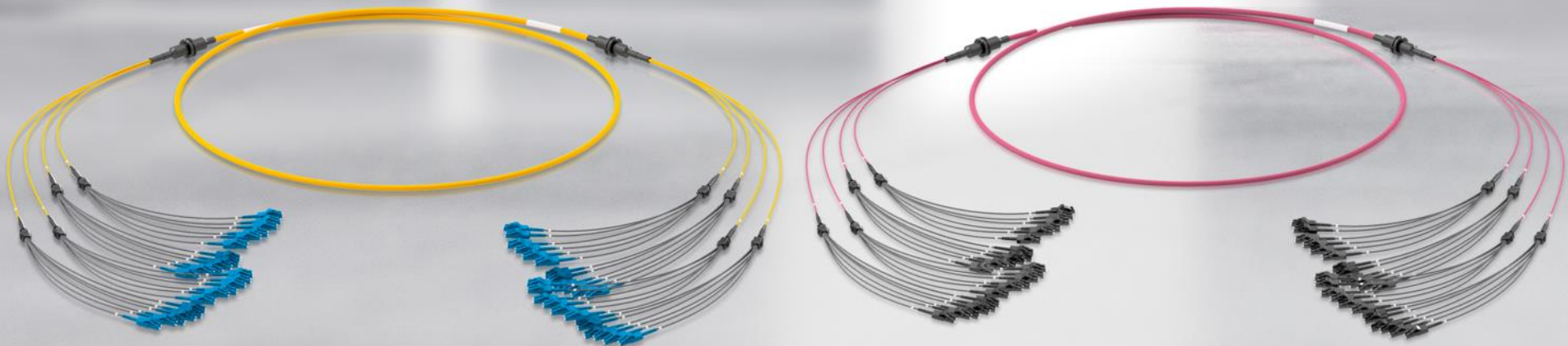


## PreCONNECT® DUODECIM LC

### PRODUCT INFORMATION



**PreCONNECT® DUODECIM 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 cleanliness, 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:**

Cabling of data centers and their IT rooms

**System consists of:**

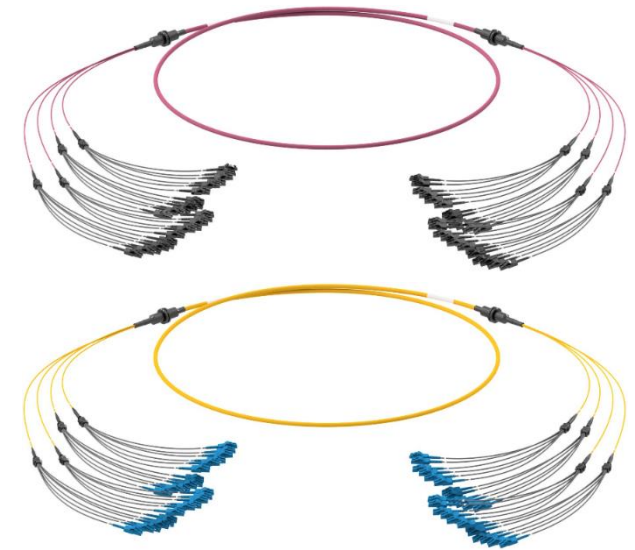
- With connector system LC-COMPACT or LC-COMPACT Factory assembled FO breakout trunk cables, FRNC-LSZH indoor cables, up to 144 fibers
- Four 19" panel systems selectable: Conventional distribution panels, SMAP-G2 SD, SMAP-G2 HD, SMAP-G2 UHD and VersaTray®
- Suitable Patchcords
- Useful accessories
-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

**Features:**

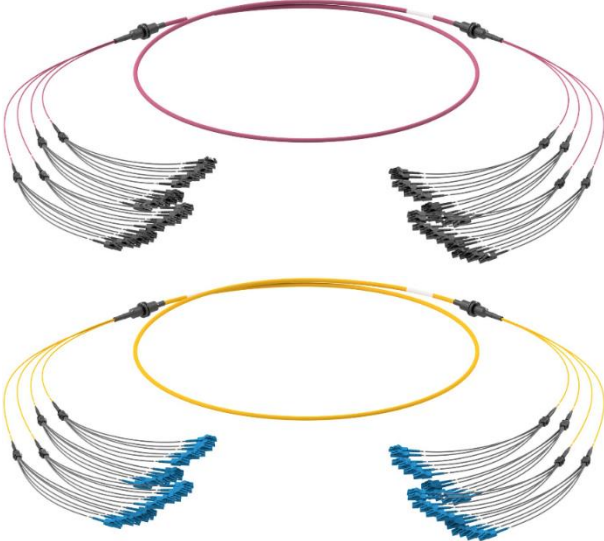
- LC breakout trunks up to 144 fibers with 12 fiber = 6 channel DUODECIM granularity
- FRNC-LSZH breakout indoor cables
- Optionally LC-COMPACT or LC-COMPACT Push-Pull-Boot
- As hybride trunks DUODECIM MTP® to LC deliverable as well

**Your benefits at a glance:**

- Excellent fit for 12 fiber = 6 channel DUODECIM applications 12 fiber (6 channel) trunk legs packs
- Optimized handling withing panels through the reduction of the trunk leg volume to 1/6 compared to PreCONNECT® STANDARD trunks
- Reduced installation time and optimized trunk leg arrangement within panels through the 1-to-1 match to the 6 channel trunk legs to the 6 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® DUODECIM LC breakout trunk



LC-COMPACT patchcords



patch location rack

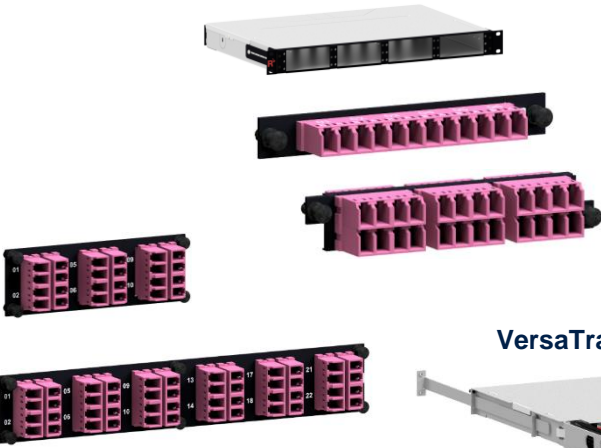


modular 19" panel systems

SMAP-G2 SD



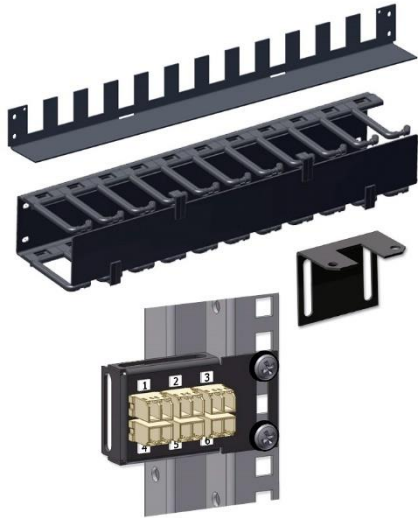
SMAP-G2 HD and UHD



VersaTray®



accessories



**Applications:**

Cabling of data centers and their IT rooms

- **LC trunk cabling up to 144 fibers per trunk with 12 fiber = 6 channel DUODECIM granularity**

**System description:**

Our PreCONNECT® DUODECIM 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
- Four 19" panel systems selectable: Conventional distribution panels, SMAP-G2 SD, SMAP-G2 HD, SMAP-G2 UHD and VersaTray®
- Suitable Patchcords
- Useful accessories
- Patch Location Rack

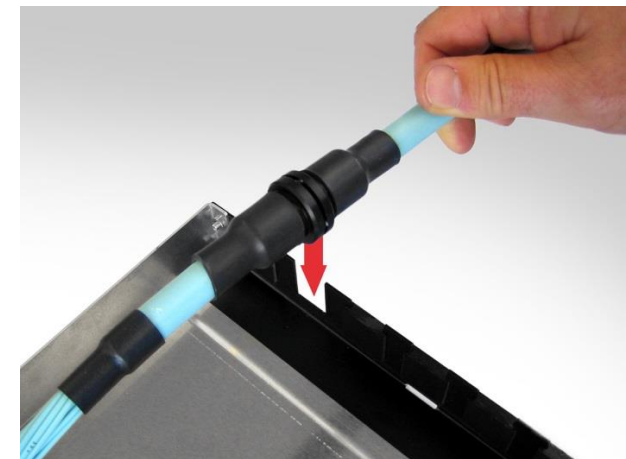
Rosenberger OSI brought already 1991 high fibercount factory assembled FO trunk cables to the market. PreCONNECT® STANDARD was the first in Europe developed and manufactured, high fibercount and modular „plug & play“ FO cabling system.

**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.



**Properties:**

**Connector types:**

- LC-COMPACT (LCC)
- LC-COMPACT Push-Pull-Boot (LCC-PPB)
- As hybrid trunks with MTP® 12 DUODECIM, SN® or MDC on request
- Connector data, see separate connector data sheets

**Breakout cable types:**

- 1 x 12 fibers: I-F(ZN)H(ZN)H, CPR class B2ca
- n x 12 fibers; I-F(ZN)HH, CPR class Cca
- 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

LC-COMPACT (LCC)



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



I-F(ZN)HH 6 x 8 fiber



**Properties:**

**Installation protection:**

- Standard: dust-proof foil tube



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

Installation Tube Indoor,  
IP50 dustproof



**Connector leg lengths:**

Number of legs	Leg lengths [cm]
1	126
2	126
4	126 - 132
6	126 - 138
8	126 - 144
12	126 - 156
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: See part number tables

**Length tolerances:**

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

**Operating temperature range:** -10°C bis +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 C, MM 850nm/SM 1310nm, with measurement protocol
- Product label with serial number at both sides



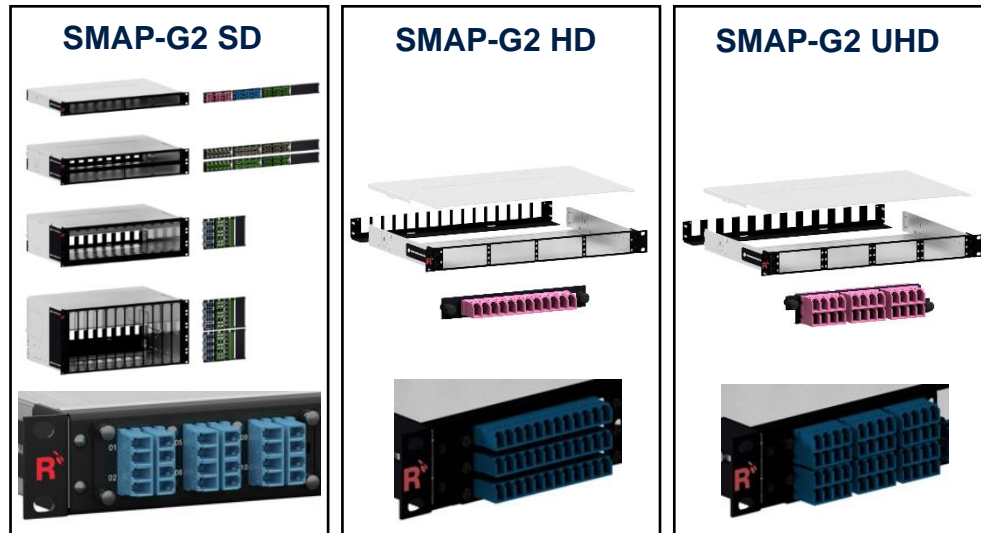
Application of PreCONNECT® DUODECIM LC Trunks and Patchcords with LC-COMPACT (LCC) and LC-COMPACT Push-Pull-Boot (LCC-PPB) in our 19" panel systems and Trunk leg lengths :

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	✓	✗	✓	✗	standard stepped "A length legs"
SMAP-G2 HD	72	✓	recommended	✗	required	
SMAP-G2 UHD	96	✗	required	✗	required	
VersaTray®	72	✓	✗	✓	✗	see page 7

LC-COMPACT (LCC)



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



VersaTray®



**PreCONNECT® DUODECIM LC OM4 breakout trunk:**

For 6 and 12 channels see as well our [product information PreCONNECT® BREAKOUT](#)

**Part numbers**

Add your desired length in millimeter to the part number, e.g. 2.0 meter: 037A2151OM4-20000

Deliverable lengths: From 5 to 300 meter, in 1m increments



<b>Part numbers</b>						
<b>Number of duplex channels</b>	<b>Number of fibers</b>	<b>Cable structure</b>	<b>Cable CPR class</b>	<b>Connectors at both sides</b>	<b>New (CPQ) part number</b>	<b>Old part number</b>
6	12	1 x 12	B2ca	LCC	on request	---
				LCC-PPB	on request	---
12	24	2 x 12	Cca	LCC	on request	037A2151OM4
				LCC-PPB	on request	---
24	48	4 x 12	Cca	LCC	on request	037A2149OM4
				LCC-PPB	on request	---
36	72	6 x 12	Cca	LCC	on request	---
				LCC-PPB	on request	---
48	96	8 x 12	Cca	LCC	on request	---
				LCC-PPB	on request	---
72	144	12 x 12	Cca	LCC	on request	---
				LCC-PPB	on request	---

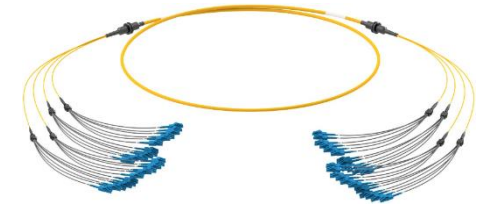
**PreCONNECT® DUODECIM LC SM breakout trunk:**

For 6 and 12 channels see as well our [product information PreCONNECT® BREAKOUT](#)

**Part numbers**

Add your desired length in millimeter to the part number, e.g. 2.0 meter: 037A2152G657A1-20000

Deliverable lengths: From 5 to 1000 meter, in 1m increments



**Part numbers**

Number of duplex channels	Number of fibers	Cable structure	Cable CPR class	Connectors at both sides	New (CPQ) part number	Old part number
6	12	1 x 12	B2ca	LCC PC 0°	on request	---
				LCC-PPB PC 0°	on request	---
12	24	2 x 12	Cca	LCC PC 0°	on request	037A2152G657A1
				LCC-PPB PC 0°	on request	---
24	48	4 x 12	Cca	LCC PC 0°	on request	037A2150G657A1
				LCC-PPB PC 0°	on request	---
36	72	6 x 12	Cca	LCC PC 0°	on request	---
				LCC-PPB PC 0°	on request	---
48	96	8 x 12	Cca	LCC PC 0°	on request	---
				LCC-PPB PC 0°	on request	---
72	144	12 x 12	Cca	LCC PC 0°	on request	---
				LCC-PPB PC 0°	on request	---

With APC 8° on request.

**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

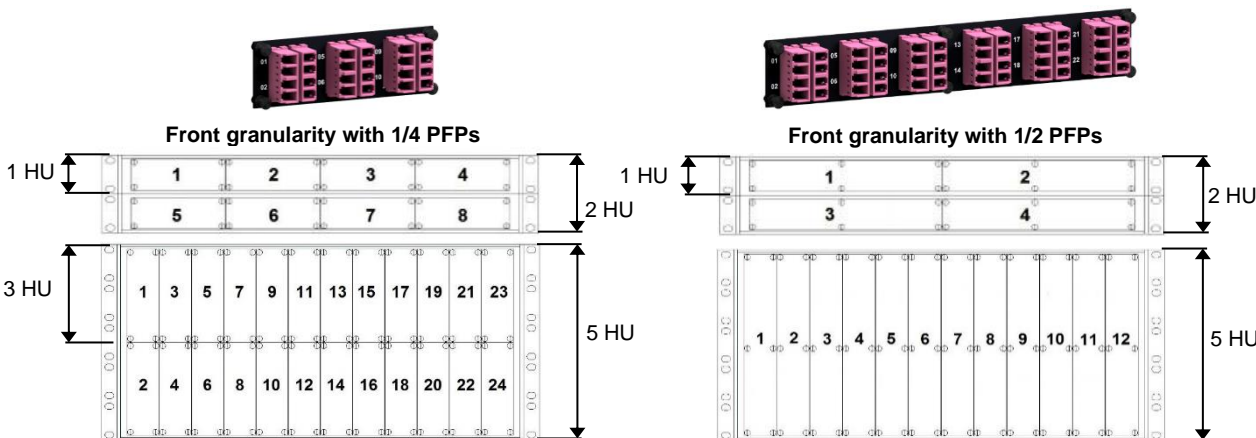
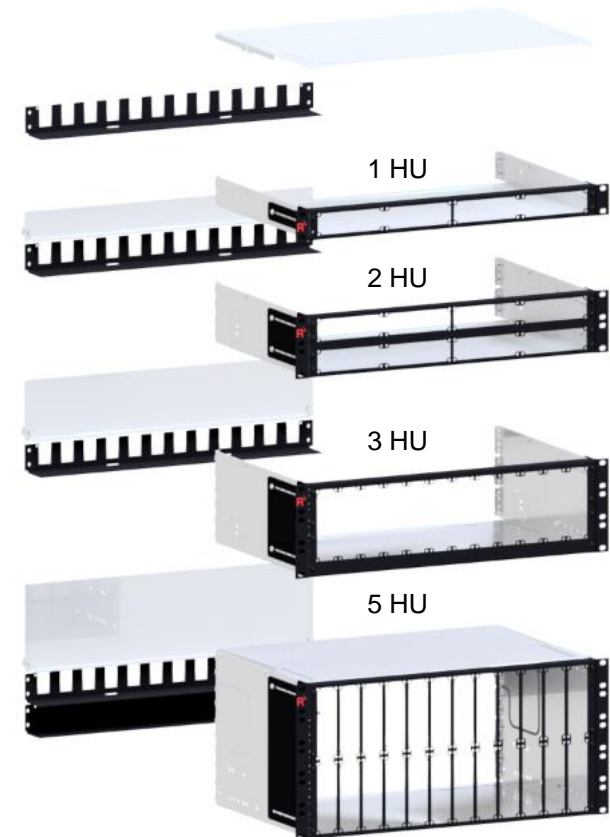
**Part numbers:**

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
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.



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 adapter type/fibers	for fiber type		
	SM PC 0° blue	SM APC 8° green	OM4 violet
6 LC-Duplex / 12F	170A0110	170A0120	170A0130OM4
12 LC-Duplex (6 LCQ) / 24F back-to-back	170A0210	170A0220	170A0230OM4
12 LC-Duplex (6 LCQ) / 24F conventional	170A0211	170A0275	170A0237OM4
Blind-PFP 1HU 1/4	170A0001		

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

Part numbers RAL9005 black			
Number of adapter type/fibers	for fiber type		
	SM PC 0° blue	SM APC 8° green	OM4 violet
6 LC-Duplex / 12F	170A3110	170A3120	170A3130OM4
12 LC-Duplex (6 LCQ) / 24F	170A3210	170A3220	170A3230OM4

[LC-COMPACT \(LCQ\)](#)



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

Part numbers RAL9005 black			
Number of adapter type/fibers	for fiber type		
	SM PC 0° blue	SM APC 8° green	OM4 violet
12 LC-Duplex / 24F	170A0150	170A0160	170A0170OM4
24 LC-Duplex (12 LCQ) / 48F	170A0250	170A0260	170A0270OM4
Blind-PFP 1HE 1/2	170A0002		

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

1 HU 1/4 PFP 6 LC-Duplex



1 HU 1/4 Blind-PFP



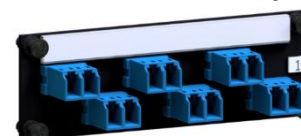
1 HU 1/4 PFP 12 LC-Duplex (6 LCQ)



1 HU 1/4 PFP 12 LC-Duplex (6 LCQ) conventional



1 HU 1/4 PFP 6 LC-Duplex



1 HU 1/4 PFP 12 LC-Duplex (6 LCQ)



1 HU 1/2 Blind-PFP



1 HU 1/2 PFP 12 LC-Duplex



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



**PreCONNECT® SMAP-G2 High Density (HD) 19" Gehäusesystem:**

**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:

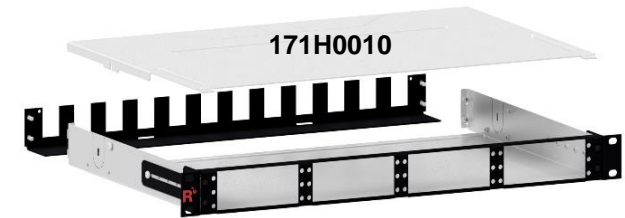
1 HU, 4/4 width partition, depth 300 mm	171H0010
1 HU, 4/4 width partition, depth 200 mm	171H0001
2 HU, 4/4 width partition, depth 300 mm	172H0002
2 HU, 4/4 width partition, depth 200 mm	172H0001

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.



Patchcords with LC-COMPACT Push-Pull-Boot (LCC-PPB) and cable diameter 2.0mm or thinner must be applied here. Trunk connectors are allowed to be LC-COMPACT (LCC).



1HU front granularity 4/4 width partition

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

1/3 HU 1/4 PFP 6 LC-Duplex (1 LC12)



1/3HU 1/4 Blind PFP



Part numbers RAL9005 black			
Number of adapter type/fibers	for fiber type		
	SM PC 0° blue	SM APC 8° green	OM4 violet
6 LC-Duplex (1 LC12) / 12F	170H2000	170H2001	170H2002OM4
Blind-PFP 1/3HU 1/4	170H0001		

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:

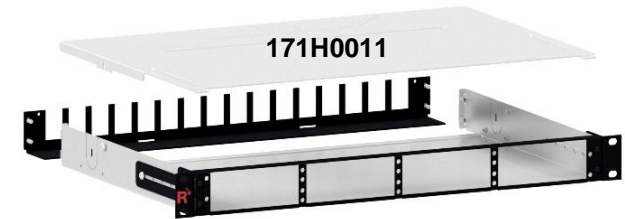
1 HU, 4/4 width partition, depth 300 mm	171H0011
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Find panels with other back plane configurations and further information in our product information SMAP-G2 UHD.

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



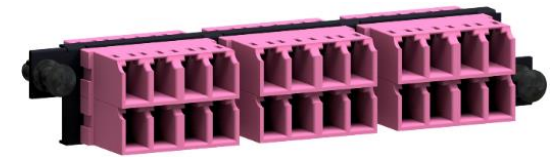
Using this PFP, trunks and patchcords with LC-COMPACT Push-Pull-Boot (LCC-PPB) and cable diameter 2.0mm or thinner must be applied



1HU front granularity 4/4 width partition

1	3	5	7
2	4	6	8

**1/2 HU 1/4 PFP 12 LC-Duplex (6 LCQ)**



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



Part numbers RAL9005 black			
Number of adapter type/fibers	for fiber type		
	SM PC 0° blue	SM APC 8° green	OM4 violet
12 LC-Duplex (6 LCQ) / 24F	170H6000	170H6001	170H6002OM4
Blind-PFP 1/2HU 1/4	170H3001		

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

## 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 LC duplex ports per height unit (HU), 24 ports per 1/3 HU tray system

### VersaTray® consists of:

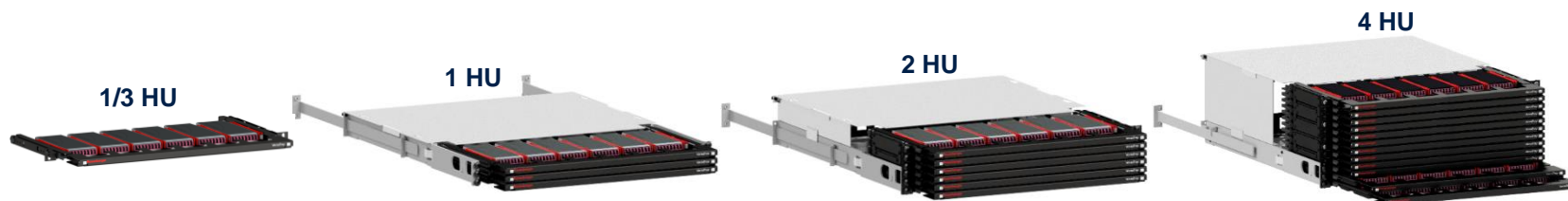
- 19" 1/3 HU tray system in 4/4 width layout
- Right-hand and left-hand tray element
- 1 HU trunk and cable tray
- Individually mountable trunk support can be extended in steps of 1 HU, 2 HU and 4 HU
- LC coupler modules

### 1/3 HU tray system:

- with 4/4 width layout: To accommodate 4 coupler modules with 6 LC duplex ports (12 fibers)

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 LC Duplex ports (12 fibers):

#### 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.

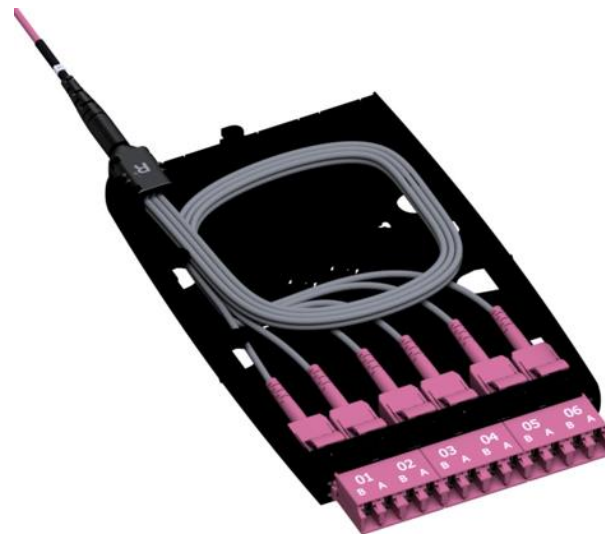
#### Dimensions:

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

#### Coupler characteristics:

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

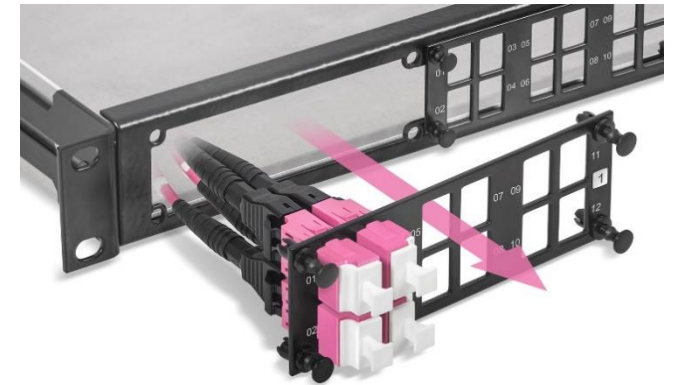
with installed trunk connector legs



**SMAP-G2 PURE**  
**19" Distribution Panels empty:**

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

**PreCONNECT® PURE LC-Duplex**  
 adapter-interface  
 at Trunk connector legs

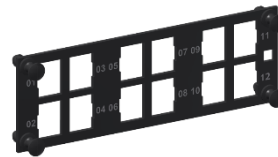


Standard back plane configuration for  
 max. 12 Trunk cable dividers per panel



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

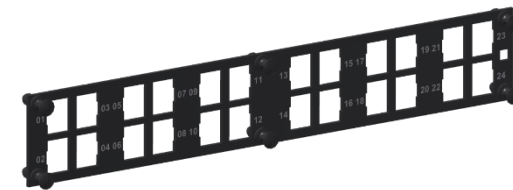
1HU 1/4 PFP for 12 LC-Duplex adapter-interfaces



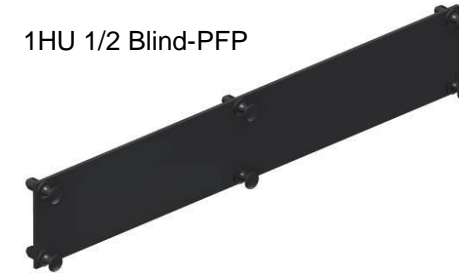
1HU 1/4 Blind-PFP



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



1HU 1/2 Blind-PFP



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
¼ / 12 LC-Duplex	170A0130P
½ / 24 LC-Duplex	170A0170P

LC, MDC and SN® patchcords;

[LC-COMPACT patchcords](#)

[MDC patchcords](#)

[SN® patchcords](#)

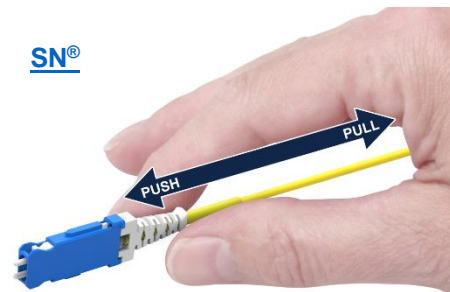


[LC-COMPACT \(LCC\)](#)

[MDC](#)



[SN®](#)

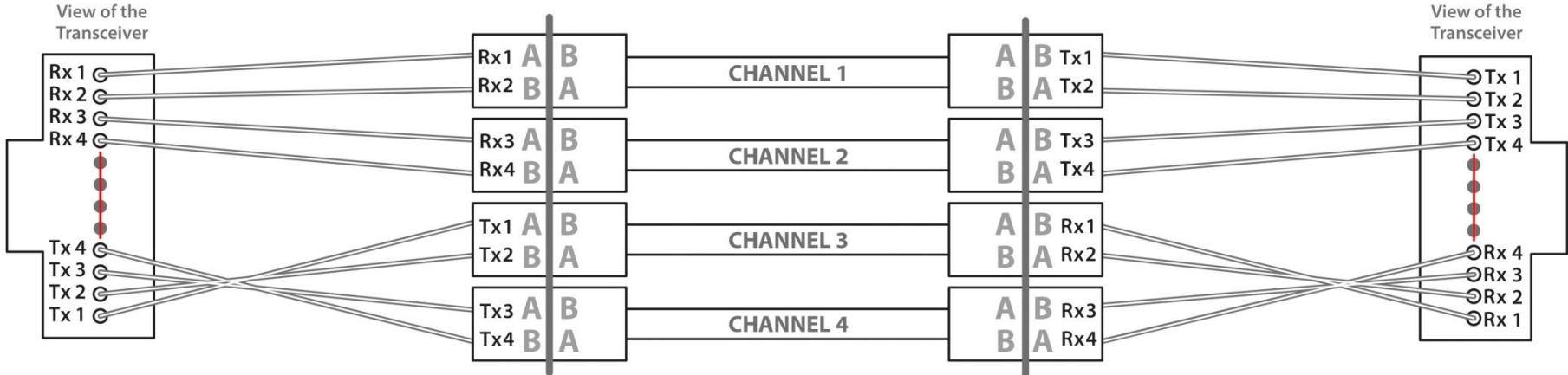
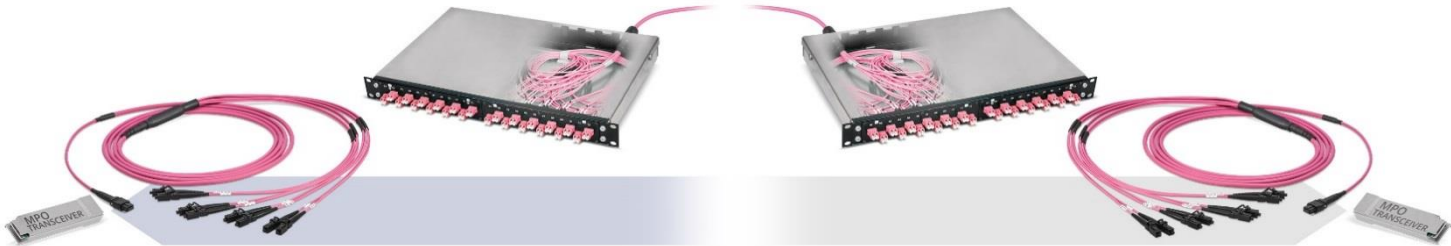


[LC-COMPACT Push-Pull-Boot \(LCC-PPB\)](#)



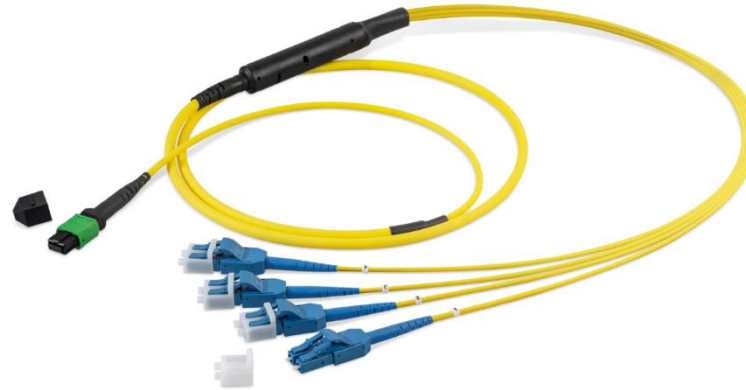
**Migration of PreCONNECT® DUODECIM LC to MTP®/MPO based Parallel Optics OCTO 4+4 Applications:**

- 40/100/200/400 GBASE-SR4
- 4 x 16/32 GFC
- DR4/PSM4
- InfiniBand™ 4X


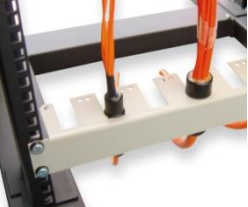





Migration of PreCONNECT® DUODECIM LC to MTP®/MPO based Parallel Optics OCTO 4+4 applications by

PreCONNECT® OCTO MTP-LCC harnesses:



**Accessories:**

Description	Part number	Pictures	
<p><b>19" 1 HU universal trunk cable divider holder</b></p> <p>For the universal installation of multiple trunk cable dividers within 19" racks.</p>	<p>RAL9005 black 099A0085</p>		
<p><b>19" 1 HU single universal trunk cable divider holder</b></p> <p>For the universal installation of a single trunk cable dividers within 19" racks.</p>	<p>RAL9005 black 099A0065</p>		
<p>For 19" panel accessories see our <a href="#">product information 19" panel accessories</a></p>			

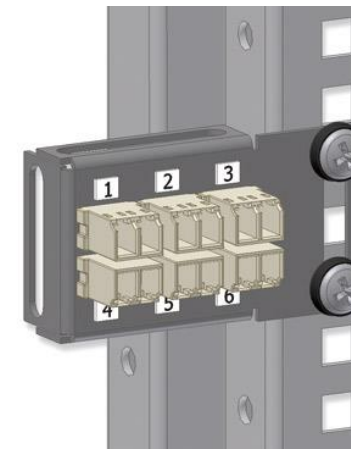
**Accessories:**

**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](http://www.rosenberger.com/osi)

# Rosenberger

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