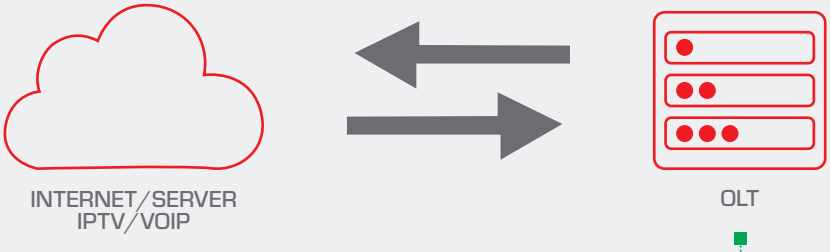
CONNECTIVITY & CABLING SYSTEM

GPON NETWORK INFRASTRUCTURE

PASSIVE OPTICAL LAN

INDEX

POL definition



POLAN or POL are the acronyms used to identify the best-known PON (Passive Optical Network) networks when this type of structure is applied to the realization of business and enterprise LANs in which extension and number of users are more limited.

Structurally identical to PON but with a maximum extension of 20 km, the POL network supports multiple services and is characterized by a limited number of components, reduced infrastructure size, simple installation and high bandwidth.

This network type is totally passive deploying fibre optic cables and splitters to directly connect the users to the main node of the network through a point-multipoint design, with a single optical fibre shared with multiple users, providing high quality services and high bandwidth.

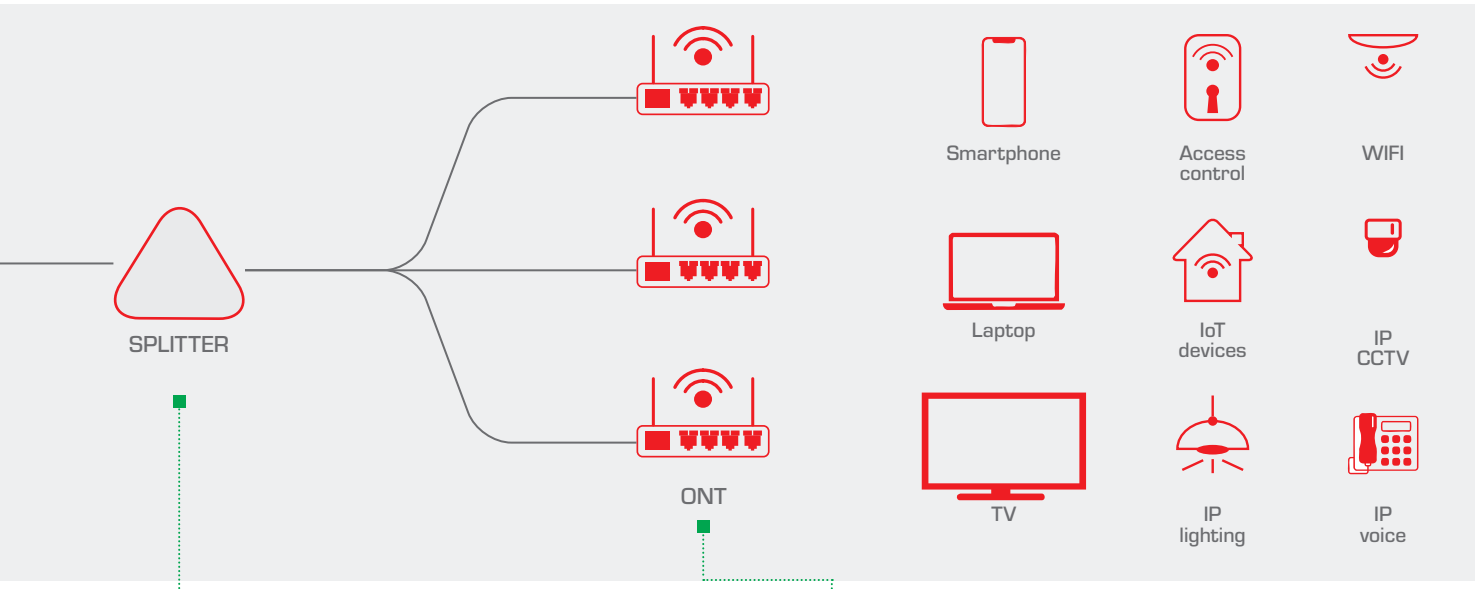
Active equipments are positioned only upstream and downstream of the network and through optical modules exploiting WDM (Wavelength Division Multiplexing) technology, allow two-way communication on a single fibre.

Fibre optic POL networks grant clear advantages compared to traditional copper networks: higher bandwidth and longer distance of access, lower energy consumption, higher reliability and durability.

Thanks to the ongoing evolution of the devices and optical transmitters, a POL network is fully scalable, safe and future proof with a lower Total Cost of Ownership.

OLT

The OLT (Optical Line Terminal) is the electrically powered active device positioned upstream of the link working as central processing unit and is connected from one side to the network switches for connection to the local network services and internet, to the other side to the ONT (Optical Network Termination) through the fibre network. The OLT typically has LAN copper or SFP ports used as uplinks to the network switches and PON ports to connect to the remote devices. Each PON port theoretically can serve up to 128 ONTs but in practice this number should be calculated based on the characteristics of the network, the optical attenuation and the available power budget.



OPTICAL SPLITTERS

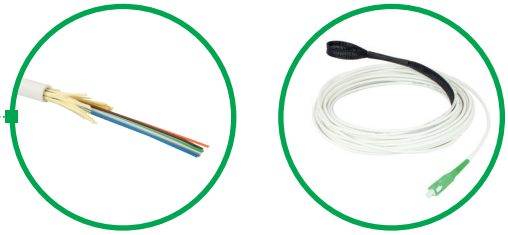
One of the main components of a POL network is the optical splitter. It splits the optical signal from the OLT into more outputs switching from typical P2P network to a P2MP topology without reducing the available bandwidth. Splitters have a splitting ratio of 1xN up to 1:128 or 2xN type for the deployment of redundant networks.

ONT

The ONT (Optical Network Terminal) is an active device positioned downstream of the fibre link acting as the termination point of the POL network. It converts the optical signal into electrical signals and vice versa. It features an optical port for the connection to the OLT and one or more LAN copper ports and possible wireless connectivity for access to network services for connected clients. Downstream of the ONT there can be a network switch to further extend the number of available links or to power any remote devices in PoE.

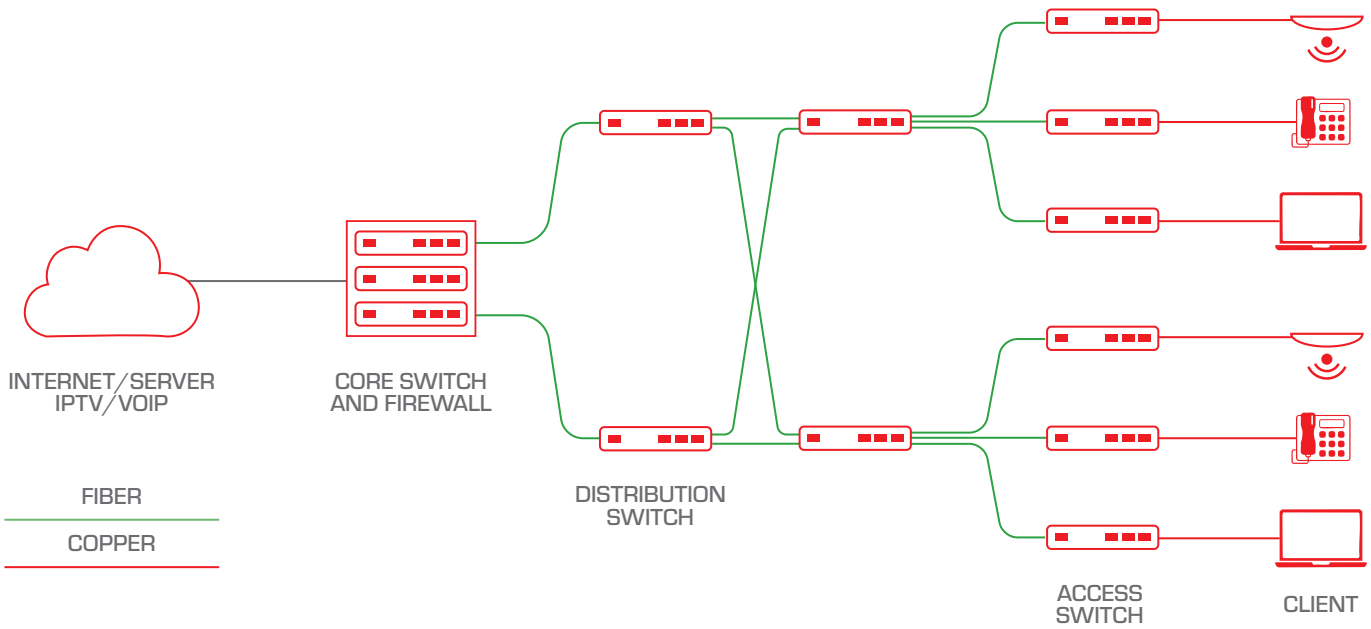
OPTICAL CABLES

For the realisation of the POL infrastructure single-mode fibre cables are used, preferably of the bending loss insensitive G.657.A2 type.
For indoor or outdoor backbone sections, paths are straighter and the bending radii do not cause attenuations such as to justify the use of specific fibres. In this case optical fibres of G.652.D type can be used.



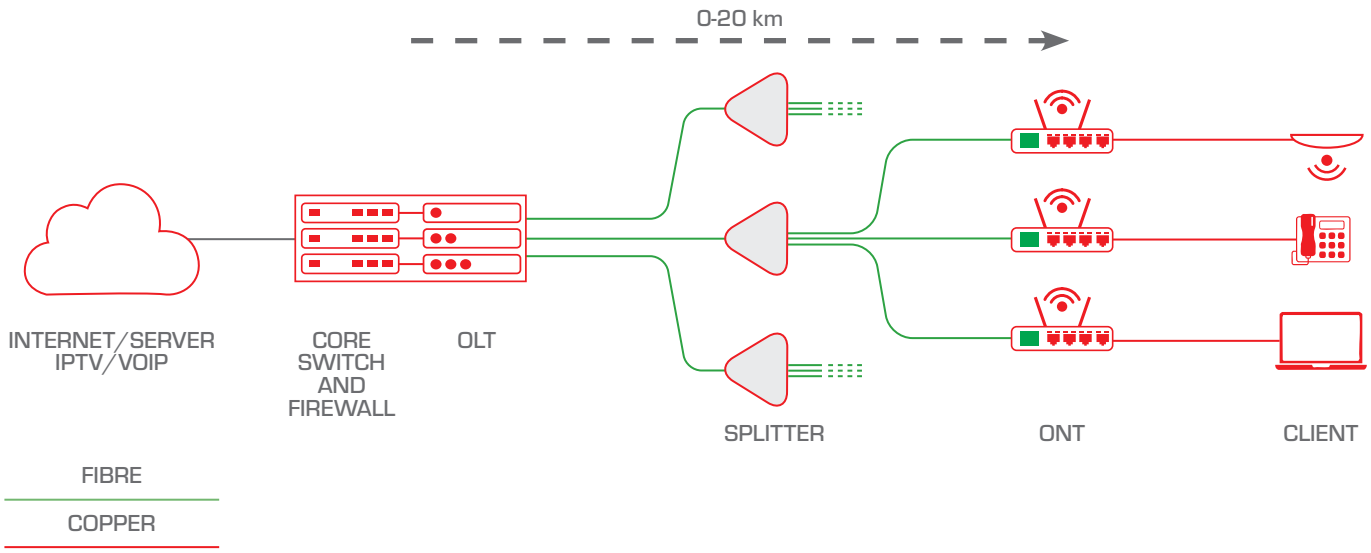
Differences between traditional LAN and POL networks

TRADITIONAL LAN NETWORK



A LAN (Local Area Network) is a hierarchical star topology network covering a small geographic area such as an office, school or building. It deploys mostly copper cables in Cat 6 or Cat 6A to connect all the terminal devices to the switches located inside the rack cabinets. Fibre optics are used only to connect the racks together. Network management is centralized with administrators configuring and monitoring devices and connections.

POL NETWORK



A POL network (Passive Optical LAN) uses mostly fibre optics to provide connectivity. It deploys a point-multipoint topology with a single optical fibre cable from an OLT (Optical Line Terminal) that branches out to different ONTs (Optical Network Terminal) through passive splitters. The use of copper cables is reduced and limited to the terminal connection of the devices to the ONTs. Network management is centralized and the maintenance is simplified thanks to the reduction of the active components and the higher reliability of fibre optics.

POL network advantages

REDUCTION OF SPACES DEDICATED TO CABLING

In copper LAN networks, to respect the distance limits set by the applications, it is necessary to position intermediate concentrator cabinets for which suitable space or dedicated technical rooms must be provided.
Ducts must be large enough to allow the passage of numerous cables, as many as the devices to be connected at present and for future expansion.
POL networks, completely passive and realised in fibre optics, overcome the limits due to distances and the consequent need for intermediate concentrators, reducing the space dedicated to cabling while maintaining the possibility of future expansions. Their deployment is particularly advantageous in existing buildings, where upgrading the copper infrastructure is often unfeasible due to the inability to install new conduits or allocate additional space for structured cabling.

FLEXIBILITY

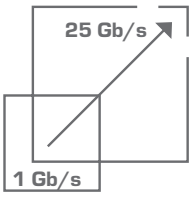
Thanks to the technical characteristics of the single-mode optical fibres used in the POL, the distribution network can reach the length of 20 km without using any intermediate active device.

The use of passive optical splitters that do not need to be powered, enables further splitting of the optical signal to add new user connection points quickly and easily. The POL architecture can also be used in coexistence with traditional copper networks for the implementation of new endpoints where their addition would require redesigning the entire infrastructure.

SAFETY

An important advantage of POL networks, especially for installations in critical environments, is the immunity of optical fibres to noise, to Alien Next and electromagnetic interferences.
This, combined with the cryptography and the management/identification systems of the ONT integrated in the PON protocol, increases considerably the security level of the data transmission by limiting the possibility of intrusion and attack by hackers or unauthorized users.

SCALABILITY



The most common implementations on POL networks use the GPON standard through which it is possible to reach transfer speed of 2.5 Gbps in downstream and 1.25 Gbps in upstream.
This feature, together with the dynamic allocation of the band managed by the protocol, fully answers to the current connectivity needs.
Thanks to the potentially infinite bandwidth of the single-mode fibre optics, POL networks are also easily scalable and ready to support upgrades to future technologies like 10Gbps or the 25 Gbps to allow the quick and cost-effective implementation of new applications keeping the existing infrastructure unchanged.

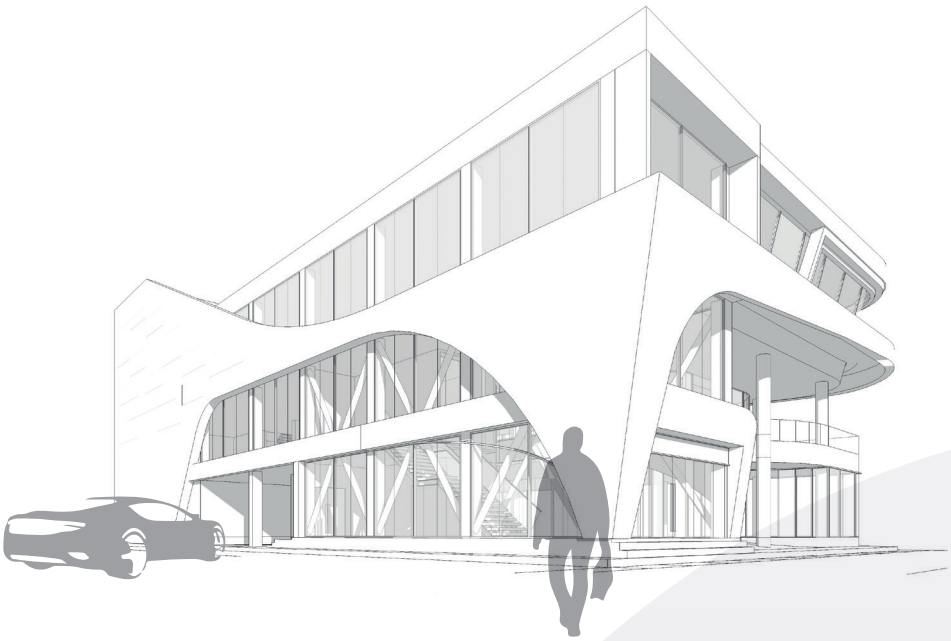
REDUCTION OF INSTALLATION AND MAINTENANCE COSTS

A POL infrastructure compared to a standard LAN network is characterised by a strong reduction of the costs of the materials and of the installation time. This is achieved through the optimization of the cabling, because of the smaller number of cables and of the technical spaces needed for the housing of big network cabinets, active devices and UPS. Further to these advantages are also the longer longevity of a fibre-optic cabling and the lower maintenance costs as there are no intermediate electrically powered devices. PON networks are also economically competitive as all ONT active devices are centrally managed by the OLT.

LOWER ENERGY CONSUMPTION

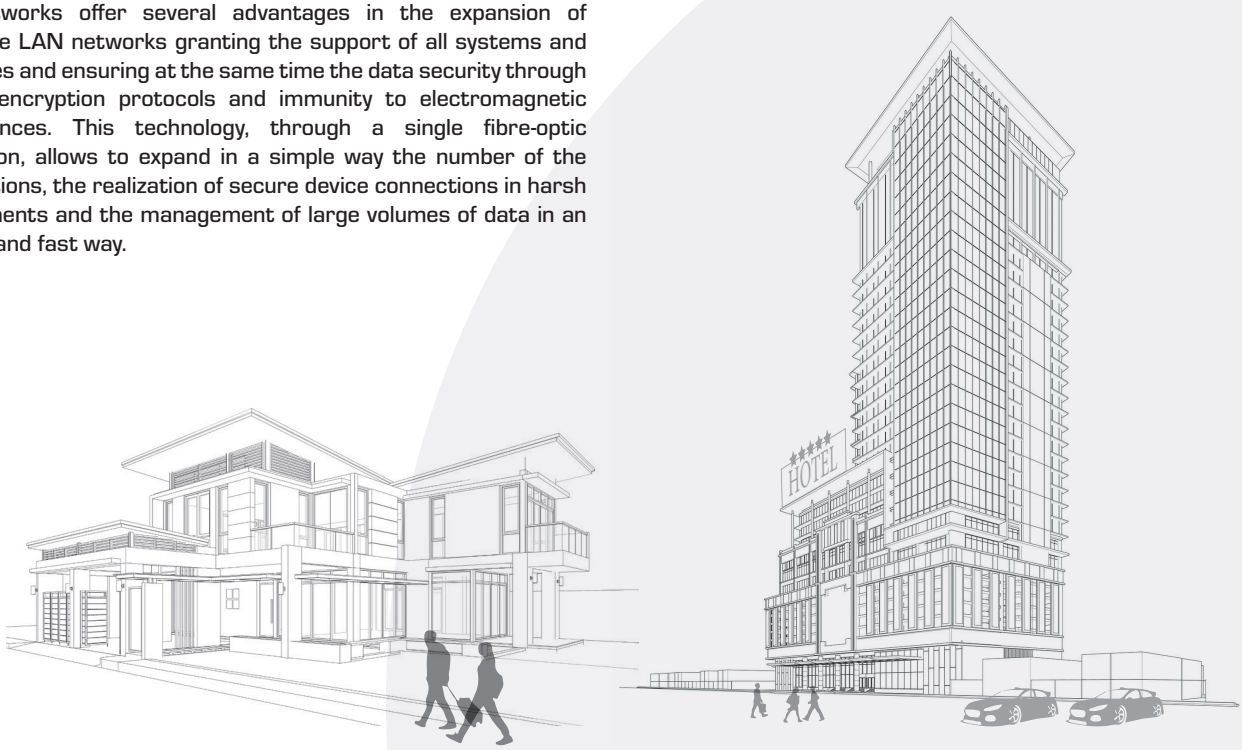
A copper LAN network, because of the limits set by the connection distances, typically needs intermediate switches and distribution cabinets equipped with ventilation and cooling systems that are energy consuming. A POL network on the other hand, uses only passive components from the OLT to the different ONTs and no intermediate devices are needed, meaning a lower total energy consumption. In the case of PoE systems, the shorter distances of connection lead to a further savings because of lower power loss along the copper link.

POL application areas



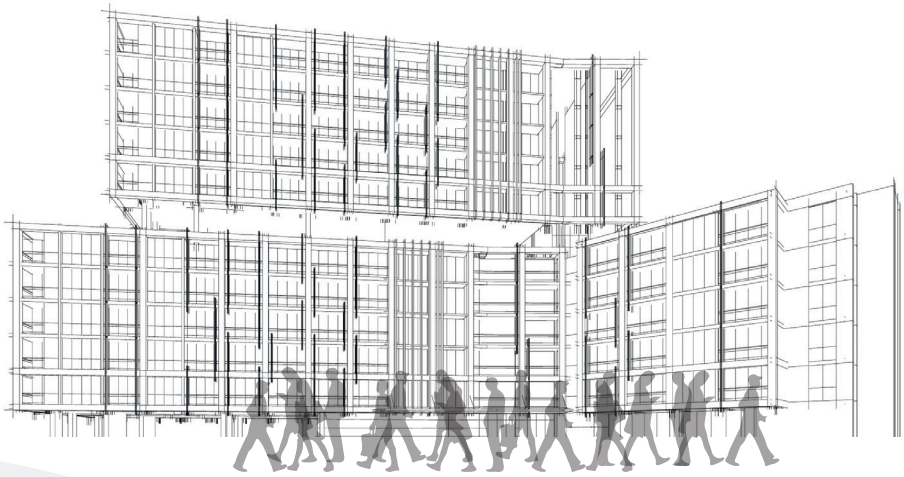
COMPANIES

POL networks offer several advantages in the expansion of corporate LAN networks granting the support of all systems and processes and ensuring at the same time the data security through specific encryption protocols and immunity to electromagnetic interferences. This technology, through a single fibre-optic connection, allows to expand in a simple way the number of the workstations, the realization of secure device connections in harsh environments and the management of large volumes of data in an efficient and fast way.



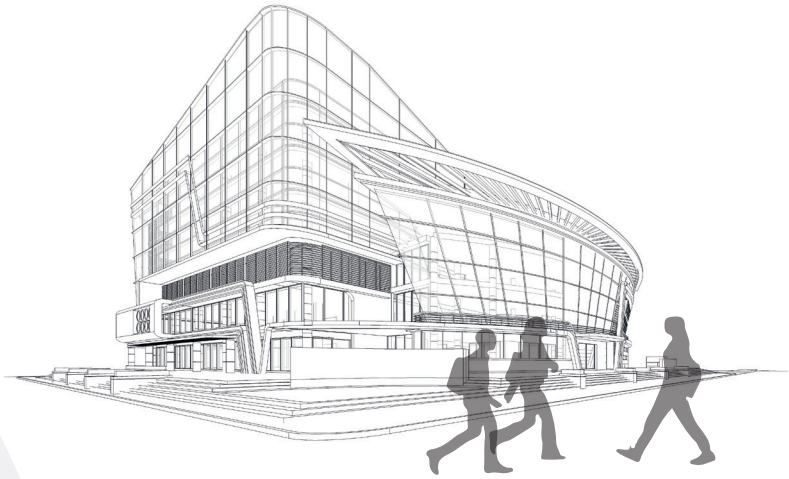
HOSPITALITY

POL infrastructure is a very advantageous solution with a high cost/benefit ratio especially in the hospitality sector. Camping, resorts and hotel guests can have access to the services offered by the structure such as data/TV connectivity in a simple and secure way. Flexibility of configuration, possibility to reach distant locations or to add new links far from each other, make it preferable to other types of networks structurally more demanding.
POL networks offer to accommodation facilities (hotels, residences and B&B) the ability to provide fibre connections to each room by granting the supply of the services such as data connection, TV on demand, voice and access control, etc.



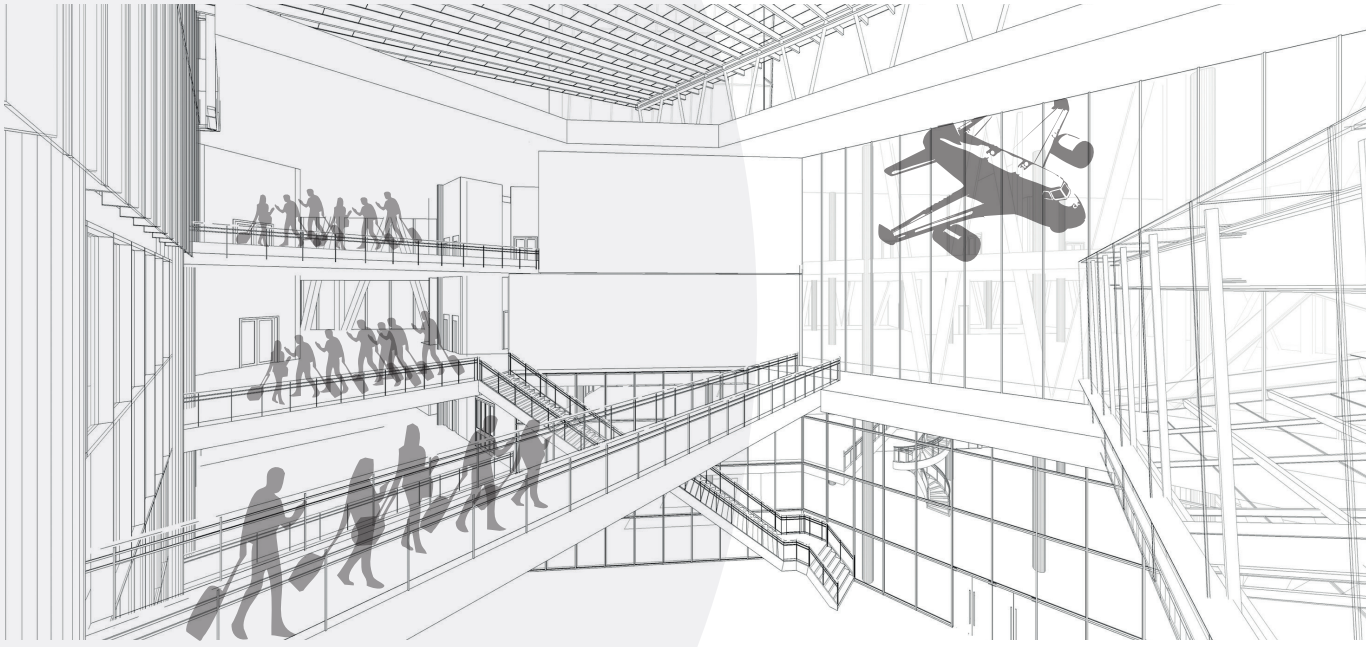
HOSPITALS

POL technology can help hospitals, clinics and healthcare facilities to provide the best possible patient care.
The savings represented by lower construction and maintenance costs together with the very high available bandwidth, help in implementing monitoring and diagnostic systems to grant the patients a better, prompt and efficient service.



UNIVERSITY

Connection to the digital world in universities and schools allows real-time collaboration between students and teachers, new approaches to research and distance learning. POL networks enable the development of broadband cabling infrastructures that simplify the interaction between users, as well as sharing and availability of information.



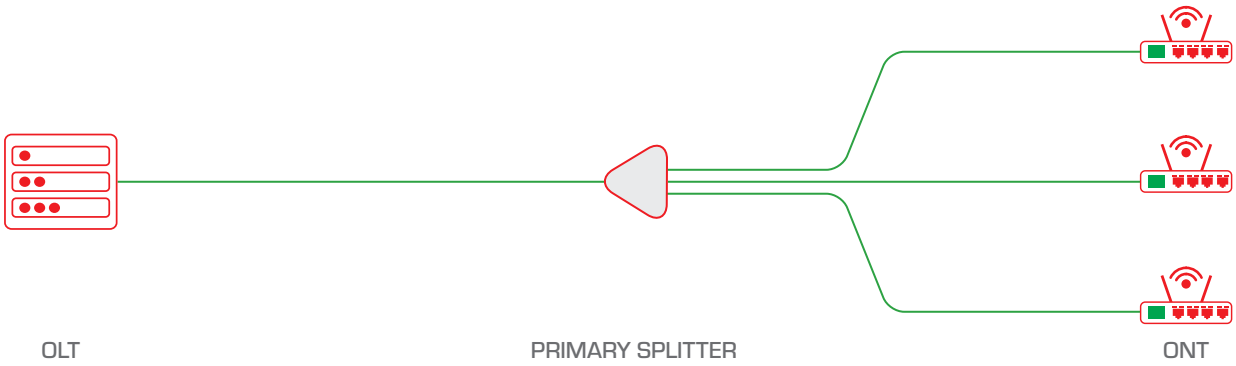
AIRPORTS

POL networks are widely used in airports to ensure efficient and secure management of communications and data. Thanks to the use of fibre optics, these networks offer high performances in terms of speed, reliability and ability to cover wide areas without signal loss. POL are ideal to support critical applications such as air traffic control, video surveillance, baggage handling and the communication system between staff. Moreover, their energy efficiency and the lower OPEX/CAPEX costs contribute to improve the sustainability and overall efficiency of airports.

POL network construction diagrams

Network topology

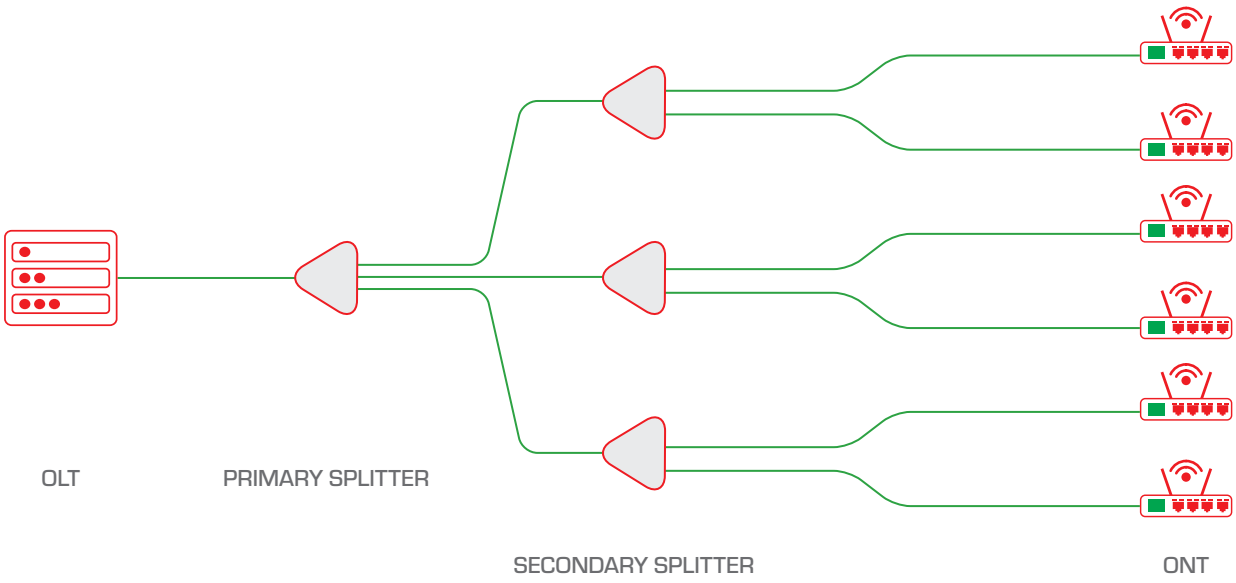
OPTICAL DISTRIBUTION INFRASTRUCTURE WITH PRIMARY SPLITTER ONLY



POL network with a single primary splitter deploys a single optical splitter to divide the signal from the OLT to the ONT, reducing the cabling complexity and costs. This primary splitter, usually with a split ratio of 1:8 to 1:32, is installed in a specific optical patch panel inside the star center cabinet.

This type of infrastructure is ideal for companies or hotels with a low user density.

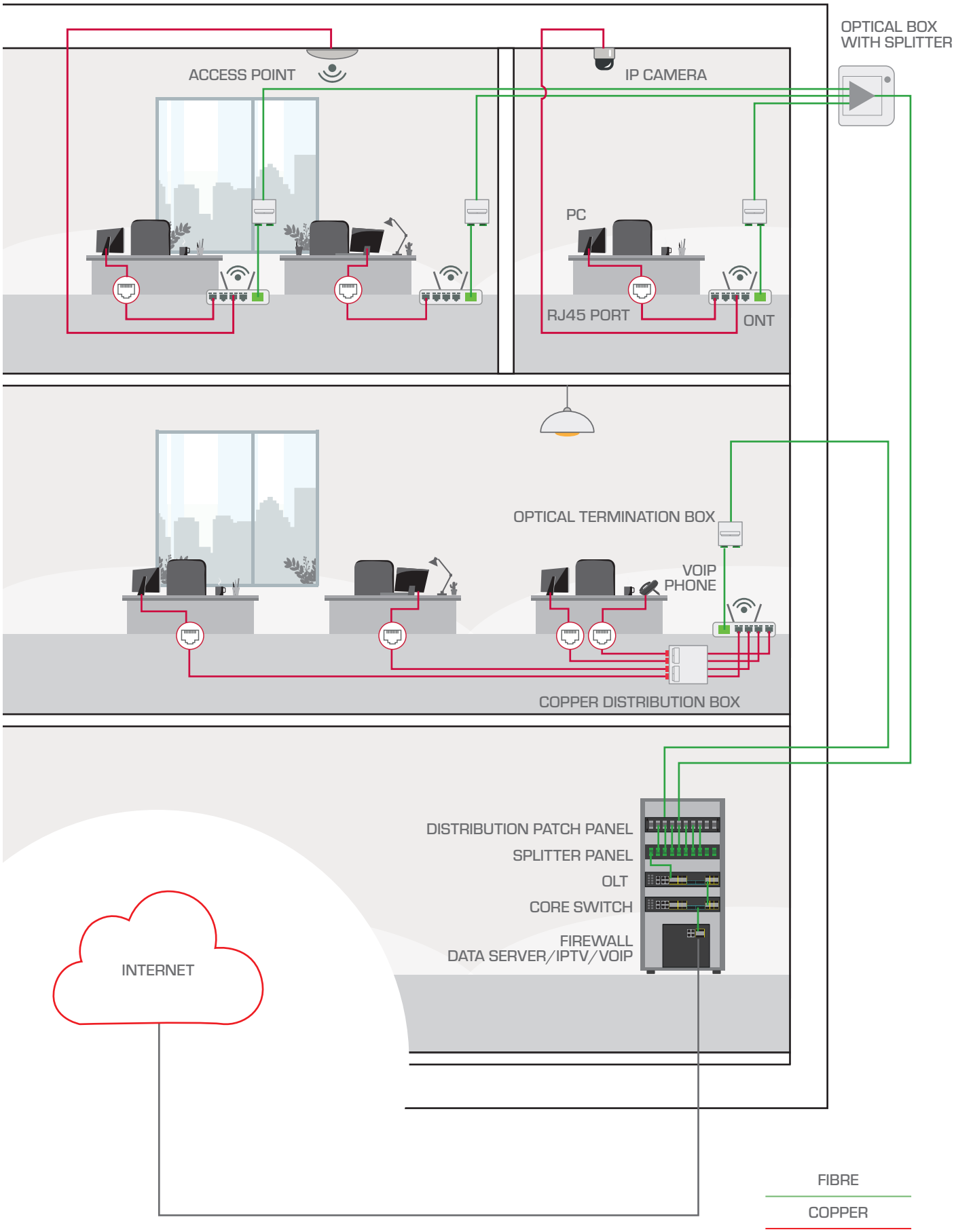
OPTICAL DISTRIBUTION INFRASTRUCTURE WITH PRIMARY AND SECONDARY SPLITTER



A POL network with both primary and secondary splitters works on 2 levels of splitting of the optical signal. OLT signal is first divided by a primary splitter, installed in an optical patch panel in the campus distribution cabinet, usually with a ratio of 1:2 to 1:8. Each output of the primary splitter is further divided by a secondary splitter, positioned in an optical floor box with a ratio from 1:4 to 1:16. This approach allows to serve up to 32 ONT through a single OLT port. The dual splitter configuration reduces the need for extended cabling and improves the network efficiency making it ideal for environments with a high density of users.

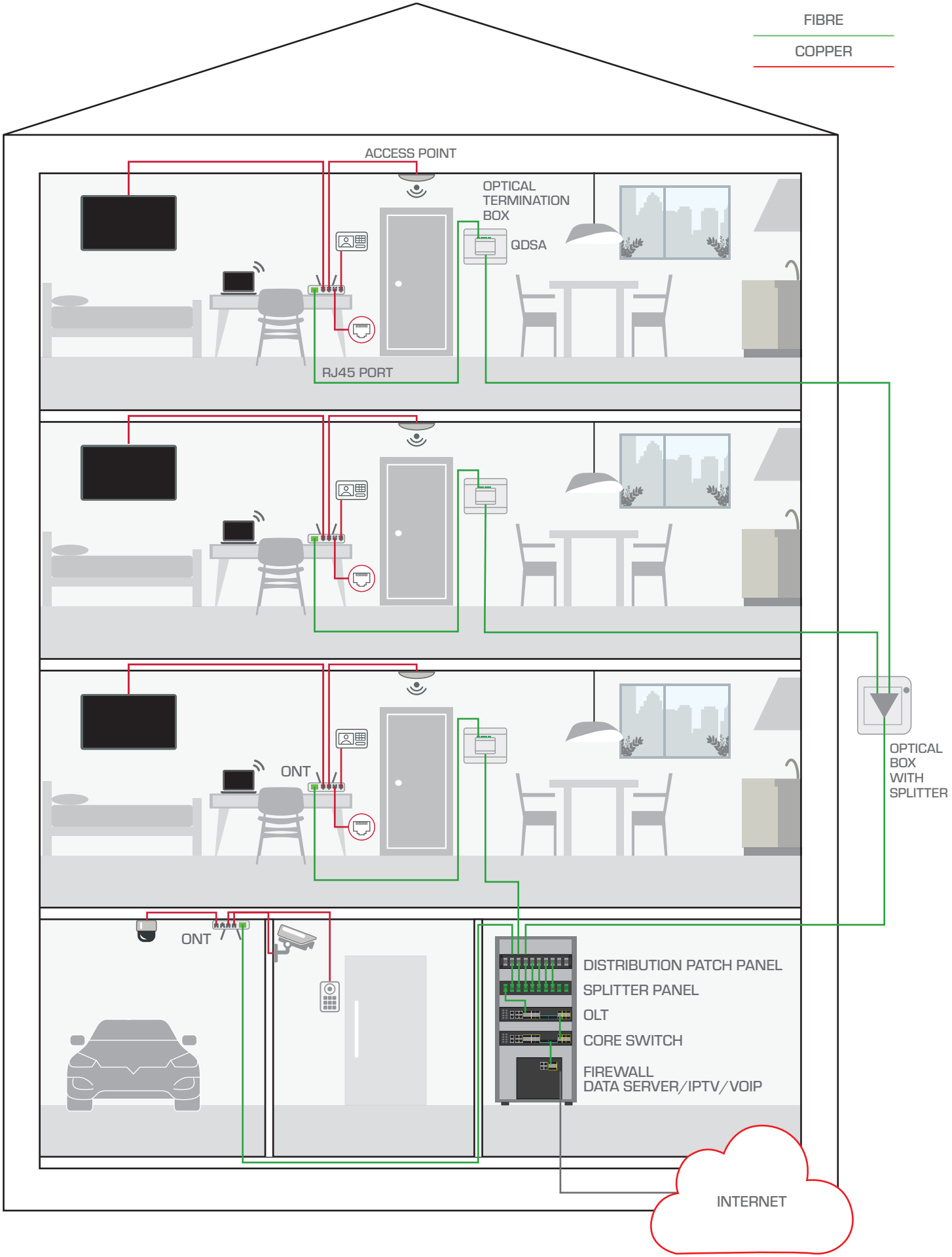
POL network examples

Offices and work environments



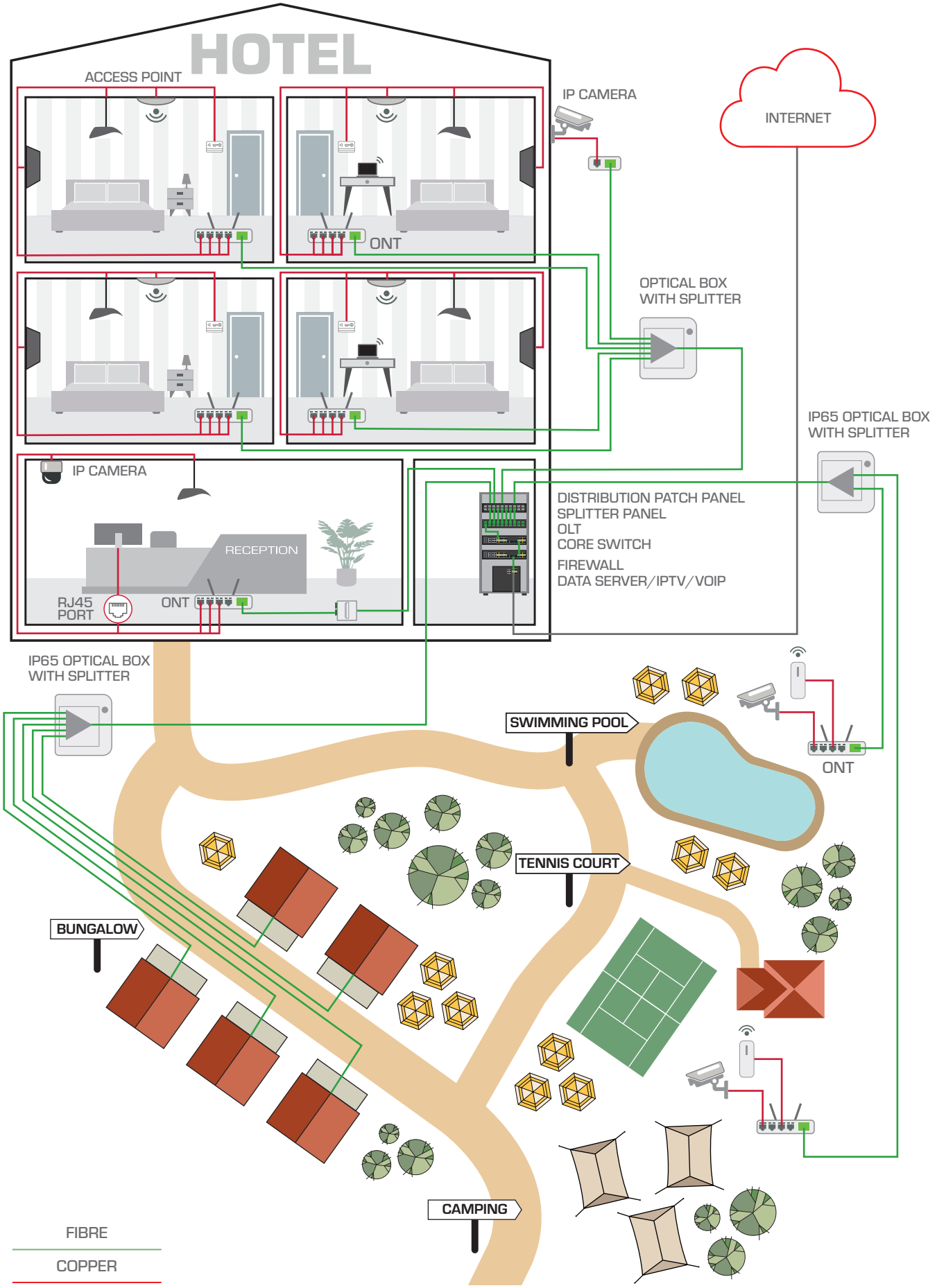
POL network examples

Residential solution

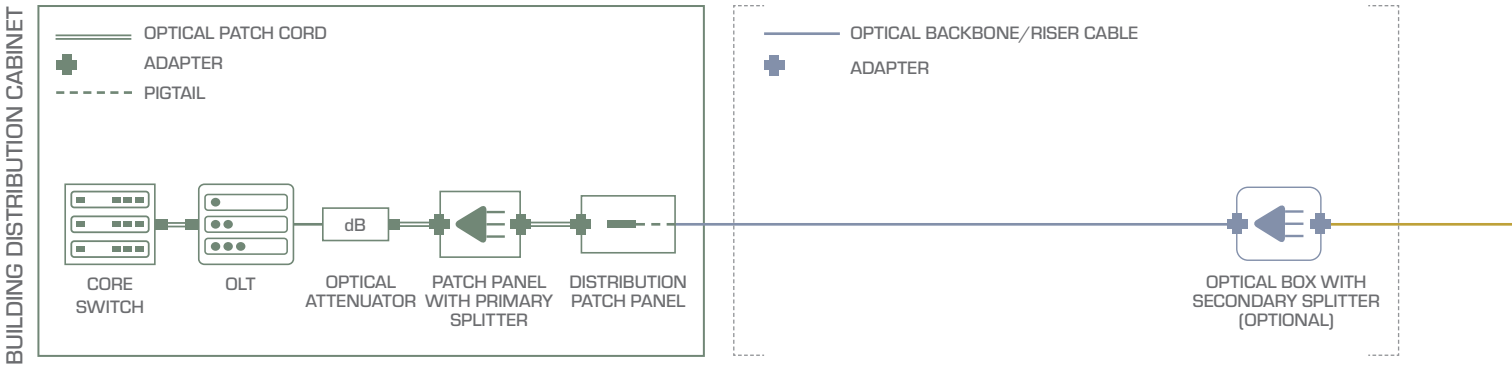


POL network examples

Hospitality solution

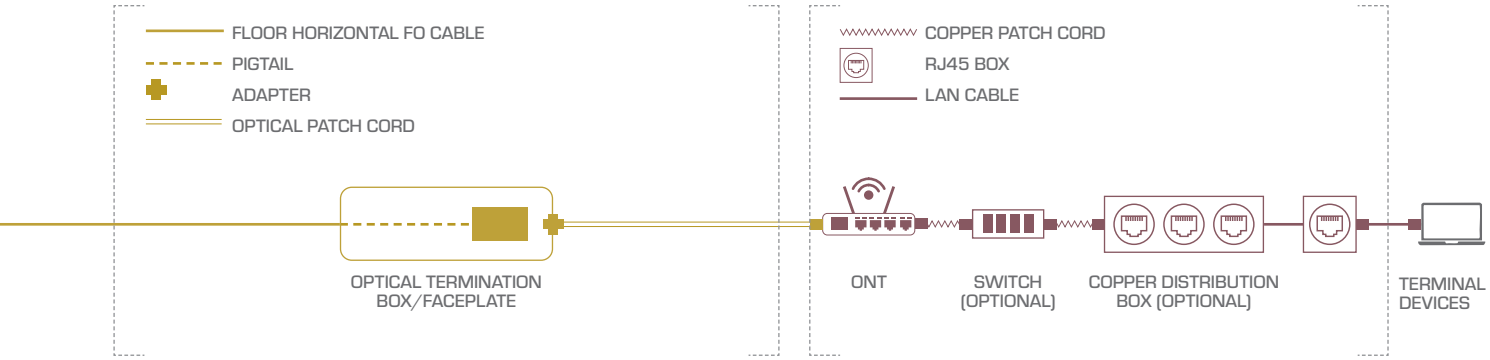


POL product guide



BUILDING DISTRIBUTION

VERTICAL OPTICAL DISTRIBUTION



HORIZONTAL OPTICAL CABLING

WORKING AREA

POL network product range

Building distribution

Tech datacenter racks

Floor standing cabinets with depth of at least 1000 mm to be used as a building distributor of the POL network whenever considerable depths are required for the installation of the servers

Front glass door

Unit	Height	Width	Depth	Grey	Black
27U	1350	600	1000	2009128	2009128N
		800	1000	2009138	2009138N
42U	2000	600	1000	2009115	2009115N
		800	1000	2009171	2009171N
		800	1200	2009159	2009159N
47U	2240	600	1000	2009143	2009143N
		800	1000	2009134	2009134N
		800	1200	2009160	2009160N

Front and rear grilled door

Unit	Height	Width	Depth	Grey	Black
42U	2000	800	1000	2009163	2009163N
		800	1200	2009164	2009164N

Tech floor racks

Floor standing racks with depth up to 800 mm to use as building distributor of the POL network

Unit	Height	Width	Depth	Grey	Black
22U	1160	600	600	2009181	2009181N
27U	1350	600	600	2009182	2009182N
		600	800	2009109	2009109N
36U	1750	600	600	2009183	2009183N
		600	800	2009113	2009113N
		800	600	2009121	2009121N
		800	800	2009120	2009120N
42U	2000	600	600	2009184	2009184N
		600	800	2009112	2009112N
		800	600	2009114	2009114N
		800	800	2009185	2009185N
47U	2240	800	800	2009186	2009186N

Tech floor racks

Wall mounted racks with depth up to 600 mm to use a building distributor of the POL network

Unit	Height	Width	Depth	Grey
12U	635	600	450	2020034
	635		600	2020044
15U	770		450	2020035
	770		600	2020045
22U	1080		600	2020046

POL network product range

Building distribution

Power Distribution Units

PDU to power OLT, switches and other devices in the main rack

Description	Code
6 Schuko sockets and power surge protection	2011014
8 Schuko sockets and power surge protection	2011164
6 Schuko sockets and light switch	2011120
9 Schuko sockets and light switch	2011121
6 Schuko sockets and magneto-thermal switch	2011123
12 Schuko sockets and magneto-thermal switch	2011125

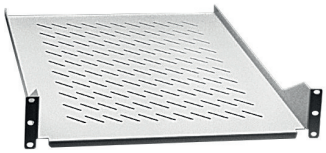
Rack ventilation units

Ventilation systems to extract air from inside the racks

Description	W thermostat	W/O thermostat
2 fans ventilation unit	2011447	2011442
4 fans ventilation unit	2011449	2011444
Axial fan	-	2011081

Fixed shelves

Fixed shelves for the installation of non-19" equipments



Description	Code
Fixed shelf D250 mm grey	2011004
Fixed shelf D400 mm grey	2011003
Fixed shelf D470 mm grey	2011079
Fixed shelf D600 mm grey	2011070
Fixed shelf D750 mm grey	2011072

Sliding shelves

Sliding shelves for the installation of non-19" equipments

Description	Code
Sliding shelf D470 mm grey	2011019
Sliding shelf D600 mm grey	2011089
Sliding shelf D750 mm grey	2011116

Cabling management

Patch panels and rings for the cabling management inside the racks

Description	Code
Cable management panel 1U grey	2011017
Cable management panel 1U black	2011018
Cable management ring	2011021

Blind panels and screws

Blind panels for closing unoccupied rack units and mounting screw kit for 19" accessories

Description	Code
Blind panel 1U grey	2011005
Blind panel 3U grey	2011007
Fixing nuts and screws	2011013

POL network product range

Building distribution

Core switch

Core switch for the management of different services of POL network

Description	Code
Layer 3 48-Port RJ45 + 6-Port SFP+ switch	2032148
Layer 3 24-Port RJ45 + 4-Port SFP+ switch	2032399
Gbic module SFP+ 10G MM	2032892
Gbic module SFP+ 10G SM	2032893

PoE core switch

PoE core switch for the management of different services of POL network

Description	Code
Layer 3 48-Port RJ45 PoE + 6-Port SFP+ switch	2033007
Layer 3 24-Port RJ45 PoE + 4-Port SFP+ switch	2032400
Gbic module SFP+ 10G MM	2032892
Gbic module SFP+ 10G SM	2032893

OLT

OLT for the centralized management of POL network

Description	Code
OLT 8P GPON C++, 4P RJ45 GE, 4P SFP+	2033040

GPON modules

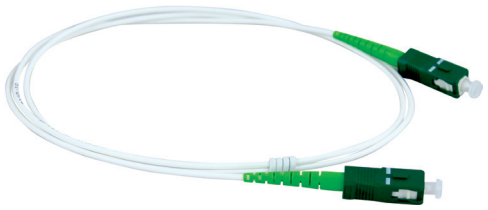
GPON modules to install on PON ports of OLT

Description	Code
GPON C+ module	2033041
GPON C++ module	2033042

Building distribution

FO patch cords SC/APC - SC/APC

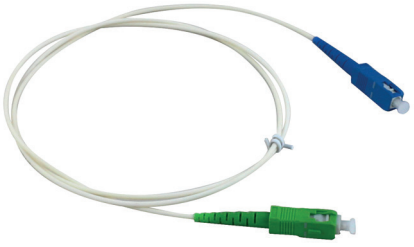
Simplex patch cords SC/APC - SC/APC for the realization of optical links



Description	Code
Simplex patch cord single-mode G657.A2 L= 1 mt	2008291
Simplex patch cord single-mode G657.A2 L= 2 mt	2008292
Simplex patch cord single-mode G657.A2 L= 3 mt	2008293

FO patch cords SC/APC - SC/UPC

Simplex patch cords SC/APC - SC/UPC for the realization of optical links



Description	Code
Simplex patch cord single-mode G657.A2 L= 1 mt	2008521
Simplex patch cord single-mode G657.A2 L= 2 mt	2008522
Simplex patch cord single-mode G657.A2 L= 3 mt	2008523

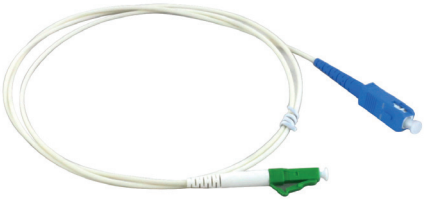
FO patch cords LC/APC - LC/APC

Simplex patch cords LC/APC - LC/APC for the realization of optical links

Description	Code
Simplex patch cord single-mode G657.A2 L= 1 mt	2008526
Simplex patch cord single-mode G657.A2 L= 2 mt	2008527
Simplex patch cord single-mode G657.A2 L= 3 mt	2008528

FO patch cords LC/APC - SC/UPC

Simplex patch cords LC/APC - SC/UPC for the realization of optical links



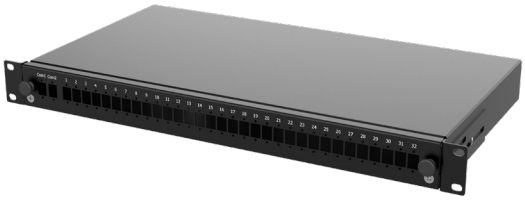
Description	Code
Simplex patch cord single-mode G657.A2 L= 1 mt	2008531
Simplex patch cord single-mode G657.A2 L= 2 mt	2008532
Simplex patch cord single-mode G657.A2 L= 3 mt	2008533

POL network product range

Building distribution

Splitter panel

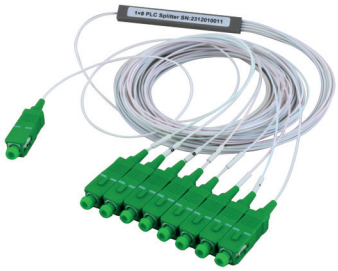
19" panel for the installation of optical splitters



Description	Code
19" panel 32 ports SC Simplex or LC Duplex	2006060
SC Simplex cap	2007083

Primary splitter

Splitter with SC/APC or LC/APC connectors for the splitting of the optical signals



Description	SC/APC	LC/APC
Splitter 1:2	2008541	2008551
Splitter 1:4	2008542	2008552
Splitter 1:8	2008543	2008553
Splitter 1:16	2008544	2008554
Splitter 1:32	2008545	2008555

Optical distribution patch panel

19" optical patch panel prepared for the termination of vertical distribution optical cables

Description	Code
19" patch panel 24 ports SC Simplex/LC Duplex	2006005

Optical attenuator

Optical attenuators SC/APC for the reduction of the power of optical signals

Description	Code
SC/APC optical attenuator 5dB	2008181
SC/APC optical attenuator 10dB	2008182

POL network product range

Building distribution

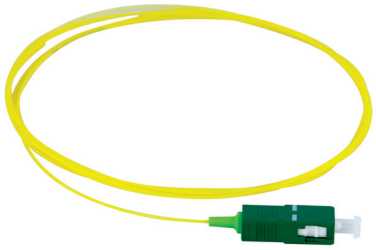
Adapters

Pass-through adapters suitable for installation in patch panels or optical boxes

Description	Code
Adapter SC/APC Simplex	2007021APC
Adapter LC/APC Simplex	2007023APC

Pigtails

Pigtails suitable for the termination of optical cables in 19" patch panels



Description	Code
Single-mode pigtail G.657.A2 SC/APC	2008018APC
Single-mode pigtail G.652.D SC/APC	2008038APC
Single-mode pigtail G.657.A2 LC/APC	2008560APC
Single-mode pigtail G.652.D LC/APC	2008029APC

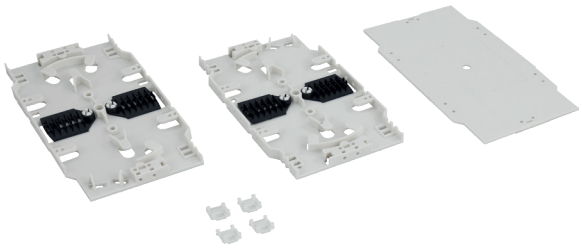
Protection tubes

Heat-shrinking tubes for the protection of optical splicings

Description	Code
45 mm protective tube	2008191
60 mm protective tube	2008192

Splice trays

Trays for the management of the splices in the 19" optical patch panels



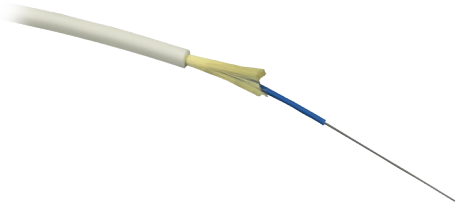
Description	Code
12 FO splice tray	2008195
Additional splice tray	2008196
Cover	2008193

POL network product range

Vertical optical distribution

Riser FO cable single-fibre Cca

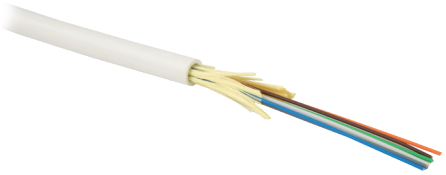
Indoor single-fiber tight optical cable, LSZH jacket, Euroclass Cca, for the distribution backbones vertical and horizontal



Description	Code
1 FO single-mode cable G.657.A2, LSZH	2008491

Riser FO cable multi-fibre Cca

Indoor multi-fiber tight optical cable, LSZH jacket, Euroclass Cca, for the distribution backbones vertical and horizontal

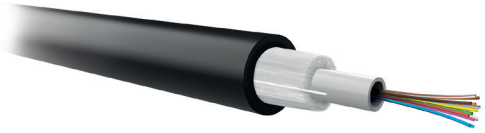


Description	Code
6 FO single-mode cable G.657.A2, LSZH (*)	2008496
12 FO single-mode cable G.657.A2, LSZH (*)	2008497
24 FO single-mode cable G.657.A2, LSZH (*)	2008498

(*) Available only on request

Outdoor FO cables, dielectric armour

Loose FO cables, outdoor, PE jacket, dielectric armour, Euroclass Fca, for the realization of optical distribution backbones



Description	Code
4 FO single-mode cable G.652.D, dielectric, PE	2008302
8 FO single-mode cable G.652.D, dielectric, PE	2008303
12 FO single-mode cable G.652.D, dielectric, PE	2008304
24 FO single-mode cable G.652.D, dielectric, PE	2008305

Outdoor FO cables, metallic armour

Loose FO cables, outdoor, PE jacket, metallic armour, Euroclass Fca, for the realization of optical distribution backbones

Description	Code
4 FO single-mode cable G.652.D, metallic, PE	2008321
8 FO single-mode cable G.652.D, metallic, PE	2008323
12 FO single-mode cable G.652.D, metallic, PE	2008324
24 FO single-mode cable G.652.D, metallic, PE	2008325

Vertical optical distribution

Riser simplex optical cables preterm. on both ends - Cca

Simplex FO cables preterminated on both ends SC/APC, LSZH jacket, Euroclass Cca for the realization of vertical optical distribution backbones

Description	Code
Cable 1FO G.657.A2 preterminated on both ends - 5 mt	2004240
Cable 1FO G.657.A2 preterminated on both ends - 10 mt	2004241
Cable 1FO G.657.A2 preterminated on both ends - 15 mt	2004242
Cable 1FO G.657.A2 preterminated on both ends - 20 mt	2004243
Cable 1FO G.657.A2 preterminated on both ends - 30 mt	2004244
Cable 1FO G.657.A2 preterminated on both ends - 40 mt	2004245
Cable 1FO G.657.A2 preterminated on both ends - 50 mt	2004246

Riser FO cable multi-fibre preterm. on both ends - Eca

4 FO indoor cables preterminated SC/APC on both ends, LSZH jacket, Euroclass Eca with OT for the realization of vertical optical distribution backbones

Description	Code
Cable 4 FO G.657.A2 preterminated on both ends - 20 mt	2004221
Cable 4 FO G.657.A2 preterminated on both ends - 30 mt	2004222
Cable 4 FO G.657.A2 preterminated on both ends - 40 mt	2004223
Cable 4 FO G.657.A2 preterminated on both ends - 50 mt	2004224
Cable 4 FO G.657.A2 preterminated on both ends - 60 mt	2004225
Cable 4 FO G.657.A2 preterminated on both ends - 70 mt	2004226
Cable 4 FO G.657.A2 preterminated on both ends - 80 mt	2004227

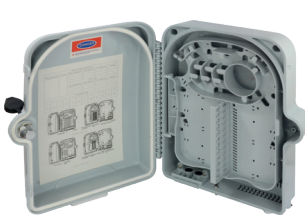
Riser FO cable preterminated on one end - Eca

4 FO indoor cables preterminated SC/APC on one end, LSZH jacket, Euroclass Eca with OT for the realization of vertical optical distribution backbones

Description	Code
Cable 4 FO G.657.A2 preterminated on one end - 20 mt	2004211
Cable 4 FO G.657.A2 preterminated on one end - 40 mt	2004213
Cable 4 FO G.657.A2 preterminated on one end - 60 mt	2004215
Cable 4 FO G.657.A2 preterminated on one end - 80 mt	2004217

Optical box for the containment of splitters

Optical box from 12 to 32 positions, grade IP65, ideal for the containment of the secondary splitter and the horizontal distribution of optical cables



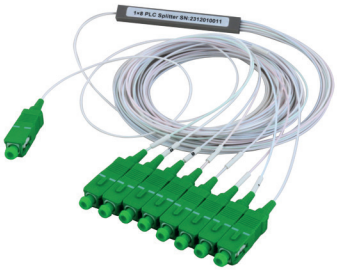
Description	Code
IP65 optical box 12 ports SC Simplex or LC Duplex	2006030
IP65 optical box 24 ports SC Simplex or LC Duplex	2006032
Optical box 24 ports SC Simplex or LC Duplex	2006015
Optical box 32 ports SC Simplex or LC Duplex	2006040

POL network product range

Vertical optical distribution

Secondary splitter

Splitter with connectors SC/APC or LC/APC for the splitting of optical signals



Description	SC/APC	LC/APC
Splitter 1:2	2008541	2008551
Splitter 1:4	2008542	2008552
Splitter 1:8	2008543	2008553
Splitter 1:16	2008544	2008554
Splitter 1:32	2008545	2008555

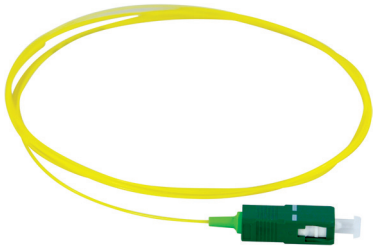
Adapters

Pass-through adapters to be installed on panels and optical boxes

Description	Code
SC/APC Simplex adapter	2007021APC
LC/APC Duplex adapter	2007023APC

Pigtails

Pigtail for the termination of the optical cables inside the boxes



Description	Code
Single-mode pigtail G.657.A2 SC/APC	2008018APC
Single-mode pigtail G.652.D SC/APC	2008038APC
Single-mode pigtail G.657.A2 LC/APC	2008560APC
Single-mode pigtail G.652.D LC/APC	2008029APC

Splice trays and shrinking tubes

Splice trays for the splice management in the wall boxes 24/32 ports and shrinking tubes for the splice protection

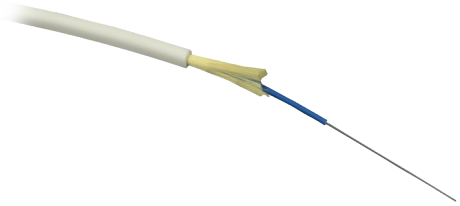
Description	Code
12 fibres splice trays - base unit	2008195
12 fibres splice trays - additional unit	2008196
Cover	2008193
45 mm shrinking tubes	2008191
60 mm shrinking tubes	2008192

POL network product range

Horizontal optical cabling

Single fiber FO cable horizontal - Cca

Indoor single-fiber tight optical cable, LSZH jacket, Euroclass Cca, for the distribution backbones vertical and horizontal



Description	Code
1 FO single-mode G.657.A2, LSZH	2008491

Single fiber FO cable preterminated on 2 ends - Cca

Indoor 1 FO preterminated on 2 ends SC/APC, LSZH jacket, Euroclass Cca for the realization of horizontal and vertical optical distribution backbones

Description	Code
Cable 1FO G.657.A2 preterminated on both ends - 5 mt	2004240
Cable 1FO G.657.A2 preterminated on both ends - 10 mt	2004241
Cable 1FO G.657.A2 preterminated on both ends - 15 mt	2004242
Cable 1FO G.657.A2 preterminated on both ends - 20 mt	2004243
Cable 1FO G.657.A2 preterminated on both ends - 30 mt	2004244
Cable 1FO G.657.A2 preterminated on both ends - 40 mt	2004245
Cable 1FO G.657.A2 preterminated on both ends - 50 mt	2004246

Optical termination boxes 2 positions

Wall boxes for adapters SC or LC flangeless for the termination of optical cables for horizontal distribution

Description	Code
Optical box 70x120 2 pos.	2004159
Optical box 80x80 2 pos.	2004160

Optical termination boxes 4 positions

Wall boxes with adapters SC/APC included for the termination of optical cables for horizontal distribution

Description	Code
Optical termination box with adapters SC/APC 4 pos.	2004201

POL network product range

Horizontal optical cabling

Faceplate 503 and keystone adapter

Faceplate standard 503 with 2 slanted positions and adapter Vimar Plana series for the installation of SC or LC keystone adapters

Description	Code
2-pos faceplate standard 503	2004158
Vimar Plana adapter	2004106

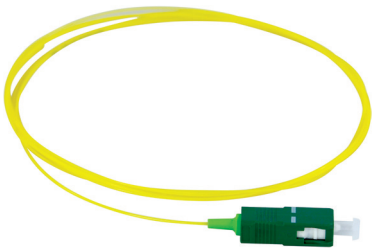
Adapters flangeless and keystone type

Adapters SC/APC Simplex and LC/APC Duplex of flangeless and keystone type

Description	Code
Flangeless adapter SC/APC Simplex	2007021FAPC
Flangeless adapter LC/APC Duplex	2007023FAPC
Keystone adapter SC/APC Simplex	2004089APC
Keystone adapter LC/APC Duplex	2004091APC

Pigtails

Pigtails for the termination of FO cables



Description	Code
Single-mode pigtail G.657.A2 SC/APC	2008018APC
Single-mode pigtail G.652.D SC/APC	2008038APC
Single-mode pigtail G.657.A2 LC/APC	2008560APC
Single-mode pigtail G.652.D LC/APC	2008029APC

Protection tubes

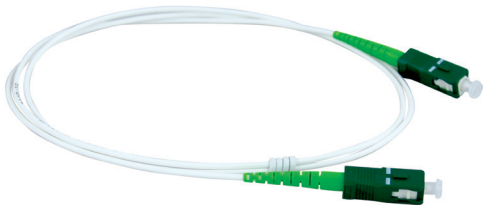
Heat-shrinking tubes for the protection of optical splicings

Description	Code
45 mm protective tube	2008191
60 mm protective tube	2008192

Horizontal optical cabling

Optical patch cords SC/APC - SC/APC

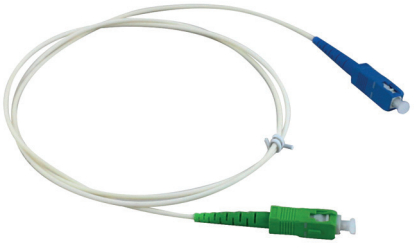
Simplex patch-cords SC/APC - SC/APC for the realization of optical links



Description	Code
Simplex patch-cord single-mode G.657.A2 - 1 mt	2008291
Simplex patch-cord single-mode G.657.A2 - 2 mt	2008292
Simplex patch-cord single-mode G.657.A2 - 3 mt	2008293

Optical patch cords SC/APC - SC/UPC

Simplex patch-cords SC/APC - SC/UPC for the realization of optical links



Description	Code
Simplex patch-cord single-mode G.657.A2 - 1 mt	2008521
Simplex patch-cord single-mode G.657.A2 - 2 mt	2008522
Simplex patch-cord single-mode G.657.A2 - 3 mt	2008523

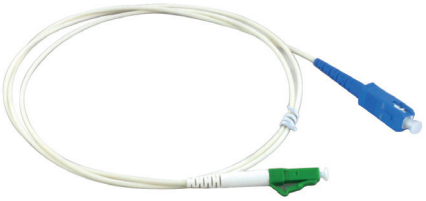
Optical patch cords LC/APC - LC/APC

Simplex patch cords LC/APC - LC/APC for the realization of optical links

Description	Code
Simplex patch-cord single-mode G.657.A2 - 1 mt	2008526
Simplex patch-cord single-mode G.657.A2 - 2 mt	2008527
Simplex patch-cord single-mode G.657.A2 - 3 mt	2008528

Optical patch cords LC/APC - SC/UPC

Simplex patch cords LC/APC - SC/UPC for the realization of optical links



Description	Code
Simplex patch-cord single-mode G.657.A2 - 1 mt	2008531
Simplex patch-cord single-mode G.657.A2 - 2 mt	2008532
Simplex patch-cord single-mode G.657.A2 - 3 mt	2008533

POL network product range

Working area

ONT

ONT for the connection of active terminal devices of the POL network

Description	Code
ONT PON 1 port SC/UPC, 1 port RJ45 GE	2033051

Wi-Fi ONT

ONT with Wi-Fi interface compatible with 802.11b/g/n/ac/ax for the connection of active terminal devices of POL network

Description	Code
ONT PON 1 port SC/UPC, 4 ports RJ45 GE, 802.11ax	2033052

Switch

Switch to be used with high number of terminal active devices to connect

Description	Code
Unmanaged switch, 5 ports RJ45 GE	2032011
Unmanaged switch, 8 ports RJ45 GE	2032012
Managed switch L2, 8 ports RJ45 GE, 2 ports SFP	2033001

PoE switch

PoE switch to be used with high number of terminal switches to connect

Description	Code
Unmanaged switch, 8 ports PoE RJ45 GE, 2 uplinks TP GE	2032275
Managed switch L2, 8 ports PoE RJ45 GE, 2 ports SFP	2033004

Working area

Copper patch cords Cat 6 UTP and FTP

Cat 6 patch cords unshielded and shielded, LSZH jacket, for connecting terminal devices

Description	UTP	FTP
Patch cord cat 6 white - 0,25 mt	2005264	-
Patch cord cat 6 white - 0,50 mt	2005265	-
Patch cord cat 6 white - 1 mt	2005261	2005071
Patch cord cat 6 white - 2 mt	2005262	2005072
Patch cord cat 6 white - 3 mt	2005263	2005073
Patch cord cat 6 white - 5 mt	2005266	2005076
Patch cord cat 6 white - 7 mt	2005267	-
Patch cord cat 6 white - 10 mt	2005268	2005077
Patch cord cat 6 white - 15 mt	2005269	-

Copper patch cords Cat 6A UTP and FTP

Cat 6A patch cords, unshielded and shielded, LSZH jacket for connecting terminal devices

Description	UTP	FTP
Patch cord Cat 6A white - 0,50 mt	2005085	2005095
Patch cord Cat 6A white - 1 mt	2005081	2005091
Patch cord Cat 6A white - 2 mt	2005082	2005092
Patch cord Cat 6A white - 3 mt	2005083	2005093
Patch cord Cat 6A white - 5 mt	2005084	2005094

Wall mount multimedia box

Wall mount multimedia box to use as consolidation point for the installation up to 6 keystone jacks CCS RJ45

Description	Code
Multimedia box	2004070
2-pos blank module, keystone standard	2004074
Blind module	2004073

HCC

Recessed cabinet to be used for LAN cables distribution in a working area

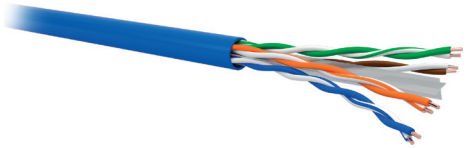
Description	Code
Home Consolidation Cabinet	2050005
Blank patch panel 8 pos.	2050022

POL network product range

Working area

LAN cables

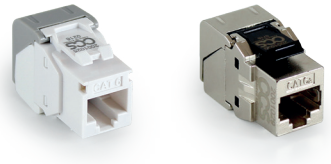
CCS LAN cables Cat 6 and 6A, unshielded and shielded, to be used for copper distribution between ONT and terminal devices



Description	Code
Cable Cat. 6 U/UTP AWG 24, LSZH, Cca	M05C2701
Cable Cat. 6 U/UTP AWG 24, LSZH, Eca	M0502701
Cable Cat. 6 F/UTP AWG23, LSZH, Eca	M0502668
Cable Cat.6A U/UTP AWG23, LSZH, B2ca	M05B2834
Cable Cat.6A U/UTP AWG23, LSZH, Eca	M0502834
Cable Cat.6A U/FTP AWG23, LSZH, Cca	M05C2823
Cable Cat.6A U/FTP AWG23, LSZH, Eca	M0502823

Keystone jacks RJ45

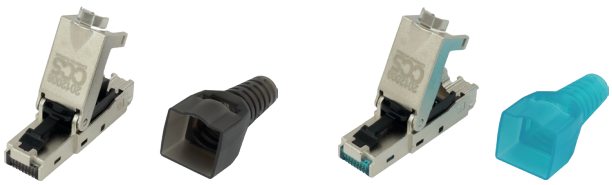
Keystone jacks RJ45 for the termination of LAN cables



Description	Code
Easy Crimp Compact jack Cat. 6 UTP - white	2001025
Easy Crimp Compact jack Cat. 6 UTP - black	2001023
Easy Crimp Compact jack Cat. 6_A UTP	2001027
Easy Crimp Compact jack Cat. 6A Channel STP	2001028
Easy Crimp Compact jack Cat. 6_A STP	2001029

Field Plug RJ45

Field plug CCS RJ45 for the termination of LAN cables and the realization of MPTL links



Description	Code
Plug Easy Crimp Cat 6 UTP	2012007
Plug Easy Crimp Cat 6 STP	2012008
Plug Easy Crimp Cat 6A STP	2012009
Plug Easy Crimp Compact Cat. 6A UTP	2012025
Plug Easy Crimp Compact Cat. 6A STP	2012026

Mount box and faceplates 503 type

Wall mount boxes 1 or 2 ports and faceplates 503 with 2, 3 or 4 ports suitable for the termination of LAN cables with keystone jacks RJ45

Description	Code
Wall mount box 1 port for jacks RJ45	2004043
Wall mount box 2 ports for jacks RJ45	2004044
Faceplate 503 type, 2 ports for jacks RJ45	2004012
Faceplate 503 type, 3 ports for jacks RJ45	2004013
Faceplate 503 type, 4 ports for jacks RJ45	2004014
Blind insert	2003005

October 2025

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