Rosenberger

PreCONNECT® DUODECIM MTP®

PreCONNECT® DUODECIM MTP® solution is available in two end face quality features: BASIC and PURE

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.

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: XXXAXXXXP*)

(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 FO breakout and loose tube cables, FRNC-LSZH indoor cables, up to 144 fibers with connector system MTP® with 12 fibers per MTP® channel
- Port-breakout with MTP® module cassettes with LC front
- Four 19" panel systems selectable: SMAP-G2 SD, SMAP-G2 HD, SMAP-G2 UHD and VersaTray®
- Suitable patchcords
- Useful accessories
- Patch location rack

Features:

- For all who still have conventional transceivers for duplex applications like 10/25/50 GBE and 8/16/32 GFC on both cabling sides in foreseeable time, but want to be prepared for the 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 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® DUODECIM MTP® trunks

PreCONNECT® DUODECIM

combined with

PreCONNECT® OCTO MTP®

PreCONNECT® OCTO MTP® patchcords

LC-COMPACT patchcords

patch location rack

19" panel systems

SMAP-G2 SD

SMAP-G2 HD and UHD

VersaTray®

accessories

Applications:

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 und 4x32 GFC
- 400 GBASE-SR8 and SR16
- 100G PSM4
- 4x10 GBASE-LR
- 200GBASE-DR4
- 400GBASE-DR4

System description:

Our PreCONNECT® DUODECIM cabling system consists of:

- DUODECIM breakout-trunk called factory assembled FO breakout cables or alternatively DOUDECIM trunk called loose tube cables, both with up to 12 MTP® 12 fiber channels (12x12=144 fibers).
- 19" panel systems with part front plates with MTP® adapters and DUODECIM module cassettes
- OCTO patchcords
- 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.

Properties:

PreCONNECT® DUODECIM breakout-trunks I-F(ZN)HH 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 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,
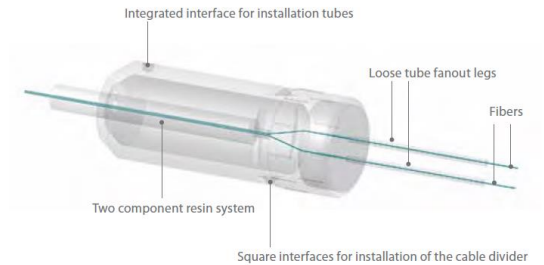IP50 dustproof

Properties:

PreCONNECT® DUODECIM Trunks I-B(ZN)BH 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. He 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.

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

Installation Tube Indoor, IP50 dustproof

Cable types:

- PreCONNECT® DUODECIM breakout-trunks: I-F(ZN)H(ZN)H 8 fibers CPR class B2ca and I-F(ZN)HH n x 12 fibers breakout cables CPR class Cca

- PreCONNECT® DUODECIM trunks: I-B(ZN)BH n x 12 fibers loose tube cables CPR class B2ca

- Cable data, see separate cable data sheets

I-F(ZN)HH n x 12 fibers breakout cables

I-B(ZN)BH n x 12 fibers loose tube cables

Properties:

Connector types:

- MTP® 12 multimode PC 0° for all non PAM4 coded transmission applications,
  e.g. 40/100/200 GBASE-SR4, 400GBASE-SR4.2.
- MTP® 12 multimode APC 8° for all PAM4 coded transmission applications,
  e.g. 400GBASE-SR4.
  APC 8° to reach reliable high return loss for PAM4. With white boot as color code.
- MTP® 12 singlemode APC 8° for all singlemode transmission applications.
- MTP® 12 and 4+4 OCTO connectors have centered keys
- MTP® trunks: MTP® 12 male
- MTP® module cassettes: MTP® 12 female
- MTP® patchcords and harnesses: MTP® 12 or 4+4 OCTO female
- Breakout-Trunks based on I-F(ZN)HH as hybrid trunks with LC, SN® or MDC on request

Adapter types:

- For MM PC 0°: TIA type B „centered aligned keys" „1 to 12" grey
- For MM APC 8°: TIA type A „centered opposed keys" „1 to 1" white
- For SM APC 8°: TIA type A "centered opposed keys" „1 to 1" green
- Description of the adapter types A and B see our
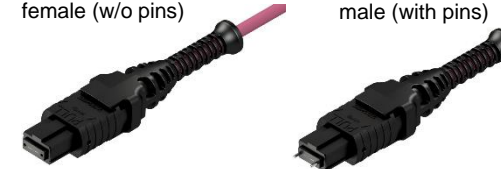 [product information PreCONNECT OCTO MTP®](#)

[MTP® 12 and 4+4 OCTO SM APC 8°](#)
female (w/o pins)

male (with pins)

For SM APC 8°
TIA type A „centered opposed keys" „1 to 1" green

[MTP® PPB 12 and 4+4 OCTO SM APC 8°](#)
female (w/o pins)   male (w/o pins)

[MTP® PRO 12 and 4+4 OCTO SM APC 8°](#)
female (w/o pins)

male (with pins)

[MTP® 12 and 4+4 OCTO MM PC 0°](#)
female (w/o pins)

male (with pins)

MTP® female 12 fiber

[MTP® PPB 12 and 4+4 OCTO MM PC 0°](#)
female (w/o pins)   male (with pins)

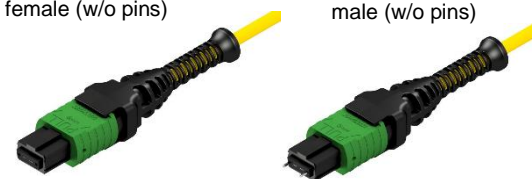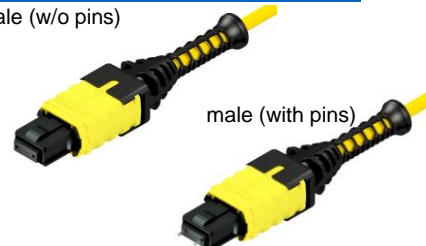MTP® female 4+4 fiber OCTO

[MTP® PRO 12 and 4+4 OCTO MM PC 0°](#)
female (w/o pins)   male (with pins)

For MM PC 0°
TIA type B „centered aligned keys" „1 to 12" grey

[MTP® 12 and 4+4 OCTO MM APC 8°](#)
female (w/o pins)

male (with pins)

For MM APC 8°
TIA type A „centered opposed keys" „1 to 1" white

Properties:

Polarity:
- OCTO MTP® breakout trunks: TIA Method B „1 to 12"
- OCTO MTP® patchcords, harnesses and module cassettes: see pages of the products
- See as well our White Paper „Light Propagation Polarity Coding"

Fiber types:
- Multimode OM4 and OM5 bend-insensitive
- Singlemode G.657.A1 bend-insensitive and backwards compatible to G.652.D
- Fiber data, see separate fiber data sheets

Operating temperature range: -10°C to +60°C

Delivery form:
- Dependent on the length as cable ring or on cardboard or wooden drum
- Insertion loss measured acc. to IEC 61300-3-4, method B,
  MM 850nm / SM 1310nm, with measurement protocol
- Product label with serial number at both sides

Length definition:

- Order-length = length between the connectors of the longest legs at both sides, not between the PreCONNECT® square-interfaces or cable dividers.
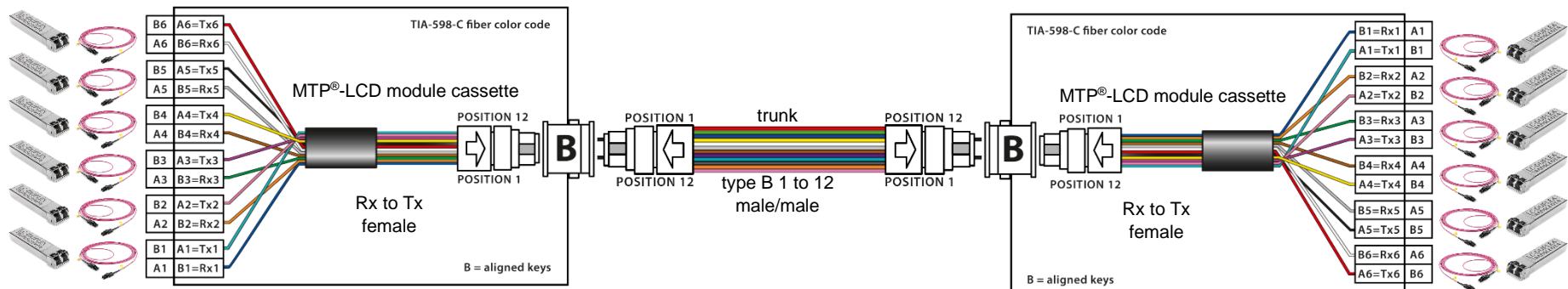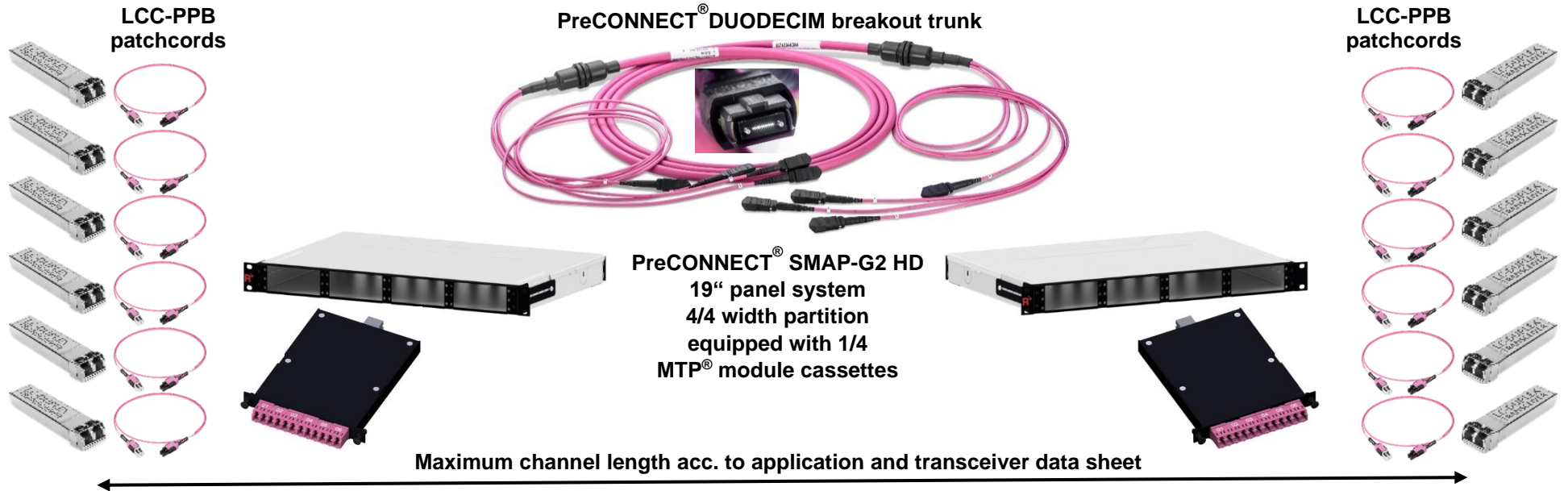- Possible order-lengths: See part number tables

Length tolerances:

Trunk length	Tolerance
<= 10m	+/- 50cm
> 10m <= 30m	+/- 100cm
> 30m <= 100m	+/- 150cm
> 100m	+/- 2%

PreCONNECT® DUODECIM application case duplex application:

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

LCC-PPB patchcords

PreCONNECT®DUODECIM breakout trunk

LCC-PPB patchcords

PreCONNECT® SMAP-G2 HD 19" panel system 4/4 width partition equipped with 1/4 MTP® module cassettes

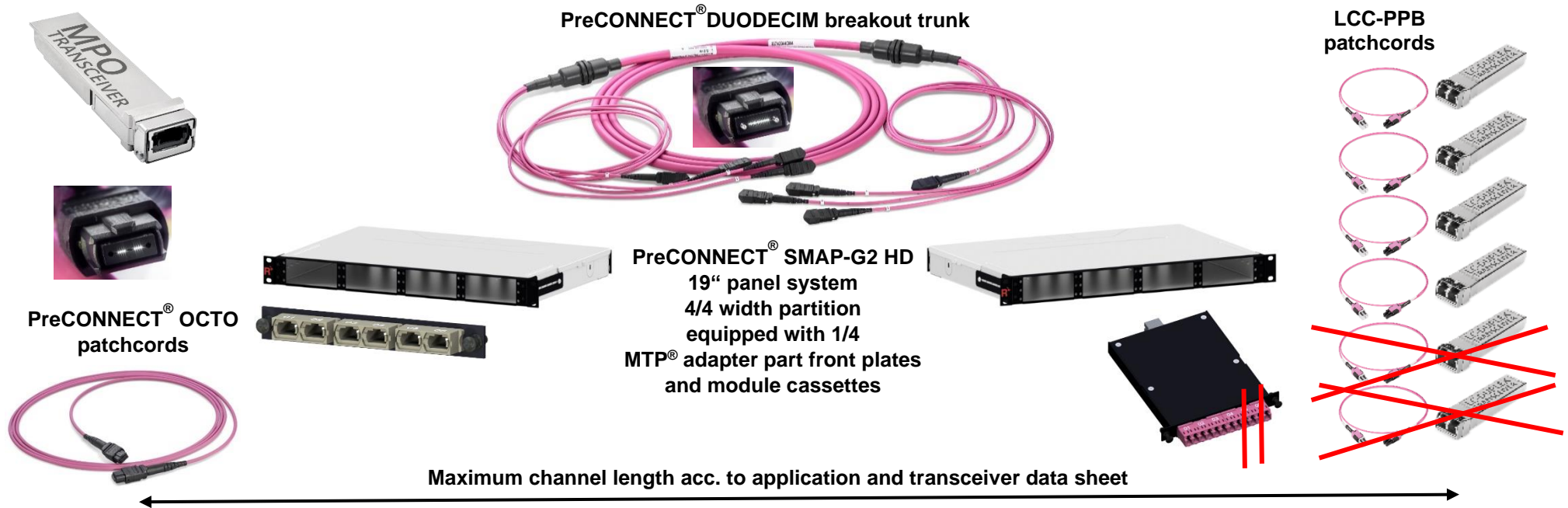**Maximum channel length acc. to application and transceiver data sheet**

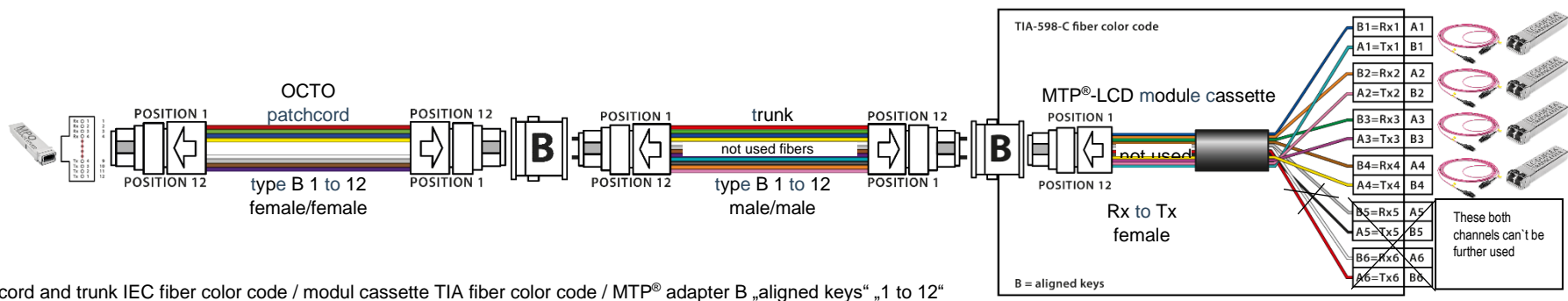trunk IEC fiber color code / modul cassette TIA fiber color code / MTP® adapter B „aligned keys" „1 to 12"

PreCONNECT® DUODECIM migration to SR4 parallel optics Port-breakout with module cassette:

- 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

MULTIMODE

MPO TRANSCEIVER

PreCONNECT® DUODECIM breakout trunk

LCC-PPB patchcords

PreCONNECT® OCTO patchcords

PreCONNECT® SMAP-G2 HD
19" panel system
4/4 width partition
equipped with 1/4
MTP® adapter part front plates
and module cassettes

Maximum channel length acc. to application and transceiver data sheet

1. DUODECIM trunks can be used further, the inner four fibers of each MTP® channel are not used any longer.
2. Replace DUODECIM module cassettes at the left MM MPO transceiver side by part-front-plates with MTP® adapters and replace LCC-PPB patchcords by PreCONNECT® OCTO MTP® patchcords.
3. DUODECIM module cassettes at the right duplex side can be used further, but only channel 1 to 4, channel 5 and 6 are not used any longer.
4. This cabling version can be built cheaper with PreCONNECT® OCTO, because there the trunks have only 8 instead of 12 fibers per MTP® cannel.
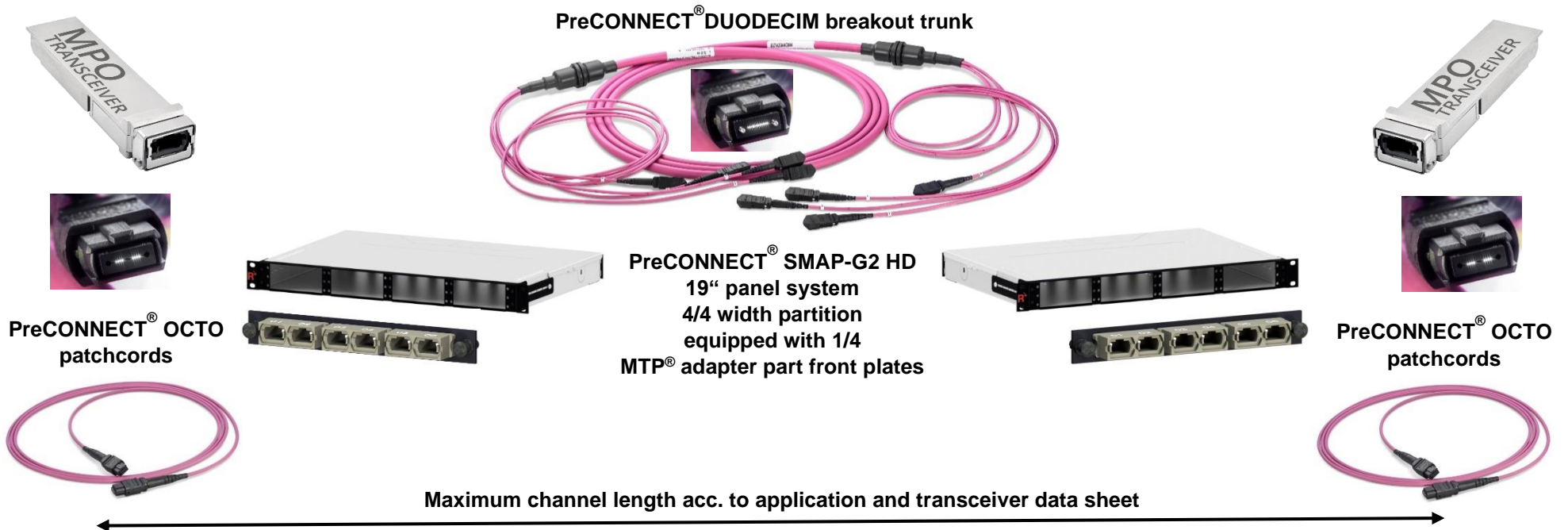

OCTO patchcord

POSITION 1 / POSITION 12

type B 1 to 12
female/female

trunk

not used fibers

POSITION 1 / POSITION 12

type B 1 to 12
male/male

MTP®-LCD module cassette

POSITION 1 / POSITION 12

not used

Rx to Tx
female

TIA-598-C fiber color code

B1=Rx1	A1
A1=Tx1	B1
B2=Rx2	A2
A2=Tx2	B2
B3=Rx3	A3
A3=Tx3	B3
B4=Rx4	A4
A4=Tx4	B4
B5=Rx5	A5
A5=Tx5	B5
B6=Rx6	A6
A6=Tx6	B6

These both channels can`t be further used

B = aligned keys

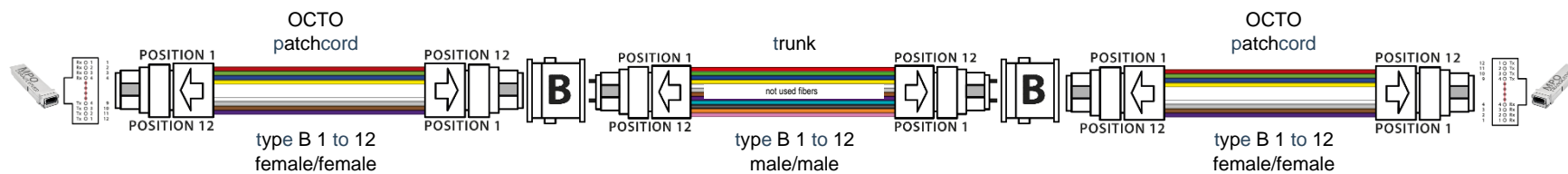patchcord and trunk IEC fiber color code / modul cassette TIA fiber color code / MTP® adapter B „aligned keys" „1 to 12"

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

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

PreCONNECT® DUODECIM breakout trunk

MPO TRANSCEIVER

MPO TRANSCEIVER

**PreCONNECT® SMAP-G2 HD
19" panel system
4/4 width partition
equipped with 1/4
MTP® adapter part front plates**

**PreCONNECT® OCTO
patchcords**

**PreCONNECT® OCTO
patchcords**

Maximum channel length acc. to application and transceiver data sheet

1. DUODECIM trunks can be used further, 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 LCC-PPB patchcords by PreCONNECT® OCTO MTP® patchcords.
3. This cabling version can be built cheaper with PreCONNECT® OCTO, because there the trunks have only 8 instead of 12 fibers per MTP® channel.
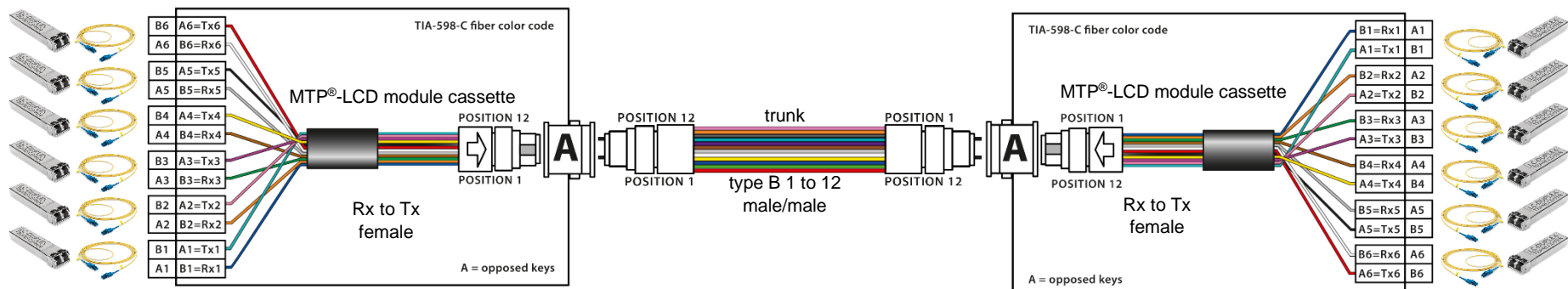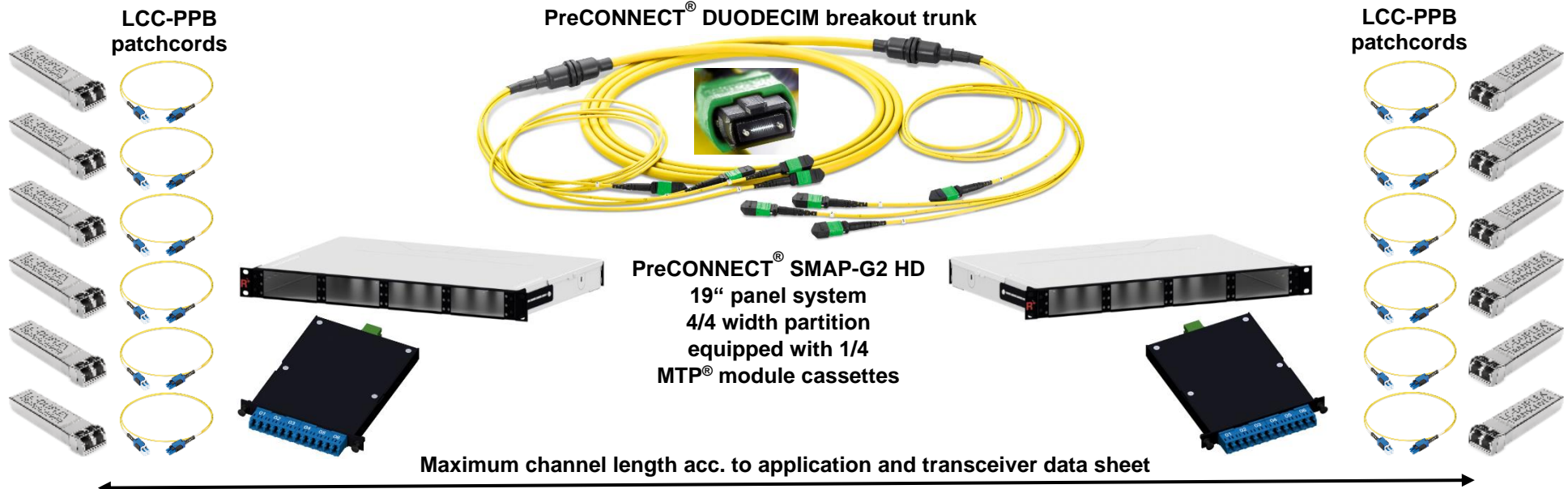

OCTO patchcord	trunk	OCTO patchcord
POSITION 1 ... POSITION 12	POSITION 1 ... POSITION 12	POSITION 1 ... POSITION 12
POSITION 12 ... POSITION 1	POSITION 12 ... POSITION 1	POSITION 12 ... POSITION 1
type B 1 to 12 female/female	type B 1 to 12 male/male	type B 1 to 12 female/female

not used fibers

patchcord and trunk IEC fiber color code / MTP® adapter B „aligned keys" „1 to 12"

PreCONNECT® DUODECIM application case duplex application:

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

LCC-PPB patchcords

PreCONNECT® DUODECIM breakout trunk

LCC-PPB patchcords

PreCONNECT® SMAP-G2 HD
19" panel system
4/4 width partition
equipped with 1/4
MTP® module cassettes

Maximum channel length acc. to application and transceiver data sheet

	TIA-598-C fiber color code			
B6	A6=Tx6		B1	B1=Rx1
A6	B6=Rx6		A1	A1=Tx1
B5	A5=Tx5		B2	B2=Rx2
A5	B5=Rx5		A2	A2=Tx2
B4	A4=Tx4		B3	B3=Rx3
A4	B4=Rx4		A3	A3=Tx3
B3	A3=Tx3		B4	B4=Rx4
A3	B3=Rx3		A4	A4=Tx4
B2	A2=Tx2		B5	B5=Rx5
A2	B2=Rx2		A5	A5=Tx5
B1	A1=Tx1		B6	B6=Rx6
A1	B1=Rx1		A6	A6=Tx6

MTP®-LCD module cassette

POSITION 12

POSITION 12

trunk

POSITION 1

MTP®-LCD module cassette

POSITION 1

POSITION 1

POSITION 12

POSITION 1

POSITION 12

Rx to Tx
female

type B 1 to 12
male/male

Rx to Tx
female

A = opposed keys

A = opposed keys

trunk IEC fiber color code / modul cassette TIA fiber color code / MTP® adapter A „opposeded keys" „1 to 1"

PreCONNECT® DUODECIM migration to SM parallel optics port-breakout with module cassette:

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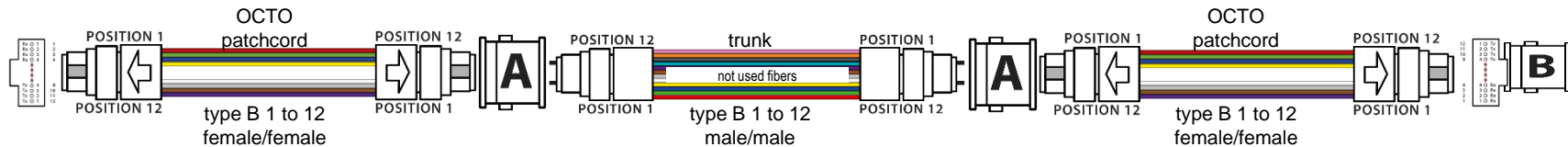- **400GBASE-DR4 MPO auf 4x100 GBASE-LR LC Duplex**

1. DUODECIM trunks can be used further, the inner four fibers of each MTP® channel are not used any longer.
2. Replace DUODECIM module cassettes at the left SM MPO transceiver side by part-front-plates with MTP® adapters and replace LCC-PPB patchcords by PreCONNECT® OCTO MTP® patchcord.
3. DUODECIM module cassettes at the right duplex side can be used further, but only channel 1 to 4, channel 5 and 6 are not used any longer.
4. This cabling version can be built cheaper with PreCONNECT® OCTO, because there the trunks have only 8 instead of 12 fibers per MTP® channel.
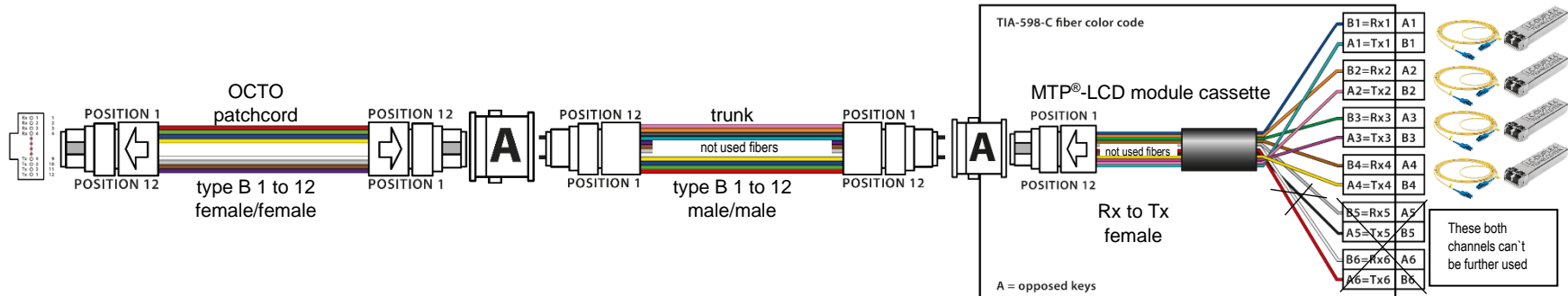
PreCONNECT® DUODECIM migration to SM parallel optics on both sides:

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

1. DUODECIM trunks can be used further, 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 LCC-PPB patchcords by PreCONNECT® OCTO MTP® patchcords.
3. This cabling version can be built cheaper with PreCONNECT® OCTO, because there the trunks have only 8 instead of 12 fibers per MTP® channel.

patchcord and trunk IEC fiber color code / modul cassette TIA fiber color code / MTP® adapter A „opposeded keys" „1 to 1"

Application of PreCONNECT® DUODECIM MTP® Trunks and Patchcords with MTP® in our 19" panel systems with MTP® adapters in the front:

19" panel systems	MTP® port density per HU	Trunks with MTP®	Trunks with MTP® PPB or PRO	Patchcords with MTP®	Patchcords with MTP® PPB or PRO
SMAP-G2 SD	48	✓	✗	✓	✗
SMAP-G2 SD	64	✗	required	✗	required
SMAP-G2 HD	72	✓	recommended	✓	recommended
SMAP-G2 UHD	96	✗	required	✗	required
VersaTray®	72	✓	✗	✓	✗

SMAP-G2 SD

SMAP-G2 HD

SMAP-G2 UHD

VersaTray®
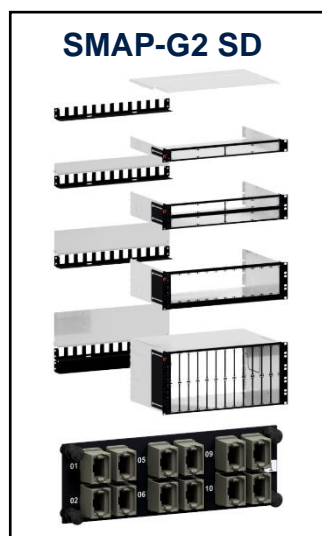
MTP®

MTP® PPB

MTP® PRO

PreCONNECT DUODECIM MTP® breakout trunks n x 12 fibers OM4 FRNC-LSZH:

- **I-F(ZN)H(ZN)H and I-F(ZN)HH breakout cable**
- **MTP® 12 DUODECIM MM PC 0°, male, Elite quality**
- **Polarity: TIA method B „1 to 12"**

Part numbers
Add your desired length in millimeter to the part number, e.g. 2.0 meter: 037A2044OM4-20000
**Deliverable lengths: From 5 to 300 meter, in 1m increments**

M U L T I M O D E

MTP® 12F DUODECIM MM PC 0°
male (with pins)

Connector leg lengths:
All same length 90cm
Production tolerance -5cm

Number of DUODECIM channels	Number of fibers	Cable structure	Cable CPR class	New (CPQ) part number with 90cm legs	Old part number still with 79cm legs not fitting for VersaTray®
1	12	1 x 12	B2ca	on request	037A2080OM4
2	24	2 x 12	Cca	on request	037A2043OM4
4	48	4 x 12	Cca	on request	037A2044OM4
6	72	6 x 12	Cca	on request	on request
8	96	8 x 12	Cca	on request	037A2045OM4
12	144	12 x 12	Cca	on request	037A2046OM4
On request with: - MTP® 12 DUODECIM MM APC 8° male Elite quality - MTP® PPB 12 DUODECIM MM PC 0° male Elite quality - MTP® PRO 12 DUODECIM MM PC 0° male Elite quality					

PreCONNECT DUODECIM MTP® breakout trunks n x 12 fibers SM FRNC-LSZH:

- **I-F(ZN)H(ZN)H and I-F(ZN)HH breakout cable**
- **MTP® 12 DUODECIM SM APC 8°, male, Standard quality (Elite quality on request)**
- **Polarity: TIA method B „1 to 12"**

Part numbers
Add your desired length in millimeter to the part number, e.g. 2.0 meter: 037A2082G657A1-20000
Deliverable lengths: From 5 to 1000 meter, in 1m increments

SINGLEMODE

MTP® 12 DUODECIM SM APC 8°
male (with pins)

Connector leg lengths:
All same length 90cm
Production tolerance -5cm
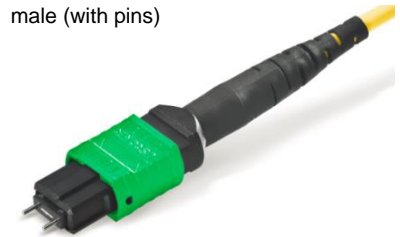
Number of DUODECIM channels	Number of fibers	Cable structure	Cable CPR class	New (CPQ) part number with 90cm legs	Old part number still with 79cm legs not fitting for VersaTray®
1	12	1 x 12	B2ca	on request	037A2086G657A1
2	24	2 x 12	Cca	on request	037A2095G657A1
4	48	4 x 12	Cca	on request	037A2082G657A1
6	72	6 x 12	Cca	on request	on request
8	96	8 x 12	Cca	on request	037A2083G657A1
12	144	12 x 12	Cca	on request	037A2084G657A1
On request with: - MTP® PPB 12 DUODECIM SM APC 8° male Standard an Elite quality - MTP® PRO 12 DUODECIM SM APC 8° male Standard an Elite quality					

PreCONNECT DUODECIM MTP® trunks n x 12 fibers OM4 FRNC-LSZH:

- **I-B(ZN)BH loose tube cable**
- **MTP® 12 DUODECIM MM PC 0°, male, Elite quality**
- **Polarity: TIA method B „1 to 12"**

Part numbers
Add your desired length in millimeter to the part number, e.g. 2.0 meter: 024A0157OM4-20000
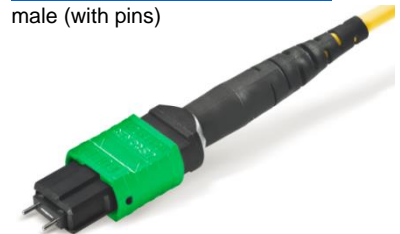**Deliverable lengths: From 5 to 300 meter, in 1m increments**

MULTIMODE

MTP® 12F DUODECIM MM PC 0°
male (with pins)

Connector leg lengths:
All same length 90cm
Production tolerance -5cm

Number of DUODECIM channels	Number of fibers	Cable structure	Cable CPR class	New (CPQ) part number with 90cm legs	Old part number still with 79cm legs not fitting for VersaTray®
1	12	1 x 12	B2ca	on request	on request
2	24	1 x 24	B2ca	on request	on request
4	48	4 x 12	B2ca	on request	024A0157OM4
6	72	6 x 12	B2ca	on request	on request
8	96	8 x 12	B2ca	on request	024A0156OM4
12	144	12 x 12	B2ca	on request	024A0158OM4

On request with:
- MTP® 12 DUODECIM MM APC 8° male Elite quality
- MTP® PPB 12 DUODECIM MM PC 0° male Elite quality
- MTP® PRO 12 DUODECIM MM PC 0° male Elite quality

PreCONNECT DUODECIM MTP® trunks n x 12 fibers SM FRNC-LSZH:

- **I-B(ZN)BH loose tube cable**
- **MTP® 12 DUODECIM SM APC 8°, male, Standard quality (Elite quality on request)**
- **Polarity: TIA method B „1 to 12"**

Part numbers
Add your desired length in millimeter to the part number, e.g. 2.0 meter: 024A0157OM4-20000
Deliverable lengths: From 5 to 1000 meter, in 1m increments

Connector leg lengths:
All same length 90cm
Production tolerance -5cm

S I N G L E M O D E

MTP® 12 DUODECIM SM APC 8°
male (with pins)

Number of DUODECIM channels	Number of fibers	Cable structure	Cable CPR class	New (CPQ) part number with 90cm legs	Old part number still with 79cm legs not fitting for VersaTray®
1	12	1 x 12	B2ca	on request	on request
2	24	1 x 24	B2ca	on request	on request
4	48	4 x 12	B2ca	on request	024A0215G657A1
6	72	6 x 12	B2ca	on request	on request
8	96	8 x 12	B2ca	on request	024A0216G657A1
12	144	12 x 12	B2ca	on request	024A0217G657A1

On request with:
- MTP® PPB 12 DUODECIM SM APC 8° male Standard an Elite quality
- MTP® PRO 12 DUODECIM SM APC 8° male Standard an Elite quality

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

Port density:
- 48 LC-Duplex or 64 MTP® ports per HU at the 1, 2 and 3 HU panels
  and 57.6 per HU (total 288) at the 5 HU panel

Dimensions:
- Width: 19"
- Height: 1, 2, 3 and 5 HU
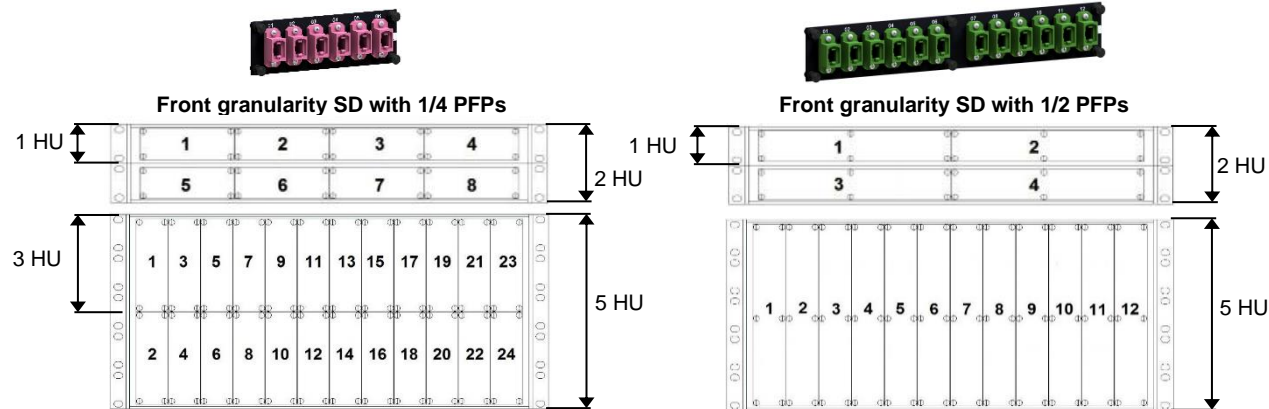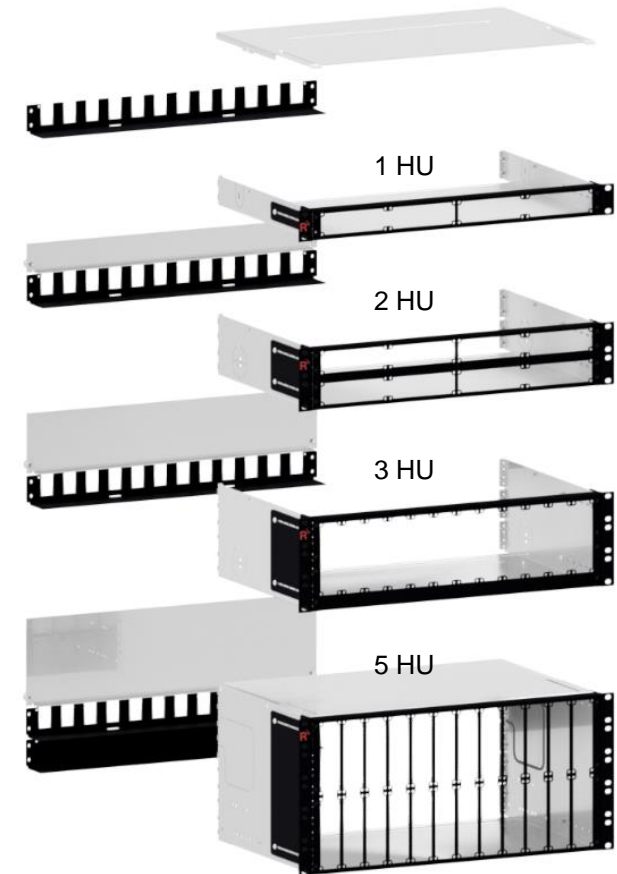- Depth: 200 mm and 300 mm, see product information SMAP-G2 SD

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
2 HU, depth 200 mm	172A0004
3 HU, depth 300 mm	173A0001
5 HU, depth 300 mm	175A0001

Find panels with other back plane configurations and further information in our product information SMAP-G2 SD.

SMAP-G2 SD panels for PURE trunks are described behind in this document.

1 HU

2 HU

3 HU

5 HU

Front granularity SD with 1/4 PFPs

1 HU | 1 | 2 | 3 | 4 |
   2 HU | 5 | 6 | 7 | 8 |

3 HU

| 1 | 3 | 5 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 23 |

5 HU

| 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |

Front granularity SD with 1/2 PFPs

1 HU | 1 | 2 |
  2 HU | 3 | 4 |

5 HU

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

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

Part numbers RAL9005 black				
Blind PFP 1 HU 1/4	170A0001			
Blind PFP 1 HU 1/2	170A0002			
PFP type	Number and type of ports	for fiber type		
		MM PC 0° grey type B "centered aligned keys"	MM APC 8° white type A "centered opposed keys"	SM APC 8° green type A "centered opposed keys"
1 HU 1/4	6 x MTP®	170A0630TB	170A0637	170A0620
1 HU 1/4	8 x MTP®	170A0141TB	170A0143	170A0140
1 HU 1/4	12 x MTP®	170A0636TB	170A0638	170A0623
1 HU 1/4	16 x MTP® [1]	170A0680TB	on request	170A0679
1 HU 1/2	12 x MTP®	170A0670TB	170A0677	170A0660
1 HU 1/2	24 x MTP®	170A0674TB	170A0678	170A0664
Find part numbers for panels factory assembled with part front plates in our product information SMAP-G2 SD. [1] Without numbering because shortage of space				

Blind PFP 1 HU 1/4
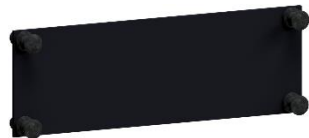
Blind PFP 1 HU 1/2

1 HU 1/4 PFP 6 MTP®

1 HU 1/4 PFP 8 MTP®

We recommend to apply trunks and patchcords with MTP® PPB or PRO on PFP 12 MTP®.

Trunks and patchcords with MTP® PPB or PRO musst be applied on PFP 16 MTP®.

1 HU 1/2 PFP 12 MTP®

1 HU 1/4 PFP 12 MTP®

MTP® PPB

MTP® PRO

1 HU 1/2 PFP 24 MTP®

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

2x MTP®

Properties:

- For Port-breakout of PreCONNECT® DUODECIM trunks with MTP® connectors
- Height: 1 HU
- Width: 1/4
- Depth: 115 mm
- Polarity: Rx to Tx
- 2 MTP® female 12F DUODECIM ports at the rear side:
  - OM4 PC 0°: Elite quality, MTP® adapter type B „centered aligned keys" black
  - OM4 APC 8°: Elite quality, MTP® adapter type A „centered opposed keys" white
  - SM APC 8°: Standard quality, MTP® adapter type A „centered opposed keys" green
- 12 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:
  - Cassette body: aluminum powder coated RAL9005 black
  - Front: steel powder coated RAL9005 black

LC-COMPACT (LCC)

Part numbers RAL9005 black					
Fiber type	**12F DUODECIM MTP® female at rear side**	**Number of MTP® at rear side**	**Number of LC-Duplex ports at front side**	**LC type at front side**	
				LC-PC 0°	**LC-APC 8°**
OM4	PC 0°	2	2 DUODECIM groups of 6 = 12	170A2025OM4	---
	APC 8°			on request	---
SM	APC 8°			170A2004	on request
Pour les références des panneaux assemblés en usine avec les modules MTP®, se référer à notre Information Produit 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, see product information SMAP-G2 HD

Part numbers:

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

1 HU, 4/4 DUODECIM width partition, depth 300 mm	171H0010
1 HU, 4/4 DUODECIM width partition, depth 200 mm	171H0001
2 HU, 4/4 DUODECIM width partition, depth 300 mm	172H0002
2 HU, 4/4 DUODECIM width partition, depth 200 mm	172H0001

Find panels with other back plane configurations and further information in our product information SMAP-G2 HD.

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

171H0010

Front granularity HD 4/4 DUODECIM width partition

1	4	7	10
2	5	8	11
3	6	9	12

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

Part numbers RAL9005 black				
Blind PFP 1/3HU 1/6	170H0002			
		for fiber type		
PFP type	**Number and type of port**	**MM PC 0°** grey type B "centered aligned keys	**MM APC 8°** white type A "centered opposed keys"	**SM APC 8°** green type A "centered opposed keys"
1/3 HU 1/4	6 x MTP®	170H2013TB	on request	170H2023
Find part numbers for panels factory assembled with part front plates in our product information SMAP-G2 HD.				

1/3HU 1/4 Blind PFP

1/3 HU 1/4 PFP 6 MTP® (3 MTPD)

Using this PFP, trunks and patchcords with MTP® PPB or PRO are recommended to be applied, but MTP® fits too.

MTP® PPB

MTP® PRO

MTP®

SMAP-G2 HD 12 fiber MTP®-LC module cassettes fitting for PreCONNECT® DUODECIM trunks:

MTP®

Properties:

- For Port-Breakout of PreCONNECT® DUODECIM trunks with MTP® connectors
- Fitting in SMAP-G2 HD panel with 4/4 width partition
- Height: 1/3 HU
- Width: 1/4
- Depth: 115 mm
- Polarity: Rx to Tx
- 1 MTP® female 12F DUODECIM port at the rear side:
  - OM4 PC 0°: Elite quality, MTP® adapter type B „centered aligned keys" black
  - OM4 APC 8°: Elite quality, MTP® adapter type A „centered opposed keys" white
  - SM APC 8°: Standard quality, MTP® adapter type A „centered opposed keys" green
- 6 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 cassette body and front: aluminum powder coated RAL9005 black

LCC-PPB

Patchcords with LC-COMPACT Push-Pull-Boot (LCC-PPB) and cable diameter 2.0mm or thinner must be applied here

| Part numbers RAL9005 black					
Fiber type	**12F DUODECIM MTP® female at rear side**	**Number of MTP® at rear side**	**Number of LC-Duplex ports at front side**	**LC type at front side**	
				LC-PC 0°	**LC-APC 8°**
OM4	PC 0°	1	1 DUODECIM group = 6	170H1005OM4	---
	APC 8°			on request	---
SM	APC 8°			170H1004	170H1012
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 MTP® ports per HU

Dimensions:
▪ Width: 19"
▪ Height: 1 HU
▪ Depth: 200 mm and 300 mm, see product information SMAP-G2 UHD

Part numbers:

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

- 1HU, 4/4 DUODECIM width partition, depth 300mm: 171H0011

Find panels with other back plane configurations and further information in our product information SMAP-G2 UHD.

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

171H0011

Front granularity UHD 4/4 width partition

1	3	5	7
2	4	6	8

SMAP-G2 UHD 1/2 HU 1/4 part front plates:

Part numbers RAL9005 black				
Blind PFP 1/2 HU 1/4	170H3001			
		for fiber type		
PFP type	**Number and type of port**	**MM PC 0°** grey type B "centered aligned keys	**MM APC 8°** white type A "centered opposed keys"	**SM APC 8°** green type A "centered opposed keys"
1/2 HU 1/4	12 x MTP®	170H6005TB	170H6007	170H6006
Find part numbers for panels factory assembled with part front plates in our product information SMAP-G2 UHD.				

1/2 HU 1/4 Blind PFP

1/2 HU 1/4 PFP 12 MTP®

Using this PFP, trunks and patchcords with MTP® PPB or PRO must be applied

[MTP® PPB](#)   [MTP® PRO](#)

SAMP-G2 UHD 24 fiber MTP®-LC module cassettes for 4/4 slot panels fitting for PreCONNECT® DUODECIM trunks

2x MTP®

Properties:

- For Port-breakout of PreCONNECT® DUODECIM trunks with MTP® connectors
- Fitting in SMAP-G2 UHD panel with 4/4 width partition
- Height: 1/2 HU
- Width: 1/4
- Depth: 115 mm
- Polarity: Rx to Tx
- 2 MTP® female 12F DUODECIM ports at the rear side:
  - OM4 PC 0°: Elite quality, MTP® adapter type B „centered aligned keys" black
  - OM4 APC 8°: Elite quality, MTP® adapter type A „centered opposed keys" white
  - SM APC 8°: Standard quality, MTP® adapter type A „centered opposed keys" green
- 12 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 cassette body and front: aluminum powder coated RAL9005 black

LCC-PPB

**Patchcords with
LC-COMPACT Push-Pull-Boot (LCC-PPB)
and cable diameter 2.0mm or thinner must be
applied here**

Part numbers RAL9005 black					
Fiber type	**12F DUODECIM MTP® female at rear side**	**Number of MTP® at rear side**	**Number of LC-Duplex ports at front side**	**LC type at front side**	
				LC-PC 0°	**LC-APC 8°**
OM4	PC 0°	2	2 DUODECIM groups of 6 = 12	170H4001OM4	---
	APC 8°			on request	---
SM	APC 8°			170H4004	on request
Find part numbers for panels factory assembled with MTP® module cassettes in our product information SMAP-G2 UHD.					

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

PreCONNECT® PURE MTP®
adapter interface
at Trunk connector legs

Standard back plane configuration for max. 12 Trunk cable dividers per panel
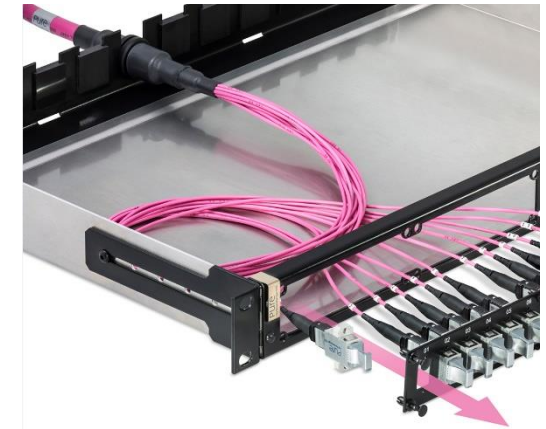
SMAP-G2 SD PURE Part-Front-Plates PFP

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

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

1 HU 1/4 Blind-PFP

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

19" VersaTray® Tray System:

This is an outstandingly modular, extremely service-friendly 19" tray system for high-density data cabling
in data centers.

Port density:

- 72 MPO ports per height unit (HU), 24 ports per 1/3 HU tray system

VersaTray® consists of:

- 19" 1/3 HU tray system in 4/4 width layout
- Right-hand and left-hand tray element
- 1 HU trunk and cable tray
- Individually mountable trunk support can be extended in steps of 1 HU, 2 HU and 4 HU
- MPO coupler modules
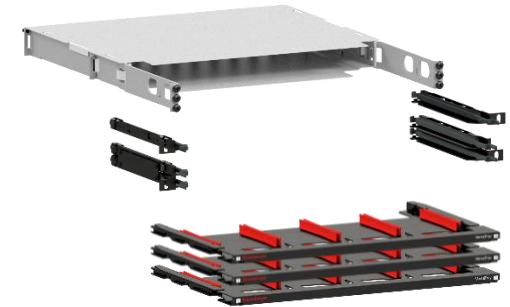
1/3 HU tray system:

- with 4/4 width layout: To accommodate 4 coupler modules with 6 MPO

1/3 tray systems can be equipped with modules from the front, top, at an angle without the need for tools. They can be
pulled out to two positions without tools and can also be fully removed for maintenance.

Front-mounted, integrated height unit-independent patchcord guide at 1/3 HU drawers. Fold up and open to insert and
remove the patchcords. The patchcords are protected by the folding front cover.
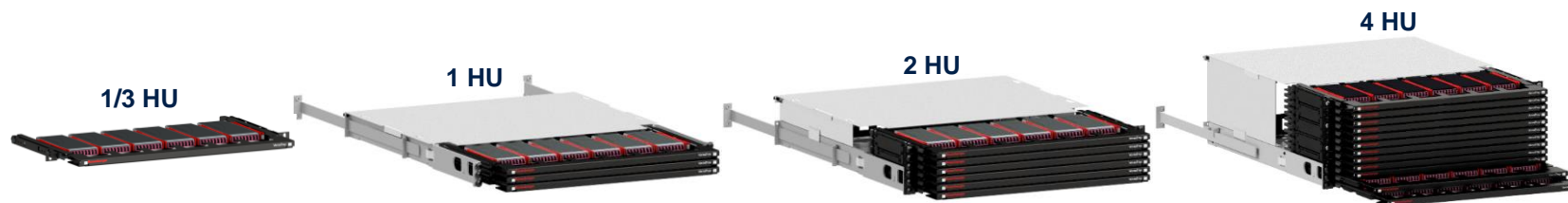
19" VersaTray® Tray System:

Coupler modules 6 MPO:

Installation on trays:
- Fast, simple installation via spring system without the need for precise alignment and without fixed rail system.
- Modules and coupler modules can be installed from the front, back, top and even the sides.

Dimensions:
- Width: 1/4 width division
- Height: 1/3 HU
- Depth: 140 mm

Coupler characteristics:
- Shuttered MPO connections with integrated dust protection closure for one-handed installation and to ensure the safety of installation personnel when plugging in individual fibers.
- MPO connections have VFL (Visual Fault Locator) transparency level
- Singlemode blue, singlemode APC green and OM4 violet

with installed trunk connector legs
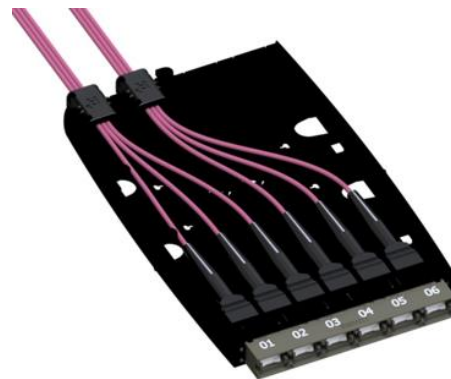
MTP® Patchcords

For PreCONNECT® DUODECIM MTP® trunks fitting, the patchcords MTP® connectors must be female and polarity B "1 to 12".

! At multimode OM4:
- *To attach PreCONNECT® DUODECIM trunks with MTP® 12 DUODECIM MM female APC 8° connectors, MTP® 12 DUODECIM MM female APC 8° must be at this patchcord side too.*
- *To attach transceivers you must verify, whether MTP® 12 DUODECIM MM APC 8°or PC 0° is required.*

MTP® Harnesses with leg connectors LC, MDC, SN®

For PreCONNECT® DUODECIM MTP® trunks fitting, the harness MTP® connectors must be female and polarity Rx to Tx.

! At multimode OM4:
  - *To attach PreCONNECT® DUODECIM trunks with MTP® 12 DUODECIM MM female APC 8° connectors,
    MTP® 12 DUODECIM MM female APC 8° must be at the harnesses too.*
  - *To attach transceivers you must verify, whether MTP® 12 DUODECIM MM APC 8°or PC 0° is required.*

LC-COMPACT (LCC)

MDC

SN®
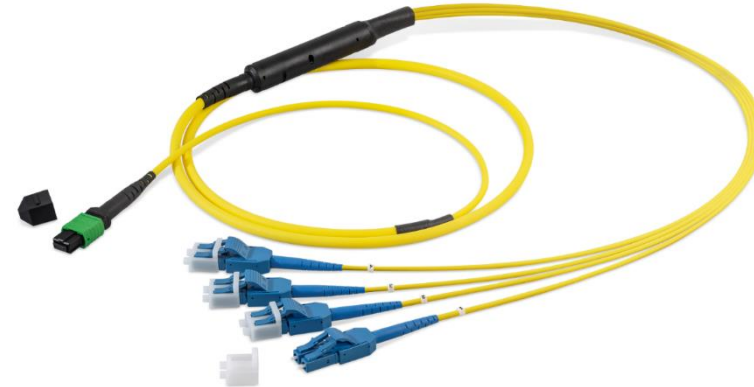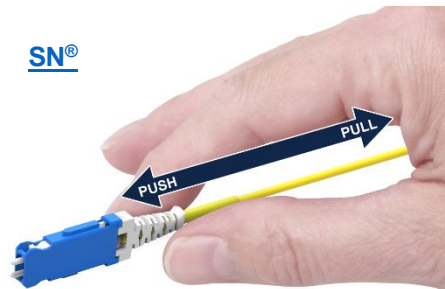
LC-COMPACT Push-Pull-Boot
(LCC-PPB)

LC, MDC and SN® patchcords

LC-COMPACT patchcords

MDC patchcords

SN® patchcords

LC-COMPACT (LCC)

MDC

SN®
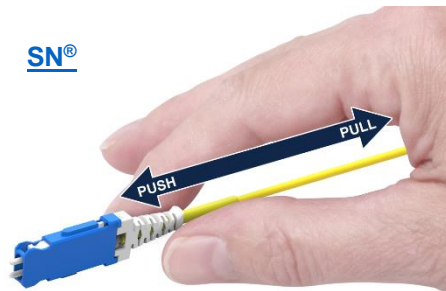
LC-COMPACT Push-Pull-Boot (LCC-PPB)

Migration of PreCONNECT® DUODECIM to 400GBASE-SR8:

**400GBASE-SR8
MPO Transceiver**

OSFP

QSFP-DD

PreCONNECT® DUODECIM breakout trunk

**400GBASE-SR8
MPO Transceiver**
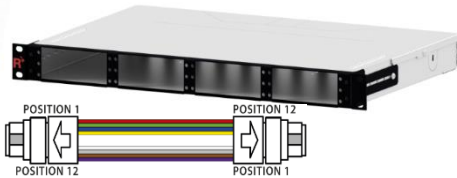
**PreCONNECT® SMAP-G2 HD
19" panel system
4/4 width partition
equipped with 1/4
MTP® adapter part front plates**

POSITION 1   POSITION 12
POSITION 12   POSITION 1

**PreCONNECT® SEDECIM
SR8 to 2x SR4 OCTO
migration-harness**

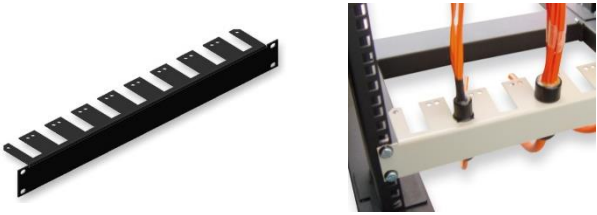**PreCONNECT® SEDECIM
SR8 to 2x SR4 OCTO
migration-harness**

Maximum channel length acc. to application and transceiver data sheet

PreCONNECT® SEDECIM, SR8 to 2x SR4 OCTO, migration-harness, part numbers:
- **076A0140OM4 with MTP16 MM 0° PC black boot for 400GBASE-SR8 Transceivers with 0° PC interface**
- **076A0185OM4 with MTP16 MM 8° APC white boot for 400GBASE-SR8 Transceivers with 8° APC interface**

Migration of PreCONNECT® DUODECIM to 400GBASE-SR8 port-breakout to 2 x 200GBASE-SR4:

MULTIMODE
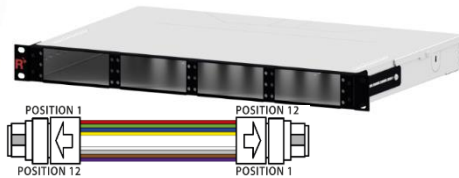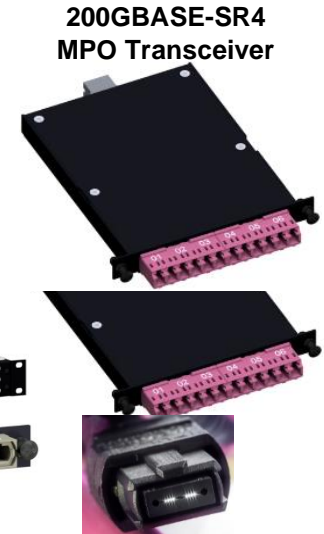
400GBASE-SR8
MPO Transceiver

OSFP

QSFP-DD

PreCONNECT®DUODECIM breakout

200GBASE-SR4
MPO Transceiver

POSITION 1   POSITION 12

POSITION 12   POSITION 1

PreCONNECT® SMAP-G2 HD
19" panel system
4/4 width partition
equipped with 1/4
MTP® adapter part front plates

PreCONNECT® SEDECIM
SR8 to 2x SR4 OCTO
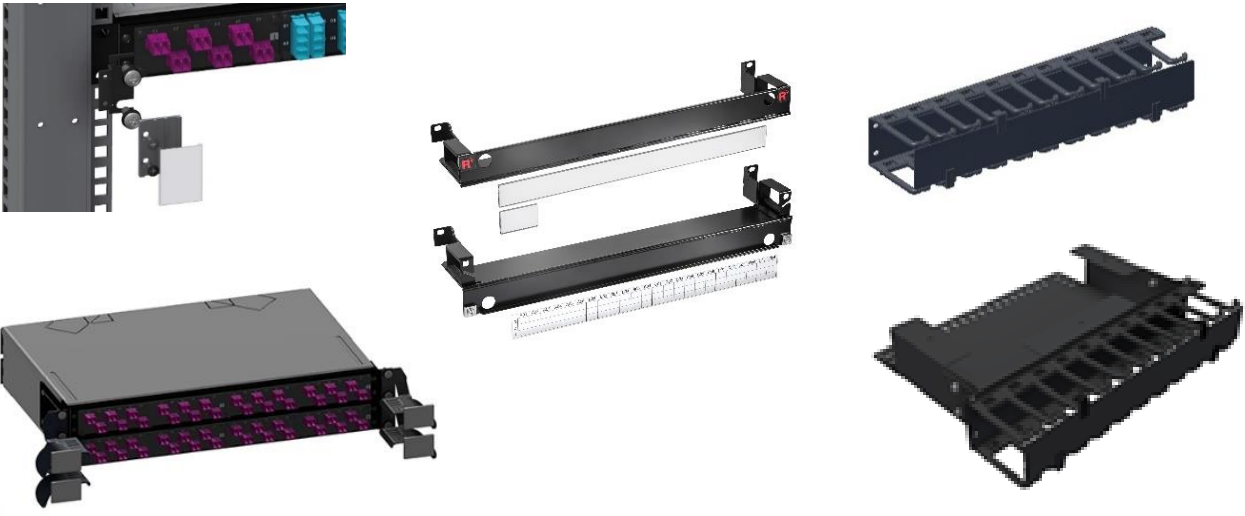**migration-harness**

PreCONNECT® OCTO
patchcord

Maximum channel length acc. to application and transceiver data sheet

PreCONNECT® SEDECIM, SR8 to 2x SR4 OCTO, migration-harness, part numbers:
- **076A0140OM4 with MTP16 MM 0° PC black boot for 400GBASE-SR8 Transceivers with 0° PC interface**
- **076A0185OM4 with MTP16 MM 8° APC white boot for 400GBASE-SR8 Transceivers with 8° APC interface**

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		

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"

About Rosenberger OSI:

Since 1991, Rosenberger Optical Solutions & Infrastructure (Rosenberger OSI) has been a recognized expert for fiber-based connectivity, cabling solutions and infrastructure services in the areas of data centers, local area networks, mobile networks and industrial applications. As an integrated solution provider, we have high expertise in the development and operational excellence in the production of system solutions for communication networks. Our comprehensive services enable the secure and efficient operation of digital infrastructures. This combination, combined with our strong customer focus, makes us unique and a strong partner in the global market.

Rosenberger OSI has been part of the globally operating Rosenberger Group since 1998. The Rosenberger Group is a leading global provider of high-frequency, high-voltage and fiber optic connectivity solutions with headquarters in Germany. For further information, please visit: www.rosenberger.com/osi

Rosenberger

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