



Fiber Optics Solutions Catalog

**Security, Modularity & Customization
for the deployment of High Speed Telecom Networks**

R&M (www.rdm.com) is a globally active company in the information and communication technology sectors, with U.S. offices in California and Maryland.

The company develops, manufactures, and sells future-proof products and systems for communication and data networks. Thanks to its innovative strength, R&M now covers the entire connectivity range alongside network cabling.

R&M network solutions can be used in LAN, telecommunication, fiber to the home and data centers. The family company founded in 1964 has its own production plants in 13 locations.

Quality



High Product Quality and farsighted system design

Innovation



More than 100 patents and collaboration in international standard-setting bodies

Availability



Maximum availability with cost-effective operation

Protection of Investment



Future-proof networks and secure long terms investment

Customer Proximity



Represented in 35 countries with proprietary organizations

Sustainability



Keeping the balance between economic, ecological and social aspects.

Market Segments

LAN



Point-to-point structured cabling solutions.

DATA CENTERS



Solutions for small, medium or large data centers

FTTX



Your partner in the implementation of the passive fiber optic network.

Global Presence, Decentralized Production, Swiss Quality

Committed on every continent

- R&M Headquarters
- R&M Manufacturing
- R&M Sales Offices

| Region | Location | Country |
|---------------|---|--------------|
| North America | Elbridge, MD, USA | USA |
| | Milpitas, CA, USA | USA |
| South America | Santa Rita do Saporal, Minas Gerais, Brazil | Brazil |
| Europe | Wetzikon, Switzerland | Switzerland |
| | Welsrath, Germany | Germany |
| | Warsaw, Poland | Poland |
| Middle East | Riyadh, KSA | Saudi Arabia |
| | Dubai, UAE | UAE |
| | Doha, Qatar | Qatar |
| Asia | Bangalore, India | India |
| | Shanghai, China | China |
| | Jinshan, Shanghai, China | China |

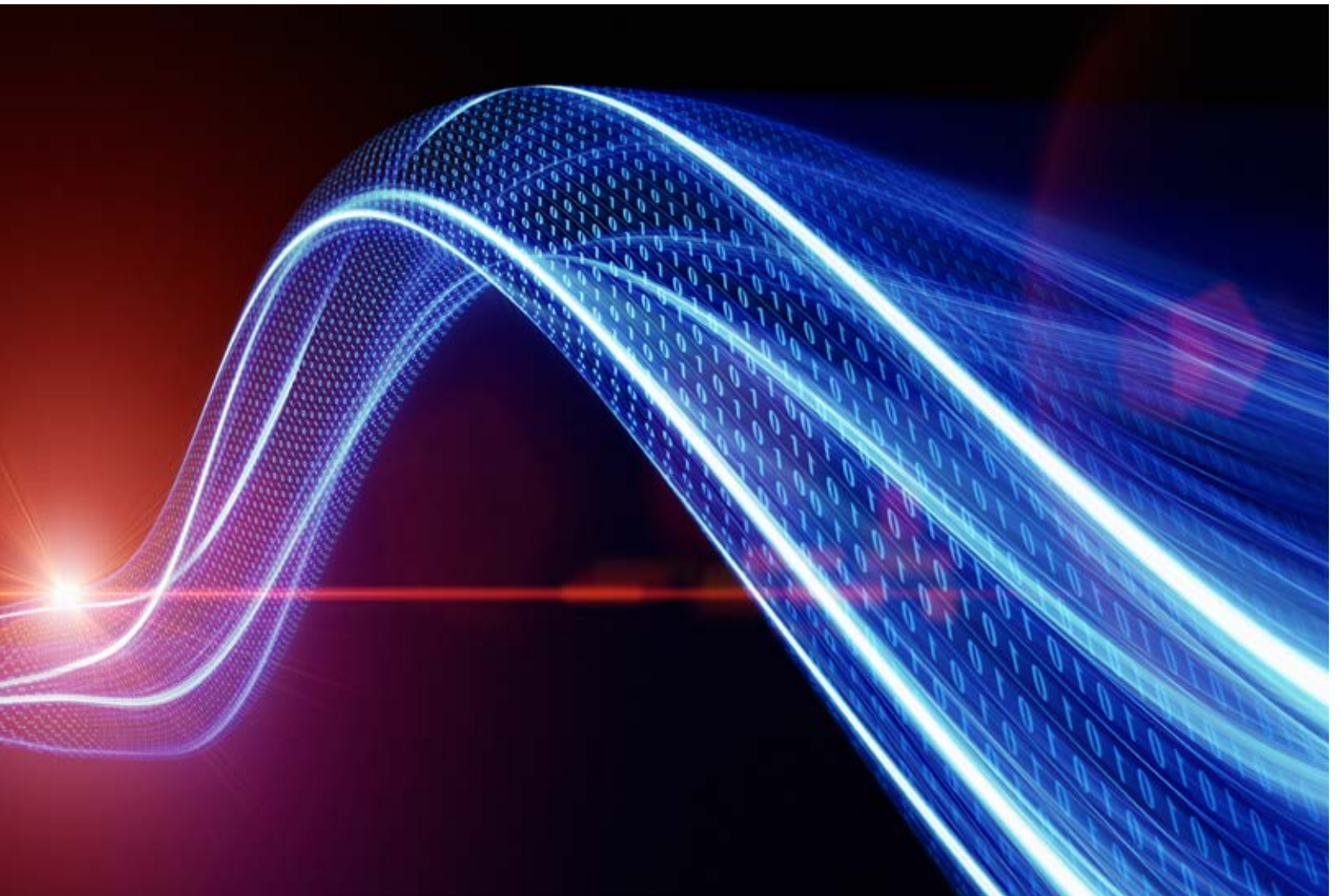
R&M

Demand for bandwidth on the Internet doubles every second year.

Users enjoy new services with increasing frequency for the sheer convenience of it all. Such services range from IPTV or video on demand to online games or Internet storage of personal data. Intense use of cloud applications and software as a service are daily routines in offices and in our industries because they simplify processes and increase efficiency.

The media, trade and financial sectors send millions of data records around the globe every second to serve the markets. Consequently, fast network connections are meanwhile among the most relevant basic needs of global societies. Decision making on where to open your business or to locate a new company headquarter or corporate offices depends on the availability of data center capacity, data highways and fiber optical network infrastructure.

The currently introduced services in so called smart cities in which traffic, public transport, energy, waste management, wireless communication, connectivity and information exchange in general are continuously controlled and managed, come along with new applications such as e-health, e-learning, e-government. This trend developing towards a Gigabit Society in fast growing urban environments requires even more powerful fiber optical networks for highly efficient and reliable signal transmission.



What can network operators do to satisfy this bandwidth demand?



Communication networks have brought about permanent changes to our world. What remains constant, though, is our desire for the best, most reliable way to exchange information with each other. How to guarantee a reliable infrastructure capable of meeting continuously changing future needs?

This is an area where R&M is making a key contribution by offering solutions around most advanced cabling technology for data and communication networks. As an independent Swiss family-owned company, we stand for quality and precision, efficiency and reliability, innovation and sustainability and for long-term collaboration in close partnership with our customers.

R&M is an internationally recognized global manufacturer and supplier of passive distribution and connection technology for all levels of telecom, broadband and data networks. Our Swiss mindset of always providing top quality has implications to your network infrastructure: 100% long-term operational reliability, lowest latency and zero loss of data, simple installation and fast maintenance plus low total cost of ownership as your systems based on R&M technology keep their value year after year. R&M system solutions make a difference due to modular design, cost-effective and fast installation technology, extensive functionality and high level of adaptability.

Public and private operators of data and communication networks around the world have already chosen R&M's expertise. Their trust is based on our sophisticated connectivity solutions and the unceasing support we provide to our customers.

The way R&M conducts business is based on the founding values of this family-owned company. With high sense of responsibility and clear focus on customers' needs, R&M takes development of its business, respect for the environment and technological advance into equal consideration.

Our customers expect cables, connectivity systems and customized solutions they can fully rely on for decades. To continuously improve these systems, R&M operates an international innovation center with significant investments in research and development every year. Beyond our emphasis on quality, durability, convenience and precision R&M always invests into farsighted system design which helps customer installations to maintain their value over many years. They can be adapted or extended easily the way their businesses grow. Intelligent features in R&M's portfolio support future applications and can be flexibly expanded or adapted to new market conditions. For network operators this means they remain flexible and can always rely on their investment.

Customer Segments and Application Areas

Infrastructure solutions

Operators of fixed or mobile communication networks are making rapid advances in the transition to a Gigabit Society. R&M supports them in their efforts with commercially viable fiber optic solutions for design and construction of future-oriented broadband infrastructures. R&M develops together with network operators a profitable access network infrastructure. Based on our experience we plan with cost-effective equipment your fiber distribution sites, outside plant cabling and connectivity at different customer sites.

R&M's product line is the flexible basis for customized solutions, considering individual FTTX topologies and future applications. R&M provides custom-tailored copper and fiber optic cabling systems for telecom carriers, internet and CATV service providers as well as for utilities, city carriers, municipalities, railway and transportation system operators or urban development companies designing smart city applications.

Telecom Carriers

R&M supplies since many years global telecom operators with high-quality end-to-end fiber optic and copper connectivity solutions for today's fixed, data and mobile communication networks. Innovative, reliable products from central office via ODF, outdoor closures and termination boxes to the end user. Enabling high-speed, high-density and high-availability services.



Utilities and City Carriers

R&M solutions provide modern utilities with efficient communication and control infrastructure for their state-of-the-art public services. This includes connectivity for performant data centers, cabling and connectivity for reliable data collection from different sensors in the grid as well as their secure transmission and evaluation – basis for the operation and management of modern smart grids.





Railways

Railways and transportation systems are increasing their demand for digital signaling systems. At the same time their fiber optical networks become part of globally used data highways and their organization provides IP as a service also to third parties. R&M supports them with protected fiber-optic cabling of highest quality for different levels of modern track-side signaling and communication infrastructure. Long-term reliability and highest availability of all connections are mandatory safety features.



Smart Cities and Urban Development

Smart Cities and their intelligent services are built on fiber. Key requirement: High speed and secure data transmission using an all fiber optical backbone providing reliable connectivity, for wired, wireless or combined applications. Converging of mobile and fixed carrier services, will require close cooperation in infrastructure planning, operation and network capacity management. Synchronization between service providers and venue owners offering seamless connectivity indoors and outdoors for multiple applications will become mandatory.

R&M offers intelligent products to realize such complex scenarios connecting for instance modern street furniture as well as all kinds of buildings, industry complexes, and university campuses to the cloud and to the future IoT services.

Where long-term reliability, system availability and secure connectivity are mandatory for safe and timely daily operations.

Designing access networks individually

Custom system solutions



The solution for all networks

As a complete supplier with an integrated system approach for fiber optic and copper cabling, R&M works side by side with public and private network operators.

Our joint task is to provide customers with modern broadband infrastructures. For this, R&M provides systems that use building blocks, making the design and installation intuitive and easy. The distribution and connection technology is designed in a modular way and all elements combine. This makes R&M solutions extremely flexible to meet the specific requirements and conditions of the different market segments that serve the huge variety of locations - both indoors and outdoors. R&M offers advanced and cutting edge solutions for demanding FTTX topologies of all types. The system brings together all the factors that network operators need for efficient deployment, reliable operation and competitive service.

Based on a flexible and modular product platform, different cabling and connectivity solutions can be brought together to meet very specific requirements and a wide range of applications. These solutions can handle all cabling and connectivity tasks around typical FTTX applications from the central, through the outside area of the plant to any type of customer installation. Distribution, splice, division and connection requirements or challenges can be easily met by covering all typical network topologies and types of fiber optic cables or routings.



Complete solution from one place

Safe, Modular, Custom

Service & Training

R&M customers always know what they can expect from us. They constantly receive expert responses, quick decisions and professional support. Qualified specialists, available in all sales regions, are responsive and take the initiative to actively support their customers. The integrated service also includes the provision of prefabricated units and components or assemblies that are always tested at the factory.

Consultancy during the network planning phase along with product reviews are professional services you can expect from R&M. Whenever necessary, we develop tailor-made solutions based on our portfolio with our application engineering team.

Professional Partnership

With your decision to work with R&M, you choose a strategic partner that offers much more than innovative cabling solutions. By using R&M products and tailor-made solutions, your networks are flexible and equipped for the future with our consistent modular approach and the scalability of our portfolio - you have many options. Your network can be adapted at any time to new market developments that require changes in conditions or adaptations of the location.

End-to-end compatible systems from R&M simplify planning, assembly and operation and thus contribute to efficient and economical layer 1 infrastructure installations.



Number 1 for Layer 1

The demand for online services continues to grow constantly and along with it the challenges of fiber optic networks. With R&M as your partner and solution provider for FTTX networks, you set a safe path for a competitive future.

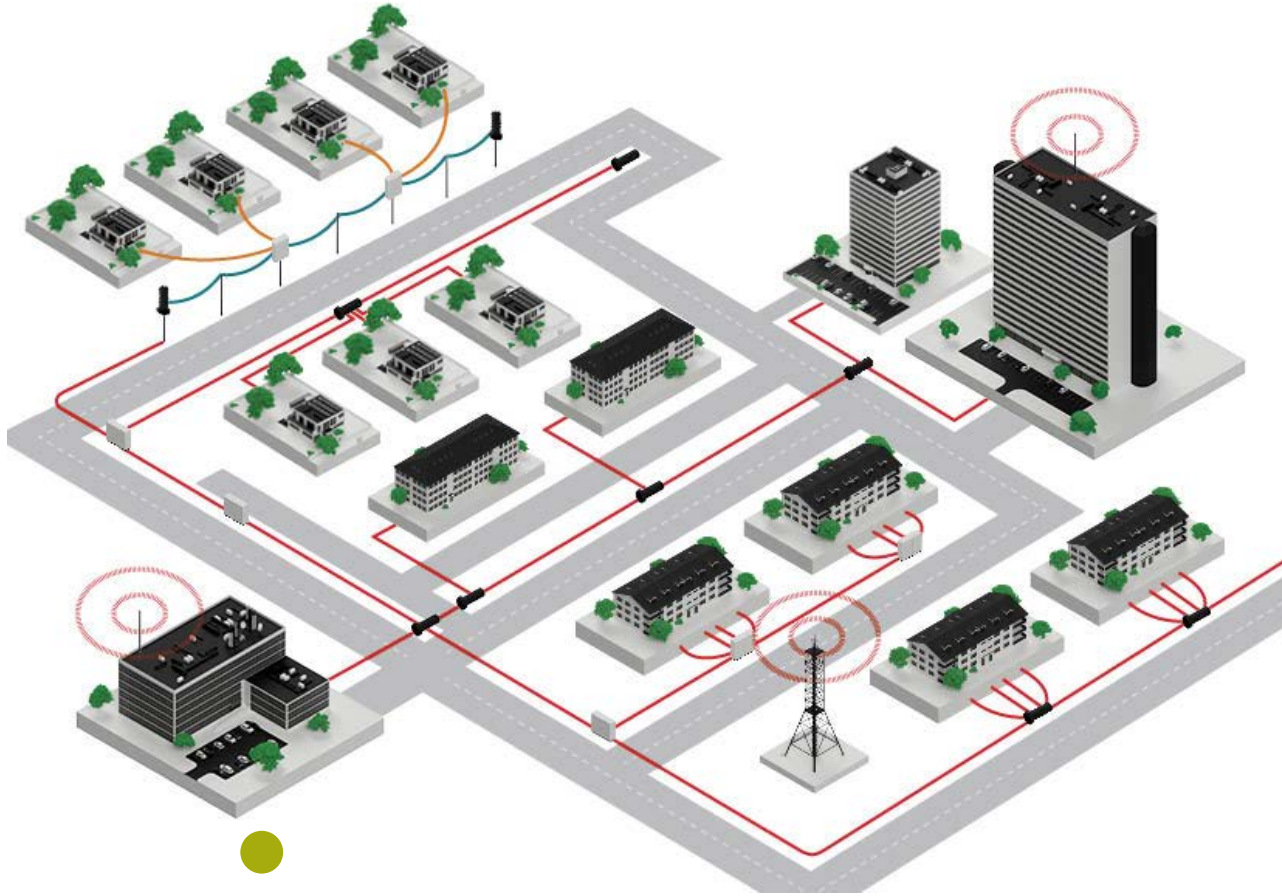
R&M offers you modular cabling and connectivity systems designed around the latest technology. It is as simple as it is safe to put it into service and it saves your installation time.

The R&M portfolio of FTTX solutions is suitable for both point-to-point and point-to-multipoint schemes and is also ready for WDM-PON, thus providing the highest level of availability possible.

R&M is your partner for robust, integrated and modular Layer 1 FTTX connectivity systems. We support and advise you on configuring or migrating your network with innovative and customizable solutions around the management, distribution and termination of optical fiber at the exchange, at external plant in the field and at the client's facilities.

R&M - Building FTTX Networks

For global customers in different industries



Central Office

Customer specific solutions for effective assembly, future-proof expansion and effective operation of optical or copper connectivity based distribution frames. Modular system elements complemented by professional planning consultancy.

Outside Plant

Complete portfolio of robust street cabins, underground closures and distribution boxes offering latest technology in fiber connectivity and management. The different product platforms support all common cable types and fiber optical network topologies.

Customer Premises, Buildings and Cell Sites

Efficient solutions for supplying different buildings and urban infrastructure with fiber optic connectivity. Building entry points inside and outside of the building, realized with Polaris-box family a compact, flexible and modular concept for fiber termination. Complemented by field deployable connectors as a modern alternative to fusion splicing. Fiber optic connection in no time.



Indoor FO Cable



Fast Reel Outlet Box

Buildings



Connectivity



Optical Distribution Frames



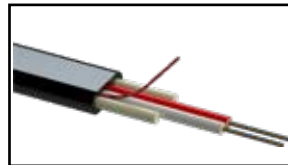
Polaris-box Family:
Outdoor & Indoor
Distribution
Termination
Building Entry Point



Mechanical Gel sealed
SYNO Closures



Mechanical
Dome Closures



FTTH deployment
Fiber Optic Cables



Customized Street Cab-
inets

Outside Plant



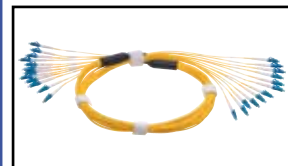
Raceway



Splitter Panels



19" Panels



Cable Assemblies

Central Office

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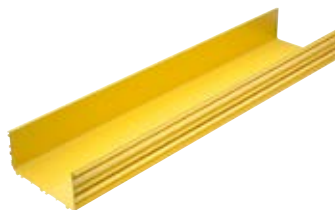
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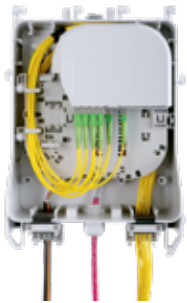
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Customer Premises, Buildings and Cell Sites

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R&M Precon Solution

The R&M Precon solution allows the execution of an end-to-end project (OLT to the ONU) without the need for optical fusion splice connections.

Basic Concept

The concept of a preterminated fiber optic network has been around since the first decade of the 21st century. However, the initial objectives were oriented to a need arising from the lack of knowledge and technical skills to guarantee the quality and stability of optical amendments carried out in the field. Simultaneously and with the constant evolution of the data center market and the exponential increase in transmission speeds in this environment, MPO / MTP type connectors have emerged, and have become a fundamental product, and with multi fiber capacity (basically 12 or 24 fibers in the same connector).

Precon Network Division

Precon networks allow modularity and scalability, according to the needs of each carrier or Internet service provider. For better understanding, we divided the network into the following components: Central or PoP, Primary Network, Secondary Network and Activation. In each of them there are specific products and solutions that can be used according to the needs of each customer.

Central or PoP

The most important point of the network is where we will find all the active equipment on the network and the fiber tray for the network exit. At this location, it is essential to take into consideration from the beginning what will be the maximum capacity of customers that each of these locations will serve, what services we will offer on our network and what power/speed each customer will have access to.

Primary Network

Also considered as a distribution network, in a Precon network without any optical amendment, the CEO is replaced by a main box (CPO) or directly by a distribution box (CDO). All connections from the control panel to these boxes and between them are made with cables preterminated with MPO/APC Female.

Secondary Network

Also considered as an activation network for customers, and where distribution boxes are used. These boxes are connected to the primary network boxes using preterminated cables with reinforced SC/APC connectors at both ends.

Activation

The last point on the network is the client activation link. At this point, distribution boxes can have two options, totally Precon in which the activation is made with Drop cable preterminated SC/APC at one end or with a field connector. In both cases the connection at the customer's home is made with a field connector.

With the R&M Precon solution, flexibility is real, allowing the operator to adapt its network to each city, location or region.

Fiber Trays - 3 basic options

- **Breakout Fiber Tray:** Equipped with SC/APC adapters, it is used to connect to the OLT (port to port) via an optical patch cord. At the rear, a preterminated 72 or 144 outdoor fiber optic connected with SC/APC connectors and MPO/APC connectors for outdoor connection.
- **Splitter Fiber Tray:** Equipped with 1x2 PLC splitters, to perform the first level of division of the network. For example, allowing you to start the network with 1x128 and in the future change to 1x64. Connect each splitter port to an OLT port, and the outputs will use the preterminated 72 or 144 outdoor fiber optic cable.
- **MPO Fiber Tray:** Equipped with preterminated cassettes with SC/APC adapters and MPO/APC output at the rear. Connections to the OLT are made (port to port) with optic patch cord. In each cassette in the MPO/APC output, a circular 12-fiber drop cable with an MPO-APC connector is connected.



Preterminated Cables

- **Round Drop MPO Cables:** Round drop cable with 12 fibers equipped with MPO/APC connectors at both ends. Used for interconnections between primary network boxes, or connection between MPO Fiber Tray and the first network box.
- **I/O Multifiber Cable:** Splitter or Breakout fiber trays interconnection cable to the first box. It can have 72 or 144 fibers, with SC/APC being provided at the end to be connected to the fiber tray and MPO/APC for the output.
- **Flat Drop SC/APC Cable:** Flat Drop Cable that can be supplied in two versions - with both ends connected with IP68 reinforced SC/APC connectors for interconnection between the primary and secondary networks or with just one end connected to access the inside of the house.

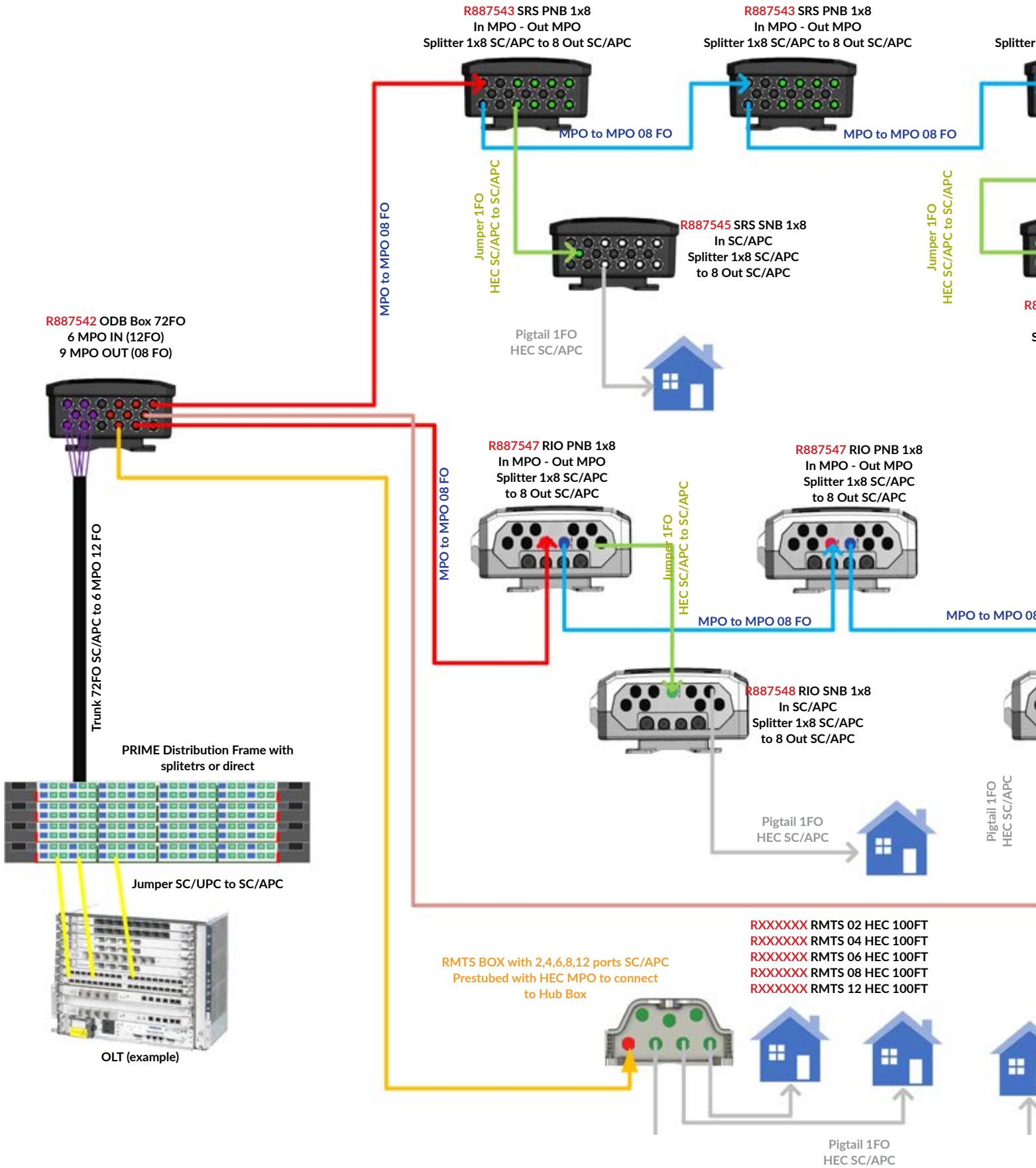


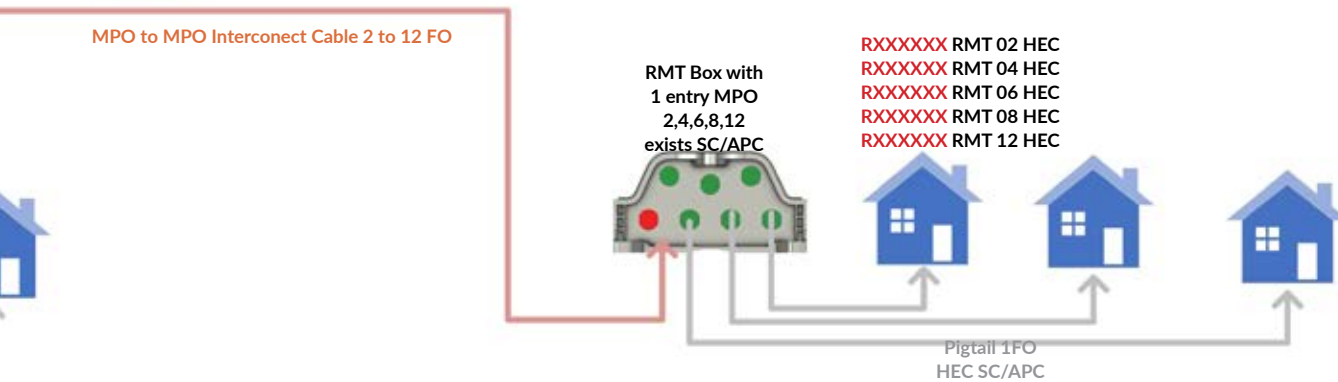
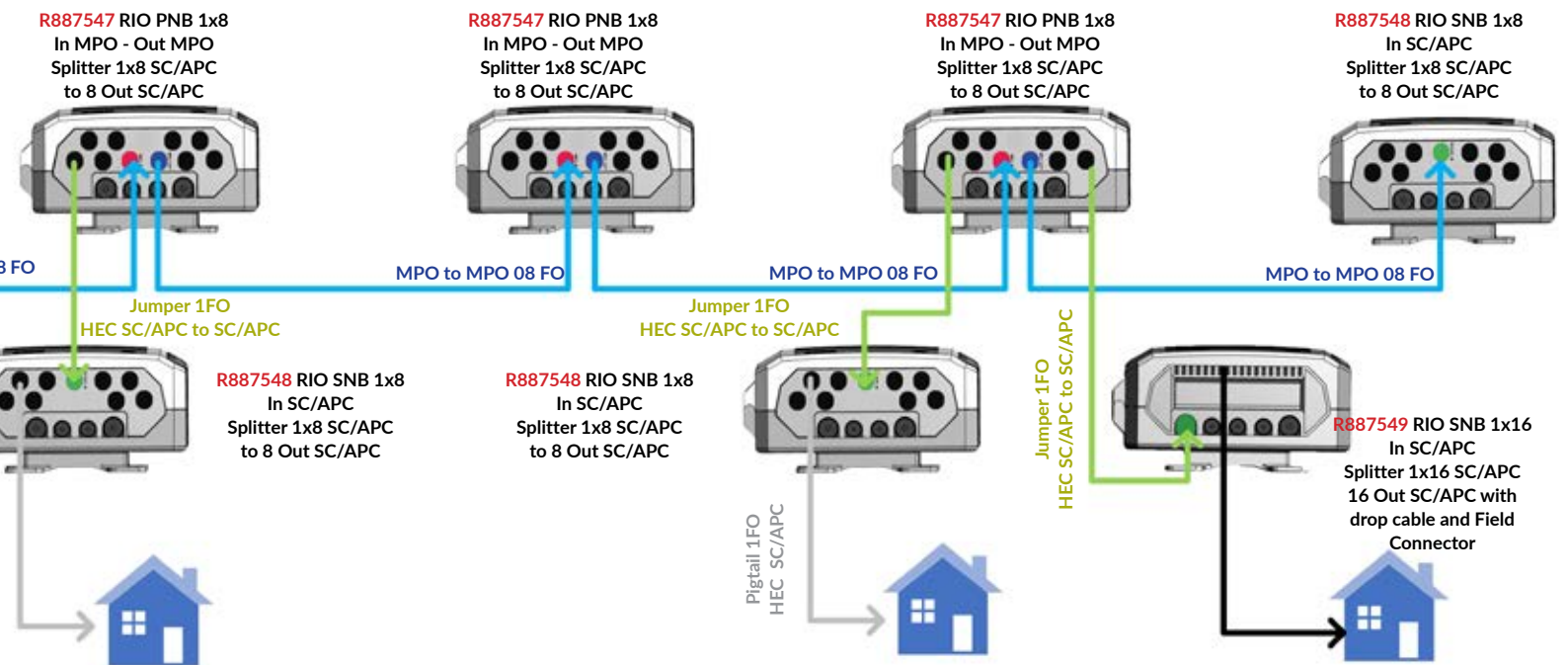
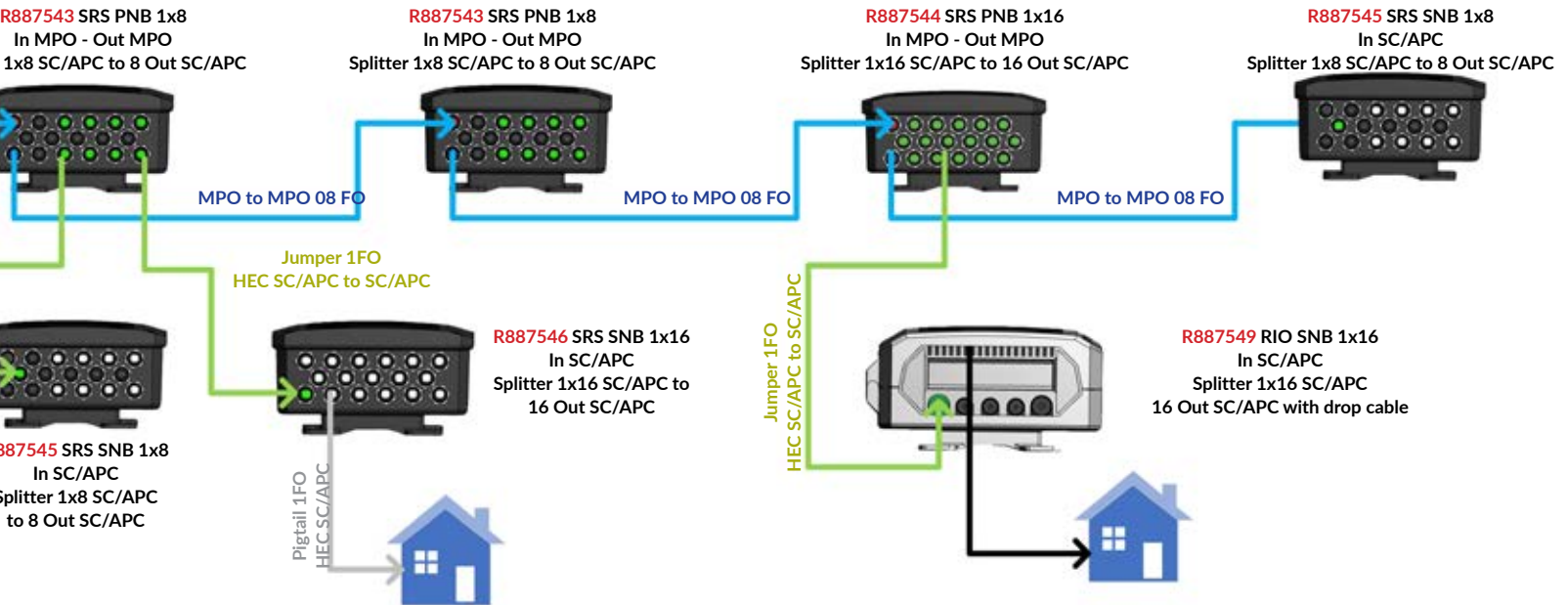
Precon boxes

- **ODB - Optical Distribution Box:** First box in the network, replacing the Splice Closure. This box can receive 72 optical fibers (6x12 MPO/APC), and allows the creation of 9 different network branches, each with a capacity of up to 8 ODB's.
- **PNB - Primary Network Box:** Used in the primary network, this box is equipped with 2 reinforced MPO/APC connectors (input and output for the next box), 1x8 or 1x16 GPON splitters, and 8 or 16 SC/APC outputs with reinforced connector IP68 connectivity, for connection to the users or to SNB.
- **SNB - Secondary Network Box:** Used to activate customers. This box can be supplied in two different formats - the first fully preterminated (inputs and outputs with reinforced SC/APC connectors), the second only with SC/APC input and the possibility of output with a standard flat drop cable.



R&M Precon Solution





R&M Precon Solution

Central Office Optical Distribution



The Precon network starts at the equipment center, there are several options for connecting the cables(s) that leave the POP to the street.

With the modular Prime solution, you can design your network with OLT imaging with SC/APC, with a first level of 1x2 SC/APC splitters or exit directly with MPO. In all cases, without any optical splicing.

Information about PRIME and other solutions in the Central Office section

Precon Box SRS (Speed Requires Simplicity)

With the SRS Precon Box, the provider achieves quick installation and reliability on your network. Available in ODB, PNB and SNB versions. With the SRS box it is possible to implement a 100% Precon network from the POP to the customer's home.

Features:

- IP68
- Compact design, sealed box
- Installation on pole, wire rope or facade
- Factory assembly and testing

ODB - Optical Distribution Box

- 6 IP9 MPO/APC inputs + 9 IP9 MPO/APC outputs

PNB - Primary Network Box

- 1x8 1 Input + 1 Output IP9 MPO 12FO + 8 Outputs IP9 SC/APC
- 1x16 1 Input + 1 Output IP9 MPO 12FO + 16 Outputs IP9 SC/APC

SNB - Secondary Network Box

- 1x8 1 Input IP9 SC/APC + 16 Outputs IP9 SC/APC
- 1x16 1 Input IP9 SC/APC + 16 Outputs IP9 SC/APC



ODB SRS 72FO

R887542



PNB SRS 1x8

R887543



PNB SRS 1x16

R887544



SNB SRS 1x8

R887545



SNB SRS 1x16

R887546

Precon Box RIO (Real InterOperability)

With the RIO Box, the provider can quickly install and trust your network. Available in PNB 1x8 and SNB 1x8 versions 100% Precon or SNB 1x8 or 1x16 with Precon input and output with Drop cable, offering flexibility and choice to the internet service provider.

Features:

- IP67
- Compact design with lock
- Installation on pole, wire rope or facade
- Factory assembly and testing

PNB - Primary Network Box

- 1 Input + 1 Output IP9 MPO/APC 12FO + 8 Outputs IP9 SC/APC

SNB - 100% Precon Secondary Network Box

- 1 IP9 SC/APC input + 8 IP9 SC/APC outputs

SNB - IN Precon Secondary Network Box + Drop Flat Output

- 1 IP9 SC/APC input + 16 flat drop cable outputs



PNB RIO 1x8 R887547



SNB RIO 1x8 R887548



SNB RIO Drop 1X16 R887617

Preterminated Trunk Cables



SC/APC to MPO/APC cable - preterminated outdoor cable with SC/APC connectors at one end for application at the POP and MPO/APC connectors in multiples of 12 Fibers for mounting in the first box (ODB)

MPO-MPO cable - 12 fibers outdoor cable with MPO/APC connectors on both ends. It serves to connect the MPO tray to the first box, or to interconnect between the boxes of the primary network.



Trunk PRECON SC/APC - MPO/APC

| | |
|-------------|----------------|
| 72FO 300ft | R887530 |
| 72FO 500ft | R887531 |
| 144FO 300ft | R887532 |
| 144FO 500ft | R887533 |

Trunk PRECON 12FO MPO-MPO

| | |
|------------|----------------|
| 12FO 300ft | R887534 |
| 12FO 500ft | R887535 |

Please contact us for different lengths

Preterminated Low Friction Drop Cables



The connections from the primary network to the secondary network (PNB to SNB), are made with 1FO drop flat cable with reinforced SC/APC connectors at both ends.

In the case of activation, in a 100% precon network, a service cable can also be provided with a reinforced connector at the end of the SNB Precon box, and with the other non-connectorized end to facilitate the final installation with a field connector.

Precon SC/SC Interconnect Cable

| | |
|-----------|----------------|
| 1FO 100ft | R887536 |
| 1FO 200ft | R887537 |
| 1FO 300ft | R887538 |

Precon SC/NC Service Cable

| | |
|-----------|----------------|
| 1FO 50ft | R887539 |
| 1FO 100ft | R887540 |
| 1FO 150ft | R887541 |

Please contact us for different lengths



R&M Precon Solution

Precon Box RMT (R&M TAP (Terminal Access Point))

The RMT box is an IP-68 rated compact box designed for one incoming and up to 12 outgoing cables.



Features

- IP68
- 1 entry hardened connector (MPO/SC/SN)
- 1 to 12 exits (hardened MPO/SC/SN connectors)
- Temperature Ratings -40 C to +85 C
- Wall / Pole / Aerially mounted
- 100% tested (when supplied preterminated)
- Insertion loss <0.3dB, return Loss >60dB
- Housing Color: Black
- Dimensions of the box (HxWxD) :
 - 02 to 06 Ports - 8.0" x 5.6" x 3.3"
 - 08 to 12 Ports - 9.14" x 6.47" x 3.78"

RMT BOX Configurations (1 IP9 SC/APC IN to "n" exits SC/APC)

| | | |
|-------------------|---|---------------------------|
| Terminal 2 ports | IN SC/APC + 1GPON Splitter 1x2 -> 2 exits SC/APC | RMT-GPON-1:2 |
| Terminal 4 ports | IN SC/APC + 1GPON Splitter 1x4 -> 4 exits SC/APC | RMT-GPON-1:4 |
| Terminal 6 ports | IN SC/APC + 1GPON Splitter 1x2 70x30 + GPON Splitter 1x4 -> 5 exits SC/APC + 1 next box | RMT-GPON-1:2 + 1:4 |
| Terminal 8 ports | IN SC/APC + 1GPON Splitter 1x8 -> 8 exits SC/APC | RMT-GPON-1:8 |
| Terminal 12 Ports | IN SC/APC + 1GPON Splitter 1x2 70x30 + GPON Splitter 1x8 -> 8 exits SC/APC + 1 next box | RMT-GPON-1:2 + 1:8 |

RMT BOX Configurations (1 IP9 MPO 12FO IN to "n" exits SC/APC)

| | | |
|-------------------|---------------------------|----------------|
| Terminal 2 ports | IN MPO -> 2 exits SC/APC | R899248 |
| Terminal 4 ports | IN MPO -> 4 exits SC/APC | R899249 |
| Terminal 6 ports | IN MPO -> 6 exits SC/APC | R899250 |
| Terminal 8 ports | IN MPO -> 8 exits SC/APC | R899251 |
| Terminal 12 Ports | IN MPO -> 12 exits SC/APC | R899252 |

Pre-Terminated Cable

| Interconnect Cables | Lenght | 12 Fibers Round 3.8mm MPO | |
|---------------------|--------|------------------------------|---|
| | | IP9 to MPO IP9 Box to Box | PGT to MPO IP9 Splice Closure to Box |
| | 50ft | R898836 | R898862 |
| | 100ft | R898837 | R898865 |
| | 200ft | R898838 | R898867 |
| | 300ft | R898839 | R898869 |
| | 400ft | R898840 | R898871 |
| | 500ft | R898841 | R898874 |
| | 750ft | R898842 | R898875 |
| | 1000ft | R898843 | R898877 |
| | 1500ft | R898844 | R898878 |
| | 2000ft | R898845 | R897925 |

| Connection Box to House | Lenght | 1 Fiber Round Drop |
|-------------------------|--------|--------------------|
| | | IP9 SC/APC to PGT |
| | 50ft | R |
| | 100ft | R |
| | 150ft | R |
| | 200ft | R |
| | 250ft | R |
| | 300ft | R |
| | 400ft | R |
| | 500ft | R |
| | 750ft | R |
| | 1000ft | R |

Precon Box RMTS (R&M TAP Stubbed)

The RMTS box is an IP-68 rated compact box designed for one incoming and up to 12 outgoing cables.

Features

- IP68
- Cord grip for cable up to 10mm
- 1 to 12 exits (hardened MPO/SC/SN connectors)
- Temperature Ratings -40 C to +85 C
- Wall / Pole / Aerially mounted
- 100% tested (when supplied preterminated)
- Insertion loss <0.3dB, return Loss >60dB
- Housing Color: Black
- Dimensions of the box (HxWxD) :
 - 02 to 06 Ports - 8.0" x 5.6" x 3.3"
 - 08 to 12 Ports - 08 to 12 Ports - 9.14" x 6.47" x 3.78"



EXIT PORTS (1 or 2 fibers)

IN PORT (12 Fibers)

RMTS BOX STD 1xIP9 MPO Stubbed to "n" exits SC/APC

| | 2 FO | 4 FO | 6 FO | 8 FO | 12 FO |
|--------|---------|---------|---------|---------|---------|
| 50ft | R899259 | R899269 | R899279 | R899321 | R899331 |
| 100ft | R899260 | R899270 | R899280 | R899322 | R899332 |
| 200ft | R899261 | R899271 | R899281 | R899323 | R899333 |
| 300ft | R899262 | R899272 | R899282 | R899324 | R899334 |
| 400ft | R899263 | R899273 | R899283 | R899325 | R899335 |
| 500ft | R899264 | R899274 | R899284 | R899326 | R899336 |
| 750ft | R899265 | R899275 | R899285 | R899327 | R899337 |
| 1000ft | R899266 | R899276 | R899286 | R899328 | R899338 |
| 1500ft | R899267 | R899277 | R899287 | R899329 | R899339 |
| 2000ft | R899268 | R899278 | R899288 | R899330 | R899340 |

RMTS BOX PGT Stubbed to "n" exits SC/APC)

| | 2 FO | 4 FO | 6 FO | 8 FO | 12 FO |
|--------|---------|---------|---------|---------|---------|
| 50ft | R899341 | R899351 | R899540 | R899550 | R899560 |
| 100ft | R899342 | R899352 | R899541 | R899551 | R899561 |
| 200ft | R899343 | R899353 | R899542 | R899552 | R899562 |
| 300ft | R899344 | R899354 | R899543 | R899553 | R899563 |
| 400ft | R899345 | R899355 | R899544 | R899554 | R899564 |
| 500ft | R899346 | R899356 | R899545 | R899555 | R899565 |
| 750ft | R899347 | R899357 | R899546 | R899556 | R899566 |
| 1000ft | R899348 | R899358 | R899547 | R899557 | R899567 |
| 1500ft | R899349 | R899359 | R899548 | R899558 | R899568 |
| 2000ft | R899350 | R899360 | R899549 | R899559 | R899569 |

For the connection from box to house use 1Fiber Round Drop IP9 SC/APC to PGT

R&M BEF (Building Entry Facility Solutions)

When large numbers of optical fibers are introduced into Telecom rooms, it is crucial to manage and splice these fibers safely. With the BEF Solutions, R&M is opening up a new chapter for hyperscale solutions

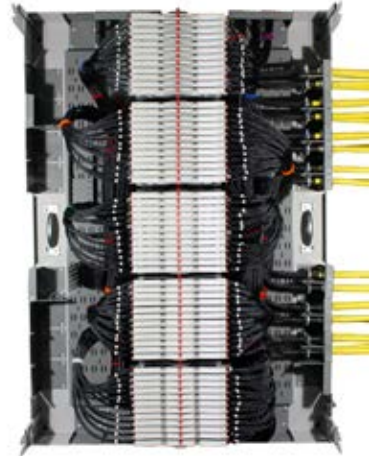


«Up to 41,472 fiber optic splices, 288 fibers spliced per drawer using ribbon fiber»

Features

- 288 Ribbon cable splices per Tray (SD08)
- Easy Installation
- NEMA Rated
- Stackable
- Wall Mount
- Removable door, frame East Access from all 4 sizes
- Flexible fiber management

Cable Entries Options: 6 x 1in., 4 x 1.5in., 1 x 2.5in.



The Splice Drawer SD-08 (8*4 ribbon splices) is a universal splice drawer designed for use in R&M fiber management panels. 384 fibers can be spliced and managed in each of the stackable splice trays. A transparent plastic cover protects the fibers.

The flat breakout box distributes the fiber bundles of cables with up to 6,912 fibers to the splice trays. A U-shaped guide takes care of fiber distribution and protects the fibers. The kits can be stacked and mounted to the backboard using a movable mounting bracket.



Various cable entry solutions have been added to the BEF system. To enter the BEF from the sides, shingles with either 4 x 1.5" (38mm) or 1 x 2.5" (63mm) cable entries are available.



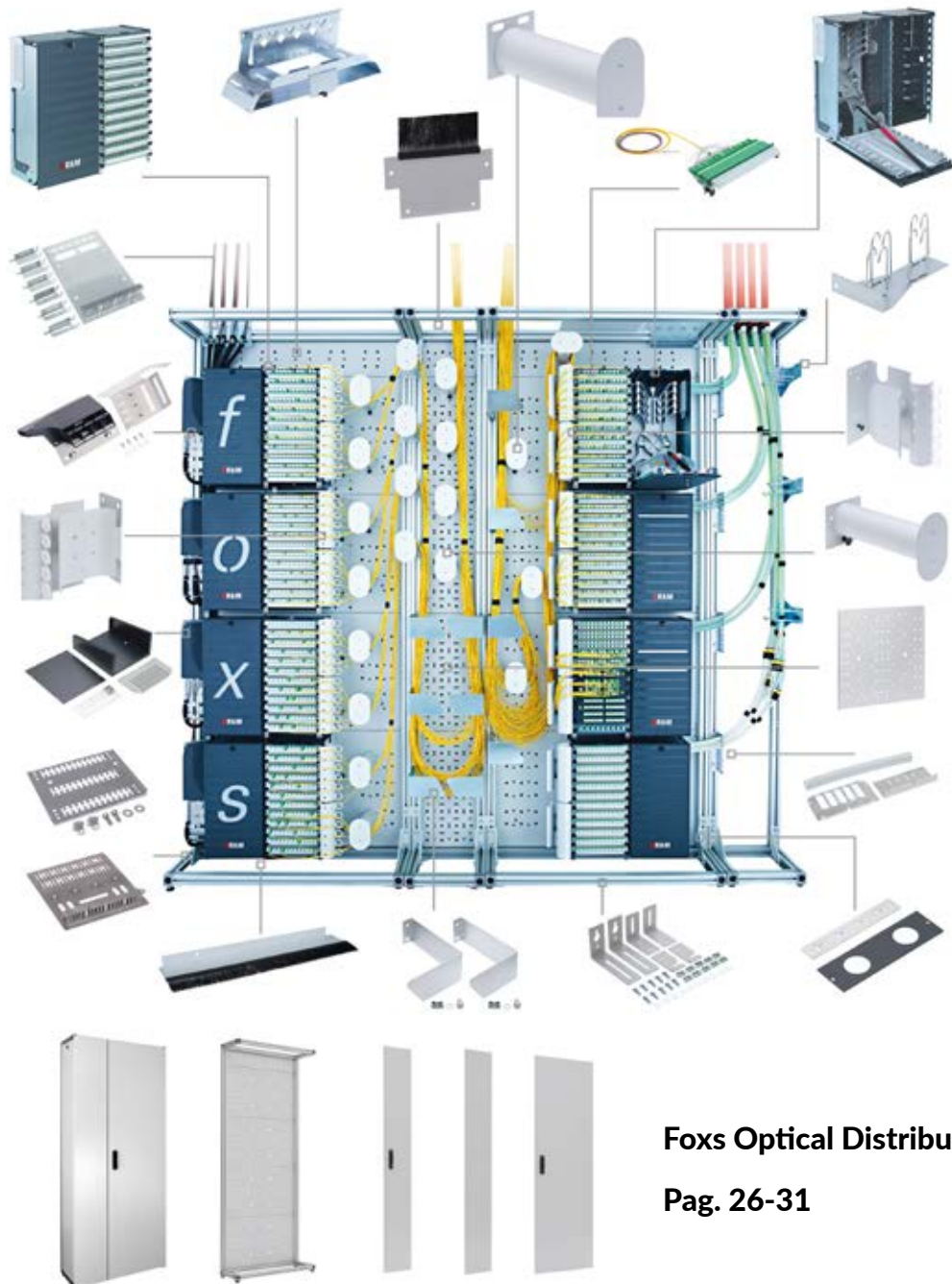
The HCFK (High Count Fiber Kit) units are stackable and can be securely mounted on the backboard of the BEF system.

| BEF | Cable Entries | Splice Capacity | P/N |
|---------|---------------|-----------------|---------|
| BEF 12 | custom | 3,456 | R277012 |
| BEF 24 | 20 | 6,921 | R876500 |
| BEF 60 | 30 | 17,280 | R273458 |
| BEF 72 | 30 | 29,736 | R874202 |
| BEF 144 | 40 | 41,472 | R875663 |

R&M Optical Distribution Systems

We offer two different options for the most demanding applications on a fiber network deployment, with the best cable management solution in the market.

The SCM ODF is coupled with SpliceMODULE, PatchMODULE or CombiMODULE and the Single Circuit Management System (SCM) for an application-independent solution.



Foxs Optical Distribution System

Pag. 26-31

R&M Foxs Optical Distribution System

ETSI Rack Solution Benefits

TCO reduction

- Excellent subscriber and cable management saves on maintenance costs
- Strain-less fiber guidance ensures data security
- Scalable investments thanks to modular configuration

Easy and time-saving installation

- Short fiber connections between splice and patch module
- No tools needed
- Easy drop arrangement
- Open fiber guidance
- Smart hinge down splice element

Features

- High-density up to 2304 fibers
- Bending radius R40
- Subscriber management with SCM
- ETSI standard compliant
- Retrofittable side panels and door



Into the Future with Fiber Optics

Next generation networks are expanding. The demand for more bandwidth and new services calls for more and more optical fibers.

Network operators need new ideas for central office, hub and data center applications in order to manage the expansion of fiber optic infrastructures more efficiently and more flexibly.

R&M's answer: the Optical Distribution Frame (ODF) combined with the Single Circuit Management System (SCM). This distribution solution allows to network operators to set up their next generation central office. It helps them master the planning, assembly and operation – smoothly and reliably. Thanks to the modular design and outstanding rapid-assembly technology. There is no limit to the expansion of fiber optic networks.



Flexibility for 19" Solutions

The 5U and 10U 19" ODF-SCM MODULE are especially designed to be implemented in an existing 19" or 21" infrastructure.

The ODF-MODULE can be installed from the front- or backside offering of the cabinet. Outstanding is the modular system approach SCM cassettes and ODF Patch, Splitter and CWDM inserts in the portfolio.

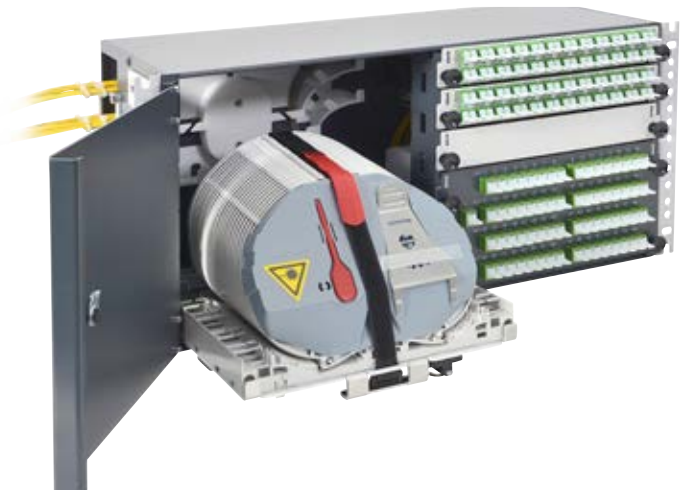
The flexible platform supports optical fibers for P2P and P2MP networks. With the two module sizes 5U and 10U, R&M offers distribution capacity for up to 288(5U) / 576(10U) splice and patch connections or up to 576(5U) / 1152(10U) pure splice connections.

19" Rack Solution Benefits

- Pay as you grow
- Safe network operation
- Separation of subscribers
- Flexible and extendable solution

Features

- Up to 6/12 1U-ODF-Patch inserts
- Max. density 576 patch-splice or 1152 splice connection on 10U
- Up to 48/96 SC cassettes
- Tool-free assembly



Central Office

Racks ODF SCM



Cabinet ODF , complete

1.8m Height

| | |
|-------------|----------------|
| 600mmx300mm | R807362 |
| 900mmx300mm | R807361 |

2.2m Height

| | |
|-------------|----------------|
| 600mmx300mm | R807360 |
| 900mmx300mm | R807353 |



Wall Mount ODF

0.7m Height

| | |
|-------------|----------------|
| 900mmx300mm | R515520 |
|-------------|----------------|

1.2m Height

| | |
|-------------|----------------|
| 900mmx300mm | R515521 |
|-------------|----------------|

| | |
|----------------|----------------|
| Mounting Plate | R511902 |
|----------------|----------------|

- use 1pc for Splice or Patch
- use 2pc for CombiModule

ODF SCM (Modular Chassis)



Cabinet ODF , backplane

2.2m Height

| | |
|-------------|----------------|
| 300mmx300mm | R825746 |
| 600mmx300mm | R510763 |
| 900mmx300mm | R823241 |



Standard Door

| | |
|--------------|----------------|
| 2200mmx600mm | R510768 |
| 2200mmx300mm | R510767 |

Swing Door

use in combination with standard door

| | |
|--------------|----------------|
| 2200mmx600mm | R807352 |
| 2200mmx300mm | R510884 |

Side Wall

| | |
|-------|----------------|
| Left | R510765 |
| Right | R510766 |

Accessories ODF SCM



Cover ODF

| | |
|-------------|----------------|
| 900mmx300mm | R510769 |
| 600mmx300mm | R510770 |
| 300mmx300mm | R511962 |



T-Nut Set ODF, 10x

T-Nut Set ODF, 10x

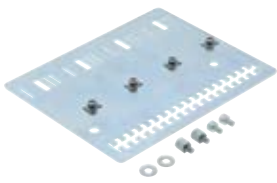
R807354



Cabinet ODF, grounding Kit

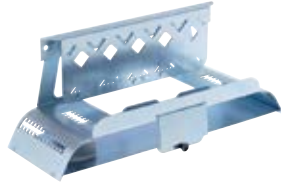
R804294

Assembly & Cable Management Accessories for ODF Foxs & CombiModules SCM



Cable Strain Relief

R510771



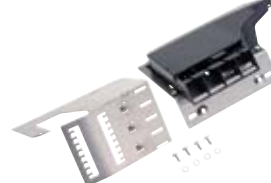
Cable Strain Relief 45°

R809763



Cable Guide, blow-in

R511984



Fiber Management, Splice Module

| | |
|-------|---------|
| Left | R809343 |
| Right | R809344 |



Mounting plate for cable or tubes

R808397



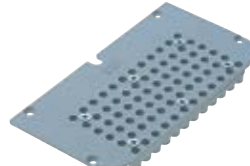
Mounting Plate 600, SpliceModule

R513575



Protective Tube

3,5-5mm R510718



Mounting Plate 72 tubes 5mm

R510775



Cable Support Plate

R511903



Fiber Guide, Splice Module

R809345



Patch cords redirection

R510774



Patch cord lead away

R511966



Patch Cord Holder

R804324



Patch Separation

R510880



Cable Management, Patch Module

R513570



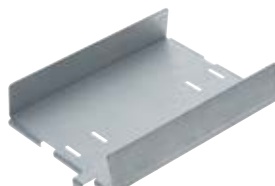
Cover Plate

R510723



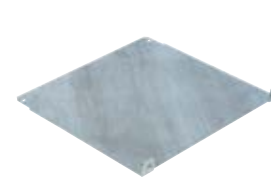
Blind Cover insert

R510719



Overlength Tray

R511904



Mounting Table

R510772



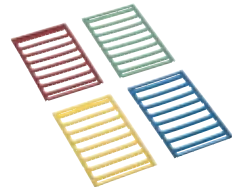
Snap-in Clip

R510834



Numbering Clips

| | |
|-------|---------|
| 13-24 | R511963 |
| 25-36 | R511964 |
| 37-48 | R512402 |



Color Clip, Splice Trays

| | |
|--------|---------|
| Red | R508343 |
| Yellow | R508345 |
| Green | R508346 |
| Blue | R508347 |



Labeling Kit

R512250



Cable Guide Kit NW17

3m



Fiber i=Divider Box 10xNW17

R814623



Fiber Divider Box, 72x5mm

R814538

Central Office

CombiMODULES ODF SCM



CombiModule **Left** with adapt.
APC, G652D

288 Fibers

| | |
|---------------|----------------|
| LC Duplex | R510715 |
| E2000 Compact | R512773 |
| SC Simplex | R807369 |

576 Fibers

| | |
|-----------|----------------|
| LC Duplex | R807373 |
|-----------|----------------|



CombiModule **Right** with adapt.
APC, G652D

288 Fibers

| | |
|---------------|----------------|
| LC Duplex | R510761 |
| E2000 Compact | R512772 |
| SC Simplex | R807370 |

576 Fibers

| | |
|-----------|----------------|
| LC Duplex | R807374 |
|-----------|----------------|



CombiMODULE Left, empty

R510714



CombiMODULE Right, empty

R510760



SpliceMODULE, empty

R510712



Patch MODULE, empty

R510713

CombiMODULES - ODF SCM (Racks 19")



CombiModule Left 10U

R814290



CombiMODULE Right 10U

R814291



CombiMODULE Left 5U

R835032



CombiMODULE Right 5U

R835033

Splice Trays SCM

Splice Trays SCM, R40



| | |
|-----------------|----------------|
| 6 FO (1pc) | R508434 |
| 6 FO (12pc) | R508440 |
| 12 FO (1pc) | R804270 |
| 12 FO (12pc) | R804272 |
| 24 Fibers (1pc) | R508436 |
| 24 Fibers (6pc) | R508441 |

Splitter Tray SCM



| | |
|-------|----------------|
| Grey | R508439 |
| Black | R812556 |

Patch Inserts ODF for CombiModule (with fanout and adaptors)



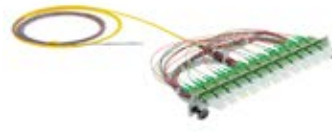
24 SC

| | |
|-----|---------|
| APC | R813195 |
| PC | R804299 |



12 E2000 (24 FO)

| | |
|-----|---------|
| APC | R510729 |
| PC | R510730 |



12 LC DUPLEX (24 FO)

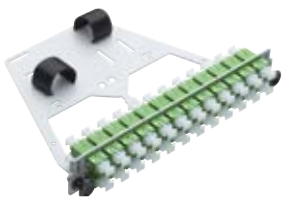
| | |
|-----|---------|
| APC | R813196 |
| PC | R510727 |



24 LC DUPLEX (48 FO)

| | |
|-----|---------|
| APC | R813197 |
| PC | R804298 |

Patch Inserts ODF for CombiModule (breakout)



24 SC

| | |
|-----|---------|
| APC | R515943 |
| PC | R807363 |



12 E2000 (24 FO)

| | |
|-----|---------|
| APC | R514473 |
| PC | R807359 |



12 LC DUPLEX (24 FO)

| | |
|-----|---------|
| APC | R514471 |
| PC | R807357 |

Splitters PLC 1260-1560nm - G657, APC



Splitter Insert ODF 1U

| | |
|---------------|---------|
| 4x 1:4 SC | R804305 |
| 4x 1:4 LC | R804306 |
| 4x 1:4 E2000 | R804307 |
| 2x 1:8 SC | R804308 |
| 4x 1:8 LC | R804309 |
| 2x 1:8 E2000 | R804310 |
| 1x 1:16 SC | R804311 |
| 1x 1:16 LC | R804312 |
| 1x 1:16 E2000 | R804313 |
| 1x 1:32 LC | R804315 |



Splitter Insert ODF 2U

| | |
|---------------|---------|
| 1x 1:32 SC | R804314 |
| 1x 1:32 E2000 | R804316 |
| 1x 1:64 LC | R804318 |



Splitter Insert ODF 3U

| | |
|---------------|---------|
| 1x 1:64 SC | R804317 |
| 1x 1:64 E2000 | R804319 |

Splitters CWDM - G657, APC



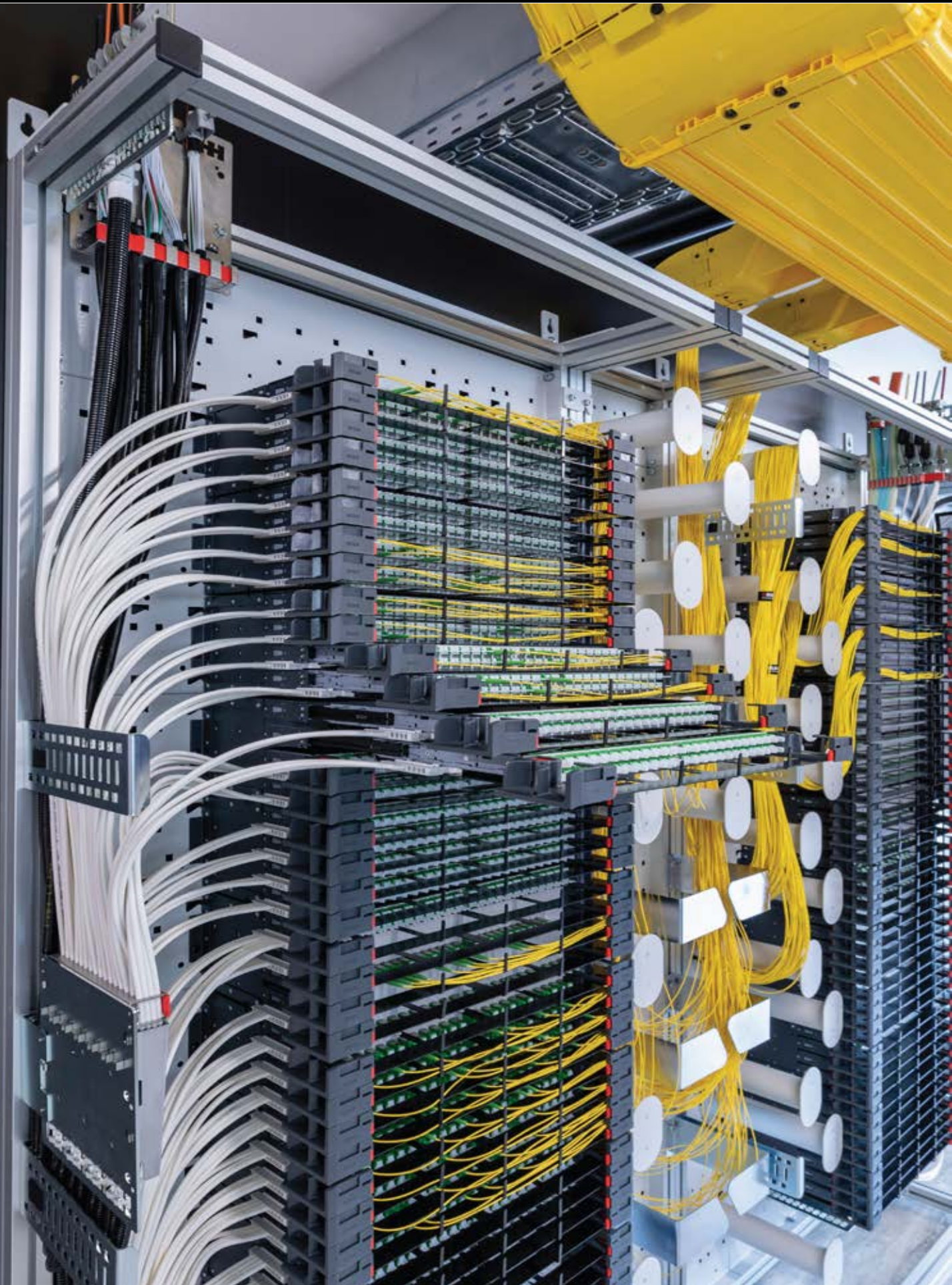
Characteristics:

- 8 channel CWDM
- 1271/1291/1311/1331/1351/1371/1431/1451 nm
- Bidirectional

Patch Module CWDM 1U

R804320

Central Office



R&M Prime Optical Distribution System

Diversity

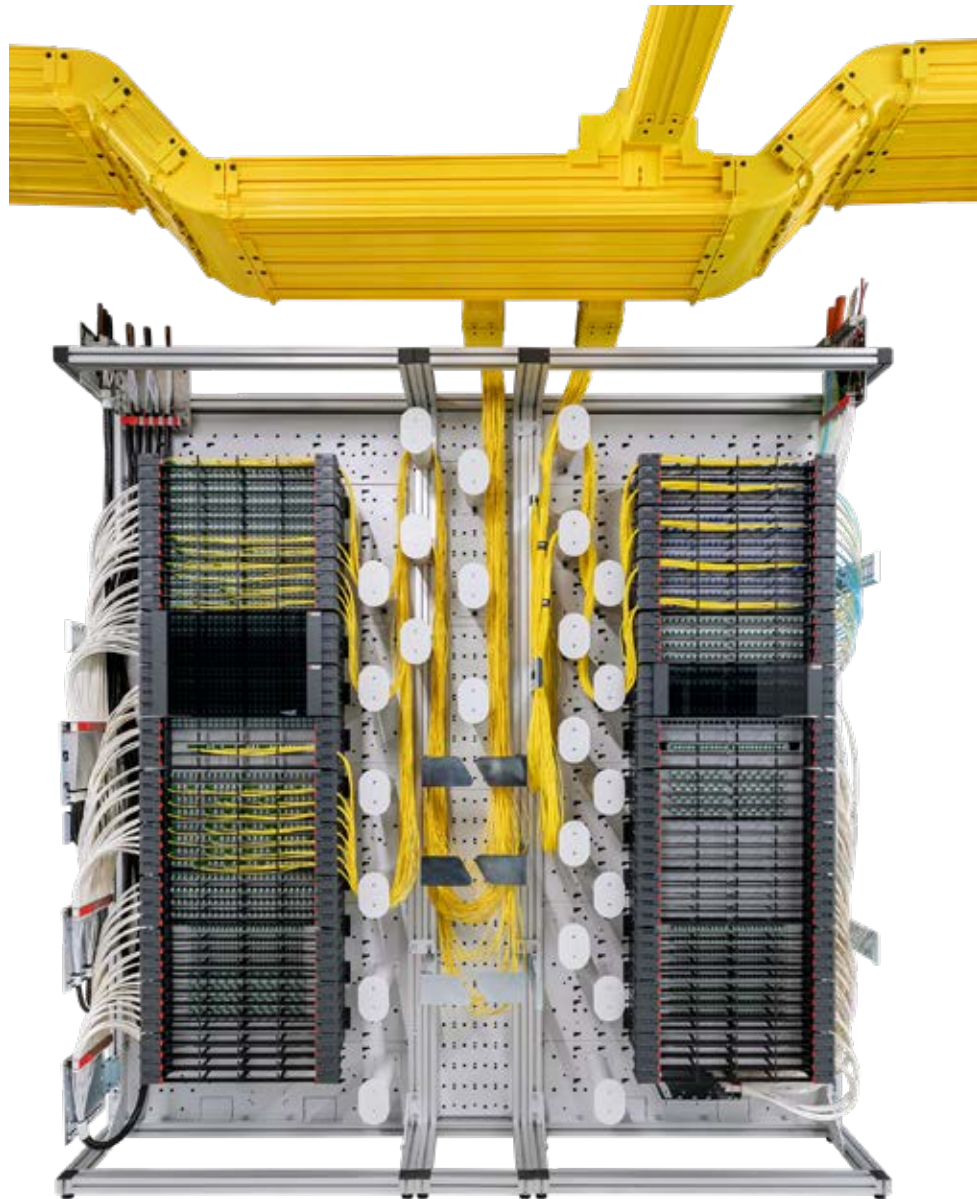
- Migration to existing and new network infra-structures
- Front or rear mounting in 19" and ETSI racks
- Modular application (pure splice, splice patch, breakout applications, fiber storage)

Simple installation

- Front access to connectors
- Tool-free installation
- Simple and secure routing of loose tube cables to the splice trays
- Fine distribution of the fibers to the individual modules
- Terminal block for transport tubes

Features

- Top fiber density
- Optimized space
- Modular use
- Tool-free migration
- Consistent and flexible
- Mirrored system configuration



The New Generation of Optical Distribution Systems

Next generation networks are expanding. The demand for more bandwidth and new services calls for more and more optical fibers. Network operators need new ideas for central office, hub and data center applications in order to manage the expansion of fiber optic infrastructures more efficiently and more flexibly. R&M's answer: the Optical Distribution Frame (ODF) combined with the Single Circuit Management System (SCM). This distribution solution allows to network operators to set up their next generation central office. It helps them master the planning, assembly and operation – smoothly and reliably. Thanks to the modular design and outstanding rapid-assembly technology. There is no limit to the expansion of fiber optic networks.

ODF Prime Solution

Quick and Simple Installation in space-constrained environments as well as locations with high fiber optic density.

The compact and versatile PRIME optical distribution modules are suitable for flexible use of fiber optic terminations. They enable quick and simple installation in limited environments as well as in high fiber density locations. The tool-less assembly approach and high modularity ensure smooth migration between a new or existing infrastructure.

Main benefits:

- . Diversity / Migration between existing infrastructure and new network infrastructure.
- . Front or rear mounting on 19" and ETSI racks.
- . Modular Application & Simplified Installation
- . Front access to connectors.
- . Toolless Installation of 3U Subracks
- . Simple and safe routing of loose tubes, individually to splice trays
- . Precise fiber distribution for individual modules

Racks Prime



Prime Cabinet , complete

1.8m Height

| | |
|-------------|----------------|
| 900mmx300mm | R851193 |
|-------------|----------------|

2.2m Height

| | |
|-------------|----------------|
| 900mmx300mm | R851192 |
|-------------|----------------|



Prime Wall Cabinet

0.7m Height

| | |
|-------------|----------------|
| 900mmx300mm | R851195 |
|-------------|----------------|

1.2m Height

| | |
|-------------|----------------|
| 900mmx300mm | R851194 |
|-------------|----------------|



Cabinet ODF , backplane

2.2m Height

| | |
|-------------|----------------|
| 900mmx300mm | R851191 |
|-------------|----------------|



Standard Door

| | |
|--------------|----------------|
| 2200mmx600mm | R510768 |
|--------------|----------------|

| | |
|--------------|----------------|
| 2200mmx300mm | R510767 |
|--------------|----------------|

Swing Door

use in combination with standard door

| | |
|--------------|----------------|
| 2200mmx600mm | R807352 |
|--------------|----------------|

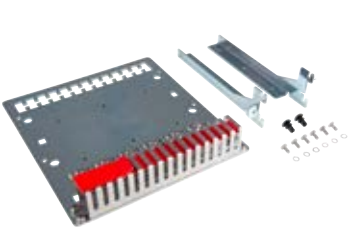
| | |
|--------------|----------------|
| 2200mmx300mm | R510884 |
|--------------|----------------|

Side Wall

| | |
|------|----------------|
| Left | R510765 |
|------|----------------|

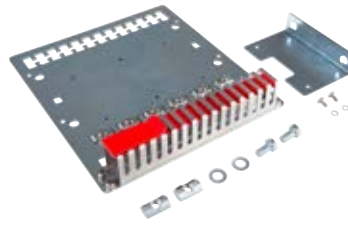
| | |
|-------|----------------|
| Right | R510766 |
|-------|----------------|

Cable Breakout Boxes



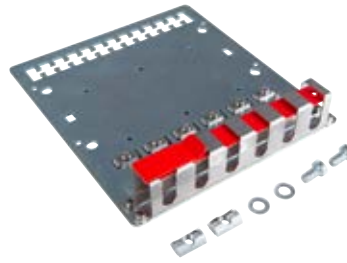
Central 64 tubes 5mm (ETSI)

R851196



Side 64 tubes 5mm (ETSI)

R851197



Central 12 tubes NW10 (ETSI)

R851198



Cover Breakout Box

R851672



Breakout Box 10xNW17

R814623



Breakout Box 72 tubes 5mm

R814538



Cable Guide Kit NW17

R308694



Transport Tube 5mm

50m

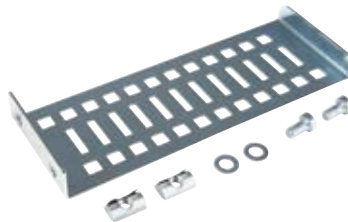
R849848

Accessories



Cable Management

R510774



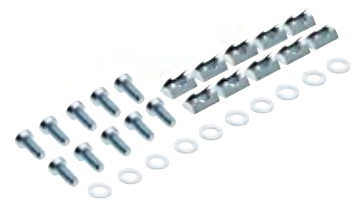
Side Cable Management

R849846



Grounding Set

R804294



T-Nut Set

R807354

Prime ODF Sub-Racks 1U & 3U



Features:

Innovative High Density System, allowing the placement of 4 trays in 3U, allowing up to 192 fibers in SC or 384 in LC.

- 1U & 3U version for Rack 19" or Rack Prime

Prime Chassis 3U (empty)

| | |
|--------------------------|----------------|
| Sub-Rack ETSI | R850363 |
| Sub-Rack 19" Front Mount | R850364 |
| Sub-Rack 19" Back Mount | R850365 |
| Front Cover | R850804 |
| Back Cover | R850805 |

Prime Chassis 1U (empty)

| | |
|--------------------------|----------------|
| Sub-Rack 19" Front Mount | R867703 |
| Sub-Rack 19" Back Mount | R867704 |
| Sub-Rack 21" Front Mount | R867705 |
| Sub-Rack 21" Back Mount | R867706 |

Ribbon Termination Unit (RTU)

The 3/4U PRIME Ribbon Termination Unit RTU is a splice patch unit for up to 96 fibers. The splice tray has an integrated splice protector holder for up to 24 heat shrink ribbon splice protectors (8F/12F).



ETSI (LEFT - Side Entrance)

| | |
|-------------------|----------------|
| 48 LCD APC G657A2 | R875305 |
| 48 LCD OM3 | R875307 |
| 48 LCD OM4 | R875310 |
| 48 LCD OM5 | R875313 |
| 48 SC APC G657A2 | R875319 |

ETSI (RIGHT - Side Entrance)

| | |
|-------------------|----------------|
| 48 LCD APC G657A2 | R875289 |
| 48 LCD OM3 | R875308 |
| 48 LCD OM4 | R875311 |
| 48 LCD OM5 | R875314 |
| 48 SC APC G657A2 | R875320 |

19" RACK (Back Entry)

| | |
|-------------------|----------------|
| 48 LCD APC G657A2 | R875306 |
| 48 LCD OM3 | R875309 |
| 48 LCD OM4 | R875312 |
| 48 LCD OM5 | R875315 |
| 48 SC APC G657A2 | R875321 |

Fiber Termination Unit (FTU)

3/4U PRIME FTU is the splice patch unit. The basic fiber inlay is suitable for 24/48 HS sleeves. Depending on the number of fibers, up to three additional MCM splice trays are equipped for 24/48 HS each.



ETSI (LEFT - Side Entrance)

| | |
|-------------------|----------------|
| 24 LCD APC G657A2 | |
| 24 LCD UPC G657A2 | R892106 |
| 48 LCD APC G657A2 | |
| 48 LCD UPC G657A2 | R892107 |
| 24 LCD OM4 (HV) | R892110 |
| 48 LCD OM4 (HV) | R892111 |
| 24 SC APC G657A2 | |
| 24 SC UPC G657A2 | |

ETSI (RIGHT - Side Entrance)

| | |
|-------------------|--|
| 24 LCD APC G657A2 | |
| 24 LCD UPC G657A2 | |
| 48 LCD APC G657A2 | |
| 48 LCD UPC G657A2 | |
| 24 LCD OM4 (HV) | |
| 48 LCD OM4 (HV) | |
| 24 SC APC G657A2 | |
| 24 SC UPC G657A2 | |

19" RACK (Back Entry)

| | |
|-------------------|----------------|
| 24 LCD APC G657A2 | |
| 24 LCD UPC G657A2 | R892108 |
| 48 LCD APC G657A2 | R907238 |
| 48 LCD UPC G657A2 | R892109 |
| 24 LCD OM4 (HV) | R891508 |
| 48 LCD OM4 (HV) | R891509 |
| 24 SC APC G657A2 | |
| 24 SC UPC G657A2 | |

Fiber Overlength Unit (FOU)

3/4U PRIME FOU is a fiber overlength unit. Inside the unit can store up to 32m Fiber overlength of loose tube or patch cord fibers. With the two Velcro tape the cable can be fixed in a safe way.



ETSI (cable entry)

| | |
|------------|----------------|
| Left Side | R849849 |
| Right Side | R850806 |

19" Rack

| | |
|------------|----------------|
| Back Entry | R850807 |
|------------|----------------|

Ribbon Splice Unit (RSU)

The 3/4U PRIME Ribbon Splice Unit RSU is a pure splice unit for up to 288 splices. The splice tray has an integrated splice protector holder for up to 24 heat shrink ribbon splice protectors (8F / 12F)



ETSI (Cable Entry)

| | |
|------------|----------------|
| Left Side | R875331 |
| Right Side | R875332 |

19" Rack

| | |
|------------|----------------|
| Back Entry | R875333 |
|------------|----------------|

Fiber Splice Unit (FSU)

3/4U PRIME FSU is a pure splice unit. The basic fiber inlay is suitable for 24/48 HS splice protectors. Up to three additional MCM splice cassettes with 24/48 HS each can be retrofitted.



ETSI (cable entry)

| | |
|------------|----------------|
| Left side | R849841 |
| Right side | R849842 |

19" Rack

| | |
|------------|----------------|
| Back Entry | R849845 |
|------------|----------------|

Splice Trays

| | |
|------------------------|------------------|
| MCM Tray 24/48 HS | R849850 |
| MCM Tray Cover | R850808 |
| Splice Protectors 35mm | R30087-35 |

Fiber Breakout Unit (FBU)

3/4U PRIME FBU is a breakout unit. Simple connection of pre-assembled cables. Attaching the fan-out cable with safety strap. Suitable for PRIME-3U rack ETSI and 19" rack mounting.



LC DUPLEX (ETSI & 19")

| | |
|-----------------|----------------|
| 24 LCD APC | R858604 |
| 24 LCD PC | R858605 |
| 24 LCD OM4 (HV) | R865175 |

SC SIMPLEX (ETSI & 19")

| | |
|-------------|----------------|
| 24 APC | R858606 |
| 24 PC | R858619 |
| 24 OM4 (HV) | R892105 |

MPO (ETSI & 19")

| | |
|---------------|----------------|
| 12 Singlemode | R878441 |
| 12 Multimode | R878442 |

PRIME Special Configurations

PRIME MPO Panel

3/4U PRIME MBU is breaking out an MPO trunk into duplex LC connections.



LC DUPLEX (ETSI & 19" Rack)

| | |
|-----------------|----------------|
| 2x24 MPO OM4 AQ | R882607 |
| 4x12 MPO OM4 AQ | R882434 |
| 4x12 MPO SM UPC | R878440 |

PRIME Splicing Panel

High Splicing Capacity in a 19" rack. Up to 768 Splices in 3U

Single Fiber Splicing Panel

| | |
|-------------|--|
| 192FO 0.9um | |
| 384FO 0.9um | |
| 576FO 0.9um | |
| 768FO 0.9um | |

PRIME Splitter Panel

Ready for GPON applications

Prime Splitter Panels

| | |
|--|--|
| | |
| | |
| | |
| | |

19" Progress Server Rack

1000 mm depth Rack for the Servers

- 75% perforated doors
- Supplied with two pairs of uprights with unit counter
- Numbered uprights guides for the progressive and precise horizontal excursion
- Supplied with two lateral wire baskets for cable organization
- 1000 Kg load capacity





| | U | H ^(!) | W | D | Color | P/N |
|--|----|------------------|-----|------|-------|----------------|
| SS-2 Front Single door Rear Single door 2x Side blind panels 100mm height plinth Front & Rear 19" uprights | 42 | 2057 | 600 | 1000 | Black | R896525 |
| | | | 800 | 1000 | Black | R896984 |
| | | | 600 | 1000 | White | R896668 |
| | | | 800 | 1000 | White | R897140 |

| | | | | | | |
|--|----|------|-----|------|-------|----------------|
| SD-2 Front Single door Rear Double door 2x Side blind panels 100mm height plinth Front & Rear 19" uprights | 42 | 2057 | 600 | 1000 | Black | R896528 |
| | | | 800 | 1000 | Black | R897003 |
| | | | 600 | 1000 | White | R896669 |
| | | | 800 | 1000 | White | R897164 |

| | | | | | | |
|--|----|------|-----|------|-------|----------------|
| DD-2 Front Double door Rear Double door 2x Side blind panels 100mm height plinth Front & Rear 19" uprights | 42 | 2057 | 600 | 1000 | Black | R896558 |
| | | | 800 | 1000 | Black | R897063 |
| | | | 600 | 1000 | White | R896670 |
| | | | 800 | 1000 | White | R897197 |

| | | | | | | |
|--|----|------|-----|------|-------|----------------|
| DS-2 Front Double door Rear Single door 2x Side blind panels 100mm height plinth Front & Rear 19" uprights | 42 | 2057 | 600 | 1000 | Black | R896578 |
| | | | 800 | 1000 | Black | R896975 |
| | | | 600 | 1000 | White | R896672 |
| | | | 800 | 1000 | White | R897331 |

1000 kg
LOAD

 **Black RAL 9005**  **White RAL 9016**

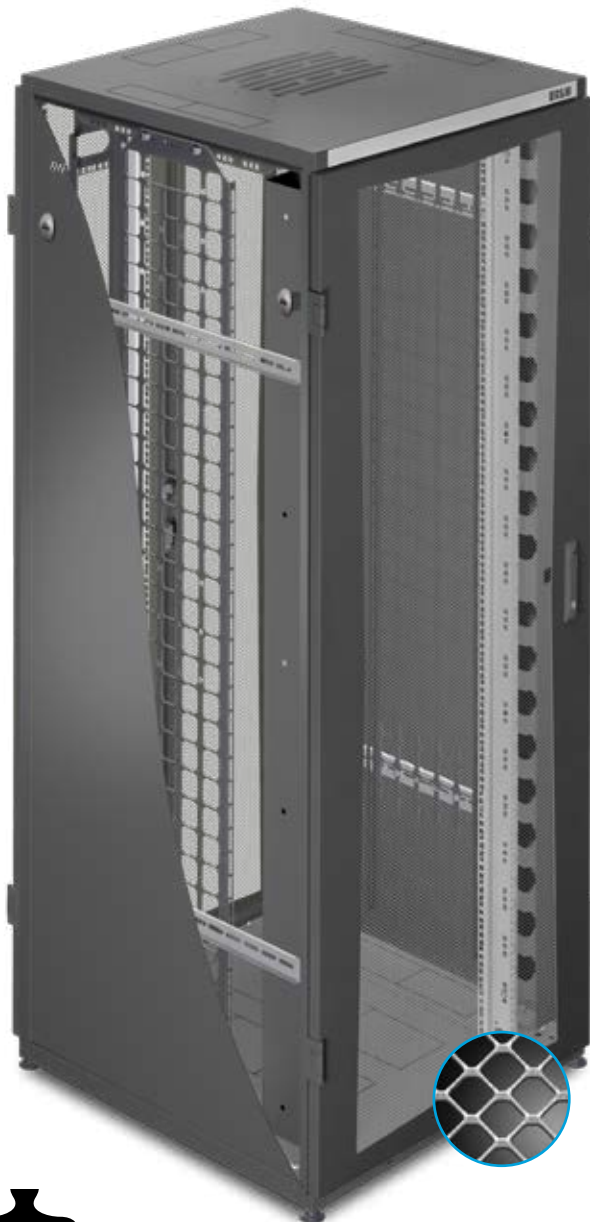
CAPACITY Vertical Cable Manager showed in picture is sold separately

U = Units
H = Includes 100 mm height of the plinth
(!) = for feet only subtract 83 mm from value in column H
W = Width
D = Depth

19" Progress Networking Rack

600 mm / 800mm depth Rack for Networking

- 75% perforated doors
- Supplied with uprights with unit counter
- Numbered uprights guides for the progressive and precise horizontal excursion
- Supplied with two lateral wire baskets for cable organization
- 1000 Kg load capacity





| | U | H ^(!) | W | D | Color | P/N |
|--|----|------------------|-----|-----|-------|----------------|
| SS-2 Front Single door Rear Single door 2x Side blind panels 100mm height plinth Front & Rear 19" uprights | 42 | 2057 | 600 | 600 | Black | R896373 |
| | | | 800 | 800 | Black | R896715 |
| | | | 600 | 600 | White | R896414 |
| | | | 800 | 800 | White | R896946 |

| | | | | | | |
|--|----|------|-----|-----|-------|----------------|
| SD-2 Front Single door Rear Double door 2x Side blind panels 100mm height plinth Front & Rear 19" uprights | 42 | 2057 | 600 | 600 | Black | R896374 |
| | | | 800 | 800 | Black | R896717 |
| | | | 600 | 600 | White | R896415 |
| | | | 800 | 800 | White | R896947 |

| | | | | | | |
|--|----|------|-----|-----|-------|----------------|
| DD-2 Front Double door Rear Double door 2x Side blind panels 100mm height plinth Front & Rear 19" uprights | 42 | 2057 | 600 | 600 | Black | R896391 |
| | | | 800 | 800 | Black | R896775 |
| | | | 600 | 600 | White | R896455 |
| | | | 800 | 800 | White | R896958 |

| | | | | | | |
|--|----|------|-----|-----|-------|----------------|
| DS-2 Front Double door Rear Single door 2x Side blind panels 100mm height plinth Front & Rear 19" uprights | 42 | 2057 | 600 | 600 | Black | R896409 |
| | | | 800 | 800 | Black | R896933 |
| | | | 600 | 600 | White | R896514 |
| | | | 800 | 800 | White | R896975 |

1000 kg
LOAD
CAPACITY

 **Black RAL 9005**  **White RAL 9016**

Vertical Cable Manager showed in picture is sold separately

U = Units
H = Includes 100 mm height of the plinth
(!) = for feet only subtract 83 mm from value in column H
W = Width
D = Depth

19" Progress Cabinets - 4 Posts Frame



600mm / 800mm / 1000 mm

- Supplied with uprights with unit counter;
- Numbered uprights guides for the progressive and precise horizontal excursion;
- Supplied with two lateral wire baskets for cable organization
- 1000 Kg load capacity;

| | U | H ^(!) | W | D | Color | P/N |
|--|----|------------------|-----|------|-------|----------------|
| 100mm height plinth Front & Rear 19" uprights | 42 | 2057 | 600 | 600 | Black | R896904 |
| | | | 800 | 800 | Black | R896905 |
| | | | 600 | 1000 | Black | R896906 |
| | | | 800 | 1000 | Black | R896907 |
| | | | 600 | 600 | White | R896908 |
| | | | 800 | 800 | White | R896909 |
| | | | 600 | 1000 | White | R896910 |
| | | | 800 | 1000 | White | R896911 |

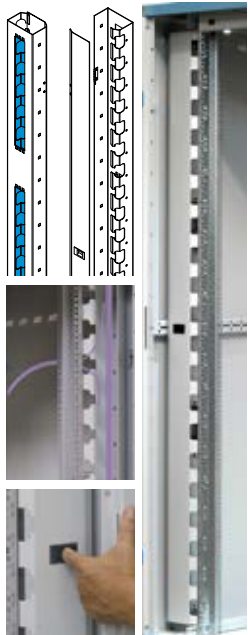


1000 kg
LOAD
CAPACITY

 **Black RAL 9005**
 **White RAL 9016**

U = Units
H = Includes 100 mm height of the plinth
(!) = for feet only subtract 83 mm from value in column H
W = Width
D = Depth

Cable Management



Pair of vertical cable management with cover and snap lock system; only for R&M 800 with cabinets

Equipped with cable entrances, on the bearing structure 19" casings of one unit (blue graphics) are present in a variable quantity depending on the height.

The closing cage door increases the efficiency of the air flows compartmentalisation and gives a compact and neat appearance to your wiring.



| | U | Color | P/N |
|----------|----|-------|----------------|
| Standard | 42 | Black | R896926 |
| | | White | R896928 |

| | U | Color | P/N |
|--------------|----|-------|----------------|
| High Density | 42 | Black | R896927 |
| | | White | R896928 |

19" Cable Management

| | |
|----|----------------|
| 1U | R795375 |
| 2U | R795452 |

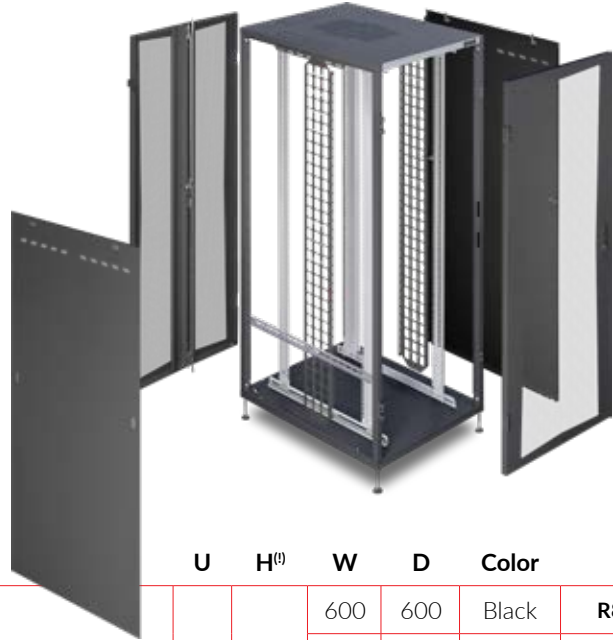
19" Progress Cabinets - Modular Flat Pack Version

Modular Concept

Build your own cabinet according to your desired configuration.

Then receive it in a flat pack concept that:

- Reduces storage and transport volume by up to 50%
- It is ideal for places with difficult access.
- It is essential when the use of ladders is necessary.
- It is assembled in 10 minutes with a few standard tools.



Black RAL 9005
White RAL 9016

| | U | H ⁽¹⁾ | W | D | Color | P/N |
|---|----|------------------|------|------|-------|-----------------|
| 100mm height plinth Front & Rear 19" uprights 2 lateral wire baskets Supplied in a flat pack | 42 | 2057 | 600 | 600 | Black | R896904 |
| | | | 800 | 800 | Black | R896905 |
| | | | 600 | 1000 | Black | R896906 |
| | | | 800 | 1000 | Black | R896907 |
| | | | 600 | 600 | White | R896908 |
| | | | 800 | 800 | White | R896909 |
| | | | 600 | 1000 | White | R896910 |
| | | | 800 | 1000 | White | R896911 |
| Single Door Perforated 75% 3 lock points | 42 | | 600 | | Black | R896912 |
| | | | 800 | | Black | R896914 |
| | | | 600 | | White | R896916 |
| | | | 800 | | White | R896918 |
| Double Doors Perforated 75% 3 lock points | 42 | | 600 | | Black | R896913 |
| | | | 800 | | Black | R896915 |
| | | | 600 | | White | R896917 |
| | | | 800 | | White | R896919 |
| Blind Side Panels | 42 | | 600 | | Black | R896920 |
| | | | 800 | | Black | R896921 |
| | | | 1000 | | Black | R896967W |
| | | | 600 | | White | R896923 |
| | | | 800 | | White | R896924 |
| | | | 1000 | | White | R896925 |

864 Fiber Panel High Density - Mercury



High Density Fiber Distribution Splice & Patch Panel - Mercury 5



Mercury provides 432 ports in a 6U housing. It has been developed for Hyperscale Data Centers with massive requirements for fiber optic connections. (864 using LC duplex, 432 SC, etc)

The stackable 864 Mercury panel is an ideal solution to connect redundant Data Centers. The cable to be used can be optimized for scarce duct space with 200µm rollable ribbon fibers.

| | |
|--|----------------|
| Mercury 5 HDFD Panel 864 Fibers (LC Duplex) 200µm - 6U | R891865 |
| Mercury 5 HDFD Panel 288 Fibers (LC Duplex) 200µm - 2U | R891866 |

Patch Cords Duplex 1.2mm Riser



| Length | Cable Type | LC DUPLEX | | | |
|--------|------------|-----------|--------|------------|---------|
| | | Multimode | | Singlemode | |
| | | OM3/OM4 | OM5 | OS2 UPC | OS2 UPC |
| 1 m | | 880836 | Rxxxxx | 879495 | R879480 |
| 2 m | | 880837 | Rxxxxx | 879496 | R879481 |
| 3 m | | 880838 | Rxxxxx | 879497 | R879482 |
| 5 m | | 880840 | Rxxxxx | 879499 | R879484 |
| 7 m | | 880842 | Rxxxxx | 880826 | R879486 |
| 10 m | | 880845 | Rxxxxx | 880829 | R879480 |



Modular Patch & Splice Panel - Anaconda



Modular Fiber Distribution - Anaconda

The modular panels accommodate between 1 and 1,728 fiber terminations using LC connectors. The modular panels come preloaded with adapter plates, adapters, pigtails, splice drawers and accessory material.

Each 3RU unit can hold up to 288 LC or 144 SC terminations using S-Type plates. The 3RU units can then be stacked to fill a 45RU rack which would correspond to a maximum 4,320 LC terminations. Most users elect to limit the units to 9 RU for handling purposes.

Dimensions of each 3 RU modular panel:

| Height | Width | Depth | Rack Units |
|--------------------|-----------------|--------------------|------------|
| 5.25" (13.34cm) | 19" (48.3cm) | 22.5" (57.15cm) | 3 |

Features

- System is designed to handle very large count fiber cables (864+Fibers)
- Large 2.5" openings for cable entry ports
- Cabinet comes with a removable cable breakout box to facilitate and protect the transition of large count cable entry into the panel
- Sufficient slack storage is available for a service loop inside of the stack of panels
- Cable patching is accomplished through R&M's removable shroud, which is housed in a cradle and protects the pigtails, yet allows cleaning or repair of the connector port via snap-on/snap-off faceplates

| | |
|---|----------------|
| Anaconda 3U Panel, Flat Ribbon, LC Duplex UPC SM IDS, 288 Fibers, incl. Accessories | R882195 |
| Anaconda 9U Panel, Flat Ribbon, LC Duplex UPC SM IDS, 864 Fibers, incl. Accessories | R882412 |
| Anaconda 18U Panel, Single Fiber, SC Duplex UPC SM, 864 Fibers, incl. Accessories | R870052 |
| Anaconda 18U Panel, Single Fiber, SC Duplex APC SM, 864 Fibers, incl. Accessories | R854337 |

S-Type Fiber Distribution Panels



| | |
|--|----------------|
| Sliding Tray 1U Panel, up to 3 S-Type Fiber Cartridges, empty | R277740 |
| Fixed 3U Fiber Distribution Panel, up to 12 S-Type Fiber Cartridges, empty | R271515 |
| S-Type Blank Plate | R869373 |

| Splice Cartridges C-Type | | | Fiber Type | | | | |
|--------------------------|--------|----------|----------------|------------|----------------|----------------|----------------|
| Connector Type | Fibers | Adapters | Single OS2 | Single OS2 | Ribbon OS2 | OM4 | OM5 |
| | | | UPC | APC | UPC 250 F | UPC | UPC |
| LC Duplex | 12 | 6 | R869043 | | R858846 | R869360 | R893721 |
| | 24 | 12 | R869046 | | R277486 | R869363 | R893722 |

| MPO Cassettes C-Type | | | Fiber Type | | |
|----------------------|-------------------|--------------|----------------|----------------|----------------|
| Connector Type | Fibers / Adapters | MPO Adapters | Single OS2 | OM4 | OM5 |
| | | | UPC | UPC | UPC |
| LC Duplex | 12 / 6 | 1 | R862384 | R893788 | R893790 |
| | 24 / 12 | 2 | R277704 | R893789 | R893791 |

Central Office

RDI - Pre Terminated Solution



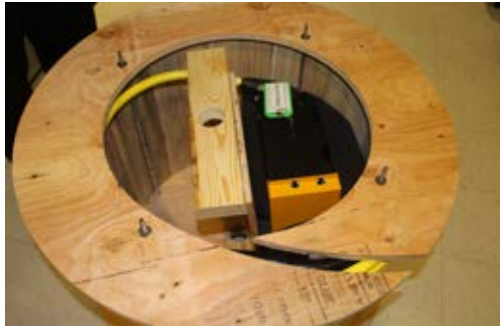
The basis of the design is the RDI-3U patch panel, which is factory terminated with up to a 1000' pigtail or cable assembly.

The RDI-3U has a max capacity of 288 fibers with LC connectors or 144 fibers with SC connectors, and can be supplied with ribbon, tight buffered, or loose-tube cable in a variety of jacket options.

| | | |
|------------------------------|----------|----------------|
| RDI 3U 288F SM Ribbon | 50 feet | R883059 |
| RDI 3U 288F SM Ribbon | 200 feet | R871965 |

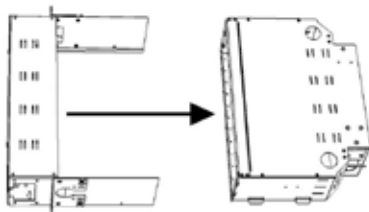
Features:

- High fiber count pre-terminated installations.
- Up to 288 Fiber LC or 144 Fiber SC with all standard cable and fiber types.
- Includes Splice Cartridges, which allow for connector and splice point access without removing panel from rack.
- Factory tested
- 34" D X 22.5" W reel allows easy entry through standard office doors. Packaging of panel within reel allows for standard cable stands to be used which prevent twisting of cable upon deployment and requires less room needed for deploying cables.
- Other lengths, cable types, adaptors upon request



The cable reel is 34" in diameter and 22.25" wide. Since all of the hardware and terminations are housed inside of the reel, it can be rolled through a standard office door and easily deployed at a remote location. This design also allows for the cable to be put on a standard type of reel stand and the tail end can be paid off to the splice location. This ability to be pulled off of a reel versus being coiled off eliminates the problem of twisting which is often associated with the latter technique

The package consists of a scalable pre-stubbed termination housing, a rack mountable receiver chassis, and a custom designed wood reel that stores everything neatly and securely in the center of the drum.



Shown with two halves separated for easy mounting on a rack, even when attached to the incoming cable



Inside of the termination panel there is an additional slack loop which provides an extra length of the furcated fiber to be used for repairs.

Unirack2 FO Splicing Panel



Features:

- The UniRack 2 has all the necessary accessories for a quick and hassle-free installation in a 19" rack and also reduces the installation time
- The integrated drawer offers space for 6 feet of loose tube fiber slack. Thanks to this slack space, the complete unit including splicing trays is easy to remove and to splice on a table
- The adapter front with LC Duplex is ready for the R&M inteliPhy system

| Unirack 2 | | | Fiber Type | | | |
|----------------|--------|----------|------------|---------|---------|---------|
| Connector Type | Fibers | Adapters | OM3 | OM4 | OM5 | OS2 UPC |
| LC Duplex | 12 | 6 | R846168 | R896728 | R880303 | R880300 |
| | 24 | 12 | R846167 | R896731 | R892086 | R846549 |
| | 48 | 24 | R846166 | R896733 | R880297 | R846547 |
| SC Duplex | 12 | 6 | R892093 | | --- | R892090 |
| | 24 | 12 | R892094 | | --- | R892091 |
| | 48 | 24 | R892095 | | --- | R847501 |

Unirack 2 empty

| | |
|-----------------------|---------|
| 24 SC/E2000/LC Duplex | R819674 |
| 24 SC Duplex | R818433 |
| Blank Plug (12 pcs) | R809342 |



FiberEasy 2 - for an installation with FO Field or pre-terminated trunks



Features:

- Plug & play solution for cabling for LAN, office or campus data networks.
- The housing allows particularly quick installation, extension or adaptation of fiber optic distribution cabling.
- Cable entry is on the right or left. Cables are attached to the chassis.
- The tray with LC Duplex is ready for the R&M inteliPhy system

| FiberEasy 2 | | | Fiber Type | | | |
|----------------|--------|----------|------------|---------|---------|---------|
| Connector Type | Fibers | Adapters | OM3/OM4 | OM4 HV | OM5 | OS2 UPC |
| LC Duplex | 12 | 6 | R821987 | R836758 | R870199 | R829308 |
| | 24 | 12 | R821583 | R836759 | R870200 | R821584 |
| | 48 | 24 | R820052 | R825265 | R870201 | R819382 |
| SC Duplex | 12 | 6 | R816224 | R816224 | --- | R819980 |
| | 24 | 12 | R816056 | R816056 | --- | R818975 |
| | 48 | 24 | R816059 | R816059 | --- | R819984 |

Watch the video!



FiberEasy 2 without adapters

| | |
|-----------------------|---------|
| 24 SC/E2000/LC Duplex | R822810 |
| 24 SC Duplex | R818429 |
| Blank Plug (12pcs) | R809342 |

Unirack2 Accessories



Rear cable entry M20 **R302006**



Rear cable entry **R302058**



Cord Grip IP67 **R310726**



Splice Chip 12/24HS **R302046**



Ou Front Cable Guide **R815251**



Patching Ring L/R **R302005**



Patching Guide **R304440**



HS Splice Prot. 35mm **R30087-35**

L-Type Fiber Distribution Panels (LGX)



Fiber Distribution Panel Sliding - 1/2/4 Rack Units

Features:

- Deep design increases fiber management capabilities (depth 17.56")
- Dual sliding tray allows front panel to slide out without straining rear mounted cable
- Includes cable clamp, waterfalls and bonding lug

| | |
|---|---------|
| Dual Sliding 1U Panel, up to 3 L-Type Fiber Cartridges, empty | R271534 |
| Dual Sliding 2U Panel, up to 6 L-Type Fiber Cartridges, empty | R271538 |
| Sliding 4U Panel, up to 12 L-Type Fiber Cartridges, empty | R271541 |

L-Type Panel Special Solutions



Sliding Tray Fiber Distribution Panel, 1 Rack Unit

- Accommodates 3 L-Type cartridges
- Removable sliding tray allows for fiber routing and splicing to be done outside of the panel
- Accepts ST-08 splice trays

| | |
|--|---------|
| Sliding 1U Panel, up to 3 L-Type Fiber Cartridges, empty | R272682 |
|--|---------|



11 in Ultra Short Panel, Sliding Tray, 1 Rack Unit

- Protected patch cords in front with sheet metal flip door

| | |
|--|---------|
| Ultra Short Sliding 1U Panel, up to 3 L-Type Adapter Plates, empty | R275731 |
|--|---------|



11 in Ultra Short Panel, Sliding Tray, 4 Rack Units

- Reversible ears for 19" or 23" mounting which can be wall or flush mounted

| | |
|---|---------|
| Ultra Short Sliding 4U Panel, up to 12 L-Type Fiber Cartridges, empty | R277423 |
|---|---------|



Fixed Fibers Distribution Panel, 4 Rack Units

- Accepts L-Type, C-Type and S-Type cassettes, interchangeable bulkhead

| | |
|---|---------|
| Fixed 4U Panel, up to 12 L-Type Fiber Cartridges, empty | R277882 |
|---|---------|

Splice Cartridges L-Type



Splice Cartridge L-Type

Features:

- Low insertion loss performance
- LC Duplex UPC or SC Simplex UPC
- Internal dust shutters on LC ports
- 100% Tested in USA
- Removable front plate for connector access
- Includes adapters, pigtails, and appropriate splice protection sleeves
- Available in SC, APC, single/ribbon fiber, all common connector types

| Splice Cartridges | | | Fiber Type | | | |
|-------------------|--------|----------|----------------|----------------|----------------|----------------|
| Connector Type | Fibers | Adapters | Single OS2 | Ribbon OS2 | OM4 | OM5 |
| | | | UPC | UPC 250 F | UPC | UPC |
| LC Duplex | 12 | 6 | R869037 | R861487 | R869357 | R892879 |
| | 24 | 12 | R869041 | R865062 | R869359 | R892880 |
| SC Duplex | 12 | 6 | R888663 | R270314 | R892851 | --- |

L-Type MPO Cassettes



Features:

- High density- (Up to 12 ports per module)
- Low insertion loss performance
- Multiple polarity options available (default is type A polarity)
- Internal dust shutters on LC ports
- 100% Tested in USA
- Available in SC, APC, all common connector types

| MPO Cassettes | | | Fiber Type | | | |
|----------------|-------------------|--------------|----------------|------------|----------------|----------------|
| Connector Type | Fibers / Adapters | MPO Adapters | Single OS2 | Single OS2 | OM4 | OM5 |
| | | | UPC | APC | UPC | UPC |
| LC Duplex | 12 / 6 | 1 | R862369 | R | R867824 | R893724 |
| | 24 / 12 | 2 | R885113 | R | R893723 | R893725 |
| SC Duplex | 12 / 6 | 1 | R | R | R | R |

L-Type Adapter Plates



| Adapter Plates | | Fiber Type | |
|----------------|-------------------|----------------|----------------|
| Connector Type | Fibers / Adapters | Single OS2 | OM4 |
| | | UPC | UPC |
| LC Duplex | 12 / 6 | R274965 | R869511 |
| | 24 / 12 | R875482 | R878247 |
| SC Simplex | 6/6 | | |
| SC Duplex | 12/12 | | |

| | |
|--------------------|----------------|
| L-Type Blank Plate | R271426 |
|--------------------|----------------|

C-Type Fiber Distribution Panels



Fiber Distribution Panel Fixed - 4 Rack Units

Features:

- Accommodates up to 12 vertically mounted industry standard adapter plates
- Removable front and rear door
- Deep design increases fiber management capabilities
- Reversible mounting ears for 19" or 23" mounting
- Includes cable clamp, waterfalls and bonding lug

Fixed 4U Panel, up to 12 C-Type Fiber Cartridges, empty

R273153

C-Type Splice Cartridges, Cassettes and Adapter Plates



Splice Cartridge C-Type

Features:

- Low insertion loss performance
- LC Duplex UPC or SC Simplex UPC
- Internal dust shutters on LC ports
- 100% Tested in USA
- Removable front plate for connector access
- Includes adapters, pigtails, and appropriate splice protection sleeves



| Splice Cartridges C-Type | | | Fiber Type | | | |
|--------------------------|--------|----------|----------------|----------------|----------------|----------------|
| Connector Type | Fibers | Adapters | Single OS2 | Ribbon OS2 | OM4 | OM5 |
| | | | UPC | UPC 250 F | UPC | UPC |
| LC Duplex | 12 | 6 | R869051 | R884867 | R869367 | R893719 |
| | 24 | 12 | R869053 | R890633 | R869370 | R893720 |
| SC Duplex | 12 | 6 | | | | |



| MPO Cassettes C-Type | | | Fiber Type | | |
|----------------------|-------------------|--------------|----------------|----------------|----------------|
| Connector Type | Fibers / Adapters | MPO Adapters | Single OS2 | OM4 | OM5 |
| | | | UPC | UPC | UPC |
| LC Duplex | 12 / 6 | 1 | R881962 | R881964 | R893727 |
| | 24 / 12 | 2 | R881961 | R893726 | R893785 |



| Adapter Plates | | Fiber Type | |
|----------------|-------------------|----------------|----------------|
| Connector Type | Fibers / Adapters | Single OS2 | OM4 |
| | | UPC | UPC |
| LC Duplex | 12 / 6 | R891314 | R880609 |
| | 24 / 12 | R891315 | R893792 |

C-Type Blank Plate

R271406

Adapter Pigtails



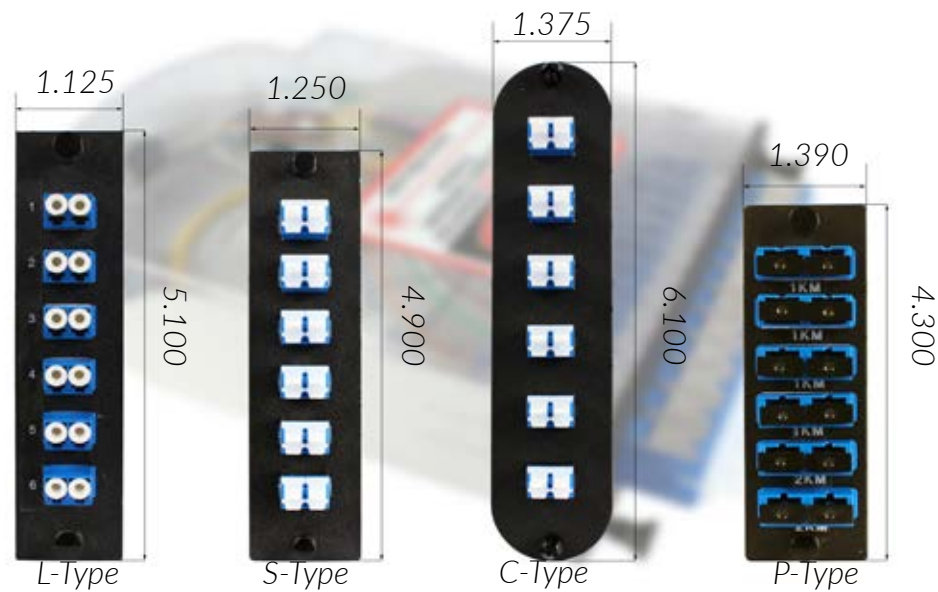
| Set of 12 Pigtails | | LC | SC |
|--------------------|---------|---------|---------|
| Fiber Type | OM5 | R891576 | R891577 |
| | OM4 | R891548 | R891549 |
| | OM3/OM4 | R891547 | R891546 |
| | OS2 UPC | R891542 | R891545 |
| | OS2 APC | R891543 | R891544 |

Splice Tray ST-08, Single Fiber or Ribbon Fiber



| | |
|-------------------------------|---------|
| Splice Tray ST-08 | R273455 |
| Ribbon Splice Protector | |
| Single Fiber Splice Protector | |

Comparison of typical industry adapter plate dimensions



Splitter Panels



L-Type Panels

The R&M Patch Panels allow for easy access to the splice cartridges as well as the fiber slack in the rear.

Sliding Panels

| | |
|---|----------------|
| Sliding 1U Panel, up to 3 L-Type Fiber Cartridges, empty | R271534 |
| Sliding 2U Panel, up to 6 L-Type Fiber Cartridges, empty | R271538 |
| Sliding 4U Panel, up to 12 L-Type Fiber Cartridges, empty | R271541 |

Fixed Panels

| | |
|--|----------------|
| Fixed 1U Panel, up to 3 L-Type Cartridges, empty | R275731 |
| Fixed 2U Panel, up to 6 L-Type Cassettes, empty | R862757 |
| Fixed 4U Panel, up to 12 L-Type Cassettes, empty | R277423 |

Splitter LGX Type Cassettes



The R&M L-type GPON splitter cassettes can be installed in any LGX type panel.

Assembled with high quality grade components, the cassettes are supplied with 1.6mm G657.A2 fiber optic jumpers. Jumpers are individually identified and with a 2meters length

Telcordia GR-1209-CORE: Generic Requirements for Passive Optical Components
Telcordia GR-1221-CORE: Reliability Requirements for Passive Optical Components

| Type | | 1x4 | 1x8 | 1x16 | 1x32 | 2x16 | 2x32 | 1x4 | 1x8 | 1x16 | 1x32 | 2x16 | 2x32 |
|---------------------------------|-----|--|------|------|------|------|------|--------|------|------|------|------|------|
| Connector Type | | LC/APC | | | | | | SC/APC | | | | | |
| Fiber Type | | 2meters of G657.A2 LSZH fiber jumpers with 1.6mm | | | | | | | | | | | |
| Operating wavelength range (nm) | | 1260 - 1650 | | | | | | | | | | | |
| Test Wavelength (nm) | | 1310 - 1550 | | | | | | | | | | | |
| Insertion Loss (dB) | Max | 7.5 | 10.6 | 13.8 | 17.2 | 14.2 | 17.5 | 7.5 | 10.6 | 13.8 | 17.2 | 14.2 | 17.5 |
| TDL (dB) | Max | 0.3 | 0.3 | 0.3 | 0.5 | 0.5 | 0.5 | 0.3 | 0.3 | 0.3 | 0.5 | 0.5 | 0.5 |
| PDL (dB) | Max | 0.2 | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 |
| Uniformity (dB) | Max | 0.6 | 0.8 | 1.2 | 1.5 | 2.0 | 2.0 | 0.6 | 0.8 | 1.2 | 1.5 | 2.0 | 2.0 |
| Return Loss (dB) | Min | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 |
| Directivity (dB) | Min | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 |
| Operating Temperature (C°) | | -40° + 85° | | | | | | | | | | | |
| Storage Temperature (C°) | | | | | | | | | | | | | |
| Dimension (mm) | | 155 x 129.5 x 28.6 (LGX Type) | | | | | | | | | | | |



Splitter Box 1x4 LC/APC
R863694



Splitter Box 1x8 LC/APC
R863696



Splitter Box 1x16 LC/APC
R863698



Splitter Box 1x32 LC/APC
R863702



Splitter Box 2x16 LC/APC
R863700



Splitter Box 2x32 LC/APC
R863704



Splitter Box 1x4 SC/APC
R863693



Splitter Box 1x8 SC/APC
R863695



Splitter Box 1x16 SC/APC
R863697



Splitter Box 1x32 SC/APC
R863701



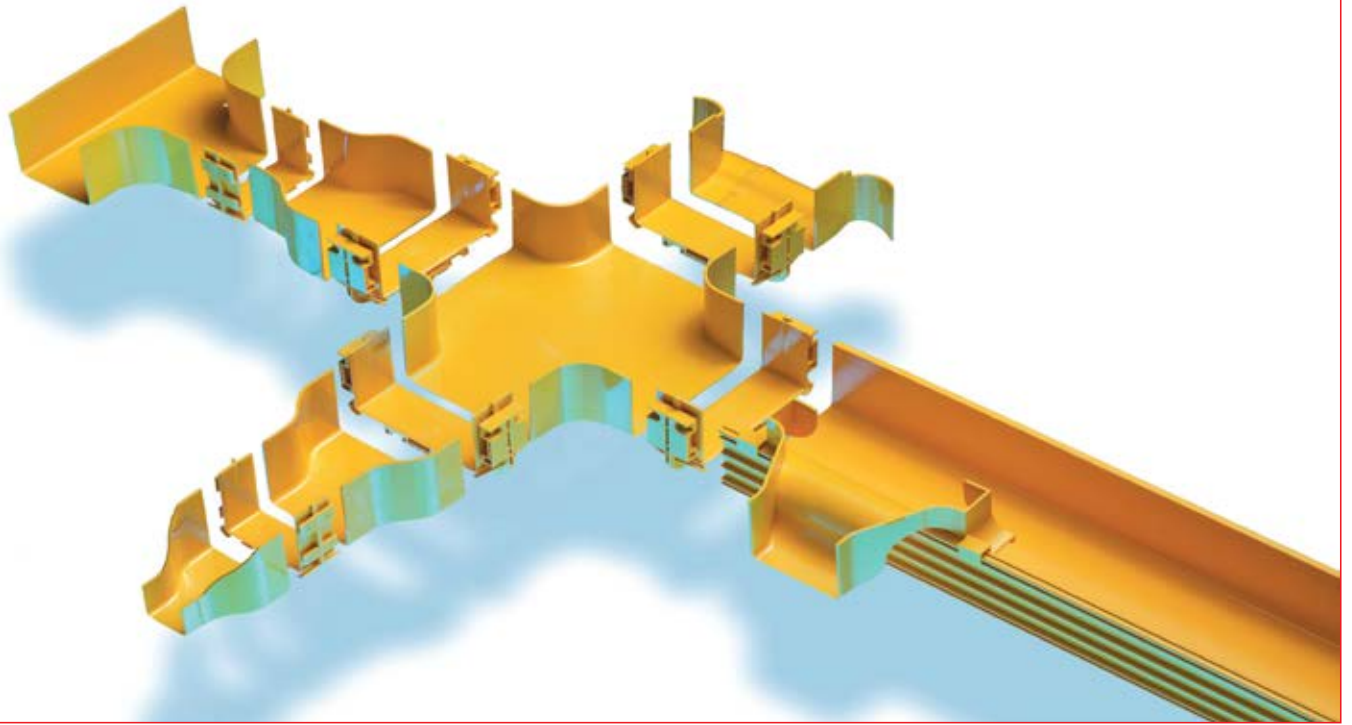
Splitter Box 2x16/APC
R863699



Splitter Box 2x32 SC/APC
R863703

Central Office





Benefits

- Higher network availability
- Fast snap-in installation
- Seamless expansion and retrofitting
- Reductions of up to 60 % in installation and maintenance costs

Features

- All-round protection for optical fibers
- Guaranteed bending radius of 30 mm
- Flexible, modular system

Rely on smart cable raceways

Operators of broadband networks and data centers prefer taking the fast, efficient route. That is also true of raceways in central installations and distribution sites. Installation and re-equipping of fiber optic raceway systems have to proceed as smoothly as possible to save time for productive tasks. You can now switch to the passing lane when it comes to cable raceways. With the Fiber Optic Raceway System from R&M, you take the lead in managing fiber optic links while adding benefits for your own operation. The R&M Raceway System has a smart design: safe, fast, efficient, modular, customized and easy to handle.



Fiber Raceway System - LSZH + UL-V0



Main Duct (2 meters)

| | |
|---------|----------------|
| 100x100 | R805808 |
| 160x100 | R805809 |
| 220x100 | R805810 |
| 300x100 | R805811 |



Main Duct Cover (1 meter)

| | |
|---------|----------------|
| 100x100 | R509512 |
| 160x100 | R509513 |
| 220x100 | R509514 |
| 300x100 | R509515 |

Accessories



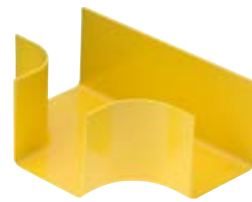
Cross Raceway

| | |
|---------|----------------|
| 100x100 | R509417 |
| 160x100 | R509418 |
| 220x100 | R509419 |
| 300x100 | R509420 |



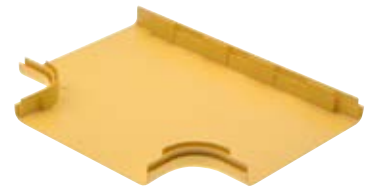
Cross Cover

| | |
|---------|----------------|
| 100x100 | R510306 |
| 160x100 | R509517 |
| 220x100 | R509518 |
| 300x100 | R509519 |



T-Joint

| | |
|---------|----------------|
| 100x100 | R509424 |
| 160x100 | R509425 |
| 220x100 | R509426 |
| 300x100 | R509427 |



T-Joint Cover

| | |
|---------|----------------|
| 100x100 | R509520 |
| 160x100 | R510307 |
| 220x100 | R510308 |
| 300x100 | R509523 |



Elbow 45° Horizontal

| | |
|---------|----------------|
| 100x100 | R509431 |
| 160x100 | R509432 |
| 220x100 | R509433 |
| 300x100 | R510309 |



Cover Elbow 45° Horizontal

| | |
|---------|----------------|
| 100x100 | R510310 |
| 160x100 | R510311 |
| 220x100 | R510312 |
| 300x100 | R510313 |



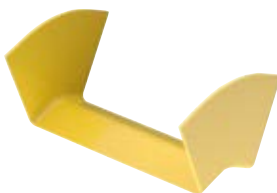
Elbow 90° Horizontal

| | |
|---------|----------------|
| 100x100 | R509435 |
| 160x100 | R509436 |
| 220x100 | R509437 |
| 300x100 | R509438 |



Cover Elbow 90° Horizontal

| | |
|---------|----------------|
| 100x100 | R510314 |
| 160x100 | R509529 |
| 220x100 | R510315 |
| 300x100 | R510316 |



Elbow 45° Vertical

| | |
|---------|----------------|
| 100x100 | R509440 |
| 160x100 | R509441 |
| 220x100 | R509442 |
| 300x100 | R509443 |



Cover Elbow 45° Vertical

| | |
|---------|----------------|
| 100x100 | R510318 |
| 160x100 | R510319 |
| 220x100 | R510320 |
| 300x100 | R510321 |



Elbow 90° Vertical

| | |
|---------|----------------|
| 100x100 | R509445 |
| 160x100 | R509446 |
| 220x100 | R509447 |
| 300x100 | R509448 |



Cover Elbow 90° Vertical

| | |
|---------|----------------|
| 100x100 | R509538 |
| 160x100 | R510323 |
| 220x100 | R510324 |
| 300x100 | R510325 |



Elbow 45° Vertical

| | |
|---------|----------------|
| 100x100 | R509450 |
| 160x100 | R509451 |
| 220x100 | R509452 |
| 300x100 | R509453 |



Cover Elbow 45° Vertical

| | |
|---------|----------------|
| 100x100 | R509543 |
| 160x100 | R510327 |
| 220x100 | R509545 |
| 300x100 | R509546 |



Elbow 90° Vertical

| | |
|---------|----------------|
| 100x100 | R509455 |
| 160x100 | R509456 |
| 220x100 | R509457 |
| 300x100 | R509458 |



Cover Elbow 90° Vertical

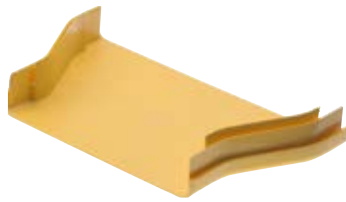
| | |
|---------|----------------|
| 100x100 | R510329 |
| 160x100 | R510330 |
| 220x100 | R509550 |
| 300x100 | R510331 |

Reducers



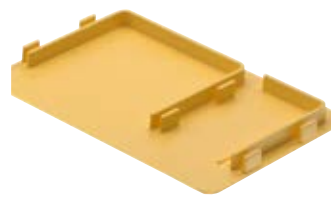
Reducer

| | |
|------------|----------------|
| 160 to 100 | R509466 |
| 220 to 160 | R509467 |
| 300 to 220 | R509468 |



Reducer

| | |
|------------|----------------|
| 160 to 100 | R510334 |
| 220 to 160 | R509555 |
| 300 to 220 | R509556 |



End Cap

| | |
|---------|----------------|
| 100x100 | R510335 |
| 160x100 | R509474 |
| 220x100 | R509475 |
| 300x100 | R509476 |

Drop Outlets



Drop Outlet Horizontal

| | |
|---------|----------------|
| 100x100 | R509459 |
|---------|----------------|



Drop Outlet Vertical

| | |
|---------|----------------|
| 100x100 | R807764 |
|---------|----------------|



Drop Outlet Cover

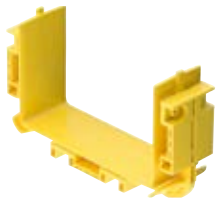
| | |
|------------|----------------|
| Horizontal | R510332 |
| Vertical | R807765 |



Trumpet Outlet

| | |
|---------|----------------|
| 100x100 | R509461 |
| 160x100 | R509462 |
| 220x100 | R509463 |
| 300x100 | R509464 |

Accessories



Snap-on Joint

| | |
|---------|----------------|
| 100x100 | R509470 |
| 160x100 | R509471 |
| 220x100 | R509473 |
| 300x100 | R510341 |



Drop Outlet Support Kit

| | |
|---------|----------------|
| 100x100 | R509479 |
|---------|----------------|

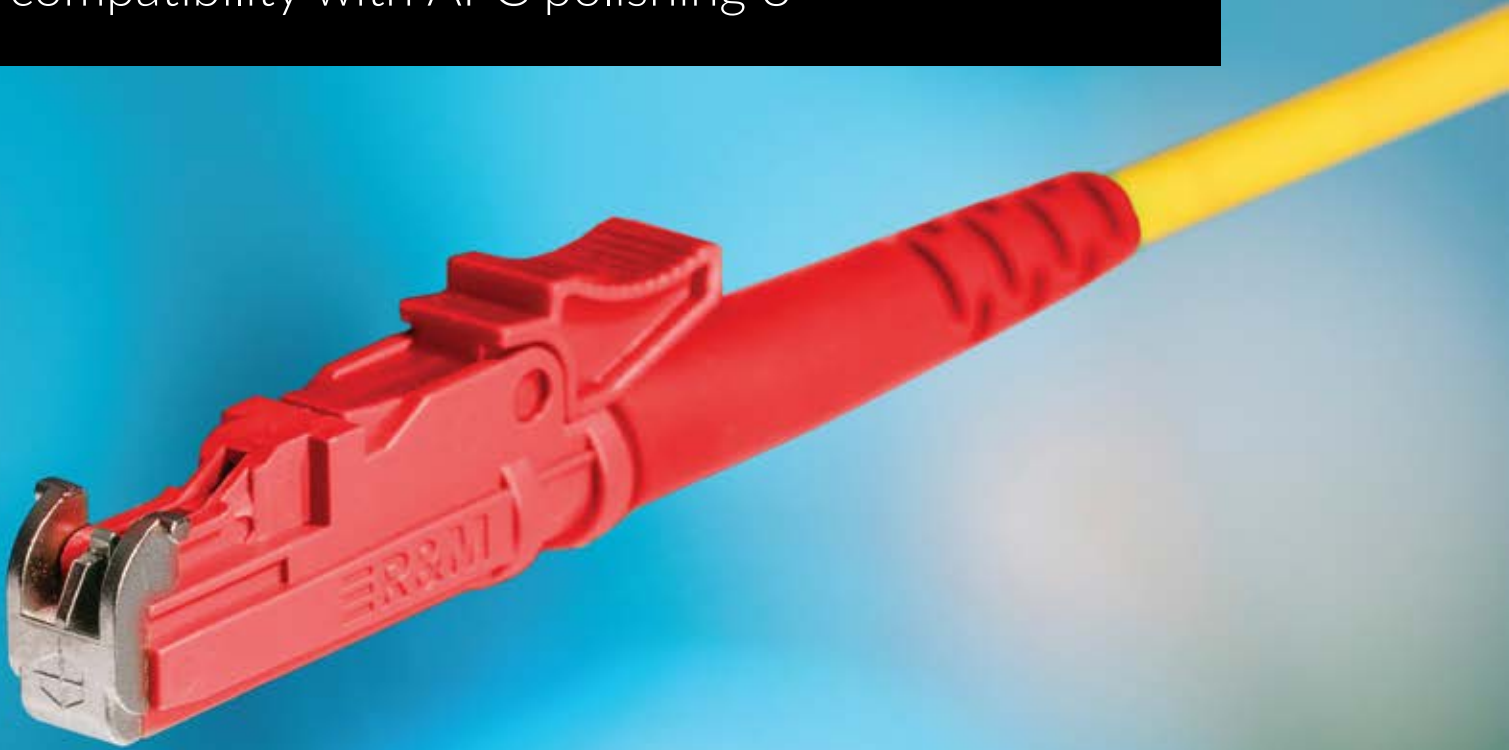


T-Bolt M6/25x25

| | |
|--|----------------|
| | R509480 |
|--|----------------|

High Power R&M

With the quality of R&M, the E2000/ APC and SC/ APC grade B connectors allow the connection of high power equipment while maintaining compatibility with APC polishing 8°



High Power R&M Solution

High power transmissions are already realities and allow long distance connections and high transmission capacity with the use of amplifiers (EDFA) and transmission equipment with Raman laser, in addition to systems that use wavelength multiplexing - WDM.

In order to implement a high power transmission system, it is important to ensure the perfect coupling between the transmission equipment with the fiber optic network, so that all the generated signal power is transmitted in the communication channel. A perfect coupling and a quality communication channel will guarantee lower losses, longer links and more reliable systems, that is, a more efficient system.

The industry has developed several ways to achieve these requirements, however some owners.

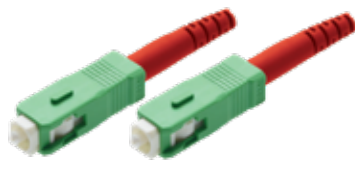
The R&M formula is based on a solution already accepted by the industry, (APC 8 degree polishing) but it has rigorous and high technical precision and performance criteria. Qualifying each component of the solution individually, Optical adapter, connectors and production process and following an appropriate installation of the products, ensuring a data communication channel of high precision and quality.

Please send request for pricing.

5W High Power Simplex Singlemode Optical Cord - G657 LSZH 2mm



E2000/APC - E2000/APC



SC/APC - SC/APC



E2000/APC - SC/APC

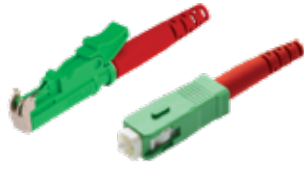


SC/UPC - SC/UPC

Single-mode Simplex High Performance 2.0W Optical Cord - G657 LSZH 2mm



E2000/APC - LC/APC



E2000/APC - SC/APC



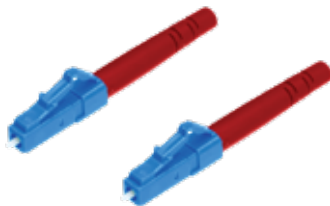
E2000/APC - LC/UPC



E2000/APC - SC/UPC



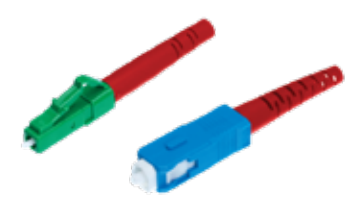
LC/APC - LC/APC



LC/UPC - LC/UPC



LC/APC - SC/APC



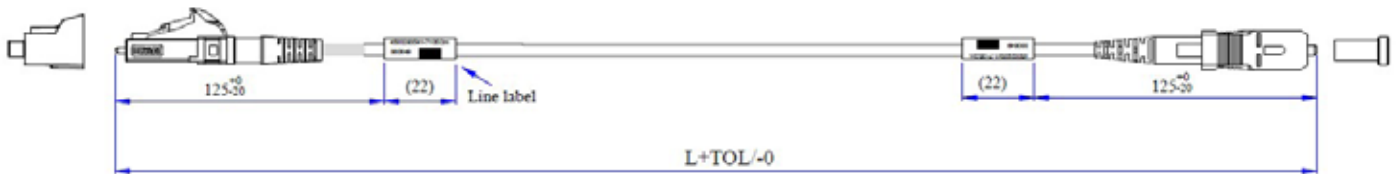
LC/APC - SC/UPC

Singlemode G657A.2 SIMPLEX Fiber Optic Patch Cords - OFNR (Riser)

Characteristics

- High quality interconnectivity components are the key to powerful fiber optic networks. R&M offers a complete range of optical cords and pigtails finished in a variety of cable and connector configurations.
- The cable is fully compatible with all standard cable management accessories and requires no special tools or knowledge to install.
- G657A2
- All cords are assembled in accordance with ISO IEC 61753-1 and guarantee the highest quality and reliability.
- Available in a wide range of lengths, according to the customer's needs
- OFNR Fiber (Riser)
- Typical IL ≤ 0.2 dB
- Patch cords: Diameter 1.2mm / 1.6mm / 2.0mm / 3.0 mm

| | Length | SCA/SCA | SCU-SCU | SCA-SCU | LCA-LCA | LCU-LCU | LCA-LCU | LCA-SCA | LCU-SCA | LCU-SCU |
|-------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 2.0mm | 1 M (≈ 3.3ft) | R885816 | R885811 | R885812 | R885823 | R885820 | R885821 | R885818 | R885817 | R885813 |
| | 2 M (≈ 6.6ft) | R885960 | R885932 | R885938 | R885996 | R885980 | R885985 | R885970 | R885965 | R885944 |
| | 3 M (≈ 9.8ft) | R885961 | R885934 | R885939 | R885997 | R885981 | R885986 | R885971 | R885966 | R885945 |
| | 5 M (≈ 16.4ft) | R885962 | R885935 | R885940 | R885998 | R885982 | R885987 | R885972 | R885967 | R885946 |
| | 7 M (≈ 23.0ft) | R885963 | R885936 | R885941 | R885999 | R885983 | R885988 | R885973 | R885968 | R885947 |
| | 10 M (≈ 32.8ft) | R885964 | R885937 | R885942 | R886000 | R885984 | R885989 | R885974 | R885969 | R885948 |
| 1.6mm | 1 M (≈ 3.3ft) | R897393 | R897406 | R897415 | R897469 | R897476 | R897511 | R897525 | R897531 | R897551 |
| | 2 M (≈ 6.6ft) | R897394 | R897408 | R897416 | R897470 | R897477 | R897512 | R897526 | R897532 | R897552 |
| | 3 M (≈ 9.8ft) | R897396 | R897409 | R897417 | R897471 | R897479 | R897513 | R897527 | R897547 | R897553 |
| | 5 M (≈ 16.4ft) | R897399 | R897410 | R897418 | R897473 | R897481 | R897514 | R897528 | R897548 | R897578 |
| | 7 M (≈ 23.0ft) | R897403 | R897411 | R897419 | R897474 | R897482 | R897523 | R897529 | R897549 | R897580 |
| | 10 M (≈ 32.8ft) | R897404 | R897414 | R897421 | R897475 | R897483 | R897524 | R897530 | R897550 | R897581 |
| 3.0mm | 1 M (≈ 3.3ft) | R897217 | R897227 | R897236 | R897249 | R897297 | R897305 | R897315 | R897326 | R897352 |
| | 2 M (≈ 6.6ft) | R897220 | R897230 | R897239 | R897252 | R897299 | R897307 | R897317 | R897328 | R897355 |
| | 3 M (≈ 9.8ft) | R897221 | R897232 | R897240 | R897290 | R897300 | R897309 | R897318 | R897330 | R897357 |
| | 5 M (≈ 16.4ft) | R897223 | R897233 | R897241 | R897292 | R897301 | R897310 | R897319 | R897347 | R897358 |
| | 7 M (≈ 23.0ft) | R897224 | R897234 | R897245 | R897294 | R897302 | R897312 | R897321 | R897349 | R897360 |
| | 10 M (≈ 32.8ft) | R897226 | R897235 | R897247 | R897295 | R897303 | R897314 | R897323 | R897351 | R897362 |



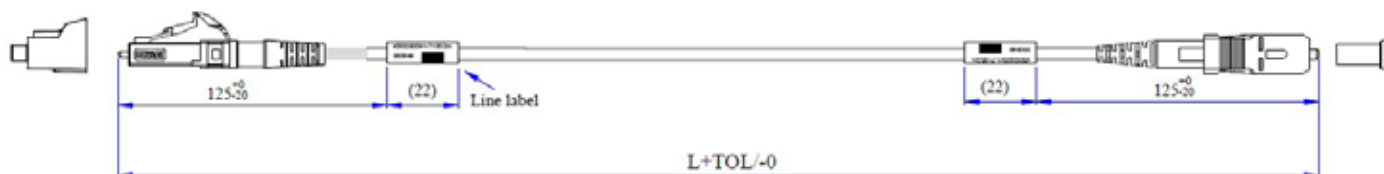
Singlemode G657A.2 SIMPLEX Fiber Optic Patch Cords - OFNP (Plenum)

Characteristics

- High quality interconnectivity components are the key to powerful fiber optic networks. R&M offers a complete range of optical cords and pigtails finished in a variety of cable and connector configurations.
- The cable is fully compatible with all standard cable management accessories and requires no special tools or knowledge to install.
- G657A2
- All cords are assembled in accordance with ISO IEC 61753-1 and guarantee the highest quality and reliability.
- Available in a wide range of lengths, according to the customer's needs
- OFNP Fiber (Plenum)
- Typical IL ≤ 0.2 dB
- Patch cords: Diameter 1.2mm / 1.6mm / 2.0mm / 3.0 mm

| | Length | SCA-SCA | SCU-SCU | SCA-SCU | LCA-LCA | LCU-LCU | LCA-LCU | LCA-SCA | LCU-SCA | LCU-SCU |
|-------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 2.0mm | 1 M (≈ 3.3ft) | R903762 | R903820 | R903827 | R903833 | R903895 | R903910 | R904066 | R904072 | R904078 |
| | 2 M (≈ 6.6ft) | R903763 | R903821 | R903828 | R903835 | R903896 | R903930 | R904067 | R904073 | R904079 |
| | 3 M (≈ 9.8ft) | R903764 | R903822 | R903829 | R903836 | R903898 | R903931 | R904068 | R904074 | R904080 |
| | 5 M (≈ 16.4ft) | R903765 | R903823 | R903830 | R903892 | R903902 | R903932 | R904069 | R904075 | R904082 |
| | 7 M (≈ 23.0ft) | R903818 | R903824 | R903831 | R903893 | R903905 | R903933 | R904070 | R904076 | R904083 |
| | 10 M (≈ 32.8ft) | R903819 | R903825 | R903832 | R903894 | R903909 | R903934 | R904071 | R904077 | R904084 |

| | | | | | | | | | | |
|-------|------------------|---------|---------|------------|------------|------------|------------|------------|------------|------------|
| 3.0mm | 1 M (≈ 3.3ft) | R904085 | R904094 | on request | on request | on request | on request | on request | on request | on request |
| | 2 M (≈ 6.6ft) | R904088 | R904095 | on request | on request | on request | on request | on request | on request | on request |
| | 3 M (≈ 9.8ft) | R904089 | R904096 | on request | on request | on request | on request | on request | on request | on request |
| | 5 M (≈ 16.4ft) | R904090 | R904097 | on request | on request | on request | on request | on request | on request | on request |
| | 7 M (≈ 23.0ft) | R904092 | R904098 | on request | on request | on request | on request | on request | on request | on request |
| | 10 M (≈ 32.8ft) | R904093 | R904124 | on request | on request | on request | on request | on request | on request | on request |



Singlemode G657A.2 DUPLEX Fiber Optic Patch Cords - OFNR (Riser)

Characteristics

- High quality interconnectivity components are the key to powerful fiber optic networks. R&M offers a complete range of optical cords and pigtailed finished in a variety of cable and connector configurations.
- The cable is fully compatible with all standard cable management accessories and requires no special tools or knowledge to install.
- G657A2
- All cords are assembled in accordance with ISO IEC 61753-1 and guarantee the highest quality and reliability.
- Available in a wide range of lengths, according to the customer's needs
- OFNR Fiber (Riser)
- Typical IL ≤ 0.2 dB
- Patch cords: Diameter 1.2mm / 1.6mm / 2.0mm / 3.0 mm

| | Length | SCA/SCA | SCU-SCU | SCA-SCU | LCA-LCA | LCU-LCU | LCA-LCU | LCA-SCA | LCU-SCA | LCU-SCU |
|-------|------------------|------------|------------|------------|------------|----------------|------------|------------|------------|------------|
| 1.2mm | 1 M (≈ 3.3ft) | on request | on request | on request | on request | R879495 | on request | on request | on request | on request |
| | 2 M (≈ 6.6ft) | on request | on request | on request | on request | R879496 | on request | on request | on request | on request |
| | 3 M (≈ 9.8ft) | on request | on request | on request | on request | R879497 | on request | on request | on request | on request |
| | 5 M (≈ 16.4ft) | on request | on request | on request | on request | R879499 | on request | on request | on request | on request |
| | 7 M (≈ 23.0ft) | on request | on request | on request | on request | R880826 | on request | on request | on request | on request |
| | 10 M (≈ 32.8ft) | on request | on request | on request | on request | R880829 | on request | on request | on request | on request |

| | | | | | | | | | | |
|-------|------------------|----------------|----------------|------------|----------------|----------------|------------|------------|------------|------------|
| 2.0mm | 1 M (≈ 3.3ft) | R892786 | R892798 | on request | R892837 | R892825 | on request | on request | on request | on request |
| | 2 M (≈ 6.6ft) | R892787 | R892799 | on request | R892840 | R892826 | on request | on request | on request | on request |
| | 3 M (≈ 9.8ft) | R882863 | R892801 | on request | R892841 | R892827 | on request | on request | on request | on request |
| | 5 M (≈ 16.4ft) | R892788 | R892831 | on request | R892842 | R892828 | on request | on request | on request | on request |
| | 7 M (≈ 23.0ft) | R892790 | R892832 | on request | R892844 | R892829 | on request | on request | on request | on request |
| | 10 M (≈ 32.8ft) | R892791 | R892834 | on request | R892846 | R892830 | on request | on request | on request | on request |

| | | | | | | | | | | |
|-------|------------------|----------------|----------------|------------|----------------|----------------|------------|------------|------------|------------|
| 1.6mm | 1 M (≈ 3.3ft) | R897478 | R896270 | on request | R897886 | R897926 | on request | on request | on request | on request |
| | 2 M (≈ 6.6ft) | R897480 | R897836 | on request | R897887 | R897929 | on request | on request | on request | on request |
| | 3 M (≈ 9.8ft) | R897582 | R897837 | on request | R897890 | R897931 | on request | on request | on request | on request |
| | 5 M (≈ 16.4ft) | R897583 | R897880 | on request | R897889 | R897932 | on request | on request | on request | on request |
| | 7 M (≈ 23.0ft) | R896258 | R897884 | on request | R897891 | R897934 | on request | on request | on request | on request |
| | 10 M (≈ 32.8ft) | R896269 | R897885 | on request | R897892 | R897935 | on request | on request | on request | on request |

| | | | | | | | | | | |
|-------|------------------|----------------|----------------|------------|----------------|----------------|------------|------------|------------|----------------|
| 3.0mm | 1 M (≈ 3.3ft) | R897225 | R897244 | on request | R897316 | R897345 | on request | on request | on request | R904544 |
| | 2 M (≈ 6.6ft) | R897231 | R897246 | on request | R897320 | R897346 | on request | on request | on request | on request |
| | 3 M (≈ 9.8ft) | R897237 | R897304 | on request | R897322 | R897348 | on request | on request | on request | on request |
| | 5 M (≈ 16.4ft) | R897238 | R897306 | on request | R897324 | R897350 | on request | on request | on request | on request |
| | 7 M (≈ 23.0ft) | R897242 | R897308 | on request | R897325 | R897353 | on request | on request | on request | on request |
| | 10 M (≈ 32.8ft) | R897243 | R897313 | on request | R897344 | R897354 | on request | on request | on request | on request |

Singlemode G657A.2 DUPLEX Fiber Optic Patch Cords (Simplex) - OFNP (Plenum)

Characteristics

- High quality interconnectivity components are the key to powerful fiber optic networks. R&M offers a complete range of optical cords and pigtails finished in a variety of cable and connector configurations.
- The cable is fully compatible with all standard cable management accessories and requires no special tools or knowledge to install.
- G657A2
- All cords are assembled in accordance with ISO IEC 61753-1 and guarantee the highest quality and reliability.
- Available in a wide range of lengths, according to the customer's needs
- OFNP Fiber (Plenum)
- Typical IL ≤ 0.2 dB
- Patch cords: Diameter 1.2mm / 1.6mm / 2.0mm / 3.0 mm

| | Length | SCA-SCA | SCU-SCU | SCA-SCU | LCA-LCA | LCU-LCU | LCA-LCU | LCA-SCA | LCU-SCA | LCU-SCU |
|-------|------------------|---------|---------|------------|---------|---------|------------|------------|------------|------------|
| 2.0mm | 1 M (≈ 3.3ft) | R903897 | R903906 | on request | R903915 | R903924 | on request | on request | on request | on request |
| | 2 M (≈ 6.6ft) | R903899 | R903907 | on request | R903916 | R903925 | on request | on request | on request | on request |
| | 3 M (≈ 9.8ft) | R903900 | R903908 | on request | R903918 | R903926 | on request | on request | on request | on request |
| | 5 M (≈ 16.4ft) | R903901 | R903911 | on request | R903920 | R903927 | on request | on request | on request | on request |
| | 7 M (≈ 23.0ft) | R903903 | R903912 | on request | R903921 | R903929 | on request | on request | on request | on request |
| | 10 M (≈ 32.8ft) | R903904 | R903913 | on request | R903922 | R903935 | on request | on request | on request | on request |

| | | | | | | | | | | |
|-------|------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 1.6mm | 1 M (≈ 3.3ft) | on request | on request | on request | on request | on request | on request | on request | on request | on request |
| | 2 M (≈ 6.6ft) | on request | on request | on request | on request | on request | on request | on request | on request | on request |
| | 3 M (≈ 9.8ft) | on request | on request | on request | on request | on request | on request | on request | on request | on request |
| | 5 M (≈ 16.4ft) | on request | on request | on request | on request | on request | on request | on request | on request | on request |
| | 7 M (≈ 23.0ft) | on request | on request | on request | on request | on request | on request | on request | on request | on request |
| | 10 M (≈ 32.8ft) | on request | on request | on request | on request | on request | on request | on request | on request | on request |

| | | | | | | | | | | |
|-------|------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 3.0mm | 1 M (≈ 3.3ft) | on request | on request | on request | on request | on request | on request | on request | on request | on request |
| | 2 M (≈ 6.6ft) | on request | on request | on request | on request | on request | on request | on request | on request | on request |
| | 3 M (≈ 9.8ft) | on request | on request | on request | on request | on request | on request | on request | on request | on request |
| | 5 M (≈ 16.4ft) | on request | on request | on request | on request | on request | on request | on request | on request | on request |
| | 7 M (≈ 23.0ft) | on request | on request | on request | on request | on request | on request | on request | on request | on request |
| | 10 M (≈ 32.8ft) | on request | on request | on request | on request | on request | on request | on request | on request | on request |



Multimode OM4 DUPLEX Fiber Optic Patch Cords LC-LC

Characteristics

- High quality interconnectivity components are the key to powerful fiber optic networks. R&M offers a complete range of optical cords and pigtails finished in a variety of cable and connector configurations.
- The cable is fully compatible with all standard cable management accessories and requires no special tools or knowledge to install.
- OM4
- All cords are assembled in accordance with ISO IEC 61753-1 and guarantee the highest quality and reliability.
- Available in a wide range of lengths, according to the customer's needs
- OFNR Fiber (Riser) / OFNP Fiber (Plenum)
- Typical IL \leq 0.2 dB
- Patch cords: Diameter 1.2mm / 1.6mm / 2.0mm / 3.0 mm

| Length | 1.2MM | 1.6MM | 2.0MM | 3.0MM | 1.2MM | 1.6MM | 2.0MM | 3.0MM |
|--------------------|----------------|----------------|----------------|----------------|------------|------------|----------------|------------|
| 1 M (≈ 3.3ft) | R880836 | R897940 | R892789 | R897356 | on request | on request | R903937 | on request |
| 1.5 M (≈ 4.9ft) | on request | R898256 | R893539 | R897445 | on request | on request | R903938 | on request |
| 2 M (≈ 6.6ft) | R880837 | R897944 | R892792 | R897359 | on request | on request | R904107 | on request |
| 2.5 M (≈ 8.2ft) | on request | R897958 | R893515 | R897397 | on request | on request | R904108 | on request |
| 3 M (≈ 9.8ft) | R880838 | R897951 | R892793 | R897361 | on request | on request | R904109 | on request |
| 3.5 M (≈ 11.4ft) | on request | R897959 | R893520 | R897398 | on request | on request | R904110 | on request |
| 4 M (≈ 13.1ft) | R880839 | R898257 | R894562 | R897448 | on request | on request | R904111 | on request |
| 4.5 M (≈ 11.4ft) | on request | R898260 | R894563 | R897457 | on request | on request | R904112 | on request |
| 5 M (≈ 16.4ft) | R880840 | R897954 | R892794 | R897373 | on request | on request | R904113 | on request |
| 6 M (≈ 19.7ft) | R880841 | R898251 | R893521 | R897400 | on request | on request | R904114 | on request |
| 7 M (≈ 23.0ft) | R880842 | R897955 | R892795 | R897392 | on request | on request | R904116 | on request |
| 7.5 M (≈ 24.6ft) | on request | R898263 | R894564 | R897464 | on request | on request | R904117 | on request |
| 9 M (≈ 29.5ft) | R880844 | R898252 | R893522 | R897405 | on request | on request | R904118 | on request |
| 10 M (≈ 32.8ft) | R880845 | R897957 | R892796 | R897395 | on request | on request | R904119 | on request |
| 12.5 M (≈ 41.0ft) | on request | R898254 | R893523 | R897420 | on request | on request | R904120 | on request |
| 15 M (≈ 49.2ft) | R880850 | R898255 | R893524 | R897422 | on request | on request | R904121 | on request |
| 20 M (≈ 65.6ft) | on request | R898272 | R893531 | R897467 | on request | on request | R904122 | on request |
| 30 M (≈ 98.4ft) | on request | R898275 | R893532 | R897468 | on request | on request | R904123 | on request |

RISER LCM-LCM

PLENUM LCM-LCM



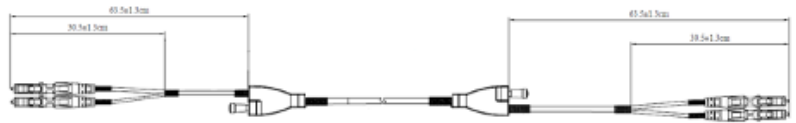
LaserCate 2.0 - Tracer Patch Cords



LazerCate V2 Tracer cables by R&M are an innovative and simple solution to solving the common problem of tracing fiber optic jumper in many of today's crowded network deployments. It is a completely passive solution that requires no special tools or maintenance and can be customized to meet cabling layouts and equipment setup. By connecting a VFL to the launch cable, and then attaching to ferrule on fan-out kit, the other end will glow in red light thanks to the specially designed dust cap on the other end.

Features

- 2.0 mm Simplex main jacket, 2.0mm zip or simplex connector ends based on connector type
- G.657.A2 bend-insensitive single-mode fiber
- Available with LC Duplex, LC Duplex Uniboot Push-Pull Reversible Polarity, or SC Connector Types
- Manufactured to meet GR-326 compliance
- APC polish and other configurations available upon request



Standard breakout lengths are shown.

With these lengths, the fan-out portion is located in the vertical cable manager. Breakout lengths can be adjusted per customer requirement.



**LC Duplex Zip
(Removable Clip)**



**LC Duplex Push-Pull
Polarity Flip w/51mm Tab**



**SC Zip
(Removable Duplex Clip)**

| Criteria | Data/Value |
|------------------------|--|
| Insertion Loss (IL) | ≤ 0.20 dB (<.15 Typical) |
| Return Loss (RL) | ≤ - 55 dB |
| Fiber Type | G657.A2 Singlemode |
| Cable | Zipcord OFNR rated - yellow jacket / blue jacket |
| Connector Type | LC, SC, LC Uniboot Push Pull |
| Polish | UPC or APC |
| Cable Tensile Strength | without tension: 10 x cable Ø : max tension 20x cable Ø |
| Cable diameter (mm) | 2.0 x 4.1 |
| Temperature Range (°C) | Installation: (14° -10 ° to 140 ° (60°) / operation -4 °(-20°) to 158° (70°) |



LaserCate 2.0

| | |
|-------------------------------|----------------|
| LCU-LCU Duplex Push-Pull 2m | R854297 |
| LCU-LCU Duplex 2m | R854266 |
| LCU-SCU 2m | R854296 |
| SCU-SCU 1.2mm Blue 2m | R854268 |
| LCU Duplex Push Pull - SCU 2m | R854267 |



1 Meter Launch Cable

The launch cable is recommended for workflow optimization, but fan-out ferrule may be plugged directly into 2.5mm port of VFL)

R854626

Fiber Optics MPO Trunk Cables



- 12 fibers MPO Fiber Optic Connectors in each side
- Standard fanout length 12"
- Cable diameters: 12F (2.0 mm), 24F (6.3 mm), 48F (6.6 mm), 72F (9.3mm), 144F (10.6mm)
- Available with polarity A or B, Male or Female version
- Test report provided with each set of cables
- Plenum Jacket
- Please call for other lengths

G.657 MPO-MPO Fiber Trunks (Plenum), 10 meters*

| Polarity | Type A MPO | | | Type B MPO | | |
|----------|------------|-------------|---------------|------------|-------------|---------------|
| | Male-Male | Male-Female | Female-Female | Male-Male | Male-Female | Female-Female |
| 12 | R885829 | R885831 | R885832 | R885833 | R885834 | R885835 |
| 24 | R885836 | R885841 | R885846 | R885851 | R885856 | R885861 |
| 48 | R885837 | R885842 | R885847 | R885852 | R885857 | R885862 |
| 72 | R885838 | R885843 | R885848 | R885853 | R885858 | R885863 |
| 96 | R885839 | R885844 | R885849 | R885854 | R885859 | R885864 |
| 144 | R885840 | R885845 | R885850 | R885855 | R885860 | R885865 |

Fiber Optics LC-LC Trunk Cables



- A standard fanout length of 12" on both sides is ideal for connecting switch ports. (can be modified upon request)
- Cable diameters: 12F (2.0 mm), 24F (6.3 mm), 48F (6.6 mm), 72F (9.3mm), 144F (10.6mm)
- Plenum Jacket
- Please call for other lengths

G.657 LC-LC Fiber Trunks (Plenum), 10 meters*

| Fibers/Polishing | UPC | APC |
|------------------|---------|---------|
| 12 LC | R886035 | R886041 |
| 24 LC | R886036 | R886042 |
| 48 LC | R886037 | R886043 |
| 72 LC | R886038 | R886044 |
| 96 LC | R886039 | R886045 |
| 144 LC | R886040 | R886046 |

Fiber Optics MPO-LC Fanout Cables



- Service cables make it possible to mirror switch ports for a central optical cross-connect, connecting the LC duplex side with the network device, then connecting the MPO to an MPO module.
- Standard fanout length 12"(can be modified upon request)
- Various configurations available according to the customer's need
- Cable diameters: 12F (2.0 mm), 24F (6.3 mm), 48F (6.6 mm), 72F (9.3mm), 144F (10.6mm)
- 12 Fiber Optic MPO Connector (In the case of Singlemode, always APC polishing)
- Test report provided with each set of cables
- Plenum Jacket
- Please call for other lengths

G.657 MPO-LC Fiber Trunks (Plenum), 10 meters

| | Male | Female |
|------------|---------|---------|
| 12 LC/UPC | R886011 | R886012 |
| 24 LC/UPC | R886014 | R886013 |
| 48 LC/UPC | R886015 | R886025 |
| 72 LC/UPC | R886016 | R886026 |
| 96 LC/UPC | R886017 | R886027 |
| 144 LC/UPC | R886018 | R886028 |

| | | |
|------------|---------|---------|
| 12 LC/APC | R886024 | R886029 |
| 24 LC/APC | R886023 | R886030 |
| 48 LC/APC | R886022 | R886031 |
| 72 LC/APC | R886021 | R886032 |
| 96 LC/APC | R886020 | R886033 |
| 144 LC/APC | R886019 | R886034 |



Field Tool Polarity/pin MTP PRO

R894227

Outside Plant



Outdoor Street Cabinets



The next generation of R&M FTTx user management is in the street cabinets. The integration of R & M's new ODF distribution modules into street cabinets can be a step forward in user management. Work in this area has never been simpler, safer and more modular. The indoor modularity of the street cabinet helps the growth rate of network users.

The R&M SCM solution offers you the best way to assign and manage your users to the network at any time (up to 576 patches / amendments). In addition, smart and compact cabling management meets high requirements for office equipment density.

Produced with PC reinforced with fiberglass, IP54



Cabinet SCM 4

Houses 1 Splice Module

R512456



Cabinet SCM 8

Houses 1 Combi Module

R512457



Cabinet SCM 15

Houses 2 Combi Modules

R512458

Mounting Accessories - outdoor cabinets



Base Top SCM 4

R513244



Base Top SCM 8

R513246



Base Top SCM 15

R810190



Strain Relief Kit-Street Cabinet SCM

R512463



Guidance Kit Street Cabinet SCM

R512459

Outside Plant



SYNO Gel Dome Closure

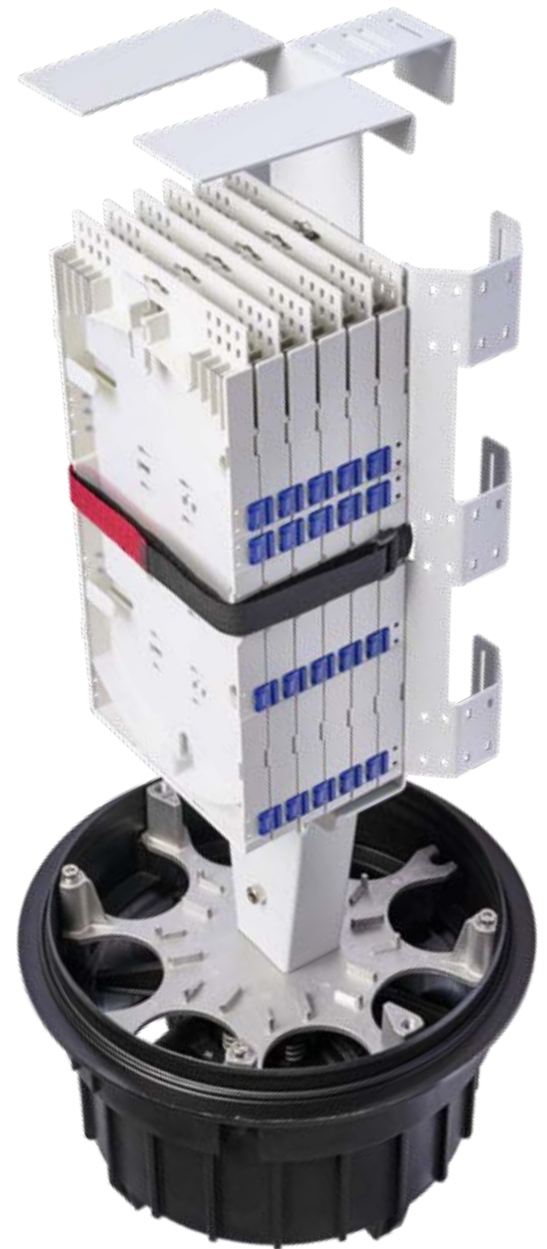
The R&M SYNO Dome Closure is a high-quality connection with which our customers are better prepared for the future of ever faster networks

Benefits

- Cold-sealing technology
- High degree of flexibility
- Fast and intuitive installation
- For cable and micro duct networks

Features

- Single and Ribbon Fiber based closures
- Cable entries from 1 mm up to 28 mm
- Micro duct entries for 5, 7, 10, 12 and 14 mm
- Re-usable cable entry ports based on gel technology
- Strain relief for each cable
- Can be individually equipped with SC, SE, MCM or splitter trays



Flexible closure with cold-sealing technology

The SYNO dome closure fulfills all requirements of a modern FO network with the innovative gel technology. The SYNO closure is particularly characterized by its unique modularity and flexibility.

Thanks to the modular design, the closure can be adapted or extended at any time – even during operation.

Outside Plant

SYNO Dome Closure



Scope of Delivery

- Closure complete prepared for tray assembly
- Closure dome including sealing ring clamp
- Clamp
- Loose tube tray kit for loop storage
- Splice Tray cover kit incl. Accessories
- Desiccant 2x 20g (silica gel bags)
- Diameter = 250mm/10 in.



Ribbon Version (R2R) - supplied with 1 tray, cable entry kits need to be ordered separately.
Single Fiber (SF) Version - trays and cable entry kits need to be ordered separately.

| Product Code | Number of trays | Part No. |
|---------------|--|----------|
| SYNO S-500 | 1 tray included, up to 6 trays, gel sealing | R900370 |
| SYNO S-500 HD | 1 tray included, up to 8 trays, gel sealing | R900371 |
| HSC S-500 | 1 tray included, up to 6 trays, heatshrink sealing | R900450 |
| HSC S-500 HD | 1 tray included, up to 8 trays, heatshrink sealing | R900451 |

Cable Entry kits for Dome Closure



SYNO D25 Entry Kit

1x 25-28mm (0.98"-1.1")

R812567



SYNO D25 Entry Kit

1x 20-25mm (0.79"-0.98")

R812566



SYNO D25 Entry kit

1x 12-21mm (0.47"-0.83")

R812565



SYNO D25 Entry kit

2x 7-14mm (0.28"-0.55")

R812564



SYNO D25 Entry Kit

4x 5-8mm (0.2"-3.1")

R812563



SYNO D25 Entry Kit

8x 3-5mm (0.12"-0.2")

R812562



SYNO D25 Entry Kit

16x 2-3mm (0.08"-0.12")

R812561



SYNO D25 Entry Kit

Blind

R812568



S-500 Common Grounding

Common

R900378



S-500 Tracing Module

up to 8 cables

R900379

Splice & Splitter Trays Syno S-500



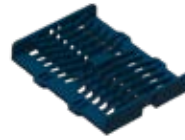
Mass Fiber Tray, ST-500

| | |
|----------------|----------------|
| Basic Set | R900372 |
| Additional Set | R900373 |



Ribbon Splice Holder

| | |
|------------------|----------------|
| STH-500-R | R900374 |
| Splice Sleeve RB | R273620 |



Single Fiber Splice Holder

| | |
|------------------|----------------|
| STH-500-S | R900375 |
| Splice Sleeve SF | R261823 |



Splitter Holder

| | |
|-----------|----------------|
| STH-500-P | R900376 |
|-----------|----------------|

Accessories for SYNO Closure



Water-Gas-Termination WGT12

| | |
|-----------|----------------|
| 5,6-6,6mm | R821234 |
|-----------|----------------|



Water-Gas-Termination WGT10

| | |
|-----------|----------------|
| 5,6-6,6mm | R821233 |
|-----------|----------------|



SYNO Grounding Terminal

| | |
|--|----------------|
| | R812570 |
|--|----------------|



Numbering Clips for SCM

| | |
|-------|----------------|
| 1-12 | R510084 |
| 13-24 | R511963 |
| 25-36 | R511964 |
| 37-48 | R512402 |



Color Clips for SCM Tray

| | |
|--------|----------------|
| Green | R508346 |
| Blue | R508347 |
| Red | R508343 |
| Yellow | R508345 |



Wall/Pole fixing bracket

| |
|----------------|
| R812569 |
|----------------|



Syno External cable support

| |
|----------------|
| R812571 |
|----------------|



SYNO installation Support

| | |
|-----------|----------------|
| Syno S500 | R900384 |
| Syno SCM | R812572 |

S-500 Common Grounding Cables

| | |
|-----------------|----------------|
| 5 to 11mm (2pc) | R900381 |
| 12-28mm (2pc) | R900382 |

Outside Plant

ZOONA Dome Closures 48F



ZOONA Closure with IP68 rubber sealing technology for reliable and quick installation with 4 trays position (4TPU). The closure provides entry points for 1xloop installation and up to 12x single cables. Various cable entry kits enable dome closures to be adjusted to individual requirements at any time.

Scope of Delivery

- fiber management R30 with 4 TPU
- splice area for 4 splices in fiber management
- splitter storage space in fiber management
- all ports sealed
- installation manual

ZOONA STP4/HS

R878261

QIK Cable Entry Kits for ZOONA Closure



QIKseal entry Kits (round)

| | |
|---------------------|---------|
| 2-3mm/0.08-0.12" | R878263 |
| 3-6mm/0.12-0.24" | R878264 |
| 6-8.5mm/0.24-0.33" | R878265 |
| 4.5x8.1mm/Flat Drop | R900366 |



QIKseal entry Kits (oval)

| | |
|--------------------------|---------|
| 2x6-9mm/2x0.24-0.35" | R878831 |
| 2x9-12.5mm/2x0.35-0.49" | R878832 |
| 2x12.5-16mm/2x0.35-0.63" | R878833 |



Accessories

| | |
|---------------------|---------|
| Pole Fixing Bracket | R878269 |
| Cable Support | R878270 |

FMTS Splice Trays



FMTS Splice Tray HS

| | |
|------------------|---------|
| up to 12FO (1pc) | R895101 |
|------------------|---------|



FMTS Splitter & Adapter tray

| | |
|------------------|---------|
| up to 4 adapters | R878838 |
|------------------|---------|



FMTS Splitter Tray

| | |
|-------------------------|---------|
| Splice & Splitter (6pc) | R820097 |
|-------------------------|---------|



FMTS Tray Cover

| | |
|------------------------|---------|
| used to cover top tray | R895103 |
|------------------------|---------|



Labelling Sheet

R830898

RMSC Splice Closure - Mechanical

The Mechanical Splice Closure 12/144 FO has a IP68 protection, which gives full guarantee to the splices of fiber optic cables in all environments. Its mechanical lock and sealing system allows for multiple cable installations (maintenance or new installations of backbone fiber cables or subscriber drop cables), without losing the degree of water tightness and its application does not require any type of accessory or equipment to close and seal the inlets and outputs of the cables.

Main Technical Characteristics:

- Possibility to received up to 6 modular splice trays that can receive single fiber or splitter/rollable ribbon splice holders.
- Each modular splice tray can receive 2 splice holders, with the capacity of 12 fibers each, bringing the overall capacity up to 144 splices using single fiber cables. Using rollable fiber cable, the capacity would be of 48 fibers per tray, reaching 288 splice per closure.
- The splitter holder (optional) can receive 2 PLC-Type Splitters and can be used next to single fiber splice holder. The splitter holder can also be used as a rollable ribbon splice holder.
- The modular splice trays have separate areas for storage, targeting and protection of fibers, besides being 'interchangeable', enabling the transport of fibers between installed trays, through transport tubes.
- It features a slack basket tray for accommodation of undistributed loose tubes.
- The assembly of the base and the dome (cover) is done by a mechanical system and seal with O-Ring



RMSC Closure 12/144 FO

R886223

Supplied with:
1 Fiber Tray for 24 Single Fiber
1 Slack Basket

RMSC Splice Closure - Cable Kits and Accessories



Splice Tray

12/24 FO

R886224



Splice/Splitter & Adapter Tray

Up to 8 SC or LCD

R889194



Wall or Aerial Mount

slack managment

R886226



Splitter / Ribbon Chip

R886285



Main Cable Entry (spare)

2 of 14mm

R886225



Single Cable Entry

1 of 12mm

R886140



Round Drop Cable

6 of 5mm

R886280



Single Fiber Flat Drop Cable

9 of 2x3mm

R886141

Outside Plant

RIO Optical Termination Box

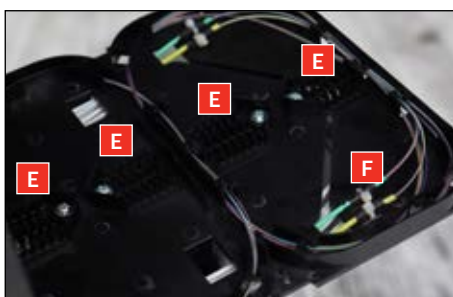
A new two-piece box concept (box + internal tray), which allows for easy and independent installation of the box and field splicing.

Easy to install and maintain, the internal tray can be removed without removing the box, allowing, for example, to install the box on the strand or pole, and the connections later below, so that the leftover cable can be more reduced.

When installed, and in case of maintenance, the installer can disassemble the inner tray and carry out maintenance on the ground, more safely.

Features:

- Installation on poles, ropes or facades
- Internal tray that can receive up to 16 SC, E2000 or LC Duplex adapters
- Separate zones for loop, splicing, splitters and drop cable operation
- Individual access to the Drop cable area
- Ability to receive up to 3 splitters providing flexibility for various network configurations
- No special tools required for installation;
- Degree of protection IP67



A Tray up to 16 adapters

B Drop cable with anti-memory seal

C 5 Cable Inputs/Outputs

D Universal cable fixing accessory

E Optical Splice Cradle (2 included)

F Cable Inputs/Outputs in Tray

G Upto 3 splitters

H Cable release locking system

I Perfect orientation of the cables, keeping the radius of curvature

J Space dedicated to the entry of cables and transport tubes

RIO Optical Termination Box (Empty)



RIO BOX (Empty)

- Supply:
- RIO box
 - Internal Cable Drop Tray
 - Aerial mounting kit
 - Mounting accessory kit

R887617



GPON Optical Splitter

| | |
|-------------|----------------|
| 1x8 SC/APC | R886291 |
| 1x8 SC/UPC | R886301 |
| 1x16 SC/APC | R886290 |
| 1x16 SC/UPC | R886293 |



Adapters

| | |
|--------|----------------|
| SC/APC | R803945 |
| SC/UPC | R804274 |

RIO Optical Termination Box (preconfigured)



RIO BOX 08 (1:8) SC/APC

- Supply:
- RIO box
 - Internal Cable Drop Tray
 - Aerial mounting kit
 - Mounting accessory kit
 - 8 SC/APC Adapters
 - 1 GPON Splitter 1x8 SC/APC

R887620



RIO BOX 16 (2x1:8) SC/APC

- Supply:
- RIO box
 - Internal Cable Drop Tray
 - Aerial mounting kit
 - Mounting accessory kit
 - 16 SC/APC Adapters
 - 2 GPON Splitters 1x8 SC/APC

R887622

RIO BOX 16 (1:16) SC/APC

- Supply:
- RIO box
 - Internal Cable Drop Tray
 - Aerial mounting kit
 - Mounting accessory kit
 - 16 SC/APC Adapters
 - 1 GPON Splitter 1x16 SC/APC

R887624



RIO BOX 08 (1:8) SC/UPC

- Supply:
- RIO box
 - Internal Cable Drop Tray
 - Aerial mounting kit
 - Mounting accessory kit
 - 8 SC/UPC Adapters
 - 1 GPON Splitter 1x8 SC/UPC

R888038



RIO BOX 16 (2x1:8) SC/UPC

- Supply:
- RIO box
 - Internal Cable Drop Tray
 - Aerial mounting kit
 - Mounting accessory kit
 - 16 SC/UPC Adapters
 - 2 GPON Splitters 1x8 SC/UPC

R887626

RIO BOX 16 (1:16) SC/UPC

- Supply:
- RIO box
 - Internal Cable Drop Tray
 - Aerial mounting kit
 - Mounting accessory kit
 - 16 SC/UPC Adapters
 - 1 GPON Splitter 1x16 SC/UPC

R887628

RIO Optical Termination Box with colored trays (by request)





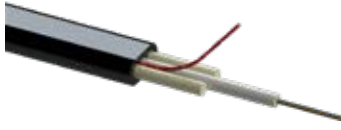


Tray Colors

- Black
- Red
- Blue
- Orange
- Green
- Grey
- Yellow

| | |
|--------|-----------|
| Black | PT |
| Red | VM |
| Blue | AZ |
| Orange | LJ |
| Green | VD |
| Grey | CZ |
| Yellow | AM |

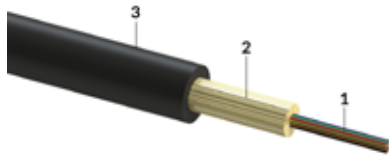
Outside Plant

R&M Fiber Optic Cables

| Cable Type | Cable Family | Page | Application | Cable Sheath Material | Fiber Count | Loose Tube Count | Loose Tube Ø [mm] |
|--|----------------|------|--------------------|-----------------------|-------------|------------------|-------------------|
| MiniCore Façade Cable - Cca graded  | UAF250 FiRis | 76 | universal- facade | FRLSZH - UV stable | 6 | n.a. | n.a. |
| | UAF250 FiRis | 76 | universal- facade | FRLSZH - UV stable | 12 | n.a. | n.a. |
| | UAF 1000 FiRis | 78 | universal- facade | FRLSZH - UV stable | 2 | n.a. | n.a. |
| | UAF 1000 FiRis | 78 | universal- facade | FRLSZH - UV stable | 8 | n.a. | n.a. |
| | UAF 1000 FiRis | 78 | universal- facade | FRLSZH - UV stable | 12 | n.a. | n.a. |
| MiniCore Aerial Drop Cable - Short Span  | UAF250 | 80 | universal - aerial | FRLSZH - UV stable | 6 | n.a. | n.a. |
| | UAF250 | 80 | universal - aerial | FRLSZH - UV stable | 12 | n.a. | n.a. |
| | UAF1000 | 82 | universal - aerial | FRLSZH - UV stable | 2 | n.a. | n.a. |
| | UAF1000 | 82 | universal - aerial | FRLSZH - UV stable | 8 | n.a. | n.a. |
| | UAF1000 | 82 | universal - aerial | FRLSZH - UV stable | 12 | n.a. | n.a. |
| Flat ADSS Loose Tube Cable - Short Span  | ST1fH | 84 | outdoor - aerial | HDPE - UV stable | 12 | 1 | 1.9 |
| Flat ADSS TWIN Loose Tube Cable - Short Span  | ST2fH | 86 | outdoor - aerial | HDPE - UV stable | 24 | 2 | 1.9 |
| FTTH Micro Cable  | MT1RF | 88 | universal | FRLSZH - UV stable | 4 | 1 | 1.2 |

| Cable Ø [mm] | Cable Weight [kg / km] | Tensile Performance Short [N] | Crush Performance Short [N/100mm] | Temperatur Range in Operation | CPR Classification | DoP Number | Warranty Classification |
|--------------|------------------------|-------------------------------|-----------------------------------|-------------------------------|--------------------|------------|-------------------------|
| 2.8 | 13.0 | 250 | 1000 | -10 °C ÷ +60 °C | Cca-s2,d0,a1 | D9084 | product warranty |
| 3.2 | 11.0 | 250 | 1000 | -10 °C ÷ +60 °C | Cca-s2,d0,a1 | D9084 | product warranty |
| 3.2 | 11.0 | 1000 | 1000 | -10 °C ÷ +60 °C | Cca-s2,d0,a1 | D9085 | product warranty |
| 3.6 | 13.0 | 1000 | 1000 | -10 °C ÷ +60 °C | Cca-s2,d0,a1 | D9085 | product warranty |
| 3.8 | 14.0 | 1000 | 1000 | -10 °C ÷ +60 °C | Cca-s2,d0,a1 | D9085 | product warranty |
| 2.8 | 13.0 | 250 | 1000 | -20 °C ÷ +70 °C | Fca | D9010 | product warranty |
| 3.2 | 11.0 | 250 | 1000 | -20 °C ÷ +70 °C | Fca | D9010 | product warranty |
| 3.2 | 11.0 | 1000 | 1000 | -20 °C ÷ +70 °C | Fca | D9011 | product warranty |
| 3.6 | 13.0 | 1000 | 1000 | -20 °C ÷ +70 °C | Fca | D9011 | product warranty |
| 3.8 | 14.0 | 1000 | 1000 | -20 °C ÷ +70 °C | Fca | D9011 | product warranty |
| 8.0 x 4.0 | 38.0 | 1600 | 4000 | -40 °C ÷ +70 °C | Fca | D9971 | product warranty |
| 9.8 x 4.0 | 59.0 | 1600 | 4000 | -40 °C ÷ +70 °C | Fca | D9972 | product warranty |
| 3.0 | 11.0 | 150 | 500 | -20 °C ÷ +70 °C | Fca | D9038 | product warranty |

MiniCore Facade Cable – Cca graded



1. Optical fibers
2. Aramid yarn
3. FRLSZH UV stable outer jacket

General Description

Non-metallic FTTH drop cable with up to 12 fibers for indoor or outdoor duct, façade or aerial short span installation. In addition, this cable construction has a „Cca“ CPR classification and is therefore a true universal cable that can also be installed in buildings without further problems.

Construction and Dimension

| Cable family code | UAF250 FiRis | UAF250 FiRis |
|--------------------------------|--|--------------|
| Fiber count | 6 | 12 |
| Outer sheath thickness | 0.8 mm | 0.8 mm |
| Cable outer diameter | 2.8 mm | 3.2 mm |
| Cable weight | 9 kg / km | 11 kg / km |
| Outer sheath material | UV stable FRLSZH | |
| Sheath color | black | |
| Sheath marking method, color | Ink-Jet, white | |
| Fiber types available | Bend optimized singlemode fibers (G.657.A1, G.657.A2) | |
| Fiber color coding (IEC 60304) | 1.-12.: red, green, blue, yellow, white, grey, brown, violet, turquoise, black, orange, pink | |
| DIN / VDE Code | U-(ZN)H | |
| Standard put-up length * | 2100 m ± 5 % | |

* other put-up length available on special request

Order Information

| Cable Family | Fiber Count | G.657.A1 * |
|--------------|-------------|------------|
| UAF250 FiRis | 2 | 857713 |
| | 4 | 857714 |
| | 6 | 857715 |
| | 8 | 857716 |
| | 12 | 857717 |

other fiber counts and/or fiber types available on request

Mechanical Data

| Test | Test Method | Value / Value Range | Acceptance Criteria * |
|---|---------------------|--|--|
| Tensile performance – in service | IEC 60794-1-21:E1 | 250 N (max. allow-able tension) | $\Delta\alpha \leq 0,05$ dB |
| Crush resistance - long term | IEC 60794-1-21:E3A | 500 N / 100 mm | $\Delta\alpha \leq 0,05$ dB prior release, no damage |
| Crush resistance - short term | IEC 60794-1-21:E3A | 1000 N / 100 mm | $\Delta\alpha \leq 0,05$ dB after release, no damage |
| Impact resistance | IEC 60794-1-21:E4 | 3 Nm, 3 impacts, d=20 mm, R=300 mm | $\Delta\alpha \leq 0,05$ dB after test, no damage |
| Torsion | IEC 60794-1-21:E7 | L = 2 m, rotation angle $\pm 180^\circ$, 5 cycles | no damage |
| Cable bend - no tension | IEC 60794-1-21:E11A | d=15 x cable diameter, 4 turns, 3 cycles | $\Delta\alpha \leq 0,05$ dB after test, no damage |
| Repeated bending | IEC 60794-1-21:E6 | R=20 x cable diameter, 25 cycles | no damage |
| Maximal recommended span | Telenco clamp 7593 | 40 m (min. sag 60 cm), max. allow-able tension | $\Delta\alpha \leq 0,05$ dB, no damage |
| Minimum bend radius – in service | | 55 mm | |
| Minimum bend radius – during installation | | 75 mm | |

Climatic Data

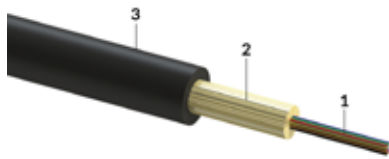
| Test | Test Method | Value / Value Range | Acceptance Criteria * |
|---------------------|--------------------|--|---|
| Temperature cycling | IEC 60794-1-22:F1 | - 20°C ÷ + 60°C | $\Delta\alpha \leq 0,05$ dB |
| Temperature range | | - 5°C ÷ + 50°C - 20°C ÷ + 60°C - 25°C ÷ + 60°C | during installation in service in storage & transport |
| Water penetration | IEC 60794-1-22 F5B | L = 3 m, h = 1 m, 24 h | no water leakage |
| Expected lifetime | | minimum 30 years | |

* IEC 60794-3-10, IEC 60794-3-11

Fire Properties

| Test | Value / Value Range | Test Method |
|--------------------------------------|---------------------|--------------------------|
| Euro classification to CPR | Cca-s2,d0,a1 | EN 50575, EN 13501-6 |
| Declaration of performance number | D9084 | |
| Flammability - vertical single cable | Pass | IEC 60332-1-2 |
| Smoke density | Pass | IEC 61034-1, IEC 61034-2 |
| Halogen free, acid gases | Pass | IEC 60754-2 |
| 2015 / 863 / EU - RoHS 3 | conform | |
| 1907 / 2006 / EU - REACH | conform | |

MiniCore Facade Cable – Cca graded



1. Optical fibers
2. Aramid strength members
3. FRLSZH UV stable outer jacket

General Description

Non-metallic FTTH drop cable with up to 12 fibers for outdoor duct, façade or aerial short span installation. Additionally, this cable construction features an intensified tensile force compared to the UAF250 construction. What's more, this cable construction has a „Cca“ CPR classification and is therefore a true universal cable that can also be installed in buildings without further problems.

Construction and Dimension

| Cable family code | UAF1000 FiRis | UAF1000 FiRis | UAF1000 FiRis |
|--------------------------------|--|---------------|---------------|
| Fiber count | 2 | 8 | 12 |
| Outer sheath thickness | 0.8 mm | 0.8 mm | 0.8 mm |
| Cable outer diameter | 3.2 mm | 3.6 mm | 3.8 mm |
| Cable weight | 11 kg / km | 13 kg / km | 14 kg / km |
| Outer sheath material | UV stable FRLSZH | | |
| Sheath color | black | | |
| Sheath marking method, color | Ink-Jet, white | | |
| Fiber types available | Bend optimized singlemode fibers (G.657.A1, G.657.A2) | | |
| Fiber color coding (IEC 60304) | 1.-12.: red, green, blue, yellow, white, grey, brown, violet, turquoise, black, orange, pink | | |
| DIN / VDE Code | U-(ZN)H | | |
| Standard put-up length * | 2100 m ± 5 % | | |

* other put-up length available on special request

Order Information

| Cable Family | Fiber Count | G.657.A1 * |
|----------------|-------------|------------|
| UAF 1000 FiRis | 2 | 857731 |
| | 4 | 857732 |
| | 6 | 857733 |
| | 8 | 857734 |
| | 12 | 857735 |

other fiber counts and/or fiber types available on request

Mechanical Data

| Test | Test Method | Value / Value Range | Acceptance Criteria * |
|---|---------------------|--|--|
| Tensile performance – in service | IEC 60794-1-21:E1 | 1000 N (max. allow-able tension) | $\Delta\alpha \leq 0,05$ dB |
| Crush resistance - long term | IEC 60794-1-21:E3A | 500 N / 100 mm | $\Delta\alpha \leq 0,05$ dB prior release, no damage |
| Crush resistance - short term | IEC 60794-1-21:E3A | 1000 N / 100 mm | $\Delta\alpha \leq 0,05$ dB after release, no damage |
| Impact resistance | IEC 60794-1-21:E4 | 3 Nm, 3 impacts, d=20 mm, R=300 mm | $\Delta\alpha \leq 0,05$ dB after test, no damage |
| Torsion | IEC 60794-1-21:E7 | L = 2 m, rotation angle $\pm 180^\circ$, 5 cycles | no damage |
| Cable bend - no tension | IEC 60794-1-21:E11A | d=15 x cable diameter, 4 turns, 3 cycles | $\Delta\alpha \leq 0,05$ dB after test, no damage |
| Repeated bending | IEC 60794-1-21:E6 | R=20 x cable diameter, 25 cycles | no damage |
| Maximal recommended span | Telenco clamp 7593 | 60 m (min. sag 90 cm), max. allow-able tension | $\Delta\alpha \leq 0,05$ dB, no damage |
| Minimum bend radius – in service | | 55 mm | |
| Minimum bend radius – during installation | | 75 mm | |

Climatic Data

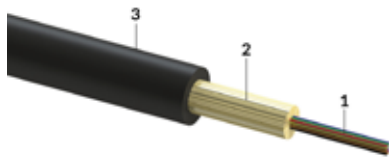
| Test | Test Method | Value / Value Range | Acceptance Criteria * |
|---------------------|--------------------|--|---|
| Temperature cycling | IEC 60794-1-22:F1 | - 20°C ÷ + 60°C | $\Delta\alpha \leq 0,05$ dB |
| Temperature range | | - 5°C ÷ + 50°C - 20°C ÷ + 60°C - 25°C ÷ + 60°C | during installation in service in storage & transport |
| Water penetration | IEC 60794-1-22 F5B | L = 3 m, h = 1 m, 24 h | no water leakage |
| Expected lifetime | | minimum 30 years | |

* IEC 60794-3-10, IEC 60794-3-11

Fire Properties

| Test | Value / Value Range | Test Method |
|--------------------------------------|---------------------|--------------------------|
| Euro classification to CPR | Cca-s2,d0,a1 | EN 50575, EN 13501-6 |
| Declaration of performance number | D9085 | |
| Flammability - vertical single cable | Pass | IEC 60332-1-2 |
| Smoke density | Pass | IEC 61034-1, IEC 61034-2 |
| Halogen free, acid gases | Pass | IEC 60754-2 |
| 2015 / 863 / EU - RoHS 3 | conform | |
| 1907 / 2006 / EU - REACH | conform | |

MiniCore Aerial Drop Cable – Short Span



1. Optical fibers
2. Aramid yarn
3. FRLSZH UV stable outer jacket

General Description

Non-metallic FTTH drop cable with up to 12 fibers for indoor, aerial short span, façade or outdoor duct installation.

Construction and Dimension

| Cable family code | UAF250 | UAF250 |
|--------------------------------|--|------------|
| Fiber count | 6 | 12 |
| Outer sheath thickness | 0.8 mm | 0.8 mm |
| Cable outer diameter | 2.8 mm | 3.2 mm |
| Cable weight | 9 kg / km | 11 kg / km |
| Outer sheath material | UV stable FRLSZH | |
| Sheath color | black | |
| Sheath marking method, color | Ink-Jet, white | |
| Fiber types available | Bend optimized singlemode fibers (G.657.A1, G.657.A2) | |
| Fiber color coding (IEC 60304) | 1.-12.: red, green, blue, yellow, white, grey, brown, violet, turquoise, black, orange, pink | |
| DIN / VDE Code | U-(ZN)H | |
| Standard put-up length * | 2100 m ± 5 % | |

* other put-up length available on special request

Order Information

| Cable Family | Fiber Count | G.657.A1 * |
|--------------|-------------|------------|
| UAF250 | 2 | 857705 |
| | 4 | 857706 |
| | 6 | 851161 |
| | 8 | 857707 |
| | 12 | 851162 |

other fiber counts and/or fiber types available on request

Mechanical Data

| Test | Test Method | Value / Value Range | Acceptance Criteria * |
|---|---------------------|--|--|
| Tensile performance – in service | IEC 60794-1-21:E1 | 250 N (max. allow-able tension) | $\Delta\alpha \leq 0,05$ dB |
| Crush resistance - long term | IEC 60794-1-21:E3A | 500 N / 100 mm | $\Delta\alpha \leq 0,05$ dB prior release, no damage |
| Crush resistance - short term | IEC 60794-1-21:E3A | 1000 N / 100 mm | $\Delta\alpha \leq 0,05$ dB after release, no damage |
| Impact resistance | IEC 60794-1-21:E4 | 3 Nm, 3 impacts, d=20 mm, R=300 mm | $\Delta\alpha \leq 0,05$ dB after test, no damage |
| Torsion | IEC 60794-1-21:E7 | L = 2 m, rotation angle $\pm 180^\circ$, 5 cycles | no damage |
| Cable bend - no tension | IEC 60794-1-21:E11A | d=15 x cable diameter, 4 turns, 3 cycles | $\Delta\alpha \leq 0,05$ dB after test, no damage |
| Repeated bending | IEC 60794-1-21:E6 | R=20 x cable diameter, 25 cycles | no damage |
| Maximal recommended span | Telenco clamp 7593 | 40 m (min. sag 60 cm), max. allow-able tension | $\Delta\alpha \leq 0,05$ dB, no damage |
| Minimum bend radius – in service | | 55 mm | |
| Minimum bend radius – during installation | | 75 mm | |

Climatic Data

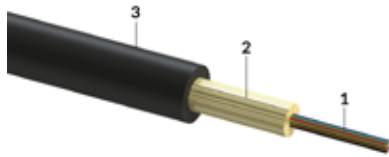
| Test | Test Method | Value / Value Range | Acceptance Criteria * |
|---------------------|--------------------|--|---|
| Temperature cycling | IEC 60794-1-22:F1 | - 20°C ÷ + 60°C | $\Delta\alpha \leq 0,05$ dB |
| Temperature range | | - 5°C ÷ + 50°C - 20°C ÷ + 60°C - 25°C ÷ + 60°C | during installation in service in storage & transport |
| Water penetration | IEC 60794-1-22 F5B | L = 3 m, h = 1 m, 24 h | no water leakage |
| Expected lifetime | | minimum 30 years | |

* IEC 60794-3-10, IEC 60794-3-11

Fire Properties

| Test | Value / Value Range | Test Method |
|-----------------------------------|---------------------|----------------------|
| Euro classification to CPR | Fca | EN 50575, EN 13501-6 |
| Declaration of performance number | D9010 | |
| 2015 / 863 / EU - RoHS 3 | conform | |
| 1907 / 2006 / EU - REACH | conform | |

MiniCore Aerial Drop Cable – Short Span



1. Optical fibers
2. Aramid strength members
3. FRLSZH UV stable outer jacket

General Description

Non-metallic FTTH drop cable with up to 12 fibers for indoor, aerial short span, façade or outdoor duct installation. Additionally, this cable construction features an intensified tensile force and thus a longer short span length compared to the UAF250 construction.

Construction and Dimension

| Cable family code | UAF1000 | UAF1000 | UAF1000 |
|--------------------------------|--|------------|------------|
| Fiber count | 2 | 8 | 12 |
| Outer sheath thickness | 0.8 mm | 0.8 mm | 0.8 mm |
| Cable outer diameter | 3.2 mm | 3.6 mm | 3.8 mm |
| Cable weight | 11 kg / km | 13 kg / km | 14 kg / km |
| Outer sheath material | UV stable FRLSZH | | |
| Sheath color | black | | |
| Sheath marking method, color | Ink-Jet, white | | |
| Fiber types available | Bend optimized singlemode fibers (G.657.A1, G.657.A2) | | |
| Fiber color coding (IEC 60304) | 1.-12.: red, green, blue, yellow, white, grey, brown, violet, turquoise, black, orange, pink | | |
| DIN / VDE Code | U-(ZN)H | | |
| Standard put-up length * | 2100 m ± 5 % | | |

* other put-up length available on special request

Order Information

| Cable Family | Fiber Count | G.657.A1 * |
|--------------|-------------|------------|
| UAF 1000 | 2 | 857723 |
| | 4 | 857724 |
| | 6 | 851164 |
| | 8 | 857725 |
| | 12 | 851165 |

other fiber counts and/or fiber types available on request

Mechanical Data

| Test | Test Method | Value / Value Range | Acceptance Criteria * |
|---|---------------------|--|--|
| Tensile performance – in service | IEC 60794-1-21:E1 | 1000 N (max. allow-able tension) | $\Delta\alpha \leq 0,05$ dB |
| Crush resistance - long term | IEC 60794-1-21:E3A | 500 N / 100 mm | $\Delta\alpha \leq 0,05$ dB prior release, no damage |
| Crush resistance - short term | IEC 60794-1-21:E3A | 1000 N / 100 mm | $\Delta\alpha \leq 0,05$ dB after release, no damage |
| Impact resistance | IEC 60794-1-21:E4 | 3 Nm, 3 impacts, d=20 mm, R=300 mm | $\Delta\alpha \leq 0,05$ dB after test, no damage |
| Torsion | IEC 60794-1-21:E7 | L = 2 m, rotation angle $\pm 180^\circ$, 5 cycles | no damage |
| Cable bend - no tension | IEC 60794-1-21:E11A | d=15 x cable diameter, 4 turns, 3 cycles | $\Delta\alpha \leq 0,05$ dB after test, no damage |
| Repeated bending | IEC 60794-1-21:E6 | R=20 x cable diameter, 25 cycles | no damage |
| Maximal recommended span | Telenco clamp 7593 | 60 m (min. sag 90 cm), max. allow-able tension | $\Delta\alpha \leq 0,05$ dB, no damage |
| Minimum bend radius – in service | | 55 mm | |
| Minimum bend radius – during installation | | 75 mm | |

Climatic Data

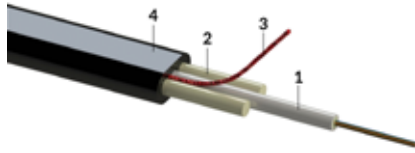
| Test | Test Method | Value / Value Range | Acceptance Criteria * |
|---------------------|--------------------|--|---|
| Temperature cycling | IEC 60794-1-22:F1 | - 20°C ÷ + 60°C | $\Delta\alpha \leq 0,05$ dB |
| Temperature range | | - 5°C ÷ + 50°C - 20°C ÷ + 60°C - 25°C ÷ + 60°C | during installation in service in storage & transport |
| Water penetration | IEC 60794-1-22 F5B | L = 3 m, h = 1 m, 24 h | no water leakage |
| Expected lifetime | | minimum 30 years | |

* IEC 60794-3-10, IEC 60794-3-11

Fire Properties

| Test | Value / Value Range | Test Method |
|-----------------------------------|---------------------|----------------------|
| Euro classification to CPR | Fca | EN 50575, EN 13501-6 |
| Declaration of performance number | D9011 | |
| 2015 / 863 / EU - RoHS 3 | conform | |
| 1907 / 2006 / EU - REACH | conform | |

Flat ADSS TWIN Loose Tube Cable – Short Span



1. Gel filled PBT loose tube with optical fibers
2. FRP strength members
3. Rip-cord
4. HDPE UV stable outer jacket

General Description

Non-metallic and flat self-supporting loose tube cable in a uni-tube construction for up to 12 fibers. The cable is built for outdoor aerial or direct buried installation.

Construction and Dimension

| | |
|--------------------------------|--|
| Cable family code | ST1fH |
| Loose tube diameter | 1.9 mm |
| Fiber count per tube | 12 |
| Outer sheath thickness | 1.0 mm |
| Cable outer diameter | 8.0 x 4.0 mm |
| Cable weight | 38 kg / km |
| Outer sheath material | UV stable HDPE |
| Sheath color | black |
| Sheath marking method, color | Ink-Jet, white |
| Fiber types available | Bend optimized singlemode fibers (G.657.A1) |
| Fiber color coding (IEC 60304) | 1.-12.: red, green, blue, yellow, white, grey, brown, violet, turquoise, black, orange, pink |
| DIN / VDE Code | A-D(ZN)2YT (2FRP 2,0) |
| Standard put-up length * | 2100 m ± 5% |

* other put-up length available on special request

Order Information

| Cable Family | Fiber Count | G.657.A1 * |
|--------------|-------------|------------|
| ST1fH | 1 x 2 (2) | 857698 |
| | 1 x 4 (4) | 857699 |
| | 1 x 6 (6) | 857700 |
| | 1 x 8 (8) | 857701 |
| | 1 x 12 (12) | 851140 |

Mechanical Data

| Test | Test Method | Value / Value Range | Acceptance Criteria * |
|---|---------------------|--|--|
| Tensile performance – in service | IEC 60794-1-21:E1 | 1600 N (max. allow-able tension) | $\Delta\alpha \leq 0,05$ dB |
| Crush resistance - long term | IEC 60794-1-21:E3A | 2000 N / 100mm | $\Delta\alpha \leq 0,05$ dB prior release, no damage |
| Crush resistance - short term | IEC 60794-1-21:E3A | 4000 N / 100mm | $\Delta\alpha \leq 0,05$ dB after release, no damage |
| Impact resistance | IEC 60794-1-21:E4 | 10Nm, 3 impacts, d=20mm, R=300mm | $\Delta\alpha \leq 0,05$ dB after test, no damage |
| Torsion | IEC 60794-1-21:E7 | L = 2 m, rotation angle $\pm 180^\circ$, 5 cycles | no damage |
| Cable bend - no tension | IEC 60794-1-21:E11A | R=150mm, 4 turns, 3 cycles | $\Delta\alpha \leq 0,05$ dB after test, no damage |
| Repeated bending | IEC 60794-1-21:E6 | R=150mm, 25 cycles | no damage |
| Maximal recommended span | Telenco clamp 5126 | 80 m (min. sag 1 m), max. allow-able tension | $\Delta\alpha \leq 0,05$ dB, no damage |
| Minimum bend radius – in service | | 120mm | |
| Minimum bend radius – during installation | | 160mm | |

Climatic Data

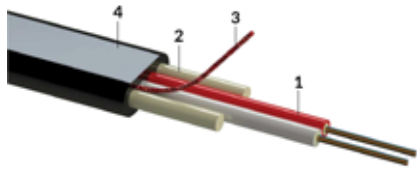
| Test | Test Method | Value / Value Range | Acceptance Criteria * |
|---------------------|--------------------|--|---|
| Temperature cycling | IEC 60794-1-22:F1 | - 40°C ÷ + 70°C | $\Delta\alpha \leq 0,05$ dB |
| Temperature range | | - 5°C ÷ + 50°C - 40°C ÷ + 70°C - 40°C ÷ + 70°C | during installation in service in storage & transport |
| Water penetration | IEC 60794-1-22 F5B | L = 3 m, h = 1 m, 24 h | no water leakage |
| Expected lifetime | | minimum 30 years | |

* IEC 60794-3-10, IEC 60794-3-11

Fire Properties

| Test | Value / Value Range | Test Method |
|-----------------------------------|---------------------|----------------------|
| Euro classification to CPR | Fca | EN 50575, EN 13501-6 |
| Declaration of performance number | D9971 | |
| 2015 / 863 / EU - RoHS 3 | conform | |
| 1907 / 2006 / EU - REACH | conform | |

Flat ADSS TWIN Loose Tube Cable – Short Span



1. Gel filled PBT loose tube with optical fibers
2. FRP strength members
3. Rip-cord
4. HDPE UV stable outer jacket

General Description

Non-metallic and flat self-supporting loose tube cable in a twin-tube construction for up to 24 fibers. The cable is built for outdoor aerial or direct buried installation.

Construction and Dimension

| | |
|--------------------------------|--|
| Cable family code | ST2fH |
| Maximum fiber count | 24 |
| Maximum fiber count per tube | 12 |
| Maximum loose tube count | 2 |
| Loose tube diameter | 1.9 mm |
| Outer sheath thickness | 1.0 mm |
| Cable outer diameter | 9.8 x 4.0 mm |
| Cable weight | 59 kg / km |
| Outer sheath material | UV stable HDPE |
| Sheath color | black |
| Sheath marking method, color | Ink-Jet, white |
| Fiber types available | Bend optimized singlemode fibers (G.657.A1) |
| Fiber color coding (IEC 60304) | 1.-12.: red, green, blue, yellow, white, grey, brown, violet, turquoise, black, orange, pink |
| DIN / VDE Code | A-D(ZN)2YT (2FRP 2,0) |
| Standard put-up length * | 2100 m ± 5 % |

* other put-up length available on special request

Order Information

| Cable Family | Fiber Count | G.657.A1 * |
|--------------|-------------|------------|
| ST2fH | 2 x 4 (8) | 857702 |
| | 2 x 6 (12) | 857703 |
| | 2 x 8 (16) | 857704 |
| | 2 x 12 (24) | 851160 |

Mechanical Data

| Test | Test Method | Value / Value Range | Acceptance Criteria * |
|---|---------------------|---|--|
| Tensile performance – in service | IEC 60794-1-21:E1 | 1600 N (max. allow-able tension) | $\Delta\alpha \leq 0,05$ dB |
| Crush resistance - long term | IEC 60794-1-21:E3A | 2000 N / 100mm | $\Delta\alpha \leq 0,05$ dB prior release, no damage |
| Crush resistance - short term | IEC 60794-1-21:E3A | 4000 N / 100mm | $\Delta\alpha \leq 0,05$ dB after release, no damage |
| Impact resistance | IEC 60794-1-21:E4 | 10Nm, 3 impacts, d=20mm, R=300mm | $\Delta\alpha \leq 0,05$ dB after test, no damage |
| Torsion | IEC 60794-1-21:E7 | L = 2 m, rotation angle $\pm 180^\circ$, 5 cycles | no damage |
| Cable bend - no tension | IEC 60794-1-21:E11A | R=150mm, 4 turns, 3 cycles | $\Delta\alpha \leq 0,05$ dB after test, no damage |
| Repeated bending | IEC 60794-1-21:E6 | R=150mm, 25 cycles | no damage |
| Maximal recommended span | Telenco clamp 5126 | 80 m (min. mid-span sag 1 m), max. allow-able tension | $\Delta\alpha \leq 0,05$ dB, no damage |
| Minimum bend radius – in service | | 150mm | |
| Minimum bend radius – during installation | | 200mm | |

Climatic Data

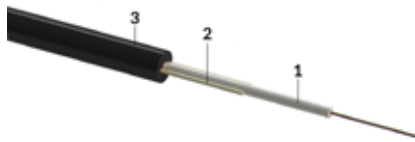
| Test | Test Method | Value / Value Range | Acceptance Criteria * |
|---------------------|--------------------|--|---|
| Temperature cycling | IEC 60794-1-22:F1 | - 40°C ÷ + 70°C | $\Delta\alpha \leq 0,05$ dB |
| Temperature range | | - 5°C ÷ + 50°C - 40°C ÷ + 70°C - 40°C ÷ + 70°C | during installation in service in storage & transport |
| Water penetration | IEC 60794-1-22 F5B | L = 3 m, h = 1 m, 24 h | no water leakage |
| Expected lifetime | | minimum 30 years | |

* IEC 60794-3-10, IEC 60794-3-11

Fire Properties

| Test | Value / Value Range | Test Method |
|-----------------------------------|---------------------|----------------------|
| Euro classification to CPR | Fca | EN 50575, EN 13501-6 |
| Declaration of performance number | D9972 | |
| 2015 / 863 / EU - RoHS 3 | conform | |
| 1907 / 2006 / EU - REACH | conform | |

FTTH Micro Cable



1. Gel filled PBT loose tube with optical fibers
2. FRP strength members
3. FRLSZH UV stable outer jacket

General Description

Non-metallic Micro-Cable in a mini central loose tube construction designed for up to a maximum of 4 fibers. The cable is designed for indoor or outdoor use for blow-in technology in Microducts.

Construction and Dimension

| | |
|--------------------------------|---|
| Cable family code | MT1RF |
| Loose tube diameter | 1.2 mm |
| Fiber count per tube | 4 |
| Outer sheath thickness | 0.9 mm |
| Cable outer diameter | 3.0 mm |
| Cable weight | 11 kg / km |
| Outer sheath material | UV stable FRLSZH |
| Sheath color | black |
| Sheath marking method, color | Ink-Jet, white |
| Fiber types available | Bend optimized single- and multi-mode fibers (G.657.A1, OM3, OM4) |
| Fiber color coding (IEC 60304) | 1.-4.: red, green, blue, yellow |
| DIN / VDE Code | U-DQ(ZN)H (2FRP 0,5) |
| Standard put-up length * | 2100 m ± 5 % |

* other put-up length available on special request

Order Information

| Cable Family | Fiber Count | G.657.A1 * |
|--------------|-------------|------------|
| MT1RF | 1 x 2 (2) | 857693 |
| | 1 x 4 (4) | 851139 |

other fiber counts and/or fiber types available on request

Mechanical Data

| Test | Test Method | Value / Value Range | Acceptance Criteria * |
|---|---------------------|---|--|
| Tensile performance – during installation | IEC 60794-1-21:E1 | 150 N | $\Delta\alpha \leq 0,05$ dB after test |
| Crush resistance - short term | IEC 60794-1-21:E3A | 500 N / 100 mm | $\Delta\alpha \leq 0,05$ dB after release, no damage |
| Impact resistance | IEC 60794-1-21:E4 | 1 Nm, 3 impacts, d=20 mm, R=300 mm | $\Delta\alpha \leq 0,05$ dB after test, no damage |
| Torsion | IEC 60794-1-21:E7 | L = 1 m, rotation angle $\pm 180^\circ$, 10 cycles | no damage |
| Kink resistance | IEC 60794-1-21:E10 | d=20 x cable diameter | no kinking |
| Cable bend - no tension | IEC 60794-1-21:E11A | d=40 x cable diameter, 4 turns, 3 cycles | $\Delta\alpha \leq 0,05$ dB after test, no damage |
| Repeated bending | IEC 60794-1-21:E6 | R=40 x cable diameter, 25 cycles | no damage |
| Minimum bend radius – in service | | 50 mm | |
| Minimum bend radius – during installation | | 70 mm | |

Climatic Data

| Test | Test Method | Value / Value Range | Acceptance Criteria * |
|---------------------|--------------------|--|---|
| Temperature cycling | IEC 60794-1-22:F1 | - 20°C ÷ + 70°C | $\Delta\alpha \leq 0,05$ dB |
| Temperature range | | - 5°C ÷ + 50°C - 20°C ÷ + 70°C - 30°C ÷ + 70°C | during installation in service in storage & transport |
| Water penetration | IEC 60794-1-22 F5B | L = 3 m, h = 1 m, 24 h | no water leakage |
| Expected lifetime | | minimum 30 years | |

* IEC 60794-3-10, IEC 60794-3-11

Fire Properties

| Test | Value / Value Range | Test Method |
|--------------------------------------|---------------------|--------------------------|
| Thermal load | 0.19 MJ / m | |
| Euro classification to CPR | Fca | EN 50575, EN 13501-6 |
| Declaration of performance number | D9038 | |
| Flammability - vertical single cable | Pass | IEC 60332-1-2 |
| Flammability - vertical cable bundle | Pass | IEC 60332-3-22 |
| Smoke density | Pass | IEC 61034-1, IEC 61034-2 |
| Halogen free, acid gases | Pass | IEC 60754-2 |
| 2015 / 863 / EU - RoHS 3 | conform | |
| 1907 / 2006 / EU - REACH | conform | |

Outside Plant

R&M Fiber Optic Cables - Singlemode

Optical Specification

| Designation | | G.657.A1 | G.657.A2 |
|---|------------|-------------------------------------|-------------------------------------|
| Attenuation maximum in cable | 1310Nm | ≤ 0.40 dB / km | ≤ 0.40 dB / km |
| | 1383Nm | ≤ 0.40 dB / km | ≤ 0.40 dB / km |
| | 1550Nm | ≤ 0.25 dB / km | ≤ 0.25 dB / km |
| | 1625Nm | ≤ 0.25 dB / km | ≤ 0.25 dB / km |
| In homogeneity of OTDR trace for any two 1000-meter fiber lengths | | max. 0.1 dB / km | max. 0.1 dB / km |
| Dispersion | 1550Nm | ≤ 18.0 ps / km × Nm | ≤ 18.0 ps / km × Nm |
| | 1625Nm | ≤ 22.0 ps / km × Nm | ≤ 23.0 ps / km × Nm |
| Zero dispersion wavelength, λ ₀ | | 1304 – 1324Nm | 1304 – 1324Nm |
| Zero dispersion slope | | ≤ 0.092 ps / (Nm ² × km) | ≤ 0.092 ps / (Nm ² × km) |
| Point Discontinuity | | ≤ 0.05 dB | ≤ 0.05 dB |
| Cut-off wavelength λ _{cc} | | ≤ 1260Nm | ≤ 1260Nm |
| Mode field diameter | 1310Nm | 9.2 ± 0.4 μm | 8.6 ± 0.4 μm |
| | 1550Nm | 10.4 ± 0.5 μm | 9.6 ± 0.5 μm |
| Polarization mode dispersion (PMD) | cabled | ≤ 0.1 ps / √km | ≤ 0.2 ps / √km |
| | link value | ≤ 0.05 ps / √km | ≤ 0.06 ps / √km |
| Group index of refraction | 1310Nm | 1.467 | 1.467 |
| | 1550Nm | 1.468 | 1.468 |
| Macro bending loss, 10 turns, r = 15mm mandrel | 1550Nm | ≤ 0.1 dB | ≤ 0.03 dB |
| | 1625Nm | ≤ 0.3 dB | ≤ 0.1 dB |
| Macro bending loss, 1 turn, r = 10mm mandrel | 1550Nm | ≤ 0.5 dB | ≤ 0.1 dB |
| | 1625Nm | ≤ 1.5 dB | ≤ 0.2 dB |
| Macro bending loss, 1 turn, r = 7.5mm mandrel | 1550Nm | -- | ≤ 0.5 dB |
| | 1625Nm | -- | ≤ 0.9 dB |

Dimensional Specification

| Designation | G.657.A1 | G.657.A2 |
|--|----------------|----------------|
| Cladding diameter | 125.0 ± 0.7 μm | 125.0 ± 0.7 μm |
| Cladding non-circularity | ≤ 0.7% | ≤ 0.7% |
| Core (MFD) non-circularity | ≤ 6% | ≤ 6% |
| Core - cladding concentricity | ≤ 0.5 μm | ≤ 0.5 μm |
| Primary coating diameter - uncolored | 242 ± 7 μm | 242 ± 7 μm |
| Primary coating diameter - colored | 250 ± 15 μm | 250 ± 15 μm |
| Primary coating non-circularity | ≤ 5% | ≤ 5% |
| Primary coating-cladding concentricity error | ≤ 12.0 μm | ≤ 12.0 μm |

Mechanical and Environmental Specification

| Designation | | G.657.A1 | G.657.A2 |
|---|-----------------------|-----------------------------------|-----------------------------------|
| Coating material | | dual layer UV curable acrylate | dual layer UV curable acrylate |
| Tensile proof test (fiber elongation \leq 1%) | | \geq 100 kpsi | \geq 100 kpsi |
| Operation temperature range -60°C to 85°C | 1310,1550 and 1625 Nm | \leq 0.5 dB / km | \leq 0.5 dB / km |
| Water immersion 23°C \pm 2°C | 1310,1550 and 1625 Nm | \leq 0.5 dB / km | \leq 0.5 dB / km |
| Heat aging | 1310,1550 and 1625 Nm | \leq 0.5 dB / km | \leq 0.5 dB / km |
| Damp heat | 1310,1550 and 1625 Nm | \leq 0.5 dB / km | \leq 0.5 dB / km |

Standards

| Designation | G.657.A1 | G.657.A2 |
|--|--|---|
| This fiber fulfills the requirements of: | <ul style="list-style-type: none"> • IEC 60793-2-50 Cat. B.1.3 and B6_a1 • ITU Recommendation G.657 table A1 • ITU Recommendation G.652 table D (including older ITU designations A, B and C) • TIA / EIA-492 CAAC | <ul style="list-style-type: none"> • IEC 60793-2-50 Cat. B.1.3, B6a.1, B6a.2 • ITU Recommendation G.657 table A2 / B2 • ITU Recommendation G.652 table D (including older ITU designations A, B and C) • TIA / EIA-492 CAAC |
| When cabled, the fibers fulfil the requirements for use in a number of cabling systems, among them is: | <ul style="list-style-type: none"> • EN 50 173-1: 2011, cat. OS1 + OS2 • ISO / IEC 24702: 2006, cat. OS1 + OS2 • ISO / IEC 11801: 2002, cat. OS1 + OS2 • IEEE 802.3 - 2002 incl. 802.3 Section Four | |
| Testing methods are in accordance with the following standards: | <ul style="list-style-type: none"> • IEC 60793-1-XX | |

R&M's ITU-T G657.A1 fiber is an ITU-T Recommendation G652.D fully compliant optical fiber with enhanced low-loss and bending performances that exceeds the ITU-T Recommendation G.657.A1 standard and still splices the same as the installed base of standard single-mode fibers.

R&M's ITU-T G657.A2 fiber exceeds Recommendation ITU-T G657.A2/B2 and remains compatible and fully compliant with Recommendation ITU-T G.652.D. The optical fiber delivers enhanced macro bending performance while maintaining compatible with current equipment, practices and procedures.



Customer Premises, Buildings and Cell Sites

Polaris-box Family

Multifunctional for a flexible fiber optic termination





Polaris-box 4

Polaris-box 6

Polaris-box 16

Polaris-box 24

Polaris-box 36

| | | | | | |
|---|-------------------------|-------------------------|----------------|----------------|----------------|
| Protection class | IP65 | IP65 | IP65 | IP65 | IP65 |
| Number of adapters E-2000, SC, LC-Duplex | 2/4 | 6 | 16/24 | 24 | 36 |
| Number of splices | 12 ... 24 | 12 ... 60 | 12 ... 24 | 12 ... 144 | 12 ... 288 |
| Number of FMTS trays | - | 4 | - | 12 | 24 |
| Number of splices FMTS | - | 4/12 | - | 4/12 | 4/12 |
| Number of cable inserts top/side | 2 only side entries | 2/2 | 2/2 | 2/2 | 2/2 |
| Number of cable inserts below | 2 | 4 | 4 | 8 | 12 |
| Main cable inserts | 1 x R 3 - 13mm | 1 x R 3 - 13mm | 1 x R 3 - 16mm | 1 x R 3 - 16mm | 1 x R 3 - 16mm |
| Drop cable inserts, round | 12 x R 2 - 3mm | 12 x R 2 - 3mm | 16 x R 2 - 3mm | 16 x R 2 - 3mm | 16 x R 2 - 3mm |
| Drop cable inserts, Butterfly | - | - | 16 x 2 - 3mm | 16 x 2 - 3mm | 16 x 2 - 3mm |
| Drop cable inserts | 8 x 4 - 5mm (IP55 only) | 8 x 4 - 5mm (IP55 only) | 4 x 4 - 5mm | 4 x 4 - 5mm | 4 x 4 - 5mm |
| Overlength storage | | - | | | |
| Extendability | | | | | |
| Splitter application | | | | | |
| Collocation | | | | | |
| Size | compact | small | small/medium | medium | medium/large |

Customer Premises, Buildings and Cell Sites

Polaris Family



Polaris 4 (W x H x D) 156.0 mm x 230.0 mm x 63.0 mm / 6.14 in x 9.06 in x 2.48 in

The Polaris-box 4 is the smallest in the family and fits even into tiny spaces.

| | |
|------------------------------------|----------------|
| With Lock | R859107 |
| Without Lock | R859106 |
| Polaris 4 Pole Mounting Set | R878834 |



Polaris 6 (W x H x D) 190.0 mm x 285.0 mm x 60.0 mm / 7.48 in x 11.22 in x 2.36 in

Polaris-box 6 with external mounting points, equipped with cable strain-relief plate and a basic fiber inlay.

| | |
|------------------------------------|----------------|
| With Lock | R820282 |
| Without Lock | R820281 |
| Polaris 6 Pole Mounting Set | R820292 |



Polaris 16 (W x H x D) 218.0 mm x 315.0 mm x 112.0 mm / 8.58 in x 12.40 in x 4.41 in

The Polaris-box 16 is a distribution box with plenty of space for additional fiber storage. The swiveling fiber inlay separates the connectors from the splice connections.

| | |
|-------------------------------------|----------------|
| With Lock | R851085 |
| Without Lock | R851984 |
| Polaris 16 Pole Mounting Set | R878835 |



Polaris 24 (W x H x D) 263.0 mm x 371.0 mm x 150.0 mm / 10.35 in x 14.61 in x 5.91 in

The Polaris-box 24 is a versatile fiber optic termination with a swivel mounted fiber inlay.

| | |
|-------------------------------------|----------------|
| With Lock | R851087 |
| Without Lock | R851986 |
| Polaris 24 Pole Mounting Set | R878836 |



Polaris 36 (W x H x D) 330.0 mm x 450.0 mm x 150.0 mm / 12.99 in x 17.72 in x 5.91 in

The robust and highly compressed Polaris-box 36 is multi-functional. The top side of the fiber inlay has two separate areas for splice and plug connections.

| | |
|-------------------------------------|----------------|
| With Lock | R851083 |
| Without Lock | R851082 |
| Polaris 36 Pole Mounting Set | R878837 |

Polaris 4/6 Cable Sealing Elements



IP65 - 3mm-9mm **R820283**



IP65 - 9mm-13mm **R820284**



IP65 - 12x2-3mm **R820286**



IP54 - 3-13mm **R820285**



IP54 - 12x2-2.7mm **R820287**



IP54 - 8x5-8mm **R878849**

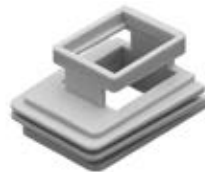


IP54 - 4x2-2.7mm & 3x7mm **R820289**

IP54 - 8x5mm **R820288**



IP55 - Bridge 2x box **R820290**



Adapter Entry (SC/LC) **R820291**

Polaris Box 16,24,36 Cable entry kit



3mm-5mm **R851090**



4x 4-5mm **R820291**



15x 2-3mm **R851098**



Cover Kit **R851088**

5mm-7mm **R851091**

7mm-9mm **R851092**

9mm-11mm **R851093**

11mm-13mm **R851094**

13mm-14mm **R851095**

14mm-15mm **R851096**

15mm-16mm **R851097**



12x 4-5mm **R872832**

16x 2-3mm Butterfly **R851099**



Blind Element **R851089**

FMTS Splice Trays



FMTS Splice Tray 12HS (1pc) **R895101**



FMTS Tray Cover (1pc) **R895103**



FMTS Splitter Tray (6pc) **R820097**



Labeling Sheet **R830928**

Customer Premises, Buildings and Cell Sites

«R&M's Wallmount panels are perfect for any application where space is at a premium.»



R&M Wallmount panels were developed to bridge the specifications of the fiber provider and the requirements of the customer. Our selection of R&M connectivity systems fulfill these technical needs, the closed R&M wallmount panels are equipped with up to two lockable sections, i.e., one for the customer and one for the fiber provider.

Wallmount Panels



Cable openings have a captive/non-captive option for easy and secure cable entry
 Custom web grommets for cable openings provide dust & rodent protection Interior cable chart for quick and easy documentation
 Removable door allows an unobstructed panel opening in tight spaces Interior bridge lances provide secure cable tie down points and various buffer tube and pigtail routing options
 Multiple mounting keyholes for both side and rear mounting capability



Open L1, (HxWxD 5.67"x6.34"x1.3")

| | | |
|---------|-------|--------------|
| LC/UPC | 24 FO | R880041 |
| LC/APC | 24 FO | R885651 |
| SC/UPC | 12 FO | R885656 |
| SC/APC | 12 FO | R885661 |
| LSH/APC | 12 FO | Upon request |



Closed L1, (HxWxD 5.62"x9.81"x1.25")

| | | |
|---------|-------|--------------|
| LC/UPC | 24 FO | R885647 |
| LC/APC | 24 FO | R885652 |
| SC/UPC | 12 FO | R885657 |
| SC/APC | 12 FO | R885662 |
| LSH/APC | 12 FO | Upon request |



Closed L2, (HxWxD 6.2"x12.2"x3.5")

| | | |
|---------|-------|--------------|
| LC/UPC | 48 FO | R885648 |
| LC/APC | 48 FO | R885653 |
| SC/UPC | 24 FO | R885658 |
| SC/APC | 24 FO | R885663 |
| LSH/APC | 24 FO | Upon request |



Closed L4, (HxWxD 12.66"x15.75"x3.25")

| | | |
|---------|-------|--------------|
| LC/UPC | 96 FO | R885649 |
| LC/APC | 96 FO | R885654 |
| SC/UPC | 48 FO | R885660 |
| SC/APC | 48 FO | R885664 |
| LSH/APC | 48 FO | Upon request |



Closed L8, (HxWxD 12.50"x15.5"x6.00")

| | | |
|---------|--------|--------------|
| LC/UPC | 192 FO | R885650 |
| LC/APC | 192 FO | R885655 |
| SC/UPC | 96 FO | R885659 |
| SC/APC | 96 FO | R885665 |
| LSH/APC | 96 FO | Upon request |

Customer Premises, Buildings and Cell Sites

Special Design for air-blown cable distribution



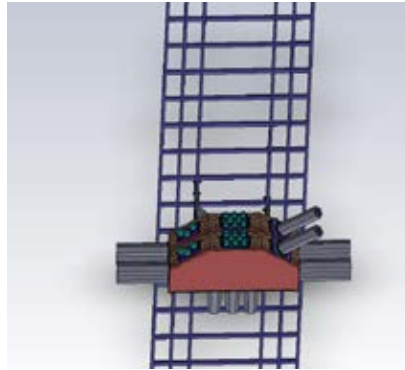
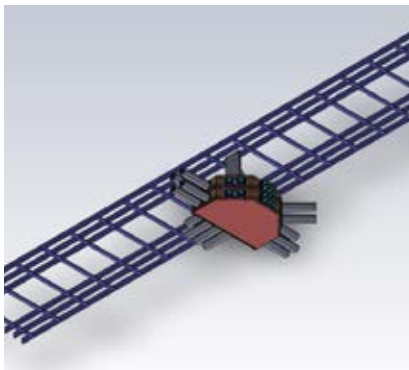
Micro Duct Distribution System (MDS)

MDS L6 is a highly versatile enclosure designed to accommodate and optimize the distribution and termination of air-blown cable and duct as well as traditional fiber optic cable. The first of its kind, it optimizes the splicing and distribution of microduct systems in one enclosure, which eliminates extra parts and reduces the amount of room needed to distribute individual ducts.

- MDS (Micro Duct Distribution System)* is designed for Data Center and indoor DAS applications to manage all forms of duct up to 2.5" OD and used as a breakout box for routing large count cables into an OCEF
 - Scalable—the MDS can be deployed as a single unit or stacked and attached back-to-back for larger jobs
 - The MDS can be used as a termination point as well as a pass through
- Unique angular design allows for gentle sweeps to enhance fiber blowing
 - Can be mounted to the wall or overhead ladder rack where it can be positioned to make optimal use of its ports
 - The MDS can be mounted above or below the ladder rack and the mounting brackets (sold separately) work on 12", 18", and 24" ladder rack
 - Duct mounting options include the use of cord grips, hose clamps, or tie wraps
 - The MDS will accept splice trays and the rectangular front ports accept industry standard L-type adapter plates, splice cartridges or cassettes
 - The closure features captive/non-captive openings and the cabinet has a knock-out feed through for stacking as well as front knock-outs for single bulkhead adapters
 - Can be housed in a NEMA 6P closure in an OSP environment
 - Powder-coated steel construction and mounting plates available for the 12.7/10 and 8.5/6 bulkheads and ducts up to 2.5" OD
 - There are express ports on each side of the front rectangular slots for 12.7/10 and 8.5/6 bulkheads. Additional laterals can be added if the plates are full.

| Height | Width | Depth | Adapter Plates |
|------------------|------------------|-----------------|----------------|
| 14.53" (36.91cm) | 21.23" (53.92cm) | 3.475" (8.83cm) | 6 |

Micro Duct Distribution System (empty) **R272933**



Example of MDS mounted on overhead ladder rack

FO Outlet US Model



- Small size, lightweight, use conveniently
- ABS material, fireproof and dust-proof
- Suitable for various modules and multimedia interfaces
- Support MM or SM fiber connection
- Used in FTTH indoor application, home or work area
- Provide users with optical access or data access
- May store surplus fiber inside, easy for operation
- Used in the end termination of residential buildings and villas, to fix and splice with pigtails

Dimensions:

- Height: 120 mm
- Width: 90 mm
- Depth: 20 mm

FO Outlet

| | |
|-----------------------|----------------|
| Empty | R888050 |
| w/1 adapter + pigtail | R888051 |

FO Outlet



- Modern, discreet and secure design
- Fiber in subscriber's home virtually hidden
- Capacity to accommodate up to 02 optical splices per fusion
- Made of plastic
- Can be installed on any flat vertical surface
- It has 2 lower accesses for input/output of optical cables or cords
- Ability to use 2 optical adapters type SC or LC-Duplex
- It has a storage area to accommodate fiber optics
- Allows accommodation of 2 40mm or 50mm fusion splice protectors
- Input for drop fig.8 or compact drop cables
- Identification for laser radiation alert
- Wall mount plugs and screws
- Optical adapter and optional pigtail

Dimensions:

- Height: 86.8 mm
- Width: 86.8 mm
- Depth: 23.8 mm
- Weight: 60 g (empty)

FO Box

| | |
|-------------------------|----------------|
| Empty | R888053 |
| w/1 adapter + pigtail | R888054 |
| w/2 adapters + pigtails | R888055 |

Customer Premises, Buildings and Cell Sites

Optical Splitter GPON



Features:

- . 1310nm, 1550nm, 1310/1550nm, or WDM windows
- . Low insertion loss and uniformity
- . High reliability through applicable international standards
- . Telcordia GR-1209-CORE: Generic Requirements for Passive Optical Components
- . Telcordia GR-1221-CORE: Reliability Requirements for Passive Optical Components
- . Compact size enabling storage in optical splice trays
- . Installation Environment: Internal or External

| Balanced Splitters (IN-OUT) | 1:2 | 1:4 | 1:8 | 1:16 | 1:32 |
|-----------------------------|---------|---------|---------|---------|---------|
| SC/APC - SC/APC 0,9mm | R886295 | R886298 | R886291 | R886290 | R886294 |
| LC/APC - LC/APC 0,9mm | R886296 | R886299 | R886301 | R886293 | R886289 |
| Bare Fiber 0.9mm | R886287 | R886297 | R886300 | R886292 | |

| Splitters Unbalanced | 0.9mm |
|----------------------|---------|
| 1/99 | R886302 |
| 2/98 | R886303 |
| 5/95 | R886304 |
| 10/90 | R886305 |
| 15/85 | R886306 |
| 20/80 | R886307 |
| 30/70 | R886309 |
| 35/65 | R886310 |
| 40/60 | R886311 |
| 45/55 | R886312 |

Attenuators:



| Attenuators | LC/PC | LC/APC | SC/PC | SC/APC |
|-------------|---------|---------|---------|---------|
| 1.0 dB | R886342 | R886335 | R886339 | R886343 |
| 2.0 dB | R886325 | R886336 | R886338 | R886337 |
| 3.0 dB | R886319 | R886316 | R886327 | R886328 |
| 5.0 dB | R886320 | R886315 | R886324 | R886329 |
| 7.0 dB | R886321 | R886317 | R886277 | R886282 |
| 10.0 dB | R886318 | R886313 | R886323 | R886322 |
| 15.0 dB | R886341 | R886314 | R886278 | R886275 |
| 20.0 dB | R886326 | R886340 | R886331 | R886330 |

Fast Connection Systems



Drumbox with FITH 1 fiber cable equipped with SC APC connector and adapter.

- Wall Mount (2 ports)
- 1 pcs SC/APC Simplex adapter
- 1 preterminated transparent 900um pigtail G657A1

Fast 1 X SC/APC, G.657.A1

| | |
|-----|---------|
| 30m | R888208 |
|-----|---------|

FO Field Connector

Features:

- Field Mount Connector for Flat/Round Drop Cable
- Easy and quick assembly



SC/APC (CLICK)

R884721



SC/PC (CLICK)

R884723

FO Cleaning Accessories



| | |
|---|---------|
| IBC Single fiber 2.5mm cleaner | R260759 |
| IBC Single fiber 1.25mm cleaner | R260761 |
| IBC MPO cleaner | R260582 |
| OPTIPOP R Reel Type Connector Cleaner Kit | R260531 |
| OPTIPOP R Male MPO Cleaner cassette | R260532 |
| Cleaning Sanata wipes Qty 300 | R271951 |
| OPTIPOP R Cleaner refill | R260528 |

Launch Box



R&M's launch box used in a process of OTDR testing. It is placed between the OTDR and the patch panel.

Up to 1 km of fiber, coiled

Fiber types available OS2 (G.657.A1), OM1 (62.5/125um), OM3 & OM4 (50/125um)

Durable Polypropylene case with lid to cover and protect leads when not in use

Interferometer reports of connectors and OTDR trace included with documentation

Available with all common connector types

Launch Box (OS2 G.675.A1), 1Km

| | |
|-----|---------|
| SCU | R273576 |
| SCA | R276444 |
| LCU | R876481 |
| LCA | R277341 |

Better Connected Networks for a lifetime



Planning safety.

We share our know-how of more than 50 years with our customers to pave the way for a perfectly performing network.



Installation safety.

Time pressure and limited space are the reasons why installation times can be long and wrong. R&M systems have guaranteed channel performance and have been developed and tested for practice.



Operation safety.

R&M stands for mechanically and thermally stable design, a prerequisite for years of trouble-free operation of networks.



Expandability safety.

R&M develops backward compatible products that fit into any existing network.



Maintenance safety.

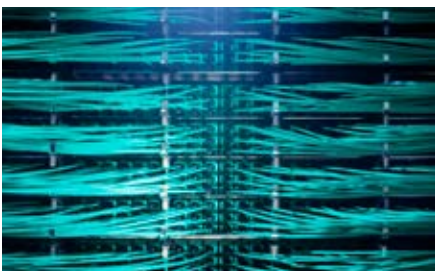
MAC (Move-Add-Change) are a source of mistakes and unplanned downtime. R&M solutions and services combined with high quality products help to prevent from mistakes and to save money.



Compliance safety.

R&M products and processes meet all relevant international regulations and standards:

- ISO 9001
- ISO 14001
- RoHS
- REACH



Networks for a lifetime

The market constantly faces new challenges and demands. New environments and needs increased requirements for networks and components in terms of operation and future security. R&M meets these needs by constant innovation and evolution of products and systems. Due to our proximity to our customers worldwide, we create practical and tailored solutions.

Our focus is on maximum planning and cost control across the entire value chain and product life cycle. And that's how you save money over time.

Fiber Optics Grades

Networks for a lifetime



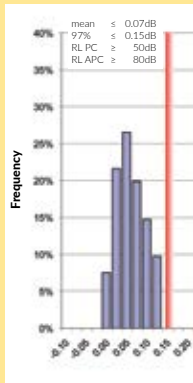
Independent grading for fiber optic connectors

Quality grades for fiber optic connectors mean more reliability for customers. Upgrading and installing optical high-performance networks is in full swing on an international scale. This means the importance of connectors as key components of the passive cabling infrastructure is also increasing. No matter what area, from WAN, metropolitan area and campus network applications up to backbone cabling and subscriber connections, the use of top-quality connectors ensures highest transmission rates, consistent network availability and saves energy to boot (Green Network).

It is therefore indispensable that planners and installers have a sound knowledge of the quality grades for fiber optic connectors.

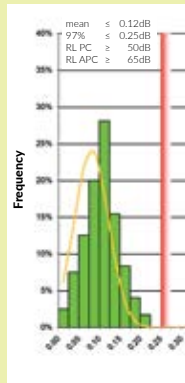
Singlemode-Grade A*

PC and APC - polished



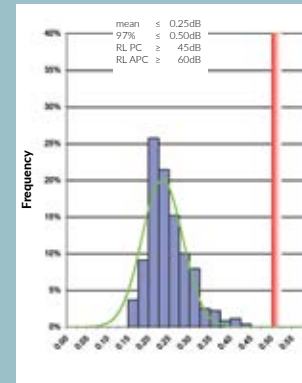
Singlemode-Grade B

PC and APC - polished



Singlemode-Grade C

PC and APC - polished

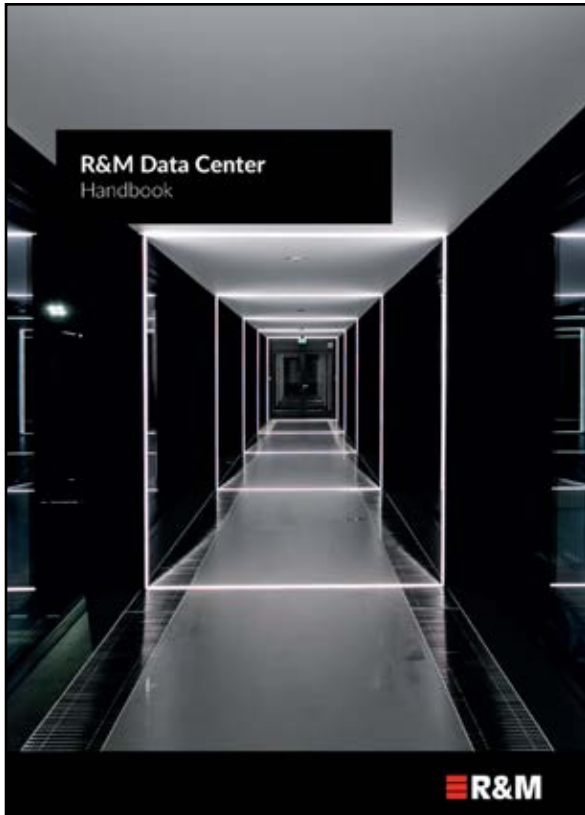


Technical Data

| Definition IL/RL at R&M | Grade A*/1 | Grade A*/2 | Grade B/1 | Grade B/2 | Grade C/1 | Grade C/2 |
|-----------------------------------|------------|------------|-----------|-----------|-----------|-----------|
| Insertion loss (IL) 97% | ≤ 0.15 dB | ≤ 0.15 dB | ≤ 0.25 dB | ≤ 0.25 dB | ≤ 0.50 dB | ≤ 0.50 dB |
| Insertion loss (IL) typical value | ≤ 0.07 dB | ≤ 0.07 dB | ≤ 0.12 dB | ≤ 0.12 dB | ≤ 0.25 dB | ≤ 0.25 dB |
| Return loss (RL) | ≥ 80 dB | ≥ 50 dB | ≥ 65 dB | ≥ 45 dB | ≥ 60 dB | ≥ 45 dB |
| Typical | ≥ 90 dB | ≥ 55 dB | ≥ 85 dB | ≥ 55 dB | ≥ 80 dB | ≥ 55 dB |
| Laser power, inserted | ≤ 2 W | ≤ 300 mW | ≤ 1 W | ≤ 300 mW | ≤ 500 mW | ≤ 300 mW |
| IEC61300-2-14, 500h, 23° C | | | | | | |

| Definition IL/RL at R&M | Grade Am*/2 | Grade Bm*/3 |
|-----------------------------------|-------------|-------------|
| Insertion loss (IL) 100% | ≤ 0.25 dB | ≤ 0.50 dB |
| Insertion loss (IL) typical value | ≤ 0.10 dB | ≤ 0.15 dB |
| Return loss (RL) | ≥ 45 dB | ≥ 35 dB |

* not defined by standards yet

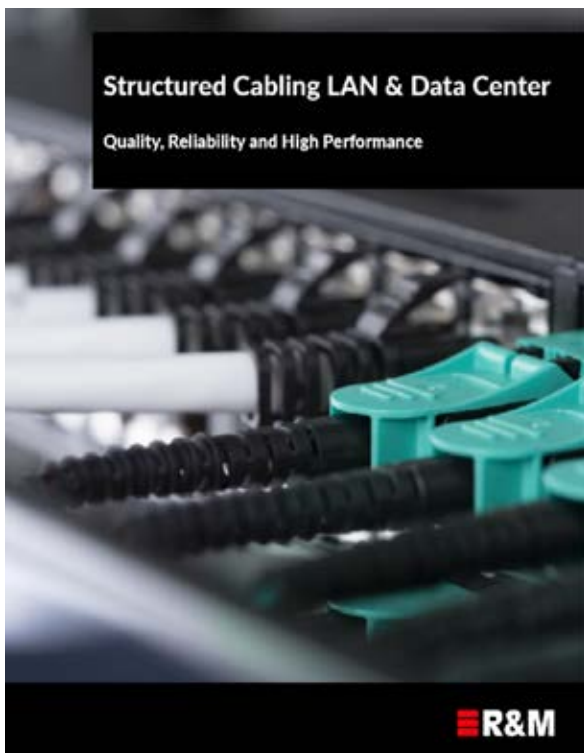


Datacenter Handbook

The R&M DataCenters manual provides a wide range of valuable information to meet the challenges and growing needs of cloud architecture.

The manual, aimed primarily at data center planners and operators, is a rich source of information on how to successfully design, build, manage, and support a data center.

Based on years of experience accumulated by experts who support the construction and equipment of data centers around the world, the manual also serves as a reference work on relevant standards, technical terms, trends, and applications. Helps customers achieve an optimal data center layout and plan cabling architecture, as well as reduce energy needs and select security solutions. The document also offers practical solutions for the next generation of 100, 200 and 400G networks.



Structured Cabling & Datacenters

R&M has one of the most complete solutions for implementing a structured cabling infrastructure for various environments, from the small corporate office, a large data center or a large hospital.

Our solution covers:

- Cat6/6A, Cat7/7A & Cat8 Cabling Solution
- Fiber Optic Cabling
- Management Solution
- Hospital environments solutions
- Aggressive ambient solutions
- High Density Solutions for the Datacenter



***More than just antennas:
5G business models***

The 5G ecosystem offers opportunities for new business models. Local, established and new market players can develop infrastructure solutions and attractive services. R&M supports them with expertise, technology, engineering, and more.

R&M USA Inc.

840 Yosemite Way
Milpitas, CA 95035
+1(408) 945-6626

usa@rdm.com

www.rdm.com

7195 Troy Hill Drive
Elkridge, MD 21075
+1(410) 379-0084

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