# Rosenberger

## PreCONNECT® DUODECIM

Rosenberger PreCONNECT® (XXXX) solutions are available in three end face quality levels: BASIC, PURE, and LOTUS

- Define the end-face quality according to your application requirements

PreCONNECT® BASIC is our well-proven, high-grade, standards compliant, product in terms of end-face geometry, defect, and cleanness, providing excellent IL and RL performance:

- The PreCONNECT® factory-assembled plug & play system enables quick and reliable, cost efficient, installation and performance
- Harmonized modular components of the PreCONNECT® BASIC solution ensure end to end performance of the entire channel

PreCONNECT® PURE is our enhanced version of PreCONNECT® BASIC, but with more stringent defect and cleanliness screening and factory sealed, tamper evident adapter-interfaces.

- Guaranteed protection of the polished connector surfaces against contamination and damage through sealed adapter-interfaces, enabling time savings during initial installation and commissioning due to the elimination of the need for cleaning and testing*/**.
- PreCONNECT® PURE provides an industry leading low <u>random mate</u> insertion and return loss (mean) which enables up to six (6) mated pairs in a 10G/OM4 application up to 300m.

PreCONNECT® LOTUS builds upon the PreCONNECT® BASIC and PreCONNECT® PURE performance by introducing our unique LOTUS end-face coating technology that provides dirt, moisture, and grease repellence to maintain cleanliness in initial and subsequent matings.

- Potential long-term time savings by reducing or eliminating the need for cleaning during initial installation and subsequent MACs
- Increased reliability and availability throughout various environmental and contaminate environments

## **Part numbers:**

**PreCONNECT® BASIC**: The part numbers XXXAXXXX listed in this document are valid for the BASIC quality level.

**PreCONNECT® PURE**: Add a "**P**" to the end of the PreCONNECT® BASIC part number (*Example:  XXXAXXXX**P**)*

**PreCONNECT® LOTUS**: Add an "**L**" to the end of the PreCONNECT® BASIC part number (*Example:  XXXAXXXX**L**)*

*(Note: PreCONNECT® PURE trunk cables have factory attached sealed coupling adapters incorporated and thus utilize empty patch panels and enclosures)*

*\* While Rosenberger does not require permanent link or channel testing for warranty registration of PreCONNECT® PURE installations due to guaranteed performance, certain customers will require testing documentation for their records.*

## Applications

Infrastructure and IT room cabling within data centers

## System consists of:

- Factory assembled FO OFNR Riser and OFNP Plenum rated loose tube cables and Microunit Breakout Cables, n x 12 fiber, up to 144 fibers
- With connector systems MTP® with 12 fibers per MTP® channel
- Port-Breakout with MTP® Module-Cassettes with LC front
- Three 19" panel systems SMAP-G2 and SMAP-G2 HD and SMAP-G2 UHD selectable
- Suitable Patchcords
- Useful accessories
- Patch Location rack

## Features

- For those with conventional duplex transceiver applications like 10/25/50G Ethernet or 8/16/32G Fibre Channel on both cabling sides, but who wish to be prepared for migration to MPO based parallel optics applications
- Trunks and 19" Panels can be further used for migration

## Your benefits at a glance:

- MTP® cabling system with use of all 12 fibers per MTP® channel for duplex applications
- Cost-effective migration to MPO based parallel optics applications
- Investment protection through optimal use of the trunks for duplex applications and MPO based parallel optics applications
- Fast and safe installation through factory assembled Plug & Play systematic
- Highest quality and cost-efficiency through factory assembling
- PreCONNECT® cabling systems consist of perfectly harmonized modular single components

**PreCONNECT® DUODECIM Trunks**

**PreCONNECT® DUODECIM**

**combined with**
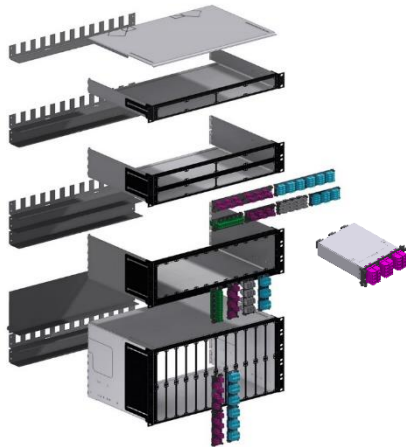
**PreCONNECT® OCTO**

**PreCONNECT® OCTO Patchcords and Multijumpers**

**LC Uniboot Patchcords**

**19" Panel Systems**

**SMAP-G2**

**SMAP-G2 HD**

**SMAP-G2 UHD**

**Patch Location Rack**

**Accessories**

## Application:

**MTP® (MPO) based Data Center cabling with 12 fibers per MTP® channel:**

**Appropriate for duplex applications:**

- **10/25/50 GBE**
- **8/16/32 GFC**

**Simple migration to parallel optics applications:**

- **40/100/200 GBASE-SR4**
- **400GBASE-SR4.2 BiDi**
- **4x16 and 4x32 GFC**
- **400 GBASE-SR8 and SR16**
- **100G PSM4**
- **4x10 GBASE-LR**
- **400GBASE-DR4**

## System description:

Our PreCONNECT® DUODECIM cabling system consists of:

- DUODECIM Breakout-Trunk called factory assembled FO breakout cables or alternatively DUODECIM Trunk loose tube cables, both with up to 12 MTP® 12 fiber channels (12x12=144 fibers).
- 19" Panel Systems with Part-Front-Plates with MTP®/MPO Adapters and DUODECIM Module-Cassettes
- OCTO Patchcords and Multijumpers
- Useful accessories
- Patch Location Racks

In 1991 Rosenberger began delivering high fiber count factory assembled FO Trunk cables to the market. PreCONNECT® STANDARD was the first European developed and manufactured, high fiber count and modular "plug-and-play" FO cabling system. In 1997 we became the first manufacturer of MTP® cabling systems in Europe.

## Properties:

**PreCONNECT® DUODECIM Breakout-Trunks made of Microunit Breakout Cables:**

Equipped with PreCONNECT® square-interfaces on both sides which can be tool-less hooked into the 19" Panel Systems for tensile and torsion resistant fixing of the Trunks.

The trunk connector legs are fitting for the 19" panel ystems and are packaged in non pull resistant dust-proof foil tubes. On request with tensile strength, crush resistant, kink and torsion resistant, installation tubes deliverable.

Installation Tube Indoor, IP50 dustproof

## Properties:

**PreCONNECT® DUODECIM Trunks made of loose tube cables:**

Both cable ends are molded within PreCONNECT® cable dividers and assembled with connector legs fitting for the 19" Panel systems.

The PreCONNECT® cable divider is a splice-less furcation to separate the fibers of loose tube cables. It is one of the mechanically and thermally most robust cable dividers for loose tube cables at smallest diameters.
With its integrated PreCONNECT® square interface, the cable divider can be tool-less hooked into PreCONNECT® Panels for tensile and torsion resistant fixing of the Trunks.

The connector legs and cable dividers are equipped with 600 N tensile strength, crush resistant, kink and torsion resistant, installation tubes.
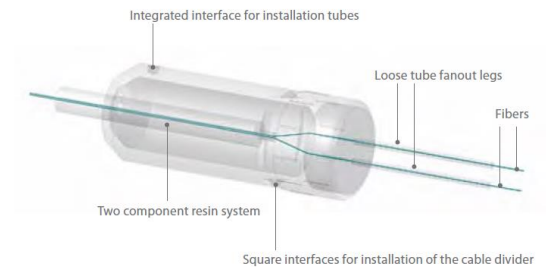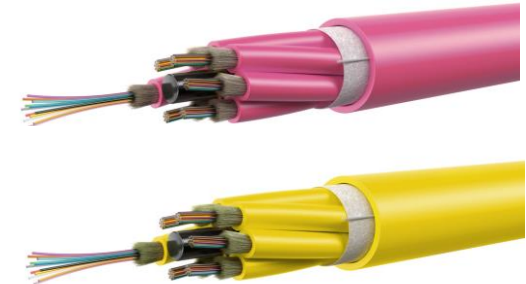


### Cable types:

- PreCONNECT® DUODECIM Breakout-Trunks: Microunit Breakout Cables n x 12 fibers

- PreCONNECT® DUODECIM Trunks: Loose tube cables n x 12 fibers

Cable data, see separate cable data sheets

Microunit Breakout Cables n x 12 fibers



Loose tube cables n x 12 fibers

## Properties:

### Connector types:
- DUODECIM Trunks: MTP® 12 fiber male
- DUODECIM Module-Cassettes: MTP® 12 fiber female
- OCTO Patchcords and Multijumpers: MTP® 12 fiber female with OCTO fiber assignment

### Adapter types:
- MTP® multimode and singlemode TIA Type A "1 to 1"
- Adapter colors: OM3 = Aqua, OM4 = Violet, SM = Green
- Description of the adapter types A and B see last pages of in this document

### Polarity:
- DUODECIM Trunks: Multimode and Singlemode: TIA Method B "1 to 12"
- DUODECIM Module-Cassettes: See pages of the products
- OCTO Patchcords and Multijumpers: See pages of the products

### Fiber types:
- Multimode OM4 bend-insensitive
- Singlemode G.657.A1 bend-insensitive and backwards compatible to G.652.D
- Fiber data, see separate fiber data sheets

### Length definition:
Order-length = length between the connectors of the longest legs at both sides, not between the PreCONNECT® square-interfaces.

### Delivery form:
Dependent on the length as cable ring or on cardboard or wooden drum, 100% IL factory measured with measurement protocol, product label with serial number on both sides.

MTP® 12 fiber female



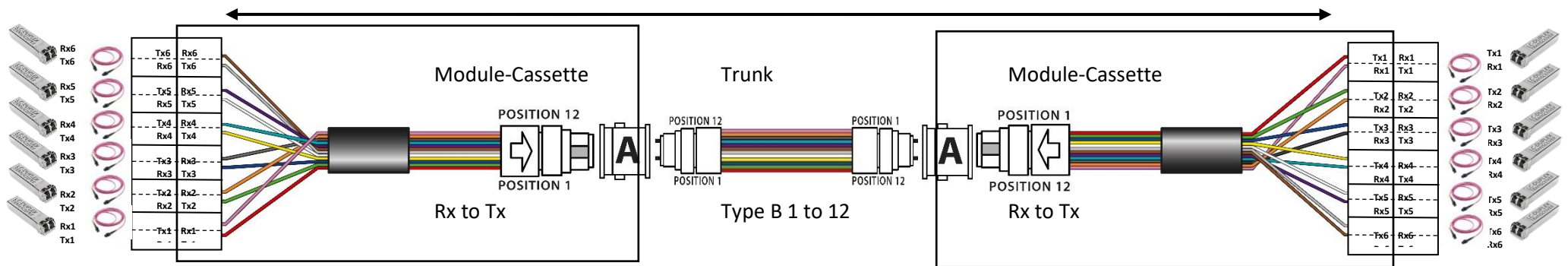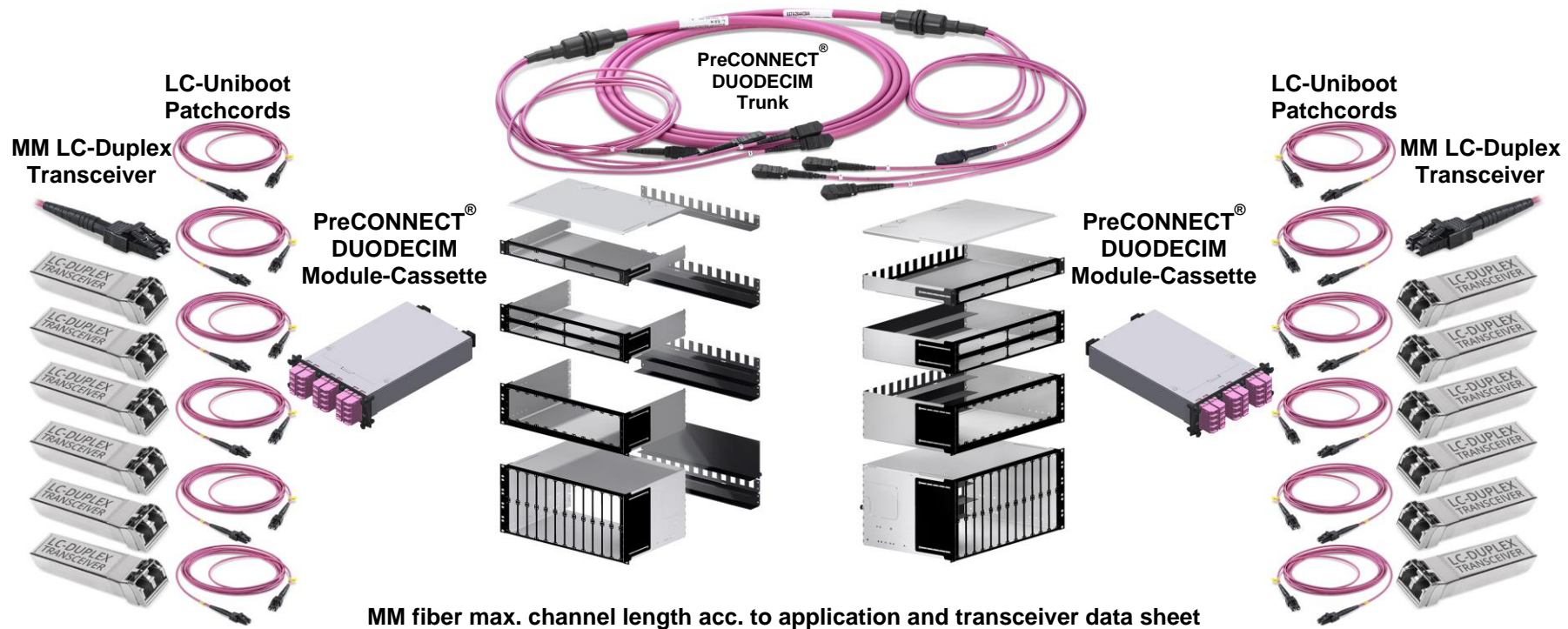MTP® 12 fibers female
with OCTO fiber assignment





MTP adapters TIA Type A "1 to 1"

**PreCONNECT® DUODECIM application case duplex application:**

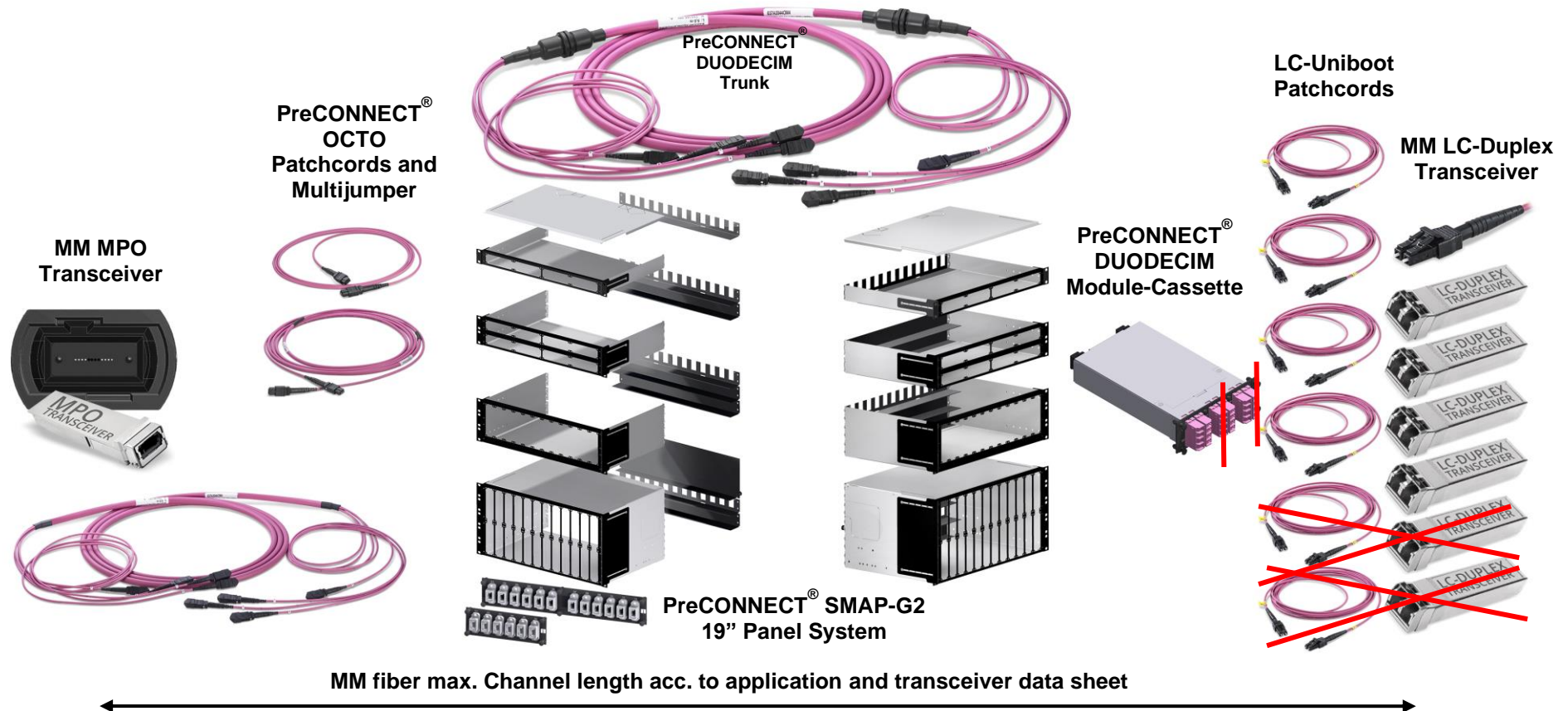- **10/25/50 GBASE-SR**
- **8/16/32 GFC MM**



**MM fiber max. channel length acc. to application and transceiver data sheet**

## PreCONNECT® DUODECIM migration to SR4 parallel optics Port-Breakout with Module-Cassette:

**M U L T I M O D E**

- **40 / 100 / 200 GBASE-SR4 MPO to 4x10 / 4x25 / 4x50 GBASE-SR LC-Duplex**
- **4x16 / 4x32 GFC MPO to 4x16 / 4x 32 GFC LC-Duplex**



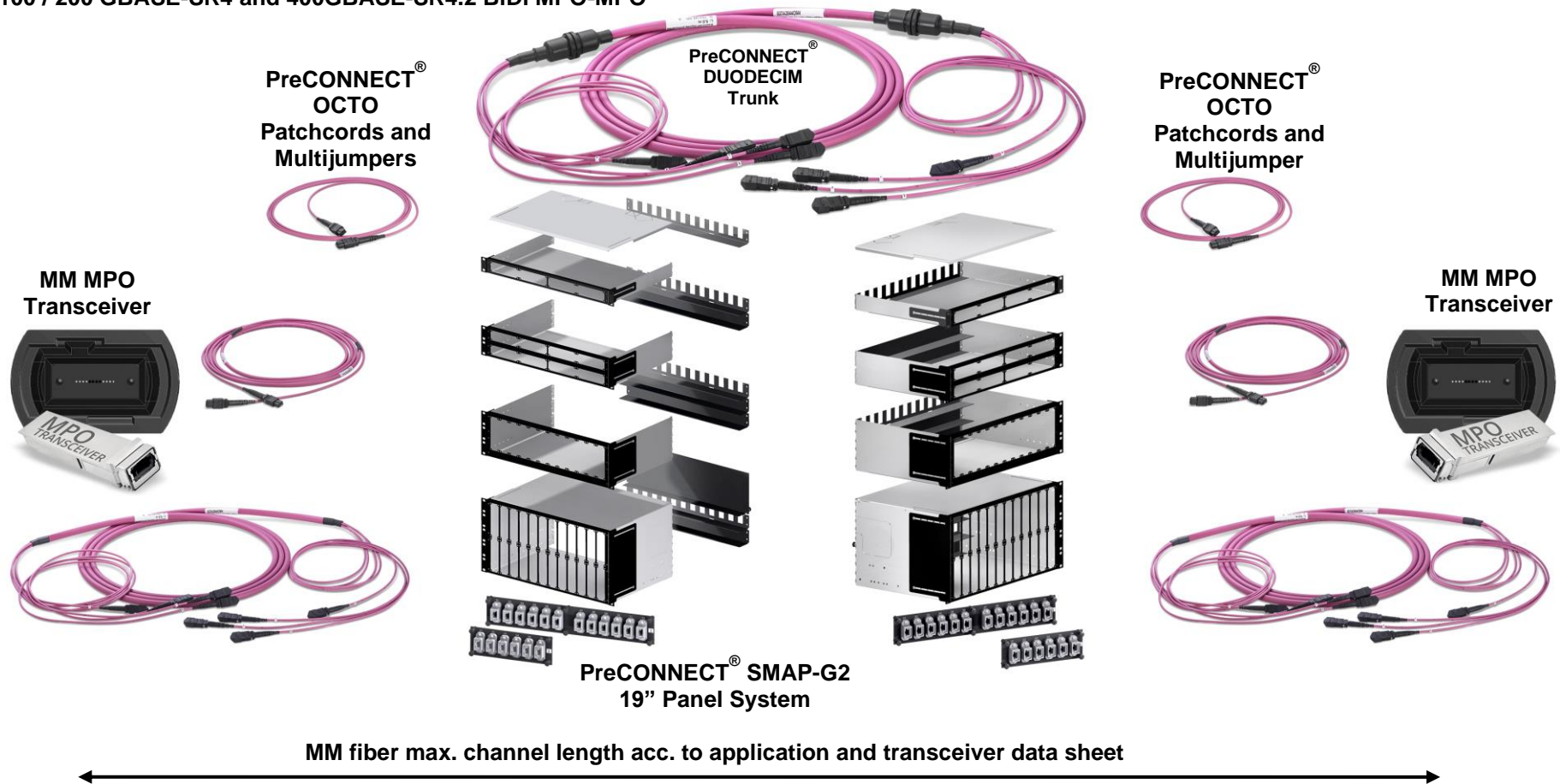**MM fiber max. Channel length acc. to application and transceiver data sheet**

1. DUODECIM Trunks can be kept for future use, the inner four fibers of each MTP® channel are not used any longer.

2. Replace DUODECIM Module-Cassettes at the left SR4 MPO Transceiver side by Part-Front-Plates with MTP® adapters and replace LC-Uniboot patch-cords by PreCONNECT® OCTO MTP® Patchcords or Multijumpers.

3. DUODECIM Module-Cassettes at the right duplex side can be kept for future use, but only channel 1 to 4, channel 5 and 6 are not used any longer.

4. The cabling system in this page can be built more cost competitive with completely PreCONNECT® OCTO system, because PreCONNECT® OCTO trunks have only 8 instead of 12 fibers per MTP® channel.

**PreCONNECT® DUODECIM migration to SR4 parallel optics on both sides:**

MULTIMODE

**40 / 100 / 200 GBASE-SR4 and 400GBASE-SR4.2 BiDi MPO-MPO**



PreCONNECT® OCTO Patchcords and Multijumpers

PreCONNECT® DUODECIM Trunk

PreCONNECT® OCTO Patchcords and Multijumper

MM MPO Transceiver

MM MPO Transceiver

PreCONNECT® SMAP-G2 19" Panel System

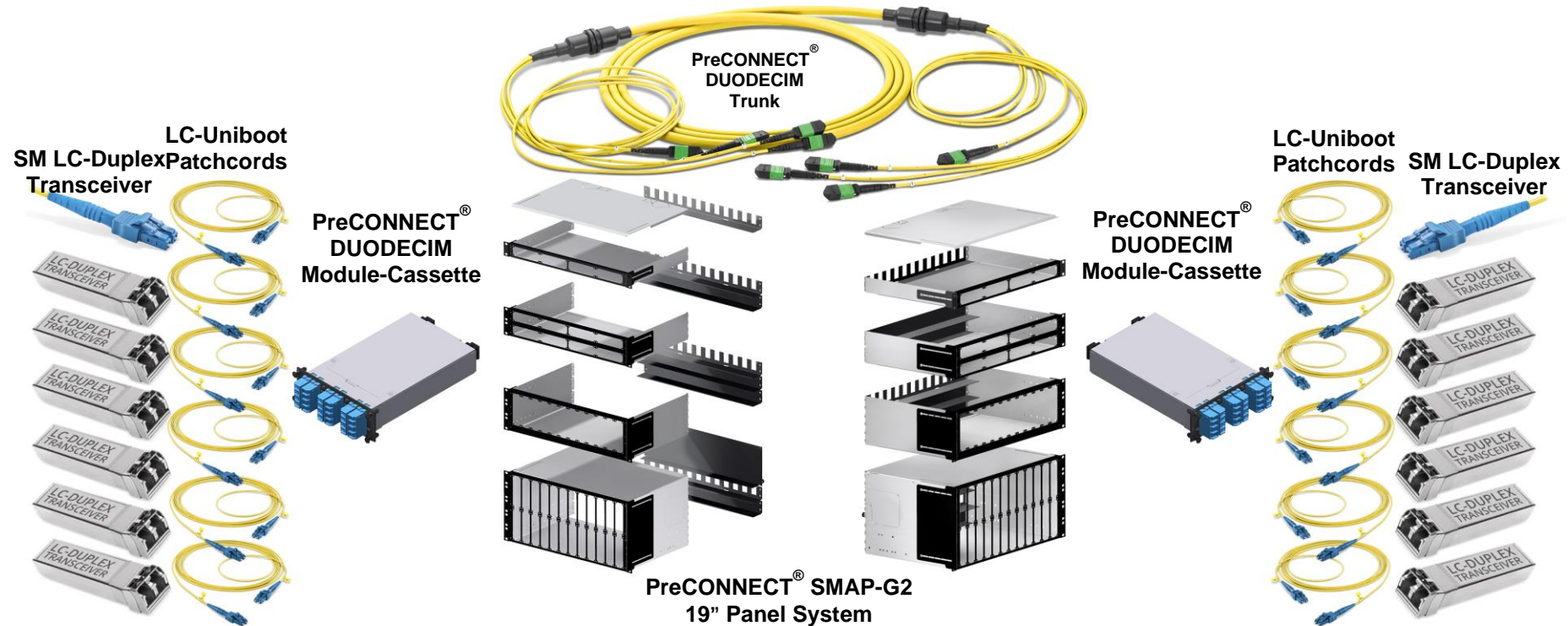**MM fiber max. channel length acc. to application and transceiver data sheet**

1. DUODECIM Trunks can be kept for future use, the inner four fibers of each MTP® channel are not used any longer.

2. Replace on both sides DUODECIM Module-Cassettes by Part-Front-Plates with MTP® adapters and LC-Uniboot Patchcords by PreCONNECT® OCTO MTP® Patchcords or Multijumpers.

3. The cabling system in this page can be built more cost competitive with completely PreCONNECT® OCTO system, because PreCONNECT® OCTO trunks have only 8 instead of 12 fibers per MTP® channel.

**PreCONNECT® DUODECIM application case duplex application:**

- **10/25/50 GBASE-LR**
- **16/32 GFC SM**



PreCONNECT®
DUODECIM
Trunk

LC-Uniboot
SM LC-Duplex Patchcords
Transceiver

LC-Uniboot
Patchcords
SM LC-Duplex
Transceiver

PreCONNECT®
DUODECIM
Module-Cassette

PreCONNECT®
DUODECIM
Module-Cassette

PreCONNECT® SMAP-G2
19" Panel System

**SM fiber max. channel length acc. to application and Transceiver data sheet**



Module-Cassette

Trunk

Module-Cassette

Rx to Tx

Type B 1 to 12

Rx to Tx
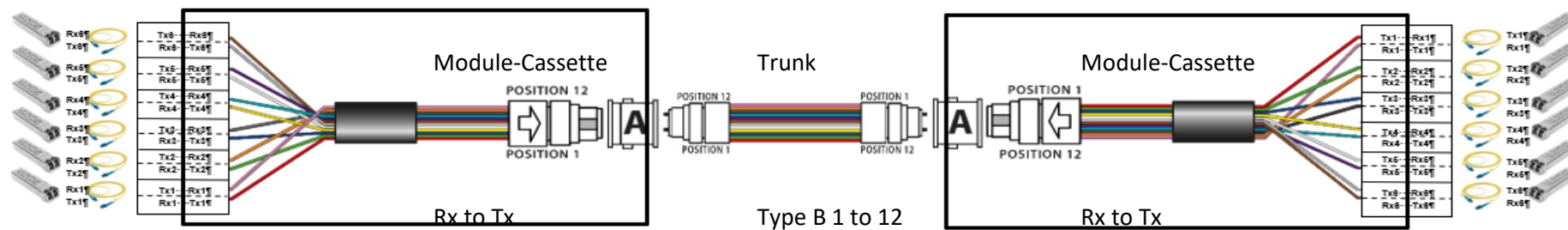
## PreCONNECT® DUODECIM migration to PSM4 parallel optics Port-Breakout with Module-Cassette: S I N G L E M O D E

- **100G PSM4 MPO to 4x25 GBASE-LR LC-Duplex**
- **4x10 GBASE-LR MPO to 4x10 GBASE-LR LC-Duplex**
- **200GBASE-DR4 MPO to 4x50 GBASE-LR LC Duplex**
- **400GBASE-DR4 MPO to 4x100 GBASE-LR LC Duplex**
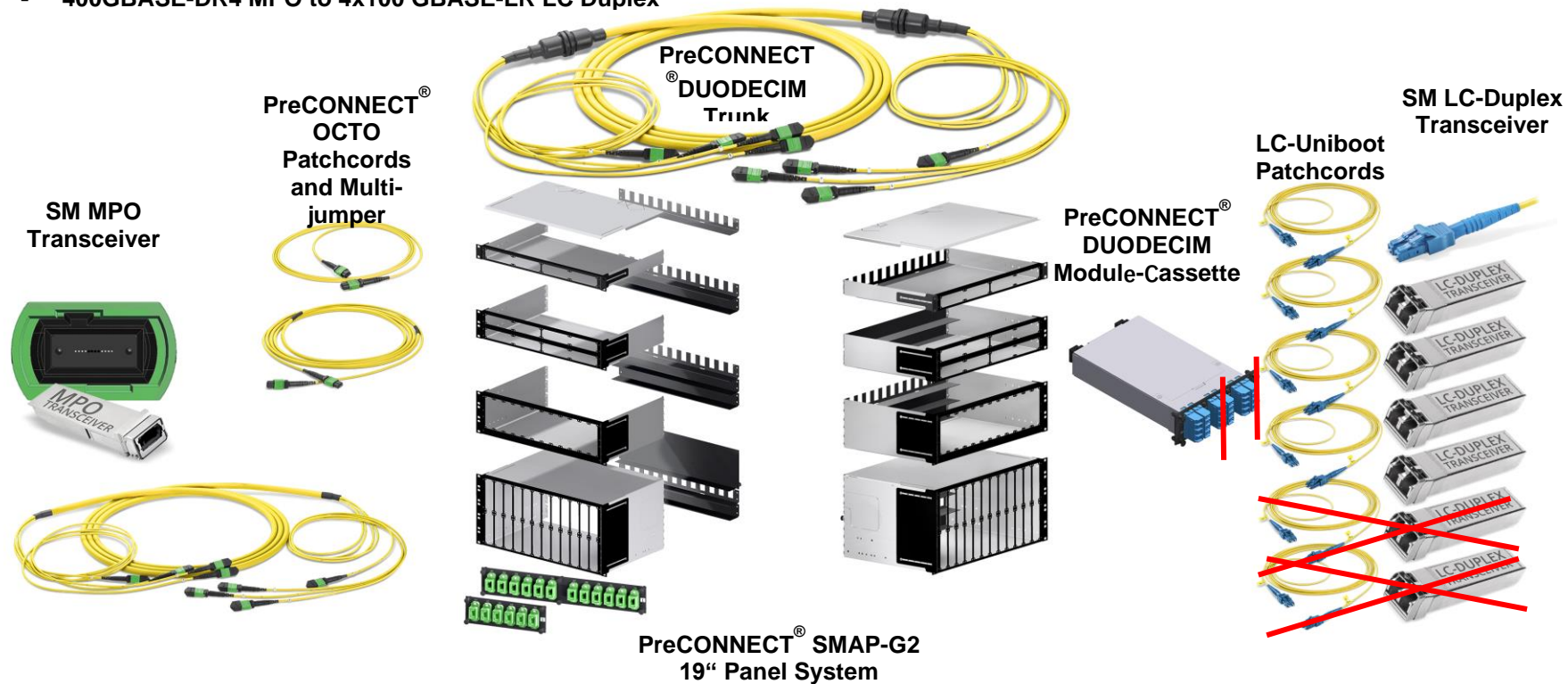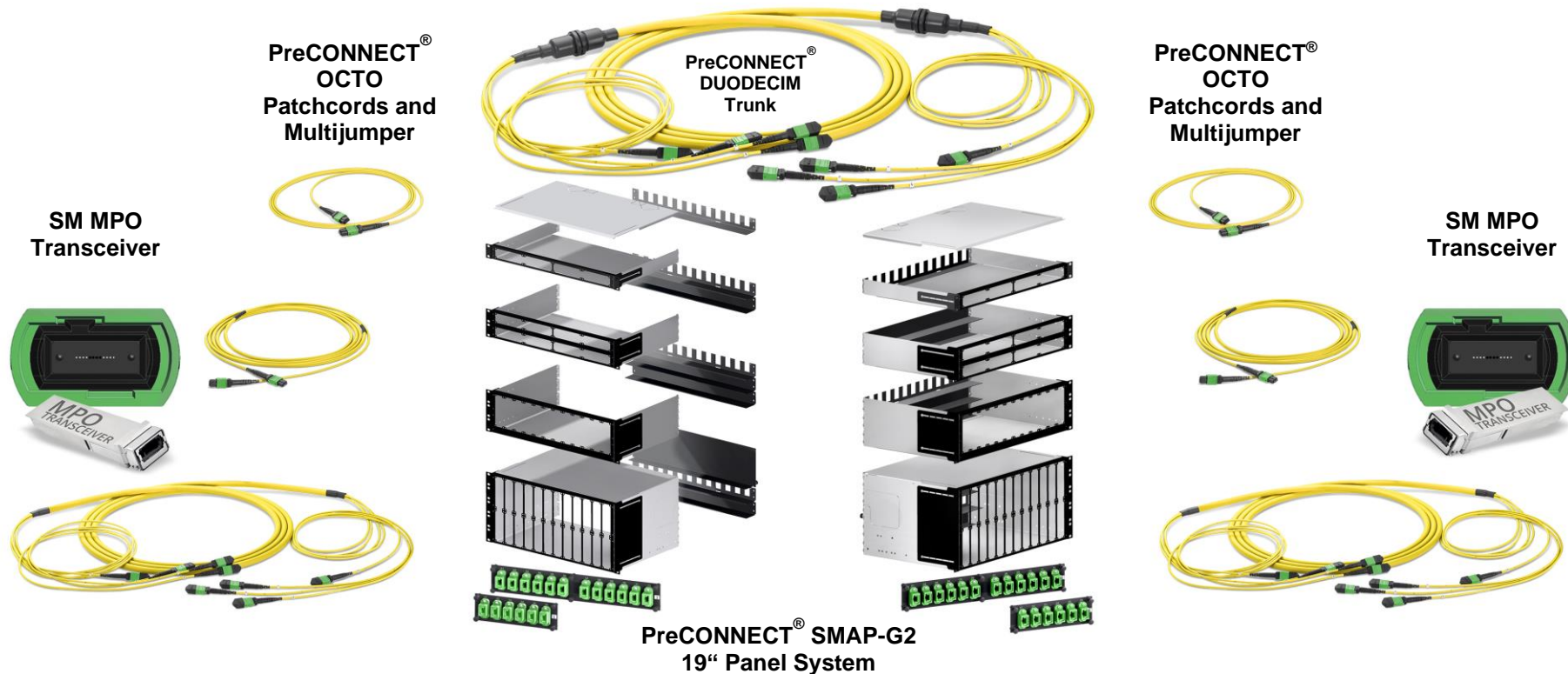


**SM fiber max. channel length acc. to application and Transceiver data sheet**

1. DUODECIM Trunks can be kept for future use, the inner four fibers of each MTP® channel are not used any longer.

2. Replace DUODECIM Module-Cassettes at the left PSM4 MPO Transceiver side by Part-Front-Plates with MTP® adapters and replace LC-Unitbot Patchcords by PreCONNECT® OCTO MTP® Patchcords or Multijumpers.

3. DUODECIM Module-Cassettes at the right duplex side can be kept for future use, but only channel 1 to 4, channel 5 and 6 are not used any longer.

4. The cabling system in this page can be built more cost competitive with completely PreCONNECT® OCTO system, because PreCONNECT® OCTO trunks have only 8 instead of 12 fibers per MTP® channel.

**PreCONNECT® DUODECIM migration to PSM4 parallel optics on both sides:**

SINGLEMODE

- **100G PSM4 MPO-MPO**
- **4x10 GBASE-LR MPO-MPO**
- **200GBASE-DR4 MPO-MPO**
- **400GBASE-DR4 MPO-MPO**



**PreCONNECT®
OCTO
Patchcords and
Multijumper**

**PreCONNECT®
DUODECIM
Trunk**

**PreCONNECT®
OCTO
Patchcords and
Multijumper**

**SM MPO
Transceiver**

**SM MPO
Transceiver**

**PreCONNECT® SMAP-G2
19" Panel System**

**SM fiber max. channel length acc. to application and Transceiver data sheet**

1. DUODECIM Trunks can be kept for future use, the inner four fibers of each MTP® channel are not used any longer.

2. Replace on both sides DUODECIM Module-Cassettes by Part-Front-Plates with MTP® adapters and LC-Uniboot Patchcords by PreCONNECT® OCTO MTP® Patchcords or Multijumpers.

3. The cabling system in this page can be built more cost competitive with completely PreCONNECT® OCTO system, because PreCONNECT® OCTO trunks have only 8 instead of 12 fibers per MTP® channel.

## PreCONNECT® DUODECIM SR4 OM4 Breakout-Trunk

OFNR Riser and OFNP Plenum rated Microunit
Breakout Cables n x 12 OM4 fibers
MTP® 12 male
Polarity TIA method B "1 to 12"
MTP® leg-length = standard stepped

**Part numbers, length variable:**

**OFNR Riser rated:**
**1  MTP® 12 channels: 034A1080OM4**
**2  MTP® 12 channels: 034A1081OM4**
**4  MTP® 12 channels: 034A1000OM4**
**8  MTP® 12 channels: 034A1001OM4**
**12 MTP® 12 channels: 034A1002OM4**

**OFNP Plenum rated:**
**1  MTP® 12 channels: 027A1080OM4**
**2  MTP® 12 channels: 027A1081OM4**
**4  MTP® 12 channels: 027A1000OM4**
**8  MTP® 12 channels: 027A1001OM4**
**12 MTP® 12 channels: 027A1002OM4**

| Microunit Breakout Cables n x 12 | | | |
|---|---|---|---|
| MTP® 12 channels | Structure | Fiber count | Diameter |
| 1 | 1x12 | 12 | 4.5mm (0.18") |
| 2 | 2x12 | 24 | 6.0mm (0.24") |
| 4 | 4 x 12 | 48 | 6.4 mm (0.25") |
| 8 | 8 x 12 | 96 | 8.7 mm (0.33") |
| 12 | 12 x 12 | 144 | 9.9 mm (0.39") |

## PreCONNECT® DUODECIM SR4 OM4 Trunk

OFNR Riser and OFNP Plenum rated loose tube
cables n x 12 OM4 fibers
MTP® 12 male
Polarity TIA method B "1 to 12"
MTP® leg-length = standard stepped

**Part numbers, length variable:**

**OFNR Riser rated:**
**4  MTP® 12 channels: 019A0157OM4**
**8  MTP® 12 channels: 019A0156OM4**
**12 MTP® 12 channels: 019A0158OM4**

**OFNP Plenum rated:**
**4  MTP® 12 channels: 020A0157OM4**
**8  MTP® 12 channels: 020A0156OM4**
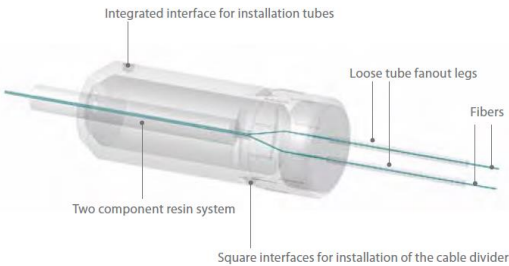**12 MTP® 12 channels: 020A0158OM4**

| MTP® 12 channels | Structure | Fiber count | Diameter [mm/"] |
|---|---|---|---|
| 4 | 4 x 12 | 48 | OFNR 10.1/0.40 OFNP 9.3/0.37 |
| 8 | 8 x 12 | 96 | OFNR 12.8/0.50 OFNP 12.2/0.48 |
| 12 | 12 x 12 | 144 | OFNR 16.3/0.64 OFNP 15.8/0.62 |

**OFNR Riser and OFNP Plenum rated loose tube cables n x 12**



With PreCONNECT® cable divider on both
sides



Integrated interface for installation tubes

Loose tube fanout legs

Fibers

Two component resin system

Square interfaces for installation of the cable divider

## PreCONNECT® DUODECIM PSM4 SM Breakout-Trunk

OFNR Riser and OFNP Plenum rated Microunit
Breakout Cables n x 12 SM fibers
MTP® 12 male
Polarity TIA method B "1 to 12"
MTP® leg-length = standard stepped

**Part numbers, length variable:**

**OFNR Riser rated:**
**1  MTP® 12 channels: 034A1080G657A1**
**4  MTP® 12 channels: 034A2000G657A1**
**8  MTP® 12 channels: 034A2002G657A1**
**12 MTP® 12 channels: 034A2003G657A1**

**OFNP Plenum rated:**
**1  MTP® 12 channels: 027A2080G657A1**
**4  MTP® 12 channels: 027A2000G657A1**
**8  MTP® 12 channels: 027A2001G657A1**
**12 MTP® 12 channels: 027A2002G657A1**

| Microunit Breakout Cables n x 12 | | | |
|---|---|---|---|
| MTP® 12 channels | Structure | Fiber count | Diameter |
| 1 | 1x12 | 24 | 4.5mm (0.18") |
| 4 | 4 x 12 | 48 | 6.4 mm (0.25") |
| 8 | 8 x 12 | 96 | 8.7 mm (0.33") |
| 12 | 12 x 12 | 144 | 9.9 mm (0.39") |

## PreCONNECT® DUODECIM PSM4 SM Trunk

OFNR Riser and OFNP Plenum rated loose tube
cables n x 12 SM fibers
MTP® 12 male
Polarity TIA method B "1 to 12"
MTP® leg-length = standard stepped

**Part numbers, length variable:**

**OFNR Riser rated:**
**4  MTP® 12 channels: 019A0001G657A1**
**8  MTP® 12 channels: 019A0002G657A1**
**12 MTP® 12 channels: 019A0003G657A1**

**OFNP Plenum rated:**
**4  MTP® 12 channels: 020A0001G657A1**
**8  MTP® 12 channels: 020A0002G657A1**
**12 MTP® 12 channels: 020A0003G657A1**

| MTP® 12 channels | Structure | Fiber count | Diameter [mm/"] |
|---|---|---|---|
| **OFNR Riser and OFNP Plenum rated loose tube cables n x 12** | | | |
| 4 | 4 x 12 | 48 | OFNR 10.1/0.40<br>OFNP 9.3/0.37 |
| 8 | 8 x 12 | 96 | OFNR 12.8/0.50<br>OFNP 12.2/0.48 |
| 12 | 12 x 12 | 144 | OFNR 16.3/0.64<br>OFNP 15.8/0.62 |

With PreCONNECT® cable divider on both sides



Integrated interface for installation tubes
Loose tube fanout legs
Fibers
Two component resin system
Square interfaces for installation of the cable divider

## SMAP-G2 19" panel system with 1HU 1/4 part front plates and MTP® module

**Port density:**
- 48 LC-Duplex ports per HU with MTP® module cassettes

**Dimensions:**
- Width: 19"
- Height: 1, 2, 3 and 5 HU
- Depth: 200mm and 300mm. We recommend 300mm as shown here, because the space to accommodate trunk cable dividers and connector legs is uncomfortable narrow within 200mm deep panels.

**Part numbers:**

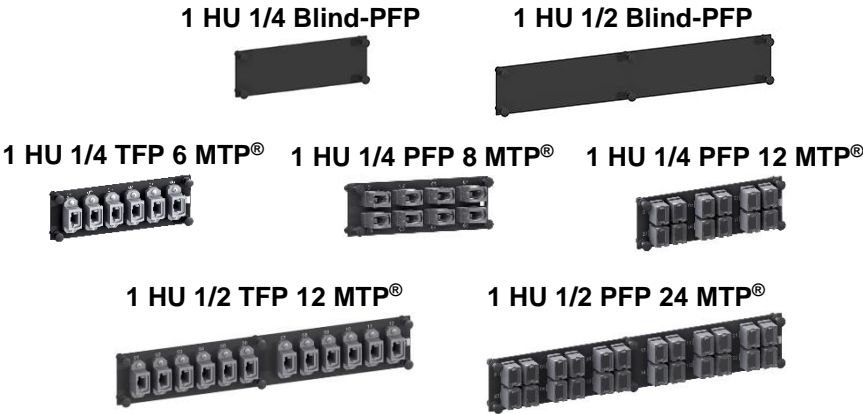SMAP-G2 empty distribution panels, RAL9005 black, back plane with 12 PreCONNECT® square interfaces:

| | |
|---|---|
| 1HU, depth 300mm | 171A0001 |
| 1HU, depth 200mm | 171A0020 |
| 2HU, depth 300mm | 172A0001 |
| 3HU, depth 300mm | 173A0001 |
| 5HU, depth 300mm | 175A0001 |

**SMAP-G2 panels for PURE trunks are described behind in this document.**
**Find further information in our product information SMAP-G2.**



1HU
2HU
3HU
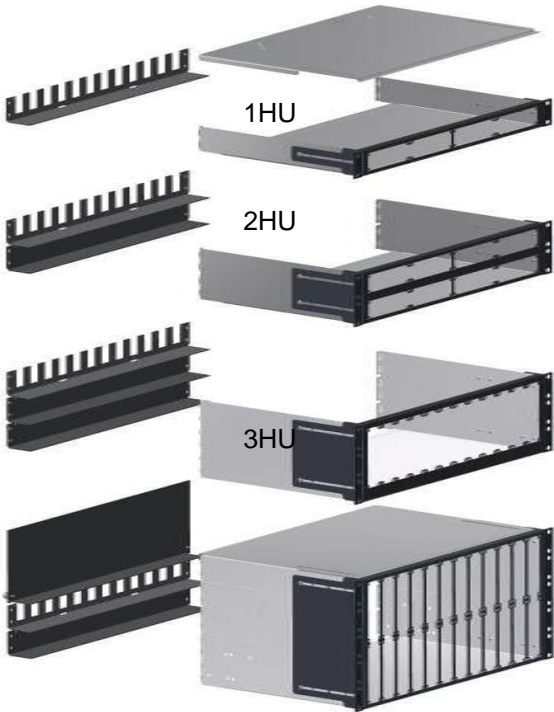
### SMAP-G2 1HU 1/4 part front plates with matrix numbering:

| Part numbers RAL9005 black | | | |
|---|---|---|---|
| 1HU 1/4 Blind-PFP | 170A0001 | | |
| 1HU 1/2 Blind-PFP | 170A0002 | | |
| PFP type | Number and type of ports | for fiber type | |
| | | MM | SM |
| | | Violet type A "oppose key" | green type A "opposed key" |
| 1HU 1/4 | 6 x MTP® | 170A0634OM4 | 170A0620 |
| 1HU 1/4 | 8 x MTP® | 170A0142OM4 | 170A0140 |
| 1 HU 1/4 | 12 x MTP® | 170A0636OM4 | 170A0623 |
| 1HU 1/2 | 12 x MTP® | 170A0671OM4 | 170A0660 |
| 1 HU 1/2 | 24 x MTP® | 170A0674OM4 | 170A0664 |
| Find part numbers for panels factory assembled with part front plates in our product information SMAP-G2. | | | |



**1 HU 1/4 Blind-PFP**       **1 HU 1/2 Blind-PFP**

**1 HU 1/4 TFP 6 MTP®**   **1 HU 1/4 PFP 8 MTP®**   **1 HU 1/4 PFP 12 MTP®**

**1 HU 1/2 TFP 12 MTP®**   **1 HU 1/2 PFP 24 MTP®**

# PreCONNECT® DUODECIM Module-Cassettes

## for SMAP-G2 with 1HU Part-Front-Plates PFP

**Properties:**
- For duplex applications and Port-Breakout of PreCONNECT® DUODECIM Trunks, as described in the application cases earlier in this document
- Height: 1HU
- Width: ¼
- Depth: 115 mm
- Polarity: Rx to Tx
- MTP® multimode and singlemode TIA Type A "1 to 1" Adapter colors: OM4 = Violet, SM = Green
- 2xMTP® 12 female interfaces at the back plane
- LC-Duplex interfaces at the front plane
- Toolless placement of the module cassettes into the panel from the front side, fixing with quick fasteners
- Material and color:
  - Cassette body: aluminum silver
  - Front: Steel powder coated RAL9005 black
-
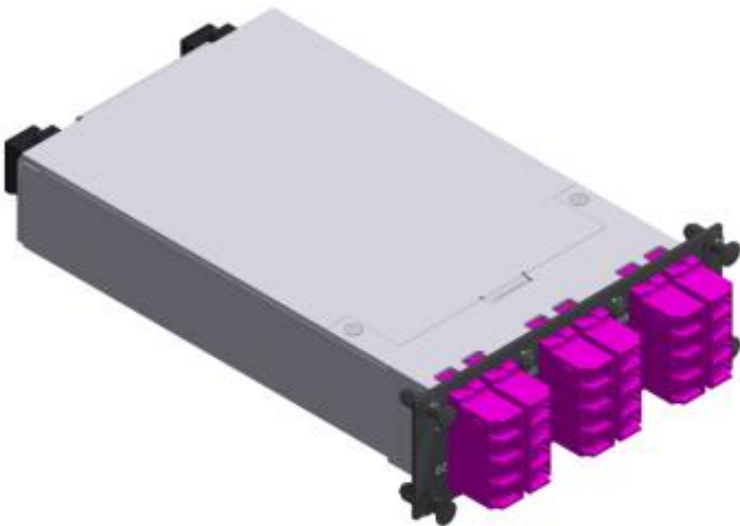
| Part numbers | | | |
|---|---|---|---|
| **Number of MTP® 12 female interfaces at the back plane** | **Number of LC-Duplex interfaces at the front plane** | **OM4** | **SM** |
| 2 | 12 | 170A2006OM4 | 170A2004 |

## PreCONNECT® SMAP-G2 High Density (HD) 19" panel system:

**Port density:**
- 72 MTP® ports per HU with MTP® part front plates
- 48 LC-Duplex ports per HU with MTP® module cassettes

**Dimensions:**
- Width: 19"
- Height: 1HU and 2HU
- Depth: 200mm and 300mm. We recommend 300mm as shown here, because the space to accommodate trunk cable dividers and connector legs is uncomfortable narrow within 200mm deep panels.

**Part numbers:**

SMAP-G2 HD empty distribution panels, RAL9005 black, back plane with 12 PreCONNECT® square interfaces:

| 1HU, depth 300mm | 171H0010 |
|---|---|
| 1HU, depth 200mm | 171H0001 |
| 2HU, depth 300mm | 172H0001 |
| 2HU, depth 200mm | on request |

**SMAP-G2 HD panels are not appropriate for PURE trunks.**
**Find further information in our product information SMAP-G2 HD.**
**LC-COMPACT Push-Pull-Boot (LCC-PPB) patchcords with cable diameter 2.0 mm or thinner must be used with this panel system, to be found behind in this product information.**

4/4 DUODECIM width partition

## SMAP-G2 HD 1/3HU 1/4 part front plates with matrix numbering:

| Part numbers RAL9005 black | | | |
|---|---|---|---|
| 1/3HU 1/4 Blind-PFP | 170H0001 | | |
| | | for fiber type | |
| PFP type | Number and type of port | MM | SM |
| | | 6 MTP®  Type A "Key-up to Key-down" violet | 6 MTP® Type A "Key-up to Key-down" green |
| 1/3HU 1/4 | 6 x MTP® | 170H2013OM4 | 170H2023 |
| Find part numbers for panels factory assembled with part front plates in our product information SMAP-G2 HD. | | | |
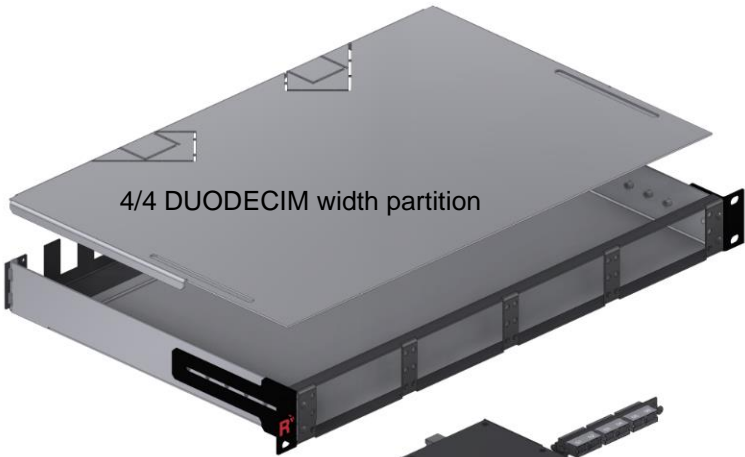
**1/3HU 1/4PFP 6 MTP®**

**1/3HU 1/4 Blind-PFP**

# PreCONNECT® DUODECIM Module-Cassettes

## for SMAP-G2 HIGH-DENSITY with 1/3 HU Part-Front-Plates PFP

**Properties:**

- For duplex applications and Port-Breakout of PreCONNECT® DUODECIM Trunks, as described in the application cases earlier in this document
- Height: 1/3 HU
- Width: ¼
- Depth: 124 mm
- Polarity: Rx to Tx
- MTP® multimode and singlemode TIA Type A "1 to 1" Adapter colors: OM4 = Violet, SM = Green
- MTP® 12 female interfaces at the back plane
- LC-Duplex interfaces at the front plane
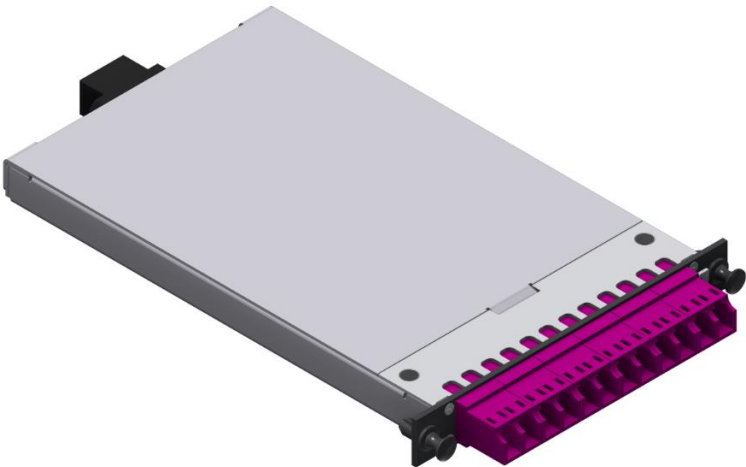
| Part numbers | | | |
|---|---|---|---|
| Number of MTP® 12 female interfaces at the back plane | Number of LC-Duplex interfaces at the front plane | OM4 | SM |
| 1 | 6 | 170H1008OM4 | 170H1004 |

## SMAP-G2 ULTRA HIGH DENSITY UHD 19" panel system with 1/2HU 1/6 MTP® module cassettes:

**Port density:**
▪ 96 LC-Duplex ports per HU

**Dimensions:**
▪ Width: 19"
▪ Height: 1HU
▪ Depth: 200mm and 300mm. We recommend 300mm as shown here, because the space to accommodate trunk cable dividers and connector legs is uncomfortable narrow within 200mm deep panels.

**Part numbers:**

SMAP-G2 UHD empty distribution panels, RAL9005 black, back plane with 16 PreCONNECT® square interfaces:

▪ 4/4 slot partition, depth 300mm: 171H0011

Blind part front plates, steel powder coated RAL9005 black:

▪ 1/2HU 1/4 width for 4/4 slot: 170H3001

**LC-COMPACT Push-Pull-Boot (LCC-PPB) patchcords with cable diameter 2.0 mm or thinner must be used with this panel system, to be found behind in this product information.**

**SMAP-G2 UHD panels are not appropriate for PURE trunks.**

**Find further information in our product information SMAP-G2 UHD.**
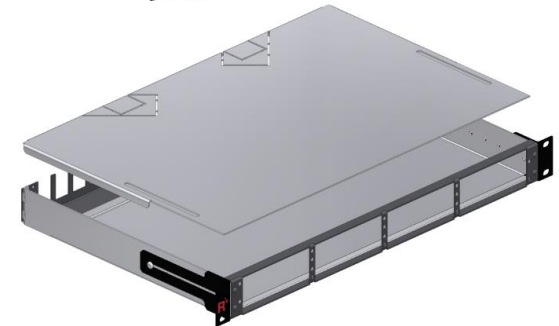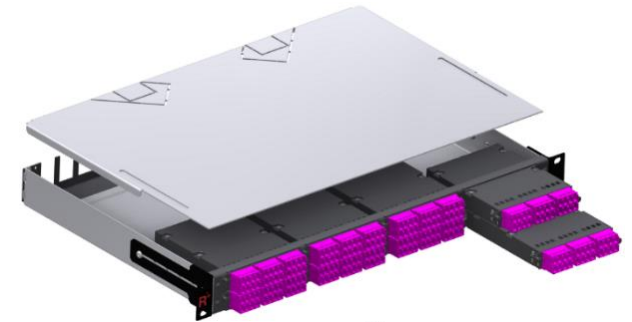
**1/2 HU 1/4 PFP 6 MTP®**          **1/2 HU 1/4 Blind-PFP**
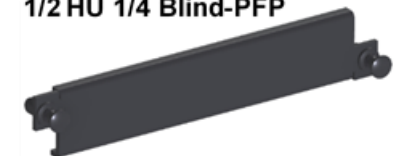
## SAMP-G2 UHD 24 fiber MTP® module cassettes for 4/4 slot panels fitting for PreCONNECT® DUODECIM trunks

**Properties:**

- For Port-breakout of PreCONNECT® DUODECIM trunks with MTP® connectors
- Fitting in 4/4 slot SMAP-G2 UHD panel
- Height: 1/2HU
- Width: 1/4
- Depth: 115mm
- Polarity: Rx to Tx
- 2x MTP® female port 12F DUODECIM at the rear side:
  - OM4: MTP® adapter type B „aligned key" grey
  - SM: MTP® adapter type A „opposed key" green
- LC-Duplex ports at the front side
- Toolless placement of the module cassettes into the panel from the front side, fixing with quick fasteners
- Material and colour of cassette body: steel powder coated RAL9005 black
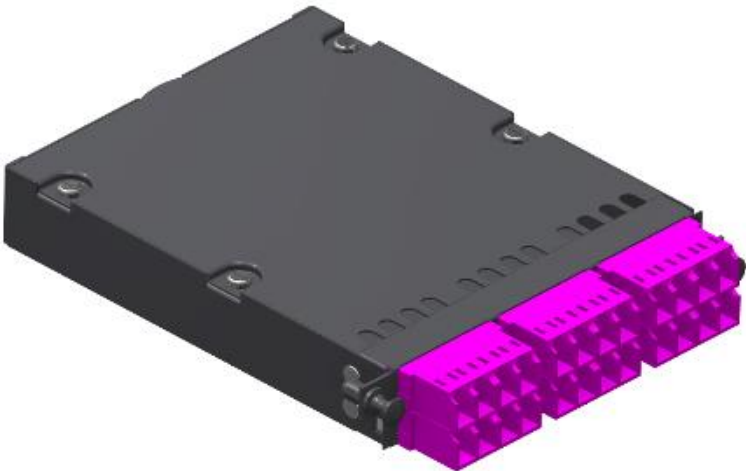
| Part numbers RAL9005 black | | | |
|---|---|---|---|
| **Number and type of MTP® female ports at rear side** | **Number of LC-Duplex ports at front side** | **OM4** | **SM LC-PC 0°** |
| **2x 12F DUODECIM** | **2 DUODECIM groups of 6 = 12** | **170H4008OM4** | **170H4004** |
| Find part numbers for panels factory assembled with MTP® module cassettes in our product information SMAP-G2 UHD. | | | |

## SMAP-G2 PURE

### 19" Distribution Panels empty

| Part numbers RAL9005 black | |
|---|---|
| 1HU | 171A0001P |
| 2HU | 172A0001P |
| 3HU | 173A0001P |
| 5HU | 175A0001P |

Standard back plane configuration for max. 12 Trunk cable-dividers per panel.



PreCONNECT® PURE MTP® adapter-interface at Trunk connector legs



### SMAP-G2 PURE Part-Front-Plates PFP

1HU 1/4 TFP for 6 and 8 MTP® adapter-interfaces



1HU 1/2 TFP for 12 MTP® adapter-interfaces



1HE 1/4 Blind-PFP



1HE 1/2 Blind-PFP



| SMAP-G2 PURE 1/4 and 1/2 Part-Front-Plates part numbers RAL9005 black | |
|---|---|
| PFP type / number of adapter slots | SMAP-G2 PURE Part-Front-Plates without adapters |
| 1/4 Blind-PFP | 170A0001P |
| 1/2 Blind-PFP | 170A0002P |
| ¼ / 6 MTP® | 170A0630P |
| ¼ / 8 MTP® | 170A0140P |
| ½ / 12 MTP® | 170A0670P |

## PreCONNECT® OCTO SR4 OM4 Patchcord

**MULTIMODE**

**Single jacket:**

OFNR Riser and OFNP Plenum rated Microunit
Interconnect Cables 8 OM4 fibers
Diameter 3 mm
MTP® 12 female with OCTO fiber assignment
Polarity TIA method B "1 to 12"

**Part number, length variable:**

**OFNR Riser rated:**   **080A2066OM4**

**OFNP Plenum rated: 080A2061OM4**



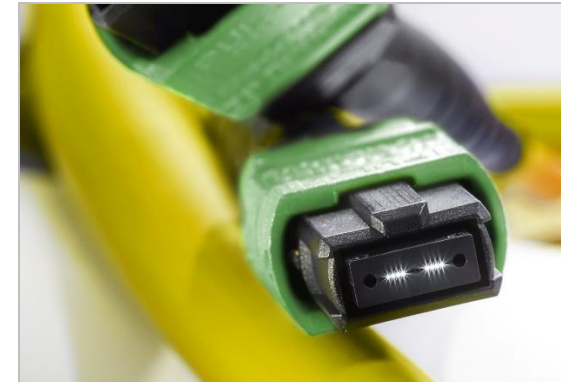**PreCONNECT® OCTO Patchcords polarity TIA method B "1 to 12" are suitable for Transceiver-Transceiver direct-attach.**

## PreCONNECT® OCTO PSM4 SM Patchcords

OFNR Riser and OFNP Plenum rated Microunit
Interconnect Cables 8 SM fibers
Diameter 3 mm
MTP® 12 female with OCTO fiber assignment
Polarity TIA method B "1 to 12"

**Part number, length variable:**

**OFNR Riser rated:**   **080A2067G657A1**

**OFNP Plenum rated: 080A2062G657A1**

**PreCONNECT® OCTO Patchcords polarity TIA method B "1 to 12" are suitable for Transceiver-Transceiver direct-attach.**

## PreCONNECT® OCTO SR4 OM4 Multijumper (Multipatchcord)

OFNR Riser and OFNP Plenum rated Microunit
Breakout Cables n x 8 OM4 fibers
MTP® 12 male with OCTO fiber assignment
Polarity TIA method B "1 to 12"
MTP® leg-length = standard stepped

**Part numbers, length variable:**

**OFNR Riser rated:**
**4 OCTO channels:   034A2052OM4**
**8 OCTO channels:   034A2053OM4**
**12 OCTO channels: 034A2054OM4**

**OFNP Plenum rated:**
**4 OCTO channels:   027A2052OM4**
**8 OCTO channels:   027A2053OM4**
**12 OCTO channels: 027A2054OM4**

| Microunit Breakout Cables n x 8 | | | |
|---|---|---|---|
| OCTO channels | Structure | Fiber count | Diameter |
| 4 | 4 x 8 | 32 | 6.4 mm (0.25") |
| 8 | 8 x 8 | 64 | 8.7 mm (0.33") |
| 12 | 12 x 8 | 96 | 9.9 mm (0.39") |

**PreCONNECT® OCTO Multijumper polarity TIA method B "1 to 12" are suitable for Transceiver-Transceiver direct-attach.**

## PreCONNECT® OCTO PSM4 SM Multijumper (Multipatchcord)

OFNR Riser and OFNP Plenum rated Microunit
Breakout Cables n x 8 SM fibers
MTP® 12 male with OCTO fiber assignment
Polarity TIA method B "1 to 12"
MTP® leg-length = standard stepped

**Part numbers, length variable:**

**OFNR Riser rated:**
**4 OCTO channels:   034A2060G657A1**
**8 OCTO channels:   034A2061G657A1**
**12 OCTO channels: 034A2062G657A1**

**OFNP Plenum rated:**
**4 OCTO channels:   027A2060G657A1**
**8 OCTO channels:   027A2061G657A1**
**12 OCTO channels: 027A2062G657A1**

**Microunit Breakout Cables n x 8**

| OCTO channels | Structure | Fiber count | Diameter |
|---|---|---|---|
| 4 | 4 x 8 | 32 | 6.4 mm (0.25") |
| 8 | 8 x 8 | 64 | 8.7 mm (0.33") |
| 12 | 12 x 8 | 96 | 9.9 mm (0.39") |
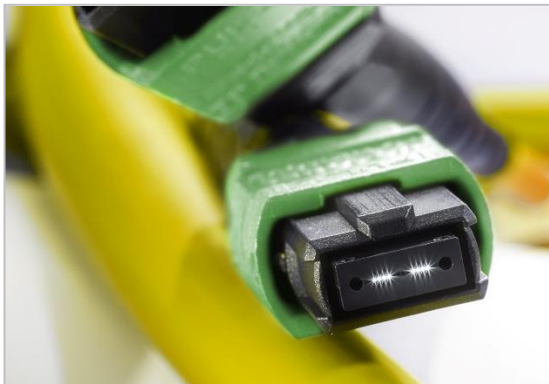


**PreCONNECT® OCTO Multijumper polarity TIA method B "1 to 12" are suitable for Transceiver-Transceiver direct-attach.**

## Patchcords

**Properties:**
- Required for the high density of the SMAP-G2 HIGH-DENSITY 19" Panel System
- Kink and crush resistance optimized for environmental conditions
- Suitable for operation in temperatures from -10 °C to +60 °C
- Polarity:
  The standard polarity is TIA 568.3-D (A to B pairing) for full-duplex transmission system –A1 to B1, A2 to B2, etc.

**Length tolerances:**
- Up to 1 m = - 50 mm
- 2 m to 3 m = - 100 mm
- 4 m to 25 m = - 200 mm
- Longer than 25 m = - 1 %

**Delivery form:**
- Attenuation measured in accordance with IEC 61300-3-4 "C" or "Substitution" method, measurement values on request
- Serial number labels at the cable ends on both sides
- Individually packaged in foil bags with product ID label

**For our SMAP-G2 HD, SMAP-G2 UHD only patchcords with diameter 2.0mm or thinner should be applied.**
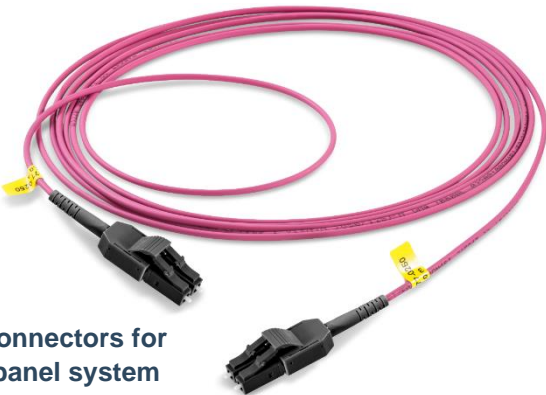
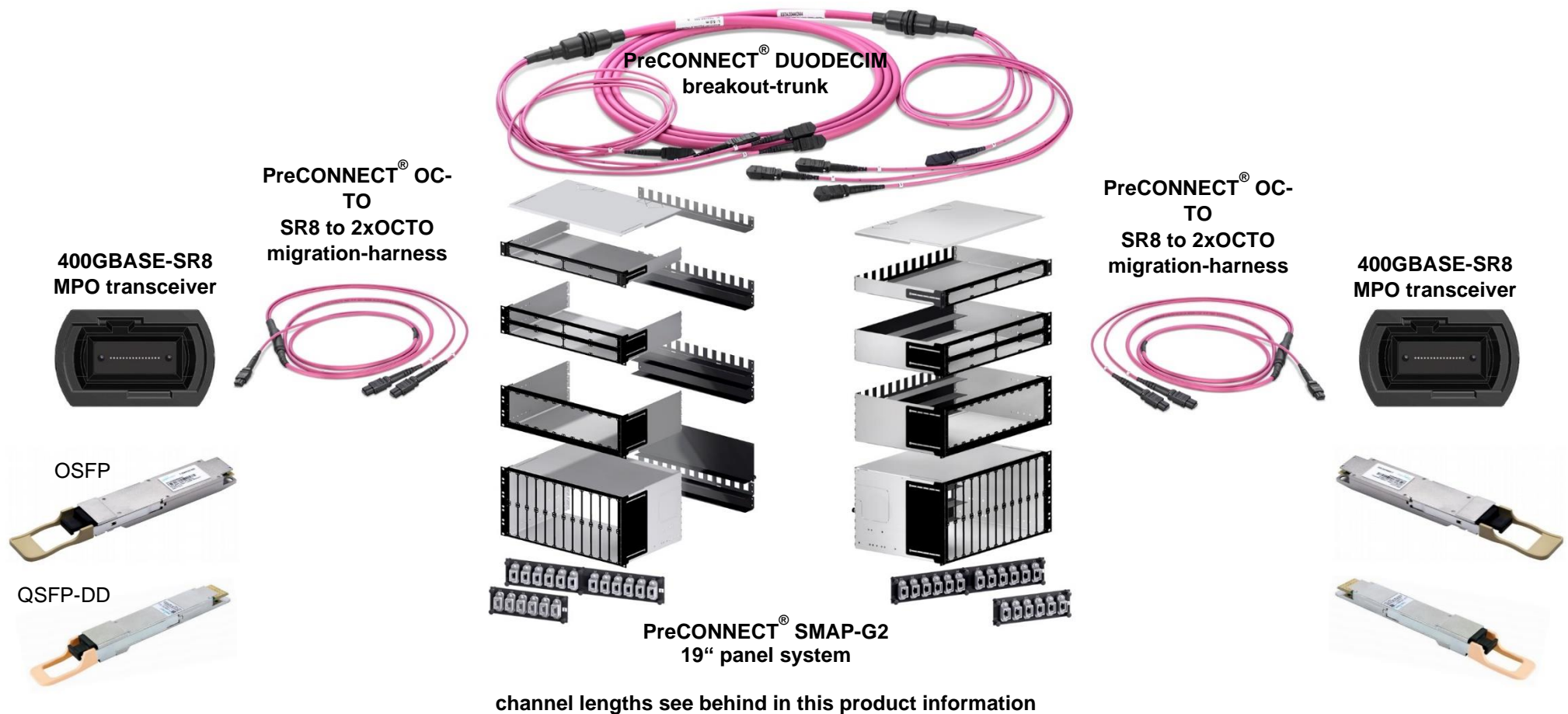**With LC-COMPACT (LCC) connectors for SMAP-G2 SD and DCP 19" panel system**

**With LC-COMPACT Push-Pull-Boot (LCC-PPB) connectors for SMAP-G2 HD and UHD 19" panel system**
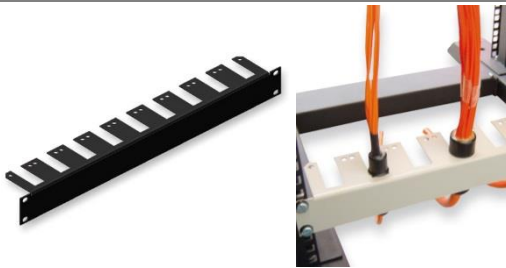
**Part numbers**
**Duplex Patchcord cable type round OFNR Riser and OFNP Plenum rated 2 fibers Interconnect Cables**

| Cable diameter | Connectors | Length | Rating | OM4 | SM |
|---|---|---|---|---|---|
| 2.0mm | LC-Uniboot » LC-Uniboot | variable | OFNR Riser | 087A6661OM4 | 087A6662G657A1 |
| | | | OFNP Plenum | 087A6657OM4 | 087A6658G657A1 |
| 2.0mm | LCC-PPB » LCC-PPB | variable | OFNP Plenum | 087A6677OM4YYY | 087A6678G657A1YYY |

## Migration of PreCONNECT® DUODECIM to 400GBASE-SR8:

Part numbers of the shown migration-harness and how PreCONNECT® DUODECIM can be migrated to 400GBASE-SR16, will we explain to you on request.
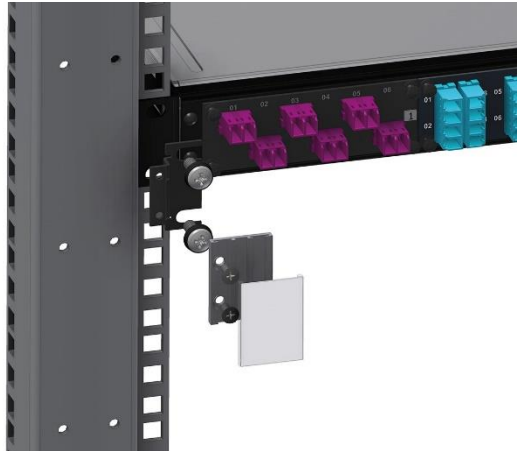


PreCONNECT® DUODECIM
breakout-trunk

PreCONNECT® OC-TO
SR8 to 2xOCTO
migration-harness

400GBASE-SR8
MPO transceiver

OSFP

QSFP-DD

PreCONNECT® OC-TO
SR8 to 2xOCTO
migration-harness

400GBASE-SR8
MPO transceiver

PreCONNECT® SMAP-G2
19" panel system

**channel lengths see behind in this product information**

## Accessories:

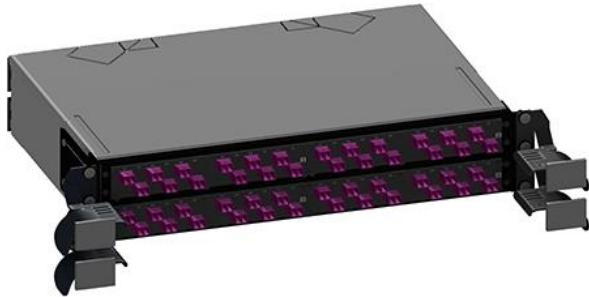| | Part number | |
|---|---|---|
| **19" 1 HU Universal Trunk Cable Divider Holder**<br><br>For the universal installation of trunk cable dividers in 19" cabinets and racks.<br>RAL 9005 (black) | 099A0085 |  |
| **19" 1 HU Individual Universal Trunk Cable Divider Holder**<br><br>For the universal installation of trunk cable dividers in 19" cabinets or racks or anywhere where these components can be installed individually.<br>RAL 9005 (black) | 099A0065 |  |
| **19" Horizontal Cable Manager**<br>RAL 9005 (black)<br><br>1 HU<br>2 HU | 111A0454<br>111A0453 |  |
| **19" Cable Overlength Panel to be mounted behind Cable Managers to store Trunk cable overlengths**<br>RAL 9005 (black)<br><br>1 HU<br>2 HU<br>Cable Managers must be ordered separately. | 142A0530<br>142A0531 |  |

## Accessories:

| | Part number | |
|---|---|---|
| **Labeling Fields**<br><br>Suitable for all Rosenberger OSI panels and most commercially available panels, comprising:<br><br>- 1 labeling field<br>- Mounting material<br>- Mounting instructions<br><br>1 HU<br>2 HU<br>3 HU<br>4 HU<br>5 HU | <br><br><br><br><br><br><br><br><br><br><br>171A0002<br>172A0002<br>173A0002<br>174A0002<br>175A0002 |  |
| **1 HU Patchcord Guides**<br><br>For routing and fixing patchcords per height unit. 1 HU to both sides. The patchcord guide prevents excessively small bending radius, which increase attenuation in the patchcord. Set consisting of 1 HU left-hand and right-hand patchcord guides with labeling fields and Velcro strips, M6 screws and cage nuts. Suitable for use in 600 mm wide cabinets.<br><br>For 1 HU Panel<br>For 2 HU Panel<br>For 3 HU Panel<br>For 4 HU Panel<br>For 5 HU Panel | <br><br><br><br><br><br><br><br><br><br><br><br>171A0006<br>172A0006<br>173A0006<br>174A0006<br>175A0006 |  |

## Accessories:

| | Part Number | |
|---|---|---|
| **Patchcord Guides with foldaway labeling field**<br><br>For routing and fixing patchcords to both sides. The patchcord guide prevents excessively small bending radius, which increase attenuation in the patchcord.<br><br>The foldaway labeling field can be opened for patching.<br><br>19" Patchcord manager<br><br>- height units saving (0HU) mountable in front of 19" panels<br>- with foldaway front cover<br>- depth 98mm<br><br>  1 HU<br><br>  2 HU<br><br>- height 30mm<br> - low magnetic adhesive<br><br>                    length 50mm<br>                    length 390mm<br><br><br>**For 19" panel accessories see our product information 19" panel accessories** | <br><br><br><br><br><br><br><br><br><br><br><br><br>111A0473<br><br>111A0474<br><br><br><br><br><br>111A0442<br>111A0443 | |

## Patch Location Rack:

**Applications:**
- High-density data center infrastructures and ultra-high-density data center patch locations

**Properties:**
- Cable managers attach to the sides of the rack providing cable routing for jumpers and trunk cables
- Doors on the cable managers open in both directions and are completely removable
- Professional routing of large cable volumes from the patch areas and storage of cable over length in the vertical cable managers
- Rounded T-shaped fingers ensure that the cables are extremely well protected against bending and kinking even when subject to strain.
- Material and color: Powder-coated aluminum and steel, black or glacier white

**Optional:**
Cable manager available in multiple sizes (widths). Use End manager at the ends of rows or on single racks, use mid manager in-between racks in multi-rack rows.

**Delivery form:**
- Rack and cable managers are packaged separately. Choice of cable manager sizes. Rack assembles with included hardware. Cable managers attach to the side(s) of the rack.
- Attach rack to the floor with floor-mount hardware, M10 (3/8-16) concrete anchors or all thread.

| Description | Part Number | Shipping Weight kg (lb) |
|---|---|---|
| Standard Rack, 45U, 2100 mm (84 in.) H, 150 mm (6 in.) D, 482.6 mm (19 in. EIA) W, Black | 66353-703 | 17.2 (38) |
| Standard Rack, 45U, 2100 mm (84 in.) H, 150 mm (6 in.) D, 482.6 mm (19 in. EIA) W, Glacier White | 66353-E03 | 17.2 (38) |
| Evolution g3 Combination Vertical Cable Manager, 2100 mm (84 in.) H, 513 mm (20.2 in.) D, 200 mm (8.0 in.) W, Black | 35572-703 | 32.7 (72) |
| Evolution g3 Combination Vertical Cable Manager, 2100 mm (84 in.) H, 513 mm (20.2 in.) D, 200 mm (8.0 in.) W, Glacier White | 35572-E03 | 32.7 (72) |
| Evolution g3 Combination Vertical Cable Manager, 2100 mm (84 in.) H, 513 mm (20.2 in.) D, 150 mm (6.0 in.) W, Black | 35571-703 | 30.8 (68) |
| Evolution g3 Combination Vertical Cable Manager, 2100 mm (84 in.) H, 513 mm (20.2 in.) D, 150 mm (6.0 in.) W, Glacier White | 35571-E03 | 30.8 (68) |

**About Rosenberger:**

Rosenberger designs and manufactures world class solutions to address a variety of needs in Data Centers and Enterprise networks around the globe. With over 25 years of optical fiber network experience, and optical manufacturing in North America, Europe, Asia, and South America, our optical interconnection solutions are deployed in many of the largest Data Centers in the world. As the optical networking industry moves from many smaller enterprise owned data centers to fewer "hyper-scale" providers of Cloud and Colocation hosting, so has Rosenberger continued to innovate solutions to address the changing interconnection needs. Our solutions are deployed in many of the largest data centers of the world.

For further information, please visit: www.rosenberger.com

**Your contact in North America**

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