TrueNet® Plug-and-Play fibre solution

Flexibility without disruption

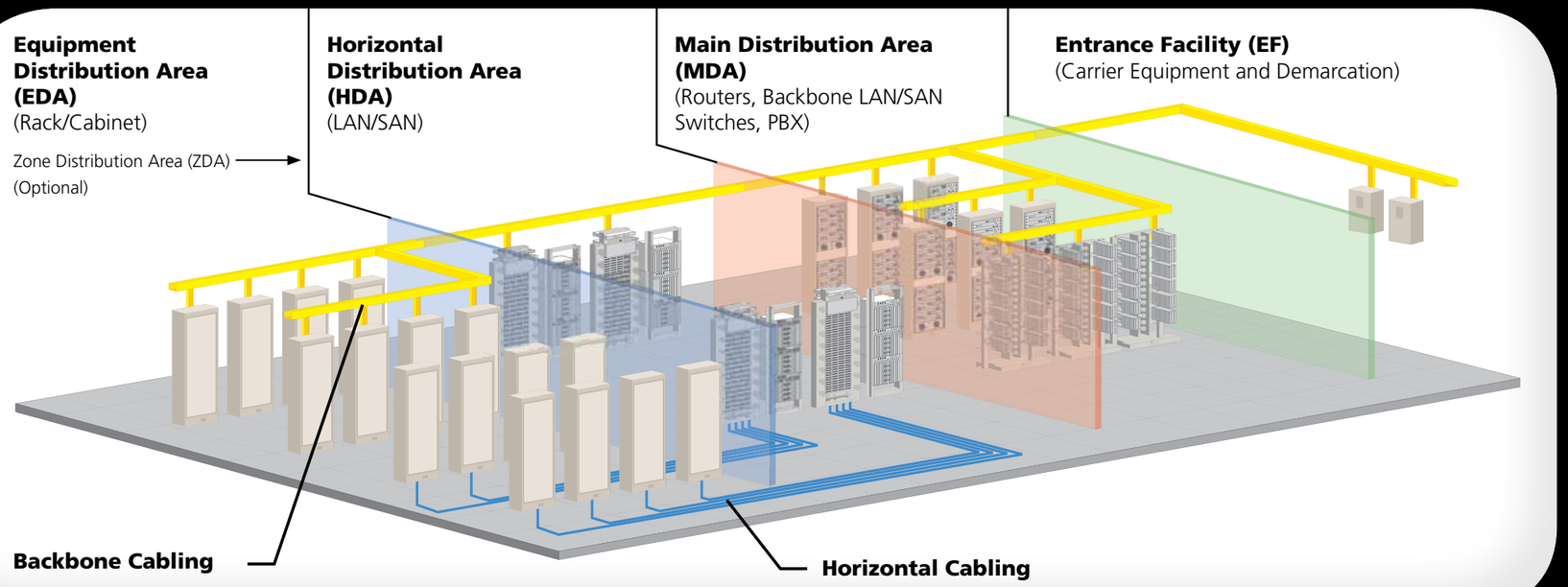
ADC KRONE's Plug-and-Play fibre solution –
Ease of operation and rapid installation

ADC
KRONE

TrueNet® Plug-and-Play fibre solution

Flexibility without disruption

The data centre is a mission critical element of today's IT network. Voice, video and data communications are commonly run over a converged enterprise network and the data centre is integral to its success. Business continuity depends on it being fully functional 24 hours a day, 365 days a year. If the network goes down, a company's operations can become paralysed. The result of which can cost an organisation custom, revenue and reputation for every second the network is down. A business is only as strong as the network which supports it.



Data centre managers are under increasing pressure not only to reduce downtime but also reduce overheads, energy consumption, heat emissions, and floor space without compromising performance. ADC KRONE has designed its fibre Plug-and-Play solution with Managed Density for rapid deployment and minimal downtime whilst enabling up to 100Gig transmission; providing a comprehensive answer to today's and tomorrow's data centre challenges.

A Managed Density approach

Managed Density is all about striking the right balance between high-density connectivity and manageability. Managed Density can be easily overlooked when designing a high-density data centre. It is only later when a user implements a move, add or change (MAC) that trouble can occur. An ultra high-density solution may look great on the outside but if the solution is too dense, a user may not be able to access the patch lead they need without affecting the rest, or create unacceptable stress and pressure on cable and connectors when gaining access. Just making a simple MAC can result in considerable network downtime and lost revenue.

ADC KRONE addresses these challenges by promoting a Managed Density approach to data centre cabling, focusing on four core areas:

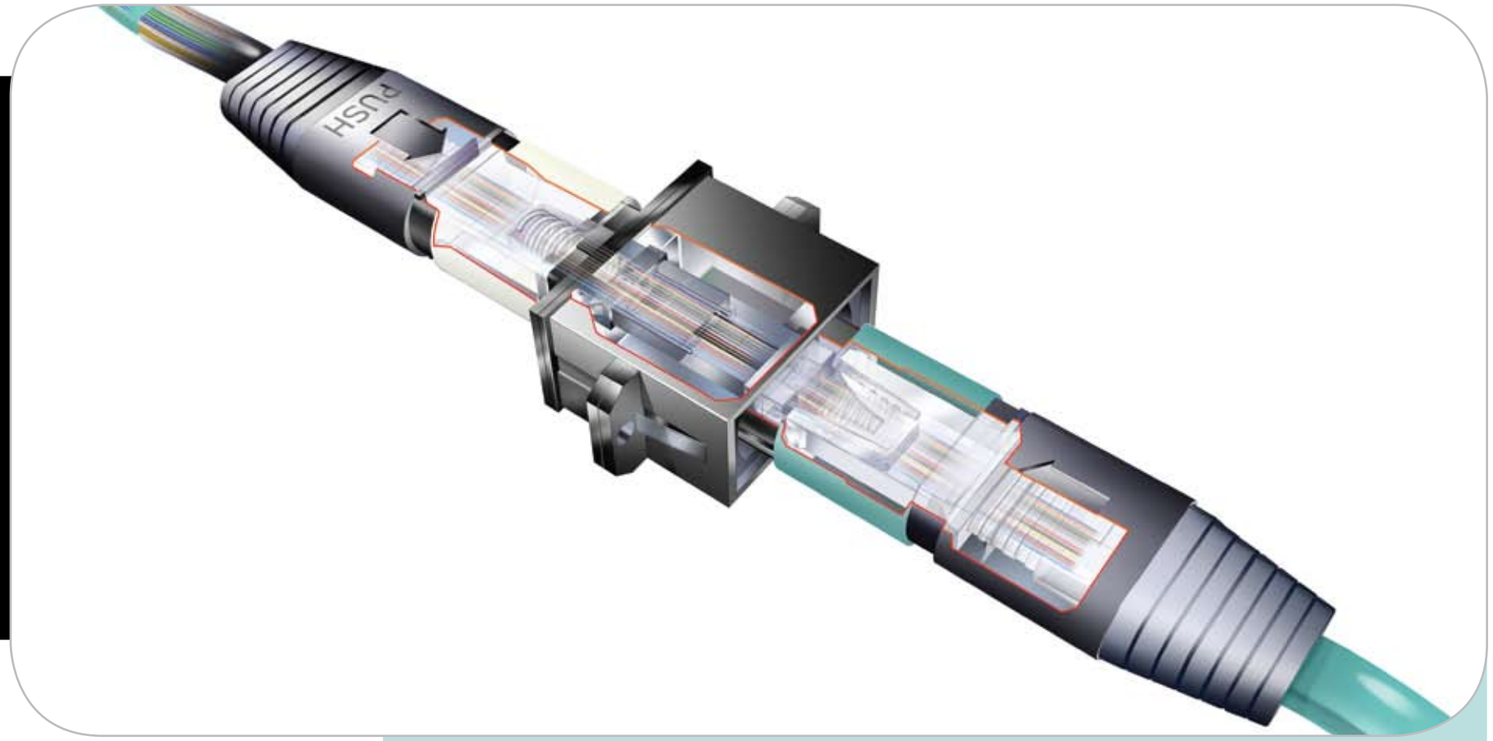
1. **Performance** – Component design and manufacturing exceeds specifications.
2. **Reliability** – Zero Bit Error Warranty at component level.
3. **Accessibility** – Angled fibre solutions ensure minimal bend radius while allowing easy access.
4. **Flexibility** – Suitable for many different media.

ADC KRONE's fibre Plug-and-Play solution maximises Managed Density by allowing a large quantity of fibre cores to be housed in a single MPO connector. This allows for manageable high-density and scalable growth when making future MACs.

Plug-and-Play fibre

Plug-and-Play fibre is an industry-wide term used to describe terminated fibre optic cables with Multi-fibre Push-On (MPO) connectors. By using pre-terminated MPO connectors, the need for onsite splicing is eliminated. Therefore installation and maintenance times are greatly reduced. The product portfolio includes Plug-and-Play MPO solutions for placement in the main distribution area (MDA), zone distribution area (ZDA), backbone, and horizontal and equipment distribution areas (HDA and EDA).

ADC KRONE's fibre Plug-and-Play solution is designed to achieve the optimum number of patch leads on a frame while not affecting manageability for future growth. Properly managed and scalable cable density encourages proper airflow and reduces overall installation maintenance costs and minimises the risk of disruption.



Why choose ADC KRONE Plug-and-Play fibre?

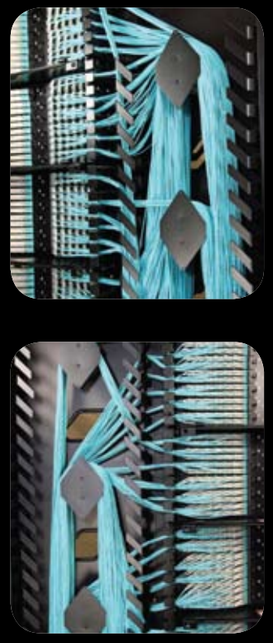
- No need to splice and add connectors onsite – keeping installation and maintenance costs down.
- Managed Density solutions mean the network is operating at optimum efficiency, and can be changed and updated frequently with minimal disruption.
- Compliant up to 100Gig Transmission, to ensure that the network is compliant with future technology trends.
- TIA standards compliant polarity, guaranteed interoperability with storage and switching platforms and minimising risk of installation errors.
- Efficient design of data centres enables passive airflow improvement, leading to reduction in cooling requirements and subsequent power usage and environmental benefits.
- TrueNet® System Warranty provides reassurance that the network will be completely free of bit errors (as a result of the cabling infrastructure) for the first 20 years of operation.

True compliance ensures polarity is never an issue

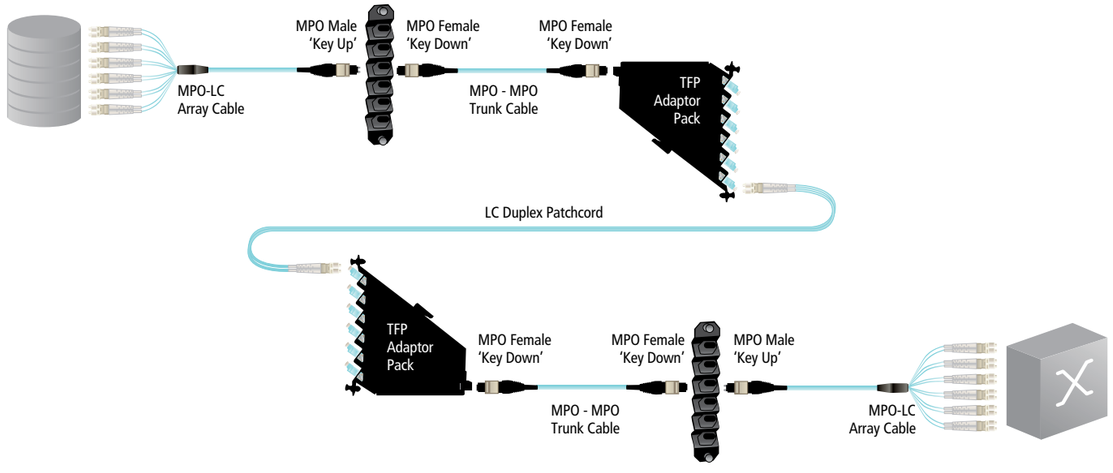
One of the most common questions regarding MPO deployments is how polarity can be maintained in a large system design. In simple terms, polarity means the method used to connect the transmitter to receiver. The reason why this is important to consider is that there are number of different ways to address the polarity issue and if implemented incorrectly, the system won't work. Standards compliance is the best way to ensure that this doesn't happen.

ADC KRONE follows the Type A recommendation made in the Telecommunications Industry Association (TIA) standard TIA-568-C.1-7. This means:

- crossover is performed in the trunk cable which allows for multiple inter-connectable links
- Plug-and-Play cassettes are wired straight through which eliminates the need for two different types of cassettes to be held in inventory
- confusion can be avoided as to where the cassettes can be used
- polarity changes are maintained at the cross-connect.

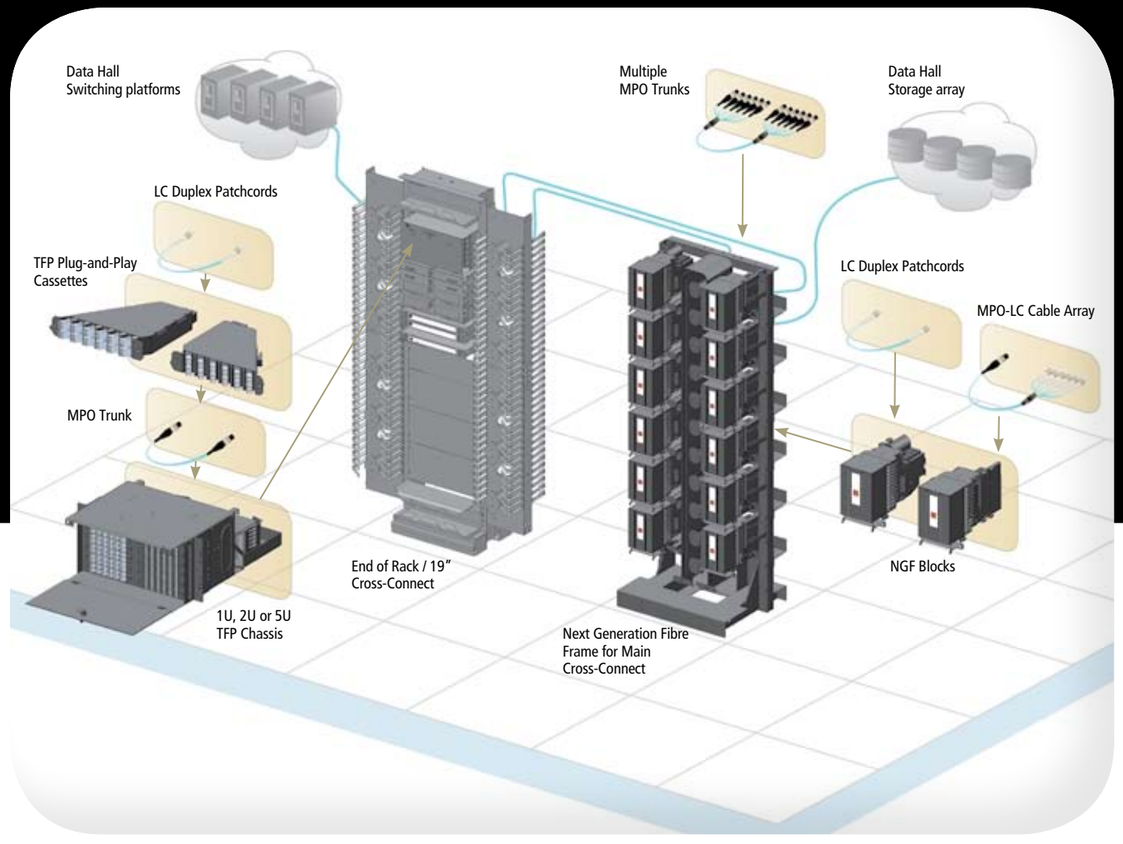


Simplified SAN Deployment



Cross-Connect Architecture

The diagram below shows a typical cross-connect architecture in the data centre. By applying ADC KRONE's principles of Managed Density and cable management, a large number of fibre circuit turn up / circuit turn down procedures can be performed with minimal risk of disruption due to easy access; while the cross-connect is fully flexible to support future scalable growth.



The importance of cable management

Why is cable management so important? Simply put, poorly managed and unprotected fibres are more likely to bend and break, causing service failures, and increase network operational costs. ADC KRONE has designed its connectivity and cable management products to eliminate these unwanted events. To achieve this, ADC KRONE pioneered the four key areas of cable management while still allowing for scalable flexible growth. The four key elements of fibre cable management are:

- Bend radius protection
- Cable and connector access
- Intuitive cable routing paths
- Physical protection

ADC KRONE's FiberGuide® system addresses the four key elements of cable management by offering the greatest breadth of data centre optical raceway products in the industry. FiberGuide® is a raceway system designed to protect and route fibre optic patch cords and multi-fibre cable assemblies to and from cabinets and frames housed in data halls and cross-connect applications.

Greener data centre

ADC KRONE supports green data centres and environmental efficiency by designing and manufacturing solutions for passive airflow improvement that can make a positive impact in reducing cooling and power requirements. A well-planned infrastructure can make a significant difference in cooling and power consumption by:

- Installing FiberGuide® as an overhead raceway, reducing the migration of hot air into cold aisles.
- Defining clear routing paths to maintain proper flow of hot and cold air through the active equipment.

TrueNet® Warranty – the industry's leading warranty

ADC KRONE understands the need for IT systems to run smoothly and that the structured cabling system underpinning it plays a critical part. ADC KRONE identified the issue of bit-errors as a critical element of network efficiency problems and subsequently designed its products specifically to address this issue. TrueNet® is the world's only structured cabling system to offer a zero bit error warranty.

TrueNet® 20 YEAR WARRANTY PARTS AND LABOUR

ADC KRONE

The Plug-and-Play fibre portfolio in detail

MPO Trunks

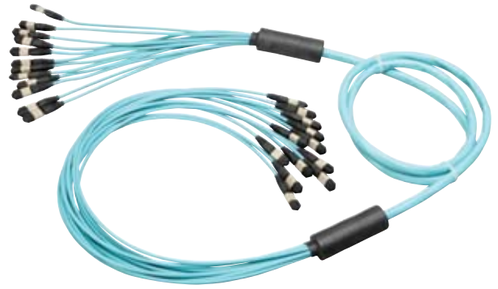
Plug-and-Play trunk assemblies

Rapidly deploy fibre into a data centre or Local Area Network (LAN), with these round 12 fibre optical trunk cables. Each comes pre-terminated with high-density female MPO connectors on both ends.

ADC KRONE MPO trunks can be plugged into any Plug-and-Play cassette in the optical distribution frame or fibre enclosure, eliminating the need for onsite splicing.

Benefits:

- More manageable than traditional ribbon plug and play trunk
- Eliminates preferential bend issues, which results in increased density
- Compatibility with ADC KRONE's FiberGuide® optical raceway system for protection and flexibility



Data centre applications:

EDA, ZDA, HDA and MDA applications

TrueNet® Plug-and-Play Array Cables

12-fibre round 3mm cables

Connect active equipment into the network quickly and efficiently. Each cable has a pre-terminated high-density MPO pinned connector on one end and an LC or SC connector on the other.

Cables can be simply plugged into any Plug-and-Play cassette in the optical distribution frame or fibre enclosure, eliminating the need for onsite splicing.

Benefits:

- Round design with 3mm diameter eliminates preferential bend issues, leading to increased density and more manageability
- LC and SC legs clearly labelled for easy installation
- Standard breakout length of 18 inches, ideal for connecting to active equipment
- Easy removal of LC duplex clip on LC version, making onsite modification easy

Data centre applications:

EDA applications

TrueNet® Plug-and-Play Cassettes

Snap on cassettes, with market-leading high-density

Extend a fibre panel's functionality with Plug and Play angled cassettes that add up to 24 fibre terminations each. These cassettes snap into place effortlessly, and come pre-labelled with simple installation instructions.

Benefits:

- Increased performance with a high density MTP cassette
- Density with flexibility – 1 MPO routed to 12 or 24 connectors per cassette
- Deploy quickly and easily, without the need for onsite splicing
- Angled adapters ensure the ideal bend radius is maintained
- Easy part ordering, as each cassette fits the standard fibre panel chassis

Data centre applications:

EDA, ZDA, HDA and MDA applications

TrueNet® Fibre Panels

This family of fibre panels incorporate ADC KRONE's adaptor design to allow easy access to each port, as well as superior cable management and bend radius protection. Our unique fibre panels can be ordered in one, two and five rack unit sizes to match any application.

Data centre applications:

EDA, ZDA, HDA and MDA applications

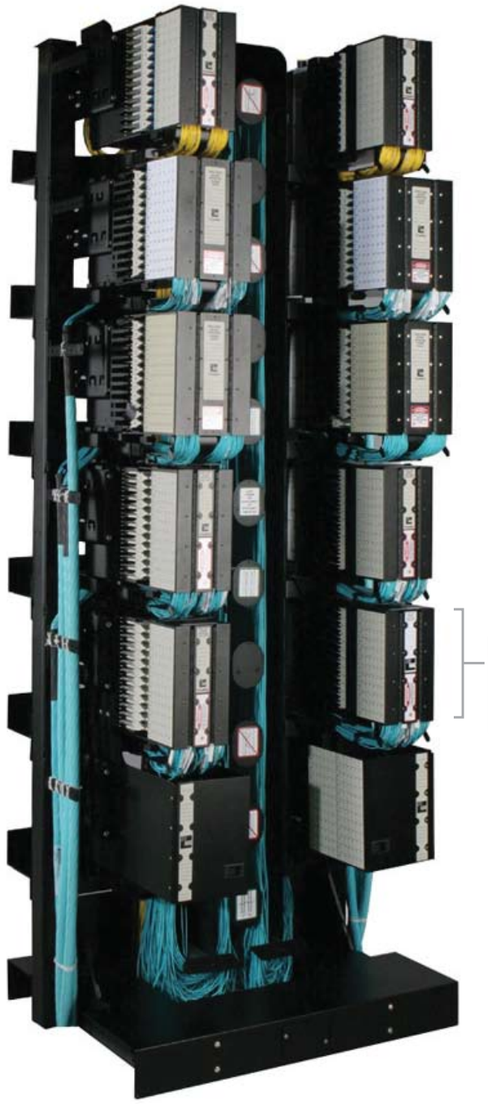
Benefits:

- By combining vertical cable guides and angled adapters, the panels protect cabling and make routing easy and intuitive
- Rear access makes termination or splicing onsite fast and efficient, while 1U and 2U versions have convenient sliding access
- Chassis, adaptor pack and cassettes sold separately, so you can order the parts you want, when you want them
- Highly flexible, with 24 to 288-position high- density termination/splice in a maximum of five rack units
- Panels come with adjustable mounting brackets to give 19" and 23" rack and cabinet mounting, as well as 4" and 5" recess mounting
- Vertical cable guides can be adjusted onsite to make cable management easy and provide bend radius protection
- Available as 5U, 2U and 1U.

The Plug-and-Play fibre portfolio in detail

Next Generation Frame (NGF) Optical Distribution Frame

Versatile frame enabling up to 1,728 terminations



ADC KRONE's data centre Next Generation Frame (NGF) with Plug-and-Play MPO blocks manages up to 1,728 terminations with patchcords. The NGF allows cross-connect or inter-connect design, and enables rapid expansion of a network while reducing jumper pile-up.

Benefits:

- Easy access to connectors and cables increase network reliability and cost-effectiveness
- Versatile - easy expansion and reconfiguration, delivering new applications to the end user
- Ensures proper bend radius is maintained to prevent attenuation and deliver highest possible performance
- Compatible with ADC KRONE's TracerLight™ system, making it easy to identify termination points
- On frame management removes the need to route cross frame patching into the ceiling or floor void
- Density with flexibility – 12 MPOs routed to 144 connectors per block

Data centre applications:

HDA and MDA applications

FiberGuide® System

An innovative fibre management system

Data centre applications:

EDA, ZDA, HDA and MDA applications

Protect and route fibre optic patch cords and multi-fibre assemblies from any fibre device, frame or enclosure.
This innovative fibre management system brings you the greatest range of data centre optical raceway solutions available.

Benefits:

- Speedy installation, thanks to a range of products including ExpressExit™ drops and Snap-Fit™ junctions which don't require tools
- Express Exit - Reduces 'Drop Installation' Times by up to 40mins
- Instant deployment – add or remove new drops quickly and easily into a fully-loaded raceway, without any cutting
- With 38 support structures and over 75 fittings, FibreGuide® is highly flexible
- FibreGuide® ensures a minimum of 2" (~50mm) bend radius throughout the system, protecting every cable
- With 100% raceway reliability, the system is extremely durable

TracerLight™ patch cords

Innovative LED lit cords for easy tracing

Identify patch cord termination points quickly and accurately, with ADC KRONE's innovative TracerLight™ connector identification system. Each end of a patch cord features a flashing LED light source, so technicians can trace a route without having to pull or dislodge a cord thereby minimising the risk of disruption.

TracerLight™ cords have the same performance as standard ADC KRONE patch cords with the components having no detrimental effect on the optical performance.

Benefits:

- Enable easy cross-connect configurations
- Minimise the risk of disconnecting the wrong fibre
- Work more efficiently – tests show TracerLight™ cuts troubleshooting time by up to 72%

Data centre applications:

HDA and MDA applications

Ordering Guide

Next Generation Frame (NGF) Optical Distribution Frame

Ordering Information

Description	Catalogue Number
NGF Plug-and-Play Blocks; Black	
144-position block; MPO – LC (aqua) multimode adapters; 50/125 fibre laser optimised	
LEFT block orientation	NGFB-MPML0C112
RIGHT block orientation	NGFB-MPMR0C112
144-position block; MPO-LC singlemode adapters;	
LEFT block orientation	NGFB-MPML0K512
RIGHT block orientation	NGFB-MPMR0K512
NGF Frame; Black	
Accomodates 12 Plug-and-Play Blocks; Measures (HxWxD): 2133mm x 762mm x 610mm	NGFB-MDF7A144-30
Isolation Pad – Storage Panel	
A template for frame installation providing isolation between the frame and the ground	NGF-ACCISOP30X24

TrueNet® Fibre Panel Empty Chassis

Ordering Information

Description	Height	Catalogue Number
Termination only rack or cabinet mount panel, black 1U empty panel, black; accommodates 1 angle LEFT and 1 angle RIGHT adapter packs; T-handle latch close	44.45 mm	TFP-1TT00-000B
2U empty panel, black; accommodates 2 angle LEFT and 2 angle RIGHT adapter packs; T-handle latch close	88.9 mm	TFP-2TT00-000B
5U empty panel, black; accommodates 6 angle LEFT and 6 angle RIGHT adapter packs; T-handle latch close	222.25 mm	TFP-5TT00-000B
5U empty panel, black; accommodates 6 angle LEFT and 6 angle RIGHT adapter packs; key-lock close	222.25 mm	TFP-5LT00-000B
Accessories Heat Shrink Fusion Splice Tray: capacity to manage 48 shrink style splice protectors		FST-HS-48
Velcro Kit for Splice Tray		TFP-VELSTP
Blank plates		TFP-00AP00

MPO Bulk Head Packs

Ordering Information

Description	Colour	Pack Orientation	Catalogue Number
MPO Bulk Head Packs MPO adaptors, 6 adaptors housing 12 fibres each	Black	Can be used left or right	TFP-72AP0MP

TrueNet® Plug-and-Play Cassettes

Ordering Information

Description	Catalogue Number
Plug-and-Play Cassette Pairs 12-fibre cassettes; MPO - 6 LC Duplex (aqua) multimode adapters; 50/125 fibre laser optimised	
Angle **LEFT** cassette	TFP-12MPLDQ2
Angle **RIGHT** cassette	TFP-12MPRDQ2
24-fibre cassettes; MPO - 12 LC Duplex (aqua) multimode adapters; 50/125 fibre laser optimised	
Angle **LEFT** cassette	TFP-24MPLDQ2
Angle **RIGHT** cassette	TFP-24MPRDQ2
12-fibre cassettes; MPO - 6 LC Duplex singlemode adapters; singlemode fibre	
Angle **LEFT** cassette	TFP-12MPLSQ5
Angle **RIGHT** cassette	TFP-12MPRSQ5
24-fibre cassettes; MPO - 12 LC Duplex singlemode adapters; singlemode fibre	
Angle **LEFT** cassette	TFP-24MPLSQ5
Angle **RIGHT** cassette	TFP-24MPRSQ5

TrueNet® Fibre Panel Adapter Packs

Ordering Information

TFP Standard Adapter Packs	Colour	Pack Orientation	Catalogue Number
Multimode Adapter Only Packs			
LC duplex adapters with zirconia sleeve, 12 adapters or 24 fibre ports per adapter pack[1]	Aqua	Left	TFP-24APLQ2
		Right	TFP-24APRQ2
Singlemode Adapter Only Packs			
SC duplex adapters with zirconia, blue colour, 6 adapters or 12 fibre ports per adapter pack	Blue	Left	TFP-12APLC8
		Right	TFP-12APRC8
Multimode Adapter Packs with 50/125 Multimode Pigtails OM3			
SC duplex adapters with zirconia sleeve, 6 adapters or 12 fibre ports per adapter pack	Aqua	Left	TFP-12APLC4DE3
		Right	TFP-12APRC4DE3
LC duplex adapters with zirconia sleeve,12 adapters or 24 fibre ports per adapter pack	Aqua	Left	TFP-24APLQ2DE3
		Right	TFP-24APRQ2DE3
Singlemode Adapter Packs with Singlemode Pigtails			
SC duplex adapters with zirconia, 6 adapters or 12 fibre ports per adapter pack	Blue	Left	TFP-12APLC8SB3
		Right	TFP-12APRC8SB3
LC duplex adapters with zirconia sleeve, 12 adapters or 24 fibre ports per adapter pack	Blue	Left	TFP-24APLQ5SB3
		Right	TFP-24APRQ5SB3

Ordering Guide

TrueNet® Plug-and-Play Array Cables

Ordering Information

Description		Catalogue Number*
50/125 Laser Optimised Array Cable, Aqua, O.D. 3mm, 18" Breakout, LSZH		
MPO (MALE) – 6 Duplex LC Connectors	OM3	AYM-AM/0PW3XXXM-18
	OM4	AYM-AM/0PW4XXXM-18
MPO (MALE) – 6 Duplex SC Connectors	OM3	AYM-AM/09W3XXXM-18
	OM4	AYM-AM/09W4XXXM-18
OS2 Singlemode Array Cable, Yellow, O.D. 3mm, 18" Breakout, LSZH		
MPO (MALE) – 6 Duplex LC/UPC Connectors		AYS-AM/0KWSXXXM-18
MPO (MALE) – 6 Duplex SC/UPC Connectors		AYS-AM/07WSXXXM-18

*Replace XXX with: 001 = 1m
002 = 2m
003 = 3m
005 = 5m
010 = 10m

TrueNet® Plug-and-Play MPO Trunk Assemblies

Ordering Information

Description	Catalogue Number*
50/125 Laser Optimised Trunk Cable, Aqua, O.D. 4.5mm, LSZH	
OM3 12-Fibre MPO (Female) – MPO (Female) Trunk	TKM-AF/AFX3XXXM
OM4 12-Fibre MPO (Female) – MPO (Female) Trunk	TKM-AF/AFX4XXXM
OS2 Singlemode Trunk Cable, Yellow, O.D. 4.5mm, LSZH	
OS2 12-Fibre MPO (Female) – MPO (Female) Trunk	TKS-AF/AFXSXXXM

*Replace XXX with: 010 = 10m
020 = 20m
030 = 30m
050 = 50m
100 = 100m

FiberGuide® System

An extensive range of parts are available to enable you to design and build a bespoke FiberGuide® solution that meets your specific requirements.

Please refer to the ADC KRONE online catalogue at: www.adc-products.com

TracerLight™ Patch Cords

Ordering Information

Description	Catalogue Number*
Multimode Duplex TracerLight™ Patch Cords	
LC-LC, 50/125 Laser Optimised OM3, PVC, aqua	FTL-PPKXXXM
LC-SC, 50/125 Laser Optimised OM3, PVC, aqua	FTL-9PKXXXM
SC-SC, 50/125 Laser Optimised OM3, PVC, aqua	FTL-99KXXXM
Singlemode Duplex TracerLight™ Patch Cords	
LC-LC Singlemode, PVC, Yellow	FTL-CCZXXXM
LC-SC Singlemode, PVC, Yellow	FTL-7CZXXXM
SC-SC Singlemode, PVC, Yellow	FTL-77ZXXXM

*Replace XXX with: 001 = 1m
002 = 2m
003 = 3m
005 = 5m

Ordering Information

Description	Catalogue Number*
Power Source	FTL-PS

Ordering Guide

TrueNet® Plug-and-Play Patch Cords

Ordering Information

Description		Catalogue Number*
50/125 Laser Optimised Patchcord, Aqua, O.D. 1.8mm, LSZH		
LC-LC Duplex	OM3	FPCHG-MDLC-A-XM
	OM4	FPCHG-MDLC-D-XM
LC-SC Duplex	OM3	FPCHG-MDSC/MDLC-A-XM
	OM4	FPCHG-MDSC/MDLC-D-XM
SC-SC Duplex	OM3	FPCHG-MDSC-A-XM
	OM4	FPCHG-MDSC-D-XM
OS2 Singlemode Patchcord, Yellow, O.D. 1.8mm, LSZH		
LC-LC Duplex (UPC)		FPCH2-SDLC-S-XM
LC-SC Duplex (UPC)		FPCH2-SDSC/DLC-S-XM
SC-SC Duplex (UPC)		FPCH2-SDSC-S-XM

*Replace X with: 1 = 1m
2 = 2m
3 = 3m
5 = 5m

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