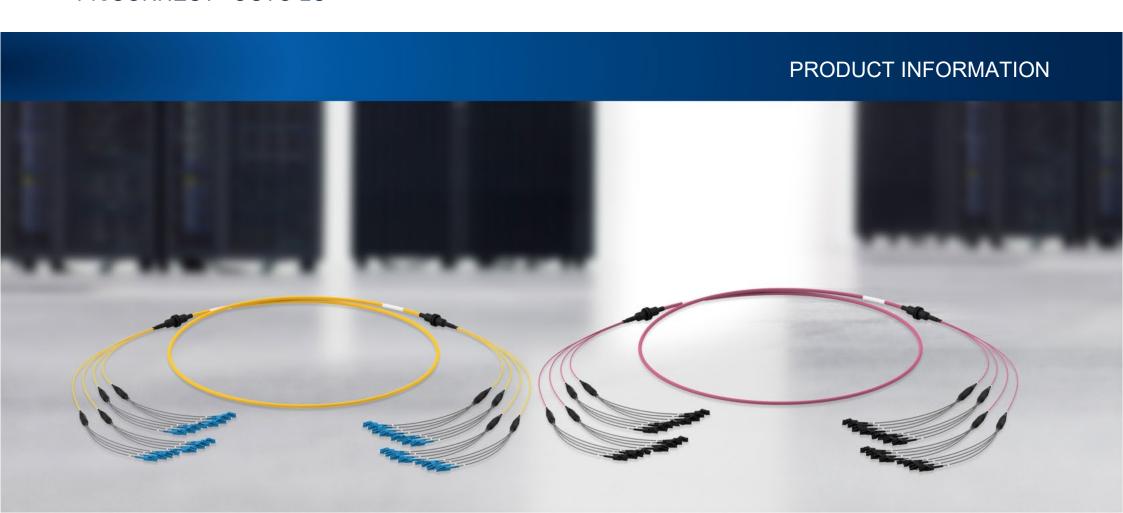
Rosenberger

PreCONNECT® OCTO LC





PreCONNECT® OCTO LC 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 <u>random mate</u> insertion and return loss (mean) which enables up to six (6) mated pairs in a 10G/OM4 application up to 300m.

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:

Cabling of data centers and their IT rooms

System consists of:

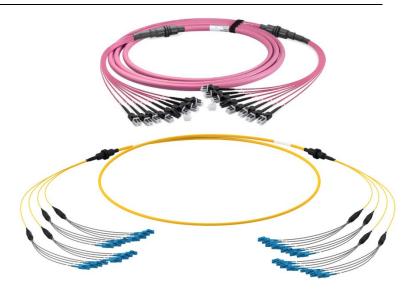
- With connector system LC-COMPACT or LC-COMPACT Factory assembled FO breakout trunk cables, FRNC-LSZH indoor cables, up to 144 fibers
- Three 19" panel systems selectable: Conventional distribution panels, SMAP-G2 SD, SMAP-G2 HD and SMAP-G2 UHD
- Suitable Patchcords
- Useful accessories
- Patch Location Rack



- LC breakout trunks up to 144 fibers with 8 fiber = 4 channel OCTO granularity
- FRNC-LSZH breakout indoor cables
- Optionally LC-COMPACT or LC-COMPACT Push-Pull-Boot
- From 3 x 8 = 12K/24F on as hybride trunks OCTO MTP® to LC deliverable as well

Your benefits at a glance:

- Excellent fit for applications with SR4 and DR4/PSM4 by the 8 fiber (4 channel) trunk legs packs
- Optimized handling withing panels through the reduction of the trunk leg volume to 1/4 compared to PreCONNECT® STANDARD trunks
- Reduced installation time and optimized trunk leg arrangement within panels through the 1-to-1 match to the 4 channel trunk legs to the 4 port adapter part front plates of the panels
- 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



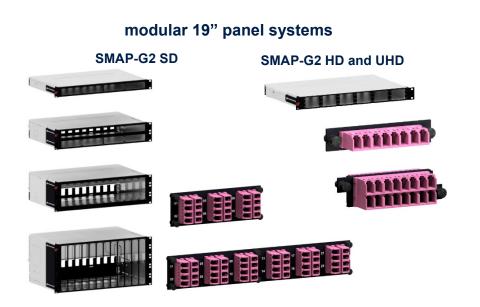
PreCONNECT® OCTO LC breakout trunk



LC-COMPACT patchcords



patch location rack







Applications:

Cabling of data centers and their IT rooms

 LC trunk cabling up to 144 fibers per trunk with 8 fiber = 4 channel OCTO granularity

System description:

Our PreCONNECT® OCTO LC cabling system consists of:

- With connector system LC-COMPACT or LC-COMPACT Factory assembled FO breakout trunk cables, FRNC-LSZH indoor cables, up to 144 fibers
- Three 19" panel systems selectable: Conventional distribution panels, SMAP-G2 SD, SMAP-G2 HD and SMAP-G2 UHD
- Suitable Patchcords
- Useful accessories
- Patch Location Rack

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

Connector legs on both sides "standard stepped" fitting to our PreCONNECT® 19" Panels.

Polarity: The connector legs are alpha numerical uniquely coded. The standard polarity is "channelwise crossed" (pairwise flipped) for full-duplex transmission systems – A1 to B1, A2 to B2, etc. On request "uncrossed" deliverable.



Rosenberger

Properties:

Connector types:

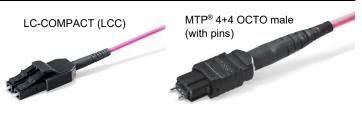
- LC-COMPACT (LCC)
- LC-COMPACT Push-Pull-Boot (LCC-PPB)
- I-F(ZN)HH n x 8 cables deliverable as hybrid trunks MTP® 4+4 OCTO to LCC or LCC-PPB on request
- I-F(ZN)HH n x 8 cables with MTP® 4+4 OCTO at both sides are to be found in our product information PreCONNECT® OCTO MTP®
- Connector data, see separate connector data sheets

Breakout cable types:

- Up to 8ch/16F: I-V(ZN)HH n x 2, CPR class B2ca
- From 12ch/24F: I-F(ZN)HH n x 8 fibers, CPR class Cca, with n 1 to 4 leg-dividers 1)
- 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

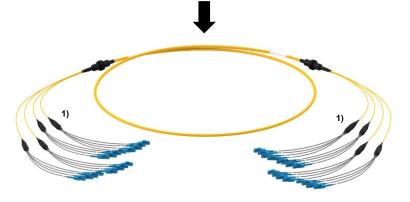


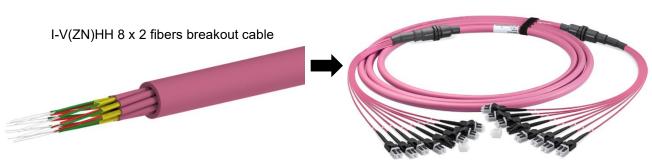


I-F(ZN)HH 6 x 8 fiber breakout cable









Properties:

Installation protection:

Standard: dust-proof foil tube



• On request: 150 N tensile-strength, crush and kink resistant, IP50 dust-proof indoor-installation-tube

Installation Tube Indoor, IP50 dustproof



Standard stepped "A" leg lengths and installation tube diameters of PreCONNECT® OCTO LC breakout trunks, steps channel/fiber 1 to n: 1 = long, n = short									
Number of channels/fibers 4/8 8/16 12/24 16/32 24/48 32/64 36/72 48/96					48/96	72/144			
A"A" leg lenths stepped from to [cm] 1)	45 to 75	45 to 73	60 to 72	60 to 66	60 to 72	60 to 78	60 to 84	60 to 90	60 to 108
Outer diameter installation tube IP50 Indoor [mm]	30	30	55	55	55	55	55	75	75
1) Production tolerance – 5 cm		•		•	•	•	•	•	•

Properties:

Length definition:

- Order-length = length between the connectors of the longest legs at both sides, not between the PreCONNECT® square-interfaces.
- Possible order-lengths: From 5 to 2000 meter

Length tolerances:

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

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 and return loss measured acc. to IEC 61300-3-4, method B, MM 850/1300nm and SM 1310/1550nm, with measurement protocol
- Product label with serial number at both sides

Author: Harald Jungbäck

Application of PreCONNECT® OCTO LC Trunks and Patchcords with LC-COMPACT (LCC) and LC-COMPACT Push-Pull-Boot (LCC-PPB) in our 19" panel systems and Trunk leg lengths :

19" panel systems	LC-Duplex port density per HU	Trunks with LCC	Trunks with LCC-PPB	Patchcords with LCC	Patchcords with LCC-PPB	Trunk leg lengths
SMAP-G2 SD	48	~	×	~	×	
SMAP-G2 HD	72	~	recommended	×	required	standard stepped "A length legs"
SMAP-G2 UHD	96	×	✓ required	×	✓ required	A length legs









PreCONNECT® OCTO LC breakout trunk with indoor cables:





Part numbers		I	T -				
Number of channels/fibers	Cable type	CPR class	Connectors on both sides	length	SM PC 0°	SM APC 8°	OM4
4/0	L \	D 1)	LC-COMPACT	variable	036A0532G657A1	036A0524G657A	036A0510OM4
4/8	I-V(ZN)HH 4 x 2 fibers	Dca 1)	LC-COMPACT PPB	variable	036A0545G657A1	on request	036A0546OM4
0/40	Dec 1)	LC-COMPACT	variable	036A0547G657A1	on request	036A0517OM4	
8/16	I-V(ZN)HH 8 x 2 fibers	Dca 1)	LC-COMPACT PPB	variable	036A0548G657A1	on request	036A0549OM4
I-F(ZN)HH 3 x 8 t	I-F(ZN)HH 3 x 8 fibers	0	LC-COMPACT	variable	037A2106G657A1	on request	037A2123OM4
12/24	with leg-dividers	Cca	LC-COMPACT PPB	variable	037A2107G657A1	on request	037A2124OM4
16/32 I-F(ZN)HH 4 x 8 fibers with leg-dividers	0	LC-COMPACT	variable	037A2105G657A1	on request	037A2109OM4	
	with leg-dividers	Cca	LC-COMPACT PPB	variable	037A2108G657A1	on request	037A2110OM4
24/48	I-F(ZN)HH 6 x 8 fibers with leg-dividers	Cca	LC-COMPACT	variable	037A2115G657A1	on request	037A2125OM4
			LC-COMPACT PPB	variable	037A2116G657A1	on request	037A2126OM4
I-F(ZN)HH 8 x 8 fiber	I-F(ZN)HH 8 x 8 fibers		LC-COMPACT	variable	037A2111G657A1	on request	037A2113OM4
32/64	with leg-dividers		LC-COMPACT PPB	variable	037A2112G657A1	on request	037A2114OM4
20/70	I-F(ZN)HH 9 x 8 fibers	0	LC-COMPACT	variable	037A2117G657A1	on request	037A2127OM4
36/72	with leg-dividers	Cca	LC-COMPACT PPB	variable	037A2118G657A1	on request	037A2128OM4
40.000	I-F(ZN)HH 12 x 8 fibers	0	LC-COMPACT	variable	037A2119G657A1	on request	037A2129OM4
48/96	with leg-dividers	Cca	LC-COMPACT PPB	variable	037A2120G657A1	on request	037A2130OM4
70/444	I-F(ZN)HH 18 x 8 fibers	0	LC-COMPACT	variable	037A2121G657A1	on request	037A2131OM4
72/144	with leg-dividers	Cca	LC-COMPACT PPB	variable	037A2122G657A1	on request	037A2132OM4

¹⁾ Change to B2ca once Dca inventory is used up

Technical data of connectors, fibers and cables on request via the product profile of your selected trunks.

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

Port density:

■ 48 LC-Duplex ports per HU at the 1, 2 and 3 HU panels, 57.6 per HU (total 288) at 5 HU

Dimensions:

■ Width: 19"

■ Height: 1, 2, 3 and 5 HU

■ Depth: 200 mm and 300 mm, see product information SMAP-G2 SD

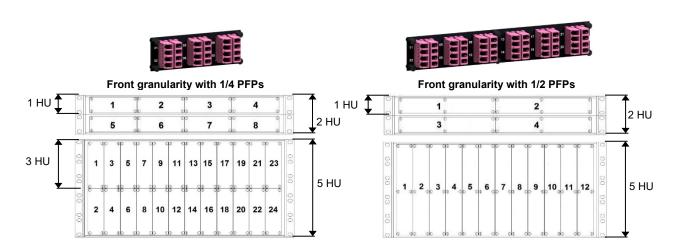
Part numbers:

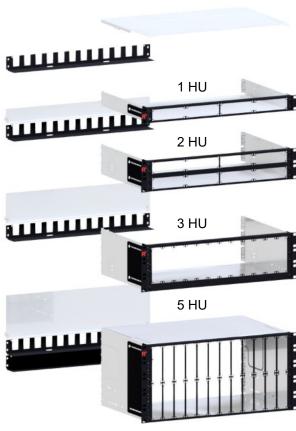
SMAP-G2 SD empty distribution panels, RAL9005 black, back plane with 12 PreCONNECT® square interfaces:

1 HU, depth 300 mm	171A0001
1 HU, depth 200 mm	171A0020
2 HU, depth 300 mm	172A0001
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.





Using this panel system, trunks and patchcords with LC-COMPACT (LCC) are allowed to be applied



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

Part numbers RAL9005 black					
Number of	for fiber type				
adapter type/fibers	SM PC 0°	SM APC 8°	OM4		
adapter type/fibers	blue	green	violet		
Blind PFP	170A0001				
12 LC-Duplex (6 LCQ) / 24F 170A0210 170A0220 170A02300M4					
Find part numbers for panels factory assembled with part front plates in					
our product information SMA	P-G2 SD.		•		





SMAP-G2 SD 1 HU 1/4 part front plates with labelling field:

Part numbers RAL9005 black						
Number of	for fiber type					
adapter type/fibers	SM PC 0°	SM APC 8°	OM4			
adapter type/fibers	blue	green	violet			
12 LC-Duplex (6 LCQ) / 24F 170A3210 170A3220 170A32300M4						
Find part numbers for panels factory assembled with part front plates in						
our product information SMA	P-G2 SD.	-				





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

Number of	for fiber type				
Number of adapter type/fibers	SM PC 0°	SM APC 8°	OM4		
adapter type/fibers	blue	green	violet		
Blind PFP 170A0002					
24 LC-Duplex (12 LCQ) / 48F 170A0250 170A0260 170A0270OM4					
Find part numbers for panels factory assembled with part front plates in					
our product information SMAP		•			

1 HU 1/2 Blind PFP



1 HU 1/2 PFP 24 LC-Duplex (12 LCQ)



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

Port density:

■ 72 LC-Duplex 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	, 6/6 width partition, depth 300 mm	171H0013

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

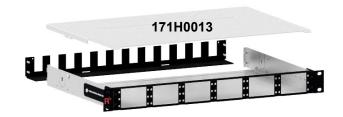
SMAP-G2 HD panels are not appropriate for PURE trunks.

Using this panel system, trunks with LC-COMPACT (LCC) are allowed to be applied.



Using this panel system, patchcords with LC-COMPACT Push-Pull-Boot (LCC-PPB) and cable diameter 2.0mm or thinner must be applied





1HU front granularity 6/6 width partition	1HU	front	granularity	6/6	width	partition
---	-----	-------	-------------	-----	-------	-----------

The frent grandarity 6/6 What partition					
1	4	7	10	13	16
2	5	8	11	14	17
3	6	9	12	15	18

1/3 HU 1/6 PFP 4 LC-Duplex (1 LC8)



1/3 HU 1/6 Blind PFP



Part numbers RAL9005 black					
		for fiber type			
PFP Typ	Number of PFP and type	SM PC 0°	SM APC 8°	OM4	
		blue	green	violet	
4/2 111 4/6	Blind PFP	170H0002			
1/3 HU 1/6	4 LC-Duplex (1 LC8) / 8F	170H2100	170H2101	170H2102OM4	
Find part numbers for panels factory assembled with part front plates in our product					

Find part numbers for panels factory assembled with part front plates in our product information SMAP-G2 HD.

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

Port density:

■ 96 LC-Duplex 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:

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.

Using this panel system, trunks and patchcords with LC-COMPACT Push-Pull-Boot (LCC-PPB) and cable diameter 2.0mm or thinner must be applied.





1HU front granularity 6/6 width partition					
1	3	5	7	9	11
2	4	6	8	10	12

1/2 HU 1/6 PFP 8 LC-Duplex (2 LC8)





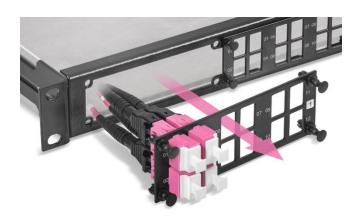
Part numbers RAL9005 black					
		for fiber type			
PFP Typ	Number of PFP and type	SM PC 0°	SM APC 8°	OM4	
		blue	green	violet	
1/2 HU 1/6	Blind PFP	170H3002		02	
1/2 110 1/6	8 LC-Duplex (2 LC8) / 16F	170H6100	170H6101	170H6102OM4	

Find part numbers for panels factory assembled with part front plates in our product information SMAP-G2 UHD.

SMAP-G2 PURE 19" Distribution Panels empty:

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





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



SMAP-G2 PURE Part-Front-Plates PFP

1HU 1/4 PFP for 12 LC-Duplex adapter-interfaces





1HU 1/2 PFP for 24 LC-Duplex adapter-interfaces





Author: Harald Jungbäck

SMAP-G2 PURE 1HU 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 / 12 LC-Duplex	170A0130P		
½ / 24 LC-Duplex	170A0170P		

Patchcords:

Properties:

- Kink and crush resistance optimized for environmental conditions
 Operating temperature range: -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 (IL) measured in accordance with IEC 61300-3-4 "C" or "Substitution" method, MM 850nm/SM 1310nm, measurement values on request, or can be downloaded from our website by using the serial numbers of the patchcords https://www.rosenberger.com/products/download-measurement-data/
- Serial number labels with length information at both patchcord ends
- Individually packaged in foil bags with product ID label

For our SMAP-G2 HD and SMAP-G2 UHD 19" panel systems only patchcords with diameter 2.0mm or thinner should be applied.



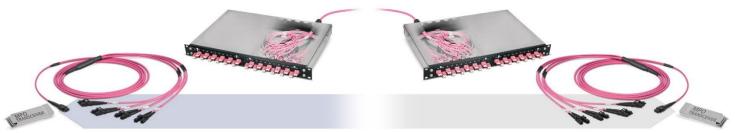
With LC-COMPACT Push-Pull-Boot (LCC-PPB) connectors for SMAP-G2 HD and UHD 19" panel system

Part numbers Duplex patchcord cable type round I-V(ZN)H and I-V(ZN)H(ZN)H FRNC-LSZH							
Cable diameter							
1.6 mm	LC-COMPACT PPB » LC-COMPACT PPB	variable	087A6949OM4	087A6948G657A1	087A6950G657A1		
2.0 mm	LC-COMPACT » LC-COMPACT	variable	087A6623OM4	087A6620G657A1	087A6622G657A1		
2.0 mm	LC-COMPACT PPB » LC-COMPACT PPB	variable	087A6737OM4	087A6738G657A1	087A6747G657A1		
2.0 mm	LC-COMPACT » LC-COMPACT	variable	087A6601OM4	087A6600G657A1	087A6609G657A1		
2.8 mm	LC-COMPACT PPB » LC-COMPACT PPB	variable	087A6753OM4	087A6754G657A1	087A6755G657A1		
double jacket	LC-COMPACT » LC-COMPACT	variable	087A6613OM4	087A6610G657A1	087A6612G657A1		
2.8 / 5.0 mm	LC-COMPACT PPB » LC-COMPACT PPB	variable	087A6759OM4	087A6760G657A1	087A6761G657A1		
Technical data of connectors, fibers and cables on request via the product profile of your selected partchcords.							

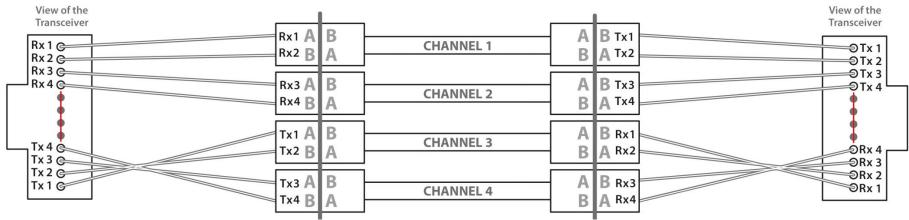
Migration of PreCONNECT® OCT LC to MTP®/MPO based Parallel Optics SR4 and DR\$/PSM4 Applications:

- 40/100/200 GBASE-SR4
- 4 x 16/32 GFC
- DR4/PSM4





PreCONNECT® OM4 Migrations-Harnesse MTP® 12-female/8 LC-Simplex



Numbering of the LC-Simplex of the Migration-Harnesses, to be connected to the channel wise crossed LC-Duplex infrastructure acc. to this light propagation map.

Migration of PreCONNECT® OCTO LC to MTP®/MPO based Parallel Optics SR4 and DR4/PSM4 Applications:

OCTO Migrations-Harnesse MTP® OCTO 4+4 female to 8 Simplex connectors

- 8 fibers 3/4.5 mm double jacket cable FRNC-LSZH
- Simplex leg-lengths = 0.5m, other lengths on request
- Simplex connectors numbered with the corresponding Tx1 to Tx4 and Rx1 to Rx4 of the attached Transceivers
- Order length = total length





SR4 OM4 Part numbers	
MTP® OCTO 4+4 female to 8 LC-Simplex	076A0051OM4



PSM4 SM Part numbers	
MTP® OCTO 4+4 female to 8 LC-PC Simplex	076A0119G657A1
MTP® OCTO 4+4 female to 8 LC-APC Simplex	076A0120G657A1

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:

Mini Universal Adapter Brackets

Suitable for installation on 19" bars and for universal mounting

Properties and delivery form:

- Material: Powder-coated sheet steel
- Color: RAL 9005 (matt black)
- Elongated holes on all sides for universal fixing
- Adapters mounted
- No screw or cage nuts



6 x LC-Duplex

Part number				
Number of Adapters / Adapter type SM PC 0° blue OM4 violet				
2	LC-Duplex	099A0345	099A0347OM4	
4	LC-Duplex	099A0342	099A0344OM4	
6	LC-Duplex	099A0340	099A0305OM3	

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

Rosenberger-OSI GmbH & Co. OHG

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