Rosenberger
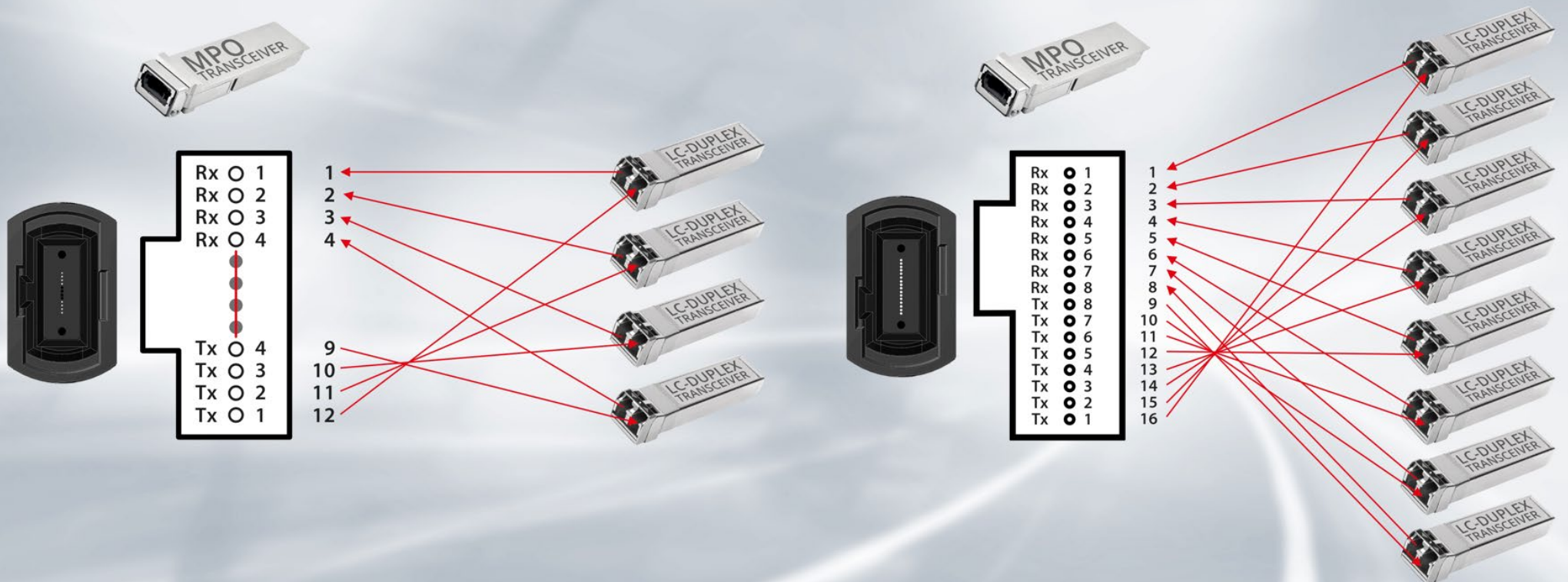
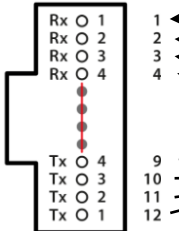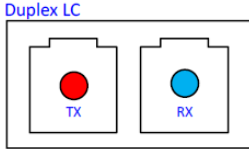## MTP® / MPO port breakout

MTP® / MPO port breakout:

This document descibes our **port breakout** called solutions to separate the **duplex ports within MPO transceivers to duplex transceivers** (e.g. LC-Duplex, MDC, SN®).
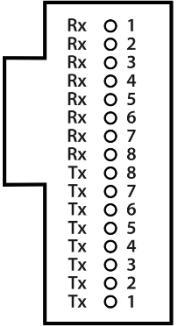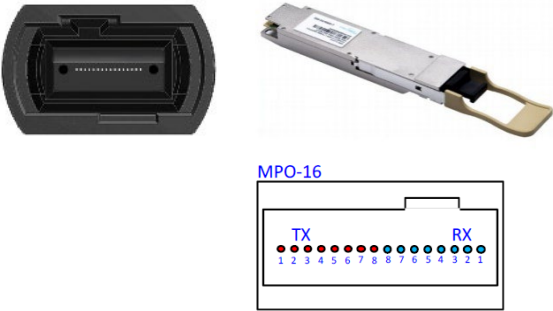
LC-Duplex Transceiver

MPO4+4 OCTO Transceiver

Duplex LC

TX	RX

MPO-12

TX   RX
1 2 3 4   4 3 2 1

Rx O 1 1
Rx O 2 2
Rx O 3 3
Rx O 4 4
Tx O 4 9
Tx O 3 10
Tx O 2 11
Tx O 1 12

LC-Duplex Transceiver

MPO16 SEDECIM Transceiver

MPO-16

TX   RX
1 2 3 4 5 6 7 8   8 7 6 5 4 3 2 1

Rx O 1 1
Rx O 2 2
Rx O 3 3
Rx O 4 4
Rx O 5 5
Rx O 6 6
Rx O 7 7
Rx O 8 8
Tx O 8 9
Tx O 7 10
Tx O 6 11
Tx O 5 12
Tx O 4 13
Tx O 3 14
Tx O 2 15
Tx O 1 16

MTP® is a registered trademark of USCONEC Ltd.

SN® is a registered trademark of SENKO Advance Co. Ltd.

MTP® / MPO port breakout:

Multimode:

- **40GBASE-SR4 MPO4+4 to 4x 10GBASE-SR/SW LC-Duplex/MDC/SN®**
- **100GBASE-SR4 MPO4+4 to 4x 25GBASE-SR/SW LC-Duplex/MDC/SN®**
- **200GBASE-SR4 MPO4+4 to 4x 50GBASE-SR/SW LC-Duplex/MDC/SN®**
- **400GBASE-SR4 MPO4+4 to 4x 100GBASE-SR/SW LC-Duplex/MDC/SN®**
- **400GBASE-SR8 MPO16 to 8x 50GBASE-SR/SW LC-Duplex/MDC/SN®**
- **4x16GFC MPO4+4 to 4x 16GFC LC-Duplex/MDC/SN®**
- **4x32GFC MPO4+4 to 4x 32GFC LC-Duplex/MDC/SN®**
- **4x64GFC MPO4+4 to 4x 64GFC LC-Duplex/MDC/SN®**

Singlemode:

- **100GBASE DR4/PSM4 MPO4+4 to 4x 25GBASE-LR LC-Duplex/MDC/SN®**
- **4x10GBASE-LR MPO4+4 to 4x 10GBASE-LR LC-Duplex/MDC/SN®**
- **200GBASE-DR4 MPO4+4 to 4x 50GBASE-LR LC-Duplex/MDC/SN®**
- **400GBASE-DR4 MPO4+4 to 4x 100GBASE-LR LC-Duplex/MDC/SN®**
- **800GBASE-DR8/PSM8 MPO16 to 8x 100G LC-Duplex/MDC/SN®**

Option 1: Direct by [MTP® Harness](#)

Example here OCTO 8 fiber and SEDECIM 16 fiber with LC-COMPACT (LCC)

With LCC-PPB, MDC and SN® see [MTP® Harness](#)

MPO4+4 OCTO Transceiver

LC-Duplex Transceivers

LC-Duplex Transceivers

MPO16 SEDECIM Transceiver

Option 2: By [MTP® Harness](#) via SMAP-G2 Panel – LC

Example here OCTO 8 fiber OM4 MTP®-LCC Harness:

**LCC
Patchcords**

**LC-Duplex
Transceivers**

MPO4+4 OCTO Transceiver
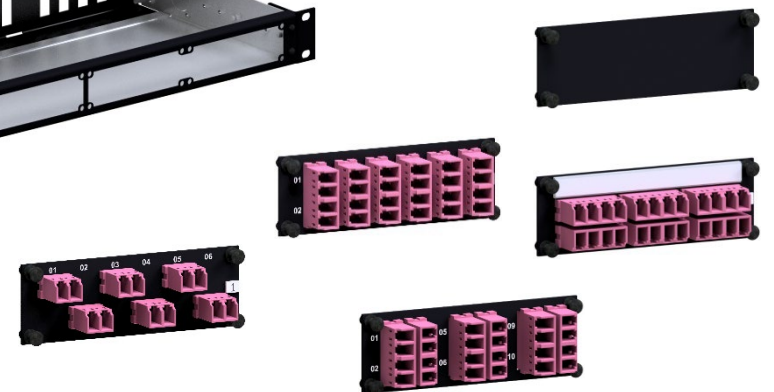
[LC-COMPACT Patchcords](#)

SMAP-G2 SD 19" 1HU, 200mm deep, with back plane
to accommodate 4x8=32 harness dividers
Part number: On request

Part front plates with FO couplers see
[Product information SMAP-G2 SD panel system](#)

1HU 48 LC-Duplex ports

Option 2.1: By MTP® Harness via SMAP-G2 Panel - MDC

This option is as well with SN® instead of MDC deliverable
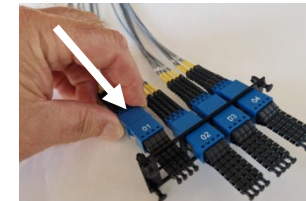
Example here OCTO 8 fiber MTP®-MDC Harness:

Maximum fast and secure installation!
- Reduction of panel installation time by 75%. Instead of four single MDC connectors per MDC Quad, only one trunk leg with MDC Quad coupler must be plugged
- MDC Quad couplers at MDC connectors of the trunk legs protecting the connector tip surfaces against contamination and damage
- Position permutation within the MDC Quad couplers are excluded by factory assembling

The individual MDC connectors at the trunk legs, can be unplugged in case of service is needed, the other three within the MDC Quad coupler remain in operation
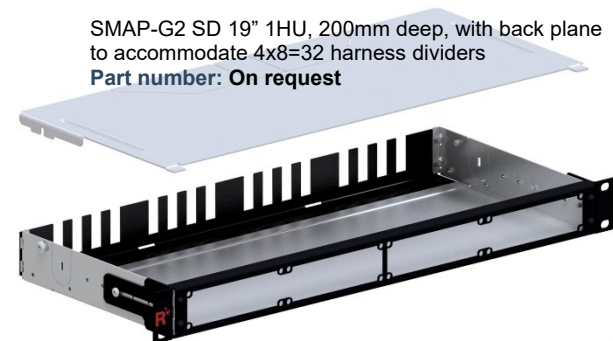
MPO 4+4 OCTO Transceiver

Trunk legs with MDC Quad couplers are plugged into the empty part front plates from the rear

MTP®-MDC Harness OCTO 8 fiber OM4
with MDC-Quad coupler
Part number: On request
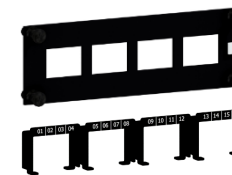
SMAP-G2 SD 19" 1HU, 200mm deep, with back plane to accommodate 4x8=32 harness dividers
Part number: On request

MDC Patchcords

SMAP-G2 SD 1HU 1/4
blind part front plate
Part number: 171A0001

SN® Patchcords

SMAP-G2 SD 1HU 1/4 PFP empty
for 4 MDC Quad couplers
incl. port numbering frames 1 to 16
Part number: 171A0013

1HU 64 MDC ports

Blind plug for open
front plate holes
Part number: 111A0117

Option 3: By MTP® Harness via telescopic panel – LC

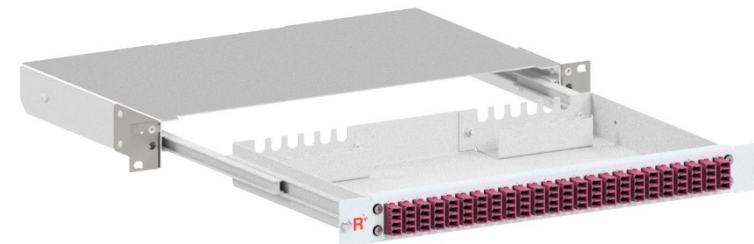Example here OCTO 8 fiber OM4 MTP®-LCC Harness:

MPO4+4 OCTO Transceiver

LCC Patchcords

LC-Duplex Transceivers

LC-COMPACT Patchcords

Conventional (ECO) 19" 1HU telescopic panel, with back plane to accommodate 2x6=12 harness dividers
**Part number with 24 LCQ OM4 violet couplers:
OSI-SONDERGEH1002
others on request**

1HU 48 LC-Duplex ports
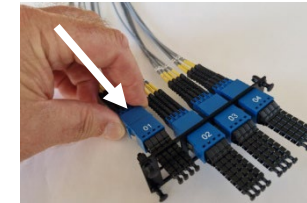
Option 3.1: By MTP® Harness via telescopic panel - MDC

This option is as well with SN® instead of MDC deliverable

Maximum fast and secure installation!
- Reduction of panel installation time by 75%. Instead of four single MDC connectors per MDC Quad, only one trunk leg with MDC Quad coupler must be plugged
- MDC Quad couplers at MDC connectors of the trunk legs protecting the connector tip surfaces against contamination and damage
- Position permutation within the MDC Quad couplers are excluded by factory assembling
The individual MDC connectors at the trunk legs, can be unplugged in case of service is needed, the other three within the MDC Quad coupler remain in operation

MPO 4+4 OCTO Transceiver

Trunk legs with MDC Quad couplers are plugged into the empty part front plates from the rear

MTP®-MDC Harness OCTO 8 fiber OM4 with MDC-Quad coupler
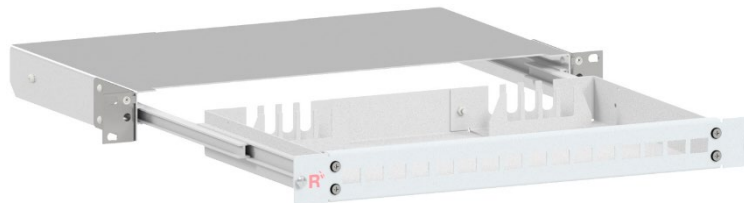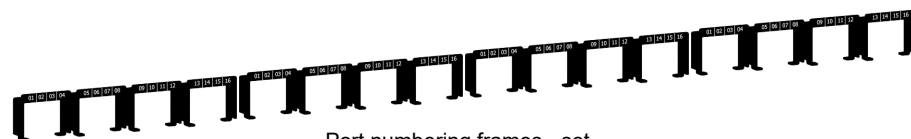**Part number: On request**

MDC Patchcords

Conventional (ECO) 19" 1HU telescopic panel, with back plane to accommodate 2x8=16 harness dividers
Part number: On request

SN® Patchcords

Blind plug for open front plate holes
Part number: 111A0117

1HU 64 MDC ports

Port numbering frames - set
Part number: On request

Option 4: By OCTO MTP®-LC Port Breakout Unit

MPO4+4 OCTO Transceiver

Length of the cable pigtail selectable

LCC-PPB Patchcords
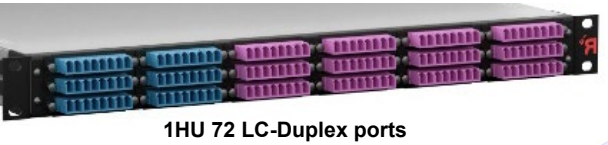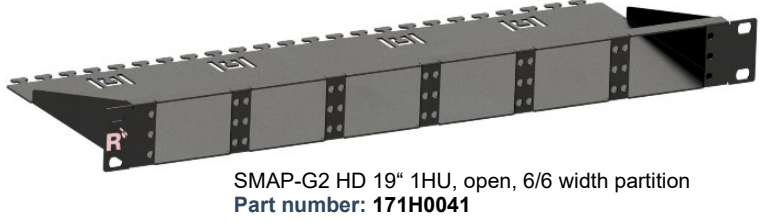
LC-Duplex Transceivers

Part numbers:
- Multimode OM4 with MTP® 4+4 OCTO female PC 0°: **170H8000OM4**
- Multimode OM4 with MTP® 4+4 OCTO female APC 8°: On request
- Singlemode with MTP® 4+4 OCTO female APC 8°: **170H8001G657A1**

Front granularity HD 1HU 6/6 width partition

1	4	7	10	13	16
2	5	8	11	14	17
3	6	9	12	15	18

SMAP-G2 HD 19" 1HU, open, 6/6 width partition
Part number: 171H0041

1HU 72 LC-Duplex ports

For this port density patchcords with
LC-COMPACT Push-Pull-Boot (LCC-PPB)
must be applied
LC-COMPACT Patchcords

SMAP-G2 HD 1/3HU 1/6
blind part front plate
Part number: 171H0002

Option 4.1: By SEDECIM MTP®-LC Port Breakout Unit

LCC-PPB Patchcords

LC-Duplex Transceivers

MPO16 SEDECIM Transceiver

Length of the cable pigtail selectable
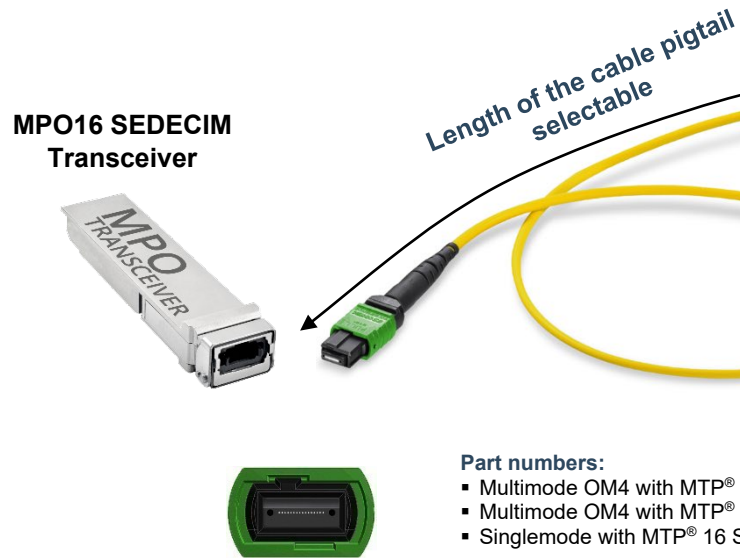
Part numbers:
- Multimode OM4 with MTP® 16 SEDECIM female APC 8°: **170H8100OM4**
- Multimode OM4 with MTP® 16 SEDECIM PC 0°: On request
- Singlemode with MTP® 16 SEDECIM female APC 8°: **170H8101G657A1**

Front granularity HD 1HU 3/3 width partition

1	4	7
2	5	8
3	6	9

SMAP-G2 HD 19" 1HU, open, 3/3 width partition
Part number: 171H0042

1HU 72 LC-Duplex ports

For this port density patchcords with LC-COMPACT Push-Pull-Boot (LCC-PPB) must be applied
LC-COMPACT Patchcords

SMAP-G2 HD 1/3HU 1/3 blind part front plate
Part number: 171H0003

Option 5: By OCTO MTP® Module-Cassette SMAP-G2 SD

LCC Patchcords

LC-Duplex Transceivers

These MTP® Module-Cassettes must have MTP® male in their back planes and polarity "Rx to Tx"
OM4 cassettes have type A „aligned keys" MTP® couplers within their back planes
SM cassettes have type B „opposed keys" MTP® couplers within their back planes
Part number: On request

MPO4+4 OCTO Transceiver

MTP® Patchcords OCTO 8 fiber female – female
- OM must have polarity B "1 to 12", because OM4 cassettes have type A „aligned keys" MTP® couplers within their back planes
- SM must have polarity A "1 to 1", because SM cassettes have type B „opposed keys" MTP® couplers within their back planes

SMAP-G2 SD 19" 1HU, open
Part number: 171A0030

LC-COMPACT Patchcords

1HU 48 LC-Duplex ports

SMAP-G2 SD 1HU 1/4
blind part front plate
Part number: 171A0001

Option 5.1: By OCTO MTP® Module-Cassette SMAP-G2 HD 1/6

MPO4+4 OCTO Transceiver

These MTP® Module-Cassettes must have MTP® male in their back planes and polarity "Rx to Tx"
OM4 cassettes have type A „aligned keys" MTP® couplers within their back planes
SM cassettes have type B „opposed keys" MTP® couplers within their back planes
Part number: On request

LCC-PPB Patchcords   **LC-Duplex Transceivers**

MTP® Patchcords OCTO 8 fiber female – female
- OM4 must have polarity B "1 to 12", because OM4 cassettes have type A „aligned keys" MTP® couplers within their back planes
- SM must have polarity A "1 to 1", because SM cassettes have type B „opposed keys" MTP® couplers within their back planes
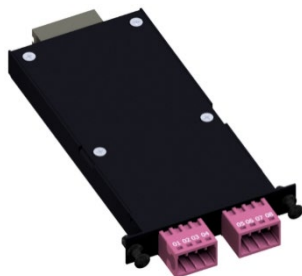
SMAP-G2 HD 1/3 HU 1/6
DOUBLE-OCTO 16 fiber
MTP®-MDC Module-Cassette
MTP® male
polarity "Rx to Tx"
for MDC port density 144 per HU
Part number: On request

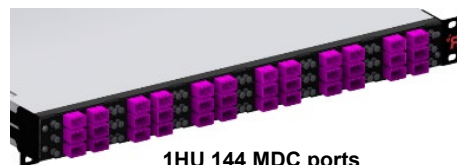SMAP-G2 HD 19" 1HU, open, 6/6 width partition
Part number: 171H0041

Front granularity HD 1HU 6/6 width partition

1	4	7	10	13	16
2	5	8	11	14	17
3	6	9	12	15	18

1HU 72 LC-Duplex ports

For this port density patchcords with
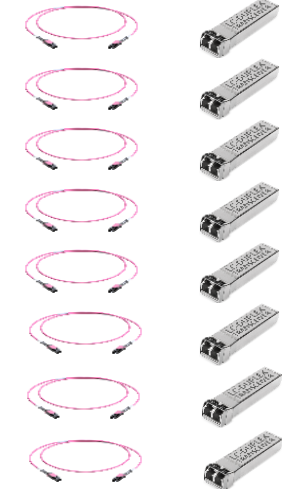LC-COMPACT Push-Pull-Boot (LCC-PPB)
must be applied
LC-COMPACT Patchcords

SMAP-G2 HD 1/3HU 1/6
blind part front plate
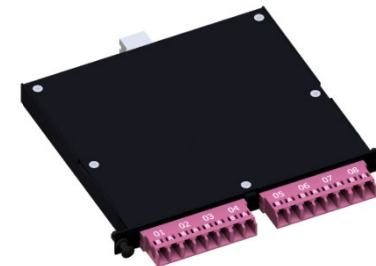**Part number: 171H0002**

1HU 144 MDC ports

Option 5.2: By SEDECIM MTP® Module-Cassette SMAP-G2 HD 1/3

These MTP® Module-Cassettes must have MTP® male in their back planes and polarity "Rx to Tx"
OM4 cassettes have type A „aligned keys" MTP® couplers within their back planes
SM cassettes have type B „opposed keys" MTP® couplers within their back planes
Part number: On request

MPO16 SEDECIM Transceiver

LCC-PPB Patchcords **LC-Duplex Transceivers**

MTP® Patchcords SEDECIM 16 fiber female – female
- OM4 must have polarity B "1 to 16", because OM4 cassettes have type A „aligned keys" MTP® couplers within their back planes
- SM must have polarity A "1 to 1", because SM cassettes have type B „opposed keys" MTP® couplers within their back planes

SMAP-G2 HD 1/3 HU 1/3
DOUBLE-SEDECIM 32 fiber
MTP®-MDC Module-Cassette
MTP® male
polarity "Rx to Tx"
for MDC port density 144 per HU
MTP®-MDC Module-Cassette
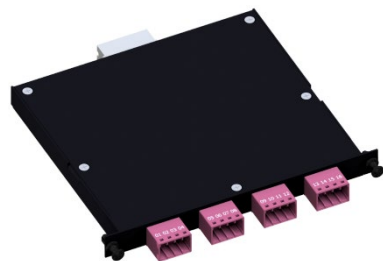
SMAP-G2 HD 19" 1HU, open, 3/3 width partition
Part number: 171H0042

Front granularity HD 1HU 3/3 width partition

1	4	7
2	5	8
3	6	9

1HU 72 LC-Duplex ports

For this port density patchcords with
LC-COMPACT Push-Pull-Boot (LCC-PPB)
must be applied
LC-COMPACT Patchcords

1HU 144 MDC ports

SMAP-G2 HD 1/3HU 1/3
blind part front plate
Part number: 171H0003

Option 5.3: By SEDECIM MTP® Module-Cassette SMAP-G2 HD 1/3

These MTP® Module-Cassettes must have MTP® male in their back planes and polarity "Rx to Tx"
OM4 cassettes have type A „aligned keys" MTP® couplers within their back planes
SM cassettes have type B „opposed keys" MTP® couplers within their back planes
Part number: On request

MPO16 SEDECIM Transceiver
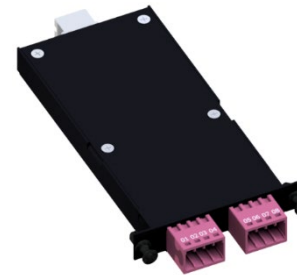
SMAP-G2 HD 1/3 HE 1/6
SEDECIM 16 Fasern
MTP®-MDC Module-Cassette
MTP® male
polarity "Rx to Tx"
for MDC port density 144 per HU
Part number: On request

MTP® Patchcords SEDECIM 16 fiber female – female
- OM must have polarity B "1 to 16", because OM4 cassettes have type A „aligned keys" MTP® couplers within their back planes
- SM must have polarity A "1 to 1", because SM cassettes have type B „opposed keys" MTP® couplers within their back planes
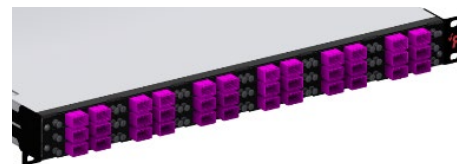
MDC Patchcords

SMAP-G2 HD 19" 1HU, open, 6/6 width partition
Part number: 171H0041

Front granularity HD 1HU 6/6 width partition

1	4	7	10	13	16
2	5	8	11	14	17
3	6	9	12	15	18

1HU 144 MDC ports

SMAP-G2 HD 1/3HU 1/6
blind part front plate
Part number: 171H0002

Option 6: Via Trunk cabling by MTP® Harness

PreCONNECT® OCTO MTP®

PreCONNECT® SEDECIM MTP®

Example here OCTO 8 fiber with SMAP-G2 HD:

MPO4+4 OCTO Transceiver

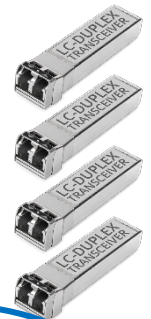**PreCONNECT® OCTO MTP® breakout trunk**

LC-Duplex Transceivers

PreCONNECT® OCTO MTP® Patchcords

PreCONNECT® SMAP-G2 HD 19" panel system 6/6 width partition equipped with 1/6 MTP® adapter part front plates

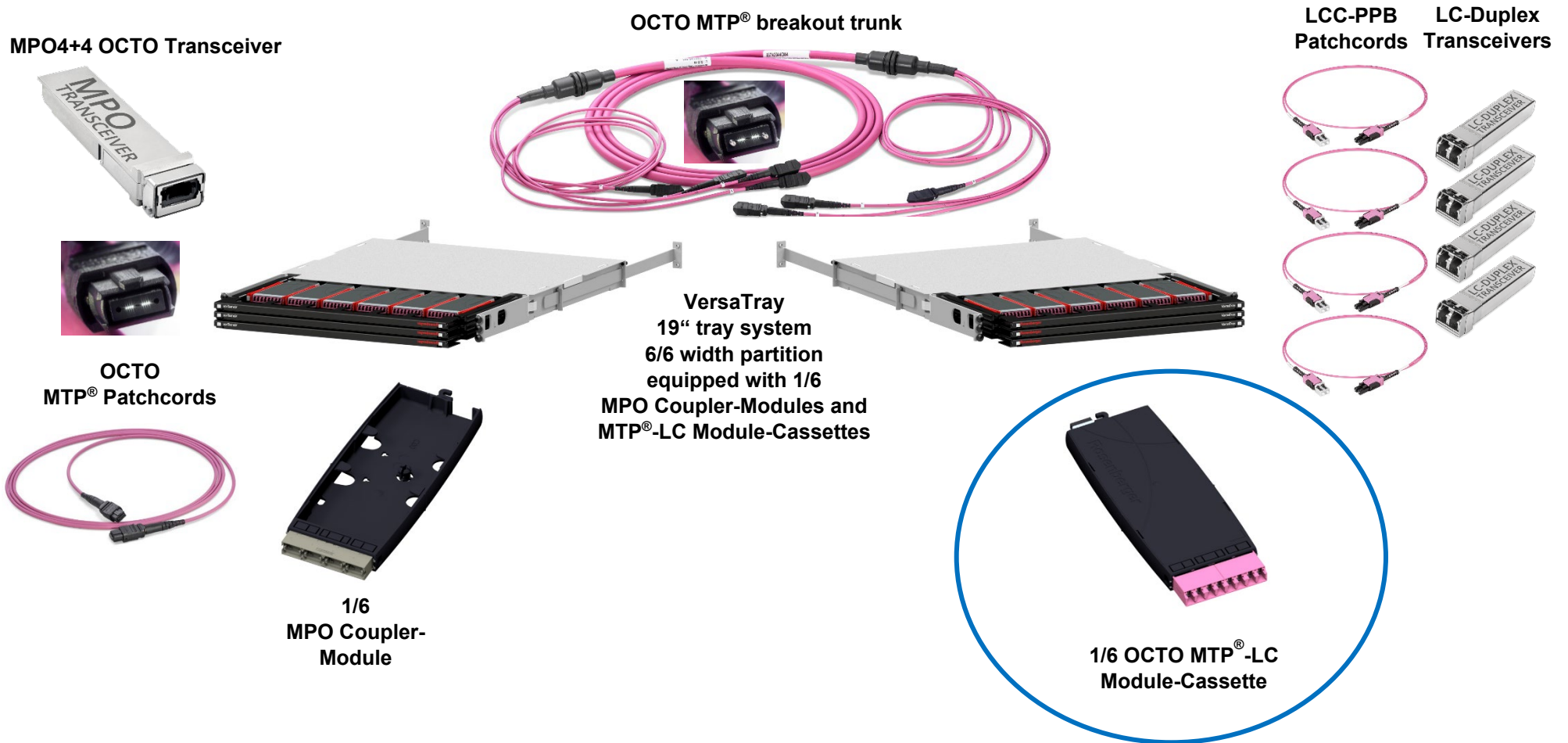**PreCONNECT® OCTO MTP®-LCC Harness**

Option 7: Via Trunk cabling by MTP® Module-Cassette

Example here OCTO 8 fiber with VersaTray:

MPO4+4 OCTO Transceiver

OCTO MTP® breakout trunk

LCC-PPB Patchcords

LC-Duplex Transceivers

OCTO MTP® Patchcords

VersaTray 19" tray system 6/6 width partition equipped with 1/6 MPO Coupler-Modules and MTP®-LC Module-Cassettes

1/6 MPO Coupler-Module

1/6 OCTO MTP®-LC Module-Cassette

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

Rosenberger-OSI GmbH & Co. OHG

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info-osi@rosenberger.com | www.rosenberger.com/osi