

CopperTen™ 10 Gigabit Solutions



Introduction	3.2
Cable.....	3.3
Patch Panels	3.4
Termination Modules	3.5
Wall Mount Cable Management.....	3.7
Module Specifications.....	3.8
Patch Cords	3.10
Outlets.....	3.12
Faceplates.....	3.13



CopperTen™ 10 Gigabit Solutions

Introduction

Speed, Performance and Reliability

ADC KRONE's CopperTen™ system was the world's first UTP structured cabling system with the necessary characteristics to enable 10Gbps Ethernet transmission over a full 100 metres. CopperTen™ meets the industry's most stringent requirements including IEEE 802.3an, TIA 568 B.2 and ISO/IEC 11801 Class E. Since March 2004, millions of metres of CopperTen™ have been deployed in high-performance networks worldwide.

This end-to-end system features patent-pending design elements that minimise alien crosstalk and insertion loss.

Incorporating ADC KRONE's patent pending oblique elliptical offset filler, the CopperTen™ Cable comprises all the necessary characteristics to enable 10 Gigabit Ethernet transmission over twisted pair cabling for structured cabling systems.

The CopperTen™ Module is the world's only cross-connect module that has a disconnect feature, making it the ideal product for a Patch-by-Exception solution. Patch-by-Exception, unique to ADC KRONE, reduces costs by utilising off-cuts of the horizontal cabling to hard wire the cross-connect. The patch cords are then used as the exception to make changes only.

The CopperTen™ Patch Panel has a modular design, featuring outlets that are offset and staggered to counter the negative effects of alien crosstalk; critical for 10 Gigabit Ethernet performance.

While market expectations grow with emerging technologies, reliability is paramount. ADC KRONE's global R&D centres in the United States, Great Britain, Germany and Australia leverage its vast and experienced resources to ensure maximum performance. It is this commitment to innovation and achievement that has allowed ADC KRONE to develop this UTP cabling system that has the characteristics to achieve truly revolutionary results.

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3. CopperTen™ 10 Gigabit Solutions

CopperTen™ 10 Gigabit Solutions Cable

CopperTen™ Cable

CopperTen™ 4-pair UTP Copper Cable is the foundation of ADC KRONE's 10 Gigabit Ethernet capable structured cabling solution. This cable guarantees Category 6_A performance ensuring maximum network speed, data throughput and reliability. Installed in high-performance networks worldwide, the system's patent-pending design minimises alien crosstalk and insertion loss and meets the performance requirements of IEEE 802.3an, ISO/IEC 11801 and TIA 568-B.2.



CopperTen™ Cable

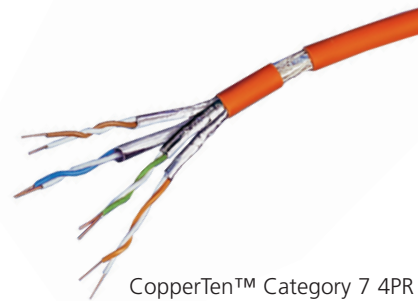
Ordering Information

Description	Quantity	Colour	Product No.
CopperTen™ Cable (4-pair UTP)	305m Reel	Grey	10G-A6TR-GY02
CopperTen™ Cable (4-pair UTP)	305m Reel	Blue	10G-A6TR-BL02

CopperTen™ Category 7 4PR S/FTP Horizontal Cable

The ADC KRONE S/FTP 600/AWG23 4PR cable is designed for applications up to 600 MHz and its connection properties exceed Category 7 specifications ISO/IEC 11801 (2002) and EN 50173-1 (2002).

Every pair is separately shielded – pairs in metal foil (PIMF). The twisted pairs are covered with a braided screen (S/FTP) which guarantees outstanding shielding properties.



CopperTen™ Category 7 4PR S/FTP Horizontal Cable

Ordering Information

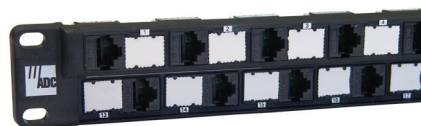
Description	Quantity	Colour	Product No
Category 7 Horizontal Cable S/FTP Duplex	1000m Reel	Orange	7053 3 762-55

CopperTen™ 10 Gigabit Solutions

Patch Panels

CopperTen™ Patch Panel

The CopperTen™ 1RU 24-port Patch Panel is designed to optimise performance to allow 10 Gigabit transmission. The modular design features outlets that are offset and staggered to counter the negative effects of alien crosstalk; critical for 10 Gigabit Ethernet performance. The panel also features a unique fully-moulded polymer design that further reduces alien crosstalk and is available in Flat and Angular variants.



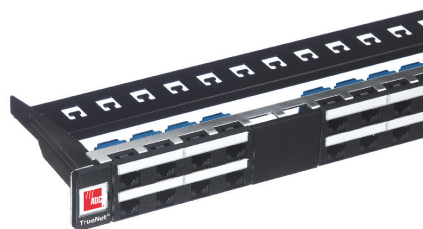
CopperTen™ 24-port Patch Panel

Ordering Information

Description	Product No.
1 RU 24-port patch panel: loaded	TPNP-24NC10-BK
1 RU 24-port angled patch panel: loaded	TPNP-24APC10-BK

CopperTen™ Shielded Patch Panel

The modular augmented Category 6 panel utilises the high performing S/FTP Keystone RJ45. Rear Cable Management included.



Patch Panel CopperTen Shielded 24 Ports

Ordering Information

Description	Product No.
Patch Panel, Augmented Category 6 Shielded 24 ports	7022 1 155-24

CopperTen™ 10 Gigabit Solutions

Termination Modules

CopperTen™ Modules

The 20-pair CopperTen™ module is the world's highest performing cross-connect module. It is designed to suit 5 incoming and 5 outgoing 4-pair Category 6A cables. Each IDC slot is colour coded to allow for accurate termination of each of the 4 pairs. The CopperTen™ module utilises a disconnect feature making it ideal for Patch-by-Exception installations and can also be patched as a traditional cross-connect. The cable manager at the rear of the module ensures that cables are held in place securely without the need for Velcro ties.



CopperTen™ 12 Way Kit

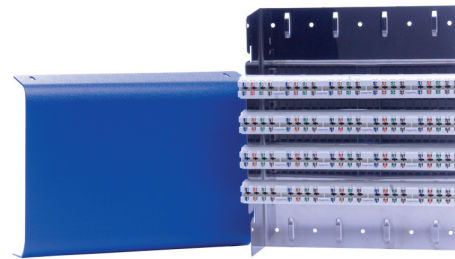
Ordering Information

Description	Product No.
CopperTen™ 12 Way Kit Consists of (1) Backmount frame, (12) CopperTen™ modules with rear managers and (12) label holders.	6450 1 107-00

CopperTen™ Consolidation Point

For use in the horizontal cabling system, inside the ceiling or under a false floor.

The plastic cover clips into place, protecting the termination contacts from dust and other foreign matter.



CopperTen™ Consolidation Point

Ordering Information

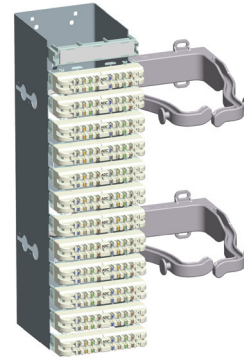
Description	Product No.
CopperTen™ Consolidation Point Includes 4 x CopperTen™ Modules 4 x Label holders 1 x Backmount Frame 1 x Cover	6450 1 105-05

CopperTen™ 10 Gigabit Solutions

Termination Modules

CopperTen™ 8-pair Module Kit

Provides for the termination of twenty four, 4-pair cables. Includes a label and vertical cable management.



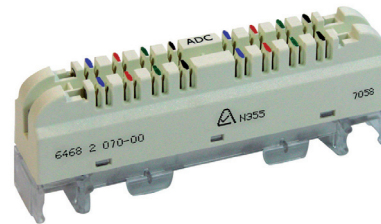
CopperTen™ 8-pair Module Kit

Ordering Information

Description	Product No.
CopperTen™ 8-pair Module Kit Consists of (1) Backmount Frame, (12) CopperTen™ 8-Pair Modules, (1) Label Holder and (2) Cable Management Rings	6450 1 107-10

CopperTen™ 8-pair Module

Used to terminate two 4-pair cables. CopperTen™ modules provide the highest performing method of cross-connect of any product on the market.



CopperTen™ 8-pair Module

Ordering Information

Description	Quantity	Product No.
CopperTen™ 8-pair Module	Box of 10	6468 5 070-00

CopperTen™ 10 Gigabit Solutions

Wall Mount Cable Management

Cable Management Kits & Covers

The cable management ring controls vertical cable management between frames, ensuring that cables do not interfere when adds, moves and changes occur. The dual cable manager is ideal for high density or heavily patched installations and provides a neat finish to the CopperTen™ system.

Cable troughs mounted on the top and bottom of each frame ensure superior patch cord management and correct bend radius between frames.



Single Cover



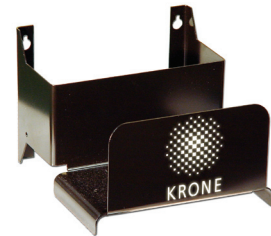
Dual Cover



Single Cable Management Rings



Dual Cable Management Rings



Cable Trough

Ordering Information

Description	Product No.
300-pair Cable Management Kit Includes (2) dual cable management rings and (1) dual cover	6450 1 103-00
900-pair Cable Management Kit Includes (6) dual cable management rings and (3) dual cover	6450 1 104-00
Dual Cable Management Rings (2)	6450 2 156-02
Dual Cover (1)	6450 2 158-02
Single Cable Management Kit Includes (2) single cable management rings and (1) single cover	6450 1 103-01
Single Cable Management Rings (2)	6450 2 156-01
Single Cover (1)	6450 2 158-01
Cable Trough (1)	6450 2 157-00

CopperTen™ 10 Gigabit Solutions

Module Specifications

CopperTen™ Module Specifications

MECHANICAL

Wire Range for Solid and Stranded Copper Conductors:	0.4mm to 0.65mm (26 to 22 AWG)*
Wire Insulation Diameter Range (PE,PVC):	0.7mm to 1.4mm
Number of Wire Terminations:	≥200
Wire Insertion Force (0.5mm conductor dia):	6N
Wire Pull Out Force, Radial (0.5mm conductor dia):	≥5N
Wire Pull Out Force, Axial (0.5mm conductor dia):	≥35N
Number of Patching Cycles:	750

*A maximum of 2 equal diameter solid conductors only, of up to 0.5mm conductor diameter can be terminated per slot. Only 1 conductor of stranded wires per slot can be terminated. If any conductors >0.5mm diameter have been terminated, reversal to smaller conductors is no longer possible.

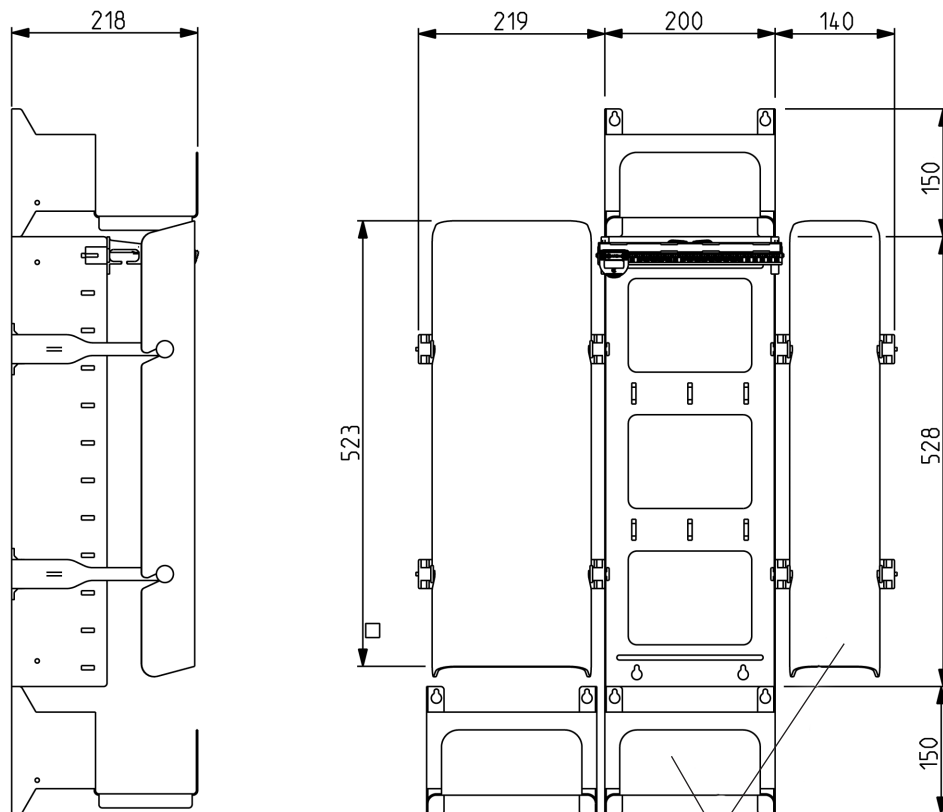
ELECTRICAL

Transmission, Performance and Reliability:	Exceeds ISO/IEC 11801 AS/NZS 3080 TIA/EIA 568-B
Voltage Rating:	150 VAC
Insulation Resistance:	≥500,000 MΩ at 500 VDC

ENVIRONMENTAL AND SAFETY

Safety Compliance:	UL 1863
Flammability Rating of Plastic Housing:	UL 94 VO
Environment for Use:	Indoors or in dry enclosure rated IP54 or greater
Operating Temperature Range:	-40°C to +80°C
Maximum Relative Humidity:	≤93% non-condensing

Dimensions of an installed CopperTen™ 20-pair system with dual and single cable management on either side.

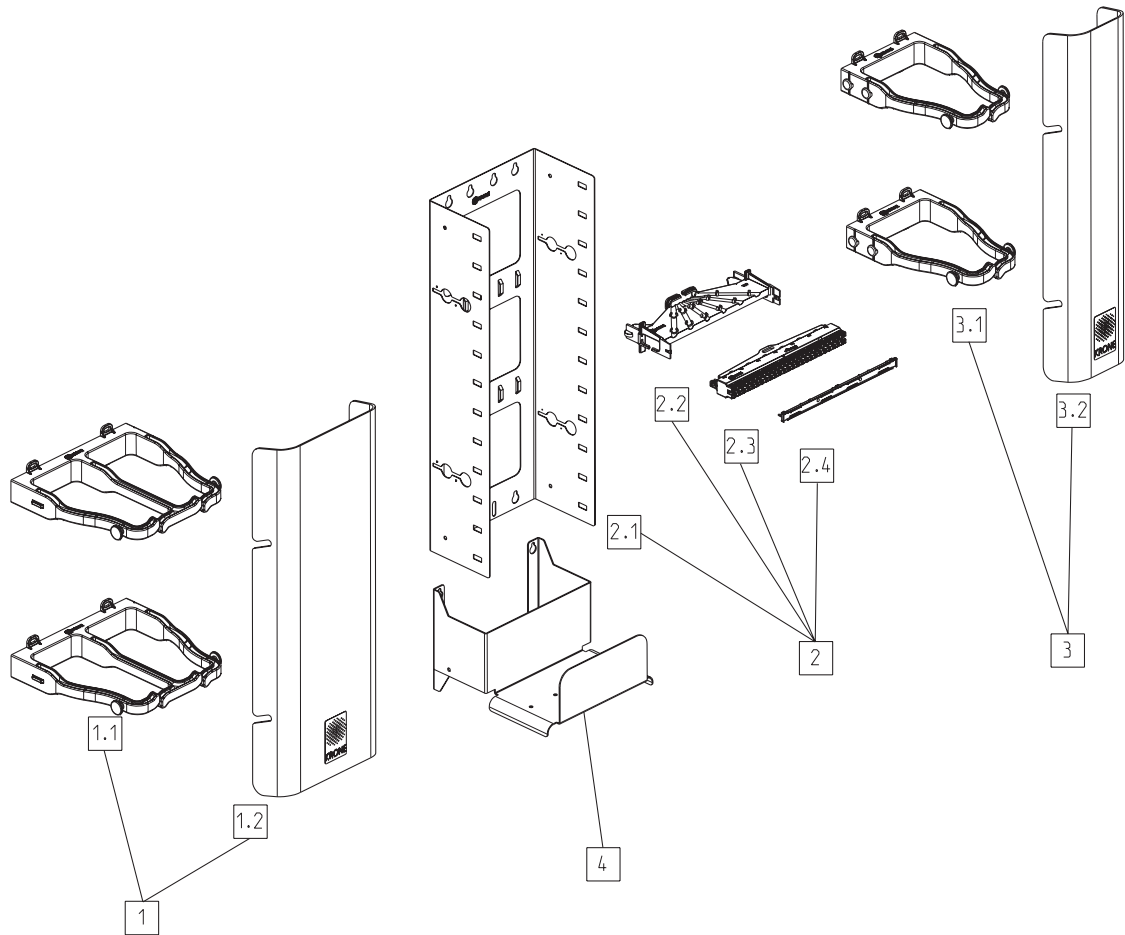


CopperTen™ 10 Gigabit Solutions

Module Specifications

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Key	
1	Dual Cable Management Kit 1.1 Dual Vertical Cable Manager (2) 1.2 Dual Cover
2	CopperTen™ Module Kits 2.1 12 Way Backmount Frame 2.2 Rear Cable Manager (12) 2.3 Modules (12) 2.4 Label Holder Kit (12)
3	Single Cable Management Kit 3.1 Single Vertical Cable Manager (2) 3.2 Single Cover
4	Cable Trough

3. CopperTen™ 10 Gigabit Solutions

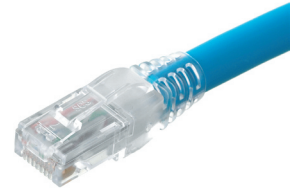
CopperTen™ 10 Gigabit Solutions

Patch Cords

RJ45 to RJ45 Patch Cords

Designed for patching between two RJ45 outlets in a Category 6A network.

Copper conductors used are stranded and compacted to a near-round shape for optimal signal strength.



RJ45 Patch Cord

Description	Quantity	Length	Product No.
CopperTen™ RJ45 Patch Cord	Bag of 1	1.2m	6645 2 8X5-04
CopperTen™ RJ45 Patch Cord	Bag of 1	2.1m	6645 2 8X5-07
CopperTen™ RJ45 Patch Cord	Bag of 1	3.0m	6645 2 8X5-10
CopperTen™ RJ45 Patch Cord	Bag of 1	4.5m	6645 2 8X5-15
CopperTen™ RJ45 Patch Cord	Bag of 1	7.5m	6645 2 8X5-25
CopperTen™ RJ45 Patch Cord	Bag of 1	15.0m	6645 2 8X5-50

Note:

Substitute "X" in the part number for the desired colour.
0=White, 1=Red, 2=Blue, 3=Yellow, 4=Green, 6=Grey

LSZH S/FTP Patch Cords

The high performance plug is designed with an integrated strain relief boot that prevents the cable from moving at the termination point when the cable is flexed.

The copper conductors held within the cable pairs are stranded for superior flexibility and are compacted for optimum signal strength.



LSZH S/FTP Patch Cords

Ordering Information

Description	Length	Colour	Product No
RJ45 LSZH S/FTP Patch Cord	1m	Blue	6830 2 881-04
RJ45 LSZH S/FTP Patch Cord	2m	Blue	6830 2 881-07
RJ45 LSZH S/FTP Patch Cord	3m	Blue	6830 2 881-10
RJ45 LSZH S/FTP Patch Cord	5m	Blue	6830 2 881-15

CopperTen™ 10 Gigabit Solutions

Patch Cords

4-pair Patch Cords

These patch cords are used for patching all four pairs between CopperTen™ modules. Spring loaded shutter protects the contacts when not in use.

These patch cords can be used in ADC KRONE's "Patch-by-Exception" solutions to break the original circuit and patch to a new location.



Rear Facing Patch Cord



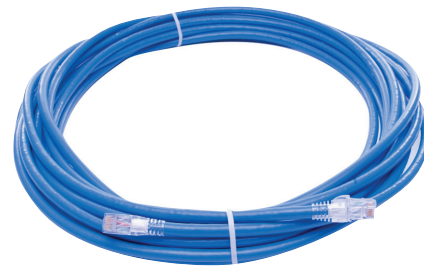
Front Facing Patch Cord

Ordering Information

Description	Quantity	Length	Colour	Product No.
4-pair Rear Facing Patch Cord	Bag of 1	1.2m	Blue	6451 2 401C-10
4-pair Rear Facing Patch Cord	Bag of 1	2.1m	Blue	6451 2 401C-20
4-pair Rear Facing Patch Cord	Bag of 1	3.0m	Blue	6451 2 401C-30
4-pair Rear Facing Patch Cord	Bag of 1	4.5m	Blue	6451 2 401C-40
4-pair Front Facing Patch Cord	Bag of 1	1.2m	Blue	6451 2 443C-10
4-pair Front Facing Patch Cord	Bag of 1	2.1m	Blue	6451 2 443C-20
4-pair Front Facing Patch Cord	Bag of 1	3.0m	Blue	6451 2 443C-30
4-pair Front Facing Patch Cord	Bag of 1	4.5m	Blue	6451 2 443C-40
4-pair Rear Facing to RJ45 Patch Cord	Bag of 1	1.2m	Blue	6451 2 400C-10
4-pair Rear Facing To RJ45 Patch Cord	Bag of 1	2.1m	Blue	6451 2 400C-20
4-pair Rear Facing To RJ45 Patch Cord	Bag of 1	3.0m	Blue	6451 2 400C-30
4-pair Rear Facing To RJ45 Patch Cord	Bag of 1	4.5m	Blue	6451 2 400C-40
4-pair Front Facing to RJ45 Patch Cord	Bag of 1	1.2m	Blue	6451 2 404C-10
4-pair Front Facing To RJ45 Patch Cord	Bag of 1	2.1m	Blue	6451 2 404C-20
4-pair Front Facing To RJ45 Patch Cord	Bag of 1	3.0m	Blue	6451 2 404C-30
4-pair Front Facing To RJ45 Patch Cord	Bag of 1	4.5m	Blue	6451 2 404C-40

System Leads RJ45

Manufactured using the patent-pending CopperTen™ cable, these system leads come supplied with an RJ45 connector on each end. The assembly is cut into two to make two system leads. The RJ45 is plugged or patched into patch panels or network switches and the other end is directly terminated (using the KRONE termination tool) onto a module IDC.



System Leads RJ45

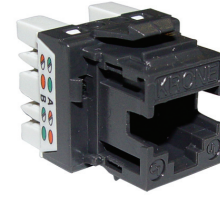
Ordering Information

Description	Quantity	Length	Product No.
CopperTen™ System Leads RJ45 Blue	Bag of 1	10m	6451 2 699-10B
CopperTen™ System Leads RJ45 Blue	Bag of 1	20m	6451 2 699-20B
CopperTen™ System Leads RJ45 Blue	Bag of 1	30m	6451 2 699-30B
CopperTen™ System Leads RJ45 Blue	Bag of 1	40m	6451 2 699-40B
CopperTen™ System Leads RJ45 Blue	Bag of 1	50m	6451 2 699-50B

CopperTen™ 10 Gigabit Solutions Outlets

CopperTen™ UTP Keystone Outlet

These Keystone mount CopperTen™ outlets clip directly into Keystone style faceplates or can be used with our Clipsal/HPM mounting adaptors. The CopperTen™ modular outlet features LSA-PLUS® silver-plated 45° angled contacts for the most secure and reliable connection available.



CopperTen™ Keystone Outlet

Ordering Information

Description	Quantity	Colour	Product No.
CopperTen™ Modular punchdown jack	Bag of 1	White	6830 1 835-01
CopperTen™ Modular punchdown jack	Bag of 1	Ivory	6830 1 835-02
CopperTen™ Modular punchdown jack	Bag of 1	Grey	6830 1 835-03
CopperTen™ Modular punchdown jack	Bag of 1	Black	6830 1 835-04
CopperTen™ Modular punchdown jack	Bag of 1	Red	6830 1 835-05
CopperTen™ Modular punchdown jack	Bag of 1	Blue	6830 1 835-06
CopperTen™ Modular punchdown jack	Bag of 1	Green	6830 1 835-07
CopperTen™ Modular punchdown jack	Bag of 1	Yellow	6830 1 835-08
CopperTen™ Modular punchdown jack	Bag of 1	Purple	6830 1 835-09
CopperTen™ Modular punchdown jack	Bag of 1	Orange	6830 1 835-10

CopperTen™ Shielded Keystone Outlet

The CopperTen™ shielded outlet is utilised at the work area and within the patch panel. Because it is shielded, there are no alien crosstalk issues.



CopperTen™ Shielded Keystone Outlet

Ordering Information

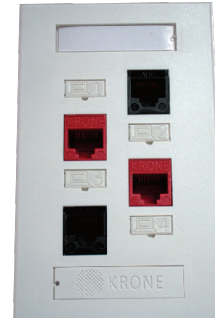
Description	Quantity	Colour	Product No.
CopperTen™ Shielded Keystone Outlet	Pack of 1	White	6830 1 811-01
CopperTen™ Shielded Keystone Outlet	Pack of 1	Black	6830 1 811-04

CopperTen™ 10 Gigabit Solutions

Faceplates

CopperTen™ 4-Port Staggered Faceplate

The unique staggered four-port design supports 10 Gigabit Ethernet performance by countering the negative effects of alien crosstalk.



CopperTen™ 4-Port Staggered Faceplate

Ordering Information

Description	Product No.
CopperTen™ 4-port staggered faceplate Ivory Includes: 2 blank paper labels, 2 clear plastic protectors, 1 logo insert, 6 reversible ID tabs numbered 1–6 (ID tabs match faceplate colors), mounting screws	TNSCSFPSO4-IV

Faceplate with shutter - 1 Port & 2 Port

The faceplate comes with a spring loaded shutter and includes paper labels and clear plastic protectors



Faceplate with shutter - 2 Port & 1 Port

Ordering Information

Description	Quantity	Product No.
1 Port Faceplate (85 X 85) with shutter	Bag of 20	6538 3 111-03
2 Port Faceplate (85 X 85) with shutter	Bag of 20	6538 3 111-04



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