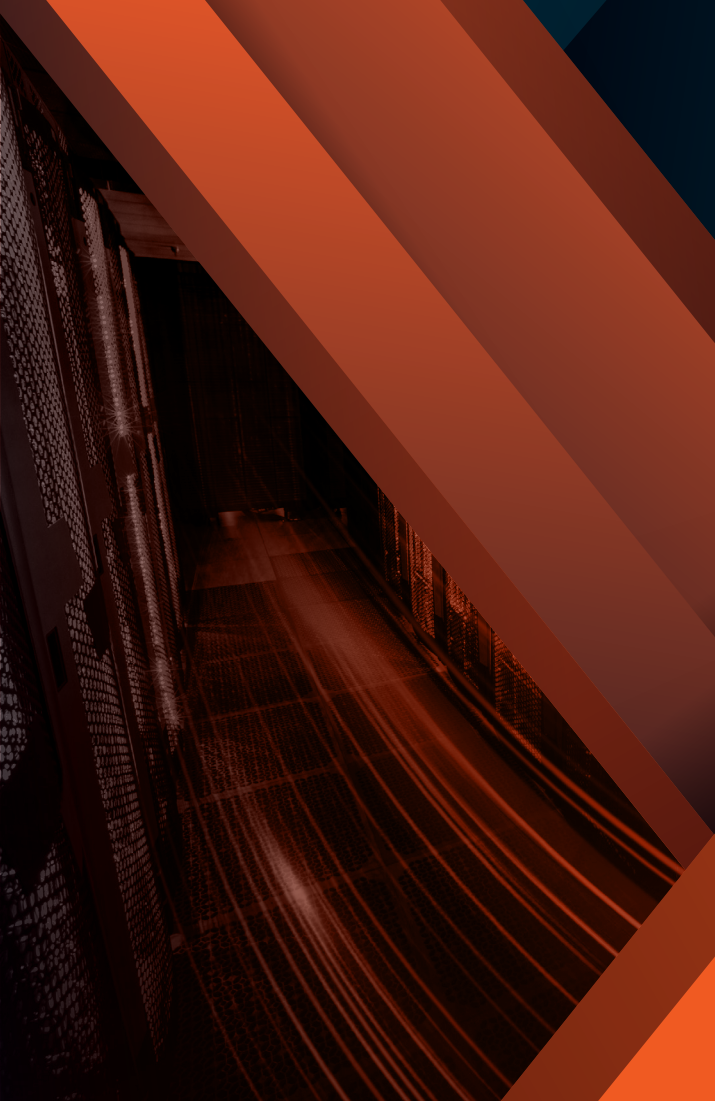# FAT COMMS

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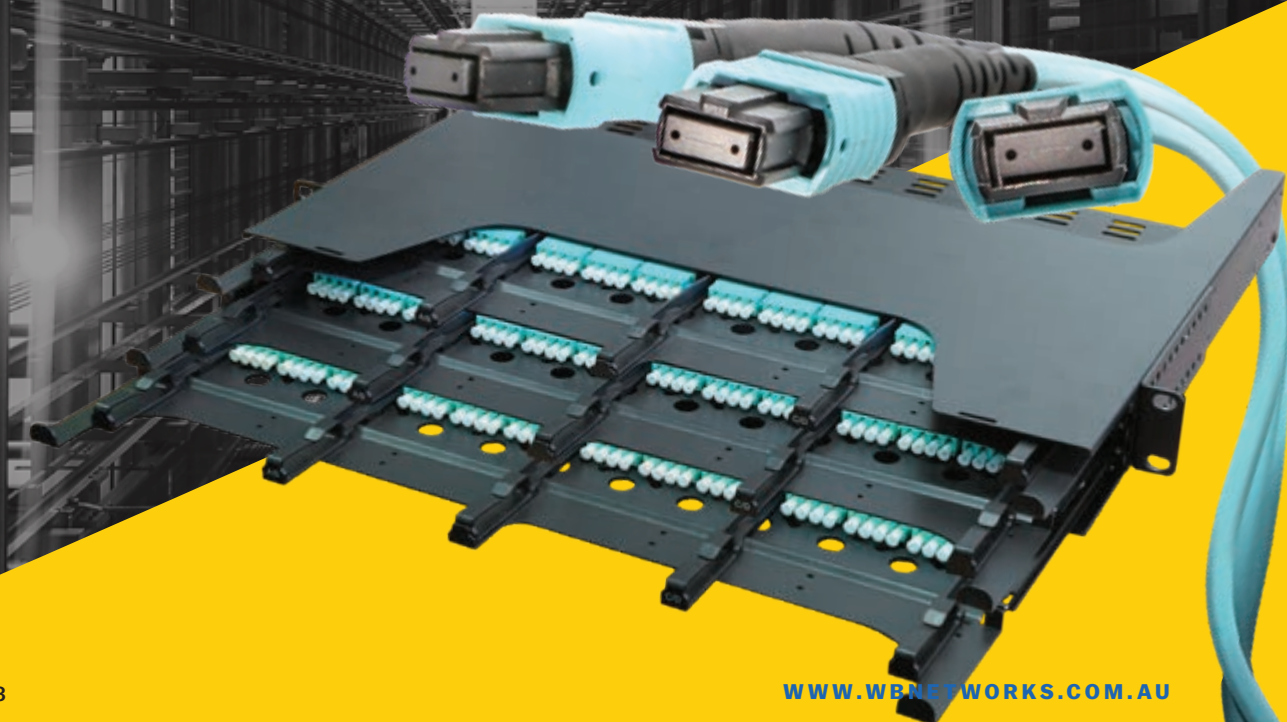
FATCOMMS.IO

MTP®/MPO Optical Fibre

High Density Solutions, Products & Accessories

The HypaFOX high density MTP®/MPO cabling solution from Warren & Brown Technologies (WBT) has been designed to provide the perfect balance between density and usability. The flexible design supports various cabling and connectivity options, whilst providing superior cable management and protection.

The HypaFOX solution includes various cables, connectors and connectivity options, which are standards compliant. Furthermore, the solution has been designed to support various Polarity options as defined by TIA/EIA 568 standards, as well as providing easy configuration and upgrade options. The solution is fully scalable and is able to be configured to support standard density, high density and ultra high density (144LC fibres in 1RU) applications.

In addition to the standard HypaFOX 1RU, 4 slot chassis and cassette system, the Z-Slim series provides additional flexibility with its 12 slot x 12 cassette configuration, also providing up to 144LC per RU. In addition, 6F and 8F cassettes are also available for the Z-Slim range.

Furthermore, with local technical and network design support, stock availability, as well as fast production and delivery times, WBT provide a level of service that allows you to deploy your network on time, on budget and without headaches.

Contents

For technical information on the range of MTP®/MPO solutions as well as polarity management, please refer to the WBT MTP®/MPO application guide.

Managing connectivity in Data Centres and high density optical fibre networks

Managing optical fibre connectivity is becoming more challenging due to the rapid expansion of telecommunication networks, which need to support various high speed, low latency and bandwidth intensive services.

Due to its ability to support 10G, 40G and 100G transmission systems, as well as being a practical solution for Enterprise, Data Exchange and Mobile Backhaul networks, MTP®/MPO connectivity is proving to be the solution of choice for many applications. However, one of the major drivers of MTP®/MPO solutions are Data Centre networks. The challenge for Data Centre operators trying to maximise floor space and increase density, is being able to effectively manage a high number of connections, without disrupting existing services and risking potential outages.

The HypaFOX solution from Warren & Brown Technologies (WBT), addresses many of the challenges faced in high density optical fibre networks, providing leading density, flexibility and scalability.

Reliable MTP®/MPO connectivity and cable management for Data Centres

Optical fibre transmission systems are becoming more widely used and accepted throughout Data Centre environments, with many systems now supporting 10G links and with migration paths to 40G and 100G also being available.

High speed optical fibre networks in Data Centre environments often utilise MTP®/MPO and LC duplex connectivity throughout the network. MTP®/MPO connectivity solutions support parallel optical communications, which enables data to be simultaneously transmitted and received over multiple optical fibres. Due to its small form factor, MTP®/MPO connectors and micro cable have already provided a space saving solution. However, greater space savings, ease of use and efficiency gains can now be realised with WBT's high density solution.

Make the right connections

Only high quality cable and connectivity are used in the HypaFOX MTP®/MPO solution. The vast range of cable assemblies as well as customisation options, provides a true end to end solution, where every component is carefully considered to provide optimal network performance.

LC Duplex patch cords have been optimised to provide the following advantages:

- Pull tab provides easy connection/disconnection in high density patching fields
- Small duplex 2mm OD cable and uniboot design reduces cable congestion
- Choice of quality OM4 multimode fibre and G657A2 singlemode fibre
- Stock availability of common items

MTP®/MPO cabling range includes all variations for trunk cable assemblies, array/fan out cords and equipment cords:

- Multi-fibre trunk assemblies, including 12, 24, 36, 48, 72 and 144 fibres
- Optional hauling mechanisms for protecting connectors during installation
- Elite or standard grade MTP® /MPO connectors
- Multimode or singlemode
- Custom array assemblies - MTP®/MPO to LC connectors
- 12 or 24 multi-fibre equipment cords
- Ruggedised micro core cable for trunk cable assemblies
- Many customisable features including colours, standard or custom breakout lengths and polarity options

Leading connectivity quality and options

WBT provide leading cable and connector quality and reliability. With a variety of connector grades and options, the HypaFOX solution can be customised to suit various applications and budgets.

WBT recommends using MTP® MTP Elite or Standard connectors in cable assemblies and cassettes wherever possible, in order to guarantee the highest possible performance. Overall, MTP® connectors provide a more reliable and precise connection. Furthermore, there are some key differences between MTP® and MPO connectors.

In simple terms, an MTP® connector is a high performance MPO connector with multiple engineered product enhancements, improving optical and mechanical performance when compared with generic MPO connectors. MTP® and MPO connectors are fully compatible.

MTP® is a brand of US Conec and MTP® brand connectors are fully compliant with IEC Standard 61754-7 and TIA 604-5 – Type MPO. The MTP® connector is described by US Conec as, "a high performance MPO connector with multiple engineered product enhancements to improve optical and mechanical performance when compared with generic MPO connectors."

Some of the advantages and distinctions between MTP® and MPO connectors include the following:

• The MTP® connector has a removable housing. This feature allows users to re-work and re-polish the MT ferrule if required, as well as scan the ferrule interferometrically after assembly

• The MTP® connector contains a floating ferrule which improves mechanical performance. This feature allows two mated ferrules to maintain physical contact while under an applied load

• The MTP® connector spring design maximizes ribbon clearance for twelve fibre and multi-fibre ribbon applications to prevent fibre damage

WBT HypaFOX MTP®/MPO solutions meet the following specifications and standards.
Custom configurations including different colours (e.g. OM4 Violet), breakout types and connector housings are also available. Multifibre trunk cables contain 3mm OD inner subunits as standard, with the option of 2mm OD 12F subunits also (standard option with 144F trunk cable).

CABLE SPECIFICATIONS	SINGLEMODE G657A2	MULTIMODE OM4
Attenuation Coefficient (dB/km)	≤0.40 @1310nm	≤3.5 @850nm
	≤0.25 @1550nm	≤1.5 @1300nm
Bandwidth - Overfilled Launch (Mhz-km)	N/A	≥ 500 @1300nm
Bandwidth - VCSEL Modal Bandwidth (Mhz-km)	N/A	≥ 4700 @850nm
Diameter - 12F - Patch Cable	Ø 3.0 mm	Ø 3.0 mm
Diameter - 12F - Trunk Cable	Ø 4.5 mm	Ø 4.5 mm
Diameter - 24F - Patch Cable	Ø 3.0 mm	Ø 3.0 mm
Diameter - 24F - Trunk Cable	Ø 4.5 mm	Ø 4.5 mm
Diameter - 36F - Trunk Cable	Ø 9.0 mm	Ø 9.0 mm
Diameter - 48F - Trunk Cable	Ø 9.0 mm	Ø 9.0 mm
Diameter - 72F - Trunk Cable	Ø 11.2 mm	Ø 11.2 mm
Diameter - 96F - Trunk Cable	Ø 11.2mm	Ø 11.2mm
Diameter - 144F - Trunk cable (mini 2mm 12F subunits	Ø 15.0mm	Ø 15.0mm
Sheath Colour	Yellow	Aqua
Outer Sheath type	LSZH	LSZH

Note: Cable specifications may be subject to change.
Other cable types (diameter, weight, colour, etc.) available upon request.

CONNECTOR SPECIFICATIONS	IL AVERAGE	IL MAX	RL
MTP® APC Elite SM (12F)	0.15dB @1310/1550nm	0.35dB @1310/1550nm	>60dB @1310/1550nm
MTP® APC SM / MPO Standard SM	0.30dB @1310/1550nm	0.75dB @1310/1550nm	>60dB @1310/1550nm
MTP® Elite MM (12F)	0.15dB @550/1300nm	0.35dB @1310/1550nm	>20dB @850/1550nm
MPO Low Loss (LL)	0.15dB @550/1300nm	0.35dB @1310/1550nm	>20dB @850/1550nm
MTP® MM / MPO Standard MM	0.35dB @850/1300nm	0.60dB @850/1300nm	>20dB @850/1550nm
LC, SC UPC SM	0.18dB @1310/1550nm	0.25dB @1310/1550nm	>55dB
LC, SC APC SM	0.18dB @1310/1550nm	0.25dB @1310/1550nm	>65dB
LC, SC UPC/APC SM Grade A (Low Loss)	0.07dB @1310/1550nm	0.15dB @1310/1550nm	

Two options,
one great outcome!

The HypaFOX MTP/MPO system has been optimized to provide users with the choice of Patch panel and cassette configuration, each providing its own benefits and advantages. Either option allows network operators to easily scale and add new connections modularly, as well as providing rapid plug and play deployment.
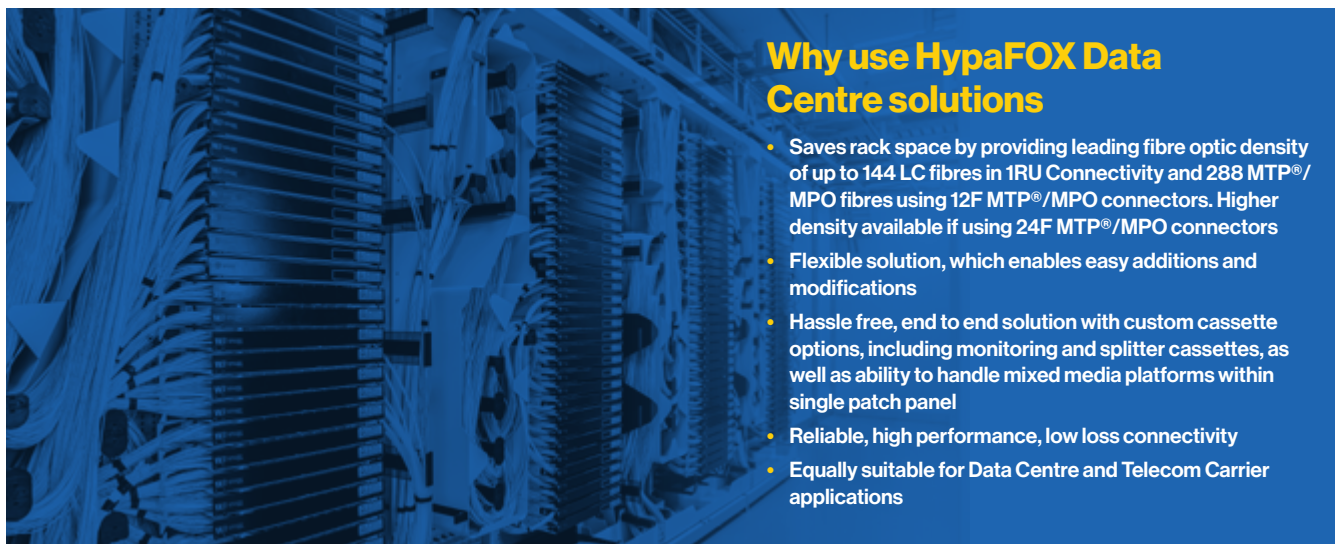

HYPAFOX
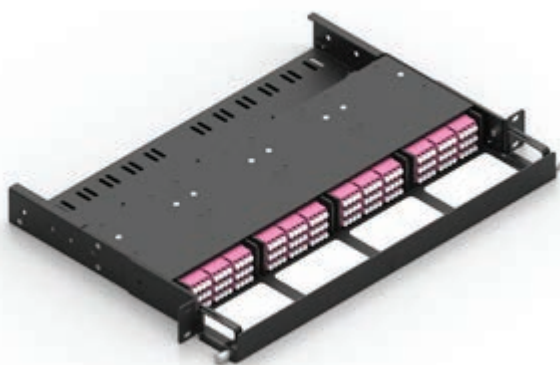
- 1RU 4 slot chassis options for equipment rack deployments
- 1RU and 2RU chassis for front access ODF or single side deployments
- 12F, 24F and 36F LC cassette options within a standardised cassette housing
- High density up to 144LC per RU

HYPAFOX Z-SLIM
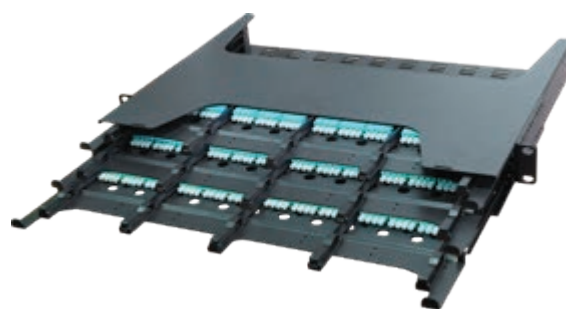
- 1RU, 2RU and 4RU patch panel options
- Slimline 12F cassettes
- 8F cassette with 18 slot 1RU patch panel options also available, providing up to 144LC per RU
- Sliding patch panel with single row fibre connector access
- Splicing modules available

Why use HypaFOX Data Centre solutions

- Saves rack space by providing leading fibre optic density of up to 144 LC fibres in 1RU Connectivity and 288 MTP®/MPO fibres using 12F MTP®/MPO connectors. Higher density available if using 24F MTP®/MPO connectors
- 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

HypaFOX Z-Slim High Density MTP/MPO system

The HypaFOX Z-Slim series is a leading edge scalable, pre-terminated cabling system with MTP/MPO-LC connectors, providing capacity of up to 144F LC. This modular solution is designed to increase port density, improve connector access, and efficiently utilize valuable rack space in Data Centres.

The modularity and scalability of the HypaFOX Z-Slim solution addresses the challenges faced in high-density optical fibre networks. It not only provides a high-density solution, but also supports high-speed links, allowing for easy addition of new links and upgrades to support higher networking speeds. Additionally, the pre-terminated cabling and breakout cassettes eliminate the need for on-site splicing, resulting in faster deployment and reduced installation costs.

8 Port Cassette

12 Port Cassette

Rear Cable Management Tray

Mounting Bracket

Separate Sliding Tray

Front Cable Management Loops
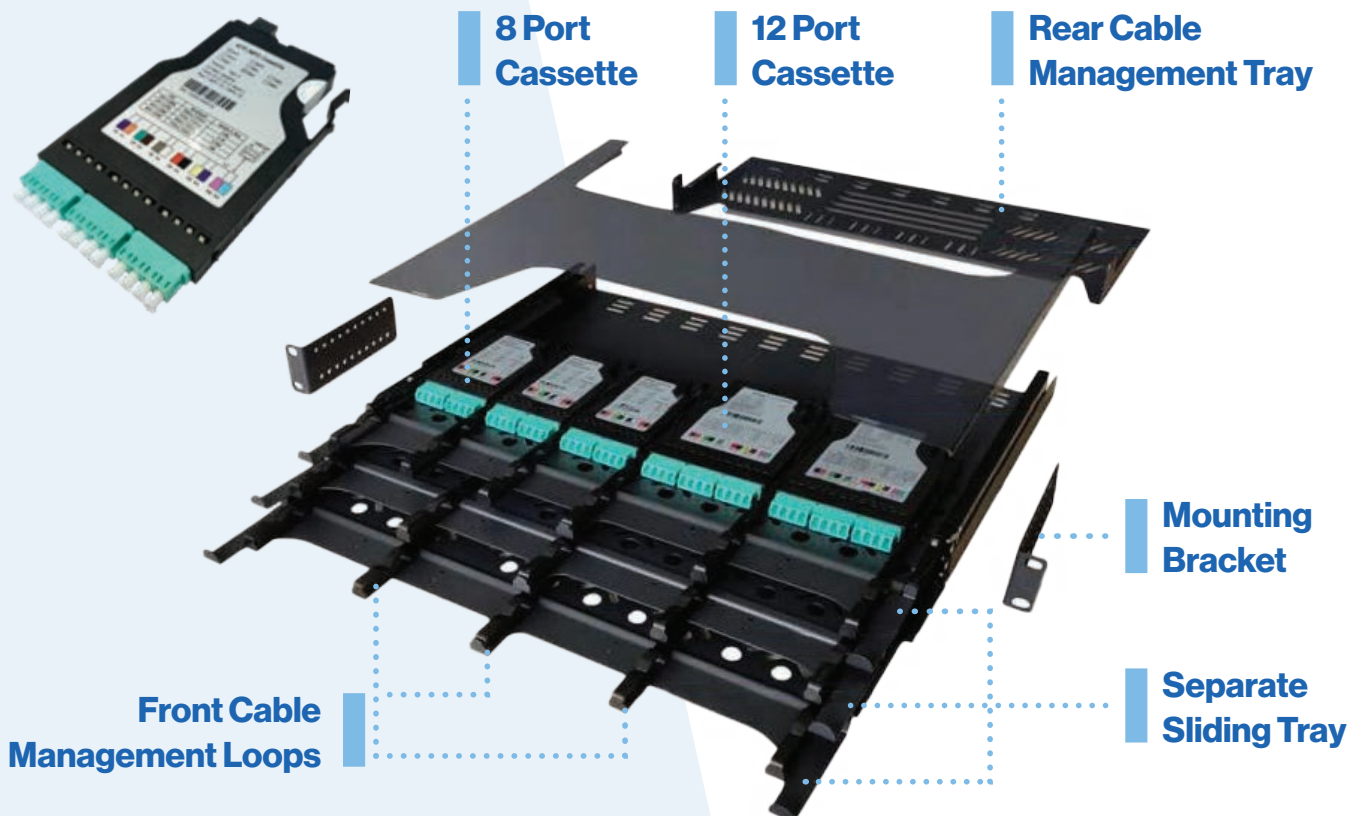
HZT Series - Z-Slim Modular High Density Patch Panels

The HZT Z-Slim series patch panel is designed to be used with Z-Slim cassettes, and provides an effective and innovative means of deploying MTP/MPO cabling systems.

This cutting-edge, scalable, pre-terminated cabling system with MTP/MPO-LC connectors has established itself as a frontrunner in data centre and telecommunication networks. Designed with modularity in mind, HypaFOX Z-Slim increases port density, enhances connector access, and efficiently utilizes valuable rack space in data centres.

By accepting Z-Slim cassettes in a modular 12F deployment format, scalability is optimized, as well as fibre connector access, due to the sliding rails of each cassette row.

Features:

- 1RU, 2RU or 4RU 19" Rack mount
- Layered guide rail drawing structure
- Removable upper cover
- Accepts Z-Slim cassettes
- Sliding rails for individual row and cassette access
- Hinged front door
- Dimension (WxD): 483mm×350mm (1RU, 2RU, 4RU)
- Material: cold rolled steel plate
- Color: black (fine sand grain spray)

Options:

- 1RU (for 12-port cassettes) 144 fibre capacity - HZTS02U1W1
- 1RU (for 8-port cassettes) 144 fibre capacity - HZTS04U1W1
- 2RU (for 12-port cassettes) 288 fibre capacity - HZTS02U2W1
- 4RU (for 12-port cassettes) 432 fibre capacity - HZTS02U4W1

PART NUMBER	DESCRIPTION	SPECS
HZTS02U1W1	HypaFOX Z-Slim, 1RU high density modular patch panel, 12 slots, sliding ,19",Black	3 layer separate sliding rail, 12 slot for 12 LC core cassette
HZTS04U1W1	HypaFOX Z-Slim, 1RU high density modular patch panel, 18 slots, sliding ,19",Black	3 layer separate sliding rail, 18 slot for 8 LC core cassette
HZTS02U2W1	HypaFOX Z-Slim, 2RU high density modular patch panel, 24 slots, sliding ,19",Black	6 layer separate sliding rail, 24 slot for 12 LC core cassette
HZTS02U4W1	HypaFOX Z-Slim, 4RU high density modular patch panel, 48 slots, sliding ,19",Black	12 layer separate sliding rail, 48 slot for 12 LC core cassette

HZC Series - MTP/MPO cassettes, Z-Slim

Cassettes are tailor-made to optimise cable management, plug and play, speed deployment, and improve flexibility and manageability for lower installation costs.

The MTP/MPO connection at the rear of the module provides a high degree of flexibility because the transition module can be easily upgraded to an MPO conversion or patching module at a later stage. This allows users to upgrade from 10G data rates to 40G or 100G data rates.

Options:

- Singlemode MTP/A Standard or Elite 12 port to LC (MTP/A-LC) cassette module
- Multimode OM4 MTP Standard or Elite 12 port to LC (MTP-LC) cassette module
- Singlemode MTP/A Standard or Elite 8 port to LC (MTP/A-LC) cassette module
- Multimode OM4 MTP Standard or Elite 8 port to LC (MTP-LC) cassette module
- LC/A (green) and LC (blue) connectors for singlemode, and LC (violet or aqua) for multimode OM4 cassettes
- Polarity A or B options

MPO/MTP Adapter

Polarity Connection Label

2 x Quad LC Adapter

MPO/MTP Adapter

Polarity Connection Label

3 x Quad LC Adapter

Splice & Patch cassettes, Z-Slim

Splice module provides the interface between the bulk cable and LC duplex cables that connect directly into the electronics. It protects and organises heat-shrink fusion spliced fibres (up to 12 fibres) inside a cassette. The modular design enables faster field splicing and simple management of pigtails within the housing.

Technical specification:

- Operating temperature: -20°C ~+70°C
- Storage temperature: -40°C ~+75°C
- Fibre mode: Multimode/Single mode
- Module IL MAX: LC (SM) ≤0.2dB, LC (MM) ≤0.2dB
- Dimension (WxDxH): 90mm × 130mm × 11.7mm
- Weight: 0.12kg
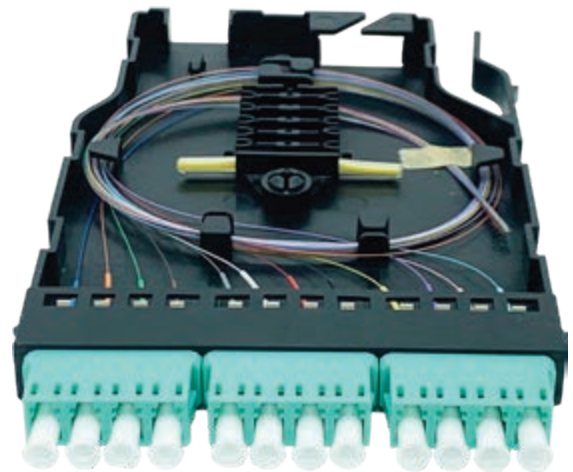
- Available for pigtail and ribbon splicing
- Splice protection bracket
- Safe internal routing of fibres
- High-strength plastic
- 3 adapter interface

Patch Through Cassettes, Z-Slim

Patch module provides a straight-through LC and MTP patching field which allows trunk cables to be connected directly to patch cords or harnesses.

Technical specification:

- Operating temperature: -20°C ~+70°C
- Storage temperature: -40°C ~+75°C
- Fibre mode: Multimode/Single mode
- Dimension (WxDxH): 90mm × 130mm × 11.7mm
- Weight: 0.12kg
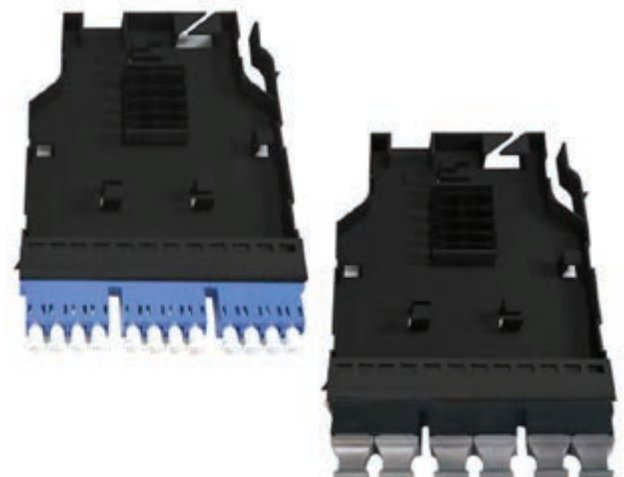
MTP®/MPO to LC multimode OM4 cassettes, 12 fibre, Z-Slim

- Standard or elite MTP®/MPO connectors
- High performance LC/PC fibre connectors
- Scalable 12 fibre cassette system (MTP-LC)

- Polarity A or B cassette options
- MTP®/MPO connectors at rear of cassette,
- Cassettes are MTP male (pinned)
- Aqua connectors as standard. Violet option available

HZCS03K3G2Z6P3E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 12 FIBRE LC-MULTIMODE OM4 AQUA - POLARITY A
HZCS03K3G2Z6P1E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 12 FIBRE LC-MULTIMODE OM4 AQUA - POLARITY B
HZCS03K3G2Z3P3E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 12 FIBRE LC-MULTIMODE OM4 AQUA - POLARITY A
HZCS03K3G2Z3P1E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 12 FIBRE LC-MULTIMODE OM4 AQUA - POLARITY B
HZCS03J3G2Z6P3E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 12 FIBRE LC-MULTIMODE OM4 VIOLET - POLARITY A
HZCS03J3G2Z6P1E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 12 FIBRE LC-MULTIMODE OM4 VIOLET - POLARITY B
HZCS03J3G2Z3P3E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 12 FIBRE LC-MULTIMODE OM4 VIOLET - POLARITY A
HZCS03J3G2Z3P1E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 12 FIBRE LC-MULTIMODE OM4 VIOLET - POLARITY B

MTP®/MPO to LC Singlemode cassettes, 12 fibre, Z-Slim

- Standard or elite MTP®/MPO connectors
- High performance LC/PC fibre connectors
- Scalable 12 fibre cassette system (MTP-LC)

- Polarity A or B cassette options
- MTP®/MPO connectors at rear of cassette,
- Cassettes are MTP male (pinned)
- G657A2 singlemode fibre

HZCS03K1G2Z5P3E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 12 FIBRE LC-SINGLEMODE POLARITY A
HZCS03K1G2Z5P1E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 12 FIBRE LC-SINGLEMODE POLARITY B
HZCS03K1G2Z2P3E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 12 FIBRE LC-SINGLEMODE POLARITY A
HZCS03K1G2Z2P1E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 12 FIBRE LC-SINGLEMODE POLARITY B

MTP®/MPO to LC/A Singlemode cassettes, 12 fibre, Z-Slim

- Standard or elite MTP®/MPO connectors
- High performance LC/APC fibre connectors
- Scalable 12 fibre cassette system (MTP-LC/A)

- Polarity A or B cassette options
- MTP®/MPO connectors at rear of cassette,
- Cassettes are MTP male (pinned)
- G657A2 singlemode fibre

HZCS03K2G2Z5P3E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 12 FIBRE LC/A - SINGLEMODE POLARITY A
HZCS03K2G2Z5P1E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 12 FIBRE LC/A - SINGLEMODE POLARITY B
HZCS03K2G2Z2P3E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 12 FIBRE LC/A - SINGLEMODE POLARITY A
HZCS03K2G2Z2P1E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 12 FIBRE LC/A - SINGLEMODE POLARITY B

MTP®/MPO to LC Multimode OM4 cassettes, 8 fibre, Z-Slim

- Standard or elite MTP®/MPO connectors
- High performance LC/PC fibre connectors
- Scalable 8 fibre cassette system (MTP-LC)

- Polarity A or B cassette options
- MTP®/MPO connectors at rear of cassette,
- Cassettes are MTP male (pinned)
- Aqua connectors as standard. Violet option available

HZCS02K3G2Z6P3E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 8 FIBRE LC- MULTIMODE OM4 AQUA - POLARITY A
HZCS02K3G2Z6P1E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 8 FIBRE LC- MULTIMODE OM4 AQUA - POLARITY B
HZCS02K3G2Z3P3E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 8 FIBRE LC- MULTIMODE OM4 AQUA - POLARITY A
HZCS02K3G2Z3P1E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 8 FIBRE LC- MULTIMODE OM4 AQUA - POLARITY B
HZCS02J3G2Z6P3E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 8 FIBRE LC- MULTIMODE OM4 VIOLET - POLARITY A
HZCS02J3G2Z6P1E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 8 FIBRE LC- MULTIMODE OM4 VIOLET - POLARITY B
HZCS02J3G2Z3P3E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 8 FIBRE LC- MULTIMODE OM4 VIOLET - POLARITY A
HZCS02J3G2Z3P1E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 8 FIBRE LC- MULTIMODE OM4 VIOLET - POLARITY B

MTP®/MPO to LC Singlemode cassettes, 8 fibre, Z-Slim

- Standard or elite MTP®/MPO connectors
- High performance LC/PC fibre connectors
- Scalable 8 fibre cassette system (MTP-LC)

- Polarity A or B cassette options
- MTP®/MPO connectors at rear of cassette,
- Cassettes are MTP male (pinned)
- G657A2 singlemode fibre

HZCS02K1G2Z5P3E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 8 FIBRE LC- SINGLEMODE POLARITY A
HZCS02K1G2Z5P1E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 8 FIBRE LC- SINGLEMODE POLARITY B
HZCS02K1G2Z2P3E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 8 FIBRE LC- SINGLEMODE POLARITY A
HZCS02K1G2Z2P1E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 8 FIBRE LC- SINGLEMODE POLARITY B

MTP®/MPO to LC/A Singlemode cassettes, 8 fibre, Z-Slim

- Standard or elite MTP®/MPO connectors
- High performance LC/APC fibre connectors
- Scalable 8 fibre cassette system (MTP-LC/A)

- Polarity A or B cassette options
- MTP®/MPO connectors at rear of cassette,
- Cassettes are MTP male (pinned)
- G657A2 singlemode fibre

HZCS02K2G2Z5P3E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 8 FIBRE LC/A - SINGLEMODE POLARITY A
HZCS02K2G2Z5P1E	HYPAFOX Z-SLIM, MTP/MPO ELITE CASSETTE, 8 FIBRE LC/A - SINGLEMODE POLARITY B
HZCS02K2G2Z2P3E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 8 FIBRE LC/A - SINGLEMODE POLARITY A
HZCS02K2G2Z2P1E	HYPAFOX Z-SLIM, MTP/MPO STANDARD CASSETTE, 8 FIBRE LC/A - SINGLEMODE POLARITY B

MTP/MPO and LC and Patch through cassettes, Z-Slim

- To suit 12 slot RU system

- Suitable for preterminated MTP, or LC trunk cables

- MTP-MTP, and LC-LC patch through applications

- Cassettes can be loaded into HZT series patch panel

HZPS04K1G0F0P0E	HYPAFOX Z-SLIM, PATCH CASSETTE, 12 FIBRE LC SINGLEMODE
HZPS04K2G0F0P0E	HYPAFOX Z-SLIM, PATCH CASSETTE, 12 FIBRE LC/A - SINGLEMODE
HZPS04K3G0F0P0E	HYPAFOX Z-SLIM, PATCH CASSETTE, 12 FIBRE LC MULTIMODE OM4 AQUA
HZPS05K0G0F0P6E	HYPAFOX Z-SLIM, MTP/MPO PATCH CASSETTE, 6 MTP PORTS MTP KEY UP TO KEY DOWN, POLARITY A
HZPS05K0G0F0P4E	HYPAFOX Z-SLIM, MTP/MPO PATCH CASSETTE, 6 MTP PORTS MTP KEY UP TO KEY UP, POLARITY B

Splice cassettes, Z-Slim

- To suit 12 slot RU system

- Can be supplied with pre-installed fibre pigtails

- Splicing solution

- Cassettes can be loaded into HZT series patch panel

HZCS04K1G0F0P0E	HYPAFOX Z-SLIM, SPLICE CASSETTE, 12 FIBRE LC SINGLEMODE (NO PIGTAILS)
HZCS04K1G2F1P0E	HYPAFOX Z-SLIM, SPLICE CASSETTE, 12 FIBRE LC SINGLEMODE (WITH PIGTAILS)
HZCS04K2G2F2P0E	HYPAFOX Z-SLIM, SPLICE CASSETTE, 12 FIBRE LC/A SINGLEMODE (WITH PIGTAILS)
HZCS04K3G2F4P0E	HYPAFOX Z-SLIM, SPLICE CASSETTE, 12 FIBRE LC MULTIMODE OM4 AQUA (WITH PIGTAILS)

End to end solution which promotes best practice

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

Innovative **quick release clip mechanism** for easy and fast installation and removal of cassettes
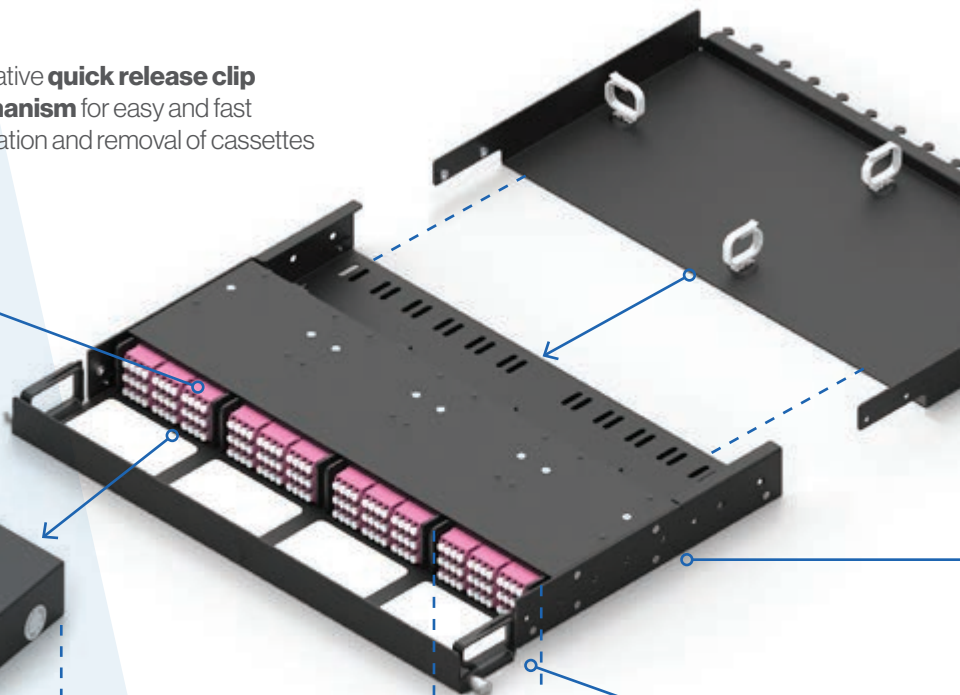
Flexible density
– up to 144LC in only 1RU

Standard Density
– 12 LC per cassette

High Density
– 24 LC per cassette

Ultra High Density
– 36 LC per cassette
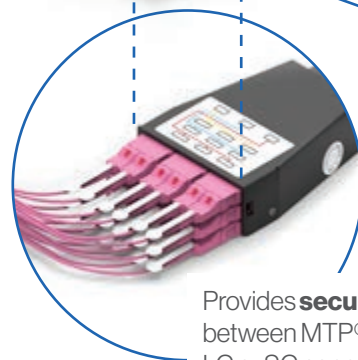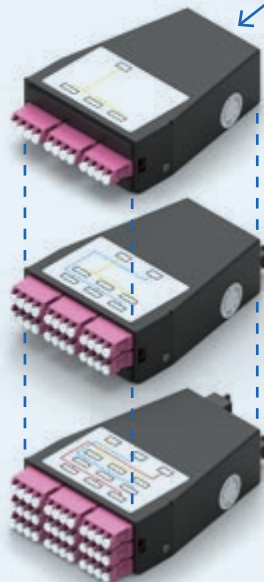
Provides **secure transition** between MTP®/MPO and LC or SC connectors

MTP®/MPO to LC or SC cassettes, **multimode** (violet or aqua) or **singlemode**

Multimode

Singlemode

HYPAFOX
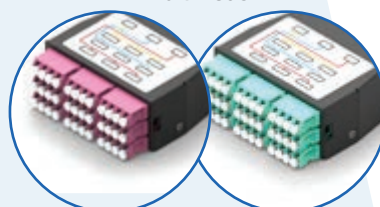
Front access cassettes with LC or SC and MTP®/MPO adaptors at the front of the cassette

1RU, 4 slot patch panel, 300mm deep (loaded)
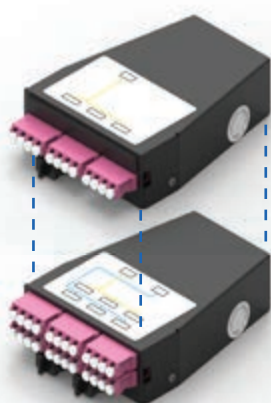
Optional patch panel accessories

1RU, 4 slot patch panel

Fits within existing rack systems by utilising standard design and mounting bracket options to suit 19" or 21" mounting rails

2RU, 8 slot patch panel

Adjustable mounting brackets for front or mid mount applications
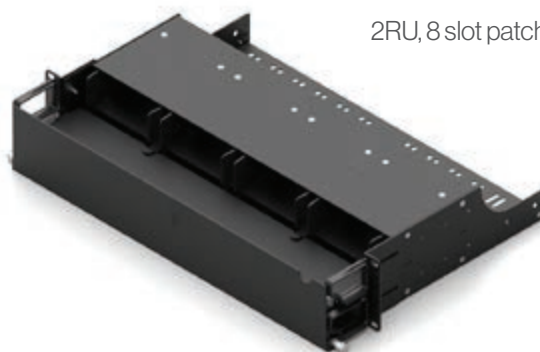
Modular solution accepts MTP®/MPO, LC, SC and RJ45 patch only modules

Supreme cable management with dedicated cable routing area and guiding clips

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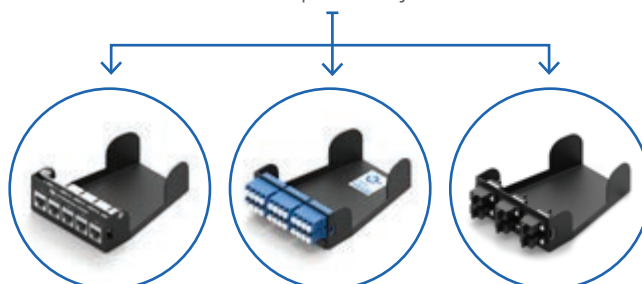
HXT Series: Modular high density patch panels

HypaFOX patch panels are required in order to securely house MTP®/MPO cassettes and patch modules, which are available separately. The patch panels also feature an innovative quick release clip mechanism, for easy and fast installation and removal of cassettes.

In addition, a rear cable management tray, suitable for storing excess cable length, is available as an optional extra. The modular system, enables fast and effective deployment of services and accepts any HypaFOX cassette or patch module, thereby providing great versatility and flexibility.

Suitable for:

- MTP®/MPO to LC/SC cassettes
- MTP®/MPO patch modules
- Monitoring, splitter and custom fibre optic link modules
- Fibre optic patch modules
- RJ45 copper modules

1RU modular patch panel, standard, 4 slot
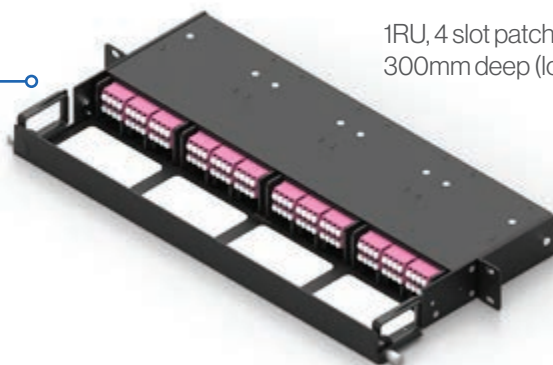
- HypaFOX MTP®/MPO cassettes can be installed from the front of the patch panel (cassettes ordered separately)
- Hinged front cover
- Can be front or mid mounted
- Fibre management and routing area at the front of patch panel
- Quick release locking clips for easy installation and removal of cassettes
- 1RU design
- Accepts HypaFOX MTP®/MPO cassettes or patch modules
- Available with various mounting bracket options
- Removable hinged cover

Dimensions   1RU   434mm (W) x 333mm (D) x 44mm (H)

1RU / 2RU modular patch panel, standard/flex, 4 or 8 slots (easy access)

- HypaFOX MTP®/MPO cassettes can be installed from the front of the patch panel (cassettes ordered separately)
- Hinged front cover
- Can be front or mid mounted
- Fibre management and routing area at the front of patch panel
- Quick release locking clips for easy installation and removal of cassettes
- 1RU or 2RU designs
- Removable cable management base and hinged cover (flex)
- Accepts HypaFOX MTP®/MPO cassettes or patch modules
- Available with various mounting bracket options
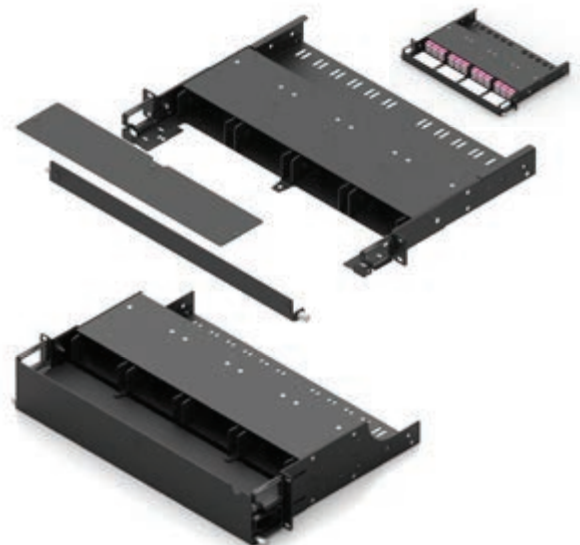
Dimensions   1RU   434mm (W) x 333mm (D) x 44mm (H)
                 2RU   434mm (W) x 333mm (D) x 88mm (H)

1RU modular patch panel, 4 slot, slim version

- Suitable only for front access MTP®/ MPO, LC, LC/A, SC, SC/A fibre optic connector ports
- Narrow depth model
- HypaFOX MTP®/MPO cassettes can be installed from the front of the patch panel (cassettes ordered separately)
- Hinged and removable front cover
- Can be rear, front or mid mounted

- Fibre management and routing area at the front of patch panel
- Quick release locking clips for easy installation and removal of cassettes
- 1RU design
- Accepts HypaFOX MTP®/MPO cassettes or patch modules
- Ideal solution for retrofit rear mounting and 300mm deep racks
- Available with various mounting bracket options

Dimensions   1RU   434mm (W) x 229mm (D) x 44mm (H)

- -

1RU modular patch panel, 4 slot, slim/ flex version

- Suitable only for front access MTP®/ MPO, LC, LC/A, SC, SC/A fibre optic connector ports
- Narrow depth model
- HypaFOX MTP®/MPO cassettes can be installed from the front of the patch panel (cassettes ordered separately)
- Hinged and removable front cover and removable cable management base
- Can be rear, front or mid mounted

- Fibre management and routing area at the front of patch panel
- Quick release locking clips for easy installation and removal of cassettes
- 1RU design
- Accepts HypaFOX MTP®/MPO cassettes or patch modules
- Ideal solution for retrofit rear mounting and 300mm deep racks
- Available with various mounting bracket options

Dimensions   1RU   434mm (W) x 229mm (D) x 44mm (H)
                 2RU   434mm (W) x 229mm (D) x 88mm (H)

Patch panel ordering information

PART NUMBER: **HXT**   **1**   **2**   **3**

Example: **HXTS02U1W1** = HypaFOX modular standard patch panel, 1RU, 19" mounting, black
1   2   3

PATCH PANEL BODY TYPE	MOUNTING POSITION	CASSETTE COMPATIBILITY	FINISH	**1** P/N PREFIX ("S" & "G")	RU	**2** P/N PREFIX ("U")
Standard	Mid & front mount	MTP®/MPO front and rear	Black	S02	1RU	U1
			Grey & Black	G02		
Standard/ Flex (easy access)			Black	S12	1RU or 2RU	See table 2.1
			Grey & Black	G12		
Slim	Rear, mid & front mount	MTP®/MPO front only	Black	S03	1RU	U1
			Grey & Black	G03		
Slim/Flex (easy access)			Black	S13	1RU or 2RU	See table 2.1
			Grey & Black	G13		

RACK MOUNTING	MOUNTING RAILS	**3** P/N PREFIX ("W")
19"	Rails under RU system (31.75 pitch)	W1
21"		W2
19"	Rails under ETSI system (25mm pitch)	W3
21"		W4
21" Offset	RU system	W5

TABLE 2.1

RACK MOUNTING	MOUNTING RAILS	**2** P/N PREFIX ("W")
Standard/Flex or Slim/ Flex (Easy access)	1RU	U1
	2RU	U2

HXA Series: Patch panel accessories

Patch panel rear storage tray

- Rear extension panel can be mounted onto existing patch panels (racks >600mm deep)
- Allows for storage of excess MTP®/MPO trunk cable
- Can store up to 33 metres of 3mm cable, 15 metres of 5mm cable and 8 metres of 7mm cable
- Easy to install
- Additional mounting bracket kits can be purchased separately
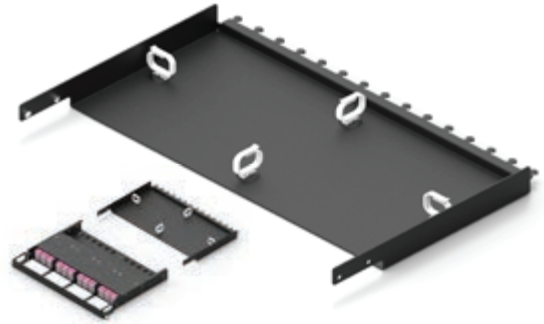
Patch panel rear management tray

- Provides additional rear cable management options
- Easy to install at the rear of the patch panel

Patch panel ordering information

PART NUMBER: **HXA** **1** **2**

Example: **HXA S01 U1** = HypaFOX MTP®/MPO rear extension panel, 1RU
    1   2

ACCESSORIES	PATCH PANEL BODY TYPE	FINISH	**1** ORDERING PREFIX ("S" & "G")	RU	**2** ORDERING PREFIX ("U")
Rear storage tray	Standard	Black	S01	1RU	U1
		Grey	G01		
	Slim	—	Not Compatible		
Rear management tray	Standard	Black	S02	1RU	U1
		Grey	G02		
	Slim	—	Not Compatible		
19" mounting bracket kit (RU system)	Standard, Slim	Black	S71	1RU	U1
		Grey	G71		
21" mounting bracket kit (RU system)		Black	S81		
		Grey	G81		
19" mounting bracket kit (ETSI system)	Standard, Slim	Black	S72		
		Grey	G72		
21" mounting bracket kit (ETSI system)		Black	S82		
		Grey	G82		

HXC Series: MTP®/MPO cassettes

HypaFOX MTP /MPO cassette modules provide secure transition between MTP /MPO and LC or SC connectors. They are used to interconnect MTP /MPO trunk cables with LC or SC patching. These flexible cassette modules can cater for ultra high density applications of up to 36LC fibres per cassette or for low to medium densities of 12 or 24 fibres.

The modular system allows for rapid deployment of high density data centre infrastructure, as well as improved troubleshooting and reconfiguration during MAC's. Cassettes can be mounted in 1RU or 3RU HypaFOX patch panels. The slim design cassettes allow for rapid deployment with its innovative quick release install method.

All multimode cassettes provide leading quality and reliability with either standard or elite MTP /MPO connectors and OM4 fibre as standard product options.

MTP®/MPO to LC multimode cassettes

- Features OM4 fibre as standard (OM3 also available)
- Elite or standard MTP®/MPO connectors
- High performance LC/UPC connectors
- Choice of fibre capacity - 12F, 24F and 36F
- 8 fibre and 16 fibre options also available
- Polarity A, B or C (polarity B features B1 and B2 cassette options)
- MTP® /MPO connectors at rear of cassette
- Available colours - Aqua, Violet

MTP®/MPO to LC singlemode cassettes

- Features singlemode G657A2 fibre as standard
- G652D fibre option also available
- Standard or elite MTP®/MPO connectors
- High performance LC/UPC connectors
- Choice of fibre capacity - 12F, 24F and 36F
- 8 fibre and 16 fibre options also available
- Polarity A, B or C (polarity B features B1 and B2 cassette options)
- MTP®/MPO connectors at rear of cassette
- Choice of extreme low loss Grade A LC/UPC connectors

MTP®/MPO to LC/A singlemode cassettes

- Features singlemode G657A2 fibre as standard
- G652D fibre option also available
- Standard or elite MTP®/MPO connectors
- High performance LC/APC connectors
- Choice of fibre capacity - 12F, 24F and 36F
- 8 fibre and 16 fibre options also available
- Polarity A, B or C (polarity B features B1 and B2 cassette options)
- MTP®/MPO connectors at rear of cassette
- Choice of extreme low loss Grade A LC/APC connectors

MTP®/MPO to SC multimode cassettes

- Features OM4 fibre as standard (OM3 also available)
- Standard or elite MTP®/MPO connectors
- High performance SC/UPC multimode connectors
- Fibre capacity - 12F
- 8 fibre and 16 fibre options also available
- Polarity A, B or C (polarity B features B1 and B2 cassette options)
- MTP®/MPO connectors at rear of cassette
- Available colours - Aqua, Violet

MTP®/MPO to SC singlemode cassettes

- Features singlemode G657A2 fibre as standard
- G652D fibre option also available
- Standard or elite MTP®/MPO connectors
- High performance SC/UPC singlemode connectors
- Fibre capacity - 12F
- 8 fibre and 16 fibre options also available
- Polarity A, B or C (polarity B features B1 and B2 cassette options)
- MTP®/MPO connectors at rear of cassette
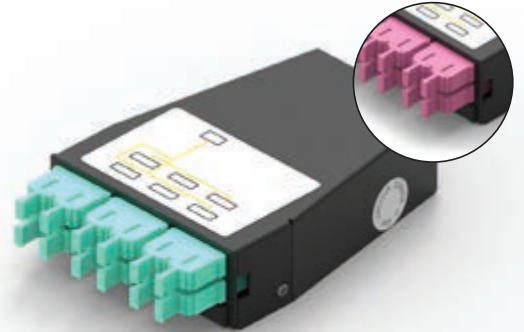- Choice of extreme low loss Grade A SC/UPC connectors

MTP®/MPO to SC/A singlemode cassettes

- Features singlemode G657A2 fibre as standard
- G652D fibre option also available
- Standard or elite MTP®/MPO connectors
- High performance SC/APC connectors
- Fibre capacity - 12F
- 8 fibre and 16 fibre options also available
- Polarity A, B or C (polarity B features B1 and B2 cassette options)
- MTP®/MPO connectors at rear of cassette
- Choice of extreme low loss Grade A SC/APC connectors

MTP®/MPO to LC front access multimode cassettes

- Features OM4 fibre as standard (OM3 also available)
- Standard or elite MTP®/MPO connectors
- High performance LC/UPC connectors
- Choice of fibre capacity - 12F and 24F
- 8 fibre and 16 fibre options also available
- Polarity A, B or C (polarity B features B1 and B2 cassette options)
- Front access cassette with LC and MTP®/MPO adaptors at the front of cassette
- Suitable for use with any HypaFOX patch panel, including 300mm deep rack version
- Designed for use when rear cable access is not possible
- Available colours - Aqua, Violet

MTP®/MPO to LC front access singlemode cassettes

- Features singlemode G657A2 fibre as standard
- G652D fibre option also available
- Standard or elite MTP®/MPO connectors
- High performance LC/UPC connectors
- Choice of fibre capacity - 12F and 24F
- 8 fibre and 16 fibre options also available

- Polarity A, B or C (polarity B features B1 and B2 cassette options)
- Front access cassette with LC and MTP®/MPO adaptors at the front of cassette
- Suitable for use with any HypaFOX patch panel, including 300mm deep rack version
- Designed for use when rear cable access is not possible
- Choice of extreme low loss Grade A LC/UPC connectors

MTP®/MPO to LC/A front access singlemode cassettes

- Features singlemode G657A2 fibre as standard
- G652D fibre option also available
- Standard or elite MTP®/MPO connectors
- High performance LC/APC connectors
- Choice of fibre capacity - 12F and 24F
- 8 fibre and 16 fibre options also available

- Polarity A, B or C (polarity B features B1 and B2 cassette options)
- Front access cassette with LC/A and MTP®/MPO adaptors at the front of cassette
- Suitable for use with any HypaFOX patch panel, including 300mm deep rack version
- Designed for use when rear cable access is not possible
- Choice of extreme low loss Grade A LC/APC connectors

MTP®/MPO to SC front access multimode cassettes

- Features OM4 fibre as standard (OM3 also available)
- Standard or elite MTP®/MPO connectors
- High performance SC/UPC connectors
- Fibre capacity - 12F
- 8 fibre options also available
- Polarity A, B or C (polarity B features B1 and B2 cassette options)

- Front access cassette with SC and MTP®/MPO adaptors at the front of cassette
- Suitable for use with any HypaFOX patch panel, including 300mm deep rack version
- Designed for use when rear cable access is not possible
- Available colours - Aqua, Violet

MTP®/MPO to SC front access singlemode cassettes

- Features singlemode G657A2 fibre as standard
- G652D fibre option also available
- Standard or elite MTP®/MPO connectors
- High performance SC/UPC connectors
- Fibre capacity - 12F
- 8 fibre options also available
- Polarity A, B or C (polarity B features B1 and B2 cassette options)

- Front access cassette with SC and MTP®/MPO adaptors at the front of cassette
- Suitable for use with any HypaFOX patch panel, including 300mm deep rack version
- Designed for use when rear cable access is not possible
- Choice of extreme low loss Grade A SC/UPC connectors

MTP®/MPO to SC/A front access singlemode cassettes

- Features singlemode G657A2 fibre as standard
- G652D fibre option also available
- Standard or elite MTP®/MPO connectors
- High performance SC/APC connectors
- Fibre capacity - 12F
- 8 fibre options also available
- Polarity A, B or C (polarity B features B1 and B2 cassette options)

- Front access cassette with SC/A and MTP®/MPO adaptors at the front of cassette
- Suitable for use with any HypaFOX patch panel, including 300mm deep rack version
- Designed for use when rear cable access is not possible
- Choice of extreme low loss Grade A SC/APC connectors

MTP®/MPO cassettes ordering information

PART NUMBER: **HXC** **1** **2** **3** **4** **5**

Example: **HXC S01 K6 G2 Z6 P3** = MTP®/MPO cassette, 36F LC/UPC, MM OM4, MTP® Elite, Polarity A
　　　　　　1　2　3　4　5

Cassette fibres count selection prefix "S" and ports connectors and mode selection prefix "K" and "L".

PATCH PANEL COMPATIBILITY	FIBRES	CONNECTOR	MTP®/MPO ADAPTOR POSITION	ORDERING PREFIX ("S") ❶	MODE	COLOUR (SINGLE FIBRE CONNECTOR)	PHYSICAL CONTACT (SINGLE FIBRE CONNECTOR)	ORDERING PREFIX ("K" & "L") ❷
All patch panel types			Front	S07	SM (G657A2)	Blue	UPC	K1
						Green	APC	K2
					SM (G652D)	Blue	UPC	L1
						Green	APC	L2
					MM (OM4)	Violet	UPC	J3
		SC (UPC & APC)				Aqua	UPC	K3
Standard patch panel only			Rear	S06	SM (G657A2)	Blue	UPC	K1
						Green	APC	K2
					SM (G652D)	Blue	UPC	L1
						Green	APC	L2
	12F				MM (OM4)	Violet	UPC	J3
						Aqua	UPC	K3
All patch panel types			Front	S05	SM (G657A2)	Blue	UPC	K4
						Green	APC	K5
					SM (G652D)	Blue	UPC	L4
						Green	APC	L5
					MM (OM4)	Violet	UPC	J6
						Aqua	UPC	K6
Standard patch panel only			Rear	S04	SM (G657A2)	Blue	UPC	K4
						Green	APC	K5
					SM (G652D)	Blue	UPC	L4
						Green	APC	L5
					MM (OM4)	Violet	UPC	J6
						Aqua	UPC	K6
All patch panel types		LC (UPC & APC)	Front	S03	SM (G657A2)	Blue	UPC	K4
						Green	APC	K5
					SM (G652D)	Blue	UPC	L4
	24F					Green	APC	L5
					MM (OM4)	Violet	UPC	J6
						Aqua	UPC	K6
				S02	SM (G657A2)	Blue	UPC	K4
						Green	APC	K5
					SM (G652D)	Blue	UPC	L4
						Green	APC	L5
					MM (OM4)	Violet	UPC	J6
Standard patch panel only			Rear			Aqua	UPC	K6
				S01	SM (G657A2)	Blue	UPC	K4
						Green	APC	K5
	36F				SM (G652D)	Blue	UPC	L4
						Green	APC	L5
					MM (OM4)	Violet	UPC	J6
						Aqua	UPC	K6

Single fibre connector grade "G"

GRADE (SINGLE FIBRE CONNECTOR)	GRADE ORDERING PREFIX ("G") ❸	COMPATIBILITY
Grade A	G1	- MTP® Elite & MPO LL only - Singlemode (SM) only
Grade B	G2	- All MTP®/MPO - Singlemode (SM) & Multimode (MM)

Single fibre connector grade "G"

MULTI-FIBRE CONNECTOR	MODE	MTP®/MPO CONTACT	MULTI-FIBRE CONNECTOR PREFIX ("Z") ❹	PORTS CONNECTOR COMPATIBILITY	NOTES
MTP® Standard	SM	APC	Z2	All	
	MM	(flat)	Z3	SC/UPC, LC/UPC only	MTP® Connector
MTP® Elite	SM	APC	Z5	All	(US Conec)
	MM	(flat)	Z6	SC/UPC, LC/UPC only	

Single fibre connector grade "G"

ADAPTOR	CONNECTIVITY	CASSETTE TYPE	MODE	ORDERING PREFIX ("P") ❺
MTP® (US Conec)	A	A	SM & MM	P3
	C			
	B	B1	MM	P1
		B2		P2

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HXCM Series: Optical fibre link cassettes (customisable)

The HypaFOX range of cassettes includes numerous custom fibre optic modules, which can perform various functions, including fibre optic signal monitoring, variable optical attenuation and optical circulation.

In addition to the currently available and listed versions, any custom configuration can be manufactured. Please speak to any of the WBT technical specialists.

Options:

- Optical fibre monitoring cassette
- Variable optical attenuator cassette
- Optical circulator cassette

Optical fibre monitoring cassette

Optical fibre monitoring cassettes enable signal monitoring of fibre optic data transmission links.

- Various connector input configurations and density options
- Various fibre optic split ratios
- Singlemode and multimode fibre options
- Customisable and non-standard options available

Part No.		
	HXCM01K0G0Z5A1	10 Channel Full Duplex SM, 50:50 Split ratio Monitoring Cassette
	HXCM01K0G0Z6A1	10 Channel Full Duplex MM, 50:50 Split ratio Monitoring Cassette
	HXCM02K0G0Z5A1	12 Channels SM, 50:50 Split ratio MTP®/MPO APC Monitoring Cassette
	HXCM02K0G0Z6A1	12 Channels MM, 50:50 Split ratio MTP®/MPO Monitoring Cassette
	HXCM11K4G1Z0A0	12 Channels SM 50:50 split ratio Monitoring Cassette
	HXCM11K6G2Z0A0	12 Channels MM 50:50 split ratio Monitoring Cassette

Part No.		
	HXCM13K4G1Z0A0	12 Channels SM 90:10 split ratio Monitoring Cassette
	HXCM13K6G2Z0A0	12 Channels MM 90:10 split ratio Monitoring Cassette
	HXCM21K4G1Z0A0	LI SM Monitoring Cassette
	HXCM31K4G1Z5A1	4 Duplex Channels SM, 50:50 Split ratio Monitoring Cassette
	HXCM31K6G2Z6A1	4 Duplex Channels MM, 50:50 Split ratio Monitoring Cassette
	HXCM32K4G1Z5A1	12 Channels SM, 50:50 Split ratio Monitoring Cassette
	HXCM32K6G2Z6A1	Channels MM, 50:50 Split ratio 12 Monitoring Cassette

Optical circulator cassette

The optical circulator cassette, when connected to each end of a transmission link, enables bi-directional Tx/Rx (duplex) low loss communication over one optical fibre link.

- High isolation & high return loss
- Low insertion loss & low PDL
- Choice of connectivity interfaces (e.g. four duplex LC/UPC ports for connection to transmission equipment and four SC/APC connectors on the line side)

Part No. HXCX12K7G1Z0A0 3-Port Optical Circulator Cassette

Variable optical attenuator cassette

Variable optical attenuator cassettes enable the fibre optic signal strength to be adjusted. Can be used to calibrate the amount of signal loss, or installed permanently to properly match transmitter and receiver levels.

- Variable optical attenuation
- Customisable
- Various connector input configurations

HXP Series: Patch modules

HypaFOX patch modules provide a straight through connection and can be used to facilitate a link extension or provide the connection between a trunk cable and patch cord.

These patch modules can be installed in a WBT HypaFOX patch panel and are available with various connector options.

Additionally, patch modules provide the link between MTP®/MPO cables, supporting parallel optical communications.

The HypaFOX modular solution allows for mixed media applications and easily caters for network expansion. Fibre optic and copper modules can be installed in the same patch panel, potentially reducing required rack space.

MTP®/MPO patch modules

- Patch module for MTP®/MPO parallel optical communications
- MTP®/MPO bulkhead patch modules for ensuring correct alignment between 2 cables
- 3, 6 or 9 ports versions
- Key up to Key down (polarity A) or Key up to Key up (Polarity B) options
- Used with HypaFOX patch panels
- Blanking plate also available

LC, LC/A, SC & SC/A patch modules

- Suitable for use with preterminated cable
- Provides direct connection between trunk cables and equipment patch cords
- Various density and connector options
- Custom solutions available
- Multimode or singlemode)
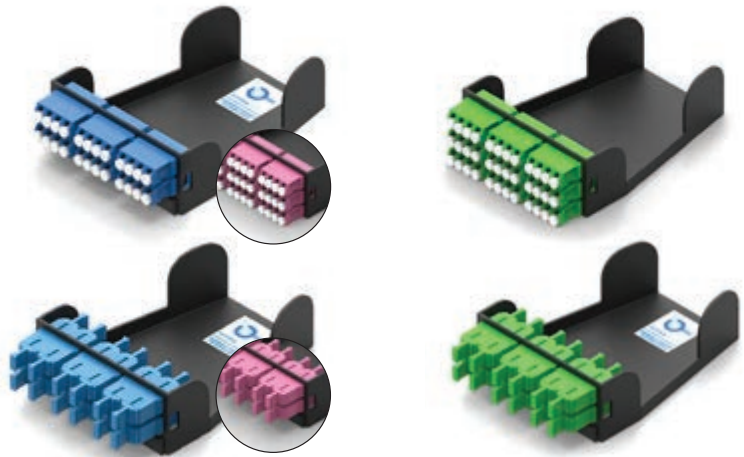
RJ45 patch modules

- Suitable for Category 6, Category 6A couplers and modular jacks
- Can be used with preterminated twisted pair copper cable assemblies
- Loaded and unloaded patch module options
- Modules can be pre-configured

MTP®/MPO patch modules ordering information

PART NUMBER: **HXP** <u>**1**</u> <u>**2**</u>

Example: **HXPS03P6** = HypaFOX MTP®/MPO patch module, 3 port, Polarity A
<u>1</u> <u>2</u>

Selection of panel "S"

TYPE	**①** ORDERING PREFIX ("S")	**②** ORDERING PREFIX ("T")		NOTES
BLANKING	S01	Leave it blank		
9 x MTP®/MPO	S02			
3 x MTP®/MPO	S03	See table 2.1		
6 x MTP®/MPO	S06			
12 x LC	S07			
24 x LC	S08	See table 2.2		
36 x LC	S09			
12 x SC	S10			
5 x RJ45	S50	Not loaded	T0	Panel only
5 x RJ45 (Couplers)	S51	Category 6A, RJ45, shielded f-f	T1	Couplers are preloaded
		Category 6, RJ45, unshielded f-f	T2	
		Category 6, RJ45, shielded f-f	T3	
		Category 6A, RJ45, shielded, keystone	T4	
5 x RJ45 (Jacks)		Category 6A, RJ45, unshielded, keystone, toolless, black	T5	Jacks are loose for termination on site
		Category 6A, RJ45, shielded, keystone, black	T6	

TABLE 2.1 MTP®/MPO adaptor type selection

ADAPTOR	POLARITY*	MODE	**②** ORDERING PREFIX ("P")
US Conec	A	SM & MM	P3
	B	MM	P2
Generic brand	A	SM & MM	P6
	B	MM	P5

TABLE 2.2 Single fibre adaptors selection

ADAPTOR	MODE	PHYSICAL CONTACT (SINGLE FIBRE CONNECTOR)	**②** ORDERING PREFIX ("K")
SC Duplex	SM	UPC (Blue)	K1
		APC (Green)	K2
	MM	UPC (Aqua)	K3
		UPC (Violet)	J3
LC Quad	SM	UPC (Blue)	K4
		APC (Green)	K5
	MM	UPC (Aqua)	K6
		UPC (Violet)	J6

Type A - key-up to key-down
Type B - key-up to key-up

HXF Series: MTP®/MPO trunk cable assemblies

HypaFOX MTP®/MPO trunk multi-core cable assemblies facilitate rapid deployment of high density backbone cabling in data centres and other high density fibre environments, reducing network installation or reconfiguration time and cost.

They are used to interconnect cassettes, panels or MTP®/MPO array cables. MTP®/MPO trunk assemblies are offered in 12, 24, 36, 48, 72 and 144 fibre versions, using a compact and rugged micro-cable structure.

The compact cables optimise cable pathway use and improves airflow. These MTP®/MPO trunks are built with the highest quality components. Low loss elite versions are offered, featuring low insertion loss for demanding high speed networks where power budgets are critical.

HypaFOX trunk cable assemblies feature a double outer sheath, including an outer rugged sheath for additional protection in ducts and cable trays. Standard colour options include aqua for OM4 multimode and yellow for G657A2 singlemode, however other custom colour options are available including OM4 violet.

MTP®/MPO trunk cables multimode OM4

- Supplied with OM4 multimode fibre (multimode OM3 also available)
- 12, 24, 36, 48, 72 and 144 fibre options
- LSZH sheath
- Generally supplied with female 12F MTP®/MPO connectors
- Factory terminated and tested
- Choice of 4 connector options: MTP®/MPO Elite, MTP®/MPO Standard, MPO Low Loss (LL), MPO Standard
- Small diameter and flexible cable construction
- 12F Diameter: Ø 4.5 mm
- 24F Diameter: Ø 4.5 mm

- 36F Diameter: Ø 9.0 mm
- 48F Diameter: Ø 9.0 mm
- 72F Diameter: Ø 11.2 mm
- 144F Diameter: Ø 15.0 mm
- Standard breakout length - 700mm
- Staggered or custom breakouts available
- Can be supplied with hauling sock/mechanism, as well as deployment reel
- Fast production and delivery times
- Available colours - Aqua, Violet (other colours available upon request)
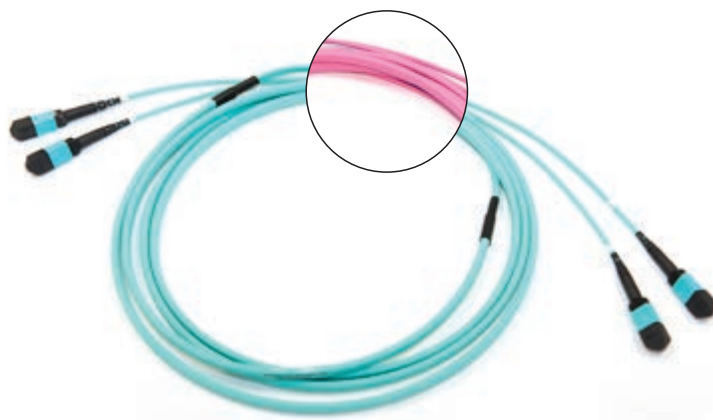
MTP®/MPO trunk cables singlemode G657A2

- Supplied with singlemode G657A2 fibre
- 12, 24, 36, 48, 72 and 144 fibre options
- Generally supplied with female 12F MTP®/MPO connectors
- LSZH sheath
- Factory terminated and tested
- Choice of 4 connector options: MTP®/MPO Elite, MTP®/MPO Standard, MPO Low Loss (LL), MPO Standard
- Small diameter and flexible cable construction
- 12F Diameter: Ø 4.5 mm
- 24F Diameter: Ø 4.5 mm
- 36F Diameter: Ø 9.0 mm

- 48F Diameter: Ø 9.0 mm
- 72F Diameter: Ø 11.2 mm
- 144F Diameter: Ø 15.0 mm
- Standard colour - Yellow
- Other colour options available
- Standard breakout length - 700mm
- Staggered or custom breakouts available
- Can be supplied with hauling sock/mechanism, as well as deployment reel
- Fast production and delivery times
- Colour - Yellow (other colours available upon request)

MTP®/MPO trunk cable assemblies ordering information

PART NUMBER: **HXF**   <u>1</u>   <u>2</u>   <u>3</u>   <u>4</u>   <u>5</u>   <u>6</u>   <u>7</u>   <u>8</u>   <u>9</u>

Cable Construction

FIBRE COUNT	END 1 (MTP®/MPO)	END 2 (MTP®/MPO)	GENDER	① CABLE ORDERING PREFIX ("M" & "F")
12f CABLE	1x12f	End not terminated	Male	M01
			Female	F01
	1x12f	1x12f	Both male	M02
			Both female	F02
			Male-female(hybrid)	H02
24f Cable	2x12f	End not terminated	Male	M03
			Female	F03
	2x12f	2x12f	Both male	M04
			Both female	F04
			Male-female(hybrid)	H04
	1x24f	End not terminated	Male	M05
			Female	F05
	1x24f	1x24f	Both male	M06
			Both female	F06
			Male-female(hybrid)	H06
36f Cable	3x12f	End not terminated	Male	M07
			Female	F07
	3x12f	3x12f	Both male	M08
			Both female	F08
			Male-female(hybrid)	H08
48f Cable	4x12f	End not terminated	Male	M09
			Female	F09
	4x12f	4x12f	Both male	M10
			Both female	F10
			Male-female(hybrid)	H10
	2x24f	End not terminated	Male	M11
			Female	F11
	2x24f	2x24f	Both male	M12
			Both female	F12
			Male-female(hybrid)	H12

FIBRE COUNT	END 1 (MTP®/MPO)	END 2 (MTP®/MPO)	GENDER	① CABLE ORDERING PREFIX ("M" & "F")
72f Cable	6x12f	End not terminated	Male	M13
			Female	F13
	6x12f	6x12f	Both male	M14
			Both female	F14
			Male-female(hybrid)	H14
	3x24f	End not terminated	Male	M15
			Female	F15
	3x24f	3x24f	Both male	M16
			Both female	F16
			Male-female(hybrid)	H16
96f Cable	8x12f	End not terminated	Male	M21
			Female	F21
	8x12f	8x12f	Both male	M22
			Both female	F22
			Male-female(hybrid)	H22
	4x24f	End not terminated	Male	M23
			Female	F23
	4x24f	4x24f	Both male	M24
			Both female	F24
			Male-female(hybrid)	H24
144f Cable	12x12f	End not terminated	Male	M17
			Female	F17
	12x12f	12x12f	Both male	M18
			Both female	F18
			Male-female(hybrid)	H18
	6x24f	End not terminated	Male	M19
			Female	F19
	6x24f	6x24f	Both male	M20
			Both female	F20
			Male-female(hybrid)	H20

Example: **HXF F18 Z2 P3 115 5 YE H R 01** = HXF Family, 144F 12x12F both female, MTP S SM APC G657A2, Polarity A, 115.5m, Trunk colour yellow,
1 2 3 4 5 6 7 8 9   Haul one end, Pack in reel, Type 01

HXF F02 Z5 P1 020 M BL X B 04 = HXF Family, 12F 1x12F both female, MTP Elite SM APC G657A2, Polarity C, 20.0m, Trunk colour blue,
1 2 3 4 5 6 7 8 9   No haul, Box Packing, Type 04

Multi-Fibre Connector

MULTI-FIBER CONNECTOR	MODE	"PHYSICAL CONTACT (MTP/MPO)"	**2** ORDERING PREFIX ("Z" & "V")	FIBER TYPE	NOTES
MTP S	SM	APC	Z2	G657A2	
			Z7	G652D	
	MM	(flat)	Z3	OM4	"MTP Connector (USConnect)"
MTP Elite	SM	APC	Z5	G657A2	
			Z8	G652D	
	MM	(flat)	Z6	OM4	
MPO S	SM	APC	V2	G657A2	
			V7	G652D	
	MM	(flat)	V3	OM4	Generic MPO Connector
MPO LL (Low Loss)	SM	APC	V5	G657A2	
			V8	G652D	
	MM	(flat)	V6	OM4	

Polarity

POLARITY	**3** ORDERING PREFIX ("P")
A	P3
B	P2
C	P1
Only One End Terminated	P0

Length

LENGTH	**4** ORDERING PREFIX
001-999m	——
Three Digits	——

Length Decimal

LENGTH DECIMAL	**5** ORDERING PREFIX
eg: 0.5 = 5; 0 = M	——

Cable Colour

COLOUR	**6** ORDERING PREFIX
Blue	BL
Orange	OR
Green	GN
Brown	BN
Grey	GY
White	WT
Red	RD
Black	BK
Yellow	YE
Violet	VL
Pink	PK
Aqua	AQ

Hauling & Protection

HAULING & PROTECTION	**7** ORDERING PREFIX
None	X
Haul one end + Prot	H
Haul both ends + Prot	B
Protection Only	P

Hauling & Protection

HAULING & PROTECTION	**8** ORDERING PREFIX
None	X
Plastic Bag	P
Box /Carton	B
Reel	R

Iteration/Variant

| "PHYSICAL CONTACT (MTP/MPO)"	**9** ORDERING PREFIX
Breakout A: 700mm, Breakout B: 700mm	00
Breakout A: 500mm, Breakout B: 500mm	01
Breakout A: 730-830mm, Breakout B: 730-830mm	02
Breakout A: 700mm, Breakout B: 000mm	03
Breakout A: 500mm, Breakout B: 830mm	04
Breakout A: 830mm, Breakout B:830mm	05
Allocated for future breakout length	06
Allocated for future breakout length	07
Allocated for future breakout length	08
Allocated for future breakout length	09
Allocated for future breakout length	10
Breakout A: 1000mm, Breakout B: 2500mm	11
Breakout A: 730-830mm, Breakout B: 1000mm	12
Breakout A: 1000mm, Breakout B: 1000mm	13

HXH Series: MTP®/MPO equipment patch cords

HypaFOX MTP®/MPO equipment patch cords are used to connect directly to transmission equipment.

Containing a flexible outer sheath, they are slimmer than trunk cables and easier to route within a rack. MTP®/MPO patch cords are generally used to support parallel optical communications and are available as either 12 or 24 fibre configurations. Due to transmission equipment containing male MTP®/MPO ports, the MTP®/MPO patch cords contain a female MTP®/MPO connector at the transmission equipment end to ensure correct mating. The opposite end can be provided with either female or male MTP®/MPO connectors, depending on the connectivity method.

MTP®/MPO patch cords multimode OM4

- Available with OM4 multimode fibre (multimode OM3 also available)
- 12, 24 fibre options
- 24 fibre options available with 2 x 12F MTP®/MPO connectors at each end or 1 x 24F to 2 x 12F connectors
- LSZH jacket
- Female or male MTP®/MPO connectors
- Factory terminated and tested

- Choice of 4 connector options: MTP®/MPO Elite, MTP®/MPO Standard, MPO Low Loss (LL), MPO Standard
- Small diameter and flexible cable construction
- 12F Diameter: ≤10 m - Ø 3.0 mm
- 24F Diameter: ≤10 m - Ø 3.0 mm
- Fast production and delivery times
- Available colours - Aqua, Violet (other colours available upon request)
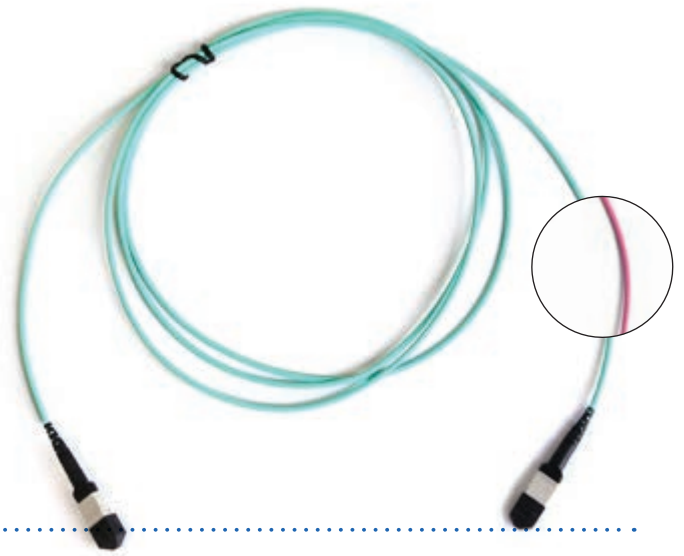
MTP®/MPO patch cords singlemode G657A2

- Available with singlemode G657A2 fibre
- 12, 24 fibre options
- 24 fibre options available with 2 x 12F MTP®/MPO connectors at each end or 1 x 24F to 2 x 12F connectors
- LSZH jacket
- Female or male MTP®/MPO connectors
- Factory terminated and tested

- Choice of 4 connector options: MTP®/MPO Elite, MTP®/MPO Standard, MPO Low Loss (LL), MPO Standard
- Small diameter and flexible cable construction
- 12F Diameter: ≤10 m - Ø 3.0 mm
- 24F Diameter: ≤10 m - Ø 3.0 mm
- Fast production and delivery times
- Colour - Yellow (other colours available upon request)

MTP®/MPO equipment patch cords ordering information

Patch cord construction selection

1

FIBRE COUNT	END 1 (MTP®/MPO)	END 2 (MTP®/MPO)	GENDER	CABLE ORDERING PREFIX ("M" & "F")
2F cable	1 X 12F	End not terminated	Male	M01
			Female	F01
	1 X 12F	1 X 12F	Both male	M02
			Both female	F02
			Male-female (hybrid)	H02
24F cable	2 X 12F	End not terminated	Male	M03
			Female	F03
	2 X 12F	2 X 12F	Both male	M04
			Both female	F04
			Male-female (hybrid)	H04
	1 X 24F	End not terminated	Male	M05
			Female	F05
	1 X 24F	1 X 24F	Both male	M06
			Both female	F06
			Male-female (hybrid)	H06

PART NUMBER: **HXH** **1** **2** **3** **4** **5**

Example: **HXH F02 Z6 P3 05 S**
          1 2 3 4 5

HypaFOX equipment patch cord, 12F Female MTP® Elite, OM4, Aqua, Polarity A, 5m

Multi-fibre connector selection

2

MULTI-FIBRE CONNECTOR	MODE	PHYSICAL CONTACT (MTP®/MPO CONNECTOR)	MULTI-FIBRE CONNECTOR PREFIX ("Z" & "V")	FIBRE TYPE	NOTES
MTP® Standard	SM	APC	Z2	G657A2	MTP® Connector (US Conec)
			Z7	G652D	
	MM	(flat)	Z3	OM4	
MTP® Elite	SM	APC	Z5	G657A2	
			Z8	G652D	
	MM	(flat)	Z6	OM4	
MPO Standard	SM	APC	V2	G657A2	Generic MPO Connector
			V7	G652D	
	MM	(flat)	V3	OM4	
MPO LL (Low Loss)	SM	APC	V5	G657A2	
			V8	G652D	
	MM	(flat)	V6	OM4	

Polarity selection

3

POLARITY	ORDERING PREFIX ("P")
A	P3
B	P2
C	P1
End not terminated	P0

Length

4

LENGTH (M)	ORDERING PREFIX
0-15 (2 digits)	_ _

Cable assembly colour

5

COLOUR REFERENCE	ORDERING PREFIX ("S" & "V")
Standard SM = YELLOW cable	S
Standard MM OM4 = AQUA cable	
MM VIOLET	V

HXG Series: MTP®/MPO array cables

HypaFOX MTP®/MPO ruggedised array cables feature multi-fibre MTP®/MPO connectors at one end and individual LC or SC connectors at the opposite end.

The array cable assemblies provide a transition between multi fibre and single fibre connectors and can be used for connecting directly to active equipment and/or MTP®/MPO cassettes. The single fibre array cable breakout length can be provided as a standard configuration or can be manufactured to custom lengths.

MTP®/MPO multimode array cables

- Available with OM4 multimode fibre (multimode OM3 also available)
- Choice of 4 connector options: MTP®/MPO Elite, MTP®/MPO Standard, MPO Low Loss (LL), MPO Standard
- 12 & 24 fibre micro-cable trunk assemblies
- LSZH jacket
- Standard breakout length - 700mm
- Staggered breakouts available
- Female or male MTP®/MPO connectors
- Factory terminated and tested

- Variety of standard connector interfaces - LC, LC duplex uniboot, LC duplex push pull tab, SC, etc.
- Choice of standard or custom breakout lengths
- Ruggedised cable construction allows for direct connection between backbone and active equipment
- Fast production and delivery times
- Available colours - Aqua, Violet (other colours available upon request)

MTP®/MPO singlemode array cables

- Available with singlemode G657A2 fibre
- Choice of 4 connector options: MTP®/MPO Elite, MTP®/MPO Standard, MPO Low Loss (LL), MPO Standard
- 12 & 24 fibre Micro-cable trunk assemblies
- LSZH jacket
- Standard breakout length - 700mm
- Staggered breakouts available
- Female or male MTP® connectors
- Factory terminated and tested

- Variety of standard connector interfaces - LC, LC duplex uniboot, LC duplex push pull tab, SC, etc.
- Choice of standard or custom breakout lengths
- Ruggedised cable construction allows for direct connection between backbone and active equipment
- Fast production and delivery times
- Colour - Yellow (other colours available upon request)

MTP®/MPO array cables ordering information

PART NUMBER: **HXG** **1** **2** **3** **4** **5**

Example: **HXG F02 Z6 H5 020 S** = HypaFOX array cable, 12F Female MTP® Elite to 12F x LC, OM4 MM, 20m
       1   2   3   4   5

Array construction selection

FIBRE COUNT	END 1 (MTP®/MPO)	GENDER (MTP®/MPO)	END 2 (SINGLE FIBRE CONNECTORS)	MODE RESTRICTION	CABLE ORDERING PREFIX ("M" & "F")
12F cable	1 X 12F	MALE	12 X SC	MM & SM	M01
		FEMALE			F01
		MALE	12 X LC		M02
		FEMALE			F02
		MALE	6 x LC Duplex		M12
		FEMALE			F12
24F cable	2 X 12F	MALE	24 X SC		M03
		FEMALE			F03
	1 X 24F	MALE		MULTIMODE ONLY	M04
		FEMALE			F04
	2 X 12F	MALE	24 X LC	MM & SM	M05
		FEMALE			F05
	1 X 24F	MALE		MULTIMODE ONLY	M06
		FEMALE			F06
	2 X 12F	MALE	12 x LC Duplex	MM & SM	M15
		FEMALE			F15
	1 X 24F	MALE		MULTIMODE ONLY	M15
		FEMALE			F16

Multi-fibre connector selection

MULTI-FIBRE CONNECTOR	MODE	PHYSICAL CONTACT (MTP®/MPO CONNECTOR)	MULTI-FIBRE CONNECTOR PREFIX ("Z" & "V")	FIBRE TYPE	NOTES
MTP® Standard	SM	APC	Z2	G657A2	
			Z7	G652D	
	MM	(flat)	Z3	OM4	MTP® Connector
MTP® Elite	SM	APC	Z5	G657A2	(US Conec)
			Z8	G652D	
	MM	(flat)	Z6	OM4	
MPO Standard	SM	APC	V2	G657A2	
			V7	G652D	
	MM	(flat)	V3	OM4	Generic MPO
MPO LL (Low Loss)	SM	APC	V5	G657A2	Connector
			V8	G652D	
	MM	(flat)	V6	OM4	

Grade selection

GRADE	MODE	PHYSICAL CONTACT (LC/SC CONNECTOR)	ODERING PREFIX ("H")
A	SM	UPC	H1
		APC	H2
B		UPC	H3
		APC	H4
	MM	UPC	H5

Length

LENGTH (M)	ORDERING PREFIX
001 - 999	_ _ _

Cable assembly colour

COLOUR REFERENCE	ORDERING PREFIX ("S" & "V")
Standard SM = YELLOW cable	S
Standard MM OM4 = AQUA cable	
MM VIOLET	V

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
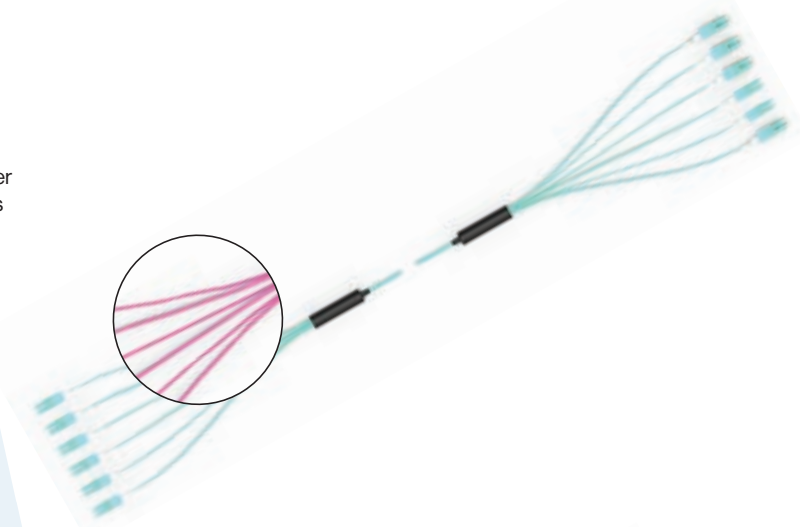
Singlemode optical fibre cable harness assemblies

- 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
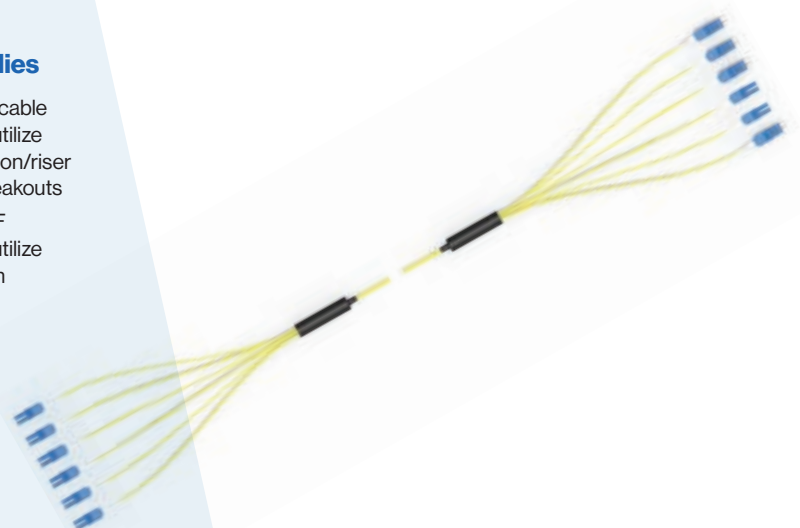
Fibre connectivity

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 pigtails 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

Multimode OM4 patch cords (T99 series)

- 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

LC ,simplex multiode

LC duplex, multimode
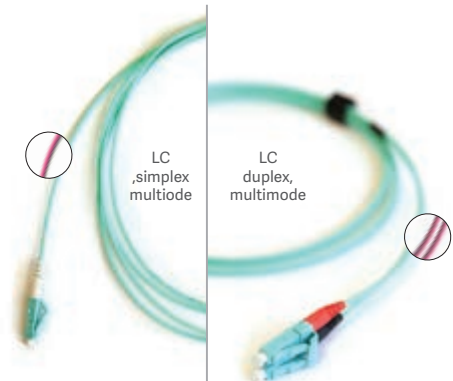
Singlemode patch cords (T99 series)

- 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

LC simplex, singlemode

LC duplex, singlemode

Singlemode 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
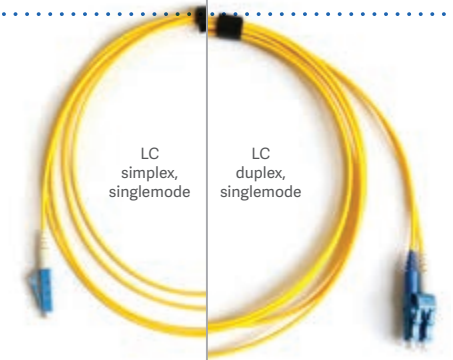
Singlemode Grade A connectors performance information:

|	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	

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


SC UPC Grade A connector shown

LC-LC Duplex uniboot patch cords (T99 series)

- 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
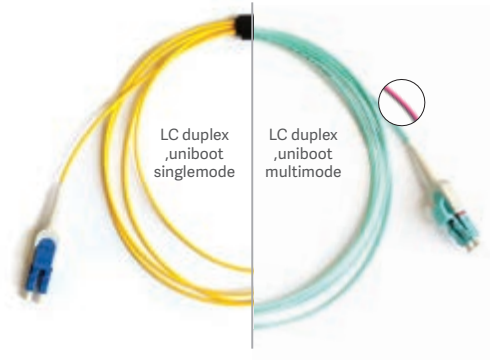
LC-LC Duplex uniboot, push/pull tab patch cords (T99 series)

- 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
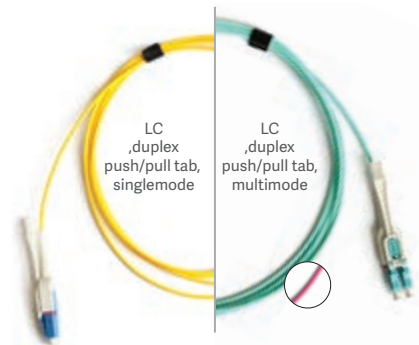
Low Profile LC, LC/A Duplex uniboot, reversible polarity push/pull tab patch cords (634 series)

- Uniboot connectors with the reversible polarity
- Polarity of Uniboot connector is easily identifiable via polarity window (Black or White)
- All dielectric construction
- LSZH sheath
- Push/pull tab allows for easy connection and disconnection around congested patching areas
- Complies with ANSI, Bellcore, TIA / EIA, IEC standards
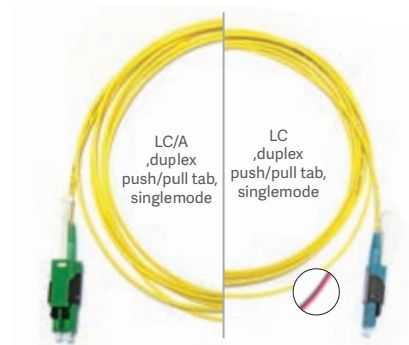
Tools & accessories

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.	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.	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.	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.
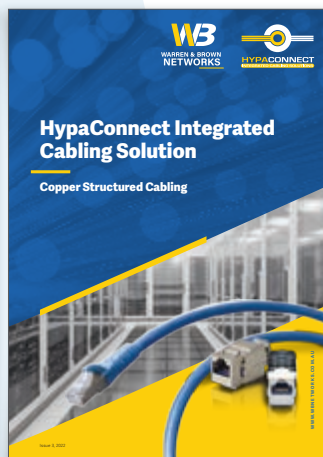
62X005 shown

Part No.	62X005	LC connector extraction tool

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.

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The WB TelAssist app has been specifically developed by WBT for technicians, contractors and sub-contractors who install and maintain products in the Australian telecommunications network.

The app combines all technical resources including product guides, installation guides, safety data sheets, training videos and customer support into a single, easy to use app.
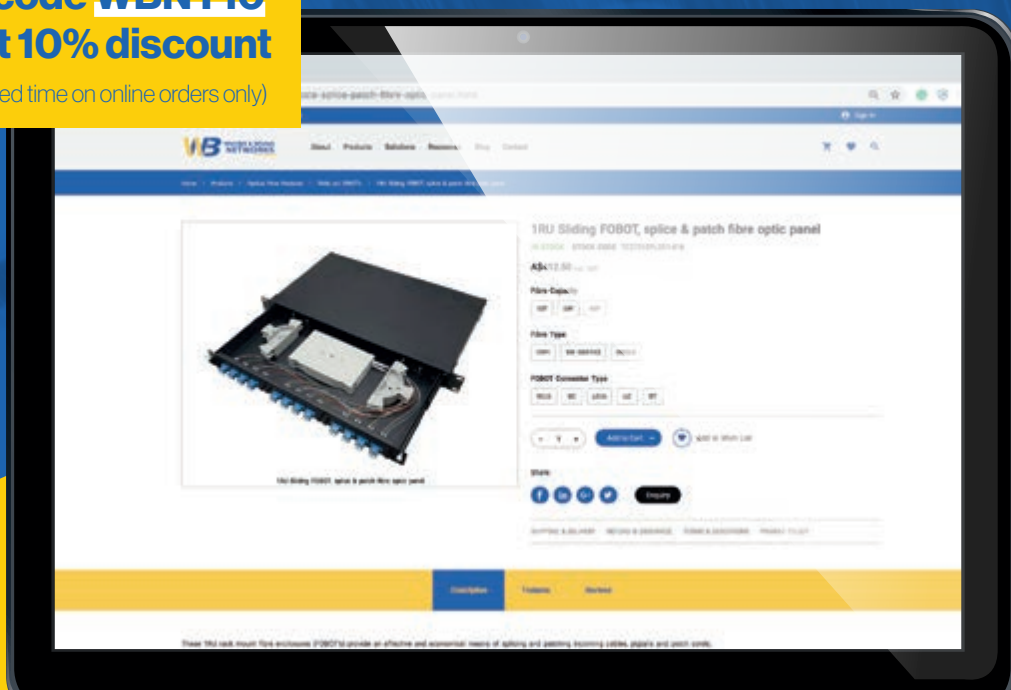

WB TelAssist mobile application

GET IT ON Google play

Download on the App Store
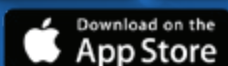
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