

Work Area Fibre To The Desk



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Work Area

Fibre To The Desk – Fibre Optic Wall Outlet

TrueNet® Fibre Optic Wall Outlet

The TrueNet® Fibre Optic Wall Outlet from ADC KRONE is used to terminate horizontal fibre cable at the work station in Fibre To The Desk applications (FTTD).

Formed from a polycarbonate material (PC/ABS polymer), the wall outlet is assembled as two light-weight and robust mouldings. The base moulding can be surface mounted or fixed into a standard (BS4660) double gang back box to secure the whole assembly. The front, or user facing moulding is able to drop down giving the installer access to work on the spooling, routing or splicing of up to eight secondary buffered fibre cables.

The design has many diverse routes through the wall outlet for storing excess fibre whilst managing the bend radius through the hinge and onto the point of presentation for the user.

This wall outlet is suited for deployment using direct, or spliced pigtail terminations. Positions for 'clip-on' heat shrink splice holders are included.

Applications:

Fibre To The Desk (FTTD) connectivity presentation point

Fibre to the home (FTTH) network termination (NT) point.



TrueNet® Structured Cabling

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Fibre To The Desk

Ordering Information

Description	Catalogue Number
MT-RJ 2x Outlet	7033 1 067-02
MT-RJ 4x Outlet	7033 1 067-04
1 x SC Duplex Outlet Multimode	7033 1 069-02
2 x SC Duplex Outlet Multimode	7033 1 069-04
2 x ST Outlet Multimode	7033 1 071-02
4 x ST Outlet Multimode	7033 1 071-04
1 x LC Quad Outlet Multimode	7033 1 073-04
2 x LC Quad Outlet Multimode	7033 1 073-08

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TrueNet® Fibre Optic Wall Outlet

Features

- Designed for modern small-form-factor deployments and into legacy Gigabit Ethernet deployments
- MT-RJ offers both singlemode and multimode solutions, whilst LC, SC, and ST are available as a multimode solution
- Integrated cable management allows diverse routing for excess spool management and maintenance of the bend radius whilst the fibre optic cable is housed in the outlet
- The footprint suits standard (BS4660) electrical wall back boxes for deployment in trunking and walls
- Designed to allow the insertion of heat shrink splice protection holders giving the flexibility to choose between direct termination and splicing
- Anchor points allow the fibre optic cable to be tied-off at the point of entry into the base which prevents the cable from slipping back into a wall recess during installation
- Per port labelling provides easy identification of each subscriber network link

Technical Specifications

Material

Base and front moulding PC/ABS

Multimode adaptor ferrules phosphor bronze

Colour: white

Environmental Standards

EN 6008-2-2

IEC 68-2-14

IEC 68-2-6

IEC 68-2-27

IEC 68-2-3

Operating Environment

EN 50173

ISO/IEC 11801

Dimensions

147mm (width) x 88mm (height) x 30mm (depth) from mounting face.

Fits BS4660 compliant electrical wall box

Introduction

One of the components essential to the operation of a fibre-optic network is the non-permanent connection between fibres which allows the network manager to change routings as needed and to gain access to a channel for test purposes. The quality and reliability of patch cords determine the reliable and smooth functioning of a network.

Both, the optical and mechanical characteristics of a connector must remain stable and reproducible even after repeated re-terminations. Connectors must also withstand, without loss of quality, fluctuations in temperature and humidity – as well as mechanical stress, such as tensile stress, transverse pressure and vibration. ADC KRONE patch cord and pigtail products are designed and built to meet these stresses.

ADC KRONE assembles pigtails and patch cords for singlemode (SM) and multimode (MM) applications using the highest quality optical connectors. ADC KRONE offers a wide range of connector types, cable designs and cable lengths, to meet every application need.

Top quality – tried and tested

TrueNet fibre cable assemblies satisfy the highest requirements in terms of quality, long-term stability and reliability. All fibre optic connectors are tested in accordance with ES 300671 (02/2000). For qualification purposes, the optical characteristics of each individual connector are tested at ADC KRONE:

- the insertion loss against a master connector (in accordance with EN 186000-1, 4.4.7);
- the return loss (in accordance with EN 186000-1, 4.4.12).

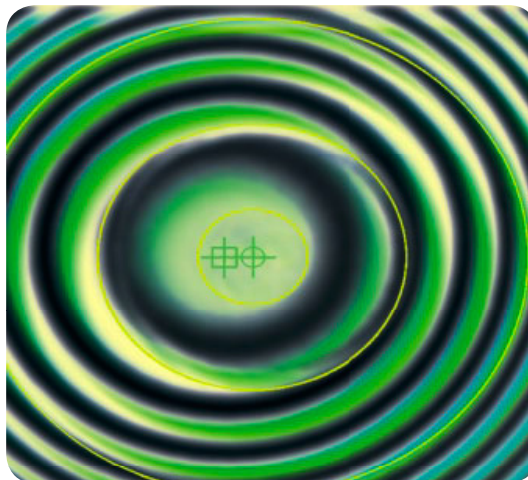
End Face Geometrics

The reliable functioning of a Physical Contact (PC) and Angled Physical Contact (APC) connector strongly depends on adherence to the tolerances for the form of the ferrule front face. The geometry, or end face, of this convex surface can be measured using interferometry. The picture on the facing page shows a typical interferogram. The related 3-D image is shown below.

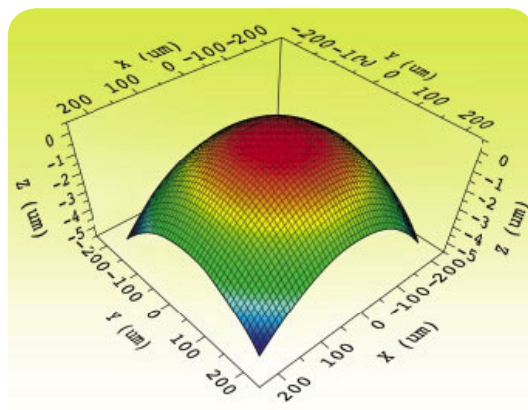
This test, which is routinely performed at ADC KRONE, measures the radius of curvature, the offset of the ferrule apex relative to the central axis (the so-called "apex offset") and the end position of the fibre (protrusion or undercut). In the case of APC connectors, this test can also be used to check the angle of the slant polishing.

The following pages provide an overview of the TrueNet® fibre patch cord and pigtail portfolio.

For further information please contact ADC KRONE.



Focusing on quality: interferogram of the convex ferrule front face (a three-dimensional imaging can be seen below)



This image shows the three-dimensional transformation of the interferogram display above

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Fibre To The Desk – Fibre Optic Patch Cords

TrueNet® Fibre Optic Patch Cords – Singlemode and Multimode

ADC KRONE offers a wide array of singlemode and multimode fibre optic patch cords, featuring both 3mm and 1.8mm outer diameter LSZH cable. Product configurators allow 1m patch cord increments to fit with customer specific application needs.

ADC KRONE's multimode connectors are offered with a Physical Contact (PC) polish as standard, whilst singlemode connectors are available with a Ultra Physical Contact (UPC) polish as standard and an Angled Physical Contact (APC) polish on request.

Connector types may be combined to produce 'hybrid' patch cords. All patch cords are tested to ensure the highest quality standards are met.



Features

- 100% optically tested
- Visual inspection of all features
- Insertion loss and return loss values certificated and sent with every patch cord
- Factory installed connectorisation
- Manufactured using advanced techniques

OS1 Fibre Optic Patch Cords

Ordering Information

Description		Catalogue Number*	
Fibre Optic Patch Cord, OS1 (9/125 µm), Duplex Patch Cable, Yellow		7006 1 5XX-YZ	
*For XX use:	*For Y use:	*For Z use:	For example, the order code for an 8m SC duplex (UPC polish) to an LC (UPC polish) would be: 7006 1 578-56
Connector 1 and 2	Polishing	Length	
1 = SC	3 = APC8°	1 = 1m	
2 = FC	4 = APC9°	2 = 2m	
3 = DIN	5 = UPC	3 = 3m	
4 = E2000		4 = 4m	
5 = ST		5 = 5m	
7 = Duplex-SC		6 = 8m	
8 = LC		7 = 10m	
		8 = 15m	
		9 = 20m	

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Fibre To The Desk – Fibre Optic Patch Cords

OM1 Fibre Optic Patch Cords

Ordering Information	
Description	Catalogue Number
Fibre Optic Patch Cord, LC-STII, OM1 (62.5/125 µm), Duplex Patch Cable, Grey	7006 3 585-1Z [†]
Fibre Optic Patch Cord, STII-STII, OM1 (62.5/125µm), Duplex Patch Cable, Grey 1m 2m 3m 5m	STSC2CORE-0018 STSC2CORE-0003 STSC2CORE-0004 STSC2CORE-0017
Fibre Optic Patch Cord, SC-SC, OM1 (62.5/125 µm), Duplex Patch Cable, Grey 1m 2m 3m 5m	SCSTSC2CORE-0001 SCSTSC2CORE-0003 SCSTSC2CORE-0004 SCSTSC2CORE-0005
Fibre Optic Patch Cord, STII-SC, OM1 (62.5/125 µm), Duplex Patch Cable, Grey 1m 2m 3m 5m	STSC2CORE-0005 STSC2CORE-0006 STSC2CORE-0007 STSC2CORE-0008
Fibre Optic Patch Cord, MTRJ-SC, OM1 (62.5/125 µm), Duplex Patch Cable, Grey 1m 2m 3m 5m	MTRJSTSC2CORE-0010 MTRJSTSC2CORE-0011 MTRJSTSC2CORE-0012 MTRJSTSC2CORE-0013
Fibre Optic Patch Cord, MTRJ-STII, OM1 (62.5/125 µm), Duplex Patch Cable, Grey 1m 2m 3m 5m	MTRJSTSC2CORE-0015 MTRJSTSC2CORE-0016 MTRJSTSC2CORE-0017 MTRJSTSC2CORE-0018
Fibre Optic Patch Cord, MTRJ-MTRJ, OM1 (62.5/125 µm), Duplex Patch Cable, Grey 1m 2m 3m 5m	MTRJMTRJ2CORE-0005 MTRJMTRJ2CORE-0006 MTRJMTRJ2CORE-0009 MTRJMTRJ2CORE-0007

[†]For meterage please specify Z, e.g. 1 = 1m, 2 = 2m, etc.

Ordering information OM2 and OM3 fibre optic patch cords on the following page.

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Fibre To The Desk – Fibre Optic Patch Cords

OM2 Fibre Optic Patch Cords

Ordering Information

Description	Catalogue Number*
Fibre Optic Patch Cord, OM2 (50/125 µm), Duplex Patch Cable, Orange	7023 1 5XX-YY
*For XX use: 36 = STII-LC 37 = STII-STII 38 = SC-STII 39 = MTRJ-MTRJ 40 = MTRJ-SC 41 = MTRJ-STII 42 = MTRJ-LC 43 = SC-SC 44 = SC-LC 45 = LC-LC	*For YY use: 01 = 1m 02 = 2m 03 = 3m 05 = 5m

OM3 Fibre Optic Patch Cords

Ordering Information

Description	Catalogue Number*
Fibre Optic Patch Cord, OM3 (50/125 µm), Duplex Patch Cable, Violet	7023 1 5XX-YY
*For XX use: 62 = LC-STII 34 = LC-MTRJ 63 = LC-SC (SC Duplex) 78 = LC-SC (SC Discrete) 35 = LC-LC	*For YY use: 01 = 1m 02 = 2m 03 = 3m 05 = 5m
Fibre Optic Patch Cord, SC-SC, OM3 (50/125 µm), Duplex Patch Cable, Violet 1m 2m 3m	SCSTSC2CORE-0037 SCSTSC2CORE-0039 SCSTSC2CORE-0041
Fibre Optic Patch Cord, SC(Discrete)-MTRJ, OM3 (50/125 µm), Duplex Patch Cable, Violet 2m 3m	MTRJSTSC2CORE-0027 MTRJSTSC2CORE-002

Optical Characteristics of ADC KRONE Patch Cord and Pigtail

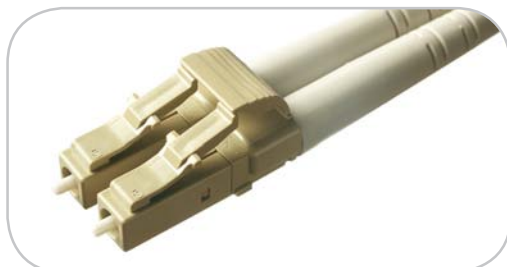
Insertion Loss I_L (dB)		@ 850nm		@ 1310nm	
		Typical	Maximum	Typical	Maximum
	9µm	–	–	0.3	0.5
	50µm	0.3	0.5	–	–
	62.5µm	0.2	0.5	–	–

Return Loss R_L (dB)		@ 850nm		@ 1310nm	
		Typical	Maximum	Typical	Maximum
	9µm	–	–	55	50
	50µm	35	30	–	–
	62.5µm	35	30	–	–

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Fibre To The Desk – Fibre Optic Patch Cords

TrueNet® Fibre Optic Patch Cords – Singlemode and Multimode



LC (Lucent Connector)

Latest generation of small form factor (SFF) connector, perfectly suited for use in Enterprise networks because of its all-round optical and mechanical performance.

The LC has been adopted by all major active equipment manufacturers for data rates in excess of 1Gb/s.



ST® (Straight Tip)

Still commonly used in LAN applications and is best suited to multimode employment. Modern network designs now tend to move toward SFF or SC connector types.



SC (Subscriber Connector)

Along with the LC connector (see above) the SC is a popular choice of connector for data rates in excess of 10Gb/s.



MT-RJ (Mini Termination Registered Jack)

The MT-RJ was the first SFF connector type to be adopted in volume. The advantage of the MT-RJ is that it is small for higher density applications whilst still housing two fibres (Tx and Rx) in a single body.

The MT-RJ is particularly suited to multimode applications.

The above four connector types are recognised as the most commonly deployed within the LAN. ADC KRONE also offer a range of patch cords and pigtailed terminated with E2000, LX.5 and FC, for both multimode and singlemode applications. Contact ADC KRONE for more details.

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Fibre To The Desk – Fibre Optic Pigtails

TrueNet® Fibre Optic Pigtails – Singlemode and Multimode

ADC KRONE offers a wide array of singlemode and multimode fibre optic pigtails, featuring a 900µm PVC buffer (650µm for MT-RJ).

ADC KRONE's multimode connectors are offered with a PC polish as standard, whilst singlemode connectors are available with a UPC polish as standard and an APC polish on request.

All pigtails are tested to ensure the highest quality standards are met.

Please note that across Europe there are at least two different methods of handling pigtails within fusion splices. This means that pigtails are offered with two different buffer types, tight buffered or semi-loose tube. It is important that the buffer type and fusion splicer are identified prior to ordering.

As a general rule, tight buffered pigtails are deployed in most Western European countries. Semi-loose tube pigtails are commonly used in Germany and Eastern Europe. ADC KRONE technical support can assist in identifying the appropriate buffer types.



Features

- 100% optically tested
- Visual inspection of all features
- Insertion loss and return loss values certificated and sent with every pigtail
- Factory installed connectorisation
- Manufactured using advanced techniques

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Fibre To The Desk – Fibre Optic Pigtails

TrueNet® Fibre Optic Pigtails – OS1, OM1, OM2 and OM3

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Ordering Information	
Description	Catalogue Number
OS1 (9/125µm) Tight Buffered Pigtails, 1m Fibre Optic Pigtail, LC Fibre Optic Pigtail, SC Fibre Optic Pigtail, ST	7023 1 594-01 7023 1 591-01 7023 1 593-01
OS1 (9/125µm) Semi-Loose Tube Buffered Pigtails, 1m Fibre Optic Pigtail, LC Fibre Optic Pigtail, SC Fibre Optic Pigtail, ST	7006 1 180-51 7006 1 110-51 7006 1 150-51
OM1 (62.5/125µm) Tight Buffered Pigtails, 1m Fibre Optic Pigtail, SC Fibre Optic Pigtail, ST Fibre Optic Pigtail, MT-RJ	SCST1CORE-0003 SCST1CORE-0004 MTRJ2CORE-0004
OM1 (50/125µm) Semi-Loose Tube Buffered Pigtails, 1m Fibre Optic Pigtail, LC Fibre Optic Pigtail, SC Fibre Optic Pigtail, ST Fibre Optic Pigtail, MT-RJ	7006 3 180-11 7006 3 110-11 7006 3 150-11 7074 3 100-01
OM2 (50/125µm) Tight Buffered Pigtails, 1m Fibre Optic Pigtail, LC Fibre Optic Pigtail, SC Fibre Optic Pigtail, ST Fibre Optic Pigtail, MT-RJ	7023 1 597-01 SCST1CORE-0001 SCST1CORE-0002 MTRJ2CORE-0001
OM2 (50/125µm) Semi-Loose Tube Buffered Pigtails, 1m Fibre Optic Pigtail, LC Fibre Optic Pigtail, SC Fibre Optic Pigtail, ST Fibre Optic Pigtail, MT-RJ	7006 2 180-11 7006 2 110-11 7006 2 150-11 7074 2 100-01
OM3 (50/125µm) Tight Buffered Pigtails, 1m Fibre Optic Pigtail, LC Fibre Optic Pigtail, SC Fibre Optic Pigtail, MT-RJ	7023 1 572-01 SCST1CORE-0008 MTRJ2CORE-0006
OM3 (50/125µm) Semi-Loose Tube Buffered Pigtails, 1m Fibre Optic Pigtail, LC Fibre Optic Pigtail, SC Fibre Optic Pigtail, MT-RJ	7006 6 180-11 7006 6 110-11 7074 6 100-01

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Glossary

Insertion loss

Insertion Loss is defined as being the difference in power level just before (P1) and immediately after (P2) a joint or inserted optical device.

Where Insertion Loss = $P1 - P2$ (dB or mW)

The best insertion loss figures tend toward 0 dB, meaning that the optimum amount of optical energy has been transferred across a joint or inserted optical device.

Return Loss

Return Loss refers to the loss in the power level of reflected, or returned light, compared to the incident power level, just before that reflection.

The better the return loss figure across a mated connector or joint, the better chance the signal has of reaching the end of a channel with enough energy to be decoded. In addition, the better return loss figure means that subsequent signals being sent from the source are less likely to be corrupted, or overloaded, with reflected energy, which is particularly important in high speed data networks.

Ferrule

Part of the fibre optic connector in which the optical fibre is centrally positioned. The ferrules of the two connectors are inserted into the sleeve of a through-adaptor until their frontal faces touch each other. In the case of SM connectors, the ferrule front faces are available with different polishings, and are usually made of zirconium ceramic, whilst polymer ferrules are used in MM applications. The majority of connectors have a ferrule with a diameter of 2.5mm. Small-form-factor connectors, e.g. LC or MU, mini-ferrules have a diameter of 1.25mm.

Sleeve

Part of the through-adaptor in which the ferrules of the two connectors to be connected are inserted. For SM applications, they are typically made of zirconium ceramic or, in the case of MM applications, they are also often made of phosphor bronze.

Pigtail

An optical fibre, usually with a secondary coating (typically, 0.9mm in diameter), fitted at one end with a connector; it is primarily used for splicing of loose-tube fibres in racks and cabinets.

Patch Cord

An optical fibre cable fitted at both ends with connectors, usually with a diameter of 2.4 or 3.0mm, or 1.8mm in the case of SFF solutions. Primarily used for patching or as a connection between the transmission and the line systems.