



FIBRE OPTIC INFRASTRUCTURES FOR DATA CENTERS



About us and what we do



ABOUT US

CCS® Connectivity & Cabling System founded in 2001, develops, manufactures, and delivers professional copper and fiber optic solutions for specific applications in local area networks, data centers and FTTx systems.

Thanks to our 25 years experience and to a solid network of partners, we are a reference point in domestic and international markets.

CCS® Connectivity & Cabling System is a registered trademark owned by Gubix SpA. We are also renowned as excellence centre for technical training.

WHAT WE DO

We provide ICT infrastructure professionals with reliable, innovative, and ready-to-use products, supported by efficient logistics and a highly qualified technical team.

Our product range includes:

- Complete optical cabling system
- Structured copper cabling solutions
- Containment systems consisting of cabinets for housing, protecting, and managing network equipment and components.

Each product is engineered to guarantee high performance, reliability, and full compliance with international standards.



Hexatronic Group



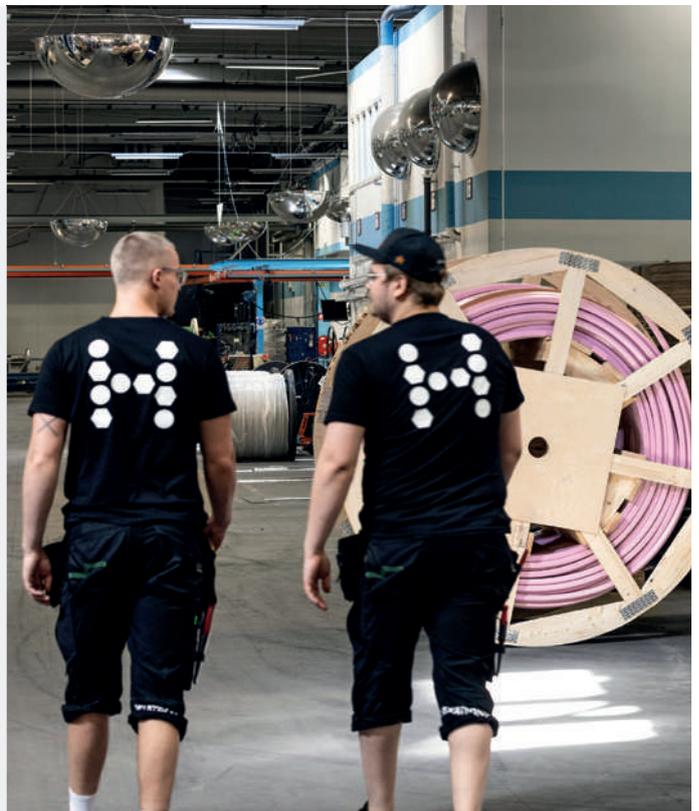
THE GROUP

Hexatronic Group based in Göteborg, Sweden, gathers 40 operational entities divided into 4 strategic business areas for a total of over 2000 employees. With a strong presence in Europe, North America, New Zealand, Australia and seven operational entities specialised in the production of fibre optic cables, microtubes and connectivity components, the Group offers a complete range of solutions for passive fibre optic and copper infrastructure.

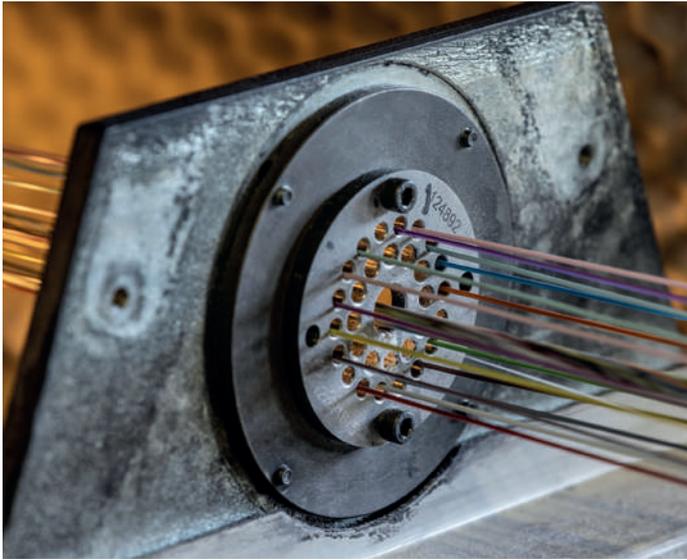
Each company works daily to expand and refine their technological offering, ensuring constant support, from the design phase to implementation in the field. With a view to continuous evolution, Hexatronic invests in the development of innovative solutions, processes and methodologies to anticipate market needs, optimise network performances and reduce environmental impact.

HEXATRONIC IN NUMBERS

- 40 operational entities
- 18 production sites in 9 countries
- 2000 employees
- 4 business areas:
 - Fiber Solutions
 - Harsh Environment
 - Data Center
 - Wireless
- Around 700 Mio euro turn-over



Our production categories



CABLES

We manufacture our cables at our flagship production facility in Hudiksvall, where we have a heritage of cables and product development at the forefront. We also design and manufacture dynamic cables for harsh environment at Fibron in the UK and Rochester Cable in the US.

DUCTS AND CONDUITS

For ducts, we believe production should be as close as possible to our customers, so we have facilities worldwide from New Zealand to Austria.



ASSEMBLIES

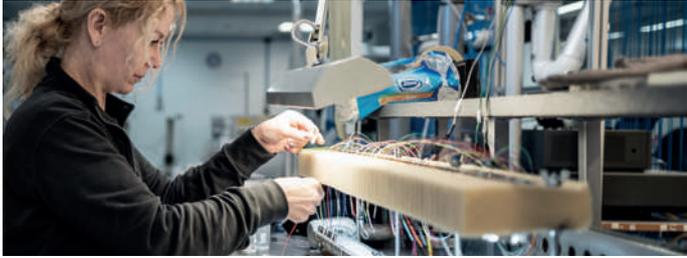
Assemblies are made by our team in the Baltic and the UK, but also in the US by the Data Center Systems (DCS).

A selection of our production facilities



HEXATRONIC IN SWEDEN - Hudiksvall

Our flagship production facility in Hudiksvall hosts production lines for our high-quality fiber optic cables and ducts for any network project. We also have our own product development and extensive testing and quality control. We ship to customers worldwide.



HEXATRONIC IN THE BALTIC - Tallin

Welcome to Tallinn in Estonia. This production started already in 2002, and the facility has grown to be the biggest fiber optic termination house in the Baltic and Scandinavia.

The experienced team handles cable assemblies, both passive and active components, splicing, and more.



HEXATRONIC IN AUSTRIA - Neulengbach

This high-capacity production site in Neulengbach provides the DACH region (Germany, Austria, and Switzerland) with ducts for fiber optic applications. The workforce is all about the right mindset and skills.

HEXATRONIC IN UK - Gosport

At our facility in Gosport, we specialize in developing and manufacturing innovative connectivity solutions for fiber optic networks.

Our strong focus on research and development, as well as quality, enables us to successfully deliver high-quality products to customers globally.



BLUE DIAMOND INDUSTRIES - UNITED STATES

Blue Diamond Industries (BDI) is a Hexatronic Group company with four large production facilities across the United States. BDI produces premium conduits and microducts in compliance with the Build America, Buy America (BABA).



DCS - UNITED STATES - TEXAS

This production facility is dedicated to cable assemblies, active and passive components, splicing in Data Center environments for US market.



Reference market, partnership and competencies



REFERENCE MARKET

We follow a B2B model by addressing:

- system integrators
- professional installers
- electrical wholesalers
- network designers and consultants

We cooperate to offer integrated solutions, technical support and added value.

PARTNERSHIP AND COMPETENCIES

Qubix collaborates with leading international manufacturers of instrumentation for the certification and verification of copper and fibre optic networks. We are official distributors for Fluke Networks, AEM and EXFO, world leaders in the certification of high-performance network infrastructures.

We offer:

- AEM-certified calibration centre for Italy
- Assistance, training and technical support services for instrumentation
- Members of Italian CEI committee 306

This synergy allows us not only to guarantee and demonstrate the quality of our products, but also to keep our technicians updated with regulatory standards and industry best practices.



Efficient logistics, partnership program and geographic presence



EFFICIENT LOGISTICS

The 3500 square meters warehouse and goods readily available allow us to offer a prompt delivery service for 80% of the articles. Warehouse lay-out managed by a computerized system together with optimized goods handling and identification grant a great logistics service.

Our Shipping Department offers support and optimized solutions to our customers for the organization of their shipments.

3.500

SQM
OF WAREHOUSE

80%

OF CATALOGUE PRODUCTS
ON STOCK

24/48

HOURS FOR ORDER
PROCESSING AND DELIVERY

PARTNERSHIP PROGRAM AND GEOGRAPHIC PRESENCE

Our sales philosophy is based on long-term and selected partnerships with our customers. Our distribution partners are present in more than 30 countries from EMEA to APAC area.

CCS® Gold and Silver distribution partners have several benefits according to their distribution class and take advantage of marketing and technical support, preferential pricing, pre-and post-sales training. We don't just supply products, we provide added value to our partners by offering services and know-how that allow them to be market leaders.

A specific training course program is offered to our Accredited Partners and therefore acquire best knowledge of the CCS® cabling system.

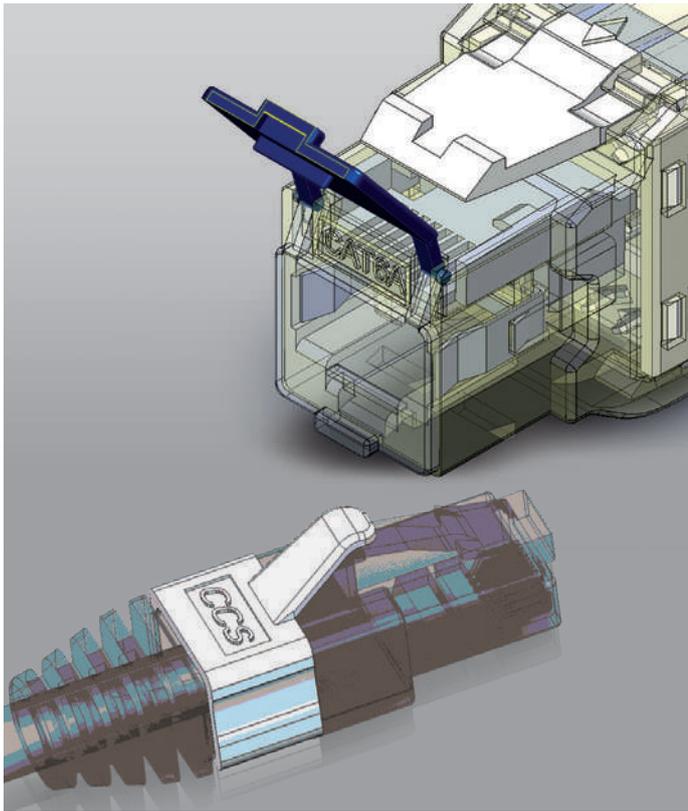


WE ARE PRESENT IN

>30

COUNTRIES IN THE EMEA REGION

Research, development, quality and compliance



RESEARCH AND DEVELOPMENT

Our internal division of R&D offers a constant cooperation with installers and develops new products and solutions.

Thanks to the acquired know-how and the great number of available solutions, we are today a reference point for the design and installation of passive cabling systems and components in copper and fibre optics.

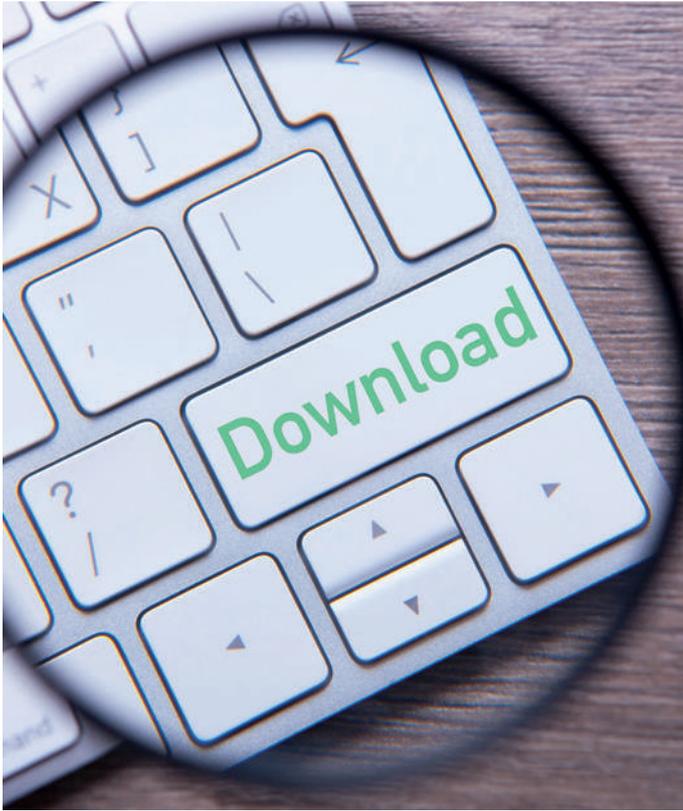
QUALITY AND COMPLIANCE

The innovation and constant development of our products and solutions are supported by certificates for the single network components and complete systems by independent laboratories, complying with the most recent international regulations.

We comply with European regulation 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE). We are members of Erion Group, company leader in the WEEE management.



Effective Technical Support



BIDDING AND PROJECT DESIGN SERVICE

A dedicated service for the bidding and project design is available to our customers, installers and data network designers.

A specific section in the company site gives users the possibility to create customized material lists from the product section, ask for quotations by e-mail or download data-sheets and certificates

catalogs and brochures



Download Center



Environmental Labeling



TECHNICAL SUPPORT

In the Support section of our web site, you find all details on how to reach our technical support service.

Dedicated sections to installers or network designers are available providing specific tools and resources.

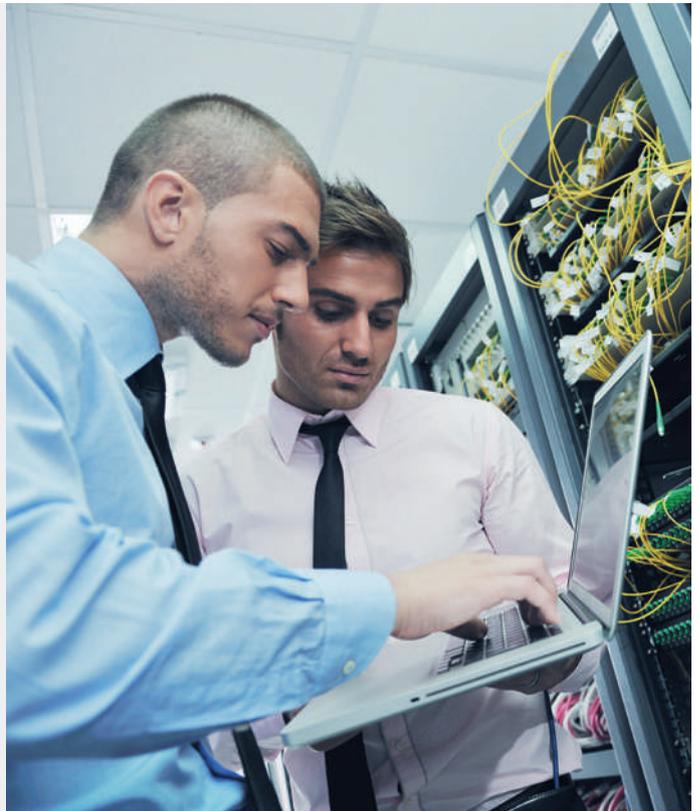
Installer



Design Area



DOP Finder



Training and warranty



ACADEMY

We support our customers, installers and network designers with qualified training courses. The courses held by our engineers offer theoretical and practical knowledge on the correct design and installation practices of copper and FO local networks, including the knowledge of the main regulations.

We offer 3 main modules:

- Copper cabling course
- Optical cabling and FTTH laboratory
- Passive optical LAN

We cooperate also with our partners to propose on-site courses to give training or updates to their employees or customers.

>450 HOURS
DEDICATED TO TECHNICAL
TRAINING OF OUR PARTNERS

1.100
ACCREDITED
INSTALLERS

WARRANTY

CCS® Warranty covers the performances on the application designed to operate over the installed classes of the cabling systems in accordance with the ISO/IEC 11801, ANSI/TIA 568 and EN 50173 international standards.

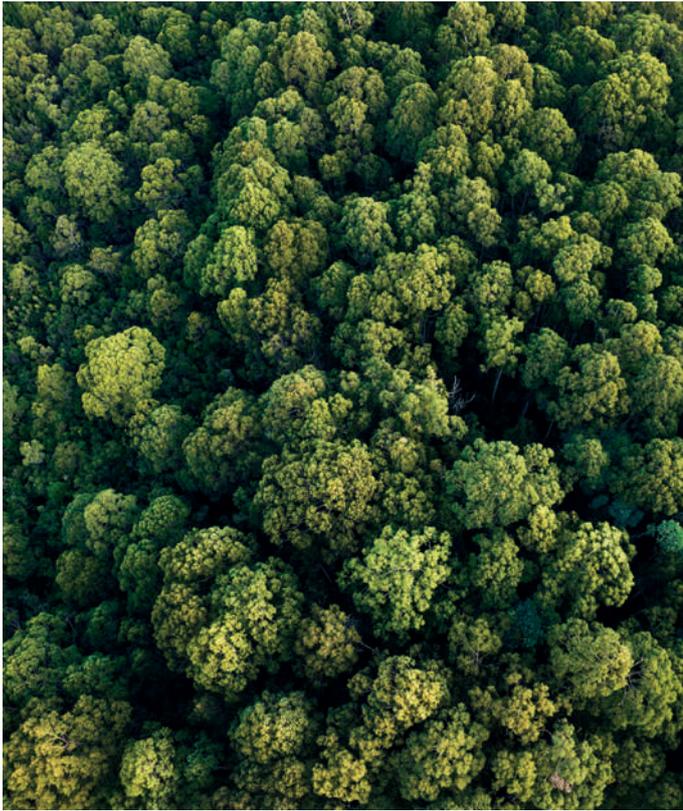
They must exclusively be designed, realized and installed by Accredited CCS® installers who use full CCS® branded connecting hardware and cables and have followed CCS® Warranty procedures.

Library
Video



Qubix
Academy





SUSTAINABILITY



CCS®, as part of the Hexatronic Group, is contributing to a low-carbon and inclusive future. We are making measurable progress in climate action, responsible sourcing, and employee well-being - steps that matter for our customers, partners, and the communities we serve.

Our ambition is to reach climate neutrality by 2030. Our actions on this respect cover 3 main areas:

PEOPLE



Employee wellbeing, development, and equality are essential factors to nurture a positive, inclusive and productive work environment that benefits both employees and employers.

PLANET



- Climate-neutral operations
- Eco-designed products
- Science-based targets

Most of our emissions come from the supply chain, and we are actively working to reduce the climate footprint of the materials and services we use.

Circular design, fossil fuel-free logistics and sustainable packaging are an integral and fundamental part of this transition.

ETHICS



- Strong corporate ethics
- Capacity development
- Suppliers selected on the base of sustainability

We operate with integrity, transparency and respect for human rights. We support international principles on ethics, workers' rights and environmental responsibility.



Contents

Introduction	14
Data Center: the physical foundations of the digital age	p. 14
Cabling solutions: ToR, MoR, EoR	p. 15
Typical components of a Data Center	p. 16
Examples of optical links in a Data Center	p. 18
Selection criteria for preterminated FO cables	
MPO/MTP®	p. 19
fanout MPO/MTP® - LC/SC	p. 20
minicore LC/SC	p. 21
FO solutions	22
Preterminated optical fibre cables	
MPO/MTP®	p. 22
multiple MPO/MTP®	p. 23
fanout MPO/MTP® - LC/SC	p. 24
minicore LC/SC	p. 25
Bifibre patch cords	
singlemode	p. 26
multimode	p. 27
LC Uniboot pull tab	p. 28
High density patch panels	p. 30
MPO cassettes for High Density patch panels	p. 31
Compact patch panel 96 FO	p. 32
MPO cassettes for Compact patch panels	p. 33
Category 8.1 copper solution	34
Cable	p. 35
RJ45 keystone jack Channel	p. 36
RJ45 plug Channel	p. 37
Patch panels	p. 38
Racks and accessories	40
TECH Datacenter racks	p. 40
Ventilation units	p. 41
Cabling management	p. 43
PDU	p. 46

Data center: the physical foundations of the digital age

A data center is not just a building or an area with a high density of computers, but a complex structure that houses and protects critical IT systems.

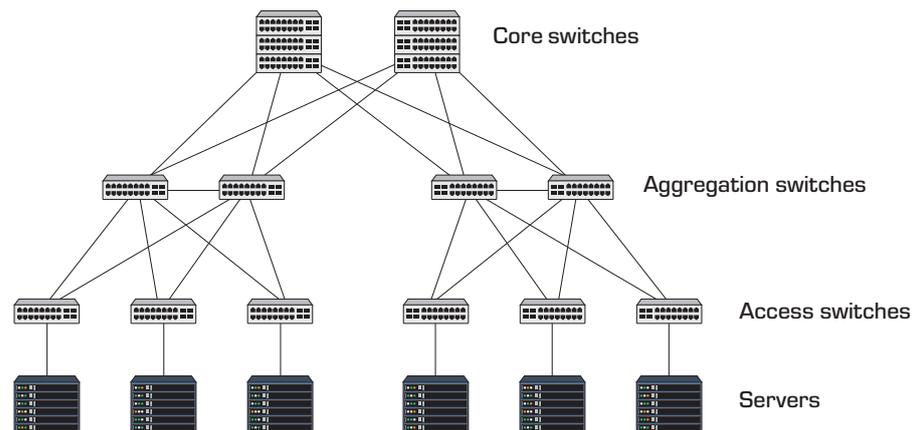
It contains servers, storage, networks and security systems, and is the heart that keeps many digital services running. With the increase in digitalisation, the role of data centres has become central: they enable the cloud, big data, AI and guarantee services that are always available. Their design is fundamental because the performance, reliability and growth capacity of the services we use every day depend on it.



Evolution of the switching architecture

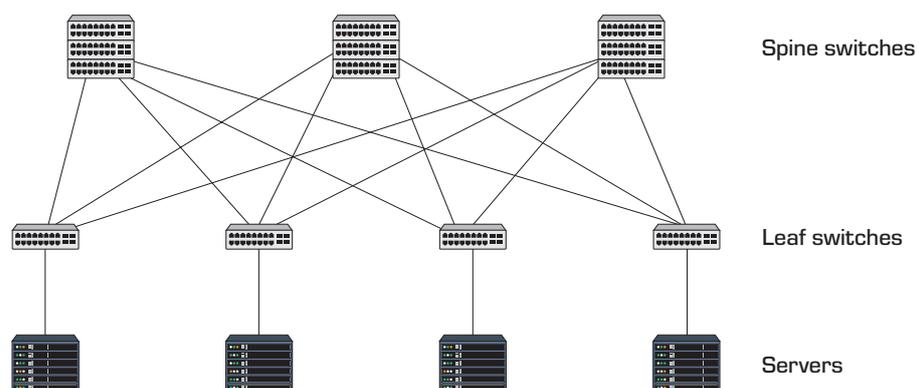
The traffic management in a Data Center depends from the switching architecture that evolved with the cloud new needs. In the past it was spread the three level architecture - Access, Aggregation and Core - where the servers were connected, the traffic gathered and outbound managed routing. This model was neat and modular, but it became a limit with strong increase of the traffic between servers, nowadays always more relevant.

3 LEVELS MODEL



To manage the increased traffic between servers, modern Data Centers adopted the Spine-Leaf architecture, more flat compared to the traditional one. Leaf switches directly connect servers, while the Spines connect all Leaf among them. This allows any server to communicate with another one passing through just one Spine switch, granting contact latency and simple routings. With protocols such as ECMP, the traffic is distributed on more links, improving network efficiency and resilience.

SPINE - LEAF MODEL

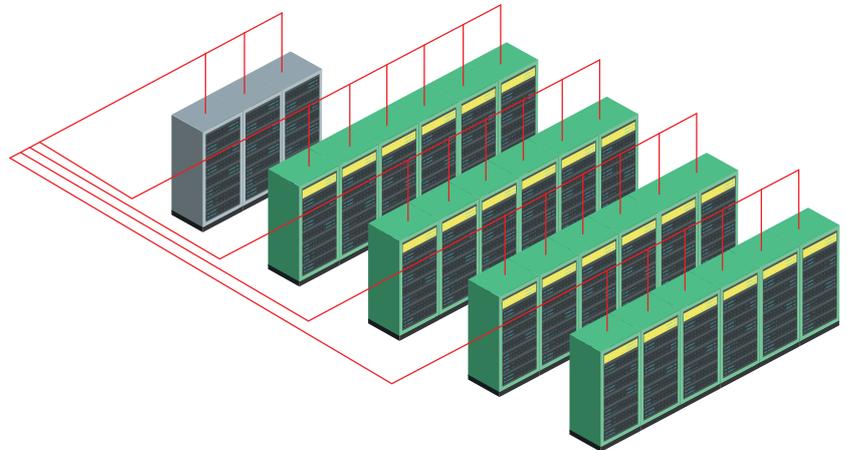


Cabling solutions: ToR, MoR and EoR

Alongside the switching architecture, the physical layout of the switches in the server racks defines the most common cabling solutions: ToR, MoR and EoR.

TOP OF RACK (ToR)

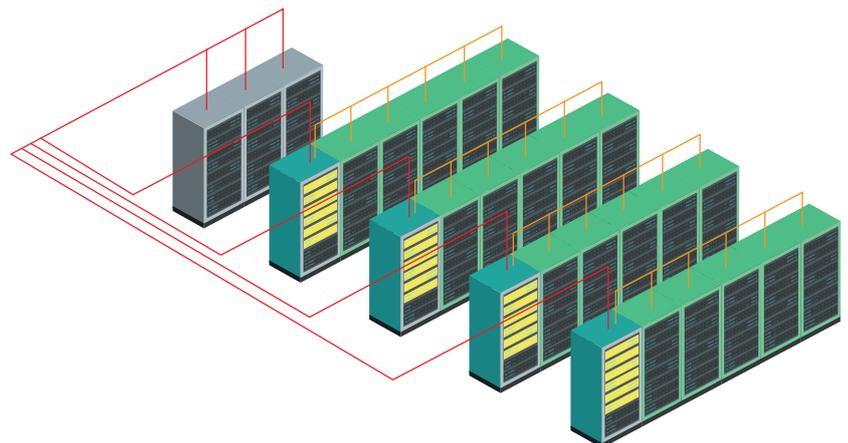
ToR (ToP of Rack) model perfectly fits to the requirements of high density and low latency of the Spine-Leaf architectures. In this scheme, the Leaf switch is installed on top of each rack enabling very short links in copper or fibre between server and switch thus simplifying the cabling. Uplinks to the Spine switches are in high density fibre, often with MPO/MTP connectors. ToR is the preferred solution in big Data Centers for speed, tidiness and scalability in each single rack.



- Main distribution area
- Devices distribution area
- Switch
- Optical fibre

END OF ROW (EoR)

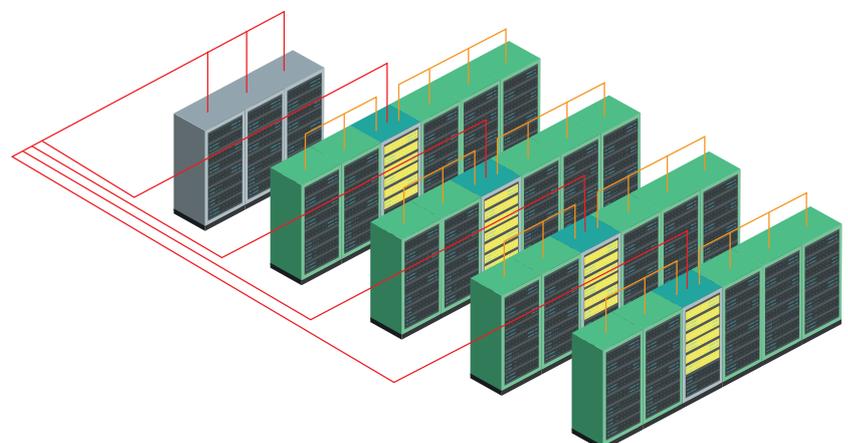
EoR (End of Row) gathers the Access switches in racks at the end of a row of racks. Servers connect to the switches with longer cables, in copper or fibre. This reduces the number of devices, simplifies powering and cooling, but the cabling structure is more complicated. EoR is usually designed for smaller size Data Centers or with reduced density of ports.



- Main distribution area
- Horizontal distribution area
- Devices distribution area
- Switch
- Optical fibre
- Copper

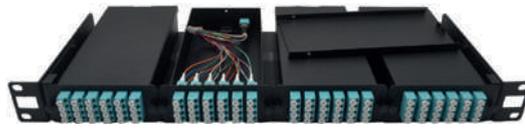
MIDDLE OF ROW (MoR)

MoR it's an hybrid solution with access switches positioned in the middle of the row of rack. It reduces the length of the cables compared to the EoR, maintaining a more centralized structure. It is a compromise between EoR and ToR, for those installations where the EoR cables would be too long and ToR too expensive. The choice depends from density, latency, budget and ease of management of the Data Center.



- Main distribution area
- Horizontal distribution area
- Devices distribution area
- Switch
- Optical fibre
- Copper

Typical components in a Data Center



96 FO COMPACT PATCH PANEL

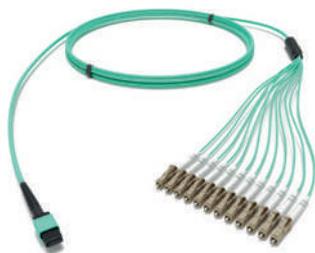


HIGH DENSITY PATCH PANEL

Control room



BIFIBER PATCH CORD

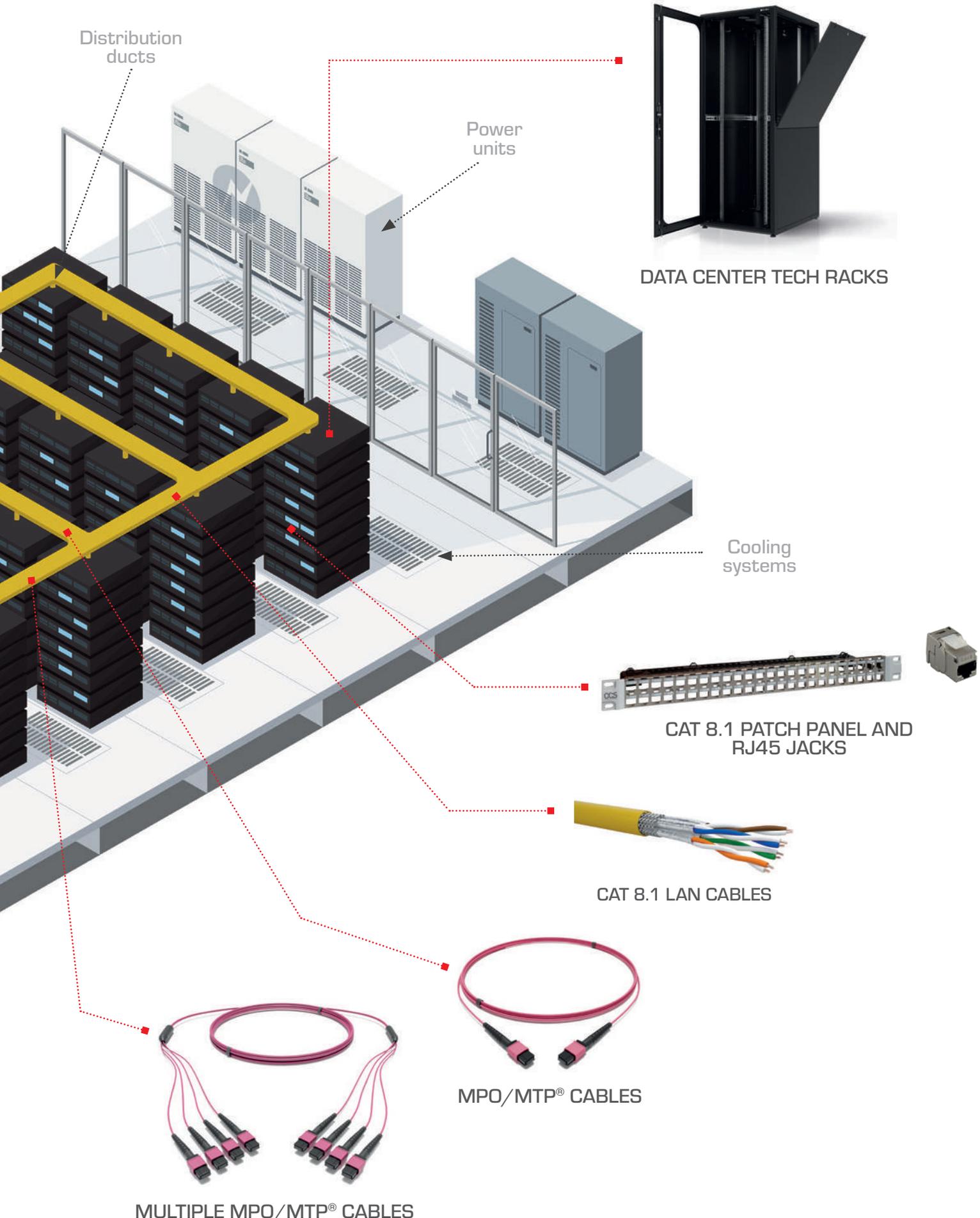


FANOUT CABLES MPO/MTP® TO SC/LC



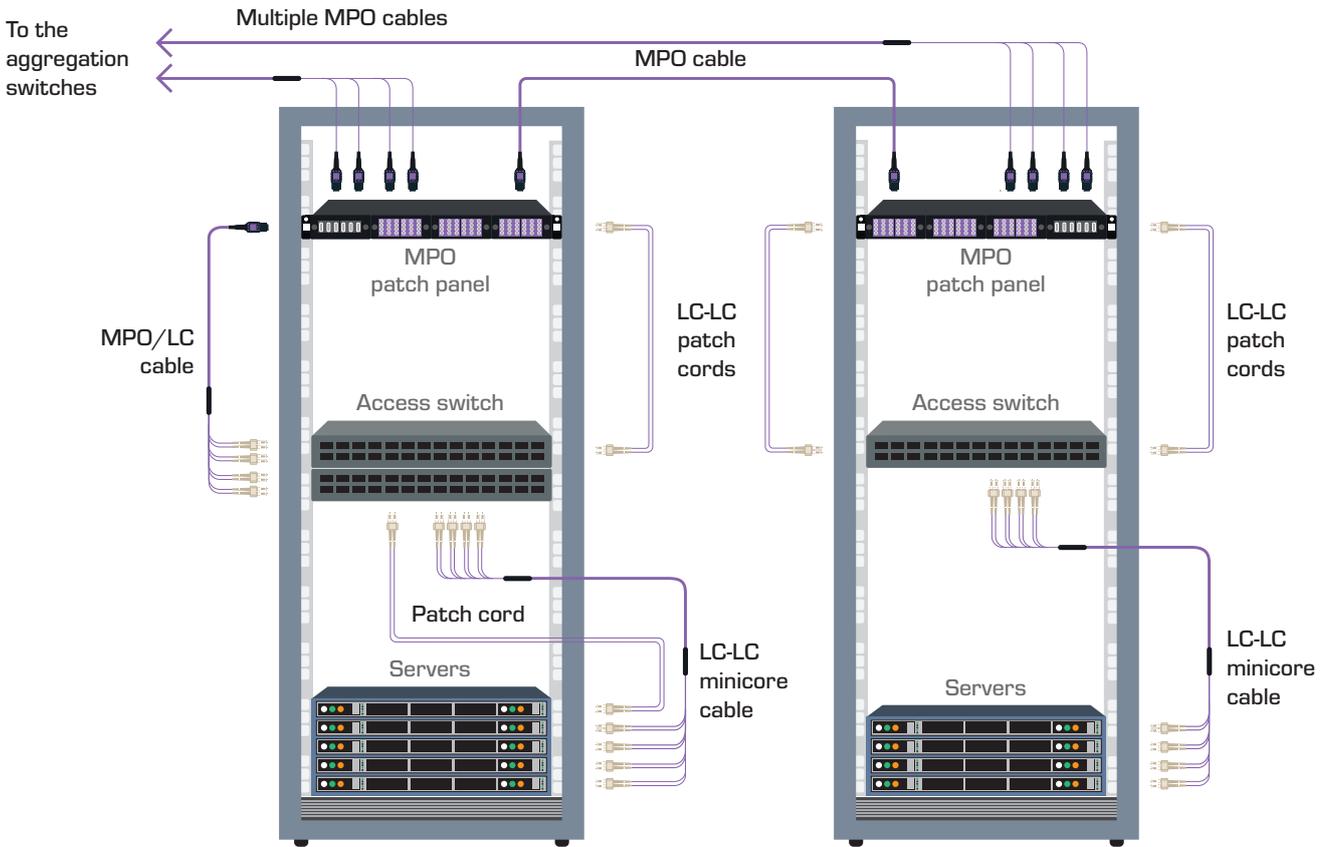
MINICORE CABLES SC/LC

Hot air cooling system

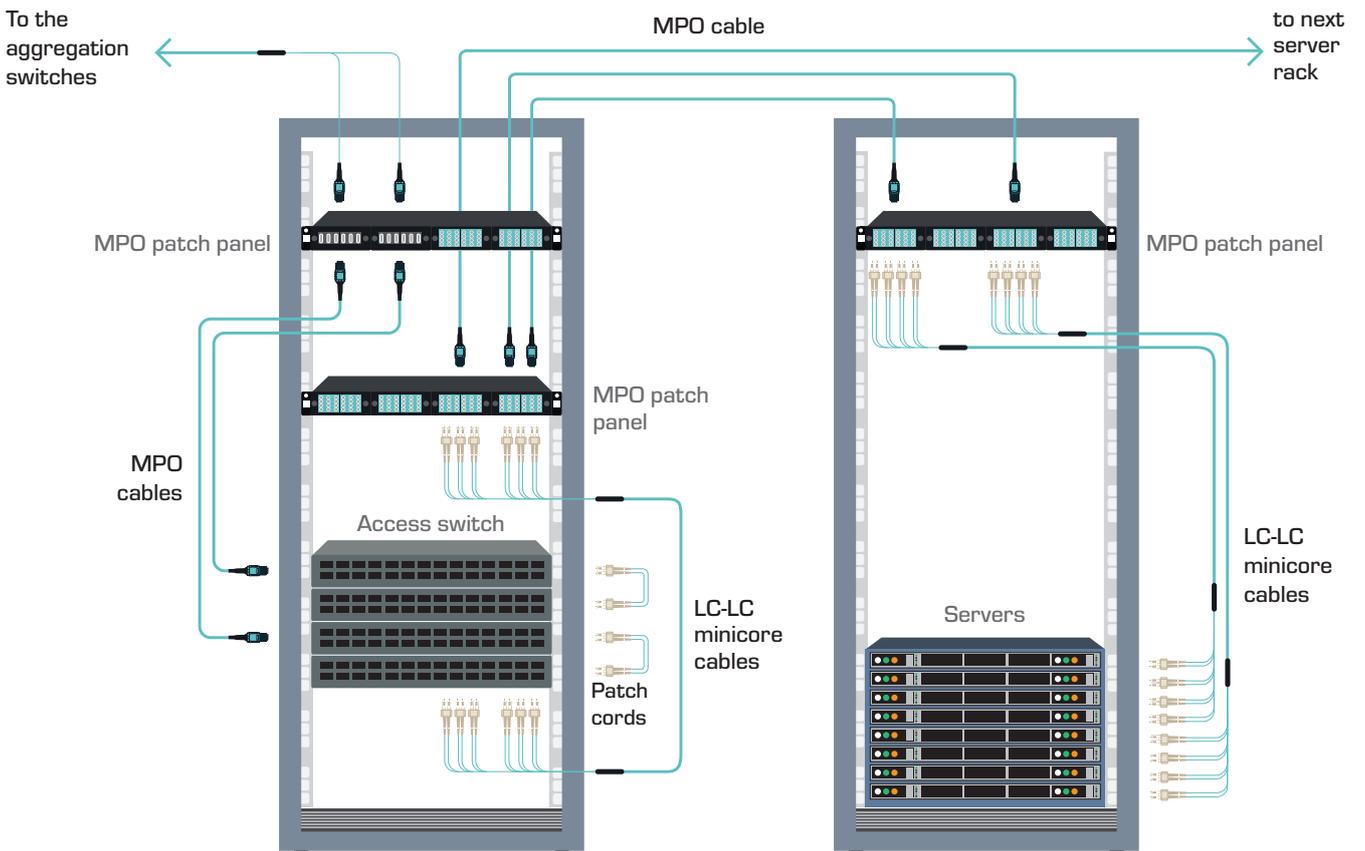


Examples of optical links in a Data Center

ToR TOPOLOGY



EoR TOPOLOGY



Selection criteria for MPO/MTP® FO trunk cables

The MPO/MTP® trunk cables are used in high density cabling environments and Data Centers for the connection between racks or from the patch panel to the active device with an MPO optical port. They are available in 12 or 24 fibres setups, with singlemode fibres G.657.A1 or multimode OM3 or OM4. They grant high performances and low attenuation.

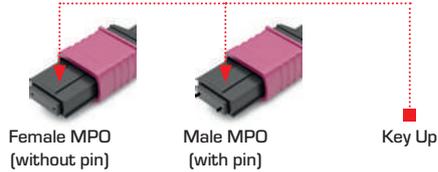
MICROCABLE

The cable can be supplied with **single jacket** and diameter from 3 to 3.7 mm or **double jacket** and diameter from 4.5 to 5.6 mm, LSZH compound, in **Euroclass Cca** or **B2ca** for highest safety in indoor environments.

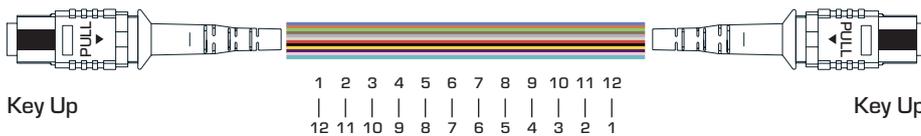


TERMINATIONS

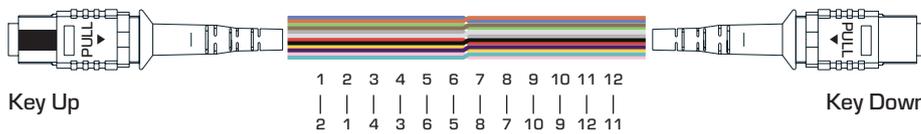
MPO/MTP® terminations can be male or female, standard loss or low loss, with **A** (straight), **B** (reversed) or **C** (pair flipped) polarity.



POLARITY TYPE A

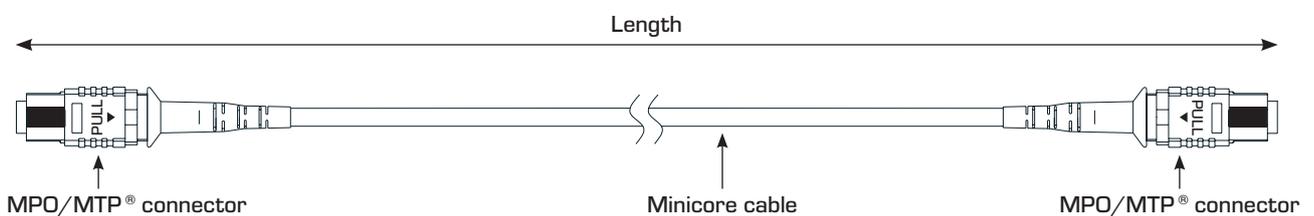


POLARITY TYPE B



POLARITY TYPE C

Customisable lengths according to installation requirements.
Ready to use solution, reliable and easy to integrate in modern optical cabling systems

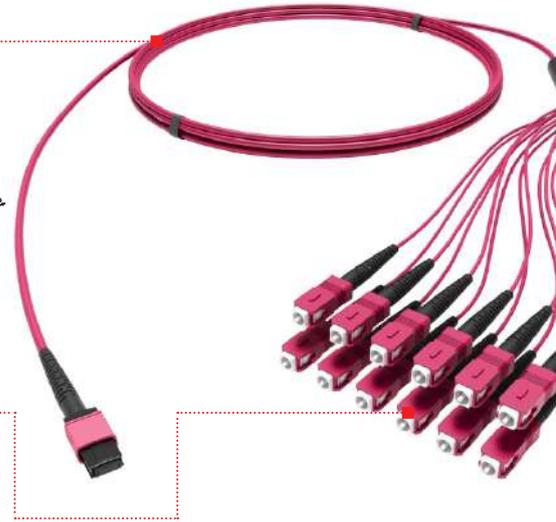


Selection criteria FO preterminated cables fanout MPO/MTP® - LC/SC

MPO/MTP® - LC/SC fanout cables allow to turn high density multifibre connectors into single **LC** or **SC** connectors. They offer a compact and ready-to-use solution in backbones or to connect active devices.

MICROCABLE

The cable can be supplied with **single jacket** and diameter from 3 to 3.7 mm or **double jacket** and diameter from 4.5 to 5.6 mm, **LSZH** compound, in **Euroclass Cca** or **B2ca** for highest safety in indoor environments.

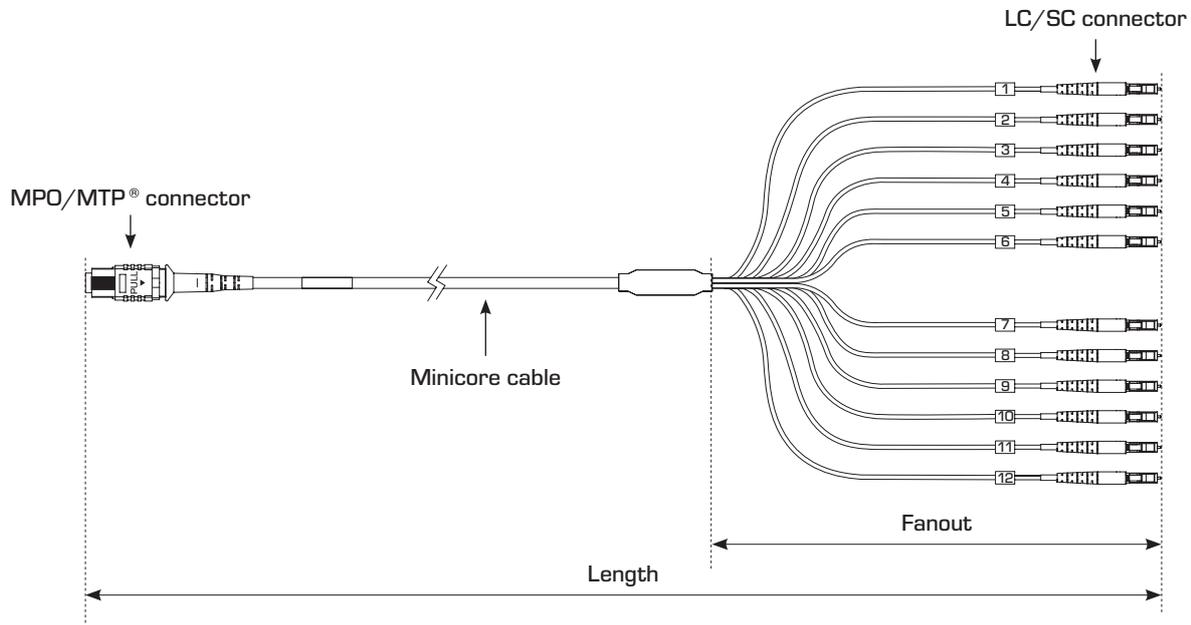


CONFIGURATIONS

Available in setups of **8, 12** or **24** fibres, with singlemode G.652.D or G.657.A1 or **multimode OM3** or **OM4**, granting high optical and mechanical performances.

On one end is a **MPO/MTP®** male or female connector, standard loss or low loss version, on the other hand is the fanout with LC or SC connector.

Standard length of the fanout is 50 cm and can be modified on request. The length of the cable is customizable with labelling and identification in accordance with regulation for an easy installation and maintenance.



FANOUT POLARITY TYPE A

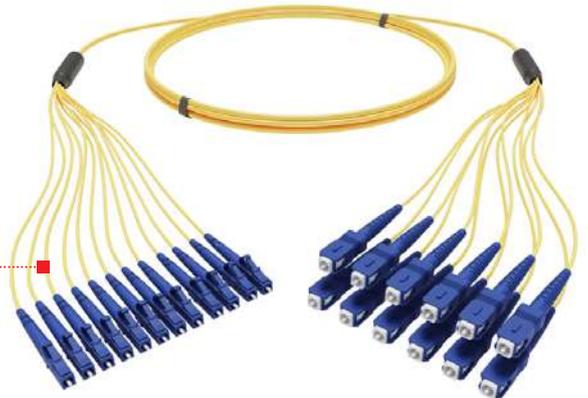
Side A	1	2	3	4	5	6	7	8	9	10	11	12
MTP	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua
Side B	1	2	3	4	5	6	7	8	9	10	11	12
LC/SC	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua

FANOUT POLARITY TYPE B

Side A	1	2	3	4	5	6	7	8	9	10	11	12
MTP	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	Violet	Pink	Aqua
Side B	12	11	10	9	8	7	6	5	4	3	2	1
LC/SC	Blue	Aqua	Orange	Pink	Green	Violet	Brown	Yellow	Grey	Black	White	Red

Selection criteria FO preterminated FO cables minicore SC/LC

Pre-terminated Minicore cables are a compact and flexible solution for high performance optical links in Data Centre environment. Designed to grant reliability, ease of installation and reduced space takeover, Minicore cables are ideal for indoor applications and are used to connect patch panels with network devices or the direct attach to devices without the use of intermediate patch panels

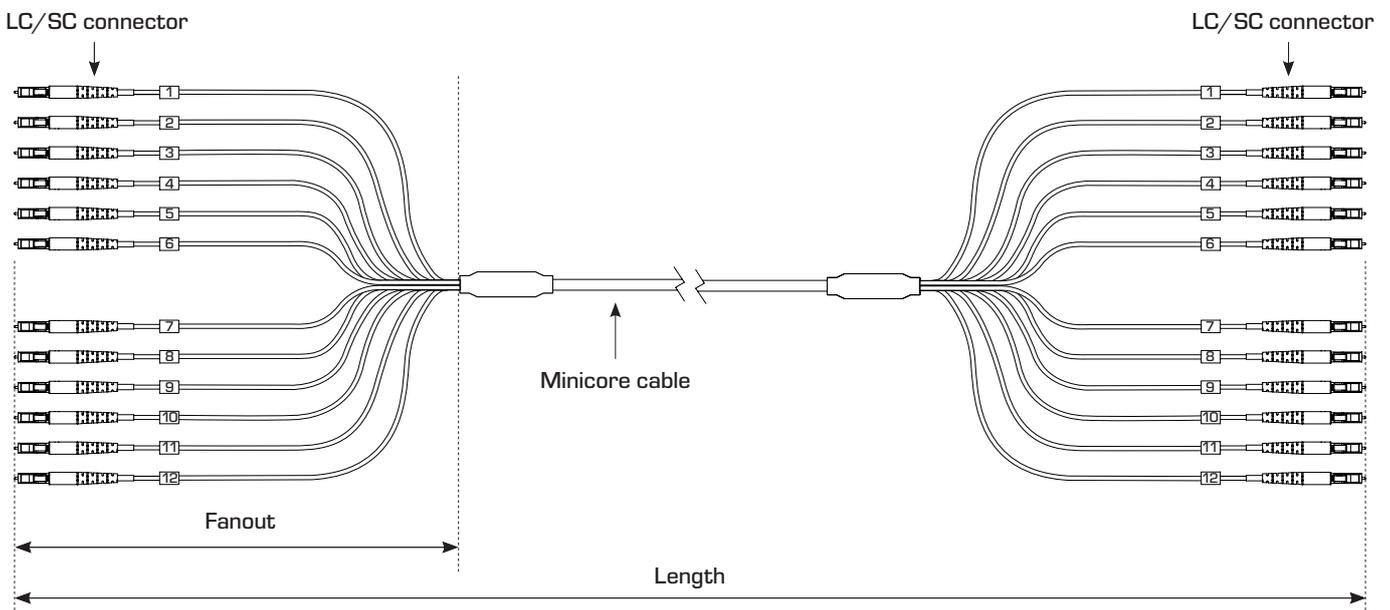


Available in **8, 12** or **24** fibre versions, **singlemode G.652.D** or **G.657.A1** or **multimode OM3** or **OM4** to satisfy different transmission and bandwidth demands.

The cable can be supplied with **single jacket** and diameter from 3 to 3.5 mm or **double jacket** and diameter from 4.5 to 5.6 mm, **LSZH compound**, in **Euroclass Cca** or **B2ca** for highest safety in indoor environments.



Cable ends are terminated with **LC** or **SC** connectors, granting a reliable and ready-to-use link. Standard length of the fanout is 50 cm and can be modified on request. The length of the cable is customizable with labelling and identification in accordance with regulation for an easy installation and maintenance.

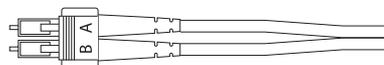


CONNECTOR TYPES

SC simplex



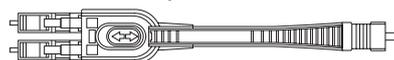
LC duplex



LC simplex



LC duplex Uniboot



Fibre optic solutions

MPO/MTP® trunk cables



Colour of the image is for reference only

Available connectors

MPO/MTP®



SM standard loss

SM low loss

MM OM3

MM OM4

MPO/MTP® cables

Description

MPO/MTP® trunk cables designed for high-density applications in Data Centers and telecommunications networks. They allow for the rapid interconnection of MPO cassettes by aggregating multiple fibers into a single connector, reducing space takeover and simplifying cabling management.

Ideal for high-performance connections in 10G, 40G, 100G, and 400G systems, they guarantee fast, secure, and easily scalable installations, optimizing the efficiency and reliability of high-density networks.

Characteristics

Cable construction	LSZH single or double jacket minicore cable
Fiber count	12 and 24 fibers
Fiber types	Single-mode G.652.D and G.657.A1, multimode OM3 and OM4
Diameter & Pulling strength	3 mm / 140N for single-jacket version 4.5 mm / 450N for double-jacket version
Jacket color	Based on the type of optical fiber
Euroclass	Cca s1b,d0,a1 (B2ca only on request)
Length	From 1 mt to 1000 mt
Connectors	MPO/MTP® type, male or female, with 12 or 24 fibers
Polarity	Type A, B or C
Insertion loss	Standard: ≤ 0.5 dB for MM; ≤ 0.75 dB for SM Low loss: ≤ 0.35 dB

Reference standards

IEC 61754-7
IEC 61300-3

Example of configuration

M 2 3 A D B B L A 0 0 5 0

Type	Cable	Fibre	Cable colour	Number of fibres	First connector	Second connector	Loss	Polarity	Length
M Cables MPO/MTP	1 Minicore single jacket LSZH Cca	9 9/125 G652D 3 50/125 OM3	Y Yellow (only for 9/125)	D 12 F 24	A MPO-F B MPO-M	A MPO-F B MPO-M	S Standard loss L Low loss	A Type A B Type B	X X X mt
	2 Minicore double jacket LSZH Cca	4 50/125 OM4 A 9/125 G657A1	A Aqua (only for OM3/OM4) E Erika (only for OM4)		C MTP-F D MTP-M	C MTP-F D MTP-M	E Elite	C Type C	

Example of configuration: **M 2 3 A D B B L A 0 0 5 0**

P/N: **208XXX0050**

MPO cable, minicore double jacket LSZH Cca, 50/125 OM3, aqua, 12 fibres, MPO-M/MPO-M, low loss, polarity type A, length 5 mt

Fibre optic solutions

Multiple MPO/MTP® trunk cables



Colour of the image is for reference only

Available connectors

MPO/MTP®



SM standard loss

SM low loss

MM OM3

MM OM4

Reference standards

IEC 61754-7
IEC 61300-3

Multiple MPO/MTP® cables

Description

Pre-terminated multi-fiber cables with multiple MPO/MTP® connectors are a high-density solution designed to optimize connections in Data Centers and complex network environments.

Thanks to their pre-terminated structure, multiple fibers are aggregated into a single main cable that fans out at the ends into separate fibre cables terminated with MPO/MTP® connectors. This configuration reduces installation time, simplifies cable management, and ensures a reliable and scalable connectivity—ideal for high-bandwidth applications like 100G and 400G Ethernet. These cables are available only upon request.

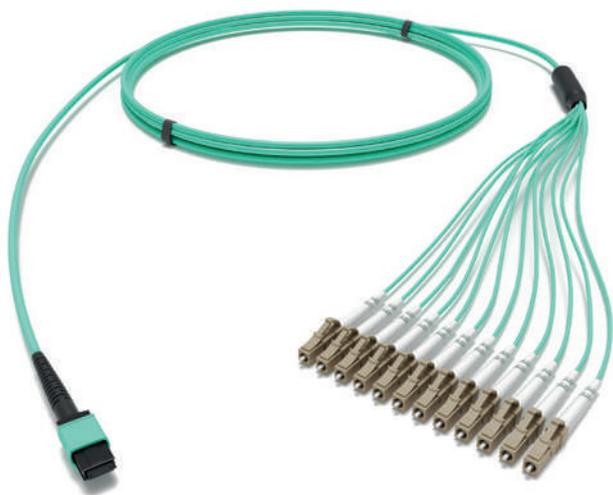
Characteristics

Cable construction	LSZH double jacket minicore cable
Fiber count	From 24 to 144 fibers
Fiber types	Singlemode G.652.D and G.657.A1, multimode OM3 and OM4
Diameter	From 9 to 17,5 mm
Pulling strength	From 660 to 1320N
Jacket color	Based on the type of optical fiber
Euroclass	Cca s1b,d0,a1
Length	From 2 mt to 1000 mt
Connectors	MPO/MTP® type, male or female
MPO configurations	2x12, 2x24, 4x12, 4x24, 6x12, 6x24
Polarity	Type A, B or C
Insertion loss	Standard: ≤ 0.5 dB for MM; ≤ 0.75 dB for SM Low loss: ≤ 0.35 dB

Description	Available constructions	Available types of fibres
Optical cable multiple MPO/MTP®	2x12 4x12 6x12 2x24 4x24 6x24	Singlemode G.652.D and G.657.A1 Multimode OM3 and OM4

Fibre optic solutions

MPO/MTP® - LC/SC fanout minicore cables



Colour of the image is for reference only

MPO/MTP® to LC/SC fan out minicore cables

Description

MPO/MTP® – LC/SC fanout minicore cables are pre-terminated fiber optic cabling solutions designed to convert a high-density MPO/MTP® multi-fiber connection into individual LC or SC connections.

They are ideal for creating transition links between a multi-fiber backbone equipped with MPO/MTP® connectors and network equipment or optical modules with LC or SC interfaces.

These pre-terminated cables simplify installation, reduce cabling time, and ensure tidy and efficient fiber management, while providing high optical performance and reliable connectivity for Data Center applications and high-density networks.

Available connectors

MPO/MTP®



LC simplex or duplex



SC simplex or duplex



Reference standards

- IEC 61754
- IEC 60793
- IEC 61300-3

Characteristics

Cable construction	Single or double jacket LSZH minicore cable
Fiber count	8, 12, and 24 fibers
Fiber types	Single-mode G.652.D and G.657.A1, multimode OM3 and OM4
Diameter & Pulling strength	3 mm / 140N for single-jacket version 4.5 mm / 450N for double-jacket version
Jacket color	Based on the type of optical fiber
Euroclass	Cca s1b,d0,a1 or B2ca (only on request)
Fanout	L=50 cm (customizable upon request); 2 mm tube diameter
Length	From 1 mt to 1000 mt
Connector type	Side A: MPO/MTP®, male or female Side B: LC, LC-APC, SC or SC/APC
Insertion loss	MPO: Standard: ≤ 0.75 dB; Low loss: ≤ 0.35 dB SC/LC: ≤ 0.2 dB

Example of configuration: **F 2 9 D A 2 U 3 C 0 0 5 0**

Type	Cable	Fibre/Cable colour	Number of fibres	First connector	Second connector	Polishing	Fan out layout	Polarity fan out	Length
F Fan-out cables MPO-LC/SC	1 Minicore single jacket LSZH Cca	9 9/125 G652D Yellow	C 08	A MPO-F Standard loss	2 SC	P PC	1 1-8 (only for 8 fibres cables) 2 1-4 e 9-12 (only for 8 fibres cables) 3 1-12 o 1-24	A Type A (only for Duplex terminations) B Type B (only for Duplex terminations) C Simplex terminations	X X X X m
		3 50/125 OM3 Acqua	D 12	B MPO-M Standard loss	3 SC Duplex	U UPC (only for SM)			
	2 Minicore double jacket LSZH Cca	T 50/125 OM4 Aqua	F 24	C MTP-F Standard loss	4 LC	A APC (only for SM)			
		4 50/125 OM4 Erika		D MTP-M Standard loss	6 LC Duplex				
		A 9/125 G657A1 Yellow		E MPO-F Low loss					
			F MPO-M Low loss						
			G MTP-F Low loss						
			H MTP-M Low loss						

Example of configuration: **F 2 9 D A 2 U 3 C 0 0 5 0**

P/N: **208XXX0050**

Fanout cable, minicore double jacket LSZH Cca, 9/125 G652D, yellow, 12 fibres, MPO-F Standard loss, SC/UPC, layout 1-12, simplex terminations, length 5 mt

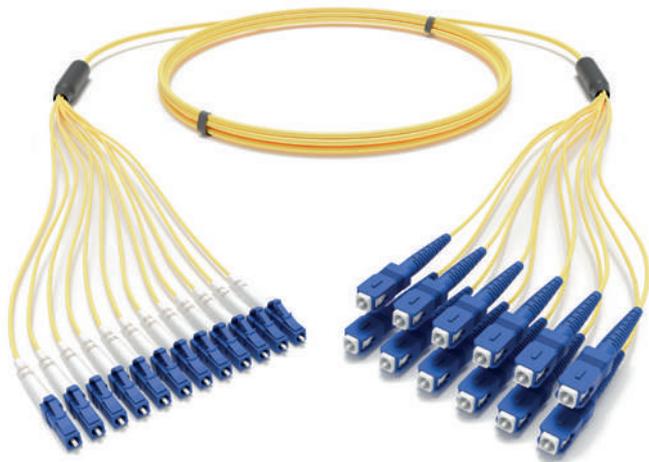
Fibre optic solutions

LC/SC minicore preterminated cables

LC/SC minicore cables

Description

Pre-terminated LC/SC minicore multi-fiber cables designed for connecting patch panels or racks and devices in Data Centers. They are commonly used in conjunction with patch modules and as patch cords for connecting switches and servers. Thanks to their high flexibility and availability in various configurations, they are an ideal solution for fast, tidy, and reliable connections, while ensuring high optical performance and efficient cable management.



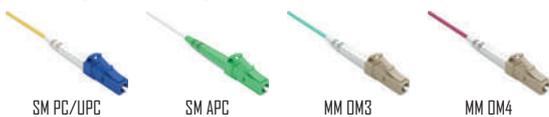
Colour of the image is for reference only

Available connectors

LC duplex Uniboot



LC simplex or duplex



SC simplex or duplex



Reference standards

- IEC 61754
- IEC 60793
- IEC 61300-3

Characteristics

Cable construction	Single or double jacket LSZH minicore cable
Fiber count	8, 12, and 24 fibers
Fiber types	Single-mode G.652.D and G.657.A1, multimode OM3 and OM4
Diameter & Pulling strength	3 mm / 140N for single-jacket version 4.5 mm / 450N for double-jacket version
Jacket color	Based on the type of optical fiber
Euroclass	Cca s1b,d0,a1 or B2ca s1a,d0,a1
Fan out	L=50 cm (customizable upon request); 1.6 mm tube diameter
Length	From 2 mt to 1000 mt
Connector type	LC, LC-APC, LC Uniboot Pull Tab, SC or SC/APC
Insertion loss	SC/LC ≤ 0,2dB

Example of configuration: **B 1 4 E F 8 P 6 P 0 0 5 0**

Type	Cable	Fibre	Cable colour	Number of fibres	First connector	Polishing	Second connector	Polishing	Length
B Minicore cables	1 Minicore single jacket LSZH Cca	9 9/125 G652.D	Y Yellow (only for 9/125)	C 08	2 SC	P PC	2 SC	P PC	X X X X m
	3 Minicore double jacket LSZH Cca	3 50/125 OM3	D 12	D 12	4 LC	U UPC (only for SM)	4 LC	U UPC (only for SM)	
	2 Minicore double jacket LSZH Cca	4 50/125 OM4	A Aqua (only for OM3/OM4)	F 24	6 LC Duplex	A APC (only for SM)	6 LC Duplex	A APC (only for SM)	
	3 Minicore single jacket LSZH BZca (up to IZ FD)	A 9/125 G657.A1	E Erika (only for OM4)		8 LC Duplex Uniboot Pull Tab		8 LC Duplex Uniboot Pull Tab		

Example of configuration: **B 1 4 E F 8 P 6 P 0 0 5 0**

P/N: **208XXX0050**

Minicore cable single jacket LSZH Cca, 50/125 OM4, Erika, 24 fibres, LC/PC Duplex Uniboot Pull Tab, LC/PC Duplex, length 5 mt

Fibre optic solutions

Singlemode bifiber patch cords



Colour of the image is for reference only

SM Duplex patch cords

Description

Pre-terminated singlemode Duplex patch cords, ideal for fast, neat, and reliable connections in various applications: Data Centers, telecommunications networks, FTTx infrastructures, and LAN backbones.

Thanks to the duplex configuration and availability with LC or SC connectors, these patch cords allow for the connection of fiber optic modules, switches, servers, and network equipment, ensuring high optical performance, reduced space takeover, and simple cabling management.

Available connectors

LC simplex or duplex



SC simplex or duplex



Characteristics

Cable construction	2-fiber zipcord
Fiber types	Single-mode G.657.A1 or G.652.D
Cable diameter	2x4 mm
Tensile strength	100N
Cable jacket	LSZH
Jacket color	Yellow
Length	From 1 mt to 1000 mt
Connector type	LC, LC-APC, SC or SC/APC
Polarity	Cross
Insertion loss	SC/LC ≤ 0,2dB

Reference standards

- IEC 61754
- IEC 60793
- IEC 61300-3

Example of configuration: **P Z A Y 3 A 6 U X 0 0 5 0**

Type	Cable	Fibre	Jacket colour	First connector	Polishing	Second connector	Polishing	Polarity	Length
P Patch cord	Z Zipcord 2x4 mm	9 9/125 G652D A 9/125 G657A1	Y Yellow	2 SC 3 SC Duplex 4 LC 6 LC Duplex	P PC U UPC (only for SM) A APC (only for SM)	2 SC 3 SC Duplex 4 LC 6 LC Duplex	P PC U UPC (only for SM) A APC (only for SM)	X Cross	X X X X m

Example of configuration: **P Z A Y 3 A 6 U X 0 0 5 0**

P/N: **207XXX0050**

Patch cord, zipcord 2x4 mm, 9/125 G652D, yellow, SC/APC Duplex, LC/UPC Duplex, cross, length 5 mt

Fibre optic solutions

Multimode bifiber patch cords



Colour of the image is for reference only

MM Duplex patch cords

Description

Pre-terminated multimode Duplex patch cords, ideal for fast, neat and reliable connections in various applications: Data Centers, telecommunications networks, FTTx infrastructures and LAN backbones.

Thanks to the duplex configuration and availability with LC or SC connectors, these patch cords allow for the connection of fiber optic modules, switches, servers, and network equipment, ensuring high optical performance, reduced space takeover, and simple cabling management.

Available connectors

LC simplex or duplex



SC simplex or duplex



Characteristics

Cable construction	2-fiber zipcord
Fiber types	Multimode OM3, OM4, and OM5
Cable diameter	2x4 mm
Tensile strength	100N
Cable jacket	LSZH
Jacket color	Based on fiber type
Length	From 1 mt to 1000 mt
Connector types	LC or SC
Polarity	Cross
Insertion loss	SC/LC ≤ 0,2dB

Reference standards

- IEC 61754
- IEC 60793
- IEC 61300-3

Example of configuration:

P Z 3 A 4 P 2 P X 0 0 5 0

Type	Cable	Fibre	Jacket colour	First connector	Polishing	Second connector	Polishing	Polarity	Length
P Patch cord	Z Zipcord 2x4 mm	3 50/125 OM3 4 50/125 OM4 5 50/125 OM5	L Lime (only for OM5) A Aqua (only for OM3/OM4) E Erika (only for OM4)	2 SC 3 SC Duplex 4 LC 6 LC Duplex	P PC	2 SC 3 SC Duplex 4 LC 6 LC Duplex	P PC	X Cross	X X X X m

Example of configuration: **P Z 3 A 4 P 2 P X 0 0 5 0**

P/N: **207XXX0050**

Patch cord, zipcord 2x4 mm, 50/125 OM3, aqua, LC/PC, SC/PC, cross, length 5 m

Fibre optic solutions

LC Uniboot pull tab duplex patch cords



Colour of the image is for reference only

LC Uniboot Pull Tab Duplex patch cords

Description

LC Uniboot Pull Tab Duplex patch cords represent an innovative solution that combines two optical fibres in a single compact connector, minimizing space takeover and improving cabling management. They are equipped with a Pull Tab that allows for simple and secure insertion and disconnection of the connector, even in tight spaces or high-density panels, avoiding direct tension on the connector itself.

Particularly suitable for Data Centers, they optimize space in racks and fiber enclosures, ensuring ease of maintenance and organized cabling.

Available connectors

LC Duplex Uniboot



Characteristics

Cable construction	2-fiber round
Fiber types	Singlemode G.657.A1 or G.652.D, multimode OM3, OM4, and OM5
Cable diameter	2 mm
Tensile strength	100N
Cable jacket	LSZH
Jacket color	Based on the type of optical fiber
Length	From 1 mt to 1000 mt
Connector types	LC, LC-APC
Polarity	Cross
Insertion loss	LC ≤ 0,2 dB

Reference standards

- IEC 61754
- IEC 60793
- IEC 61300-3

Example of configuration:

P R 4 A 8 P 8 P X 0 0 5 0

Type	Cable	Fibre	First connector	Polishing	Second connector	Polishing	Polarity	Length
P Patch cord	R Round 2 mm	9 9/125 G652.D 3 50/125 OM3 4 50/125 OM4 5 50/125 OM5 A 9/125 G657.A1	Y Yellow (only for 9/125) L Lime (only for OM5) A Aqua (only for OM3/OM4) E Erika (only for OM4)	8 LC Duplex Uniboot Pull Tab	P PC U UPC (only for SM) A APC (only for SM)	8 LC Duplex Uniboot Pull Tab	P PC U UPC (only for SM) A APC (only for SM)	X Cross X X X X m

Example of configuration: **PR4A8P8PX0050**

P/N: **207XXX0050**

Patch cord, round 2 mm, 50/125 OM4, aqua, LC/PC Duplex Uniboot Pull Tab, LC/PC Duplex Uniboot Pull Tab, cross, length 5 mt

Fibre optic solutions

Patch panels and cassettes for high density applications

Modular optical patch panels for applications with a high number of optical links and in Data Center. Available in the Compact and High Density versions, they stand out for: reduced space takeover, ease of installation and maintenance, available configurations and technical solutions.

The Compact version with fixed cassettes, is ideal for network infrastructures with density up to 96 fibres per unit. The High Density versions, equipped with cable management and protection system, are designed for applications up to 144 fibres per unit or higher as in Data Centers.

HIGH DENSITY VERSION

Solution designed for optical systems that need 144 or more fibres per unit, where high density is a fundamental requirement for the application and the high number of optical links asks for the use of preterminated MPO/MTP® cables.

- available in 1, 2 and 4 units, with capacity from 144 up to 576 FO with LC adapters or up to 1724 fibres on 4 units with 3 ports MDC adapter
- each unit can house up to 6 removable cassettes each one configurable with 1, 2 or 3 MPO/MTP inlets and up to 24 FO, granting the higher density of connection
- to ease the maintenance and cabling operations, the cassettes are individually removable



HIGH DENSITY CASSETTES

The cassettes are available in 3 versions:

- 1x12 with MPO/MTP ports and 12 SC Simplex adapters
- 2x12 with 2 MPO/MTP ports and 12 LC Duplex adapters
- 1x24 with MPO/MTP ports and 12 LC Duplex adapters

All versions are available with Type A or Type B polarity for the correct management of the link with the MPO/MTP® trunk. Compatible with singlemode fibres (G.652.D/G.657.A1) and multimode (OM3/OM4), to satisfy higher network and application requirement.



COMPACT PATCH PANEL 1U

Solution designed for optical systems up to 96 fibres per unit where the application asks for high speed optical links in limited number, allows for the use of preterminated MPO/MTP® cables but high density is not the first requirement.

- modular patch panel 1 unit to support max 4 modules
- modules with 1 or 2 MPO/MTP® ports terminated frontally on SC or LC connectors with max 24 fibres per module
- blinding front panels for the protection of unused slots or for the support of MPO/MTP® SC footprint adapter, SC Simplex/Duplex or LC Duplex or quad



COMPACT MODULES

The available modules are in 3 versions:

- 1x12 with MPO/MTP® port and 6 SC Duplex adapters
- 2x12 with 2 MPO/MTP® ports and 6 LC Quad adapters
- 1x24 with 1 MPO/MTP® port and 6 LC Quad adapters

All versions are available with Type A or Type B polarity for the correct management of the link with MPO/MTP® trunk.

Compatible with singlemode fibres (G.652.D/G.657.A1) and multimode (OM3/OM4) to satisfy any network and application requirement.



Fibre optic solutions

High Density patch panels



MPO/MTP® High Density patch panels

Description

High-density modular optical patch panels designed to ensure efficient and organized management of fiber optic connections within 19" racks.

Available in 1U, 2U, and 4U formats, they feature sliding trays and a modular structure capable of housing removable MPO/MTP® optical modules, providing maximum flexibility during installation, maintenance, and cabling reconfiguration. The cold-rolled steel structure, lightweight yet robust, ensures high mechanical strength and ease of operation. An ideal solution for Data Centers and high-density networks requiring reliable performance, modularity, and maximum space optimization.

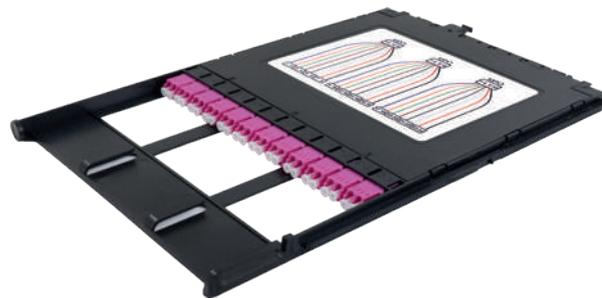
Characteristics

Installation	On 19" racks: front mounting on uprights
Structure	Cold-rolled steel chassis; adjustable side mounting brackets; front cover; 6 sliding trays per unit with identification labels
Max modules and capacity	1U Version - 6 MPO modules, max. 144 FO 2U Version - 12 MPO modules, max. 288 FO 4U Version - 24 MPO modules, max. 576 FO
Cable management	Rear guides and frames for MPO/MTP® cable fastening and bend prevention
Modules installation	Self-locking fastening system for MPO/MTP® module installation and removal
Dimensions	1U – 434x460x44 mm 2U – 434x460x88 mm 4U – 434x460x176 mm
Operating temperature	-20°C ~ +60°C

Code	Description	Packaging
206XXX	High density patch panel 19" 1U, max 144 fibres, manages up to 6 optical modules MPO High Density	1
206XXX	High density patch panel 19" 2U, max 288 fibres, manages up to 12 optical modules MPO High Density	1
206XXX	High density patch panel 19" 4U, max 576 fibres, manages up to 24 optical modules MPO High Density	1

Fibre optic solutions

MPO/MTP® cassettes for high density patch panels



MPO/MTP® cassettes for High Density patch panels

Description

MPO/MTP® – LC/SC pre-terminated cassettes designed for installation in high-density optical patch panels. The rear is equipped with an MPO/MTP connector for direct connection to multi-fiber backbone cables, while the front features LC Duplex or SC Simplex adapters for the distribution of individual optical connections, allowing for an organized, modular, and easily reconfigurable cabling management. Available in 1x24 FO, 2x12 FO, or 1x12 FO configurations, the modules support singlemode (G.652.D / G.657.A1) or multi-mode (OM3 / OM4) fibers, ensuring high optical performance and maximum connection density.

Reference standards

IEC 61754
UL94-V0

Characteristics

Installation	On MPO/MTP® High Density patch panel via self-locking system
Structure	High-resistance plastic material, compliant with UL94-V0 standards
Frontal adapters	LC Duplex or SC Simplex
Rear adapters	For female MPO/MTP® connectors
Fiber type	Single-mode or multi-mode OM3/OM4
Capacity	Up to max. 24 fibers per module
Configurations	1x24, 2x12, 1x12 with polarity A (standard) or B (cross)
Internal fiber management	Integrated MPO/MTP® – LC/SC fan-out for fiber distribution

Example of configuration: **DH01 R B 9 B 3 G A**

Type	Side	Number of fibres	Fibre type	MPO Connector	Front adapter	Adapter colour	Polarity
DH01 Cassette for high density patch panel	R Right	B 1x24	9 9/125 G652D	B MPO-M Standard loss	1 SC Simplex (only for cassettes 12FO)	B Blue (only for singlemode)	A Type A (standard)
	L Left	C 2x12	3 50/125 OM3	D MTP-M Standard loss		3 LC Duplex	A Aqua (only for OM3/OM4)
		D 1x12	4 50/125 OM4	F MPO-M Low loss			E Erika (only for OM4)
			A 9/125 G657A1	H MTP-M Low loss		G Green (APC only for singlemode)	

Example of configuration: **DH01 R B 9 B 3 G A**

P/N: **206XXXX**

Cassette for high density patch panel, right side, 1x24 fibres, 9/125 G652D, MTP-M standard loss, LC Duplex APC green, polarity type A

Fibre optic solutions

96 FO Compact patch panel



Compact MPO/MTP® patch panel

Description

Compact optical patch panel with a 19" modular structure, designed to house removable MPO/MTP® optical modules. It allows for the management of up to 96 fiber optic connections in just 1U, ensuring protection, organization, and easy access during installation, maintenance, and reconfiguration operations. Made of lightweight, high-resistance metallic material, it represents the ideal solution for Data Centers and high-density networks requiring compact, modular, and flexible cabling.

Characteristics

Installation	On 19" racks: front mounting on uprights
Structure	Sheet metal frame; depth-adjustable side brackets; mounting supports for MPO/MTP® modules
Max. modules	4 MPO/MTP® modules
Capacity	Max. 96 FO
Modules installation	Snap-on clip fastening system
Dimensions	1U – 480x185x44 mm
Operating temperature	-20°C ~ +60°C

Reference standards

IEC 60297

Code	Description	Packaging
206XXX	Compact patch panel 19" 1U for max 96 fibres, 4 slots for MPO optical modules or blinding panels	1
206XXX	Blinding panel for compact patch panel up to 96 fibres	1
206XXX	Front panel 6 pos for SC Simplex/LC Duplex adapters for compact patch panel up to 96 fibres	1
206XXX	Front panel 6 pos for SC Duplex/LC quad adapters for compact patch panel up to 96 fibres	1

Fibre optic solutions

MPO cassettes for 96 FO Compact patch panel



MPO/MTP® cassettes for Compact patch panel

Description

Pre-terminated MPO/MTP® – LC/SC modules designed for installation in compact version optical patch panels. The rear is equipped with an MPO/MTP® connector for direct connection to multifiber backbone cables, while the front features LC Quad or SC Duplex adapters for the distribution of individual optical connections, allowing for neat, modular, and easily reconfigurable cabling management. Available in 1x24 FO, 2x12 FO, or 1x12 FO configurations, the modules support singlemode (G.652.D / G.657.A1) or multimode (OM3 / OM4) fibers, ensuring high optical performance and maximum connection density.

Reference standards

IEC 61754

Characteristics

Installation	On MPO/MTP® compact patch panel with snap-on clips
Structure	Sheet metal
Frontal adapters	LC Quad or SC Duplex
Rear adapters	For female MPO/MTP® connectors
Fiber type	Singlemode or multimode OM3/OM4
Capacity	Up to max. 24 fibers per module
Configurations	1x24, 2x12, 1x12 with polarity A (standard) or B (cross)
Internal fiber management	Integrated MPO/MTP® – LC/SC fan-out for fiber distribution

Example of configuration: **DC01 N B A B 4 B A**

Type	Side	Number of fibres	Fibre	MPO Connector	Front adapter	Adapter colour	Polarity
DC01 Cassette for Compact patch panel	N Neutral	B 1x24	9 9/125 G652D	B MPO-M Standard loss	2 SC Duplex (only for cassettes 12FO)	B Blue (only for singlemode)	A Type A (standard) B Type B (cross)
		C 2x12	3 50/125 OM3	D MTP-M Standard loss			
		D 1x12	4 50/125 OM4	F MPO-M Low loss	4 LC Quad	A Aqua (only for OM3/OM4)	
			A 9/125 G657A1	H MTP-M Low loss		E Erika (only for OM4) G Green (only for APC singlemode)	

Example of configuration: **DC01 N B A B 4 B A**

P/N: **206XXXX**

Cassette for Compact patch panel, neutral side, 1x24 fibres; 9/125 G657A1, MPO-M standard loss; LC quad blue, polarity type A

Copper solutions Category 8.1

Category 8.1 was developed to support 40GBASE-T on twisted pairs copper cables. While Category 6A allows 10Gigabit at 500 MHz, category 8.1 performs till 2.000 MHz, multiplying by four the bandwidth and granting the necessary performances for high speed connections between server and switch in data centers.

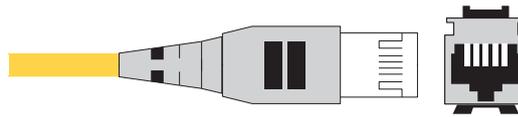
COMPETITIVE ADVANTAGES IN THE DATA CENTER

Category 8.1 represents the strategic alternative to the fibre optic thanks to a cost-performances ratio extremely competitive on the short distances. This technology exploits the universality of RJ45 connector to grant a total backward compatibility with the existing infrastructures, making the integration processes easier and reducing the operation expenses while maintaining high speed standards.

On top of this it supports PoE to power devices directly with the cable and grants excellent latency performances on short distances, fundamental for applications sensitive to latency.



High performances



RJ45 standardized interface



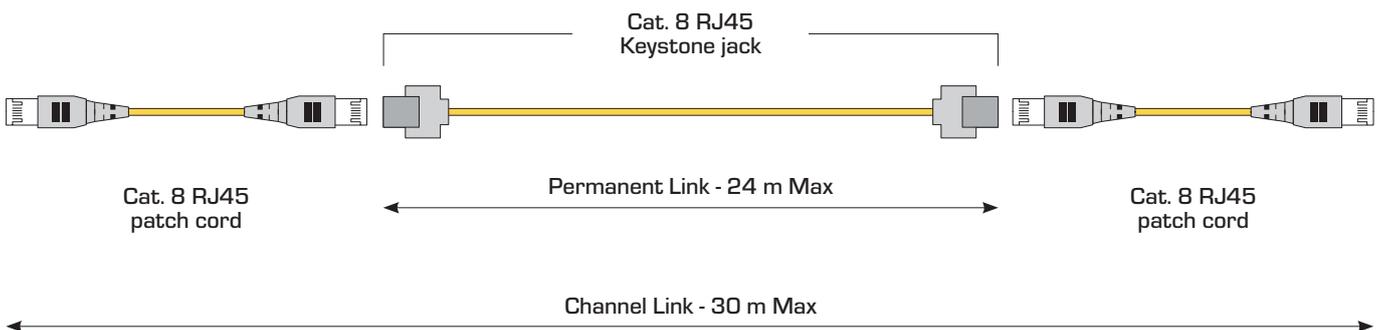
PoE++ COMPLIANT

THE ESSENTIAL LIMIT: THE 30 MT RULE

Despite its excellent performances, Category 8.1 is subject to a fundamental limit as defined by the ISO/IEC 11801 standard: the maximum length of the link is only 30 mt. This limit is strictly necessary to grant the integrity of the signal at 40 Gbps (40GBASE-T).

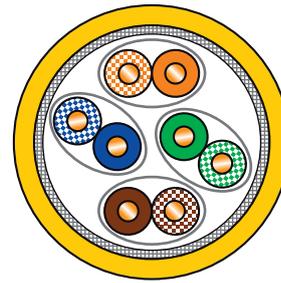
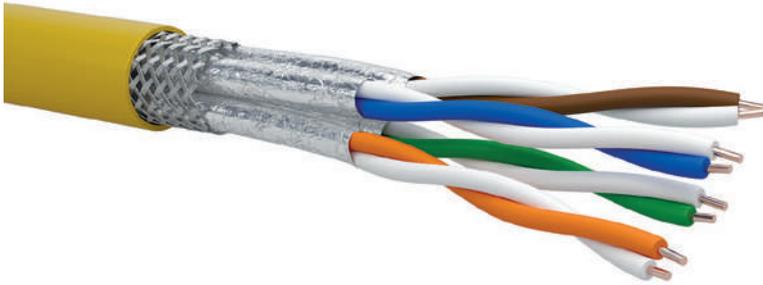
As a result, it's use is ideal in ToR (Top of Rack) architectures, where the interconnections between server and switch are very short. On the other hand, in the MoR (Middle of Row) and EoR (End of Row) configurations, characterized by longer links that often exceed the physical limits of copper, links in fibre optic are preferred.

Category 8.1 results therefore as the copper solution at very high speed only for critical and very short distances.



Copper solutions Category 8.1

Cable



R8ST4H23 S/FTP PIMF

S/FTP CAT 8.1, 4-pair cable (100 Ohm) with each pair shielded with aluminum tape and overall tinned copper braid, FR-LSZH (Fire Retardant – Low Smoke Zero Halogen) flame and fire retardant jacket, tested up to 2 GHz. Ideal for the realization of transmission channels of Class I.

Applications and performance

Cable suitable for the realization of cabling systems inside data centers according to EN 50173; ISO/IEC 11801 and ANSI/TIA 568. Ideal for indoor Class I applications up to 40 GbE on IEEE 802.3ba, PoE/PoE+/PoE++ protocols and for Multimedia applications (Video, Data, Voice). Electrical characteristics meet the Category 8.1 channel requirements for distances up to 30 m.

Reference standards

Data transmission cables of Category 8.1 according to ISO/IEC 11801; IEC 61156-5; EN 50173-1; ANSI/TIA 568.

Construction characteristics

Inner conductors - material/diameter	Solid bare copper/AWG 23/1 (0,58mm)
Insulation - material/diameter	Foam skin PE max. diam. 1,60
Pair Shield	Al/Mylar tape
Overall shield	Tinned copper wire braid
Cable diameter	7,9 ± 0,5 mm
Outer jacket - material/color	LSZH/Yellow RAL 1021
Lead-free	Yes
Cable weight	67 kg/Km

Suitable for 40 Gigabit Ethernet
Tested up to 2 GHz



Mechanical and environmental properties

Use	Indoor
Bend. radius during installation	8 x outer diameter
Bend. radius after installation	4 x outer diameter
Max pull strength	110 N (11 kg max.)
Installation temperature	From 0°C to +50°C
Operating temperature	From -10°C to +60°C

Fire behaviour

CPR Regulation	EN 50575
Fire behaviour	EN 50399
	EN 60332-1-2; CEI 20-35/1-2
Acid gas emission	EN 60754-2; CEI 20-37/2-2
Smoke density	EN 61034-2; CEI 20-37/3-1

Electrical properties at 20°C

DC loop cond. resistance	Max 2,4 Ohm/30m
Insulation resistance	5 GOhm x km
Max. capacitance unbalance	99 pF/30m
NVP nominal velocity of propagation	70%
Max. propagation delay	171 ns/30m
Characteristic impedance	100 ± 5 Ohm

*according to EN 50288-9-1, IEC 61156-5(2012)

ELECTRIC CHARACTERISTICS ACCORDING TO FREQUENCY

Freq MHz	Attenuation dB/30m	NEXT dB	PS-NEXT dB	ACR-F dB@/30m	RL dB/30m
	max.	min.	min.	min.	min.
1	3	65	62	65	19
10	3	57.3	54	52	19
100	6.5	40.58	40.5	32	16
200	9.3	35.3	31.9	25.9	14.3
500	15	27.9	24.8	18	10.7
600	16.5	25.7	22.7	16.4	10
1000	22	19.3	16.5	12	8
1500	27.7	13.9	11.2	8.4	8
2000	32.7	9.8	7.3	5.9	8

Code	Description	Euroclass
On request	R8ST4H23 S/FTP CAT. 8.1 4x2xAWG23/1 - shielded - FR-LSZH	B2ca/Cca

Copper solutions Category 8.1

RJ45 jack Channel



Jacks

Description

CAT 8.1 Component CCS® RJ45 shielded jack for the realization of Class I transmission channels.

Thanks to its reduced dimensions, it is suitable for high density installation solutions and can be installed on 1U – 48 positions (Code 2002049) and ½U – 24 positions (Code 2002048) CCS® high density patch panels.

The toolless “Easy Crimp Compact” termination system makes the connection very easy and time saving.

They meet Category 8.1 requirements for channel links with a maximum length of 30 m. They support 40-Gigabit Ethernet applications (IEEE 802.3ba) and are suitable for PoE/PoE+/PoE++.

Performance

Compliance Category 8.1 Channel

Approvals ISO/IEC 11801-1/2;
EN 50173-1/2;
ANSI/TIA-568.2-D
IEC 60512-99-002

General characteristics

Material	Die-cast metal housing, high impact, 8 nickel bronze contacts plated with 50 µm hard gold.
Connection	IDC insulation displacement for solid or stranded copper conductors 22 to 26 AWG; double labelling colour scheme for T568A/B connections, reusable wire organizer, toolless closing system by snap-in termination flaps.
Installation	Keystone universal for installation on panels, faceplates, adapters and outdoor boxes.
Colour	Metal

Code	Description	Packaging
2001037	CCS Easy Crimp Compact CAT 8.1 Die-cast STP RJ45 jack - Channel	24 pcs

Copper solutions Category 8.1

RJ45 plug Channel



Plug

Description

CCS Easy Crimp Compact Cat 8.1 shielded RJ45 plug used for the assembly of patch cords.

The termination system does not require the use of tools, making the connection easy, fast, and efficient.

Its characteristics meet Category 8.1 Class I requirements, ensuring compliant performance for channel links up to 30 m. Suitable for PoE/PoE+/PoE++ applications.

Performances

Compliance	Category 8.1 Channel
Standards	ISO/IEC 11801 EN 50173-1 ANSI/TIA-568.2-D IEC 60512-99-002

Characteristics

Material	Plug body in zinc alloy nickel plated, wire manager in flame retardant polycarbonate UL94 V0; 8 contacts phosphor bronze alloy plated with 50µm of gold; steel cable gland
Connection	IDC insulation displacement for 22-26 AWG solid conductors and 27 AWG stranded conductors; label indicating T568A/B connection schemes
Installation	On cables with solid and stranded conductors
Color	Metal grey
Cable OD	From 6 to 8,5 mm

Code	Description	Packaging
2012031	CAT 8.1 CCS Easy Crimp Compact RJ45 plug	1 pc

Copper solutions Category 8.1

Patch panels



24 ports HIGH DENSITY

Description

24-port high density blank patch panel 1/2 U, suitable for keystone standard shielded CCS RJ45 Easy Crimp Compact jacks.

Characteristics

Structure	Steel frame with 24 ports for Keystone Easy Crimp Compact shielded jacks; jacks layout in one row; numbered ports; setting for connection to ground
Equipment	1 CCS 24-port patch panel; labels for port identification; rear cable management with cable ties; riveted cable which can be installed on both sides of the panel for the grounding of the jacks
Dimensions	19", 1/2 Unit
Colour	Metal

Code	Description
2002048	CCS Easy Crimp Compact 24-port blank patch panel 1/2U



48 ports HIGH DENSITY

Description

48-port high density blank patch panel 1U, suitable for keystone standard shielded CCS RJ45 Easy Crimp Compact jacks.

Characteristics

Structure	Steel frame with 48 ports for Keystone Easy Crimp Compact shielded jacks; jacks layout in two rows; numbered ports; setting for connection to ground.
Equipment	1 CCS 48-port patch panel; labels for port identification; rear cable management with cable ties; riveted cable which can be installed on both sides of the panel for the grounding of the jacks
Dimensions	19", 1Unit
Colour	Metal

Code	Description
2002049	CCS Easy Crimp Compact 48-port blank patch panel 1 U

Copper solutions Category 8.1

Patch panels



Angled patch panel, 48-port, blank

Description

CCS 19" angled high density patch panel, 48-port, blank, compatible with CCS RJ45 Easy Crimp Compact shielded jacks (codes 2001028 - 2001029).

Characteristics

Structure	CRS frame for grounding of shielded jacks; 48-port standard keystone; numbered ports; rear cable management bar
Packaging	1 CCS angled patch panel 48-port, blank; labels for the numbering of the ports; metal rear cable management; cable ties; earthing kit
Dimensions	19", 1U
Compatibility	CCS RJ45 Easy Crimp Compact shielded jacks (codes 2001028 - 2001029)
Colour	Frame: metal grey Cable management: black

Performances

Standards	ISO/IEC 11801 EN 50173-1 ANSI/TIA-568.2-D
-----------	---

Code	Description	Packaging
2002053	CCS Easy Crimp Compact angled patch panel, 48-port, blank, 1U	1 pc

Racks and accessories

TECH Datacenter racks

Colours

- Grey RAL 7035
- Black RAL 9005

Static Load



Dimensions (LxP)

- 600 x 1000
- 800 x 1000
- 600 x 1200
- 800 x 1200

Degree of protection

IP20

More info



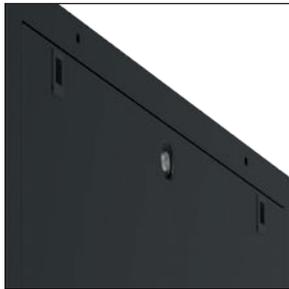
The Datacenter TECH racks with high depth represent the perfect choice for Server and Datacenter applications thanks to their specific characteristics. They are available in the version with front glass door and rear blind panel or with front and

rear gridded doors, 2-sections side blind panels. They are fully accessorized with no. 4 19" numbered uprights, brush strip cable entry, roof and floor base panels with removable flanges for cable entry, loading weight up to 2000 kg.

Description	Unit	Height	Width	Depth	Grey	Black	Front Door	Rear door
datacenter TECH racks	42U	2000	600	1000	2009115	2009115N	Glass	
			600	1000	2009167	2009167N	Grilled	Grilled double door
			600	1200	2009174	2009174N	Glass	
			600	1200	2009169	2009169N	Grilled	Grilled double door
			800	1000	2009171	2009171N	Glass	
			800	1000	2009163	2009163N	Grilled	Grilled double door
			800	1200	2009159	2009159N	Glass	
			800	1200	2009164	2009164N	Grilled	Grilled double door
	47U	2240	600	1000	2009143	2009143N	Glass	
			600	1000	2009168	2009168N	Grilled	Grilled double door
			600	1200	2009175	2009175N	Glass	
			600	1200	2009170	2009170N	Grilled	Grilled double door
			800	1000	2009134	2009134N	Glass	
			800	1000	2009165	2009165N	Grilled	Grilled double door
			800	1200	2009160	2009160N	Glass	
			800	1200	2009166	2009166N	Grilled	Grilled double door

Racks and accessories

Datacenter TECH racks



2 sections
side panels



Numbered and adjustable
uprights



Front door with
3-point lock

Datacenter TECH racks

Description

Datacenter TECH cabinets are suitable to house all kinds of server computers and 19" active components that are available in the networking market.

They can house all the 19" accessories and are suitable for the installation of specific accessories with greater depth and weight capacity to contain and support non-modular devices.

The range includes cabinets with width of 600 and 800 mm and depth of 1000 and 1200 mm with front glass door and side and rear blind panels or with front and rear grilled doors and side blind panels.

General characteristics

- Steel sheet structure
- Colour: Grey RAL 7035 or Black RAL 9005
- Configurations with front glass door and side and rear blind panels or front grilled door and rear grilled double door with side blind panels
- Swing handle with key and 3- point locking system
- Door opening 180°
- 2-section blind side panels removable with locking key for the 42U and 47U versions; single section panels for the 27U version
- Ventilation slits for exhaust air and holes for the installation under the roof of ventilation units
- Brush strip cable entry on the base of rack
- Roof and floor base panels with removable trapdoors for cable inlet
- No. 4 19" uprights with unit number and adjustable in depth
- IP20 protection degree according to EN 60529
- Earthing kit
- No. 4 levelling feet
- Loading weight: 2000 Kg
- Compliant with standard IEC 60297, EN 61587-1, EN 60917

Accessories

Grey	Black	Description
2011491	-	Set of 4 wheels Datacenter racks TECH series
2011494	-	Set of 4 M12x100 levelling feet - Datacenter racks TECH series
2011495	2011495N	TECH Series joining kit (4 pcs)
	2011496	Brush entry panel 55x298 mm
	2011497	Brush entry panel 70x145 mm (on plinths only)

Racks and accessories

Ventilation units



Ventilation units

Description

Designed to optimize thermal airflow within TECH Datacenter cabinets, these ventilation systems are available in 2 or 4 fan configurations, with or without a thermostat for automatic temperature control. The structure is engineered for quick mounting directly under the rack roof, ensuring efficient hot air extraction without taking up valuable space from active components, thus maintaining a footprint of 0 rack units.

General characteristics

Installation	Roof mounting in floor standing and Datacenter TECH cabinets
Structure	Sheet steel structure, single fan size 120x120x38 mm, complete with power cable with schuko plug; analogue control thermostat from 0° to +60° C (where included)
Electrical specifications	Power supply 200-240 VAC, power consumption 25W for each fan
Capacity	150 m ³ /h for each fan
Noise level	49 dBA
Colour	Grey RAL 7035 or black RAL 9005

Grey	Black	Description	Packaging
2011442	2011442N	2-fan ventilation unit for Datacenter TECH cabinets	1 pc
2011444	2011444N	4-fan ventilation unit for Datacenter TECH cabinets	1 pc
2011447	2011447N	2-fan ventilation unit + thermostat for DC TECH cabinets	1 pc
2011449	2011449N	4-fan ventilation unit + thermostat for DC TECH cabinets	1 pc

Racks and accessories

Cabling management



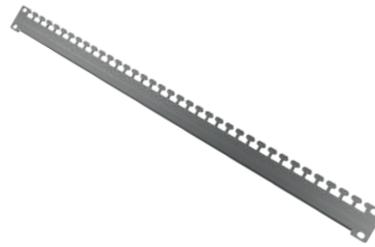
Cable management panel

Description

Pair of cable management panels made of painted sheet metal, with plastic cable guides and a dual aluminum cover removable and openable from both sides for easy and orderly patch management. Designed for side mounting on 19" uprights and compatible exclusively with 800 mm-wide TECH floor-standing and Datacenter cabinets.

General characteristics

Installation	In floor standing and Datacenter TECH cabinets with a width of 800 mm
Structure	Steel sheet body, equipped with plastic side supports for cable routing and two aluminum covers that can be opened from both sides.
Colour	Grey RAL 7035 or black RAL 9005



Cable holding bracket

Description

Cable holding bracket made of steel sheet, ideal for managing cable bundles inside the cabinets.
To be installed only in Datacenter TECH cabinets.

General characteristics

Installation	Horizontal mounting on the sides of the Datacenter TECH cabinets
Structure	Steel sheet
Size	Length of 882 mm for cabinets with depth of 1000 mm
Colour	Grey

Grey	Black	Description
2011435	2011435N	Pair of cable management panels 27U for TECH cabinets
2011438	2011438N	Pair of cable management panels 42U for TECH cabinets
2011439	2011439N	Pair of cable management panels 47U for TECH cabinets

Code	Description
2011423	Cable holding bracket for D1000 Datacenter TECH cabinets

Racks and accessories

Cabling management



Cable management panel Black

Characteristics

- Installation on 19" cabinets, suitable for the horizontal cabling management
- Varnished steel sheet structure with 4 ABS cable management rings
- Dimensions: 19" -1U
- Colour Black RAL 9005

Code
2011018
Description
Cable management panel 1U - Black



Cable management panel Grey

Characteristics

- Installation on 19" cabinets, suitable for the horizontal cabling management
- Varnished steel sheet structure with 4 ABS cable management rings
- Dimensions: 19" -1U
- Colour Grey RAL 7035

Code
2011017
Description
Cable management panel 1U - Grey



Cable management panel with cover 1U

Characteristics

- Installation on 19" cabinets, suitable for the horizontal cabling management
- ABS base, cover and cable management rings
- Dimensions: 19"- 1U – Depth 70 mm
- Colour Black

Code
2011130
Description
Cable management panel with cover D70 mm 1U

Racks and accessories

Cabling management



Cable management panel with brush

Description

19" Cable management panel with brush suitable for managing cables bundles inside the cabinets.

General characteristics

Installation	On 19" cabinets
Structure	Varnished steel sheet frame
Dimensions	19" - 1U
Colour	Black RAL 9005



Cable management rings

Description

Cable management ring made of varnished steel sheet, suitable for managing cables bundles inside the cabinets.

General characteristics

Installation	On cabinets, horizontal or vertical mounting
Structure	Varnished steel sheet
Dimensions	106x79 mm
Colour	Grey RAL 7035 or black RAL 9005

Grey	Black	Description
-	2011118	Cable management panel with brush

Grey	Black	Description
2011021	2011021N	Cable management ring

Racks and accessories

PDU



PDU with magneto thermal switch 6 Schuko sockets

Description

Power distribution units with 6 Schuko sockets and magneto-thermal switch. Ideal to power active equipments inside racks.

General characteristics

Installation	Horizontal mounting on uprights
Structure	Painted aluminum frame with 6 Italian/German standard sockets; 16 A magneto-thermal switch
Equipment	Cable H05VV-F 3G1.5 mmq, L=2 mt with 16 A Schuko plug
Electrical specifications	Thermal protection max. 16 A with manual reset; maximum power 4000 W; maximum current 16 A; rated voltage 250 VAC
Dimensions	19", 1 Unit
Colour	Black

Code	Description
2011123	PDU with power magneto-thermal switch - 6 Schuko sockets



Vertical PDU with magneto thermal switch 12 Schuko sockets

Description

Power distribution unit with 12 Schuko sockets and magneto-thermal switch, vertical installation only. Ideal to power active equipments inside racks.

General characteristics

Installation	Fissaggio verticale
Structure	Painted aluminum frame with 12 Italian/German standard sockets; 16 A magneto-thermal switch
Equipment	Cable H05VV-F 3G1.5 mmq, L=2 mt with 16 A Schuko plug
Electrical specifications	Thermal protection max. 16 A with manual reset; maximum power 4000 W; maximum current 16 A; rated voltage 250 VAC.
Dimensions	L704 mm
Colour	Black

Code	Description
2011125	Vertical PDU with power magneto-thermal switch - 12 Schuko sockets

Edition: March 2026

Qubix SpA. reserves the right to change at any time and without notice the features and specifications of the products shown.

© Qubix S.p.A. All rights reserved.

It is highly prohibited to copy, publish and/or use any content of the catalogue without the formal authorization by Qubix SpA.
All the included material is protected by copyright: contents (registered trademarks, texts, images or other contents) are of exclusive property of Qubix SpA.



**CCS CONNECTIVITY
& CABLING SYSTEM**

is a trademark of:

Qubix S.p.A. networking solutions
Via Canada, 22/A - 35127 Padova - ITALY
Tel. +39 049 7801994 - Fax +39 049 775667

www.ccs-cabling.it