Rosenberger

PreCONNECT® OCTO

PRODUCT INFORMATION

PreCONNECT® OCTO solution is available in three end face quality features: BASIC, PURE and LOTUS

Define the end face quality according to your application requirements:

Quality feature 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 quality feature BASIC solution ensure end to end performance of the entire channel

Quality feature PURE is the enhanced version of our quality feature BASIC, but with more stringent defect and cleanliness screening and factory sealed, tamper evident adapter interfaces.

- Guaranteed protection of the polished connector end face 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*/**.
- Quality feature PURE provides an industry leading low random mate insertion and return loss (mean) which enables up to six (6) mated pairs in a 10G/OM4 application up to 300m.

Quality feature LOTUS builds upon our BASIC and 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:

Quality feature BASIC: The part numbers XXXAXXXX listed in this document are valid for the BASIC quality feature.

Quality feature PURE: Add a "**P**" to the end of the quality feature BASIC part number (*Example: XXXAXXXX**P***)

Quality feature LOTUS: Add an "**L**" to the end of the quality feature BASIC part number (*Example: XXXAXXXX**L***)

(Note: 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 PURE installations due to guaranteed performance, certain customers will require testing documentation for their records.*

*** Only applicable when all components are of quality feature PURE and installed by trained PURE installers.*

Applications:

Infrastructure and IT room cabling within data centers

System consists of:

- Factory assembled fiber optic breakout cables, FRNC-LSZH indoor cables, up to 192 fibers with connector systems MTP® 4+4 fiber OCTO per MTP® channel
- Port-breakout with MTP® - LC harnesses and MTP® module cassettes with LC front
- Four 19“ panel systems SMAP-G2 SD, SMAP-G2 HD, SMAP-G2 UHD and DCP selectable
- Suitable patchcords
- Useful accessories
- Patch location rack

Features:

- For all who already have on minimum one cabling side MPO based parallel optics SR4, PSM4 or DR4 transceivers
- Cost and attenuation optimized for SR4, PSM4 or DR4 applications

Your benefits at a glance:

- MTP® cabling system perfectly fitting for SR4, PSM4 and DR4 applications
- Cost reduction through the only for SR4, PSM4 and DR4 needed 8 fibers instead of the so far usual 12 are in one MTP® channel
- Fast and safe installation trough factory assembled plug & play systematic
- Highest quality and cost-efficiency through factory assembling
- PreCONNECT® cabling systems consist of perfectly harmonized modular single components

PreCONNECT® OCTO breakout trunk

PreCONNECT® OCTO harness

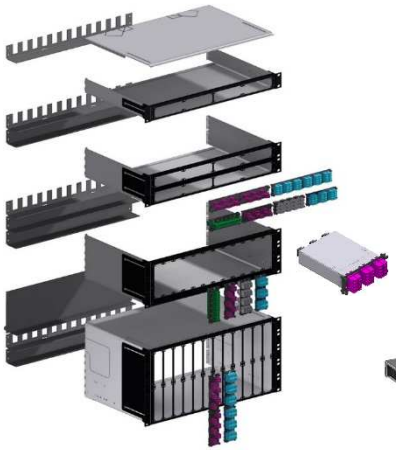
PreCONNECT® OCTO patchcords and multijumper

LC-COMPACT patchcords

patch location rack

19” panel systems

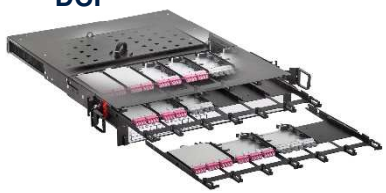
SMAP-G2 SD



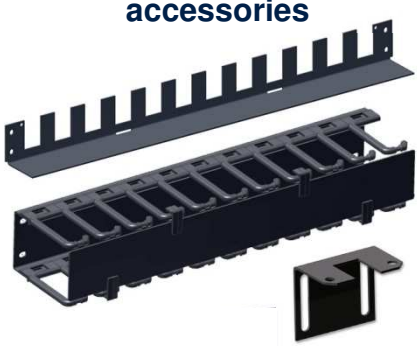
SMAP-G2 HD

SMAP-G2 UHD

DCP



accessories



Application:

MTP® (MPO) based data center cabling with 8 fibers per MTP® channel:

Optimized for parallel optics applications:

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

Easy migration to
400 GBASE-SR8 and SR16.

System description:

Our PreCONNECT® OCTO cabling system consists of:

- OCTO breakout trunk called factory assembled FO cables with up to 24 SR4 or PSM4 MTP® channels (24x8=192 fibers).
- 19” panel systems with part front plates with MTP®/MPO adapters and OCTO module cassettes
- OCTO patchcords, multijumpers and harnesses
- Useful accessories
- Patch location racks

- Rosenberger OSI brought already 1991 high fibercount factory assembled FO trunk cables to the market. PreCONNECT® STANDARD was the first in Europe developed and manufactured, high fibercount and modular „plug & play“ FO cabling system and already 1997 we have been the first manufacturer of MTP® cabling systems in Europe.

Properties:

PreCONNECT® square interface and installation protection:

PreCONNECT® OCTO breakout trunks have 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 systems 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:

Connector types:

- OCTO breakout trunks: MTP® male 4+4 fiber OCTO
- OCTO patchcords, multijumpers, harnesses and module cassettes: MTP® female 4+4 fiber OCTO

Adapter types:

- MTP® multimode: TIA type B “aligned key” „1 to 12“ grey
- MTP® singlemode TIA type A “opposed key” „1 to 1“ green
- Description of the adapter types A and B see last pages of in this document

Polarity:

- OCTO breakout trunks: TIA Method B „1 to 12“
- OCTO patchcords, harnesses and module cassettes: see pages of the products

Cable types:

- PreCONNECT® OCTO breakout trunks: I-F(ZN)HH n x 8 fibers
- PreCONNECT® OCTO patchcords and harnesses I-F(ZN)H and I-F(ZN)H(ZN)H 8 fibers
- Cable data, see separate cable data sheets

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.

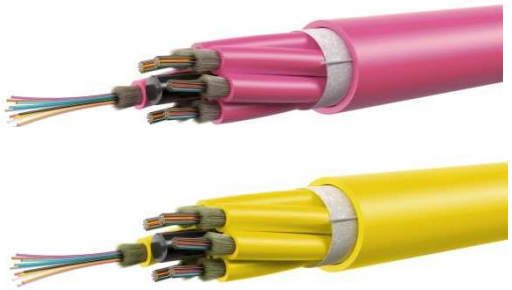
Delivery form:

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.

TIA type B “aligned key” „1 to 12“ grey

TIA type A “opposed key” „1 to 1“ green

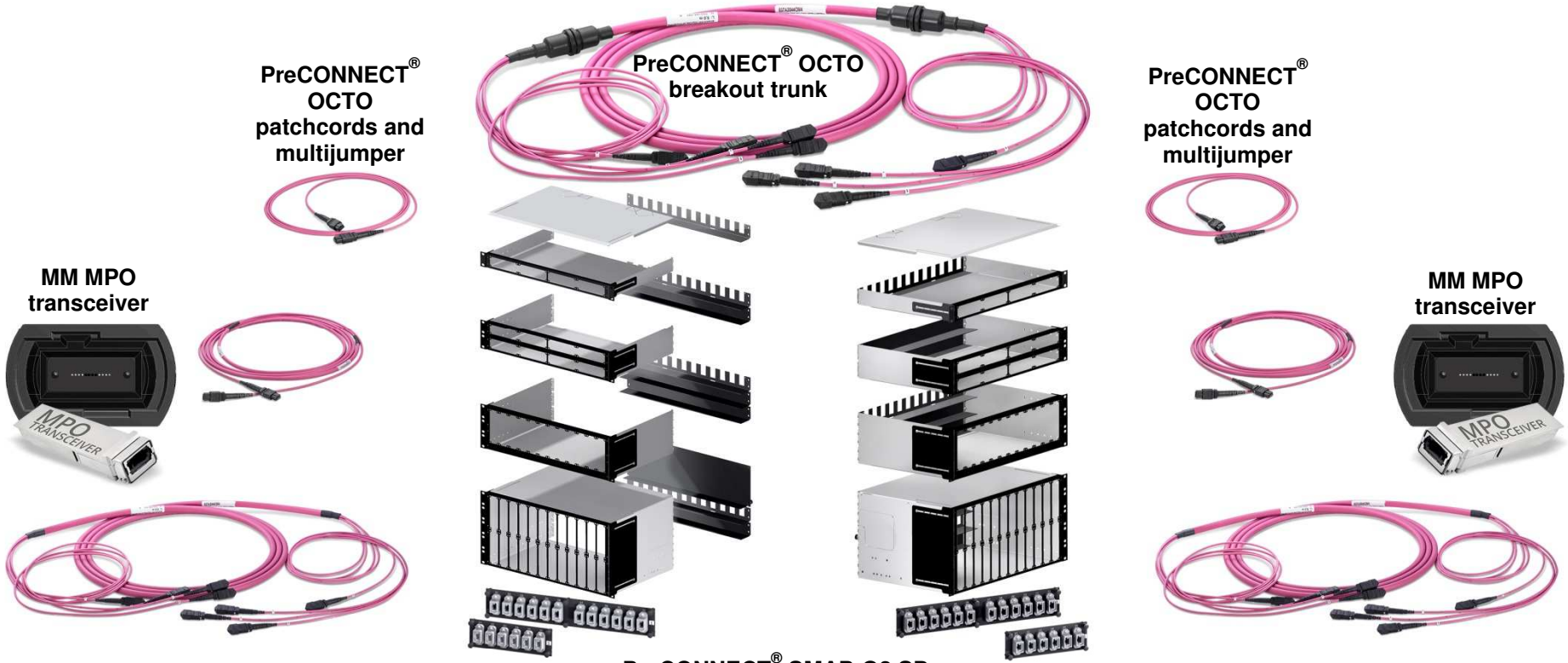
I-F(ZN)HH 6 x 8 fiber breakout cable



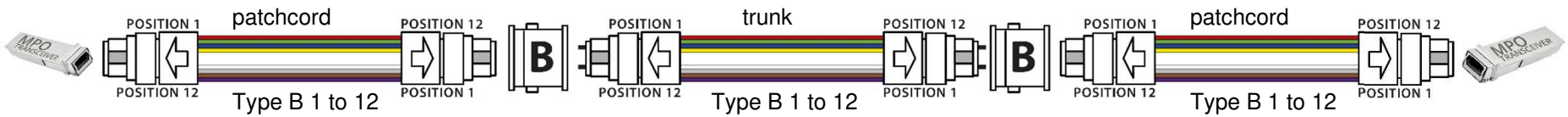
PreCONNECT® OCTO application case point-to-point:

MULTIMODE

- **40 / 100 / 200 GBASE-SR4 and 400GBASE-SR4.2 BiDi MPO-MPO**
- **4x16 / 4x32 GFC MPO-MPO**



channel lengths see behind in this product information

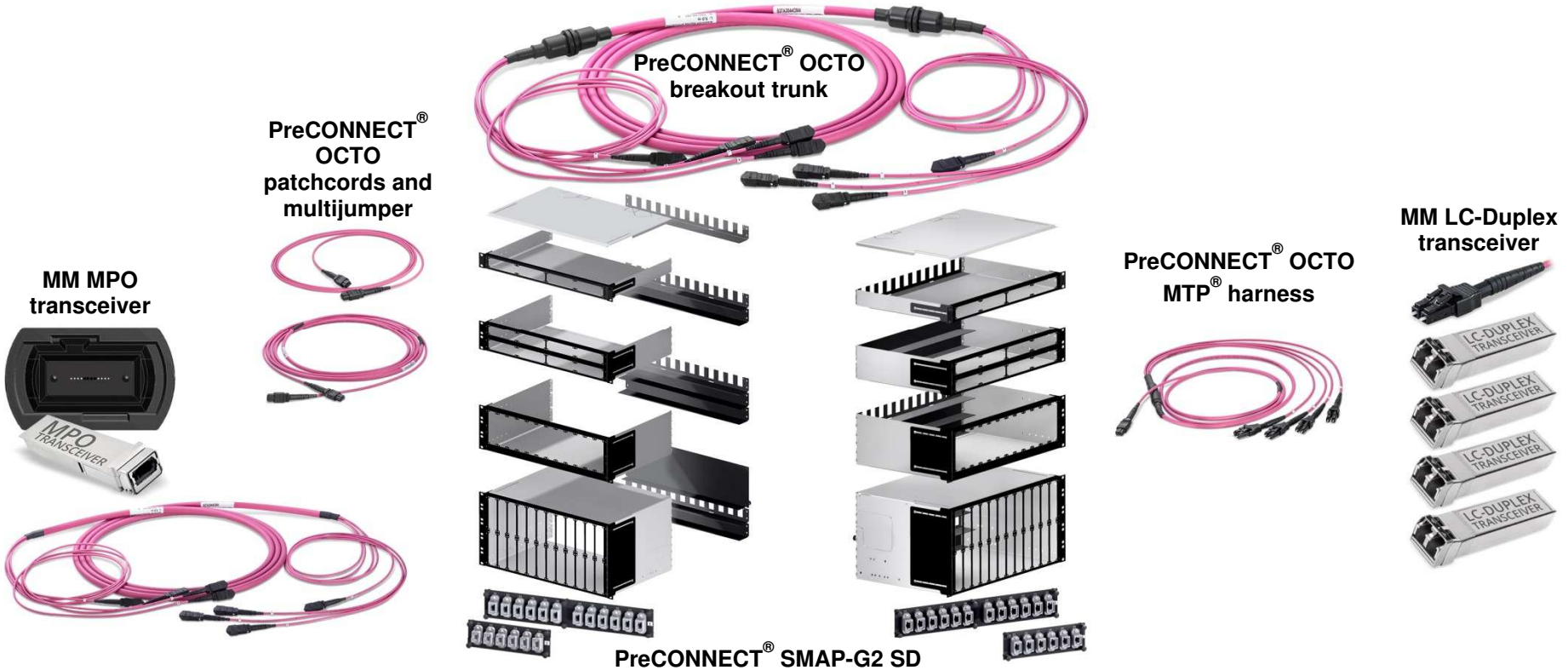


Daisy chain:

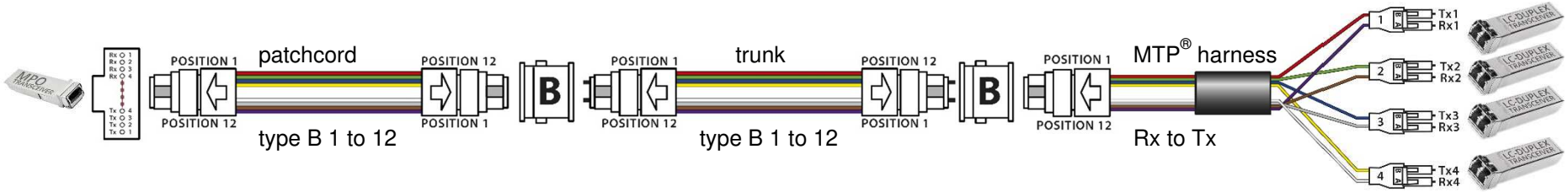
PreCONNECT® OCTO application case port breakout with MTP® harness:

MULTIMODE

- **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**



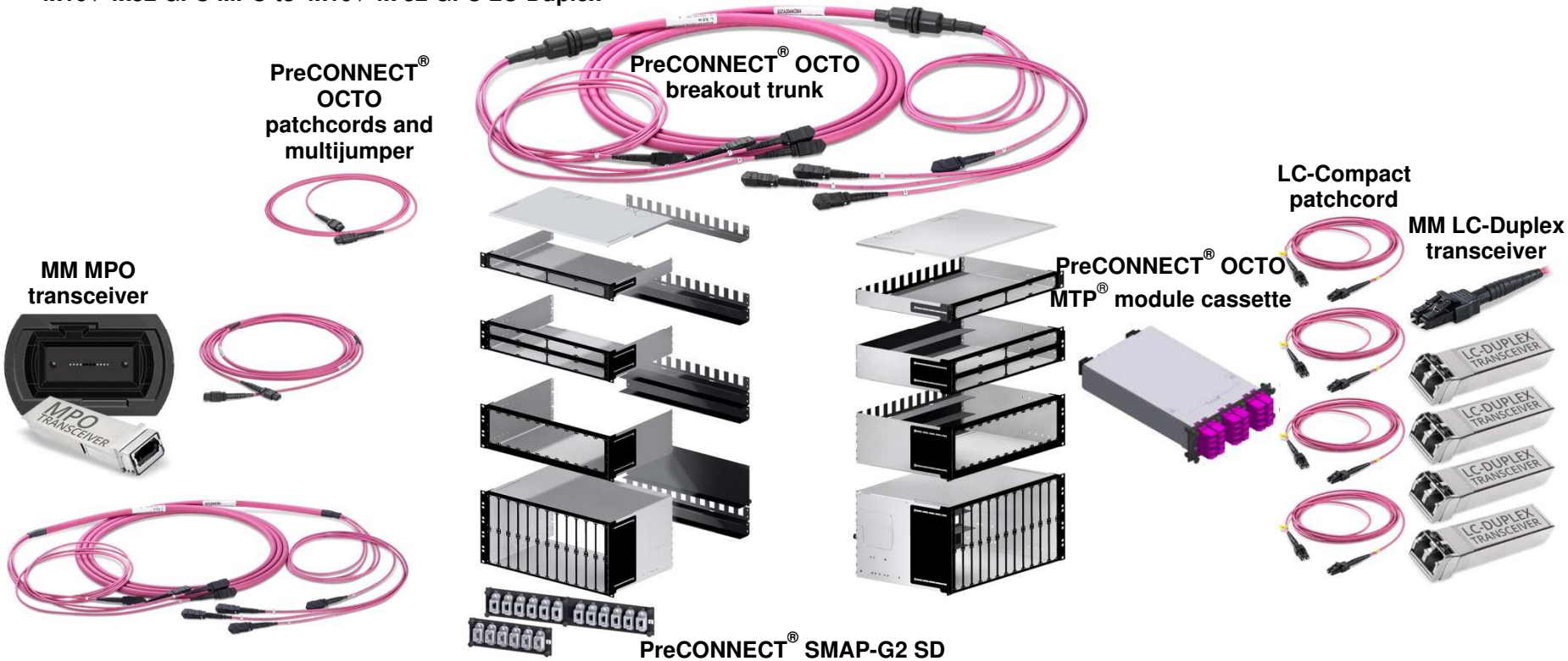
channel lengths see behind in this product information



PreCONNECT® OCTO application case port breakout with MTP® module cassette:

MULTIMODE

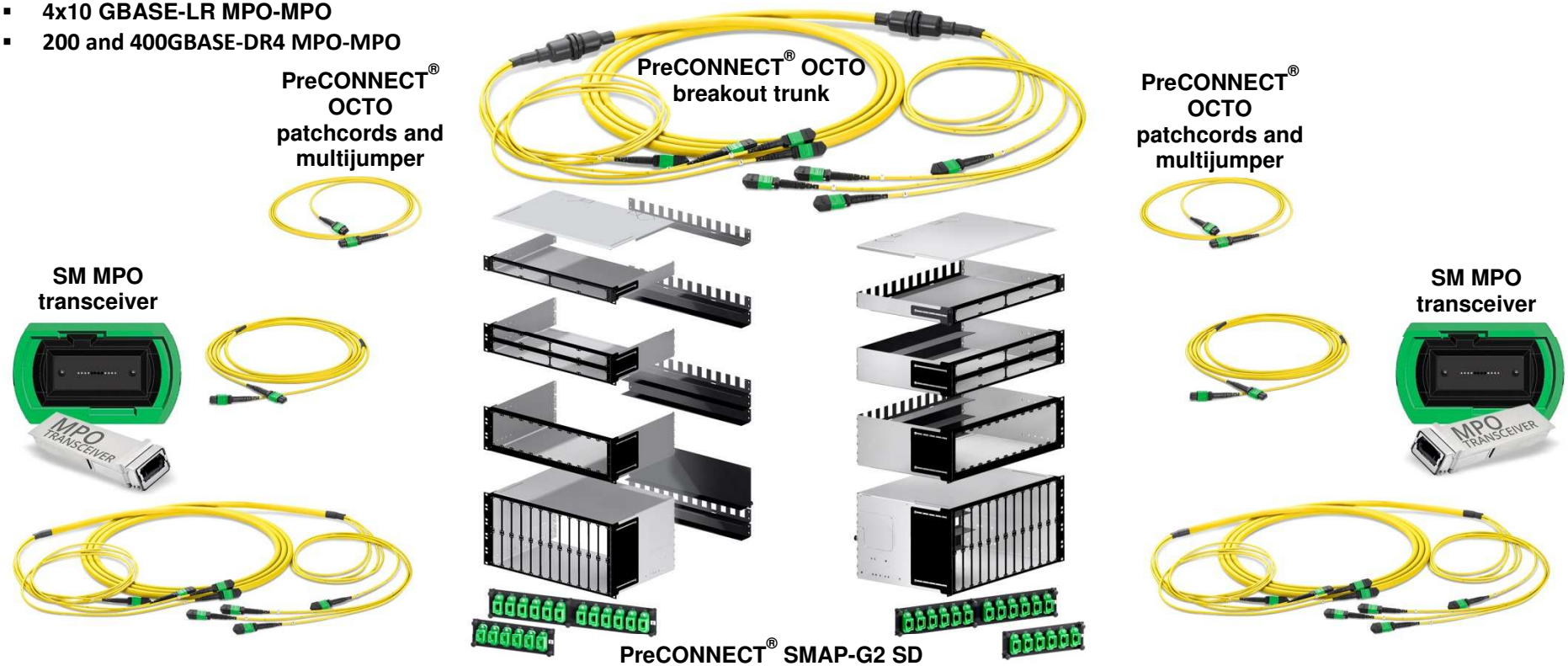
- **40 / 100 / 200 GBASE-SR4 MPO to 4x10 / 4x25 / 4x50 GBASE-SR LC-Duplex**
- **4x16 / 4x32 GFC MPO to 4x16 / 4x 32 GFC LC-Duplex**



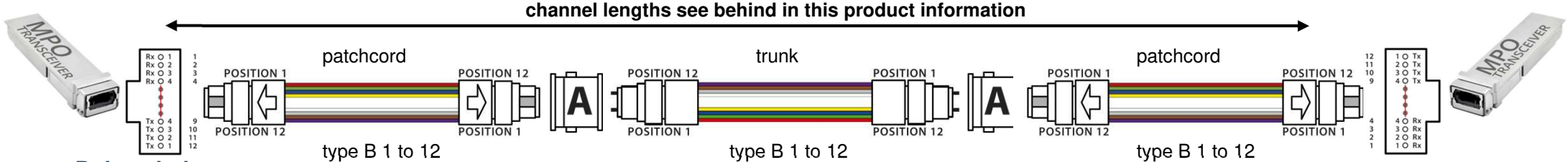
PreCONNECT® OCTO application case point-to-point:

SINGLEMODE

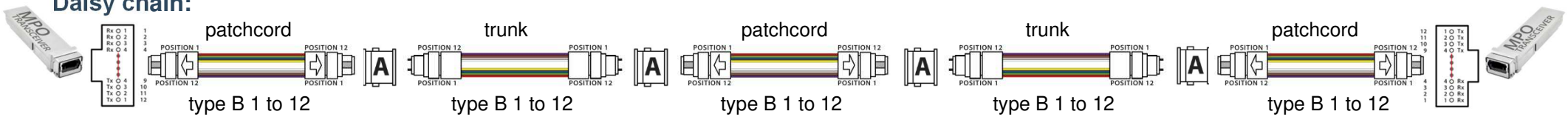
- **100G PSM4 MPO-MPO**
- **4x10 GBASE-LR MPO-MPO**
- **200 and 400GBASE-DR4 MPO-MPO**



channel lengths see behind in this product information



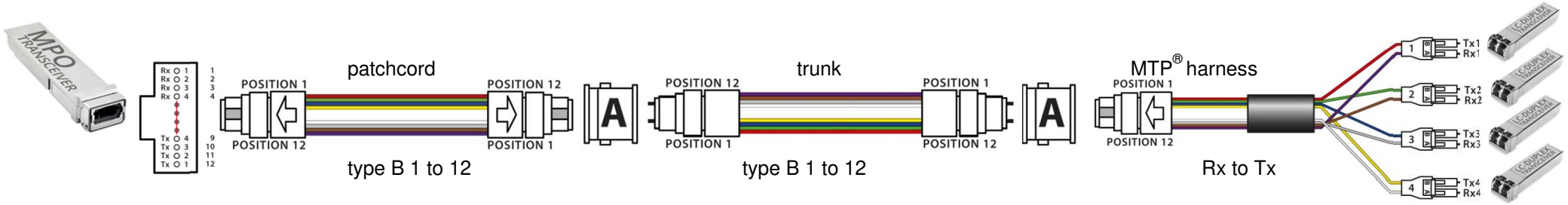
Daisy chain:



PreCONNECT® OCTO application case port breakout with MTP® harness:

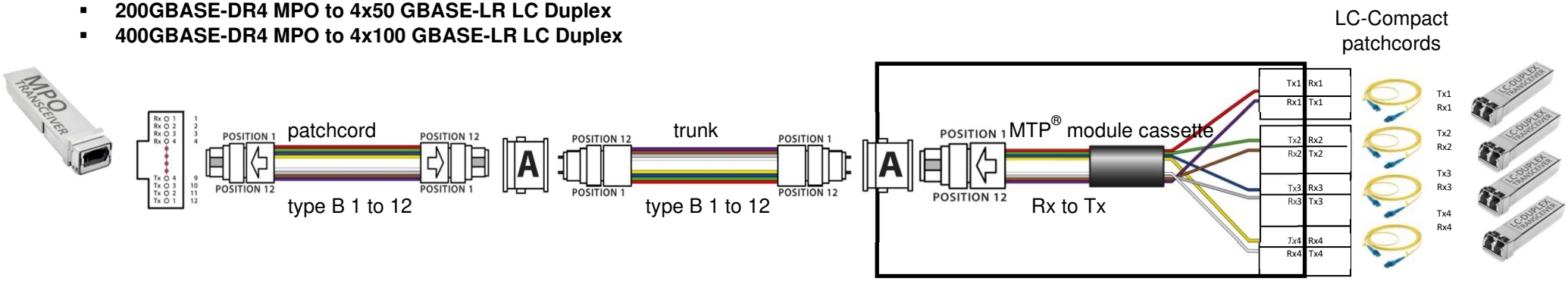
SINGLEMODE

- **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**



PreCONNECT® OCTO application case port breakout with MTP® module cassette:

- **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**



PreCONNECT® OCTO OM4 and OM5 breakout trunk:

MULTIMODE

OM5 is only needed for 400GBASE-SR4.2 BiDi channel lengths 101 to 150 meter. OM5 OCTO trunks are lime green.

Breakout cable n x 8 OM4/5 fibers FRNC-LSZH
MTP® male 4+4 fibers OCTO
Polarity TIA method B “1 to 12”
MTP® leg-length = standard stepped

Part numbers, length variable:

1 OCTO channel: 037A0110OM4/037A0110OM5
2 OCTO channels: 037A2048OM4/037A2048OM5
4 OCTO channels: 037A2049OM4/037A2049OM5
8 OCTO channels: 037A2050OM4/037A2050OM5
12 OCTO channels: 037A2051OM4/037A2051OM5
18 OCTO channels: 037A2088OM4/037A2088OM5
24 OCTO channels: 037A2067OM4/037A2067OM5

Breakout cable I-F(ZN)HH n x 8			
OCTO channels	Structure	Fiber count	Diameter
2	2 x 8	16	7.0 mm
4	4 x 8	32	7.0 mm
8	8 x 8	64	9.5 mm
12	12 x 8	96	11.1 mm
18	18 x 8	144	12,3 mm
24	24 x 8	192	14.2 mm

With PreCONNECT® square interface on both sides

PreCONNECT® OCTO SM breakout trunk:

SINGLEMODE

Breakout cable n x 8 SM fibers FRNC-LSZH
MTP® male 4+4 fibers OCTO
Polarity TIA method B “1 to 12”
MTP® leg-length = standard stepped

Part numbers, length variable:

4 OCTO channels: 037A2076G657A1

8 OCTO channels: 037A2077G657A1

12 OCTO channels: 037A2078G657A1

18 OCTO channels: 037A2087G657A1

Breakout cable I-F(ZN)HH n x 8			
OCTO channels	Structure	Fiber count	Diameter
4	4 x 8	32	7.0 mm
8	8 x 8	64	9.5 mm
12	12 x 8	96	11.1 mm
18	18 x 8	144	12.3 mm

With PreCONNECT® square interface on both sides

PreCONNECT® SMAP-G2 Standard Density (SD) 19” panel system:

Port density:
- 48 LC-Duplex or MTP® ports per HU

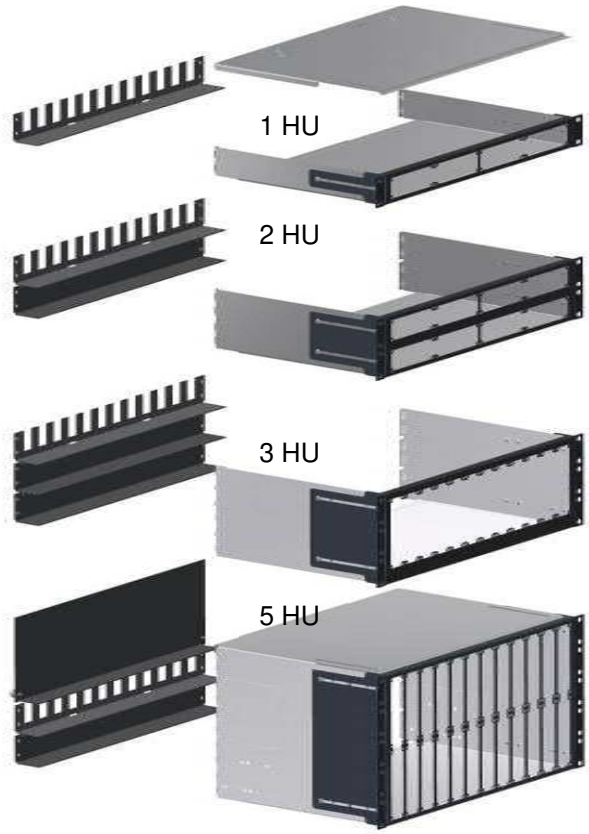
Dimensions:
- Width: 19“
- Height: 1, 2, 3 and 5 HU
- Depth: 200 mm and 300 mm. We recommend 300 mm as shown here, because the space to accommodate trunk cable dividers and connector legs is uncomfortable narrow within 200 mm deep panels.

Part numbers:

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

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

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



SMAP-G2 SD 1HU 1/4 and 1/2 part front plates with matrix numbering:

Part numbers RAL9005 black			
1 HU 1/4 Blind-PFP		170A0001	
1 HU 1/2 Blind-PFP		170A0002	
PFP type	**Number and type of ports**	**for fiber type**	
		MM	**SM**
		grey type B “aligned key	green type A “opposed key”
1 HU 1/4	6 x MTP®	170A0630TB	170A0620
1 HU 1/4	8 x MTP®	170A0141TB	170A0140
1 HU 1/4	12 x MTP®	170A0636TB	170A0623
1 HU 1/2	12 x MTP®	170A0670TB	170A0660
1 HU 1/2	24 x MTP®	170A0674TB	170A0664
Find part numbers for panels factory assembled with part front plates in our product information SMAP-G2 SD.			

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®

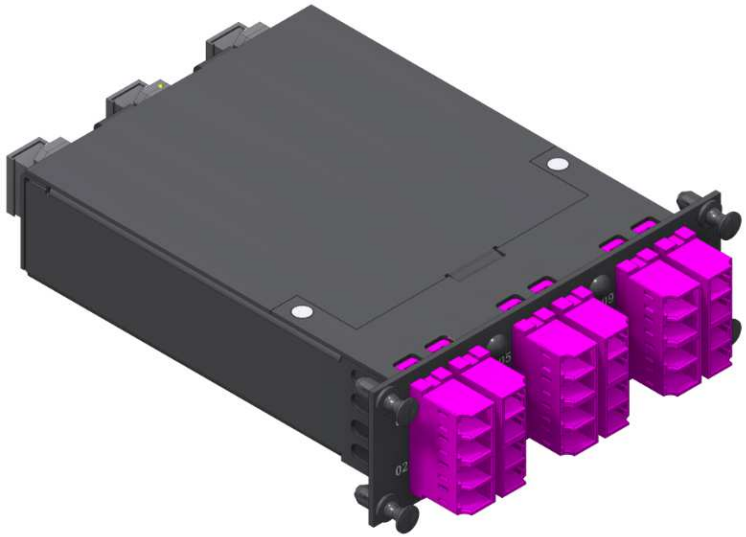
1 HU 1/2 TFP 12 MTP®

1 HU 1/2 PFP 24 MTP®

SMAP-G2 SD 24 fiber MTP® module cassettes fitting for PreCONNECT® OCTO trunks:

Properties:

- For port breakout of PreCONNECT® OCTO trunks with MTP® connectors
- Height: 1 HU
- Width: 1/4
- Depth: 115 mm
- Polarity: Rx to Tx
- 3x MTP® female port 4+4F OCTO 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



Part numbers RAL9005 black				
Number of 4+4F OCTO MTP® female ports at rear side	**Number of LC-Duplex ports at front side**	**OM4**	**SM LC-PC 0°**	**SM LC-APC 8°**
3	**3 OCTO groups of 4 = 12**	**170A2026OM4**	**170A2027**	**on request**
Find part numbers for panels factory assembled with MTP® module cassettes in our product information SMAP-G2 SD.				

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

Port density:

- 72 LC-Duplex or MTP® ports per HU

Dimensions:

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

Part numbers:

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

- 1 HU, 6/6 OCTO width partition, depth 300 mm: 171H0013

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.

SMAP-G2 HD 1/3 HU 1/6 part front plates with matrix numbering:

Part numbers RAL9005 black			
1/3HU 1/6 Blind-PFP		170H0002	
PFP type	**Number and type of port**	**for fiber type**	
		MM	**SM**
		grey Typ B “aligned key	green Typ A “opposed key”
1/3 HU 1/6	4 x MTP®	170H2104TB	170H2103
Find part numbers for panels factory assembled with part front plates in our product information SMAP-G2 HD.			

1/3 HU 1/6 PFP 4 MTP®

1/3 HU 1/6 Blind-PFP

SMAP-G2 HD 8 fiber MTP® module cassettes fitting for PreCONNECT® OCTO trunks:

Properties:

- For Port-Breakout of PreCONNECT® OCTO trunks with MTP® connectors
- Fitting in SMAP-G2 HD panel with 6/6 OCTO width partition
- Height: 1/3 HU
- Width: 1/6
- Depth: 115 mm
- Polarity: Rx to Tx
- 1x MTP® female port 4+4F OCTO 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

Part numbers RAL9005 black				
Number of 4+4F OCTO MTP® female ports at rear side	**Number of LC-Duplex ports at front side**	**OM4**	**SM LC-PC 0°**	**SM LC-APC 8°**
1	**1 OCTO group of 4 = 4**	**170H1100OM4**	**170H1101**	**on request**
Find part numbers for panels factory assembled with MTP® module cassettes in our product information SMAP-G2 HD.				

PreCONNECT® SMAP-G2 Ultra High Density (UHD) 19” panel system:

Port density:
- 96 LC-Duplex or 48 MTP® ports per HU

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

Part numbers:

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

- 1 HU, 6/6 OCTO width partition, depth 300 mm: 171H0012

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

Find further information in our product information SMAP-G2 UHD.

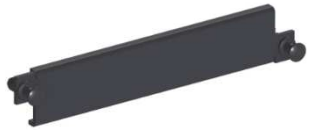
LC-COMPACT Push-Pull-Boot (LCC-PPB) patchcords with cable diameter 2.0 mm or thinner must be used with this panel system, to be found behind in this product information.

SMAP-G2 UHD 1/2 HU 1/6 part front plates:

Part numbers RAL9005 black			
1/2 HU 1/6 Blind-PFP		170H3002	
PFP type	**Number and type of port**	**for fiber type**	
		MM	**SM**
		grey Typ B “aligned key	green Typ A “opposed key”
1/2 HU 1/6	4 x MTP®	170H6104TB	170H6103
Find part numbers for panels factory assembled with part front plates in our product information SMAP-G2 UHD.			

1/2 HU 1/6 PFP 4 MTP®

1/2 HU 1/6 Blind-PFP



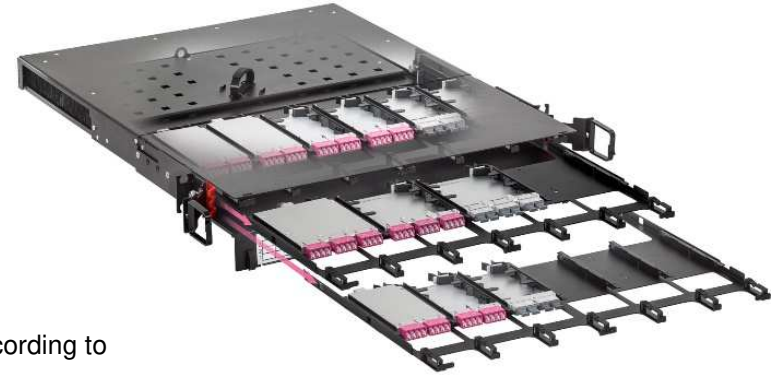
SMAP-G2 UHD 16 fiber MTP® module cassettes fitting for PreCONNECT® OCTO trunks:

Properties:

- For Port-Breakout of PreCONNECT® OCTO trunks with MTP® connectors
- Fitting in SMAP-G2 UHD panel with 6/6 OCTO width partition
- Height: 1/2 HU
- Width: 1/6
- Depth: 115 mm
- Polarity: Rx to Tx
- 2x MTP® female port 4+4F OCTO 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

Part numbers RAL9005 black				
Number of 4+4F OCTO MTP® female ports at rear side	**Number of LC-Duplex ports at front side**	**OM4**	**SM LC-PC 0°**	**SM LC-APC 8°**
2	**2 OCTO groups of 4 = 8**	**170H4100OM4**	**170H4103**	**on request**
Find part numbers for panels factory assembled with MTP® module cassettes in our product information SMAP-G2 UHD.				

PreCONNECT® Data Center Panel (DCP) 19” panel system:



Port density:
- 72 LC-Duplex or MTP® ports per HU

Dimensions:
- Width: 19“
- Height: 1 HU
- Depth: see product information DCP

Part numbers:

DCP empty panel, RAL9005 black, inclusive module drawers and universal trunk management according to product information DCP:

- 1 HU, 6/6 OCTO width partition: 165A0001

6/6 OCTO width distribution

Blind cover to cover the unused slots within module drawers:

- Width 1/6, set consisting of 6 pcs.: 165A3007

Modular toolless mountable, height unit neutral patchcord guide.
Set consisting of 2 pcs. fitting for 1 HU panels: 165A3006

DCP panels are not appropriate for PURE trunks.

Find further information in our product information DCP.

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

DCP 4 port MTP® adapter inserts fitting for PreCONNECT® OCTO trunks:

Properties:

- For direct patch of PreCONNECT® OCTO trunks with MTP® connectors
- Fitting in DCP panel with 6/6 OCTO width partition
- Height: 1/3 HU
- Width: 1/6
- Depth: 115 mm
- Toolless placement of the inserts into the slots of module drawers of the panel from the front and rear side possible

Part numbers

PFP type	Number and type of port	for fiber type	
		MM	SM
		grey Typ B “aligned key	green Typ A “opposed key”
1/3 HU 1/6	4 x MTP®	165A2004TB	165A2005

Find part numbers for panels factory assembled with part front plates in our product information DCP.

DCP 8 fiber MTP® module cassette fitting for PreCONNECT® OCTO trunks:

Properties:

- For port breakout of PreCONNECT® OCTO trunks with MTP® connectors
- Fitting in DCP panel with 6/6 OCTO width partition
- Height: 1/3 HU
- Width: 1/6
- Depth: 115 mm
- Polarity: Rx to Tx
- 1x MTP® female port 4+4 OCTO 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 with integrated dust and laser protection shutters
- Toolless placement of the module cassettes into the slots of module drawers of the panel from the front and rear side possible

Part numbers				
Number of 4+4F OCTO MTP® female ports at rear side	**Number of LC-Duplex ports at front side**	**OM4**	**SM LC-PC 0°**	**SM LC-APC 8°**
1	**1 OCTO group per 4 = 4**	**165A1001OM4**	**165A1002**	**on request**
Find part numbers for panels factory assembled with MTP® module cassettes in our product information DCP.				

SMAP-G2 SD PURE
19“ distribution panels empty:

Part numbers RAL9005 black, 300mm depth	
1 HU	**171A0001P**
2 HU	**172A0001P**
3 HU	**173A0001P**
5 HU	**175A0001P**

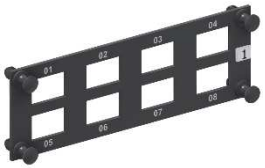
Standard back plane configuration for max. 12 trunk cable dividers per panel.

PreCONNECT® PURE MTP®

Adapter interface
at trunk connector legs

SMAP-G2 SD PURE part-front-plates PFP

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



1 HU 1/4 blind-PFP

1 HU 1/2 PFP for 12 MTP® adapter interfaces

1 HU 1/2 blind-PFP

SMAP-G2 SD PURE 1 HU 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
1/4 / 6 MTP®	170A0630P
1/4 / 8 MTP®	170A0140P
1/2 / 12 MTP®	170A0670P

PreCONNECT® OCTO OM4 and OM5 patchcords:

MULTIMODE

Single jacket:

Single jacket cable 8 OM4/5 fibers FRNC-LSZH
MTP® female 4+4 fibers OCTO
Polarity TIA method B “1 to 12”

Part number, length variable:

Diameter 2.0 mm: 080A2063OM4 / 080A2063OM5
Diameter 3.0 mm: 080A2030OM4 / 080A2030OM5

Double jacket:

Double jacket cable 8 OM4/5 fibers FRNC-LSZH
Diameter 3.0 / 4.5 mm
MTP® female 4+4 fibers OCTO
Polarity TIA method B “1 to 12”
Standard lengths of the 3.0 mm single jacket
MTP®-legs = 0.5 m, others on request

Part number, length variable:

080A2031OM4 / 080A2013OM5

OM5 is only needed for 400GBASE-SR4.2 BiDi channel lengths 101 to 150 meter.

OM5 OCTO patchcords are lime green.

PreCONNECT® OCTO patchcords polarity TIA method B “1 to 12” are suitable for transceiver-transceiver direct-attach.

PreCONNECT® OCTO SM patchcords:

SINGLEMODE

Single jacket:

Single jacket cable 8 SM fibers FRNC-LSZH
MTP® female 4+4 fibers OCTO
Polarity TIA method B „1 to 12“

Part numbers, length variable:

Diameter 2.0 mm: 080A2065G657A1
Diameter 3.0 mm: 080A2036G657A1

Double jacket:

Double jacket cable 8 SM fibers FRNC-LSZH
Diameter 3.0 / 4.5 mm
MTP® female 4+4 fibers OCTO
Polarity TIA Method B „1 to 12“
Standard lengths of the 3.0 mm single jacket
MTP®-legs = 0.5 m, others on request

Part numbers, length variable: 080A2045G657A1

PreCONNECT® OCTO patchcords polarity TIA method B “1 to 12” are suitable for transceiver-transceiver direct-attach.

PreCONNECT® OCTO OM4 and OM5 multijumper (multipatchcord):

MULTIMODE

Breakout cable n x 8 OM4/5 fibers FRNC-LSZH
MTP® female 4+4 fibers OCTO
Polarity TIA method B “1 to 12”
MTP® leg-length = variable

Part numbers, length variable:

4 OCTO channels: 037A2052OM4/037A2052OM5

8 OCTO channels: 037A2053OM4/037A2053OM5

12 OCTO channels: 037A2054OM4/037A2054OM5

Breakout cable I-F(ZN)HH n x 8			
OCTO channels	Structure	Fiber count	Diameter
4	4 x 8	32	7.0 mm
8	8 x 8	64	9.5 mm
12	12 x 8	96	11.1 mm

OM5 is only needed for 400GBASE-SR4.2 BiDi channel lengths 101 to 150 meter.

OM5 OCTO multijumpers are lime green.

PreCONNECT® OCTO multijumper polarity TIA method B “1 to 12” are suitable for transceiver-transceiver direct-attach.

PreCONNECT® OCTO SM multijumper (multipatchcord):

SINGLEMODE

Breakout cable n x 8 SM fibers FRNC-LSZH
MTP® female 4+4 fibers OCTO
Polarity TIA method B “1 to 12”
MTP® leg-length = variable

Part numbers, length variable:

4 OCTO channels: 037A2060G657A1

8 OCTO channels: 037A2061G657A1

12 OCTO channels: 037A2062G657A1

Breakout cable I-F(ZN)HH n x 8			
OCTO channels	Structure	Fiber count	Diameter
4	4 x 8	32	7.0 mm
8	8 x 8	64	9.5 mm
12	12 x 8	96	11.1 mm

PreCONNECT® OCTO multijumper polarity TIA method B “1 to 12” are suitable for transceiver-transceiver direct-attach.

PreCONNECT® OCTO OM4 MTP® harness:

MULTIMODE

For connecting a MPO transceiver with four LC-Duplex transceivers and for port-breakout of OCTO Trunks:

- **40GBASE-SR4 MPO to 4x 10GBASE-SR/SW LC-Duplex**
- **100GBASE-SR4 MPO to 4x 25GBASE-SR/SW LC-Duplex**
- **200GBASE-SR4 MPO to 4x 50GBASE-SR/SW LC-Duplex**
- **4x16GFC MPO to 4x 16GFC LC-Duplex**
- **4x32GFC MPO to 4x 32GFC LC-Duplex**

OCTO OM4 harness MTP® female 4+4 OCTO to 4 LC-Compact

Double jacket cable 8 OM4 fibers 3.0 / 4.5 mm FRNC-LSZH
LC-Compact leg-lengths 0.5 m, legs numbered 1 to 4
other leg lengths on request
Order length = total length

Part number polarity Rx to Tx: 076A0112OM4

PreCONNECT® OCTO SM MTP® harness:

SINGLEMODE

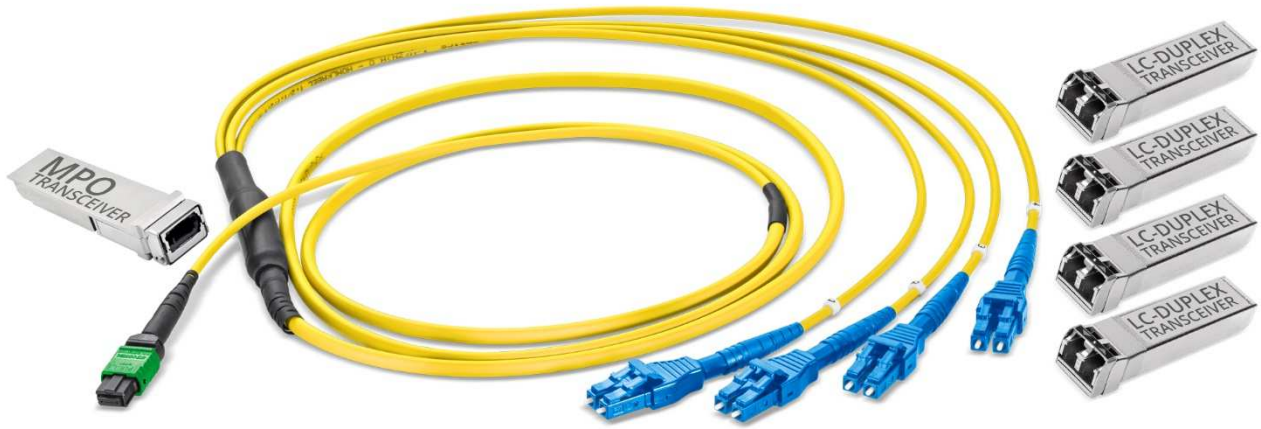
For connecting a MPO transceiver with four SM LC-Duplex transceivers and for port-breakout of OCTO trunks:

- **100G PSM4 MPO to 4x 25GBASE-LR LC-Duplex**
- **4x10GBASE-LR MPO to 4x 10GBASE-LR LC-Duplex**
- **200GBASE-DR4 MPO to 4x 50GBASE-LR LC Duplex**
- **400GBASE-DR4 MPO to 4x 100GBASE-LR LC Duplex**

OCTO SM harness MTP® female 4+4 OCTO to 4 LC-Compact

Double jacket cable 8 SM fibers 3.0 / 4.5 mm FRNC-LSZH
LC-Compact leg-lengths 0.5 m, legs numbered 1 to 4
other leg lengths on request
Order length = total length

Part number polarity Rx to Tx: 076A0116G657A1



Patchcords:

Properties:

- Kink and crush resistance optimized for environmental conditions
- Suitable for operation in temperatures from -10 °C to +60 °C
- Polarity:
  Full-duplex cables with duplex connectors on both sides “crossed” A to B in accordance with ISO/IEC 11801 and EN 50173

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 and DCP 19“ panel systems only patchcords with diameter 2.0 mm or thinner should be applied.

With LC-COMPACT (LCC) connectors for SMAP-G2 SD and DCP 19“ panel system

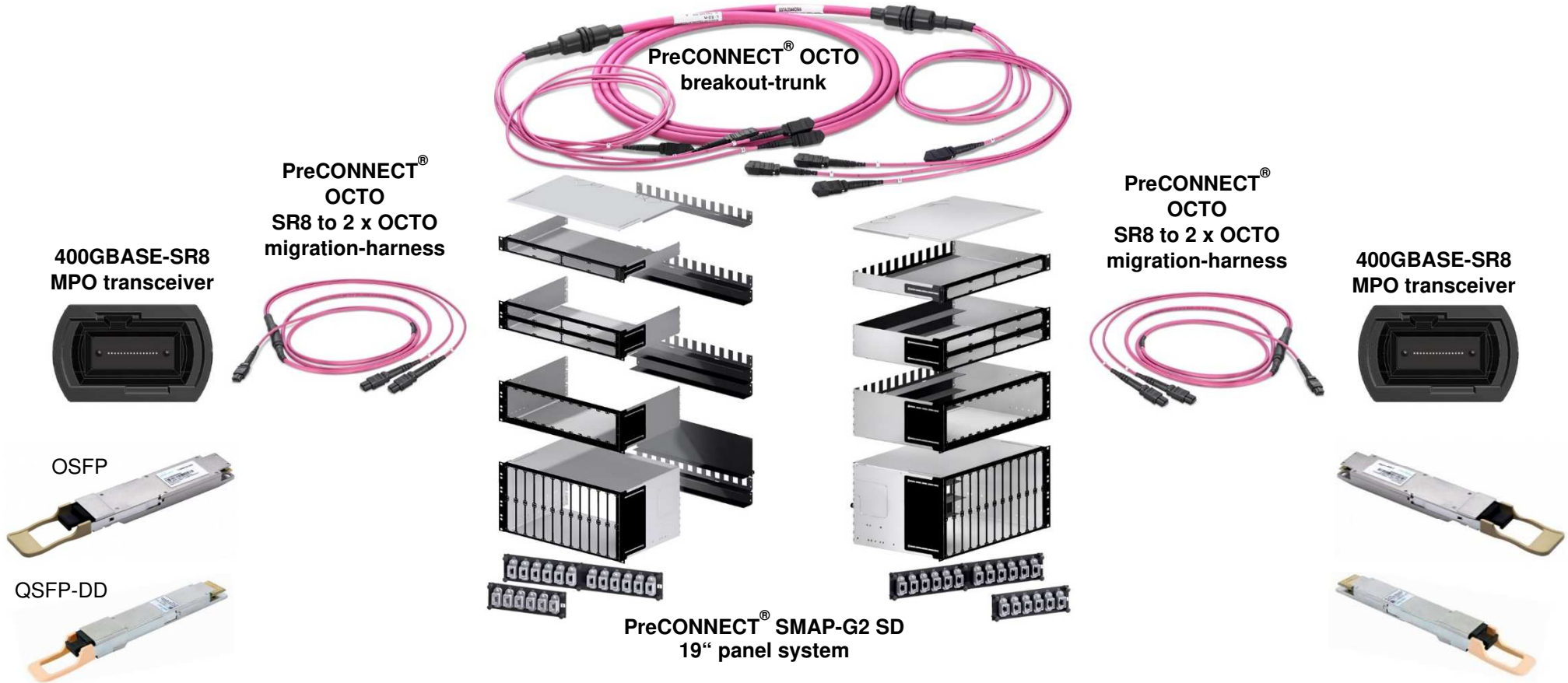
With LC-COMPACT Push-Pull-Boot (LCC-PPB) connectors for SMAP-G2 HD and UHD 19“ panel system

Part numbers
Duplex Patchcord cable type round I-V(ZN)H and I-V(ZN)H(ZN)H FRNC-LSZH

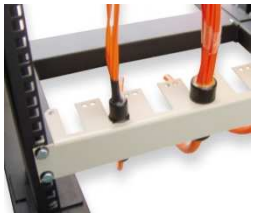
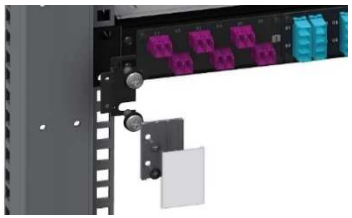
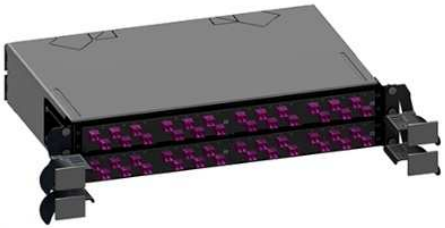
Cable diameter	Connectors	Length	OM4	SM PC 0°	SM APC 8°
2.0 mm	LC-Compact » LC-Compact	variable	087A6623OM4	087A6620G657A1	087A6622G657A1
	LC-Compact PPB » LC-Compact PPB	variable	087A6737OM4	087A6738G657A1	on request
2.8 mm	LC-Compact » LC-Compact	variable	087A6601OM4	087A6600G657A1	087A6609G657A1
	LC-Compact PPB » LC-Compact PPB	variable	on request	on request	on request
double jacket 2.8 / 5.0 mm	LC-Compact » LC-Compact	variable	087A6613OM4	087A6610G657A1	087A6612G657A1
	LC-Compact PPB » LC-Compact PPB	variable	on request	on request	on request

Migration of PreCONNECT® OCTO to 400GBASE-SR8:

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



Accessories:

Description	Part number	Pictures
19” 1 HU universal trunk cable divider holder For the universal installation of multiple trunk cable dividers within 19" racks.	RAL9005 black 099A0085	 
19” 1 HU single universal trunk cable divider holder For the universal installation of a single trunk cable dividers within 19" racks.	RAL9005 black 099A0065	 
For 19“ panel accessories see our product information 19“ panel accessories	    	

Accessories:

Patch location rack:

Applications:

- High density data center infrastructures
- For the construction of ultra high density data center patch locations

Properties:

- Innovative, restriction-free cable management system
- Rack pillars with integrated cable managers to prevent interference with cable routing
- The covers of the cable managers fold in both directions and are completely removable
- Individually selectable feedthroughs in the sides and rear walls of the large volume cable channel for simple vertical and horizontal cable routing
- Professional routing of large cable volumes from the patchfields and storage of cable overlengths in the vertical cable managers
- Particularly suitable for fiber optic cables thanks to the use of cable clips (L-fingers) and finger slots:
  - The rounded L-fingers ensure that the cables are extremely well protected against bending and kinking even when subject to strain.
  - The L-fingers do not have any sharp edges and are extremely strong and resistant to breakage.
  - Because there is plenty of space for them in the large finger slots, the cables are neither squeezed nor kinked.
  - The L-fingers retain the cables in the finger slots whenever you need to work with the covers folded back or removed.
- Dimensions (H x L x W): 213 (46 HU) x 90 x 90 cm
- Material and color: Powder-coated steel, RAL 9005 (black)

Optional:

19” Intermediate rack for the construction of rack rows with uneven numbers of racks on request.

Delivery form:

- Factory mounted on pallet (total height with pallet and packaging: 230 cm)
- Including adjustable feet for on-site installation

Accessories:

Wide range of accessories such as side walls, cable guides, excess cable storage for the top of the rack are available on request

More details in our
product information “ DC-PLR“

PreCONNECT® OCTO – TECHNOLOGY AND BASICS

The connectivity system of multimode Parallel Optics is MTP®/MPO

- MTP® = „Mechanical Transfer Push-On“, is a registered trademark of US Conec Ltd., since 1997 on the market
- Standardized since 2000 in IEC 61754-7 as MPO = „Multifiber Push-On“ or „Multipath Push-On“
- MTP®/MPO is the fiber optic connectivity system with the highest density, 4 to 72 fibers
- Already in 1997 we have been the first manufacturer of MTP® cabling systems in Europe, through initiative of IBM
- We are one of only a few worldwide IBM MTP® qualified manufacturers
- We have been the first European partner of the MTP® inventor and patent owner US Conec Ltd., and we are the largest MTP® assembler in Europe

One connection consists of:

a „female“ connector **without pins but pin holes** …

… a „male“ connector **with pins** …

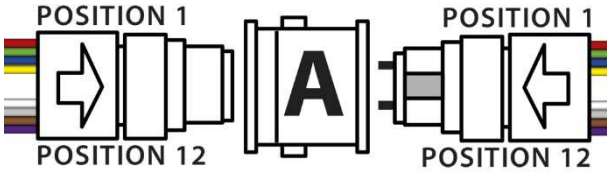
… and the **adapter**.

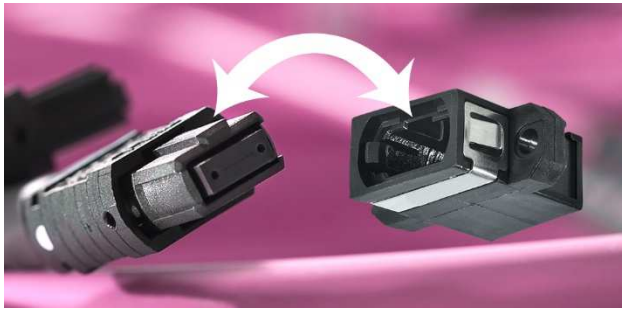
PreCONNECT® OCTO – TECHNOLOGY AND BASICS

MTP®/MPO adapters

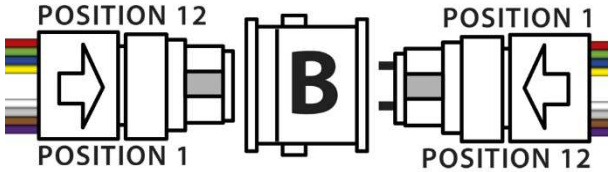
- are only mechanical fixture, fiber positioning through „male“ pins in „female“ holes of the ferrules
- according to ANSI/TIA-568-B.1-7, two designs of MTP® adapters are existing

Type A „key-up to key-down“/”opposed key” results in polarity „1 to 1“

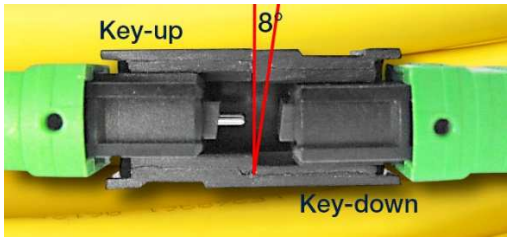




Type B „key-up to key-up“/”aligned key” results in polarity „1 to 12“



Hence singlemode MTP® connectors are usually APC 8°, singlemode MTP® adapters must be Type A „key-up to key-down“/”opposed key”.



MTP® adapter colors:

Type A „key-up to key-down“/”opposed key":
OM2 = black, OM3 = aqua, OM4 = violet, SM = green since APC 8°

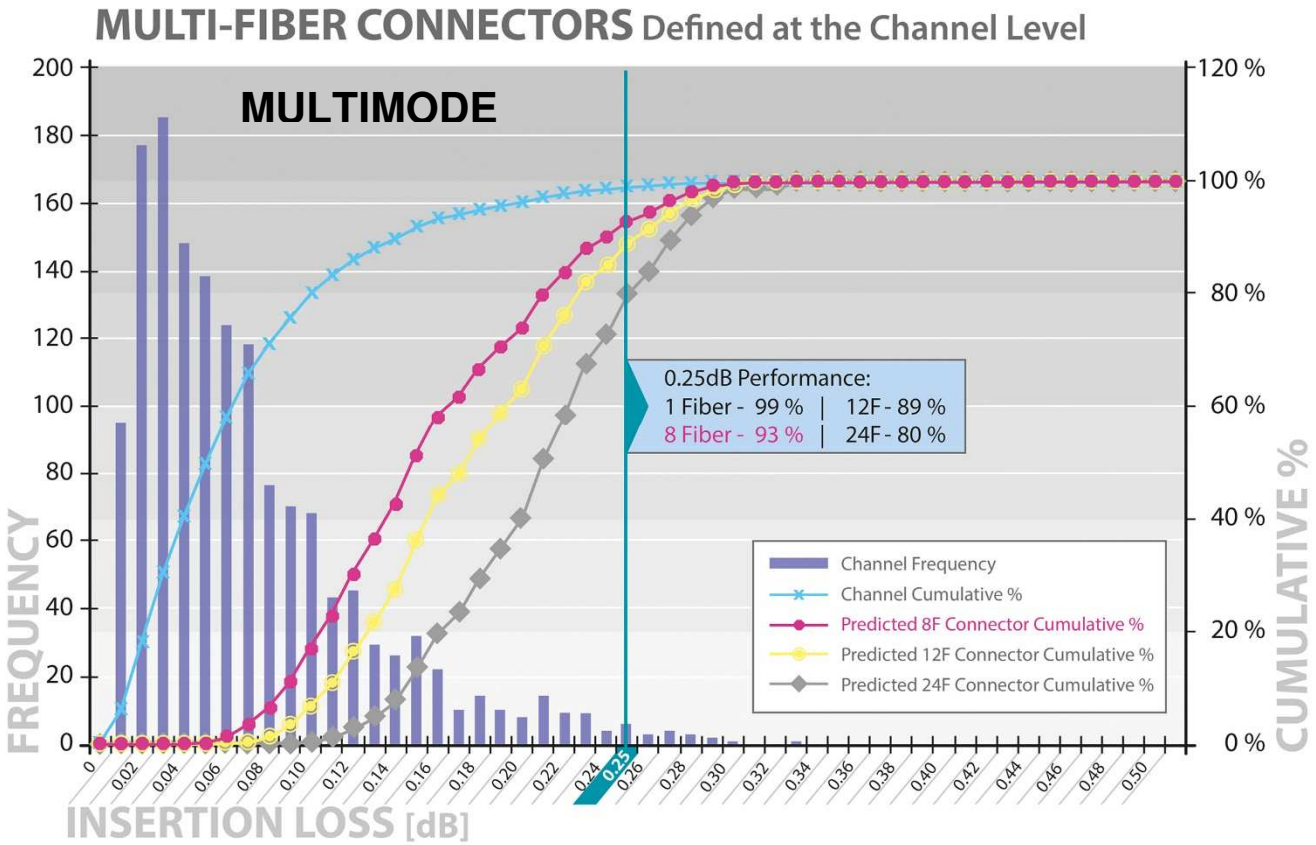
Type B „key-up to key-up“/”aligned key”:
grey for all fiber types

PreCONNECT® OCTO – TECHNOLOGY AND BASICS

- **OCTO multimode products** comprise MTP® multimode Elite® ferrules, which is necessary through the low power budget of the SR4 applications.
- The Insertion Loss (IL) of connections within channels:

  89% of all 12 fiber connections have less than 0.25 dB attenuation

- **OCTO singlemode** products comprise MTP® singlemode standard ferrules, which is sufficient for the power budget of the PSM4 applications.



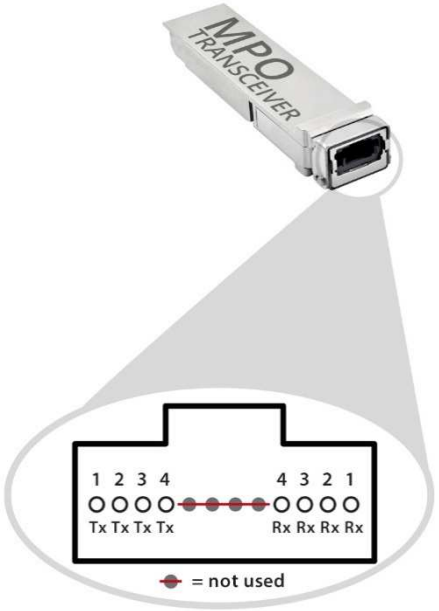
Source: US Conec Ltd.

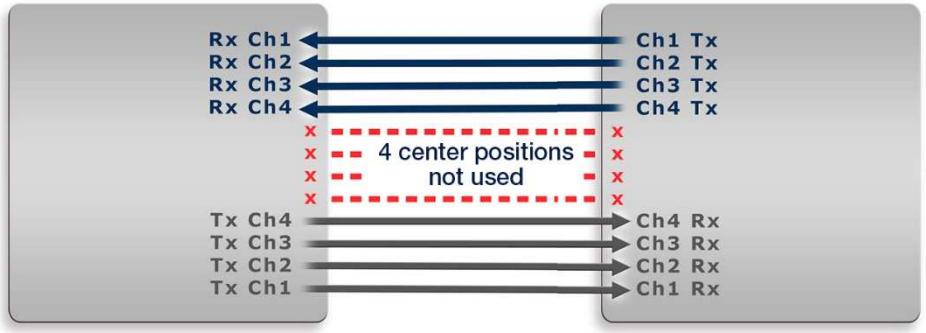
PreCONNECT® OCTO – TECHNOLOGY AND BASICS

4+4 OCTO fiber assignment

SR4 multimode and PSM4/DR4 singlemode parallel optics applications

40/100/200GBASE-SR4, 400GBASE-SR4.2, 4x16/4x32 GFC, InfiniBand® 4x, PSM4, 200/400GBASE-DR4





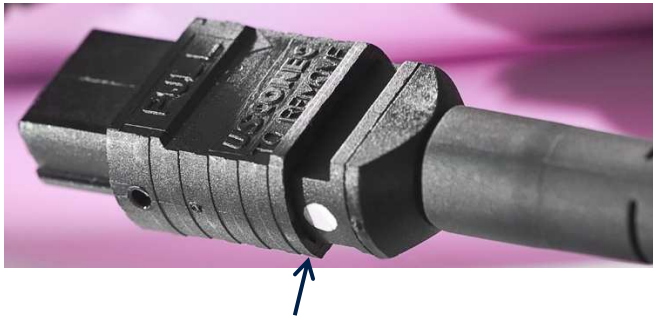
- MPO transceivers are male (with pins)
- MPO/MTP® connectors must be female (without pins) and must have 4+4 OCTO fiber assignment
- The singlemode MPO/MTP® connectors must be APC 8°, female and must have 4+4 OCTO fiber assignment

PreCONNECT® OCTO – TECHNOLOGY AND BASICS

Polarity:

The polarity within parallel optics channels must ensure the connection of transmitter Tx1 of the transceiver at one end with the receiver Rx1 of the transceiver at the other end and Tx2 with Rx2, Tx3 with Rx3, etc.

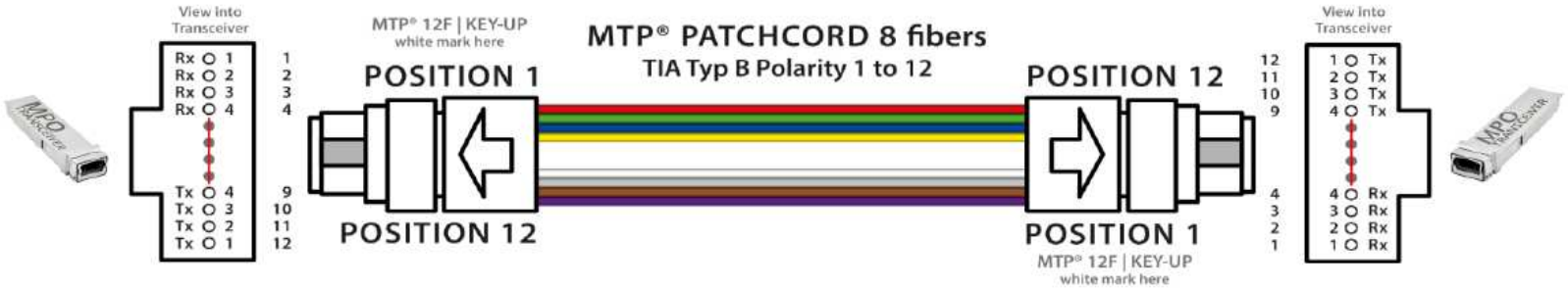
With parallel optics applications having transceiver or transmitter and receiver with 12 fiber MTP® interfaces, polarity must be: fiber position 1 of the MTP® at one end must be linked with fiber position 12 of the MTP® at the other end, the light must propagate from 1 to 12.



The fiber positions within MTP® connectors are counted from the side with the white mark.

1 2 3 4 . . . . 9 10 11 12
fiber positions

TIA method/type B “1 to12” is the SR4, PSM4 and DR4 polarity:



PreCONNECT® OCTO – TECHNOLOGY AND BASICS

Channel specifications				
Multimode applications	**channel lengths max. [m]**			**channel attenuation max. [dB]**
	OM3	OM4	OM5	
40GBASE-SR4	IEEE 802.3 = 100 R-O = 140	IEEE 802.3 = 150 R-O = 170	IEEE 802.3 = 150 R-O = 170.	OM3 1.9 / OM4 and OM5 1.5
100GBASE-SR4 **200GBASE-SR4** **400GBASE-SR16** **400GBASE-SR8**	70	100	100	OM3 1.8 / OM4 and OM5 1.9
400GBASE-SR4.2	70	100	150	OM3 1.8 / OM4 1.9 / OM5 2.0
BROCADE 4x16 GFC	66	100	n.s.	OM3 1.9 / OM4 1.5
BROCADE 4x32 GFC	70	100	n.s.	OM3 1.9 / OM4 1.5
Singlemode applications	**channel lengths max. [m]**			**channel attenuation max. [dB]**
100G PSM4	500			3.3
200GBASE-DR4	500			3.0
400GBASE-DR4	500			3.0
R-O = channel lengths possible with Rosenberger OSI OM3 and OM4 fibers / n.s. = not specified				
Skew variation of the entire cabling channel (possible through electronic skew compensation)**:** 40/100/200/400GBASE-SRx max. 2.2ns / PSM4 and DR4 max 2.4ns (Skew = time delay of related parallel running parts of a signal)				

About Rosenberger OSI:

Since 1991, Rosenberger Optical Solutions & Infrastructure (Rosenberger OSI) has been an expert in innovative fiber optic cabling infrastructure and service solutions for Data Centers, Local Networks, Telecom and Industrial.

The products and services can be found wherever largest amounts of data have to be transferred quickly and securely. In addition to the development and production of a broad portfolio of fiber optic and copper cabling systems, Rosenberger OSI also offers a variety of services such as planning, installation and maintenance of cabling infrastructure. Rosenberger OSI has been a part of the globally operating Rosenberger Group since 1998, a worldwide leading provider of high-frequency-, high-voltage-, and fiber-optic-connection solutions headquartered in Germany.

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

Rosenberger

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