

3M™ Volition™ Enterprise Network Solutions
3M™ Volition™ Data Centre Solutions



Solutions

for Enterprise Networks





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3M™ Volition™ Enterprise Network Solutions

Make the most of your network



Customer Service Excellence

With offices around the world, 3M combines the financial stability of a multi-national organisation with dedicated local sales and customer support staff. Through its long-term experience and global reach, the company understands the issues driving the network market today. 3M is ideally positioned to help customers, whether supporting your efforts to bring new services to market, or meeting an urgent project deadline by supplying products that have a track-record of reliability and quality.

Working with its channel partners 3M is able to ensure national coverage with timely availability, supply and support.

Enterprise Network Solutions

3M offers Volition™ Enterprise Network Solutions for high performance copper, fibre, and copper/fibre hybrid networks.

At the heart of any structured cabling system is the interconnection technology.

3M provides a number of innovative solutions such as a tool-less RJ45 jack for copper solutions for Cat. 5e, Cat. 6 and Cat. 6A; and for fibre, the 3M No Polish Connector in both LC and SC formats.

Volition™ enterprise network solutions are designed for streamlined installation, reduced labour and component costs, with the backing of a company renowned globally for its quality and innovation. 3M structured cabling infrastructures go wherever a local area network is required – offices, hospitals, military sites, schools and universities - and can support standard data and telephony as well as applications requiring higher bandwidths, such as data storage, video streaming and security.

For further technical support, data sheets or general information, please contact 3M (details on back cover)

Everything
your
network needs

3M™ Fibre Solutions

The future is fibre.

And 3M fibre interconnect solutions are leading the way.

A complete family of high performance products

3M meets the increasing demand for speed and reliability with a wide variety of innovative solutions. Choose from a broad range of fibre connectors and couplings, mechanical splices, cable assemblies, patch panels and accessories designed for the interconnection of fibre optic networks.

Connect with 3M experience

With more than 70 years of adhesive expertise, 40 years of ceramic technology leadership, 30 years of fibre optic experience, and more than 40 years serving telecommunications markets, 3M provides a unique offering of convenient, reliable and easy-to-install components for fibre networks.

A full line of products from a full-service company

3M products, systems and services are optimized for constructing and rehabilitating networks for faster, more reliable performance. That means delivering products that conform to industry standards and that are as reliable as they are compatible. 3M maintains a strong reputation for service by collaborating with other industry leaders to develop meaningful goals and standards. We strive to exceed those standards in everything we do.

3M™ Fibrlok™ Fibre Optic Splice Range

A universal mechanical splice which can be used wherever quick and secure splice connections are required. The Fibrlok™ fibre splice provides a precise, simple and low cost method of splicing single and multiple optical fibres without specialised skills or experience.

Straight cleave

	Description	Ref.
Splices	Fibrlok™ II Mechanical Optical Fibre Splice 250µm/900µm	2529
	Fibrlok™ II Mechanical Fibre Splice/Holder Assembly 250µm/900µm	2539
Tools	Fibrlok™ II Mechanical Optical Fibre Splice Tool for Fibrlok™ II 2529	2501
	Fibre Optic Cleaver	2537



3M™ Fibrlok™ II Fibre Optic Splice 2529



3M™ Fibrlok™ II Fibre Optic Splice/Holder 2539



3M™ Fibrlok™ II Optical Fibre Splice Tool for Fibrlok™ II 2529

Features

Simple to install
No electricity required
Choice of single splice for either multimode or singlemode, with either 250µm or 900µm coated fibre
High performance splice loss less than 0.1dB
Permanent fibre optic splice
2529 - six splices in a compact package
Minimal tooling

Benefits

Easy on site installation in any splicing environment
Access to splicing anywhere
Total flexibility, reduced inventory, low tool count
Minimum effect on network power budgets
No need to rework at a later date
Ease of use, convenience
Low capital costs

3M™ No Polish Fibre Connectors (NPC)

No Polish Connectors (NPC) are ideal when a fast on-site termination is required. The NPC features a unique, bell-shaped boot attached to the connector body that keeps the fibre from exceeding its bend radius. The connector can be quickly installed – without electrical power – using a simple field tool that is included in every box of 60 connectors.

SC Connectors

Multimode

Description	Ref.
SC No Polish Connector MM 62.5µm OM1, 250µm/900µm	6800-62.5
SC No Polish Connector MM 50µm OM2, 250µm/900µm	6800-50
SC No Polish Connector MM 50µm LOMMF OM3, 250µm/900µm	6800-50/LOMMF

Singlemode

Description	Ref.
SC No Polish Connector SM 9µm, 250µm/900µm	8800

LC Connectors

Multimode

Description	Ref.
LC No Polish Connector MM 62.5µm OM1, 250µm/900µm	6830-62.5
LC No Polish Connector MM 50µm OM2, 250µm/900µm	6830-50
LC No Polish Connector MM 50µm LOMMF OM3, 250µm/900µm	6830-50/LOMMF

Singlemode

Description	Ref.
LC No Polish Connector SM 9µm, 250µm/900µm	8830

Accessories

Description	Ref.
SC No Polish Connector Assembly Tool	8865-AT
LC No Polish Connector Assembly Tool	8835-AT
No Polish Connector Kit	8865
Fibre Optic Cleaver	2537



Features

Field installation
One piece, pre-assembled design
Simple assembly tool
900µm buffer strain relief
Factory-polished fibre stub in ferrule
Bell-shaped boot

Benefits

Always correct cable length with no cable slack to store
No small, loose parts
Fast, easy installation
Excellent pull out strength
No on-site polish or adhesives required
Helps prevent fibre from bending below minimum bend radius

3M™ Volition™ High Density Fibre Patch Panels

Volition™ patch panels are universal fibre optic patch panels with a sliding tray, available in 6 to 48 port versions. The front panel and holders are changeable for different port count and connector formats. Panels come complete with cassettes and accessories.

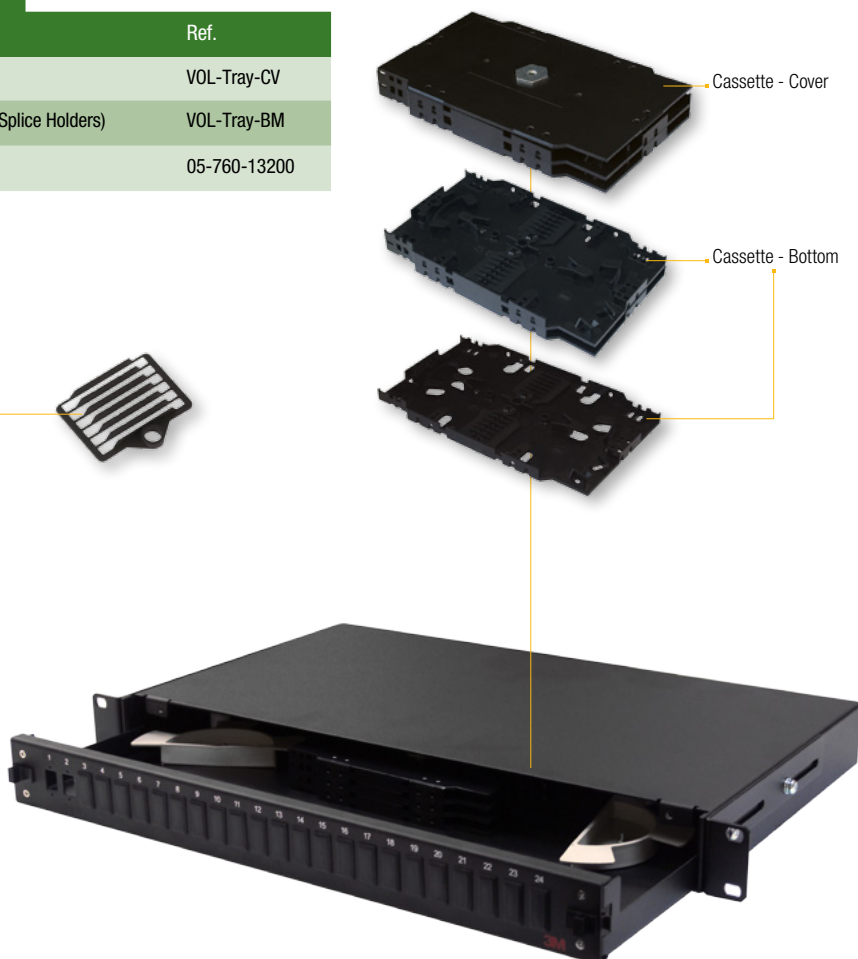
Optical Fibre Patch Panels

Description	Ref.
Fibre Patch Panel, 24/48 ports, 1U, Black	VOL-FP2K-BF24
Front Panel for Patch Panel, 24 port SC Simplex or 24 port LC Duplex, Black	VOL-FP-B24
Front Panel for Patch Panel, 24 port SC Duplex or 24 port LC Quad, Black	VOL-FP-B48

Accessories

Description	Ref.
Cassette for Fibre Patch Panel - Cover	VOL-Tray-CV
Cassette for Fibre Patch Panel - Bottom (with 2 Fusion Splice Holders)	VOL-Tray-BM
2529-H Holder for 6x Fibriok™ 2529 Splices	05-760-13200

2529-H
(Separately ordered if needed)



Features

- Sliding design
- Handles all common connector types
- Multiple cable entry ports
- High density capacity

Benefits

- Easy handling, installer friendly
- Panel available for all applications
- Handles horizontal and backbone cable
- Up to 48 ports in 1U

3M™ Volition™ Fibre Cable

A range of LSOH rated indoor and outdoor multimode cables to complement 3M™ fibre connectors.

Fibre Cable

	Description	Ref.	Comments
Indoor	Indoor Fibre Cable, OM3 Tight Buffer 6 Fibre, LSOH, Aqua	VOL-OM3-6TL	Indoor distribution cable
	Indoor Fibre Cable, OM3 Tight Buffer 12 Fibre, LSOH, Aqua	VOL-OM3-12TL	
Outdoor	Outdoor Fibre Cable, OM3 Loose Tube 6 Fibre, PE Jacket, Black	VOL-OM3-60UP	Gel filled outdoor cable
	Outdoor Fibre Cable, OM3 Loose Tube 12 Fibre, PE Jacket, Black	VOL-OM3-120UP	



Features

Small cable diameter

Designs incorporating glass yarn

Low friction jacket on backbone cables

Soft buffer tubes (indoor cable)

Benefits

Minimises weight and cable installation

Minimises number and size of conduits

Provides maximum number of cables per conduit

Full rodent protection

Easy installation by laying and pulling

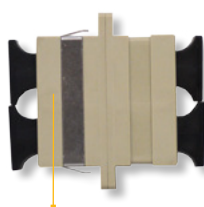
Easy to strip the fibres

3M™ Volition™ Couplings & Pigtails

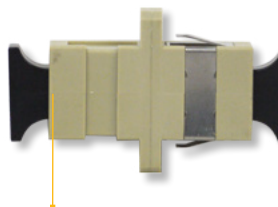
A range of couplings and pigtails to complement the connectors in No Polish Connector ranges.

Optical Fibre Couplers

Multimode			Singlemode		
	Description	Ref.	Description	Ref.	
SC/SC	SC/SC Coupling Duplex MM, Beige	VOL-SCD-MM	SC/SC Coupling Duplex SM, Blue	VOL-SCD-SM	
	SC/SC Coupling Simplex MM, Beige	VOL-SCS-MM	SC/SC Coupling Simplex SM, Blue	VOL-SCS-SM	
	SC/SC Coupling Simplex MM, Flangeless, Aqua	VOL-SCS-MM-FL	SC/SC Coupling Simplex SM, Flangeless, Blue	VOL-SCS-SM-FL	
LC/LC	LC/LC Coupling Duplex MM, fits on SC Simplex Footprint, Beige	VOL-LCD-MM	LC/LC Coupling Duplex SM, fits on SC Simplex Footprint, Blue	VOL-LCD-SM	
	LC/LC Coupling Duplex MM, Flangeless, Aqua	VOL-LCD-MM-FL	LC/LC Coupling Duplex SM, Flangeless, Blue	VOL-LCD-SM-FL	
	LC/LC Coupling Quad MM, fits on SC Duplex Footprint, Beige	VOL-LCQ-MM	LC/LC Coupling Quad SM, fits on SC Duplex Footprint, Blue	VOL-LCQ-SM	



SC Duplex Coupling Multimode



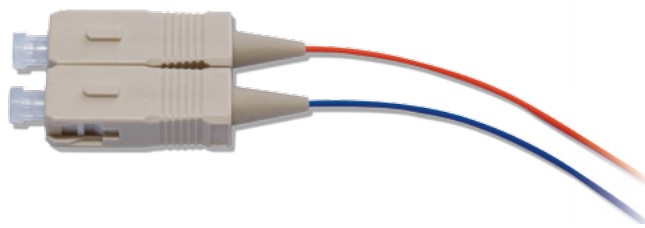
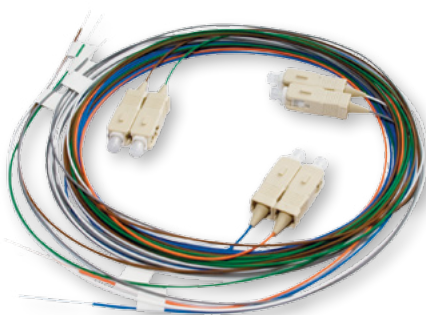
SC Simplex Coupling Multimode



LC Duplex Singlemode

Optical Fibre Pigtails

Multimode			Singlemode		
	Description	Ref.		Description	Ref.
SC	SC Pigtail 50/125 MM OM3 6 Colour Kit, 2m	VOL-SOM3-SC6		SC Pigtail 9/125 SM 6 Colour Kit, 2m	VOL-SSM-SC6
	SC Pigtail 50/125 MM OM3 12 Colour Kit, 2m	VOL-SOM3-SC12		SC Pigtail 9/125 SM 12 Colour Kit, 2m	VOL-SSM-SC12
LC	LC Pigtail 50/125 MM OM3 6 Colour Kit, 2m	VOL-SOM3-LC6		LC Pigtail 9/125 SM 6 Colour Kit, 2m	VOL-SSM-LC6
	LC Pigtail 50/125 MM OM3 12 Colour Kit, 2m	VOL-SOM3-LC12		LC Pigtail 9/125 SM 12 Colour Kit 2m	VOL-SSM-LC12



Features

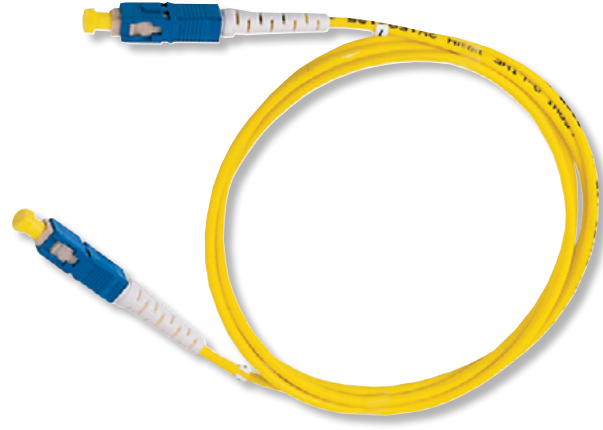
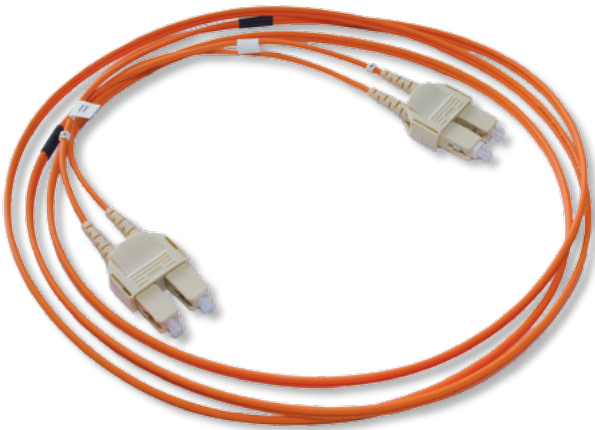
Colour coded pigtail kit

Benefits

Improves cable handling and management

3M™ Volition™ Fibre Patch Cords

3M™ fibre patch cords are an integral part of 3M's fibre optic offering and are designed, manufactured and tested to meet worldwide specifications.



Fibre Patch Cords

Multimode

Description	Ref.
SC-SC Patch Cord MM Duplex 2mm OM3, Aqua, LSOH, Xm (X = length : 1, 2, 3, 5)	VOL-M3SS-20DPX
SC-LC Patch Cord MM Duplex 2mm OM3, Aqua, LSOH, Xm (X = length : 1, 2, 3, 5)	VOL-M3SL-20DPX
LC-LC Patch Cord MM Duplex 2mm OM3, Aqua, LSOH, Xm (X = length : 1, 2, 3, 5)	VOL-M3LL-20DPX

Singlemode

Description	Ref.
SC-SC Patch Cord SM Duplex 2mm, Yellow, LSOH, Xm (X = length : 1, 2, 3, 5)	VOL-SMSS-20DPX
SC-LC Patch Cord SM Duplex 2mm, Yellow, LSOH, Xm (X = length : 1, 2, 3, 5)	VOL-SMSL-20DPX
LC-LC Patch Cord SM Duplex 2mm, Yellow, LSOH, Xm (X = length : 1, 2, 3, 5)	VOL-SMLL-20DPX

Features

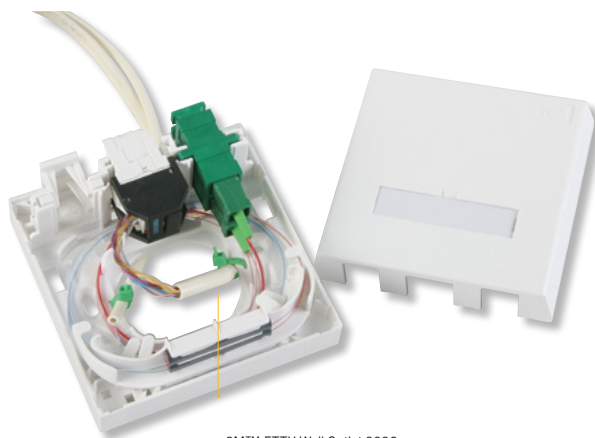
Factory terminated patch cords
Multimode and single mode
Wide range of connectors available

Benefits

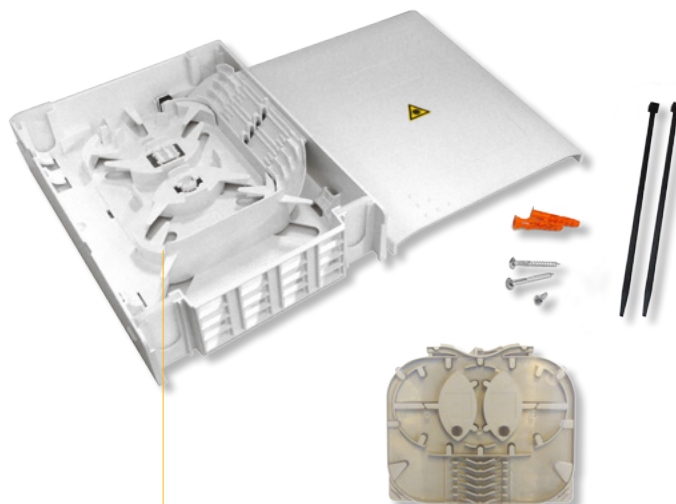
Assured performance and reliability
Designed for premises cabling, both backbone and horizontal applications
Extensive range to meet all needs

3M™ Wall Mounted Patch & Splice Boxes & Outlets

A range of wall mounted boxes to complement the range of 3M connectors.



3M™ FTTH Wall Outlet 8686



3M™ PBPO/C Internal Distribution Box



Cassette for PBPO/C Internal Distribution Box
(Separately ordered if needed)

Wall Mounted Fibre Outlets

Description	Ref.
FTTH Wall Outlet 8686 for Fibre and RJ45	8686
PBPO/C Internal Distribution Box for 16SC or 32LC	N501760A
Cassette for 6x Fibrlok™ II 2529 / 12x Fusion (250µm) / 8x Fusion (900µm)	N541121A

Features

Wall mounted
Compact size

Benefits

Quick easy to install, simple to use
Unobtrusive

3M™ Volition™ Copper Cabling Systems

State of the art voice and data cabling solutions

An integrated approach

3M data cabling systems are designed for streamlined installation and reduced labour and component costs. This enables users, system installers and consultants to specify an entire integrated cabling solution from a single source.

Future proof and flexible

As network speeds increase customers are demanding extra flexibility from their passive network, which must be future proof and easy to install and maintain. 3M has designed a variety of easy to install, innovative connectivity solutions to ensure a high performance, reliable data cabling system, that is simple to maintain. The data cabling range includes all the products required for passive cabling from low data rates to 10Gbit/s performance, including connectors, cable, patch cords and associated hardware.

Key Benefits

- Labour time and cost reduction
- Full portfolio – “one stop shop”
- Meets all key industry standards
- 25 year warranty*

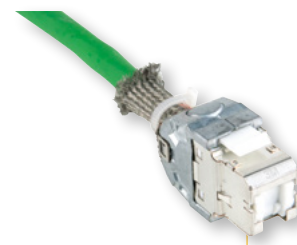
*Terms and conditions apply

3M™ Volition™ RJ45 Jacks & Plugs

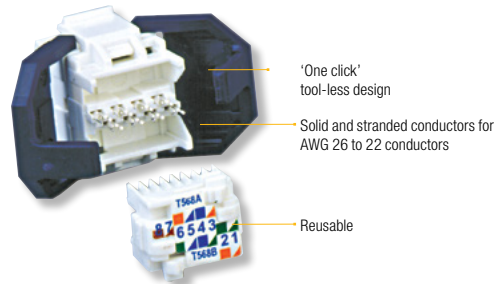
With their compact size, integral shutter and tool-less termination, Volition™ RJ45 jacks from 3M ensure a smart, reliable installation. All 8 copper conductors are effortlessly terminated in one simple operation resulting in reliable interconnection in record time. If a wiring mistake is made the jack can be reused several times.

Cat.6A		Ref.	Cat.6		Ref.	Cat. 5e		Ref.
Description			Description			Description		
Unshielded			Cat. 6 UTP RJ45 Jack, White		VOL-OCK6-U	Cat. 5e UTP RJ45 Jack, White		VOL-OCK5E-U
			Cat. 6 UTP RJ45 Jack, Black		VOL-OCK6-U-BK	Cat. 5e UTP RJ45 Jack, Black		VOL-OCK5E-U-BK
			Cat. 6 FTP RJ45 Jack, White		VOL-OCK6-F	Cat. 5e FTP RJ45 Jack, White		VOL-OCK5E-F
Shielded	Cat. 6A STP RJ45 HW Jack, White	VOL-OCK6A-SN8				Cat. 5e STP RJ45 Jack, White		VOL-OCK5E-S

*Other shielded options available on request



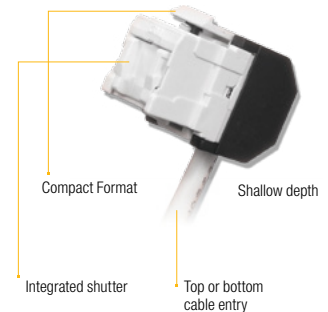
3M™ Volition™ Cat. 6A STP RJ45 Jack
(Hardware, 3-way entries)



'One click'
tool-less design

Solid and stranded conductors for
AWG 26 to 22 conductors

Reusable



Compact Format

Shallow depth

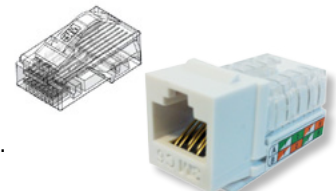
Integrated shutter

Top or bottom
cable entry

Features	Benefits
Tool-less jack	Easy and quick to install Reliable and consistent connection
Reusable	No need to use a new jack if a wiring mistake is made
Shallow depth, cable entry from top or bottom	More space and flexibility to ensure the cable minimum bend radius is never compromised Allows a wide range of cable routing options
Accepts both solid and stranded conductors	Compatible with wide range of solid conductors from AWG 26 to 22 and stranded conductors
Integral shutter	Increased dust protection, especially during installation or in a dirty environment No additional shuttering required on faceplates Allows direct mounting into floor boxes
Various colors	Easy differentiation

3M™ Volition™ 110 Type RJ45 Jacks ; Tool & Plugs

Volition™ 110 type jacks are a cost effective, punch down termination style modular jack with mounting.



Jacks		Tool		Plugs	
Description	Ref.	Description	Ref.	Description	Ref.
Cat. 6 110 type RJ45 Jack, White	VOL-RJ45-UC6-W	110 type Impact Tool	VOL-IM-TOOL	Cat. 6 UTP RJ45 Plug	VOL-RJ45PLG-6L
Cat. 5e 110 type RJ45 Jack, White	VOL-RJ45-UC5-W			Cat. 5e UTP RJ45 Plug	VOL-RJ45PLG-5EL

3M™ Volition™ Patch Panels & Cable Management



Cable Management



24 port Classic Patch Panel



24 port Classic Angled Patch Panel

All Categories

	Description	Ref.
Unshielded & Shielded	24 port Classic Patch Panel 1U, Black	VOL-PPCB-F24K
	24 port Classic Angled Patch Panel 1U, Black	VOL-KPP-A24
Accessories	19" Cable Management (Metal), Black	VOL-19-MM
	Port Colour Cap X = colour, B = Blue ; Y = Yellow ; R = Red ; G = Green	VOL-PCCX

Features

High density modular concept

Fully shuttered presentation when loaded

Direct and individual earthing connection upon insertion of jacks (FTP and STP 360° shielded jacks)

Benefits

Individual installation and replacement of jacks gives easier and more economical maintenance

Increased dust protection, especially during installation or in a dirty environment

Increased EMC protection, minimising conducted interference

3M™ Volition™ 110 Type Patch Panels

3M™ Volition™ type 110 patch panels are punch-down termination style patch panels with rear cable management. Suitable for unshielded solutions.



Cat. 6

	Description	Ref.
Unshielded	Cat. 6 24 Port, 110 type Patch Panel 1U, Black	VOL-24P-UC6
	Cat. 6 48 Port, 110 type Patch Panel 2U, Black	VOL-48P-UC6

Cat. 5e

	Description	Ref.
Unshielded	Cat. 5e 24 Port, 110 type Patch Panel 1U, Black	VOL-24P-UC5
	Cat. 5e 48 Port, 110 type Patch Panel 2U, Black	VOL-48P-UC5

Features

Terminates with the standard 110 tool

Removable cable retention bar

Includes fixing kit

Benefits

Uses a widely available tool for assembly

Control of cable strain relief and bending giving increased system performance

Complete kitting requirements in one box

3M™ Volition™ Copper Cable

A wide range of 100 ohm twisted pair copper cables with superior electrical performance to complement the Volition™ RJ45 Jacks. Cables meet ANSI/TIA 568C.2, ISO 11801, EN 50173 and AS/NZS 3080 standards.



Cat.6A		Cat.6		Cat. 5e	
Description		Description		Description	
Ref.		Ref.		Ref.	
Unshielded		Cat. 6 PVC 4pr UTP Cable	VOL-6UP4-305	Cat. 5e PVC 4pr UTP Cable	VOL-5EUP4-305
		Cat. 6 LSOH 4pr UTP Cable	VOL-6UL4-305	Cat. 5e LSOH 4pr UTP Cable	VOL-5EUL4-305
Shielded	Cat. 6A LSOH 4pr U/FTP Cable	VOL-6AUFL4	Cat. 6 PVC 4pr FTP Cable	VOL-6FP4-305	
	Cat. 6A LSOH 4pr F/UTP Cable	VOL-6AFL4	Cat. 6 LSOH 4pr FTP Cable	VOL-6FL4-305	

*Other cable sheath and shielding options available on request

Features

- Length markings on cable sheath
- Good headroom over stated performance

Benefits

- Installer friendly
- Confidence in performance of finished network

3M™ Volition™ Patch Cords

A range of copper patch cords to complete a copper channel made with Volition™ components.



Cat.6A		Cat.6		Cat. 5e	
Description		Description		Description	
Ref.		Ref.		Ref.	
Unshielded		Cat. 6 UTP PVC Patch Cord, Blue, Xm X = length: 0.5, 1, 2, 3, 5, 10	VOL-6UP-LX-B	Cat. 5e UTP PVC Patch Cord, Blue, Xm X = length: 0.5, 1, 2, 3, 5, 10	VOL-5EUP-LX-B
	Cat. 6A S/FTP LSOH Patch Cord, Turquoise, Xm X = length: 1, 2, 3, 5				
Shielded					

Features

- Moulded boot
- Good headroom over stated performance

Benefits

- Better mechanical protection ensures the minimum bend radius is not exceeded
- Confidence in performance of finished network

3M™ Volition™ Data Centre Solutions

Energy efficient fibre cabling solutions

3M's Environmental, Social and Economic Sustainability

3M has a longstanding commitment to sustainable development through environmental protection, social responsibility and economic progress. To us, that means meeting the needs of society today, while respecting the ability of future generations to meet their needs. We recognize that the company's long-term success springs from adopting and implementing the principles of sustainable development: stewardship to the environment, contributions to society, and to the creation of economic value and worth. At the same time, we recognize that only by continuing to be a viable and successful enterprise can we continue to be a positive contributor to sustainable development.

3M Sustainability Principles

- Economic Success: Build lasting customer relationships by developing differentiated, practical and ingenious solutions to their sustainability challenges.
- Environmental Protection: Provide practical and effective solutions and products to address environmental challenges for ourselves and our customers.
- Social Responsibility: Engage key stakeholders in dialogue and take action to improve 3M's sustainability performance.

The "Green ICT" Initiative and Cabling Systems

Organizations are trying to reduce their energy consumption to cut costs and reduce effects on the environment. They must meet the expectations of their customers and their employees and anticipate new regulations. Along with ICT suppliers, they are changing the way in which their computer systems are designed, manufactured, operated and recycled. The initiative focuses on data centers. The cabling system can also be a source of energy saving.

How Fibre Optics Can Help Save Power and Reduce Costs

A cabling system based on fibre optic could be a key factor in reducing power consumption inside an office building and in deploying a "Green ICT" solution. The adoption of a full fibre optic cabling system could allow the deployment of a centralized network architecture. Small diameter fibre cable could support high density installations and help achieve material reduction.

As a result, the Green initiatives generated by fibre cabling result from:

- A 10G fibre optic card using significantly less power than a copper one.
- Lower insulation and jacketing requirements for fibre cable compared with copper wiring (transmitting light signals instead of electricity) thus reducing total insulated cable use.
- Less fill ratio in a cable tray meaning better air flow. Lower heat load from active equipment.

3M™ Volition™ Energy Efficient Fibre Solution

3M™ Volition™ MPO Connectivity

With the introduction of this product line 3M offers state of the art connectivity for data centre cabling.

The modular construction combines high port density with typical 3M ease of installation. The 19" sub-rack patch panel accommodates up to 3 pre-connected modules with a port density of 24 LC connections per module. A total of 72 LC connectors can be connected on one height unit. The rear side of the module has one entry port for 12 fibre MPO ribbon backplane cables. The connection between two panels is done by either MPO/MPO, MPO/LC or MPO/SC pre-terminated backplane 12 fibre ribbon cables with OM3 or OS1 fibres inside.

MPO Connectivity		
	Description	Ref.
Patch Panel	High Density Fiber MPO Patch Panel, 48/96 ports, w/o front plate & coupling, Black	VOL-FP2K - BF96
	Blank Insert for the High Density Fiber MPO Patch Panel, 48/96 ports, Black	VOL-FP - HD - BK
MPO Type B Modules (I)	High Density MPO Module I (OM3) 12 ports SC Duplex	VOL-MOPI-3-SC12
	High Density MPO Module I (OM3) 12 ports LC Duplex	VOL-MOPI-3-LC12
	High Density MPO Module I (OM3) 24 ports LC Duplex	VOL-MOPI-3-LC24
	High Density MPO Module I (OM4) 12 ports SC Duplex	VOL-MOPI-4-SC12
	High Density MPO Module I (OM4) 12 ports LC Duplex	VOL-MOPI-4-LC12
	High Density MPO Module I (OM4) 24 ports LC Duplex	VOL-MOPI-4-LC24
	High Density MPO Module I (SM) 12 ports SC Duplex	VOL-MOPI-S-SC12
	High Density MPO Module I (SM) 12 ports LC Duplex	VOL-MOPI-S-LC12
	High Density MPO Module I (SM) 24 ports LC Duplex	VOL-MOPI-S-LC24
	High Density MPO Module II (OM3) 12 ports SC Duplex	VOL-MOPII-3-SC12
	High Density MPO Module II (OM3) 12 ports LC Duplex	VOL-MOPII-3-LC12
	High Density MPO Module II (OM3) 24 ports LC Duplex	VOL-MOPII-3-LC24
	High Density MPO Module II (OM4) 12 ports SC Duplex	VOL-MOPII-4-SC12
	High Density MPO Module II (OM4) 12 ports LC Duplex	VOL-MOPII-4-LC12
	High Density MPO Module II (OM4) 24 ports LC Duplex	VOL-MOPII-4-LC24
	High Density MPO Module II (SM) 12 ports SC Duplex	VOL-MOPII-S-SC12
	High Density MPO Module II (SM) 12 ports LC Duplex	VOL-MOPII-S-LC12
	High Density MPO Module II (SM) 24 ports LC Duplex	VOL-MOPII-S-LC24
Backplane Patch Cable	MPO-MPO OM3 50/125um 12 core Standard Grade Patchcord, Xm (X = 5, 10, 20, 30, 40)	VOL-M3MM-BJ12X
	MPO-MPO OM4 50/125um 12 core Standard Grade Patchcord, Xm (X = 5, 10, 20, 30, 40)	VOL-M4MM-BJ12X
	MPO-MPO SM 9/125um 12 core Standard Grade Patchcord, Xm (X = 5, 10, 20, 30, 40)	VOL-SMMM-BJ12X
	MPO-MPO OM3 50/125um 12 core Premium Grade Patchcord, Xm (X = 5, 10, 20, 30, 40)	VOL-M3MM-BJ12X-P
	MPO-MPO OM4 50/125um 12 core Premium Grade Patchcord, Xm (X = 5, 10, 20, 30, 40)	VOL-M4MM-BJ12X-P
	MPO-MPO SM 9/125um 12 core Premium Grade Patchcord, Xm (X = 5, 10, 20, 30, 40)	VOL-SMMM-BJ12X-P

Components based on Modified Method B. Components for Method A available on request.

Features	Benefits
High density	Up to 72 ports in 1U
Modular design	Flexibility for re-arrangements
Pre-assembled modules	Ease of installation, no risk of fibre breakage
Pre-connectorized MPO backplane cables	Plug and play
ANSI/TIA Version B cabling with pair flipped module	Straight through MPO/MPO backplane cables

3M™ Volition™ Energy Efficient Fibre Solution cont.

3M™ No Polish Connectors (NPC)

No Polish Connectors (NPC) enable fast, on-site installation of 250µm and 900µm connections utilizing a one piece, pre-assembled design. NPC is tested for premises and FTTP applications for indoor and outdoor locations and is available in SM and 50µm LOMMF OM3 for 10G applications. The No Polish connector meets ANSI/TIA 568-C.3 and IEC requirements.

LC Connectors

Multimode		Singlemode	
Description	Ref.	Description	Ref.
SC No Polish Connector MM 50µm LOMMF OM3, 250µm/900µm	6800-50/LOMMF	SC No Polish Connector SM 9µm, 250µm/900µm	8800
LC No Polish Connector MM 50µm LOMMF OM3, 250µm/900µm	6830-50/LOMMF	LC No Polish Connector SM 9µm, 250µm/900µm	8830



Features

Field installation
One piece, pre-assembled design
Simple assembly tool
900µm buffer strain relief
Factory-polished Fibre stub in ferrule
Bell-shaped boot

Benefits

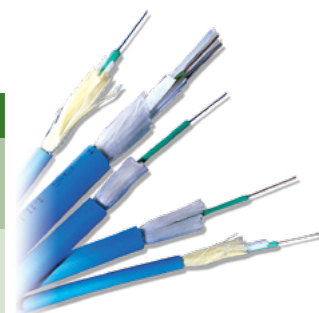
Always correct cable length with no cable slack to store
No small, loose parts
Fast, easy installation
Excellent pull out strength
No on-site polishing or adhesives required
Helps prevent Fibre from bending below minimum bend radius

3M™ Volition™ Fibre Cable

The range includes horizontal and backbone cable with OM3 multimode and 9/125µm single mode fibre as part of a 10G solution. OM3 laser optimized multimode fibre achieves 10Gb/s serial transmission at 850nm at distances up to 300m which is enough to wire in a building. The horizontal cable provides the physical link between the fibre connector patch panel in the floor distributor and the fibre connector in the outlet.

Fibre Cable

	Description	Ref.	Comments
Indoor	Indoor Fibre Cable, OM3 Tight Buffer 6 Fibre, LSOH, Aqua	VOL-OM3-6TL	Indoor distribution cable
	Indoor Fibre Cable, OM3 Tight Buffer 12 Fibre, LSOH, Aqua	VOL-OM3-12TL	
Outdoor	Outdoor Fibre Cable, OM3 Loose Tube 6 Fibre, PE Jacket, Black	VOL-OM3-60UP	Gel filled outdoor cable
	Outdoor Fibre Cable, OM3 Loose Tube 12 Fibre, PE Jacket, Black	VOL-OM3-120UP	



3M™ Volition™ Cat.6A Copper Cabling System

10 Gigabit per second Copper Cabling Technologies

The IEEE 802.3an group chose a maximum frequency of 500 MHz which doubles the frequency range of the original Category 6 which is specified up to 250 MHz. The IEEE group also defined a new electrical parameter for the channel which is “alien cross talk” (AXT). AXT is all the electrical noise created on a cable or an RJ45 jack by neighbouring cables and jacks.

The number one interference in 10GBASE-T is AXT, the effects of which disturb not only the cables, particularly in the cable routes, but also the RJ45 jacks, especially in patching racks where there are many adjacent links.

Volition™ Category 6A Solution

Fully shielded Volition™ Category 6A solution provides the best immunity for alien cross talk which is the greatest concern in 10G/s Ethernet transmission quality. Volition™ Category 6A is designed for Category 6A on twisted copper pairs in compliance with the most recent ISO/IEC and TIA standards for Channel and Permanent Link configurations.

The Volition™ Category 6A Solution is differentiated by the unequalled reduction of the effects of AXT over the entire channel. The solution is comprised of a complete range of RJ45 jacks, twisted pair copper cables, 19” patch panels and RJ45 patch cables.

The Volition™ Category 6A solution fully meets the requirements of a 10 Gb/s local area network infrastructure.



Volition™ RJ45 Cat. 6A Jack

The Volition™ RJ45 Cat. 6A tool-less hardware jack has been specially developed for Cat. 6A systems on twisted pair cable in compliance with the standards ISO/IEC 11801 and ANSI/TIA568C.2.

Features	Benefits
No need to untwist pairs before inserting the wires in the wire-guide	Faster termination
360° metallic shield	Immunity against AXT Noise compensation and cancellation between pairs in neighbouring cables
Tool-free connection	Easy and quick to install Reliable and consistent connection
Reusable	No waste in the case of cabling errors
Built-in dust shutter, closes automatically	Immunity to dust both on patch panels and on terminal outlets
Small in size	Can be used in shallow housings
Connector can be terminated with both solid and stranded wire	Enables “jack to plug” cables to be manufactured using stranded conductors (for use in open office architectures)

3M™ Volition™ Cat.6A Copper Cabling System cont.

Volition™ Patch Panels

Volition™ patch panels are modular and can accommodate up to 24 RJ45 ports in one unit of rack space (1U). Their modular design makes them easy to install on site in 19" racks. All Volition™ patch panels have an earth stud which permits continuity of earth with the RJ45 Cat. 6A jacks.

Volition™ Cat. 6A Cables

The Volition™ Cat. 6A cables have been specially developed to ensure excellent immunity against AXT up to 500 MHz. All cables of Volition design have a general shield and/or screen per pair. Volition™ cables benefit from unequalled immunity to AXT (see Delta certificates).

Volition™ cables are easy to install and do not require any special installation precautions. Connection to the Volition™ Cat. 6A RJ45 jack remains simple and familiar. Pulling in the cables is easy, due to the fact that their outer dimensions are very close to the current Volition™ Cat. 6 cables. Volition™ Cat. 6A cables feature LSOH (Low Smoke Zero Halogen) sheath.

Features

- Cat. 6A cable with round design
- General shield and/or screen per pair
- Metric markings on exterior sheath

Benefits

- Easy to terminate with Volition™ Cat. 6A RJ45 jack
- Unequalled protection against AXT
- Makes it easier to manage the installation

Volition™ Patch Cords

Volition™ patch cords provide excellent immunity against AXT up to 500 MHz, in particular reducing the effect of AXT in patching racks where there are many adjacent links.

Volition™ patch cords have a general braid and a screen per pair. Volition™ patch cords are available with LSOH (Low Smoke Zero Halogen) sheath.

Cat.6A Copper Solution

	Description	Ref.
Jack	Cat. 6A STP RJ45 HW Jack, White	VOL-OCK6A-SN8
	24 port Classic Patch Panel 1U, Black	VOL-PPCB-F24K
Patch Panels	24 port Classic Angled Patch Panel 1U, Black	VOL-KPP-A24
	19" Cable Management (Metal), Black	VOL-19-MM
Cable	Cat. 6A LSOH 4pr U/FTP Cable	VOL-6AUFL4
	Cat. 6A LSOH 4pr F/UTP Cable	VOL-6AFL4
Patch Cords	Cat. 6A S/FTP LSOH Patch Cord, Turquoise, Xm X = length: 1, 2, 3, 5	VOL-6ASFL-LX-T



3M™ Volition™ Enterprise Network Solutions

Warranty



A cabling system is a crucial part of a company's communications system and you need to be confident that the network will work to specification from commissioning to the end of its lifetime.

3M offers an extended 25 year warranty* for the entire range of passive permanent link components in the Volition and Fibre Interconnect ranges that they will continue to perform to ISO/IEC 11801, EN 50173, ANSI/TIA 568C.2 and AS/NZS 3080 standards in force at the time of installation.

3M Company is already more than 100 years old, has served telecommunications markets for more than 40 years, and is committed to being a leading supplier of Network Cabling Systems, so you can be sure that the warranty will be valid until the end of its term.

The warranty is extended through 3M certified installers who support the warranty in the field, backed by 3M technical support.

*Terms and conditions apply

Network Solutions

that power business

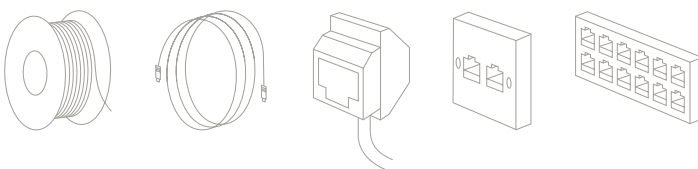


Case Study - Birds Nest Stadium

"3M helps the Bird's Nest Stadium win
Birds Nest Stadium the race against time."

When spectators avidly watch sports results displayed on giant screens in the Beijing National Stadium – commonly known as the Bird's Nest - few will know that what they are seeing depends on a Volition™ structured cabling system provided by 3M, the diversified technology company.

Technology built for business



3M



“Reliability rather than high speed communications was the priority when we were designing the system.”

Supporting voice and other data communications too, this robust system comprises some 3000 lines and 6000 connections. Moreover, the design of the 3M product range was essential to completing the Bird's Nest's networking on schedule, despite a tough deadline.

Golden Huang, a senior marketing analyst with 3M in China and closely involved in the project, takes up the story: “I believe we were chosen for four reasons. First, we had already completed successful projects with the Chinese government. Second, we were able to provide a very comprehensive support service, from system design through to testing. Third, product quality: in its appointment of 3M, the National Stadium Company Ltd—responsible for the Bird's Nest construction project said, “3M cabling products have reliable quality and advanced technology.”

“Fourth and very importantly, the ease with which our 3M products — particularly our RJ45 jacks — can be installed meant that the installation time was drastically reduced, so the project could still be completed on schedule, despite the tight deadline.”

As soon as 3M was awarded the project, there was no time to lose: the entire cabling system had to be designed, installed in tested in less than three months. Says Golden, “Reliability rather than high speed communications was the priority when we were designing the system, so we provided a design based on a fibre backbone and 1Gb Category 6 copper cabling to connect network devices.” The exceptions are the two large screens located at the North and South entrances of the stadium, displaying results of each sports event, which are connected using high speed fibre.

As well data communications, the cabling systems also supports voice services and redundant paths were built into all parts of the network, to provide a back-up plan should any problems occur.

Part of 3M's role was to train the Bird's Nest's in-house engineering team to install and maintain the structured cabling system for themselves. This was made simpler by the fact that the 3M jacks are designed for easy and consistent quality of installation. Moreover, the ‘tool-less’ design means that more connections can be completed within the same time period compared to other types of jack. When thousands of connections are involved, this time-saving makes a major contribution. Golden Huang adds, “The dust-proof shutter on the jack prevents risk of contamination, which is an important considering when working on a construction site.”

Despite the product's time-saving design, the clock was still against everyone involved, so the local 3M team found themselves working 24-hour shifts at the stadium, often in icy cold and dark conditions. The system was ready in time for the opening ceremony of the 2008 Olympics and everyone's efforts were rewarded when the National Stadium Team, gave 3M an award for its ‘outstanding contribution.

Several years later, the cabling system is still working hard to support the iconic Bird's Nest Stadium, now available for hire for sports and other events. Concludes Golden Huang, “With 3M Volition, we can provide the best of two worlds: fast installation and excellent long term reliability. It's a winning combination.”





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