilizing WBT HypaFOX modules, or splice/patch 7006 series for Data Centre distribution cabling
- Full front access narrow depth 300mm ODF
- Slack management for patchleads provided
- Also suitable for patching and distribution of internal cabling only

TC4050312BDC shown



PART NO.	DESCRIPTION
TC4050312BDC	UHD Optical Distribution Frame, Black - 21" Mount, Offset (includes all access)
PART NO.	DESCRIPTION
TC4050-360MKITB	Doors & side panels to suit 1950mm high ODF. Black
TC4050TMKIT	Underfloor mounting kit for HDODF
105X49-L2.5	Black transport tubing, 6.5 OD, 4.5 ID L=2.5M





IntelliFOX

100 & 110 series ODFs 300mm deep, single sided access



Dimensions 1,200mm (w) x 300mm (d) x 2,200mm (h)

Application Telecom carrier network using ribbon fibre
(100 series)

Application • Telecom Carrier Network
(110 series) • Data Centre meet me room
• Fibre entrance facility/room

The TC4050 Series Optical Distribution Frames (ODFs) from Warren & Brown feature a modular design which allows for many options and features to be specified. Each 100 or 110 series ODF accepts standard WBT 1RU (6006), 2RU (6008) and 3RU (6010) swing out subracks (patch panels) which can be installed individually, increasing fibre capacity as required.

Maximum fibre capacity:

- SC or SC/APC connectors – 1,296 optical ports, splice & patch (6008 series)
- LC or LC/APC connectors – 2,592 optical ports, splice & patch, using 2mm duplex uniboot patch cords (6008 series)

Features & benefits:

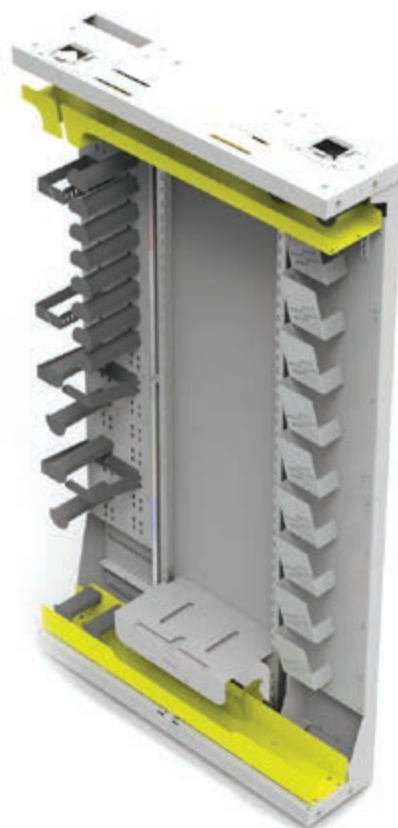
- Suitable for ribbon fibre cable (TC4050100)
- Suitable for loose tube, distribution, tight buffered, or microcore cable types (TC4050110)
- Under floor or above rack cable entry
- Door options – polycarbonate unique keying, solid steel options available
- Removable side panels (optional)
- Suitable for WBT 6006 (1RU), 6008 (2RU) and 6010 (3RU) series
- Subracks, as well as HypaFOX slimline patch panel

PART NO.	DESCRIPTION
TC4050100	ODF, 1200mm x 300mm x 2200mm (100 series), Ribbon fibre
TC4050110	ODF, 1200mm x 300mm x 2200mm (110 series), Stranded fibre

Accessories:

PART NO.	DESCRIPTION
TC4050-170MKITE	Door set 1.2m wide, with standard two point lock, RAL 7035 light grey
TC4050-194EKIT	Side panel kit, RAL 7035 light grey
TC4050-143KIT	Base fastening kit to superstructure frame

TC4050100 shown



ODF Accessories

Cable breakout kits

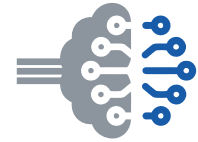
Warren & Brown has a range of cable breakout kits to suit stranded, flat ribbon and rollable ribbon cable types. Stranded and flextube breakout kits are available to suit 360F and 720F cables, as well as other cable sizes. Furthermore, WBT also have a range of cable breakout devices to suit rollable ribbon cables, ranging from 864, 1728, 3456 and 6912 fibres.

Speak to the team at WBT to determine the best solution to suit your preferred cable type

Mass fusion splice and distribution tray

WBT has a range of mass fusion splice trays which can be mounted in a WBT ODF to mass fusion splice stranded and rollable ribbon cable types

Speak to the team at WBT to determine the best solution to suit your preferred cable type



IntelliFOX

200 series ODF

300mm deep, single sided access



Dimensions 600mm (w) x 300mm (d) x 2,200mm (h)

Application Telecom Carrier Network
Data Centre meet me room
Fibre entrance facility/room

The 200 series ODF range is a 19" rear mounting configuration rack (with or without optional side panels and/or doors). Two frames can be installed back to back and can easily be added / integrated to an existing 1200mm wide or 600mm wide ODF installations.

- Compatible with left pivot swing trays

Features & benefits:

- Up to 648 fibre terminations (9 x 72F 2RU SC/A patch panels) with overhead cable entry and 576 fibre terminations (8 x 72F 2RU SC/A patch panels) with underfloor cable entry.
- Accepts loose / tight buffered cable types from 12 fibres up to 720 fibres in addition to ribbon fibre cables containing tubes up to 72F
- Stand alone or optical suite deployment
- Accepts a variety of left hand pivot, 19", rear mount, 2RU 6008 series WBT patch panels
- Optional 2-point locking doors, and side panels
- Can accept up to 10 x 144F IRU High density FTP's (7106 series), providing total capacity of 1440 LC fibres.

2 x TC4050200 back to back with optional side panels, doors and installed subracks

TC4050200 shown



PART NO.	DESCRIPTION
TC4050200	Loose / tight buffered, ribbon cable ODF

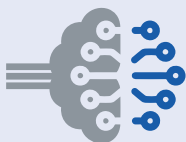
Accessories (available separately):

PART NO.	DESCRIPTION
TC4050-171DCKITME	MDODF door & side panel kit, mechanical door, grey
TC4050-349KIT2-GY10	MDODF-Side panel duct covers for TC4050-171DCKITME
TC4050-217TKIT	Single HDODF side panel & fasteners
TC4050-121TKIT	2-point locking ODF perforated door (single) 600mm (W)
TC4050TMKIT	Raised floor mounting kit (set of 4 threaded rods, brackets & fasteners)
TC4050-143KIT	ODF WBT base fix to s/structure
105X22X05KIT	Convuluted tube, 20mm OD, 5m
105X30X25KIT	Convuluted tube, 16mm OD, 25m

FTPs (available separately):

PART NO.	DESCRIPTION
60083221269081L	2RU left pivot splice/patch 72 SC/A 19" rear

Other options (6008 series) are also compatible - LC, SC, etc



IntelliFOX

TC4053 series ODFs 300mm deep, single sided access



Dimensions 600mm (w) x 300mm (d) x 2,200mm (h)

The single sided Optical Suite Frame (OSF) is generally located at the end of a row of similarly sized optical equipment racks. It houses up to 6 x 72 fibre 2RU capacity splice & patch subracks, that feed long length patch cords to the transmission equipment racks, using the overhead ducting system.

Features & benefits:

- 5 x 72 fibre subracks (2RU 6008 series) up to 360 fibre
- Suitable for right pivot swing trays
- Other capacity swing trays can be utilised

PART NO.	DESCRIPTION
TC4053O	ODF/OSF Optic splice and patch, 2200mm x 600mm x 300mm, Optus
TC4053T	ODF/OSF Optic splice and patch, 2200mm x 600mm x 300mm, Telstra
TC4053VT	ODF/OSF with side panels and door, 2200mm x 600mm x 300mm, 92268 lock, VicTrack (incl. 1 x 60083221448081R)

TC4053T shown



TC4054 series ODF Double sided access



Dimensions 600mm (w) x 600mm (d) x 2,200mm (h)

The TC4054 Optical Suite Frame (OSF) provides managed standard fibre installation, reticulation, interconnection, distribution, re-arrangement and maintenance activities at a common point and allows for fibre testing and fault finding activities. Normally positioned at the end of a suite.

Features & benefits:

- 10 x 72 fibre subracks (2RU 6008 series) up to 720 fibres
- Suitable for right pivot swing trays
- Other capacity swing trays can be utilised

Accessories for TC4053 & TC4054 series (available separately):

PART NO.	DESCRIPTION
TC4053-26A	Solid door assembly, light grey, suits 600mm wide ODF's
TC4053-26VT	Solid door assembly, light grey, suits 600mm wide ODF's
TC4053-27E	Door with acrylic insert, light grey, suits 600mm wide ODF's
TC4050TMKIT	Raised floor mounting kit

FTP's for TC4053 & TC4054 series (available separately):

PART NO.	DESCRIPTION
60083221067081	2RU right pivot splice/patch 72 SC/A 19" rear (no lid) – available separately
60083221065081	2RU right pivot splice/patch 72 SC/A 19" rear (1 subrack with plastic lid supplied with each TC4053T frame)

TC4054T with fitted subracks shown



PART NO.	DESCRIPTION
TC4054T	ODF/OSF, Optic splice and patch, 2200mm x 600mm x 600mm

Optical fibre FOBOTs (patch panels) & accessories

Warren & Brown fibre subracks (patch panels) are the benchmark product in the telecoms industry. A total solution offering, including custom made panels, allows for high density and reliable optical connectivity.

1RU, 2RU and even 3RU variations are available which can terminate a large number of fibres. Splice and patch, patch only and splice only options are available in either a swing out or slide tray design. Typically, all splice & patch subracks are supplied with all pigtails and thru connectors pre-installed and tested, as well as all mounting hardware and ancillary equipment.

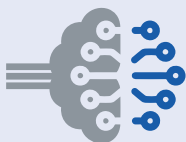
Swing out subracks

6006, 6008, 6010 Series Splice & Patch, Patch only or Splice only subracks are proven optical fibre management modules that provide an efficient high density solution. These subracks can be suitably mounted into a HDODF, any 300mm deep rack and provide excellent optical fibre cord protection and management; may be front, mid, rear mounted in 19" or 21" rack.

Slide out subracks

Slide out modules are used to house both splicing and patching facilities in an optical fibre termination rack. They may be front, mid or rear mounted in a 19" or 21" rack. Provided is a flat patch panel at the front face, for a variety of options including SC, SC Duplex, LC, LC Duplex, LC Quad, etc. connectors.





IntelliFOX

TC7010 series FTPs



Application Preterminated MTP/MPO microcore cabling
Flat Ribbon cable

The TC7010 series fibre optic trays and cassettes are a modular, pre-terminated 12F MTP/MPO cassette based solutions, providing a total fibre port capacity of 144 Fibres in 1RU of rack space.

- Modular chassis/subrack, which accepts 12 x 12F MTP-LC or LC/A mini cassettes
- 1RU density of 144F LC or LC/A fibre optic ports
- Swing out, pivot design. Pivot tray design allows for easy access to rear MTP/MPO patching fields
- Compatible with WBT ODF systems and patch cords
- Improved cable management and reduced congestion when using 2mm duplex uniboot patch leads or 1.6mm simplex patch leads. Need to use low profile LC patch cords
- Narrow depth – mounts in a 300mm deep ODF
- Can be deployed in standard equipment racks with 19" or 21" mounting rails

Solution for preterminated MTP/MPO microcore cabling

The TC7010 Series FTP and MTP-LC cassette solution, can be used for pre-terminated microcore distribution cabling within Data Centre environments.

- 12F stackable MTP cassettes (LC and LC/A), polarity A
- MTP male pinned cassette
- MTP Elite or standard connectivity options
- Modular system allows for scalable network growth
- Excellent cable management and minimal movement with pivot tray design
- Accepts microcore 12F – 144F trunk cables for side or rear tray entry



PART NO.	DESCRIPTION
TC7010-01NDC	1RU swing out chassis (empty) for 12 x 12F MTP-LCA micro cassettes, 19" & 21" offset mounting
TC7010-14LCAS	MPO/MTP Angled, Standard- LC/A, 12F cassette, Polarity A (micro cassette)
TC7010-14LCAE	MPO/MTP Angled, Elite - LC/A, 12F cassette, Polarity A (micro cassette)
TC7010-14LCS	MPO/MTP Angled, Standard- LC, 12F cassette, Polarity A (micro cassette)
TC7010-14LCE	MPO/MTP Angled, Elite - LC, 12F cassette, Polarity A (micro cassette)
TC7010-20K	MTP to MTP through cassette (micro) - Polarity A (key up to key down)
TC7010-14LCE	MTP-MPO Male Angled Elite to LC/UPC GB, Singlemode, 12F, Polarity A (micro cassette)
TC7010-14LCEB	MTP-MPO Male Angled Elite to LC/UPC GB, Singlemode, 12F, Polarity A (micro cassette)
TC7010-14LCAE	MTP-MPO Male Angled Elite to LC/APC GB, Singlemode, 12F, Polarity A (micro cassette)
TC7010-14LCAEB	MTP-MPO Male Angled Elite to LC/APC GB, Singlemode, 12F, Polarity A (micro cassette)
TC7010-14LCS	MTP-MPO Male Angled Standard to LC/UPC GB, Singlemode, 12F, Polarity A (micro cassette)
TC7010-14LCSB	MTP-MPO Male Angled Standard to LC/UPC GB, Singlemode, 12F, Polarity A (micro cassette)
TC7010-14LCAS	MTP-MPO Male Angled Standard to LC/APC GB, Singlemode, 12F, Polarity A (micro cassette)
TC7010-14LCASB	MTP-MPO Male Angled Standard to LC/APC GB, Singlemode, 12F, Polarity A (micro cassette)
TC7010-55	MTP-MPO, Male Elite - LC OM4 multimode aqua, 12F cassette, Polarity A (micro cassette)
TC7010-57	MTP-MPO, Male Elite - LC OM4 multimode aqua, 12F cassette, Polarity B (micro cassette)
TC7010-54	MTP-MPO, Male Standard- LC OM4 multimode aqua, 12F cassette, Polarity A (micro cassette)
TC7010-56	MTP-MPO, Male Standard - LC OM4 multimode aqua, 12F cassette, Polarity B (micro cassette)

Solution for splice and patch flat ribbon cable

Application Splicing flat ribbon cable

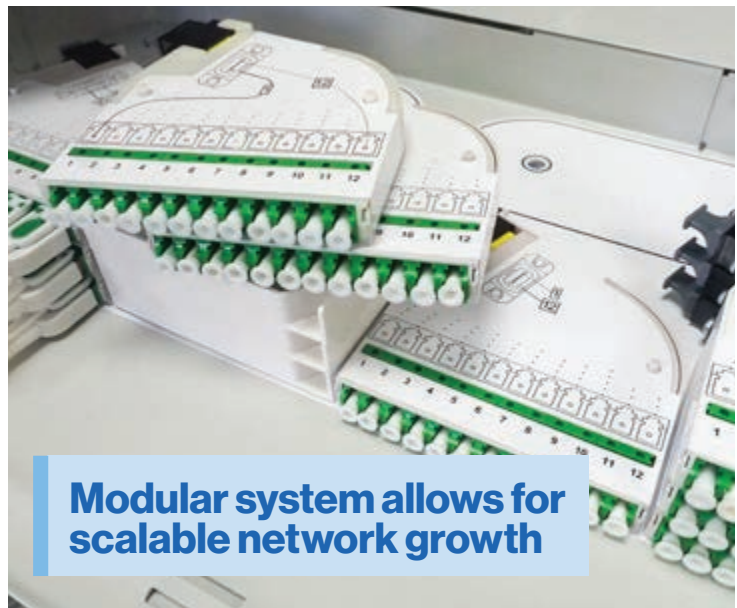
This solution is for splicing flat ribbon cable into a high density 1RU FTP.

- 12F stackable MTP cassettes (LC and LC/A), polarity A
- MTP female unpinned cassettes
- 12F ribbon pigtails with MTP/A male
- Stackable splice trays for MTP pigtails
- MTP Elite or standard connectivity options
- Modular system allows for scalable network growth
- Excellent cable management and minimal movement with pivot tray design

PART NO.	DESCRIPTION
TC7010-01	1RU swing out chassis (empty) for 12 x 12F MTP-LCA micro cassettes, NBN ribbon fibre
TC7010-14KIT1	LC/A 12 Port G657.B3 HD Patch Cassettes/Splice Trays Kit x 6, female (unpinned) cassettes, polarity A
TC7010-20KIT1	MTP-MTP APC Elite Cassette/ Splice Trays Kit x 6
TC7010-16KIT	Bridge and Spacer Accessory kit
TC7010-14M	MTP/A Elite-LCA 12 Port HD Cassette, female (unpinned), polarity A
TC7010-20	MTP Elite, 12F 1 Port Cassette, key up to key down, polarity A
TC7010-19KIT	Labels kit for TC7010 series solution
63711057C	Pigtail-MTP Male Elite, Male (pinned), Singlemode G652D, 12F Ribbon, 2400mm length
TC7010-18-2	Ribbon divider
TC250S-35	TC7010 series ribbon fibre splice tray with 4x magnets, Splice Protector and 2x Braided Sleeve Clips
TC250S-36	TC7010 series ribbon fibre top splice tray with 2x magnets, Splice Protector and 2x Braided Sleeve Clips
TC7010-06	FRONT PERSPEX LID
TC7010-17KIT1	Parking bay kit
TC7010-25KIT	144F LCAPC HD CASSETTES/RIBBON SPLICE TRAY KITS x 12
TC7010-10KIT	TC7010 series mounting brackets



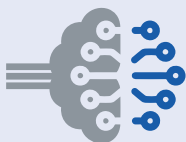
Compatible with WBT ODF systems and patch cords



Modular system allows for scalable network growth



Swing out, pivot design. Pivot tray design allows for easy access to rear MTP/MPO patching fields



IntelliFOX

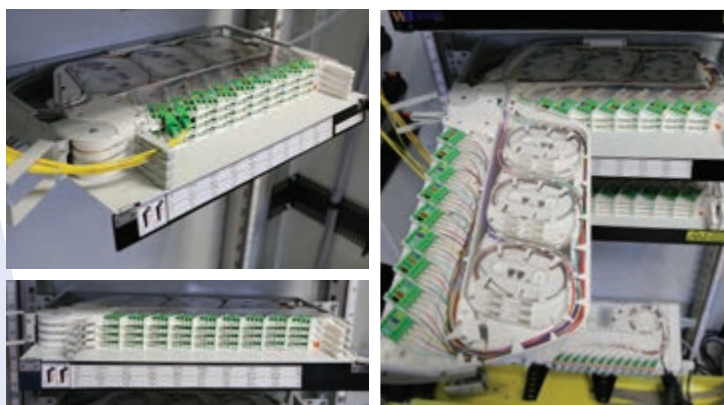
7106 series FTPs (1RU) for ODF and Equipment Rack applications 144 fibres, splice & patch, swing out



Application Rollable Ribbon / Spider web ribbon cable
Loose tube / stranded fibre cable
Splicing microcore / distribution cabling

The 7106 Series is an innovative ultra high density Fibre Termination Panel (FTP), providing up to 144 fibre LC or LC/A ports, splice and patch in only 1RU. Suitable for deployment in WBT 300mm deep ODF's or standard equipment racks, this solution provides unmatched density and usability.

- 1RU, LC or LC/A
- Single row fibre access, allowing for easy patching and access to ports. Perfect balance between density and usability
- Models to suit loose tube, stranded fibre and spiderweb or rollable ribbon fibre
- Each 1/4" RU panel row pivots and slides out separately to allow for finger access to each port
- Each LC or LC/A FTP has 4 x 1/4" RU tray, each with a 36 fibre capacity, providing 144F LC or LC/A per RU
- Pivot tray design allows for easy access to splice area
- Innovative pivot and slide function for each row to allow for simplified patching management
- Compatible with WBT ODF systems and patch cords
- Narrow depth – mounts in a 300mm deep rack. Other comparable products require mounting in a 600mm/800mm deep rack
- Supplied fully loaded with adaptors and stripped pigtails, ordered as one part number
- Compact and shallow depth to suit 300mm deep ODF, providing total ODF density of up to 5,472 ports
- 72F SC/A FTP also available



PART NO.	RU	FIBRES	CONNECTORS	DESCRIPTION
71063241008081L	1RU	144 fibres	LC Singlemode	Stranded fibre, Splice & Patch, 19&21" mounting
71063241007081L			LC/A Singlemode	Stranded fibre, Splice & Patch, 19&21" mounting
71063241001081L			LC/A Singlemode, Grade A	Stranded fibre, Splice & Patch, 19&21" mounting
71063241010081L			LC Singlemode, Grade A	Stranded fibre, Splice & Patch, 19&21" mounting
71063241011081L			LC Multimode OM4 aqua	Stranded fibre, Splice & Patch, 19&21" mounting
71063241012081L			LC Multimode OM4 violet	Stranded fibre, Splice & Patch, 19&21" mounting
71063241009081L			LC Singlemode	Flex Ribbon fibre, Splice & Patch, 19&21" mounting
71063241014081L			LC/A Singlemode	Flex Ribbon fibre, Splice & Patch, 19&21" mounting

7106 series FTPs (1RU) for ODF and Equipment Rack applications

432 fibres, splice & patch, swing out



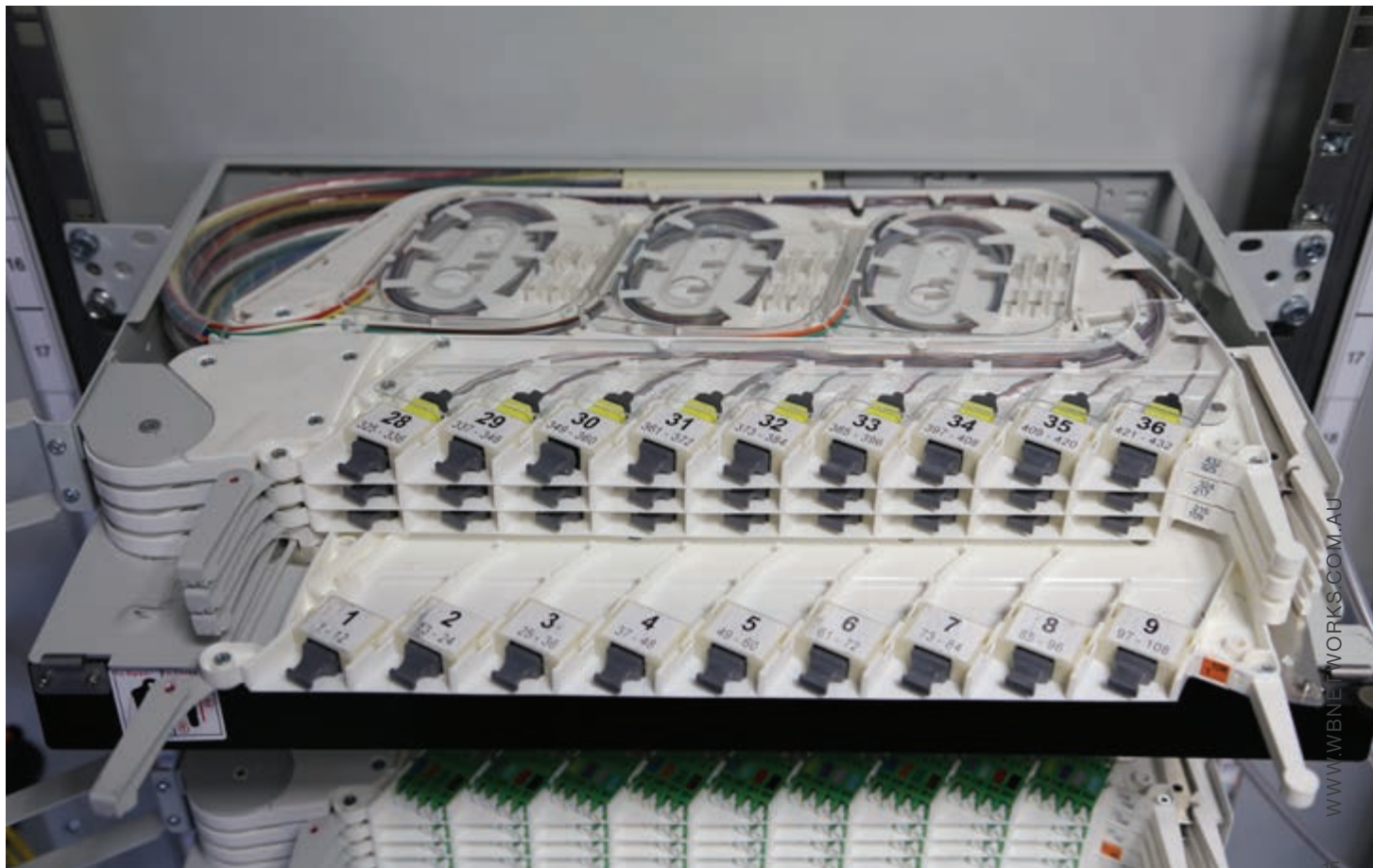
Application Rollable Ribbon / Spider web ribbon cable

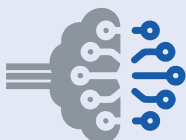
This is an innovative offering can be used if using Ultra high density spider web ribbon fibre (e.g. 864F, 1728F, 3456F), which allows for direct splicing onto MTP connectivity, thereby further increasing density and reducing additional connectors.

- Single row fibre access, allowing for easy patching and access to ports. Perfect balance between density and usability
- MTP / MPO connectivity
- Each 1/4" RU panel row pivots and slides out separately to allow for finger access to each port
- Each row 1/4" RU row has a 108 fibre capacity, 432F per RU
- Compatible with WBT ODF systems and patch cords
- Supplied fully loaded with adaptors and stripped pigtails, ordered as one part number



PART NO.	RU	FIBRES	CONNECTORS	DESCRIPTION
71063241013081L	1RU	432 fibres	MTP/A Elite Singlemode	Flex Ribbon fibre, Splice & Patch, 19&21" mounting





IntelliFOX

7006 series FTPs (1RU)

48-96 fibres, splice &/or patch, slide out



70063241001082L shown

This high-density 1RU up to 96-fibre splice &/or patch shelf is loaded with 4 sub trays. Each sub tray can be equipped with 24 LC/APC or LC/UPC pigtails and 12 LC duplex adaptors. The shelf can accommodate max. 4 splice &/or patch trays with a total max. capacity of 96 LC connections.

The sub trays slide independently on side rails with a locking step at 40mm for patch management at the front. This provides excellent cable management and access to each rows of connectors.

The outgoing patch cords are managed with an individual releasable cable management bracket, securing 24x patch cords per tray.

When installed in a chassis, each tray can slide out 40mm from home position, making patch cords installation easy, eliminating the need for pull-tab connectors.

Solution for 300mm deep single sided ODF deployment (front tube / cable entry)

- Solution allows for potential ODF deployment of 3,648 LC fibres. Up to 38 x 1RU 96F FTPs
- Left angled adaptors only
- Front tube entry only (individual 24 fibre tubes)
- 48 or 96-fibre options
- Cable entry: Front only
- High-density patch labelling and colour coding for each adaptor
- Possibility of left-hand and right-hand side cable management for patch cords
- Supplied, fully loaded with adaptors and stripped pigtails, ordered as one part number
- Can be supplied with SC/APC, LC/APC or LC/UPC connectivity
- Splice & Patch, Splice only or Patch only versions are available



PART NO.	RU	FIBRES	CONNECTORS	DESCRIPTION
70063241046081L	1RU	96	LC/APC Splice & Patch	Left Hand, 21" 50mm offset mounting, all accessories
70063241044081L		96	LC Splice & Patch	Left Hand, 21" 50mm offset mounting, all accessories
70063241042081L		48	LC/APC Splice & Patch	Left Hand, 21" 50mm offset mounting, all accessories
70063241040081L		48	LC Splice & Patch	Left Hand, 21" 50mm offset mounting, all accessories
70063241054081L		48	LC/APC Splice & Patch	Left Hand, 19&21" mounting, all accessories
70063241055081R		48	LC Splice & Patch	Right Hand, 21" 50mm offset mounting, all accessories
70063244002081R		96	Splice Only	Right Hand, 21" 50mm offset mounting
70063244001081L		96	Splice Only	Left Hand, 21" 50mm offset mounting
70063242005081L		96	LC/APC Patch Only	Left Hand, 21" 50mm offset mounting, all accessories
70063242007081L		96	LC Patch Only	Left Hand, 21" 50mm offset mounting, all accessories

Solution for standard equipment racks (rear and front tube/cable entry)

- Rear or front tube/cable entry
- Left or right angled adaptors
- 48, 72 or 96-fibre options
- Cable entry: Front and Rear
- High-density patch labelling and colour coding for each adaptor
- Possibility of left-hand and right-hand side cable management for patch cords
- Supplied, fully loaded with adaptors and stripped pigtails, ordered as one part number
- Optional lid and 2RU 19" brackets for 192 fibre OSP cable
- Can be supplied with SC/APC, LC/APC or LC/UPC connectivity
- Splice & Patch or Patch only versions available

70063241001082L shown



PART NO.	RU	FIBRES	CONNECTORS	DESCRIPTION
70063242004081R	1RU	96	LC Patch only	Right Hand, 19&21" mounting
70063242003081L		96	LC Patch only	Left Hand, 19&21" mounting
70063242002081R		96	LC/APC Patch only	Right Hand, 19&21" mounting
70063242001081L		96	LC/APC Patch only	Left Hand, 19&21" mounting
70063241018081L		96	LC/APC Splice & Patch	Left Hand, 19&21" mounting, all accessories
70063241019081R		96	LC/APC Splice & Patch	Right Hand, 19&21" mounting, all accessories
70063241028081L		96	LC Splice & Patch	Left Hand, 19&21" mounting, all accessories
70063241029081R		96	LC Splice & Patch	Right Hand, 19&21" mounting, all accessories
70063241038081L		72	LC Splice & Patch	Left Hand, 19&21" mounting, all accessories
70063241036081L		48	LC Splice & Patch	Left Hand, 19&21" mounting, all accessories
70063241024081L		48	SC/APC Splice & Patch	Left Hand, 19&21" mounting, all accessories
70063241025081R		48	SC/APC Splice & Patch	Right Hand, 19&21" mounting, all accessories
70063243003081L		96	LC/APC Patch only preterm	Left Hand, 19&21" mounting, with tail cable
70063243007081L		96	LC Patch only preterm	Left Hand, 19&21" mounting, with 35m tail cable



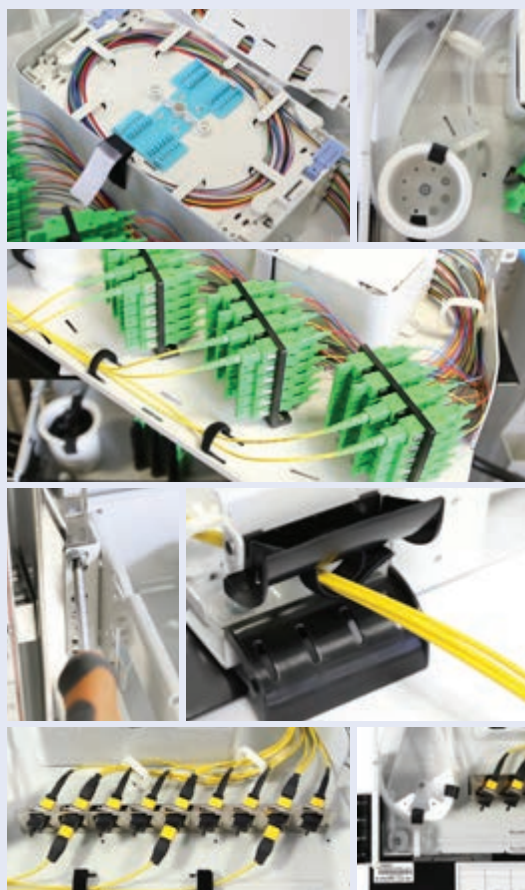
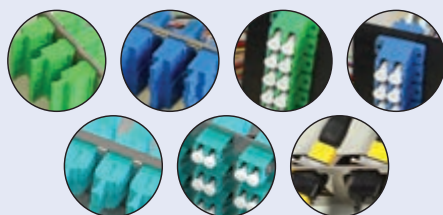
Accessories for standard equipment racks solutions

PART NO.	DESCRIPTION
825232401081	Metal Lid to suit 7006 series tray
835632417KIT	Rear cable gland and tube entry kit - v2. Symmetrical. Includes M20 gland
835632419KIT	Rear RH entry - tube breakout/protection. Cable entry from right hand side to breakout tubes Left hand entry. Suitable for LH adaptor fibre trays (L product numbers)
835632420KIT	Rear LH entry - tube breakout/protection. Cable entry from left hand side to breakout tubes Left hand entry. Suitable for RH adaptor fibre trays (R product numbers)
109X102X10KIT	Splice through kit, RED SC adaptor inserts (splice only applications)
105 x 49 - L2.5	Black transport tubing, 6.5 OD, 4.5 ID L=2.5M

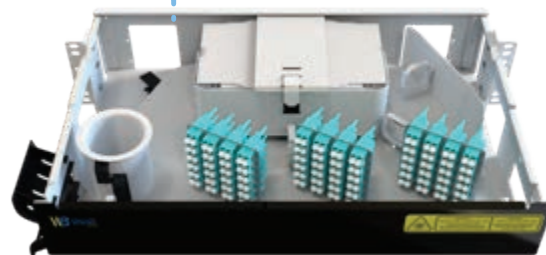
Splice and patch, swing out FTP's

24-144 fibres, splice & patch, swing out

- 1RU, 2RU, 3RU fibre subracks, splice & patch swing out panels
- Singlemode G657A2 or multimode OM4
- 24, 48, 72, 96, 144 fibres
- Lower density 12 fibre versions available on request
- SC/APC, SC/UPC, LC/APC and LC/UPC fibre adaptors
- Left pivot swing tray
- Right pivot swing trays available for some models
- 19" rear & front mount (96mm offset)
- Supplied fully loaded with pre-installed adaptors and pigtails



60083221452081L shown



60063221235081L shown



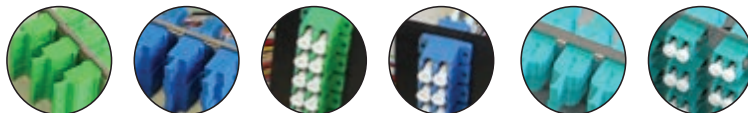
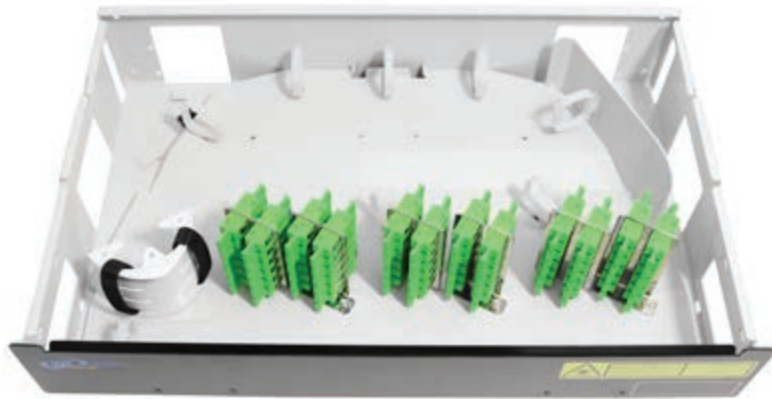
PART NO.	RU	FIBRE	CONNECTORS	FIBRE TYPE
60063221229081L	1RU	24 Fibres	SC/APC	G657A2, singlemode
60063221235081L			SC/UPC	
60063221242081L			LC/UPC	
60063221230081L			LC/UPC	OM4 Aqua, multimode
60063221237081L			SC/UPC	
60063221241081L			LC/UPC	
60063221238081L		48 Fibres	LC/UPC	G657A2, singlemode
60063221233081L			SC/UPC	
60063221236081L			SC/APC	
60063221232081L			LC/UPC	OM4 Aqua, multimode
60063221239081L			SC/UPC	
60063221240081L			SC/UPC	
60083221453081L	2RU	48 Fibres	SC/UPC	G657A2, singlemode
60083221448081L			SC/APC	
60083221450081L			SC/UPC	
60083221449081L		72 Fibres	LC/UPC	OM4 Aqua, multimode
60083221451081L			SC/UPC	
60083221454081L			LC/UPC	
60083221455081L		96 Fibres	MTP® APC male Elite®	Singlemode
60083221436081L			LC/UPC	G657A2, singlemode
60083221456081L			LC/UPC	OM4 Aqua, multimode
60083221438081L		144 Fibres	LC/UPC	G657A2, singlemode
60083221439081L			LC/APC	OM4 Aqua, multimode
60083221457081L			LC/UPC	
60083221437081L			MTP® APC male Elite®	Singlemode
60103221064081L	3RU	96 Fibres	SC/UPC	G657A2, singlemode
60103221062081L			SC/APC	
60103221061081L			LC/UPC	
60103221063081L		144Fibres	LC/APC	OM4 Aqua, multimode
60103221065081L			LC/UPC	
60103221060081L			MTP® APC male Elite®	Singlemode

Patch only, swing out FTP's

24-144 fibres, patch only, swing out



- 1RU, 2RU, 3RU fibre subracks, patch only swing out panels
- Singlemode G657A2 or multimode OM4
- 24, 48, 72, 96, 144 fibres
- Lower density 12 fibre versions available on request
- SC/APC, SC/UPC, LC/APC and LC/UPC fibre adaptors
- Left pivot swing tray
- Right pivot swing trays available for some models
- 19" rear & front mount (96mm offset)
- Supplied fully loaded with pre-installed adaptors
- Splice only versions also available



Front mounting kits, 19 inch, 40mm offset for 6006, 6008 & 6010 series

These mounting kits for a 1RU, 2RU or 3RU FOBOTs enable the patch panel to be front mounted in a 19" rack.

609132299001 shown



PART NO.	RU
609032299001	1RU
609132299001	2RU
609232210441B	3RU

PART NO.	RU	FIBRE	CONNECTORS	FIBRE TYPE
60063223021081L	1RU	24 Fibres	SC/APC	G657A2, singlemode
60063223083081L			SC/UPC	
60063223084081L			LC/UPC	
60063223088081L			SC/UPC	OM4 Aqua, multimode
60063223089081L			LC/UPC	
60063223085081L			LC/UPC	
60063223086081L	1RU	48 Fibres	SC/UPC	G657A2, singlemode
60063223087081L			SC/APC	
60063223090081L			LC/UPC	
60063223091081L			SC/UPC	OM4 Aqua, multimode
60083223127081L			SC/UPC	
60083223128081L			SC/APC	
60083223129081L	2RU	48 Fibres	SC/UPC	G657A2, singlemode
60083223130081L			SC/APC	
60083223131081L			LC/UPC	
60083223134081L			SC/UPC	OM4 Aqua, multimode
60083223135081L			LC/UPC	
60083223132081L			LC/UPC	
60083223136081L	2RU	96 Fibres	LC/UPC	G657A2, singlemode
60083223125081L			LC/UPC	
60083223133081L			LC/APC	
60083223137081L			LC/UPC	OM4 Aqua, multimode
60103223020081L			SC/UPC	
60103223019081L			SC/APC	
60103223018081L	3RU	96 Fibres	LC/UPC	G657A2, singlemode
60103223021081L			LC/APC	
60103223022081L			LC/UPC	

TC273 series FTPs (1RU, 2RU, 3RU)

12-144 fibres, Fibre optic splice & patch or patch only, slide out trays

These 1RU, 2RU and 3RU rack mount fibre enclosures (FOBOT's) provide an effective and economical means of splicing and patching incoming cables, pigtails and patch cords.

Made from high quality steel, and featuring sturdy sliding rails, multiple cable entry locations, as well as the necessary labelling and accessories, these FOBOT's are an effective solution for any high speed optical network.

All optical connectivity feature high grade / specification optics, with guaranteed low loss performance.

The HypaConnect splice and patch FOBOTs, are provided as a complete solution, including:

- Rack mount, sliding enclosure FOBOT
- 19" mounting brackets for rear or front mounting
- Adaptor plates with pre-installed fibre optic through adaptors
- 12F pigtail kits
- Heatshrink splice protectors
- Various splice tray options to suit each configuration
- Labelling kit with optional front management tray
- Velcro wrap and other accessories
- Optional rear cable management bracket
- Products can be supplied as a kit, or fully assembled and fibred



1RU:



- Sliding type drawer, splice/patch function
- Fibre capacity ranging from 12F to 48F per RU, splice and patch
- Interchangeable front adapter plates and panels; angled or straight options, available with SC, FC, ST or LC connectors
- Splice trays, pigtails, adaptors and installation accessories (heatshinks and mounting, etc) included with splice/patch versions
- Optional front-mounted cable management tray, with swing-down front member (P/N TC2731-03)*
- Designed to accept both OSP loose tube and internal distribution trunk cables
- Sliding Fibre tray with integrated sliding rails
- Standard 262mm depth and narrow depth 212mm options available
- Rear angled mounting plate included with most units
- Singlemode OS1/2 and Multimode OM1, OM3 and OM4 options available

PART NO.	DESCRIPTION
TC273ISPL005	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 12 fibre LC/A, singlemode
TC273ISPL001	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 12 fibre LC, singlemode
TC273ISPL501	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 12 fibre LC, multimode OM3 aqua
TC273ISPL601	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 12 fibre LC, multimode OM1 beige
TC273ISPL002	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 24 fibre LC, singlemode
TC273ISPL502	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 24 fibre LC, multimode OM3 aqua
TC273ISPL602	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 24 fibre LC, multimode OM1 beige
TC273ISPL009	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 12 fibre SC, singlemode
TC273ISPL505	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 12 fibre SC, multimode OM3 aqua
TC273ISPL605	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 12 fibre SC, multimode OM1 beige
TC273ISPL013	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 12 fibre SC/A, singlemode
TC273ISPL017	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 12 fibre ST, singlemode
TC273ISPL609	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 12 fibre ST, multimode
TC273ISPL014	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 24 fibre SC/A, singlemode
TC273ISPL021	1RU sliding fibre optic patch panel - (1 row) splice & patch, 24 fibre LC, singlemode
TC273ISPL022	1RU sliding fibre optic patch panel - (1 row) splice & patch, 24 fibre LC/A, singlemode
TC273ISPL024	1RU sliding fibre optic patch panel - (1 row) splice & patch, 24 fibre SC/A, singlemode
TC273IASPL024	1RU sliding fibre optic patch panel - (1 row, angled adaptor plate) - splice & patch, 24 fibre SC/A, singlemode - assembled
TC273IASPL024A	1RU sliding fibre optic patch panel - (1 row, angled adaptor plate) - splice & patch, 24 fibre SC/A, singlemode - assembled
TC273IASPL024CMA	1RU sliding fibre optic patch panel - (1 row, angled adaptor plate & cable management access) - splice & patch, 24 fibre SC/A, singlemode - assembled
TC273IASPL021SH	1RU sliding fibre optic patch panel - (1 row, angled adaptor plate) - splice & patch, 24 fibre LC, singlemode
TC273ISAA1SPL021SH	1RU fip 24 LC, splice / patch, angled plate LC, sliding tray (19" rack mount, includes all pigtails, adaptors and accessories.) - Short version 212mm deep. Rear angled cable entry
TC273IASPL022SH	1RU sliding fibre optic patch panel - (1 row, angled adaptor plate) - splice & patch, 24 fibre LC/A, singlemode
TC273IASPL024SH	1RU sliding fibre optic patch panel slim (212mm) angled adaptor plate, splice & patch 24 fibre SC/A
TC273ISAA1SPL027SH	1RU sliding fibre optic patch panel slim (212mm, 1 row, angled adaptor plate), splice & patch 48f LC singlemode

TC273ISAA1SPL027SH shown



PART NO.	DESCRIPTION
TC273ISAA1SPL021SH	1RU sliding fibre optic patch panel slim (212mm, 1 row, angled adaptor plate), splice & patch 24f LC singlemode
TC273ISAA1SPL022SH	1RU sliding fibre optic patch panel slim (212mm, 1 row, angled adaptor plate), splice & patch 24f LC/A singlemode
TC273ISPL010	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 24 fibre SC, singlemode
TC273ISPL506	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 24 fibre SC, multimode OM3 aqua
TC273ISPL606	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 24 fibre SC, multimode OM1 beige
TC273ISPL027	1RU sliding fibre optic patch panel - (1 row) splice & patch, 48 fibre LC, singlemode
TC273ISPL028	1RU sliding fibre optic patch panel - (1 row) splice & patch, 48 fibre LC/A, singlemode
TC273ISPL516	1RU sliding fibre optic patch panel - (1 row) splice & patch, 48 fibre LC, multimode OM3 aqua
TC273ISPL616	1RU sliding fibre optic patch panel - (1 row) splice & patch, 48 fibre LC, multimode OM1 beige
TC273ISPL016	1RU sliding fibre optic patch panel - (1 row) splice & patch, 48 fibre SC/A, singlemode
TC273ISPL521	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 12 fibre LC, multimode OM4 aqua
TC273ISPL520	1RU sliding fibre optic patch panel - (3 slot) splice & patch, 24 fibre LC, multimode OM4 aqua
TC273ISPL522	1RU sliding fibre optic patch panel - (1 row) splice & patch, 48 fibre LC, multimode OM4 aqua
TC273IPOL001	1RU sliding fibre optic patch panel - (3 slot) patch only, 12 fibre LC, singlemode
TC273IPOL501	1RU sliding fibre optic patch panel - (3 slot) patch only, 12 fibre LC, multimode aqua
TC273IPOL601	1RU sliding fibre optic patch panel - (3 slot) patch only, 12 fibre LC, multimode beige
TC273IPOL002	1RU sliding fibre optic patch panel - (3 slot) patch only, 24 fibre LC, singlemode
TC273IPOL502	1RU sliding fibre optic patch panel - (3 slot) patch only, 24 fibre LC, multimode aqua
TC273IPOL602	1RU sliding fibre optic patch panel - (3 slot) patch only, 24 fibre LC, multimode beige
TC273IPOL009	1RU sliding fibre optic patch panel - (3 slot) patch only, 12 fibre SC, singlemode
TC273IPOL505	1RU sliding fibre optic patch panel - (3 slot) patch only, 12 fibre SC, multimode aqua
TC273IPOL605	1RU sliding fibre optic patch panel - (3 slot) patch only, 12 fibre SC, multimode beige
TC273IPOL013	1RU sliding fibre optic patch panel - (3 slot) patch only, 12 fibre SC/A, singlemode
TC273IPOL017	1RU sliding fibre optic patch panel - (3 slot) patch only, 12 fibre ST, singlemode
TC273IPOL609	1RU sliding fibre optic patch panel - (3 slot) patch only, 12 fibre ST, multimode
TC273IPOL027	1RU sliding fibre optic patch panel - (1 row) patch only, 48 fibre LC, singlemode
TC273IPOL519	1RU sliding fibre optic patch panel - (1 row) patch only, 48 fibre LC, multimode aqua
TC273IPOL619	1RU sliding fibre optic patch panel - (1 row) patch only, 48 fibre LC, multimode beige

2RU:

- Sliding type drawer, splice/patch function
- Fibre capacity ranging from 24F to 96F
- Interchangeable front adaptor plates and panels; angled or straight options, available with SC, FC, ST or LC connectors
- Splice trays, pigtails, adaptors and installation accessories (heatshrinks and mounting, etc) included
- Optional front-mounted cable management tray, with swing-down front member (P/N TC2731-03)*
- Designed to accept both OSP loose tube and internal distribution trunk cables
- Sliding Fibre tray with integrated sliding rails
- Rear angled mounting plate included with most models
- Singlemode OS1/2 and Multimode OM1, OM3 and OM4 options available

**TC2732ASPL031SH shown**

PART NO.	DESCRIPTION
TC2732AASPL024CMA	2RU sliding fibre optic patch panel - (1 row, angled adaptor plate, with cable management) splice & patch, 48 fibre SC/A, singlemode - assembled
TC2732ASPL024A	2RU sliding fibre optic patch panel - (1 row, angled adaptor plate) splice & patch, 48 fibre SC/A, singlemode - assembled
TC2732ASPL025A	2RU sliding fibre optic patch panel (1row,angled adaptor plate,)-SP,72f SC/A G657A1,SM - WB splice trays
TC2732ASPL025SH	2RU sliding fibre optic patch panel (1row, angled adaptor plate)-SP,72f SC/A G657A1,SM
TC2732SPL004	2RU sliding fibre optic patch panel - (1 row) splice & patch, 72 fibre LC/A, singlemode
TC2732SPL010	2RU sliding fibre optic patch panel - (1 row) splice & patch, 72 fibre LC/A/A, singlemode
TC2732SPL504	2RU sliding fibre optic patch panel - (1 row) splice & patch, 72 fibre LC/A, multimode aqua
TC2732SPL019	2RU sliding fibre optic patch panel - (6 slot) splice & patch, 48 fibre SC/A, singlemode
TC2732SPL001	2RU sliding fibre optic patch panel - (6 slot) splice & patch, 36 fibre LC/A, singlemode
TC2732SPL002	2RU sliding fibre optic patch panel - (6 slot) splice & patch, 48 fibre LC/A, singlemode
TC2732SPL509	2RU sliding fibre optic patch panel - (6 slot) splice & patch, 48 fibre LC/A, multimode aqua
TC2732SPL602	2RU sliding fibre optic patch panel - (6 slot) splice & patch, 48 fibre LC/A, multimode beige
TC2732SPL608	2RU sliding fibre optic patch panel - (6 slot) splice & patch, 36 fibre SC, multimode OM1 biege
TC2732SPL609	2RU sliding fibre optic patch panel - (6 slot) splice & patch, 48 fibre SC, multimode OM1 biege
TC2732SPL013	2RU sliding fibre optic patch panel - (6 slot) splice & patch, 24 fibre SC, singlemode
TC2732SPL507	2RU sliding fibre optic patch panel - (6 slot) splice & patch, 24 fibre SC, multimode OM3 aqua

PART NO.	DESCRIPTION
TC2732SPL607	2RU sliding fibre optic patch panel - (6 slot) splice & patch, 24 fibre SC, multimode OM1 biege
TC2732SPL017	2RU sliding fibre optic patch panel - (6 slot) splice & patch, 24 fibre SC/A, singlemode
TC2732SPL021	2RU sliding fibre optic patch panel - (6 slot) splice & patch, 24 fibre ST, singlemode
TC2732ASPL031SH	2RU sliding fibre optic patch panel - (1 row, angled adaptor plate) splice & patch, 96 fibre LC, singlemode
TC2732POL002	2RU sliding fibre optic patch panel - (6 slot) patch only, 48 fibre LC, singlemode
TC2732POL502	2RU sliding fibre optic patch panel - (6 slot) patch only, 48 fibre LC, multimode aqua
TC2732POL602	2RU sliding fibre optic patch panel - (6 slot) patch only, 48 fibre LC, multimode beige
TC2732POL004	2RU sliding fibre optic patch panel - (6 slot) patch only, 72 fibre LC, singlemode
TC2732POL010	2RU sliding fibre optic patch panel - (6 slot) patch only, 72 fibre LC/a, singlemode
TC2732POL504	2RU sliding fibre optic patch panel - (6 slot) patch only, 72 fibre LC, multimode aqua
TC2732POL013	2RU sliding fibre optic patch panel - (6 slot) patch only, 24 fibre SC, singlemode
TC2732POL507	2RU sliding fibre optic patch panel - (6 slot) patch only, 24 fibre SC, multimode aqua
TC2732POL607	2RU sliding fibre optic patch panel - (6 slot) patch only, 24 fibre SC, multimode beige
TC2732POL017	2RU sliding fibre optic patch panel - (6 slot) patch only, 24 fibre SC/A, singlemode
TC2732POL021	2RU sliding fibre optic patch panel - (6 slot) patch only, 24 fibre ST, singlemode
TC2732POL611	2RU sliding fibre optic patch panel - (6 slot) patch only, 24 fibre ST, multimode

3RU:



- Sliding type drawer, splice/patch function
- Capacities range from 96F to 192F. Most common usage is 144F in 3RU
- Interchangeable front adapter plates and panels; angled or straight options, available with SC, FC, ST or LC connectors
- Splice trays, pigtails, adaptors and installation accessories (heatshrinks and mounting, etc) included
- Designed to accept both OSP loose tube and internal distribution trunk cables
- Sliding Fibre tray with integrated sliding rails
- Singlemode OS1/2 and Multimode OM1, OM3 and OM4 options available

PART NO.	DESCRIPTION
TC2733ASPL001A	3RU sliding fibre optic patch panel - (1 row, angled adaptor plate) splice & patch, 96F SC/A, singlemode - assembled
TC2733ASPL002A	3RU sliding fibre optic patch panel (1row, angled adaptor plate) - splice / patch, 144F (LC duplex), singlemode, assembled
TC2733ASPL002SH	3RU sliding fibre optic patch panel (1row, angled adaptor plate) - splice / patch, 144F (LC duplex), singlemode
TC2733ASPL003A	3RU sliding fibre optic patch panel (1row, angled adaptor plate) - splice / patch, 144F SC/A G657A1,SM

TC2733ASPL002SH shown



PART NO.	DESCRIPTION
TC2733ASPL003SH	3RU sliding fibre optic patch panel (1row, angled adaptor plate) - splice / patch, 144F SC/A G657A1,SM
TC2733SPL002SH	3RU sliding fibre optic patch panel (1row, flat adaptor plate), splice / patch, 144F LC, singlemode pigtails
TC2733ASPL004SH	3RU sliding fibre optic patch panel - splice & patch, 192F LC, splice / patch, angled plate LC, sliding tray (19" rack mount, includes all pigtails, adaptors and accessories.)

Accessories

PART NO.	DESCRIPTION
63101394Z	Optical fibre pigtail kit - 12 fibre - LC singlemode
63101395Z	Optical fibre pigtail kit - 12 fibre - LC/A singlemode
63200458T	Optical fibre pigtail kit - 12 fibre - LC multimode aqua OM4
63200483Z	Optical fibre pigtail kit - 12 fibre - LC multimode aqua OM3
63200484Z	Optical fibre pigtail kit - 12 fibre - LC multimode beige OM3
63101396Z	Optical fibre pigtail kit - 12 fibre - SC singlemode
63200485Z	Optical fibre pigtail kit - 12 fibre - SC multimode aqua OM3
63200486Z	Optical fibre pigtail kit - 12 fibre - SC multimode beige OM1
63101397Z	Optical fibre pigtail kit - 12 fibre - SC/A singlemode
63101398Z	Optical fibre pigtail kit - 12 fibre - ST singlemode
63200488Z	Optical fibre pigtail kit - 12 fibre - ST multimode OM1



TC271 series FTP (1RU)

24 angled fibres, splice & patch, slide out, shallow depth for outdoor cabinets

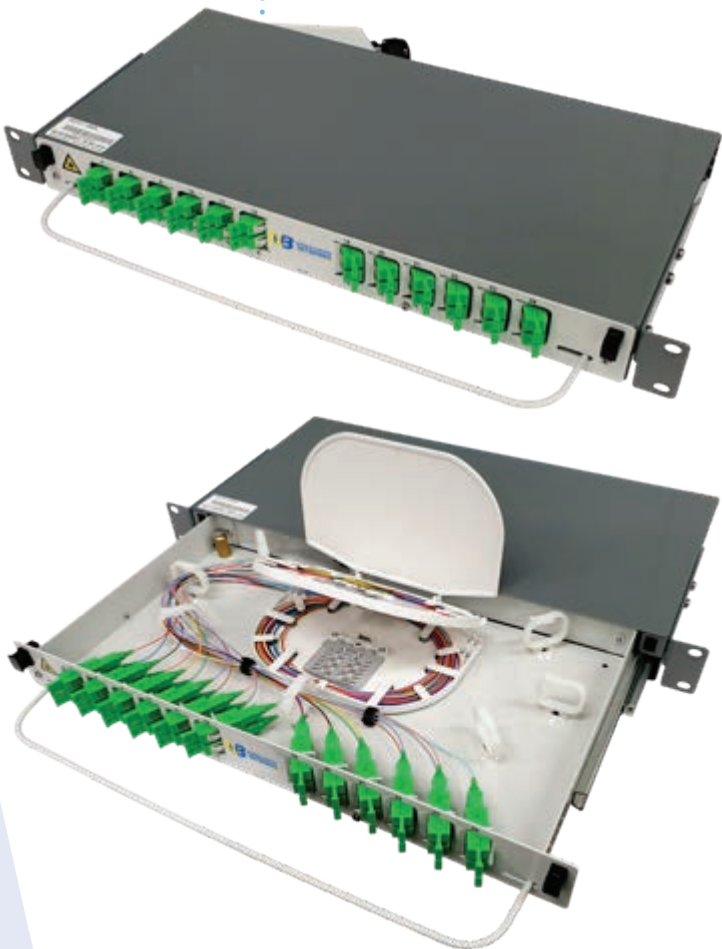


This 1RU 19" (optional 21" or 23") slim sealed rack mounted Fibre Optic Break-Out Tray (FOBOT) is designed to provide optical termination that can fit in an outdoor/indoor cabinet with limited depth space. Rigid, sealed design capable of withstanding outdoor conditions.

- Sliding type drawer termination tray
- Comes with a set of 19" mounting brackets (21" & 23" mounting options available, to be purchased separately)
- Up to 24F core capacity, SC/A (interchangeable adapter plate for LC, FC, ST connectors; available for purchase separately)
- Angled patch panel
- Designed to accept both loose tube (250µm) and distribution (900µm) trunk cables
- Pre-installed cable management clips to maintain MBR of 30mm
- Shallow depth design (215mm) to fit into limited space rack cabinet
- Sealed design tray to protect from rodent attacks
- Corrosion-proof, zinc seal material, capable of withstanding outdoor weather conditions

PART NO.	RU	FIBRE	CONNECTORS	FIBRE TYPE
TC27121-24SCA	1RU	24 Fibres	SC/APC	G657A2, singlemode

TC27121-24SCA shown



Rack mount storage & cable management

These storage units provide the ideal solution for securely and safely housing any excess optic fibre cables and also adhere to optical fibre minimum bend radius (MBR) standard.

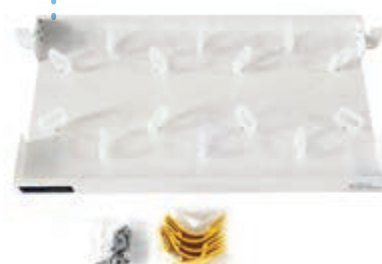
TC3093 series storage tray (1RU)



- Provides compact storage for optical fibre cords in a 19" or 21" rack
- Uses available rack space efficiently
- Fits a standard 19" or 21" rack
- Mounting screws and cage nuts supplied

PART NO.	DESCRIPTION
TC3093	Fibre cable storage, 19" front mount, 1RU, 250mm deep
TC3093M	Fibre cable storage, 19" front mount, 1RU, 350mm deep
TC3093B	Fibre cable storage, 21" front mount, 1RU, 250mm deep

TC3093 shown



TC2470 series fibre optic storage tray 1RU or 2RU, slide out



- Sliding type drawer fibre storage tray
- Provides compact storage for optical fibre cables / cords, in a 19" or 21" equipment rack
- Uses available rack space efficiently
- LHS / RHS cable entry. Optional rear entry can be achieved by removing 2x rear cut-out covers
- Pre-installed cable management clips, positioned precisely to maintain cables / cords' MBR of 30mm
- Clear top cover provided to help protect stored cables / cords
- Rigid construction
- Mounting hardware and accessories provided

PART NO.	DESCRIPTION
TC247007-40	1RU Fibre optic cable/cord storage tray, slide out, 19" & 21"
TC247007-60	2RU Fibre optic cable/cord storage tray, slide out, 19" & 21"
TC247007-40BK	1RU Fibre optic cable/cord storage tray, slide out, 19" & 21", black
TC247007-60BK	2RU Fibre optic cable/cord storage tray, slide out, 19" & 21", black

TC247007-40 shown



TC247007-60 shown

TC2470 series vented storage tray 1RU or 3RU, slide out



- Openable type design with approximately 150mm of travel
- Provides compact storage for optical fibre cords in a 19" or 21" rack
- Features openable style guiding clips on the tray and for entering / leaving optical fibre cords
- Uses available rack space efficiently
- Vented to allow easy passage of a cooling air stream
- Fits a standard front / mid (140mm) / or rear mounting 19" or 21" rack

PART NO.	DESCRIPTION
TC247007WM	1RU mid mount vent drawer 19/21" 170mm offset
TC247007WM140	1RU mid mount vent drawer 19/21" 140mm offset
TC247002	3RU tri. storage spool unit 19"
TC247007WKIT	Bracket, 1RU 19-21inch, front, mid mounting for TC247007WM140

TC247007WM140 shown



Storage unit - spools (3RU)

- Used to safely and securely store excess optical fibre patch cord length
- Has a base member to support and guide optical fibre patch cords
- Mounts in a 19" rack
- Provides excellent fibre cord management by maintaining the 30mm MBR throughout



TC3092B shown

PART NO.	SPECIFICATIONS
TC3092B	Medium length spools for mid mount applications

Patch cord guide units, 5 rings (1RU)

The 1RU, 5 ring cable management panel is suitable to guide and locate the patch cords going to rack mounted equipment. Cable clips have a greater depth allowing for greater MBR to accommodate Ø2mm OD optical fibre patch cords.

Provides enhanced cord management allowing for maximum air flow to active components within the rack.

Mounts in a 19" rack. Extension brackets for conversion to 21" mounting are available separately.



TC400RLP102 shown



TC402-2 shown

PART NO.	SPECIFICATIONS
TC400RLP102	482mm wide x 44mm high x 91mm deep mild steel & glass filled nylon, black
TC402-2	483mm wide x 44.5mm high x 72mm deep mild steel, powdercoat black

Ethernet cable management bracket

This cable mounting bracket set is used to be installed along the depth of an ethernet cabled rack or cabinet. It can be adjusted to fit into a rack or cabinet from 560mm (min) to 780mm (max) depth.

The bracket is installed between the same side mounting rails, and allows cables to be tied to the bracket, so that the cables run the full depth of the rack. Six tie-off places are provided to accept hook and loop ties to fasten the cables.

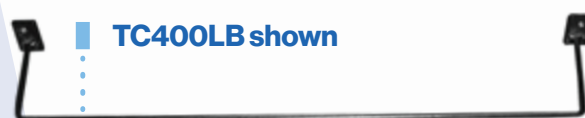


TC400-201KIT shown

PART NO.	SPECIFICATIONS
TC400-201KIT	22.5mm (W) x 44mm (H) x 580 to 780mm (L) (Adjustable) steel, velcro black

Tie - off bar, wiring (1RU)

The 1RU, tie-off bar for rack wiring, is typically used at the top of racks to secure entry wires and looms entering the rack going to rack mounted equipment. The thin and strong style design can safely and neatly hold many wires and looms, and provide maximum space at the top of the rack for the cooling air stream.



TC400LB shown

PART NO.	SPECIFICATIONS
TC400LB	480 mm wide x 29 mm high x 110 mm deep mild steel, black

DIN Rail mounted fibre enclosures

The DIN rail mounted fibre enclosures feature a slim and compact design, whilst providing maximum fibre density.

Can be installed in control cabinets, indoor / outdoor cabinets, or directly onto DIN mounting rails, and are an ideal solution for either industrial, mining, power or other harsh environment telecom networks. Enclosures also feature a rigid metal construction and openable side panels. Depending on the selected model, distribution cable generally enters from the bottom of the enclosure and connections are then presented on the front patching plate in either LC, LC/A, ST, SC or SC/A adaptors.

MTP®/MPO preterm (plug and play) fibre enclosure

- 12 fibre SC, SC/A and LC, LC/A (features 1 x 12F MTP®/MPO connection point)
- 24 fibre LC and LC/A capacity (features 2 x 12F MTP®/MPO connection points)
- Singlemode and multimode fibre options
- Quick connection via pre-terminated cables
- Other customizable options available, including stub cables
- Fully enclosed

Splice and patch fibre enclosure

- 6 fibre LC, SC, LC/A, SC/A and ST capacity
- 12 fibre LC, SC, LC/A, SC/A and ST capacity
- 24 fibre LC and LC/A capacity
- Singlemode and multimode fibre options
- Internal splice tray for splicing fibres onto pigtails
- Pigtails and through adaptors included
- Cable entry via secure cable gland

Patch only fibre enclosure (preterm cables)

- 6 fibre LC, SC, LC/A, SC/A and ST capacity
- 12 fibre SC and LC capacity
- 24 fibre LC and LC/A capacity
- Singlemode and multimode fibre options
- Suitable for pre-terminated multifiber cable
- Cable entry via secure split cable gland
- Some models provided with preinstalled stub cable

TC4028D052 shown



PART NO.	DESCRIPTION
TC4028D001	12F LC - 1 X 12F MTP/MPO, OM4 aqua
TC4028D051	12F LC - 1 X 12F MTP/MPO, singlemode
TC4028D502	12F LC - 1 X 12F MTP/MPO, singlemode, with 1m tail
TC4028D053	12F LC/A - 1 X 12F MTP/MPO, singlemode
TC4028D003	12F SC - 1 X 12F MTP/MPO, OM4 aqua
TC4028D055	12F SC - 1 X 12F MTP/MPO, singlemode
TC4028D057	12F SC/A - 1 X 12F MTP/MPO, singlemode
TC4028D002	24F LC - 2 X 12F MTP/MPO, OM4 aqua
TC4028D052	24F LC - 2 X 12F MTP/MPO, singlemode
TC4028D501	24F LC - 2 X 12F MTP/MPO, singlemode, with 1m tail
TC4028D054	24F LC/A - 2 X 12F MTP/MPO, singlemode

PART NO.	DESCRIPTION
TC4028D101	6F LC, multimode aqua OM3/4, splice/patch
TC4028D151	6F LC, singlemode, splice/patch
TC4028D152	6F LC/A, singlemode, splice/patch
TC4028D102	6F SC, multimode aqua OM3/4, splice/patch
TC4028D153	6F SC, singlemode, splice/patch
TC4028D154	6F SC/A, singlemode, splice/patch
TC4028D155	6F ST, singlemode, splice/patch
TC4028D103	12F LC, multimode aqua OM3/4, splice/patch
TC4028D156	12F LC, singlemode, splice/patch
TC4028D157	12F LC/A, singlemode, splice/patch
TC4028D104	12F SC, multimode aqua OM3/4, splice/patch
TC4028D158	12F SC, singlemode, splice/patch
TC4028D159	12F SC/A, singlemode, splice/patch
TC4028D107	12F ST, multimode aqua OM3/4, splice/patch
TC4028D160	12F ST, singlemode, splice/patch
TC4028D105	24F LC, multimode aqua OM3/4, splice/patch
TC4028D161	24F LC, singlemode, splice/patch
TC4028D162	24F LC/A, singlemode, splice/patch
TC4028D108	24F ST, multimode aqua OM3/4, splice/patch
TC4028D165	24F ST, multimode aqua OM3/4, splice/patch
TC4028D172	48F LC, multimode aqua OM3/4, splice/patch (dual DIN)
TC4028D171	48F LC, singlemode, splice/patch (dual DIN)

PART NO.	DESCRIPTION
TC4028D201	6F LC, multimode aqua OM3/4, patch only
TC4028D251	6F LC, singlemode, patch only
TC4028D252	6F LC/A, singlemode, patch only
TC4028D202	6F SC, multimode aqua OM3/4, patch only
TC4028D253	6F SC, singlemode, patch only
TC4028D254	6F SC/A, singlemode, patch only
TC4028D255	6F ST, singlemode, patch only
TC4028D355	6F LC, singlemode, with tactical cable, 12m stub, patch only
TC4028D356	6F LC, singlemode, with tactical cable, 17m stub, patch only
TC4028D354	6F LC, singlemode, with tactical cable, 9m stub, patch only
TC4028D203	12F LC, multimode aqua OM3/4, patch only
TC4028D256	12F LC, singlemode, patch only
TC4028D204	12F SC, multimode aqua OM3/4, patch only
TC4028D260	12F SC, singlemode, patch only
TC4028D259	12F ST, singlemode, patch only
TC4028D205	24F LC, multimode aqua OM3/4, patch only
TC4028D257	24F LC, singlemode, patch only
TC4028D352	24F LC singlemode, with IP connector tail cable
TC4028D351	24F LC singlemode, with tail cable
TC4028D258	24F LC/A, singlemode

TC4025 Series - Multi User Telecommunication outlets (MUTO's)

Multi User Telecommunications outlets (MUTO's) provide a secure and discreet connection interface in and around workstation areas. These MUTO's are suitable for use in secure workstation areas, such as Defence and Government facilities.

MTSQ Series MUTO

Secure fibre network enclosure



Benefits & features:

- Small, compact size; Suitable for limited space installation
- Colour variations for different uses (Blue, Red, Pink, White, etc)
- Suitable for splicing or preterm LC/SC solution
- RJ45 copper ports can be configured upon request
- Single Perspex cover
- Connectors on outside of MUTO
- Visible cable routings and connections for added security
- Proven solution in Defence enterprise network
- 4, 6, 8, 12 and 24 port density options
- 150mm(W) x 45mm (H) x 290mm (D)

MTRT Series MUTO (flex)

Secure fibre network enclosure



Benefits & features:

- Small, compact size; Suitable for limited space installation
- Colour variations for different uses (Blue, Red, Pink, White, etc)
- Suitable for splicing, preterm MTP/MPO, preterm LC/SC
- Segregation of trunk cabling and patch cabling. 2x separate clear perspex top covers; Isolated access to either the trunk cables or the front patch connections.
- MTP/MPO MUTO supplied with pre-installed MTP connectivity
- Visible cable routings and connections for added security
- Swing-down front panel for easy patching access during service and installation
- Proven solution in Defence enterprise network
- 4, 6, 8, 12 and 24 port density options

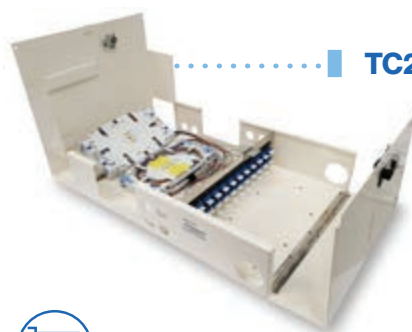
MUTO examples



Customer premises optical fibre wall boxes and outlets

TC2994 series optic fibre wall boxes lockable, 12 -48 fibres, indoor

These wall mounted optical fibre termination units with 2 lockable swing-out doors provide isolation for both customer side and provider. Each side cover has a full-length hinge. The units are fitted with up to four 12-fibre capacity splice trays and patch panel. The patch panel is used as a divider between the provider & customer sides. Patch cord storage (about 1.5m for each fibre) is provided on the customer side. The unit can be supplied with various locking arrangements to cater for different levels of security and entry methods.



..... TC2994CA48LCDAP shown

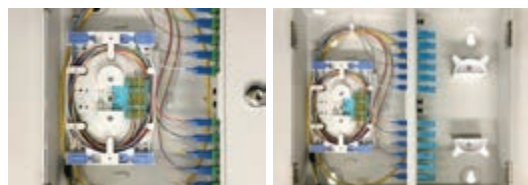


PART NO.	SPECIFICATIONS	SIZE (W X H X D)
TC2994CA12DPSC	12 fibres, SC duplex adaptors	440mm x 310mm x 100mm
TC2994CA12SC	12 fibres, SC adaptors	
TC2994CA24FCAP	24 fibres, FC adaptors & pigtails	
TC2994CA24SCAPS	24 fibres, SC adaptors & pigtails	
TC2994CA48FCAP	48 fibres, FC adaptors & pigtails	
TC2994CA48SCAPS	48 fibres, SC adaptors & pigtails	
TC2994CA48LCDAP	48 fibres, LC duplex adaptors & pigtails	

TC4025 series optic fibre wall boxes lockable, 12 – 144 fibres

These wall mounted optical fibre termination units with 2 lockable swing-out doors provide isolation for both customer side and provider.

- Various size options
- Singlemode splice/patch applications
- Choice of connector type and fibre density
- Other models available upon request



..... TC4025SP12 shown



PART NO.	SPECIFICATIONS	SIZE (L X W X H)
TC4025SP108	Splice/patch, Indoor, 108 Fibre, SC Duplex, Singlemode	500mm x 130mm x 485mm
TC4025SP12	Splice/patch, Indoor, 12 Fibre, SC, Singlemode	300mm x 300mm x 85mm
TC4025SP12LCD	Splice/patch, Indoor, 12 Fibre, LC, Singlemode	300mm x 300mm x 85mm
TC4025SP144LCD	Splice/patch, Indoor, 144 Fibre, LC, Singlemode	500mm x 130mm x 485mm
TC4025SP24LCD	Splice/patch, Indoor, 24 Fibre, LC, Singlemode	320mm x 90mm x 380mm
TC4025SP48LCD	Splice/patch, Indoor, 48 Fibre, LC, Singlemode	320mm x 90mm x 380mm
TC4025SP60	Splice/patch, Indoor, 60 Fibre, SC Duplex, Singlemode	320mm x 90mm x 380mm
TC4025SP72	Splice only, Indoor, 72 Fibre, SC Duplex, Singlemode	320mm x 90mm x 380mm
TC4025SPB12	Splice/patch, Indoor, 12 Fibre, SC/A, Singlemode	300mm x 300mm x 85mm

TC2993 series optic fibre wall boxes lockable, 12 fibres, indoor

These single compartment wall mounted optical fibre termination units with a lockable and removable cover are fitted with two 6-fibre capacity splice trays and patch panel.

Some room is available for patch cord storage. Top and bottom entry is available for both optical fibre cable and patch cords.



PART NO.	SPECIFICATIONS	SIZE (W X H X D)
TC2993E12SCK	12 fibres, SC adaptors	235mm x 265mm x 95mm
TC2993E6LCDK	12 fibres, LC duplex adaptors	

TC4020 series wall mount termination & splicing enclosures indoor/outdoor

Dimensions 370mm x 495mm x 143mm

These modules are used to terminate optical fibre cables in indoor/outdoor environments. Each wall box contains necessary splice trays and accessories.

Pole mount kit for TC4020 Series enclosures - TC4020MKIT

TC4020E6SO can be used as a fibre wallbox in a high rise building network. It can accept up to 312F cable which can be ringbarked, with individual fibre cores removed from the cable sheath and spliced onto floor distribution cable.

TC4020E12SC shown



PART NO.	SPECIFICATIONS	APPLICATION	IP RATING
TC4020E12SC	12 SC splice / patch	Indoor/outdoor splicing	IP65
TC4020E24SC	24 SC splice /patch	Indoor/outdoor splicing	IP65
TC4020E24LC	24 splice /patch	Indoor/outdoor splicing	IP65
TC4020E6SO	Termination enclosure w/6 small splice trays	Indoor, splice only. For distribution and ring barking of trunk cable. Splice distribution of feeder fibres	N/A

TC4025 series FTTH customer boxes 4 - 12 fibres, indoor

An indoor dust resistant splice & patch compact enclosure for up to 12 individual services each on a single optical fibre. Has a pivot open, clip on/off cover for easy access and a pivot tray inside for fibre cord storage. Allows for line testing.

Pigtails, through adaptors and heat shrink splice protectors available separately.

** Other connector and capacity options are available upon request. Through adaptors and pigtails need to be purchased separately.*

TC4025WB4SCP shown



PART NO.	SPECIFICATIONS
TC4025WB4SCP	4 x SC (SC/A version is also available)

TC4025 series customer wall box outlet 1 fibre, indoor

This FTTP wall outlet houses a single SC/A connector for a single fibre service. The outlet can be wall mounted and is fully compatible with standard GPO mounting components. Includes SC/A shuttered through adaptor.

TC4025WB1SAAL shown



PART NO.	SPECIFICATIONS	SIZE (W X H X D)
TC4025WB1SAAL	1x SC/A	73mm x 115mm x 18mm

Fibre optic dome splice closures



- May be used for cut, uncut and taut sheath applications
- Suitable for underground, aerial strand-mount, polemount, and wall-mount applications
- May be used for all fibre optic cable
- Sheath retention & central strength member fasten system included
- Ribbed closure construction and lightweight plastic provides strength and resistance to chemical and UV attack
- Up to 6 trays (each tray for 12 or 24 splices)
- 1 oval port + 4 round ports
- Installation and re-entry with a minimum of tools
- All hardware included
- Closure can be flash tested
- Protection class: IP68
- RoHS compliant



TC2720 series shown

PART NO.	FIBRE COUNT	MAX. CABLE DIAMETER
TC2720-804-1	24 fibres	
TC2720-804-2	48 fibres	
TC2720-804-3	72 fibres	
TC2720-804-4	96 fibres	
TC2720-804-5	120 fibres	1 oval port: for one looped cable with max. 22mm diameter
TC2720-804-6	144 fibres	4 round ports: each port for one cable with max. 17.5mm diameter

Fibre optic inline splice closures



- Holds 24 to 192 splices
- Easy to re-enter
- 3 cable entry position at each end
- Termination and splice kit included
- Integrated seal, airtight and waterproof
- Ideal for cable repair
- RoHS compliant
- Can be used in through, branch or mid span splice locations
- Suitable for aerial, underground duct or direct burial applications
- IP 68 up to 1.5m water depth



TC2720 series shown



PART NO.	FIBRE COUNT
TC2720-806-1	24 fibres
TC2720-806-2	48 fibres
TC2720-806-3	72 fibres
TC2720-806-4	96 fibres
TC2720-807-1	120 fibres
TC2720-807-2	144 fibres
TC2720-807-3	192 fibres

Fibre optic cable

Warren & Brown optical fibre cable (LAN cable) variations: non-metallic direct burial cable, double jacket cable, single jacket cable, Single loose tube STA fibre optic cable, multi loose tube cable, tight buffered distribution cable, multicord.

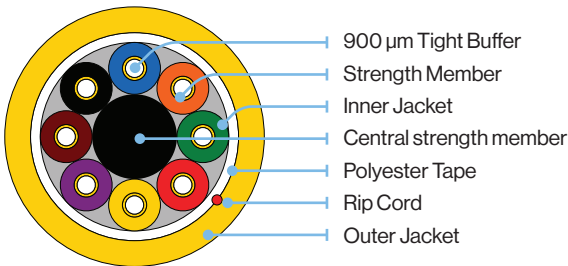
Breakout fibre optic cable (1 - 24 fibres)



- Application**
- Internal cable for installation in trunking, under floor or ceiling spaces
 - Short run external links between buildings
 - High strength aramid yarn strength member
 - Fibre backbones in riser and horizontal configurations
 - Pre-terminated cable assemblies

- Options**
- Singlemode G652D or G657A2
- 1, 2, 4, 6, 8, 12, 24 fibres
Multimode OM2, OM3 or OM4
- 1, 2, 4, 6, 8, 12, 24 fibres

WBT breakout cables are constructed of up to 24, 2mm simplex cables stranded around a central strength member. Each simplex cable has its own aramid yarn strength member and jacket. These sub units are wrapped in a polyester tape and sheathed in LSZH.



PART NO.	SPECIFICATIONS
112x09	Singlemode G652D, 2.0mm, 1 fibres, yellow
112x27	Singlemode G652D, 2.0mm, 2 fibres, duplex, yellow
112x164	Singlemode G652D, 2.0mm, 2 fibres, yellow
112x156	Singlemode G652D, 2.0mm, 4 fibres, yellow
112x152	Singlemode G652D, 2.0mm, 6 fibres, yellow
112x153	Singlemode G652D, 2.0mm, 8 fibres, yellow
112x154	Singlemode G652D, 2.0mm, 12 fibres, yellow
112x155	Singlemode G652D, 2.0mm, 24 fibres, yellow
112x59	Multimode OM3, 2.0mm, 1 fibres, aqua
112x136	Multimode OM2, 2.0mm, 1 fibres, aqua
112x60	Multimode OM3, 2.0mm, 2 fibres, duplex, aqua
112x26	Multimode OM2, 2.0mm, 2 fibres, duplex, aqua
112x157	Multimode OM3, 2.0mm, 2 fibres, aqua
112x163	Multimode OM3, 2.0mm, 4 fibres, aqua
112x160	Multimode OM3, 2.0mm, 8 fibres, aqua
112x161	Multimode OM3, 2.0mm, 12 fibres, aqua
112x162	Multimode OM3, 2.0mm, 24 fibres, aqua

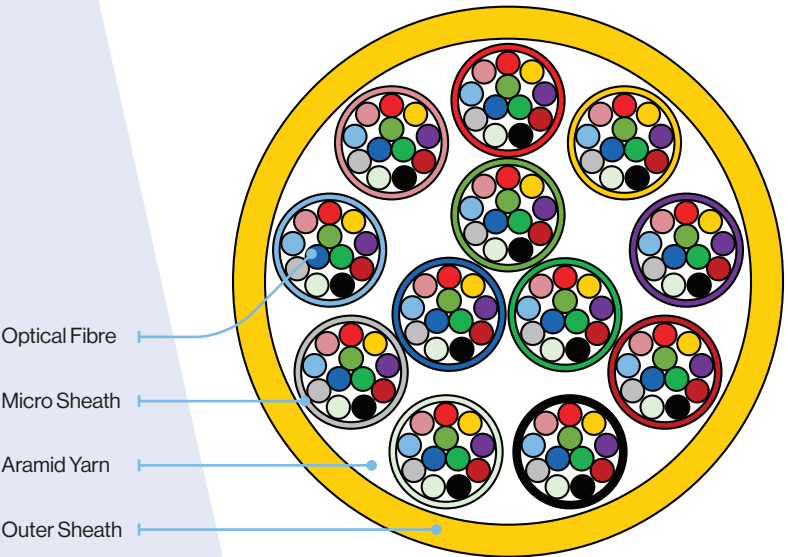
Micro core trunk cable (12 - 144 fibres)



Distribution cable consists of multiple tight-buffered fibres bundled in a LSZH jacket with a strength member. Typically, these cables may also form sub cables within a larger distribution cable.

Generally used with MTP/MPO trunk cable assemblies, these cables contain a reduced diameter cable construction, saving space in cable pathways.

- 12F, 24F, 36F, 48F, 72F, 96F and 144F core count options
- Small 4.5mm OD for 12 and 24F cable, with 3mm sub-units
- Singlemode G657A2, and Multimode Aqua or Violet OM4 options
- Custom colour options black, red, pink, blue are available upon request
- LSZH outer sheath



Tight buffered distribution/riser cable (4 - 24 fibres)



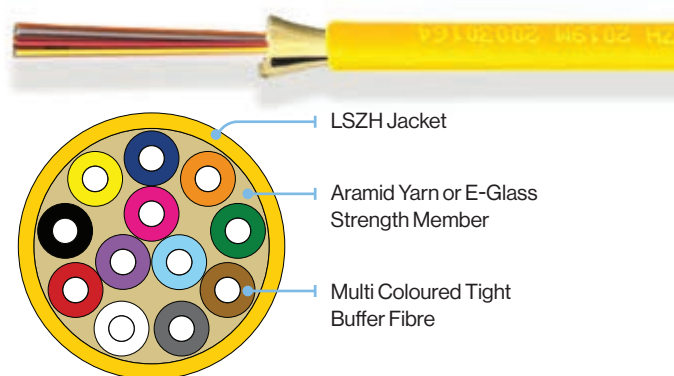
- Application**
- Internal cable for installation in trunking, under floor or ceiling spaces
 - Short run external links between buildings
 - Fibre backbones in riser and horizontal configurations
 - Pre-terminated cable assemblies

- Options**
- Singlemode G657A2 - 6, 12, 24 fibres
 - Multimode OM3 or OM4 - 4, 6, 12, 24 fibres

These tight buffered riser, internal / external distribution cables are constructed of 900µm buffered fibres surrounded by aramid yarn or e-glass strength members jacketed in an LSZH outer jacket.

Features & benefits:

- Colour coded fibres
- High strength aramid yarn strength member
- Easy to strip
- LSZH jacket
- Cut to length
- Other colours available - Blue, pink, black, red



PART NO.	SPECIFICATIONS
112x301	Singlemode G657A2, 6 fibres, yellow
112x224	Singlemode G657A2, 12 fibres, yellow
112x302	Singlemode G657A2, 24 fibres, yellow
112x158	Multimode OM3, 4 fibres, aqua
112x133	Multimode OM3, 6 fibres, aqua
112x233	Multimode OM3, 12 fibres, aqua
112x131	Multimode OM3, 24 fibres, aqua
112x300	Multimode OM4, 6 fibres, aqua
112x171	Multimode OM4, 12 fibres, aqua
112x172	Multimode OM4, 24 fibres, aqua
112x214	Multimode OM4, 12 fibres, violet
112x215	Multimode OM4, 24 fibres, violet

Outdoor multi loose tube fibre optic cable (6 - 144 fibres)



Application • Suitable for internal or external applications in ducts or intra-building links in campus environments

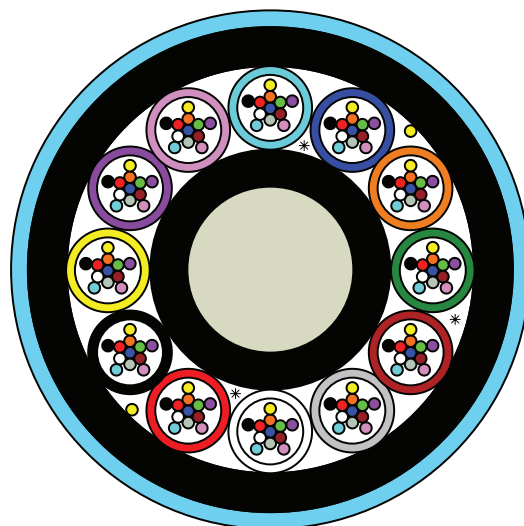
Options Singlemode G652D: 6, 12, 24, 48, 72, 96, 144 fibres
Multimode OM3: 6, 12, 24 fibres

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.

Features & benefits:

- Colour coded fibres
- Choice of PE or LSZH jacket

PART NO.	SPECIFICATIONS
112x303	Singlemode G652D, 6 fibres, blue
112x304	Singlemode G652D, 12 fibres, blue
112x305	Singlemode G652D, 24 fibres, blue
112x306	Singlemode G652D, 48 fibres, blue
112x307	Singlemode G652D, 72 fibres, blue
112x308	Singlemode G652D, 96 fibres, blue
112x309	Singlemode G652D, 144 fibres, blue
112x310	Multimode OM3, 6 fibres, blue
112x311	Multimode OM3, 12 fibres, blue
112x312	Multimode OM3, 24 fibres, blue



Direct buried double jacket fibre optic cable (6 - 144 fibres)



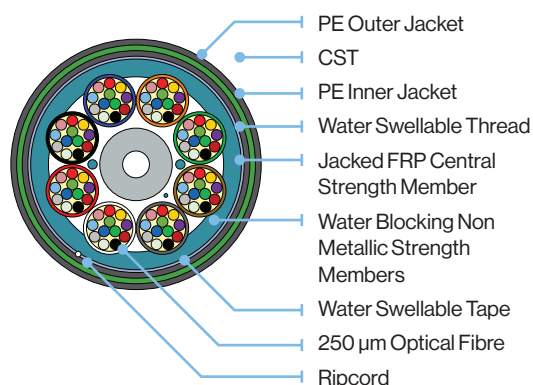
Application • Direct buried
• Used in application with high mechanical loads

Options Singlemode G652D: 6, 12, 24, 36, 48, 72, 96, 144 fibres
Multimode OM3 or OM4: 6, 12, 24, 36, 48, 72, 96, 144 fibres

The WBT 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.

Features & benefits:

- Single layer stranded construction (up to 144 fibres)
- Corrugated steel tape as protection against rodents and mechanical damage
- Particularly robust cable, filled loose tube
- Inner and outer jacket are made of PE jacket
- Wrapped in water swellable tape



Custom cables

For custom cable requirements, please discuss your requirements with a WBT sales team member, as many other cable construction options are available.

Pre-terminated fibre optic cable assemblies

Multi-fibre custom made solutions

WBT pre-terminated fibre optic cable assemblies are an ideal solution for overcoming on site splicing constraints or where field termination is impractical and overly time consuming.

Furthermore, factory terminated cable assemblies are fully tested and inspected, providing guaranteed reliability. WBT pre-terminated fibre optic cables can be manufactured with any connector type, and with a wide variety of fibre core counts, indoor and outdoor cable, and to any specified length.

Multi-fibre optic cable assemblies are a true, high quality, time and cost saving solution, supplied with various optical fibre types to meet the demands of different applications, including singlemode OS1a/OS2 fibres (G657A2 bend insensitive or G652D optical fibre) and multimode OM3/OM4 optical fibre.

Other customizable options can also be provided, including heavy duty hauling socks, staggered connectors, as well as customized breakouts.

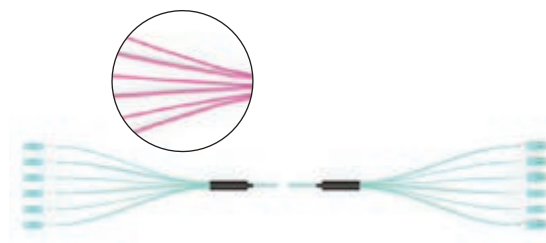
Features & benefits:

- Fast manufacturing and delivery with local Australian made content
- Factory-terminated and tested to international standards
- Indoor/outdoor pre-terminated cable assemblies
- Pre-terminated fibre optic cable assemblies can also be provided for loose tube, SWA, Milspec and other specialized cables
- Optional staggered terminations
- Optional hauling/pulling sock mechanism. High strength
- 900 micron fibre breakouts or optional 2mm oversleeving

Multimode optical fibre cable harness assemblies



- Available in multimode OM3/OM4
- Standard breakout length - 700mm or custom
- Staggered breakouts available
- Any choice of connectors
- Can also be used as a ruggedised patch cord. More flexible cable options are available in this instance for 2 and 4 fibres, as well as higher fibre counts
- 2F, 4F, 6F, 8F, 12F, 24F cable assemblies generally utilize tight buffered distribution/riser cable - 900 micron breakouts
- 48F, 72F, 96F and 144F assemblies generally utilize microcore cable - 2mm breakouts



Singlemode optical fibre cable harness assemblies



- Available in singlemode OS1a/OS2, G657A2 or G652D fibre
- Standard breakout length - 700mm or custom
- Staggered breakouts available
- Any choice of connectors
- Can also be used as a ruggedised patch cord. More flexible cable options are available in this instance for 2 and 4 fibres, as well as higher fibre counts
- 2F, 4F, 6F, 8F, 12F, 24F cable assemblies generally utilize tight buffered distribution/riser cable - 900 micron breakouts
- 48F, 72F, 96F and 144F assemblies generally utilize microcore cable - 2mm breakouts



Fibre connectivity

Every connector assembly supplied by WBT is made using quality parts in a high quality termination facility, according to recognised and approved international standards.

The quality and inspection procedures employed, ensure only high quality, individually inspected and approved pigtailed and patch cords are supplied. Therefore, customers can have confidence knowing that the product supplied will perform reliably to a high standard in the telecommunications and data networks for many years. Each patch cord is individually inspected and tested at the time of production.

- Singlemode G657A2, G652D or multimode OM4 fibre options
- Simplex, duplex as well as multi-fibre patch cord options
- LSZH sheath
- Complies with ANSI, Bellcore, TIA / EIA, IEC standards
- Factory terminated and tested
- Choice of connector types - LC, LC duplex, SC/UPC, SC/APC, etc
- Reduced diameter LC duplex uniboot patch cord options
- Various patch cord lengths
- Fast delivery and stock availability

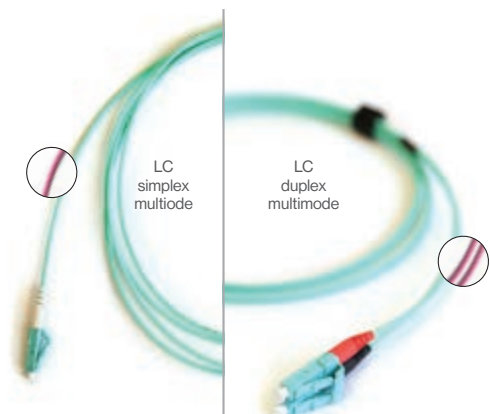
T99 series patch cords multimode OM4



- Connector types - LC, LC duplex, SC, SC duplex, ST, FC
- OM4 fibre as standard (OM3 also available)
- Low loss connectors for high performance and reliability
- Multi-fibre patch cord options available
- Available colours - Aqua, Violet

Multimode connectors performance information:

	SC	ST	FC	LC
FERRULE	2.5 mm dia Zirconia	2.5 mm dia Zirconia	2.5 mm dia Zirconia	1.25 mm dia Zirconia
STANDARD POLISH	UPC	UPC	UPC	UPC
INSERTION LOSS	0.2 dB typ 0.3 dB max	0.2 dB typ 0.4 dB max	0.2 dB typ 0.3 dB max	0.2 dB typ 0.3 dB max
RETURN LOSS	35 dB	35 dB	35 dB	35 dB
TERMINATIONS	>500	>500	>500	>500
SERVICE TEMP. °C	-20 to +60	-20 to +60	-20 to +60	-20 to +60



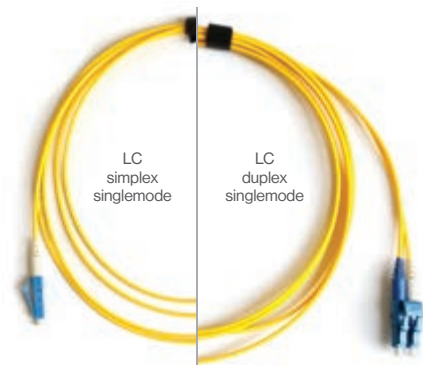
T99 series patch cords singlemode



- Connector types - LC, LC duplex, LC/A, SC, SC duplex, SC/A, SC/A duplex, ST, FC
- Bend insensitive G657A2 fibre as standard (G652D also available)
- Low loss connectors for high performance and reliability
- Extreme low loss Grade A connector options available
- Multi-fibre patch cord options available

Multimode connectors performance information:

	SC	ST	FC	LC	LC/A	SC/A
FERRULE	2.5 mm dia Zirconia	2.5 mm dia Zirconia	2.5 mm dia Zirconia	1.25 mm dia Zirconia	1.25 mm dia Zirconia end angle 8°	2.5 mm dia Zirconia end angle 8°
STANDARD POLISH	UPC	UPC	UPC	UPC	APC	APC
INSERTION LOSS	0.2 dB typ 0.3 dB max	0.2 dB typ 0.4 dB max	0.2 dB typ 0.3 dB max	0.2 dB typ 0.3 dB max	0.2 dB typ	0.2 dB typ
RETURN LOSS	≤50-55 dB	≤50-55 dB	≤50-55 dB	≤50-55 dB	≤60-65 dB	≤60-65 dB
TERMINATIONS	>500	>500	>500	>500	>500	>500
SERVICE TEMP. °C	-20 to +70	-20 to +70	-20 to +70	-20 to +70	-20 to +70	-20 to +70



Singlemode Grade A connectors performance information:

	INSERTION LOSS	INSERTION LOSS (MEAN OF 20 RANDOM MATING)	RETURN LOSS (MATED OR NOT)	INPUT POWER CAPABILITY
A/SC ANGLED CONNECTOR	(1260-1625 nm) (dB) Max 0.15	(1260-1625 nm) (dB) Avg 0.07	(1260-1625 nm) (dB) Max ≥65	(dBm) Max +27**
SC UPC	(1260-1625 nm) (dB) Max 0.15	(1260-1625 nm) (dB) Avg 0.07	(1260-1625 nm) (dB) Max ≥50	(dBm) Max +27**
FC UPC	(1260-1625 nm) (dB) Max 0.15	(1260-1625 nm) (dB) Avg 0.07	(1260-1625 nm) (dB) Max ≥50	(dBm) Max +27**
E2000 UPC	(1260-1625 nm) (dB) Max 0.15	(1260-1625 nm) (dB) Avg 0.07	(1260-1625 nm) (dB) Max ≥50	(dBm) Max +27**
LC APC	(1260-1625 nm) (dB) Max 0.15	(1260-1625 nm) (dB) Avg 0.07	(1260-1625 nm) (dB) Max ≥65	(dBm) Max +27**
LC UPC	(1260-1625 nm) (dB) Max 0.15	(1260-1625 nm) (dB) Avg 0.07	(1260-1625 nm) (dB) Max ≥50	(dBm) Max +27**
DIN 47256***	(1310-1550 nm) (dB) Max 0.4	(1310-1550 nm) (dB) Avg 0.2	(1310 nm) (dB) Max ≥50-55	



**SC UPC Grade A
connector shown**

Note

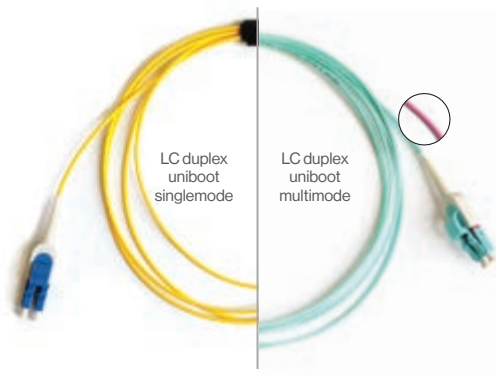
- * Grade A connectors have not yet been ratified by the standard bodies
- ** Max. input power can only be applied, if connector end faces are absolutely clean
- *** DIN47256 connector is not to be used as Grade A* connector

T99 series patch cords

LC-LC duplex uniboot, reversible polarity



- LC duplex uniboot connectors
- Singlemode G657A2 or multimode OM4 aqua or violet fibre options
- LSZH sheath
- Uniboot, slim cable design. 2mm OD for duplex cable
- Complies with ANSI, Bellcore, TIA / EIA, IEC standards

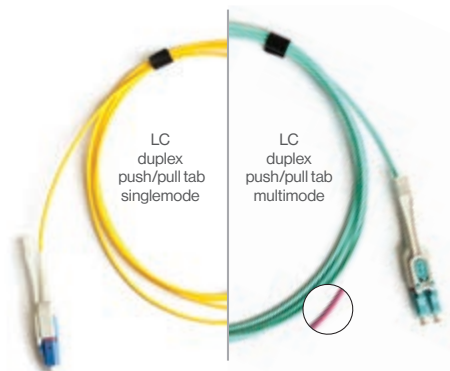


T99 series patch cords

LC-LC duplex uniboot, reversible polarity push/pull tab



- LC duplex uniboot connectors
- Singlemode (G657A2) or multimode OM4 aqua or violet fibre options
- LSZH sheath
- Uniboot, slim cable design 2mm OD for duplex cable
- Push/pull tab allows for easy connection and disconnection around congested patching areas
- Complies with ANSI, Bellcore, TIA / EIA, IEC standards



Pigtails

Optical fibre pigtails are generally installed into splice tray subracks and plug into patch panel through adaptors.

Features & benefits:

- Singlemode or multimode fibre (OM1, OM2, OM3)
- Any connector type - SC, SC/A, LC, etc
- Available in various lengths
- Breakout lengths can be custom specified

PART NO.	CONNECTOR TYPE	
63100088T	LC	Singlemode G652D
63200458T	LC	Multimode OM4
63100858T	LC/A	Singlemode G652D
63100021-12	SC	Singlemode G652D
63100021AT	SC	Singlemode G652D
63200480T	SC	Multimode OM4
63101006-12	SC/A	Singlemode G652D, Grade A
63100051-12	SC/A	Singlemode G652D
63100051AT	SC/A	Singlemode G652D
63100093	ST	Singlemode G657A1
63100093P	ST	Singlemode G652D
63101394Z	LC	Singlemode
63101395Z	LC/A	Singlemode
63200483Z	LC	Multimode aqua OM3
63200484Z	LC	Multimode beige OM3
63101396Z	SC	Singlemode
63200485Z	SC	Multimode aqua OM3
63200486Z	SC	Multimode beige OM1
63101397Z	SC/A	Singlemode
63101398Z	ST	Singlemode
63200488Z	DT	Multimode OM1

900 micron pigtail kit,
1 fibre (pack of 12)



**63100051-12
shown**

Through adaptors

The optical fibre through adaptor is mounted in a patch panel of an optical fibre termination unit, or ODF and allows a pigtail to be connected to a patch cord. A through adaptor allows the optical transmission system connection to be quickly made and broken, as required.

PART NO.	CONNECTOR TYPE	FIBRE TYPE
109x031	DIN	Singlemode, simplex, flange
109x038	LC	Singlemode, simplex, blue, short flange
109x037	LC	Singlemode, quad, blue, flange
109x063	LC	Singlemode, duplex, blue, shuttered
109x091	LC	Singlemode, quad, blue, short flange
109x109	LC	Singlemode, duplex, blue, short flange
109x504	LC Grade A	Singlemode, duplex, blue, short flange
109x504	LC Grade A	Singlemode, duplex, blue, short flange
109x040	LC/A	Singlemode, quad, green, short flange
109x053	LC/A	Singlemode, duplex, green, flange
109x210	LC/A	Singlemode, quad, green, short flange
109x104	MU	Singlemode, simplex, blue
109x011	SC	Singlemode, simplex, blue, flange
109x012	SC	Singlemode, duplex, blue, flange
109x035	SC	Singlemode, simplex, blue, short flange
109x003	SC/A	Singlemode, simplex, green, flange
109x013	SC/A	Singlemode, duplex, green, flange
109x036	SC/A	Singlemode, simplex, green, short flange
109x065	SC/A	Singlemode, simplex, green, short flange

109x065 shown



109x026 shown



PART NO.	CONNECTOR TYPE	FIBRE TYPE
109x126	SC/A	Singlemode, duplex, green, short flange
109x503	SC/A Grade A	Singlemode, simplex, green, flange
109x500	SC/A Grade A	Singlemode, simplex, green, short flange
109x029	LC	Multimode, duplex, beige, flange
109x092	LC	Multimode, quad, aqua, short flange
109x094	LC	Multimode, quad, violet, short flange
109x095	LC	Multimode, quad, violet, flange
109x131	LC	Multimode, duplex, violet, short flange
109x022	SC	Multimode, simplex, beige, flange
109x027	SC	Multimode, duplex, beige, flange
109x064	SC	Multimode, simplex, beige, short flange
109x071	SC	Multimode, simplex, aqua, flange
109x049	SC	Multimode, simplex, aqua, short flange
109x112	MTP/MPO	SM/MM, simplex, black - key up to key down (Polarity A), MTP standard
109x124	MTP/MPO	SM/MM, simplex, black - key up to key down (Polarity A), flange, MTP standard
109x125	MTP/MPO	SM/MM, simplex, black - key up to key up (Polarity B), flange, MTP standard

Field assembly optical connector

0.25 - 0.90 SC/A soft boot

The SC/APC Soft type Field Assembly Optical Connector (FAOC) is designed with a compact size in order to fit small size terminal box or fibre distribution frame, terminated with bare fibre or 0.9mm jacket cable. The FAOC is made with high precision and quality zirconia ferrule and provides a highly reliable connection in most fibre optic network applications.

Features & benefits:

- Fibre Optic Cable Distribution network
- Fibre To The Home (FTTH) network
- Highly stable and reliable performance
- Intermateability IEC 61754-4
- EU regulation: RoHS
- Flammability Grade: UL94 V-0
- High Success Rate design and technology
- Reusable termination capability (up to 5x)

Attenuators

Features & benefits:

- Fixed attenuation values of 5, 10 & 15 dB (other values available)
- Accuracy + 12% @ 1300 and 1550 nm wavelengths
- Return loss: SPC >40 dB; UPC >55 dB; APC >60dB
- Optical performance 100% factory tested
- Climatic range: -25C to + 75C, and 10% to 90% humidity
- Various connectors and finishes available, eg UPC and APC, etc
- Polarisation insensitive
- Compact design fits in existing connections or patch panels
- Convenience and ease of handling
- Rating > + 20 dBm

PDL (Polarisation Dependant Loss):

LOSS VALUE	1310NM WAVELENGTH	1550NM WAVELENGTH
5dB	0.05dB	0.01dB
10dB	0.1dB	0.05dB
15dB	0.2dB	0.1dB
20dB	0.3dB	0.2dB

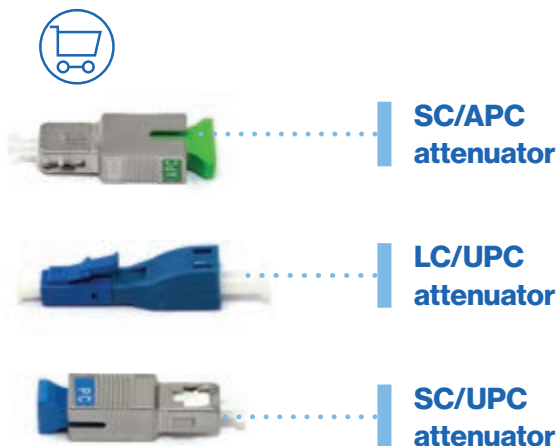
PMD (Polarisation Mode Dispersion):

For attenuators in the range 1 to 25

dB – Value is < 0.2 ps



PART NO.	CONNECTOR TYPE
65932005	Field assembly optical connector 0.25 - 0.90 SC/A soft boot



PART NO.	CONNECTOR TYPE	DB*
116x01x05	SC/UPC	5 dB ± 0.8
116x01x10		10 dB ± 1.2
116x01x20		20 dB ± 1.2
116x02x01	SC/APC	1dB ± 0.3
116x02x02		2 dB ± 0.4
116x02x03		3 dB ± 0.5
116x02x05		5 dB ± 0.8
116x02x10		10 dB ± 1.2
116x02x15		15 dB ± 1.7
116x02x20	LC/UPC	20 dB ± 2.2
116x07x02		2 dB ± 0.4
116x07x03		3 dB ± 0.5
116x07x05		5 dB ± 0.8
116x07x08		8 dB ± 0.8
116x07x10		10 dB ± 1.2
116x07x15		15 dB ± 1.7
116x07x20		20 dB ± 2.2

Note: * Attenuation accuracy between: 1260 to 1360nm and 1480 to 1580nm wavelengths. Other Attenuator options are available

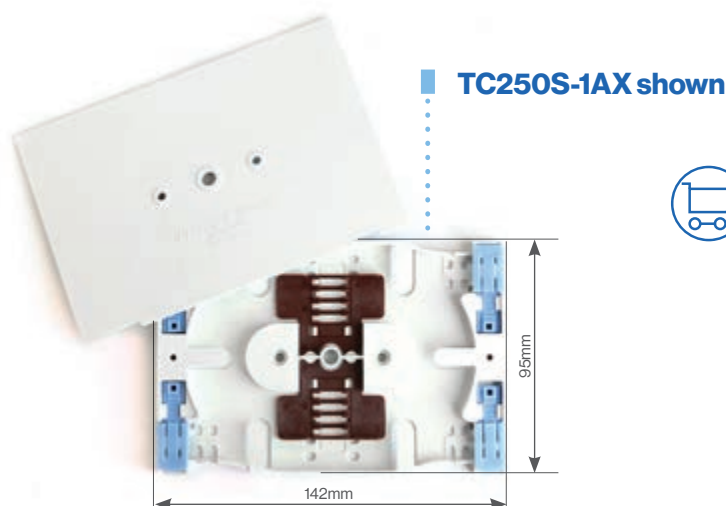
TC250 series small splice trays

Features & benefits:

- Typically used for 6 spliced optical fibres. Included are 2 heat shrink splice protector holder clips. Can also be used for up to 12 spliced optical fibres, using alternative clips
- Loose tube clamps incorporated in the tray design
- Other splice protector clips, available separately
- Heat shrink splice protector, 40mm long also available separately

PART NO. DESCRIPTION

TC250S-1AX	Splice tray assembly small, with lid
TC250S-2AX	Two splice tray assembly, small, one lid



TC251 series universal splice trays

Features & benefits:

- Accepts either 12 or 24 spliced fibres
- Two heat shrink splice protector clip holders included
- Loose tube clamps incorporated in the tray design
- Other splice protector clips, available separately, specify requirements
- Heat shrink splice protector, 40mm long also available separately

PART NO. DESCRIPTION

TC251S-1AX	Universal splice tray assembly with cover
TC251S-1EX	Universal splice tray assembly, stackable with cover; options to create various height stacks, with different splice protector holder clips
TC251S-MKIT	Splice tray mounting bracket kit
TC251S-5	Cover, universal splice tray



Splice trays accessories

PART NO. DESCRIPTION

TC250S-2	Splice/shrink protector holder, 6 holders, black
TC250S-4	Coupler/splitter holder, blue
TC250S-10	Splice/shrink protector holder, 6 holders, yellow
TC250S-12	Splice/shrink protector holder, 12 holders, secor metal wafer
TC250S-13	Splice/shrink protector holder, 12 holders, 2.6mm dia, blue
TC250S-14	Splice/shrink protector holder, 12 holders, 2.8mm dia, orange
TC250S-30	Splice/shrink protector holder, 4 holders, brown



Tools & accessories

MTP®/MPO connector cleaner, bulkhead type

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

- Cleans male and female MTP®/MPO ferrules
- 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, ferrules with or without guide pins
- 500 cleanings

65900423 shown



PART NO.	DESCRIPTION
65900212	MTP®/MPO connector cleaning tool - US Conec
65900423	MTP®/MPO connector cleaning tool - WBT

Fibre optic connector cleaner

Warren & Brown one click fibre optic connector cleaning pens utilise a novel dry cleaning strand to gently sweep and lift away dust and residues from the connector end face.

The fibre optic cleaning pens have been developed to work with the LC, SC, FC, and ST connectors; these instruments clean the ferrule end faces removing dust, oil, and other debris without nicking or scratching the end face. The fibre optic connector cleaning pens allow for substantial labour savings over conventional, high volume applications and have been adopted by manufacturers and carriers worldwide.

65900421 shown



65900420 shown



PART NO.	DESCRIPTION
65900420	SC fibre cleaner pen - one click 2.5mm
65900421	LC fibre cleaner pen - one click 1.25mm

Cletop-S cleaning unit

Hand sized, lever operated, cassette for cleaning SC (ø2.50mm) or LC (ø1.25mm) connector ends. Quickly cleans connectors thoroughly, of foreign material e.g. dust, alcohol residue, etc. Reel material can clean up to 400 connectors. Cleaning reels are replaceable.

Features & benefits:

- Tape exchange type
- Pre-eminent for cost performance
- Cleans per reel - more than 400 times
- There is a shutter in the cleaning window
- Automatic opening and closing with tape sent automatically

65900229 shown



65900230 shown



PART NO.	DESCRIPTION
65900230	Cletop cleaning unit, SC connector
65900229	Cletop cleaning unit, LC connector

LC connector extraction tool

When using standard LC duplex patch cords in densely populated patching fields, it may be difficult removing patch cords.

In order to remove LC patch cords without disturbing other connectors, the LC extraction/insertion tool can be used to remove patch cords in these difficult to reach areas.

62X005 shown



PART NO.	DESCRIPTION
62X005	LC connector extraction tool

SC connector extraction tool

This tool is used to extract either SC, A/SC or LC Duplex through adaptors from densely populated patch panels. It is made from stainless steel to ensure a long service life. The tool has two small magnets attached to its back, which enable it to be stored in any convenient place on a steel rack or subrack. The tool is also designed to unplug WBT style through adaptor dust caps, with a central hole, from densely populated patch panels.

PART NO.	DESCRIPTION
62X006	SC connector extraction tool

62X006 shown



Optical fibre connector cleaning kit

This kit (Part No. 65900200) contains a complete set of items that enable optical fibre connectors and through connectors/adaptors to be quickly cleaned in a safe and effective manner. Replacement items are available separately.

Kit includes:

PART NO.	DESCRIPTION
70x004	Cleaning fluid iso-propyl alcohol (50ml bottle)
88x002	Solvent dispenser
81x002	Sachets, iso-propyl alcohol (100 per box)
56x019	Gloves either nitrile rubber or poly (min 20 per bag)
100x030	Cleaning stick
81x003	Swab, lint-free paper (pack)
86x003	Set of instructions
60x017	Plastic box

65900200 shown



PART NO.	DESCRIPTION
65900200	Optical fibre connector cleaning kit
51300176	PF Cleaning wipes, bucket

Other miscellaneous items available separately

Other miscellaneous items are cable tags, heat shrink & splice protectors, cable ties, tapes, tubes, velcro ties, etc.

Please discuss any other requirements with our sales team.

65404004 shown



97000104 shown



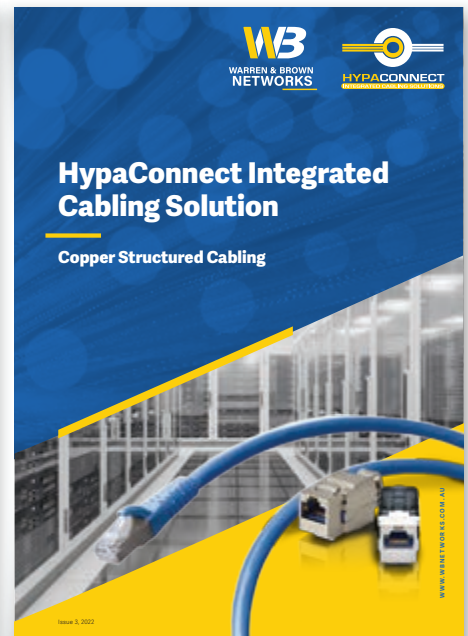
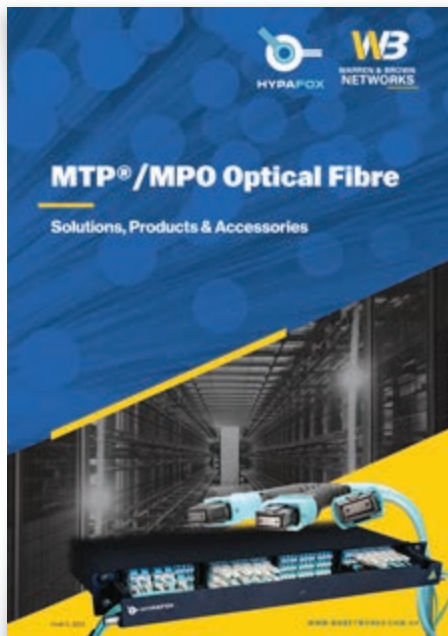
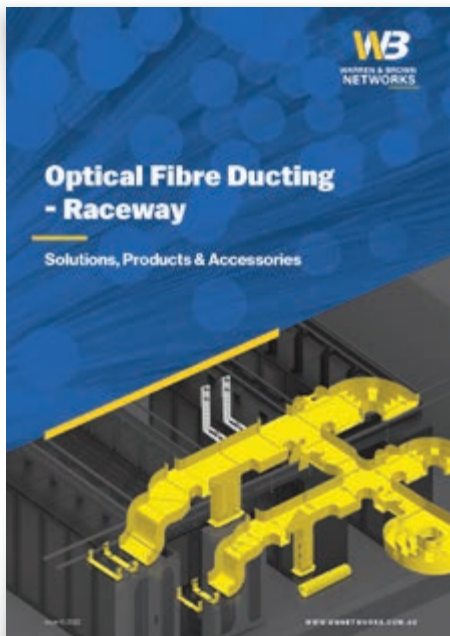
PART NO.	DESCRIPTION
97000104	Plastic PVC ID tag for cables
65404001	Heat shrink splice protectors - 44mm x 2.4-2.5mm (pack of 120)
100X121	Heat shrink splice protector for 8 or 12 fibre, ribbon fibre (pack of 100)
100X080	Heat shrink splice protector (pack of 100)
85x15x20	Cable ties for securing entering cables (pack of 20)
65061012	PVC electrical tape - Black (1 roll)
43300009	Butyl rubber tape 3.05 metres

PART NO.	DESCRIPTION
14100281	Fibre warning tape 48mm wide
51300053	Tape (aluminium foil) for wrapping around trunk cable for heat shrinking
54300339	Cold shrink tube 1/2"-11/2" .25m
35300688	Velcro tape, back to back 25mm x 22.8m, black
35300685	Velcro tape, back to back 50mm x 22.8m, black
35300627	Fastener, velcro back to back 25 x 200mm, black
35300628	Fastener, velcro hook & loop 25mm x 25m, black

At Warren & Brown, we listen, we respect and we deliver.

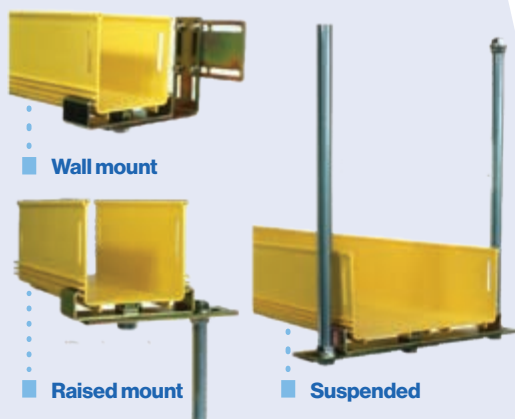
Warren & Brown provides leading optical fibre and copper cabling products and solutions for various markets.

Our designers and engineers are constantly looking for ways to improve customer offerings and by working closely with our customers, the company is able to achieve continual improvement.



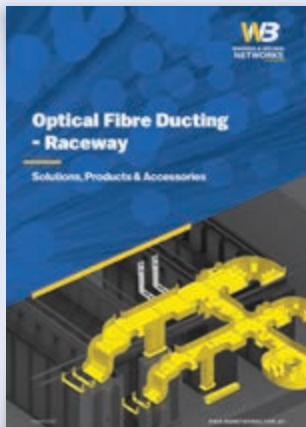
Ducting components

WBT's optical fibre ducting raceway is a unique system for routing and protecting fibre optic cords between termination equipment, patch panels and fibre optic splicing frames in telecommunications exchanges and data centres. Easily mounted above equipment racks or below floors, it provides an easily accessible solution to any situation.



WBT ducting raceway items, conform to the following standards and requirements:

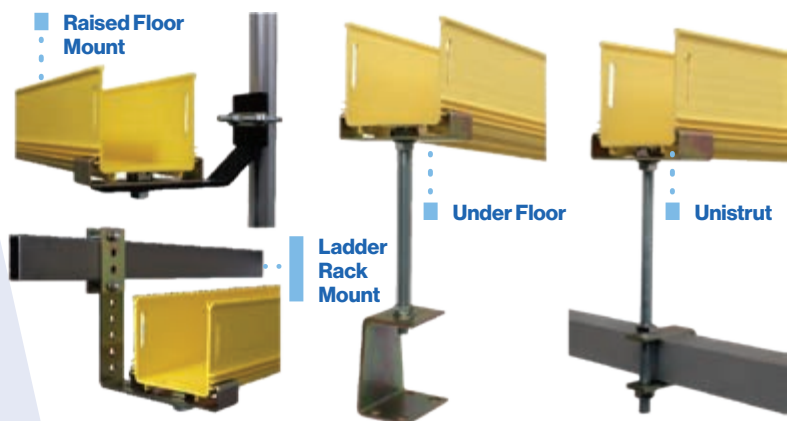
- ISO 9001 Certified Quality Management System by BSI
- Fire retardant plastic, Halogen Free, for 100, 220 and 300mm ducting the rating is UL94V-0, for 30 and 50mm ducting the rating is UL94V-1
- UL2024A standard
- EEU - ROHS requirements
- GR-63 Core Earthquake test compliance



**Download our
Optical Fibre Ducting
– Raceway catalogue**

WBT YellowDuct ducting raceway is available in seven sizes. It is most important to select a size that allows for expansion and future additions to the ducting system. All too often cable systems are underspecified in order to reduce installation costs. In this world of the ever increasing need for the storage and processing of data it is a false economy to just specify for existing needs. It is ultimately more cost effective to plan for the future and over specify when it comes to capacity. Cable exit points and take offs also need to be taken into account as these components have different capacity ratings to the main ducting raceway.

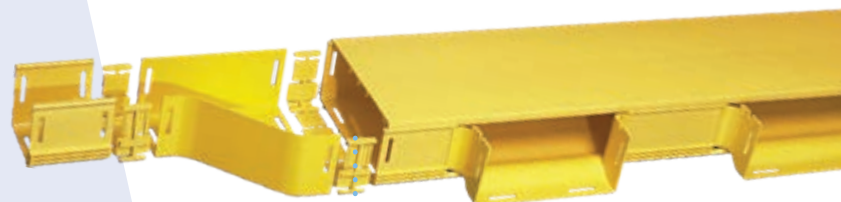
WBT YellowDuct ducting raceway can be mounted from walls, ladder rack, unistrut, on raised floor support brackets, on floors, or to the top of equipment racks or frames. Select an appropriate mounting method from the examples shown otherwise you can contact your WBT sales office or distributor for additional mounting options and custom solutions.



Fibre cords can be simply routed via ramp off into or out of the ducting.



Single or dual high-density convoluted tube outlets.



Cords can easily pass through the ducting to the next drop point or exit.

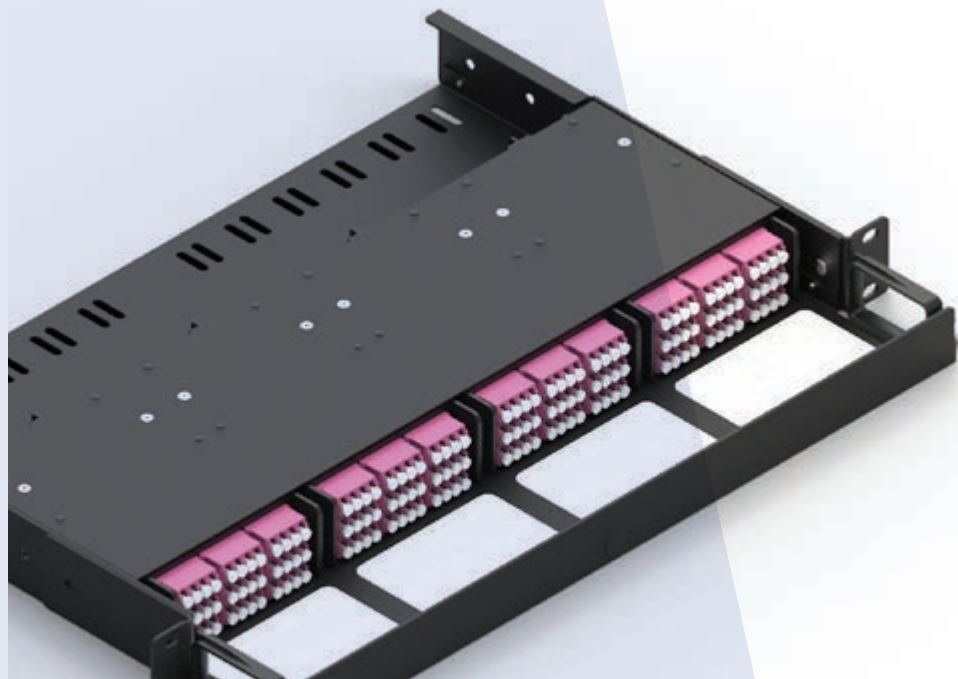


**Warren & Brown fibre ducting at
NextDC S3 Sydney Data Centre**



Throughout the network and cabling environment, the HypaFOX MTP®/MPO and patch module solution promotes best practice in cable management, routing, usability and flexibility.

The latest innovation from WBT, provides leading density, with up to 144F LC fibres in 1RU of rack space. In addition, many cable management features have been included in the solution, ensuring supreme reliability and ease of use.



- Maintains patch cord MBR's and safely routes patch cords through a dedicated cable management area
- Quick release locking clips for easy installation and removal of cassettes
- Fits within existing rack systems by utilising standard design and mounting bracket options to suit 19" or 21" mounting rails
- Utilises reduced diameter LC duplex patch cords with pull tabs, which reduces disturbance in patching fields when connecting/disconnecting services
- Flexible solution with various cassette options, including MTP®/MPO, LC/SC/ST patch only, RJ45 copper, fibre optic splitter cassette and other custom assemblies

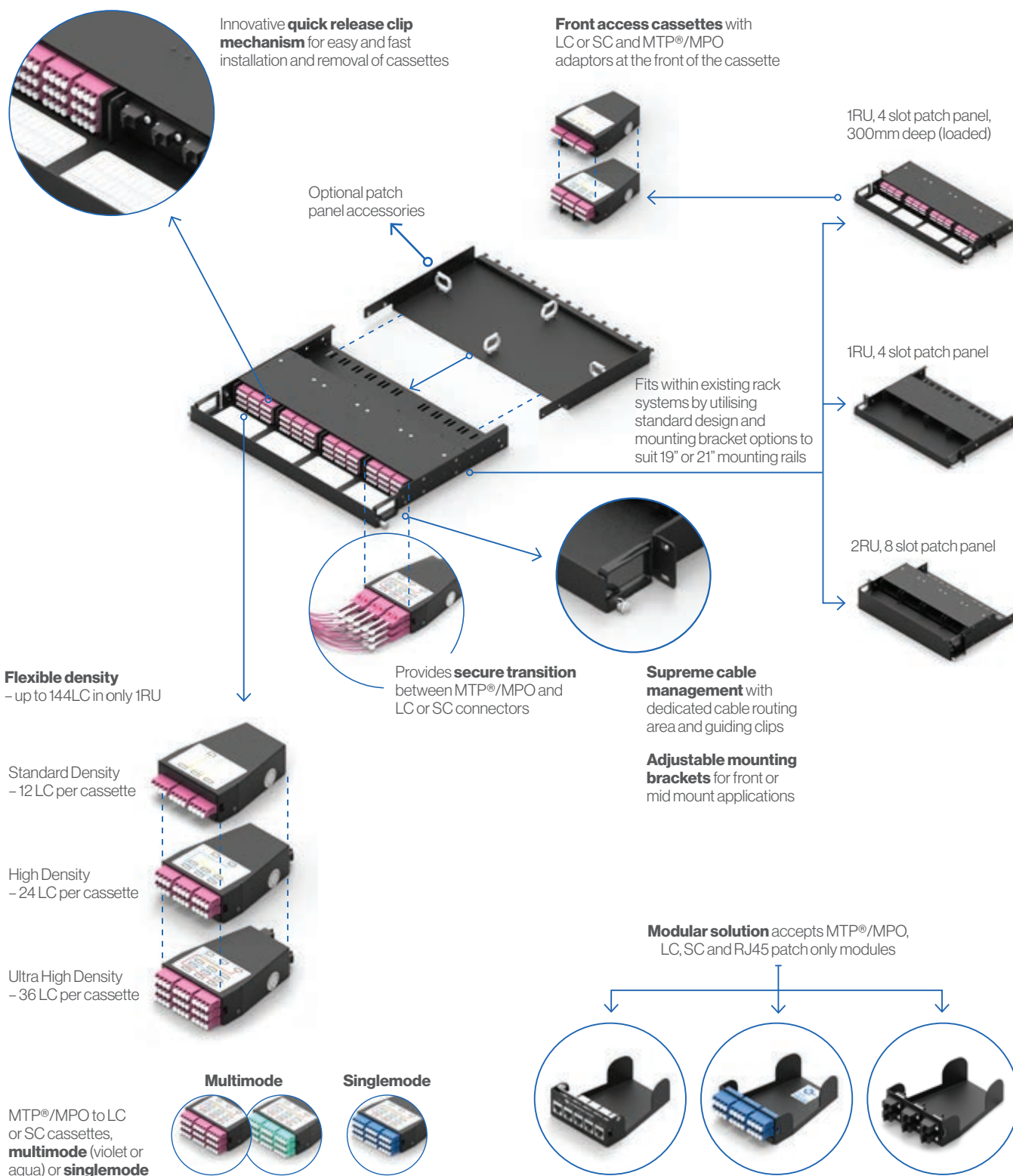
Why use HypaFOX Data Centre solutions

- Saves rack space by providing leading fibre optic density of up to 144 LC fibres in 1RU
- Flexible solution, which enables easy additions and modifications
- Hassle free, end to end solution with custom cassette options, including monitoring and splitter cassettes, as well as ability to handle mixed media platforms within single patch panel
- Reliable, high performance, low loss connectivity
- Equally suitable for Data Centre and Telecom Carrier applications



Download our MTP®/MPO Optical Fibre solutions catalogue

Scalable – easily expand connector density, as well as providing simple migration from 10G to 40G/100G parallel optics



WARREN & BROWN TECHNOLOGIES PTY LTD

**108 Mitchell Street,
Maidstone, Victoria 3012**

Phone: (613) 9317 6888
Fax: (613) 9318 6091
Email: sales@wbt.com.au

Europe

WTB Europe BV

Energieweg 45,
1271 EC Huizen,
The Netherlands

Phone: +31 35 2085653

Email: htovar@wbt.biz
dkoning@wbt.biz

Philippines

Warren & Brown Fiber Systems Corporation

BDG Building 2, Block 1, Lot 1,
Solid Street. LIIP, Mamlasan,
Binan 4024, Laguna,
Philippines

Phone: +63 2 584 4617
+63 2 584 4510

Fax: +63 49 508 0011

Email: deoperff@warrenandbrown.com.au

Vietnam

Warren & Brown Technologies Pty Ltd

R.02-11, 2nd Floor, D2 Building,
Mandarin Garden, Hoang
Minh Giam Str., Cau Giay
District, Hanoi 10000, Vietnam

Phone: +84 4 6664 3388

Fax: +84 4 6664 3888

Email: wbtvn@warrenandbrown.com.au

New Zealand

AC-WB Technologies

7 Old Wairoa Road, Papakura,
Auckland, New Zealand

Phone: +64 9 302 2668

Fax: +64 9 302 2678

Email: sales@actechnologies.co.nz

New South Wales

JCS-WB Technologies Pty Ltd

Unit 2, 2 Holker Street,
Newington, NSW 2127

Phone: +61 2 8878 6600

Fax: +61 2 9808 2622

Email: sales@jcs-wbt.com.au