Rosenberger

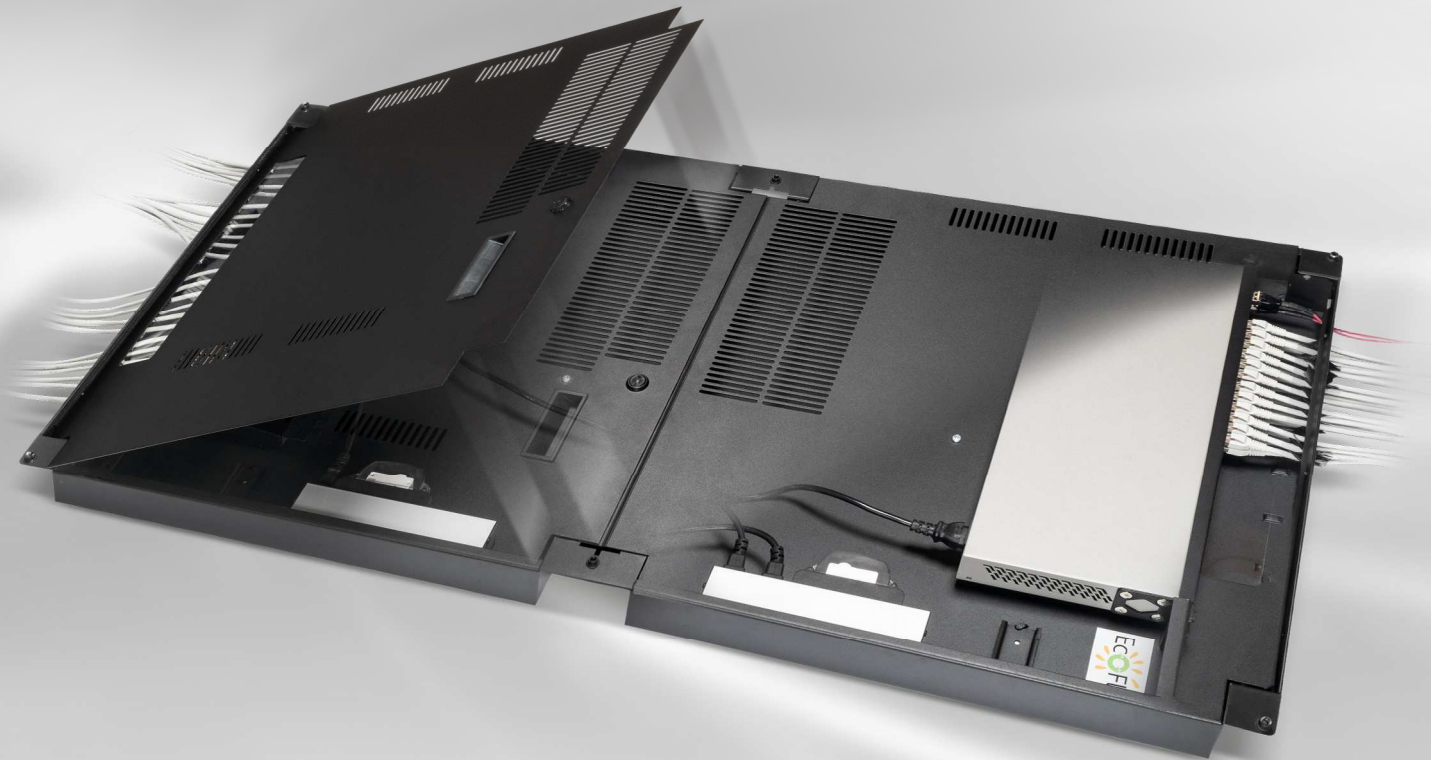## PerCONNECT® EcoFlex'IT™

Product information PerCONNECT® EcoFlex'IT™

## 1. PerCONNECT® EcoFlex'IT™ overall concept

1.1 System description:

PerCONNECT® EcoFlex'IT™ is the next step on from PerCONNECT®, with active components and an innovative overall concept which focuses on efficient and flexible new and existing network installations.
A central element in this complete system is the Active Consolidation Point (ACP), which is integrated in the backbone with fiber optics and is distributed in the close tertiary area (max. 20 m) on copper trunks or patch cables.
PerCONNECT® EcoFlex'IT™ is a ring configuration which is redundantly designed as an FTT ACP (fiber to the active consolidation point).
By installing the ACPs in raised floors, ceilings or walls, the cabling system can be integrated in any work environment without the need for additional space, can be taken out again at any time, is easy to move and is flexibly upgradeable.
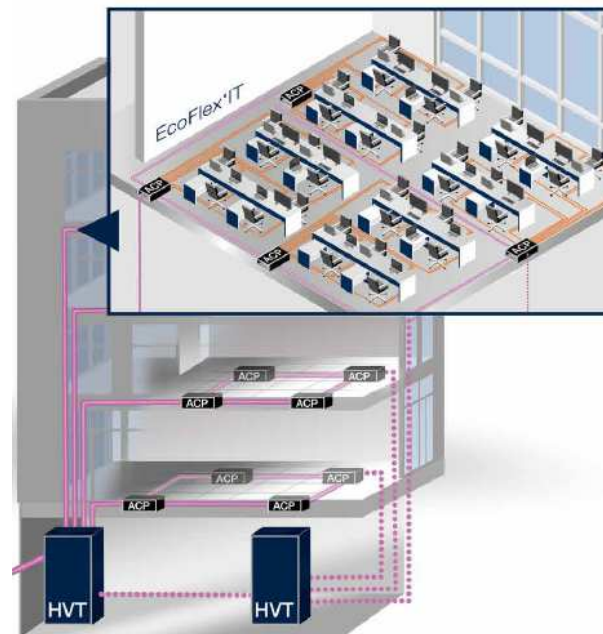
1.2 Short components overview of PerCONNECT® EcoFlex'IT™:

- ACP housing
- Fiber optic one-/double-sided trunk cable
- Fiber optic patch cord
- Copper jumper and copper patch cord
- Distribution box for ACP connection
- 19"-distribution panels and splice panels
- 19"-distribution enclosure
- Industrial switch with passive cooling

1.3 Scope of application:

LAN-Networks, temporary network expansions, buildings in modular design

1.4 ACP at a glance:

Adaptability: Easily expanded and modified in new or existing networks.

Cleverness: A system of matching standard components, simplified project planning, smooth expansion/adaptation during ongoing business with a ring configuration and redundant FTT ACP concept.

Perfect price: Huge savings possible in tertiary infrastructure (cable quantity, cable routing) and in power consumption thanks to efficient ACPs, investment protection by taking and re-using all active and almost all passive components following relocation.

1.5 Properties and advantages:

Innovative redundant Ethernet cabling concept with ACP:
- No engineering room (as required for structured building cabling) means there is more space available for use
- The FTT ACP concept means seamless retrofitting does not interrupt operations

Accelerated project lead times and lower material input:
- Use of standard cabling saves up to 50% in time and money during installation
- Up to 60% savings in material costs for tertiary copper cabling

Optimized FTT ACP concept and reduced post-construction costs:
- Less cabling reduces fire risks, cable routing and firewall dimensions
- Less construction work as no IT rooms or technical building equipment needed

Planning, production, installation and commissioning of active and passive technology from a single source
- Less coordination required
- Integrated project planning

2. Products

2.1 ACP components

2.1.1 ACP housing
2.1.1.1 ACP access floor housing
2.1.1.2 ACP drop ceiling housing
2.1.1.3 ACP wall housing

2.1.2 ACP backbone cabling
2.1.2.1 Fiber optic backbone connection
2.1.2.2 Fiber optic patch cord
2.1.2.3 Fiber optic DIN box ACP connection

2.1.3 ACP tertiary cabling
2.1.3.1 Copper cabling
2.1.3.2 Copper patch cords
2.1.3.3 Copper outlets

2.2 Main distribution components

2.2.1 19"-distribution enclosures

2.2.2 19"-installation components
2.2.2.1 19"-distribution panels
2.2.2.2 19"-splice panels

2.2.3 Accessories

2.3 Active network components

2. Products

2.1 ACP components

2.1.1 ACP housing
2.1.1.1 ACP access floor housing

PerCONNECT® EcoFlex'IT™ 19"-fixed raised floor housing 1HU (black)

Mat-No.: 110A0110

Shipment & integrated accessories:
- 1x access floor rack (material: sheet steel)
- 2x doors (one handle) with ventilation slots and lockable (type: 141T)
- 2x viewing windows
- 2x integrated 19"-levels 1HU
- 1x power source with:
    1x IEC 14 male input plug
    4x IEC 13 female plugs
    1x circuit breaker 10 A, 30 mA
- 2x DIN rails 35 x 75mm
- 1x DIN rail 35 x 150mm
- 1x double DIN rail 35 x 300mm
- 4x cable entries 210 mm with brush seal
- 6x 15mm screw for height adjustments up to 7mm
- 2x 600 x 600 mm steel plates (cover plates)

Dimensions:
- Housing: 595 x1195 x 68,5 mm
- Doors: 595 x 597 mm
- Min. plenum height for installation: 63 mm
- Cover plates 598 x 598 mm

Available plate heights:
- 24,5 mm for access floor of 30 mm
- 14,5 mm for access floor of 20 mm

(Pictures: Roger & InGeTel)

2.1.1.2 ACP drop ceiling housing

PerCONNECT® EcoFlex'IT™ 19"-mobile drop ceiling housing 2HU (black)

Mat-No.: 110A0120

Shipment & integrated accessories:
- 1x basic rack for ceiling mounting
- 1x moving rack with ventilation slots (material: sheet steel)
- 1x hood detachable and lockable (type: 141T),
   incl. swivelling front hood with brush seal
- 1x 19"-level 2HU
- 1x power source with:
     1x IEC 14 male input plug
     4x IEC 13 female plugs
     1x circuit breaker 10 A, 30 mA
- 2x hydraulic cylinders
- 2x DIN rails 35 x 75 mm
- 1x double DIN rail 35 x 300 mm
- 2x cable entries on backside with brush seal
- 1x safety wire rope

Dimensions:
- basic rack: 580 x 800 x 95 mm
- moving rack: 530 x 800 x 95 mm
  swivelling front hood: 100 x 95 mm

(Pictures: Roger & InGeTel)

2.1.1.3 ACP wall housing

PerCONNECT® EcoFlex'IT™ 19"-wall housing 2HU (black or white)

Mat-No.: 110A0130

Shipment & integrated accessories:
- 1x rack with ventilation slots (material: sheet steel)
- 1x front door with ventilation slots and lockable (type: 141T)
- 1x 19"-level 2HU
- 1x power source with:
    1x IEC 14 male input plug
    4x IEC 13 female plugs
    1x circuit breaker 10 A, 30 mA
- 2x DIN rails 35 x 500 mm
- 2x DIN rails 35 x 75 mm
- 1x cable entry with brush seal

Dimensions:
- housing: 600 x 680 x 110 mm
- hood: 580 x 600 mm

(Pictures: Roger & InGeTel)

2.1.2 ACP backbone cabling

2.1.2.1 Fiber optic backbone connection

PerCONNECT® EcoFlex'IT™ LC-one-/double-sided trunk cable Mini-Breakout with square interface

Type:	one-sided trunk	8 Fibers OS2	110A1113G657A1
Cable:	I-V(ZN)H nx0,9	12 Fibers OS2	110A1115G657A1
Connector:	LC/PC	24 Fibers OS2	110A1117G657A1
		8 Fibers OM3	110A1113OM3
		12 Fibers OM3	110A1115OM3
		24 Fibers OM3	110A1117OM3
		8 Fibers OM4	110A1113OM4
		12 Fibers OM4	110A1115OM4
		24 Fibers OM4	110A1117OM4

Type:	double-sided trunk	8 Fibers OS2	110A1213G657A1
Cable:	I-V(ZN)H nx0,9	12 Fibers OS2	110A1215G657A1
Connector 1:	LC/PC	24 Fibers OS2	110A1217G657A1
Connector 2:	LC/PC	8 Fibers OM3	110A1213OM3
		12 Fibers OM3	110A1215OM3
		24 Fibers OM3	110A1217OM3
		8 Fibers OM4	110A1213OM4
		12 Fibers OM4	110A1215OM4
		24 Fibers OM4	110A1217OM4

PerCONNECT® EcoFlex'IT™ MTP®-one-/double-sided trunk cable Breakout with square interface

Typ:	one-sided trunk	12 Fibers OS2	110A1191G657A1
Cable:	I-F(ZN)HH nx12	12 Fibers OM3	110A1191OM3
Connector:	MTP®/PC-m(MM)/APC-m(SM)	12 Fibers OM4	110A1191OM4

Type:	double-sided trunk Type B	12 Fibers OS2	110A1291G657A1
Cable:	I-F(ZN)HH nx12	12 Fibers OM3	110A1291OM3
Connector 1:	MTP®/PC-m(MM)/APC-m(SM)	12 Fibers OM4	110A1291OM4
Connector 2:	MTP®/PC-m(MM)/APC-m(SM)		
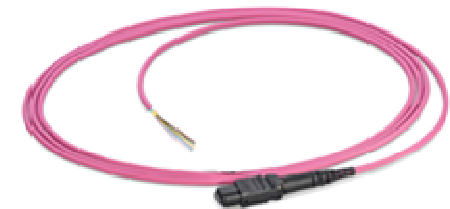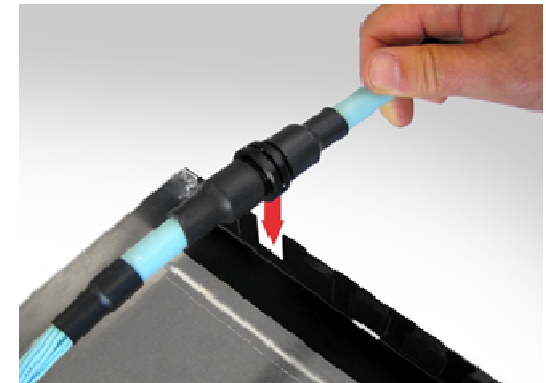
2.1.2.2 Fiber optic patch cord

PerCONNECT® EcoFlex'IT™ LC patch cord

Cable:	I-V(ZN)H2 round cable 2,8	2 Fibers OS2	110A1411G657A1
Connector:	LC-Compact/PC	2 Fibers OM3	110A1411OM3
		2 Fibers OM4	110A1411OM4
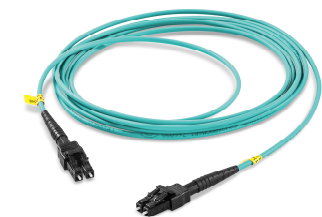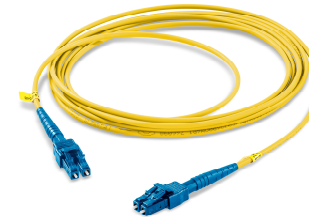
PerCONNECT® EcoFlex'IT™ MTP® harness cable with double jacket

Cable:	I-F(ZN)HH 1x12	12 Fibers OS2	110A1511G657A1
Connector 1:	12x LC/PC	12 Fibers OM3	110A1511OM3
Connector 2:	MTP®/PC-f(MM)/APC-f(SM)	12 Fibers OM4	110A1511OM4
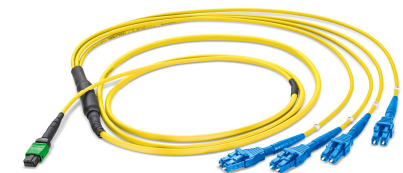
2.1.2.3 Fiber optic DIN box ACP connection

PerCONNECT® EcoFlex'IT™ DIN box LC

Delivery:	12 Fibers OS2	110A0211G657A1
1x housing (material sheet steel)	24 Fibers OS2	110A0212G657A1
1x cover unscrewable	12 Fibers OM3	110A0211OM3
1x bracket for DIN rail	24 Fibers OM3	110A0212OM3
1x cable entry with brush seal	12 Fibers OM4	110A0211OM4
- adapter type: LC	24 Fibers OM4	110A0212OM4

Dimensions:
- housing: 89 x 102 x 37 mm

PerCONNECT® EcoFlex'IT™ DIN box LC with MTP® connection

Delivery:	12 Fibers OS2	110A0251G657A1
1x housing (material sheet steel)	24 Fibers OS2	110A0252G657A1
1x cover unscrewable	12 Fibers OM3	110A0251OM3
1x bracket for DIN rail	24 Fibers OM3	110A0252OM3
1x integrated harness cable(s) MTP®(f) to LC	12 Fibers OM4	110A0251OM4
- adapter type 1: LC	24 Fibers OM4	110A0252OM4
- adapter type 2: MTP®		

Dimensions:
- housing: 89 x 102 x 37 mm

(Picture: Roger & InGeTel)

2.1.3 ACP tertiary cabling

2.1.3.1 Copper cabling

PerCONNECT® EcoFlex'IT™ RJ45 copper jumper Class E_A shielded

Cable:	S/FTP Cat.7, AWG26 flex	1 Channel	110A3111
ACP side:	RJ45-Plug	2 Channels	110A3112
EO side:	RJ45-Keystone jack module	6 Channels	110A3116
Cable:	S/FTP Cat.7, AWG26 flex	1 Channel	110A3121
ACP side:	RJ45-Plug	2 Channels	110A3122
EO side:	RJ45-Plug	6 Channels	110A3126
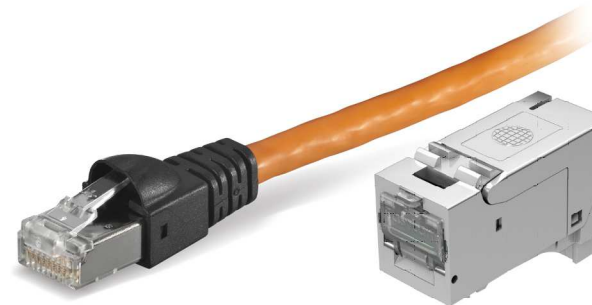
2.1.3.2 Copper patch cords

PerCONNECT® EcoFlex'IT™ RJ45 patch cord Cat. 6A shielded

Cable:	S/FTP Cat.7, AWG27/7	1:1 Coding	110A3211
Plug:	RJ45-Plug shielded		
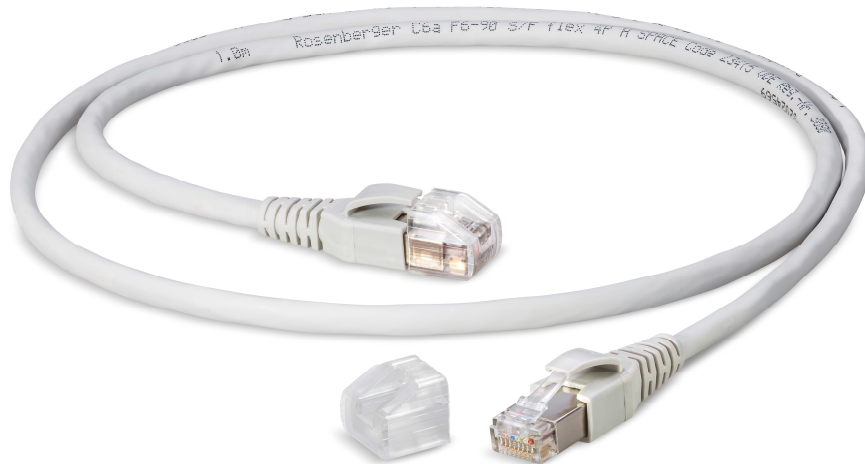
2.1.3.3 Copper outlets

PerCONNECT® EcoFlex'IT™ keystone wall outlet

Dimension:	45x45 mm	1 Port	110A3411
Design type:	30° inclined pure white	2 Ports	110A3412
Dimension:	80x80 mm	1 Port	110A3421
Design type:	straight outlet	2 Ports	110A3422

2.2 Main distribution components

2.2.1 19"-distribution enclosures

PerCONNECT® EcoFlex'IT™ 19"-distribution enclosure stackable RAL 7035

Mat.-No.: 110A0311

Shipment & integrated accessories:
1x dismountable steel profile cabinet rack
2x two lateral sash doors with quick lock mechanism
1x front perforated sheet metal door with three-point lock mechanism
1x rear perforated sheet metal door with three-point lock mechanism
1x 19" level 42 HU, front and rear
1x top panel with cable entry and/or fan module option
1x base provided
1x cover plates in the bottom area can be removed for cable entry
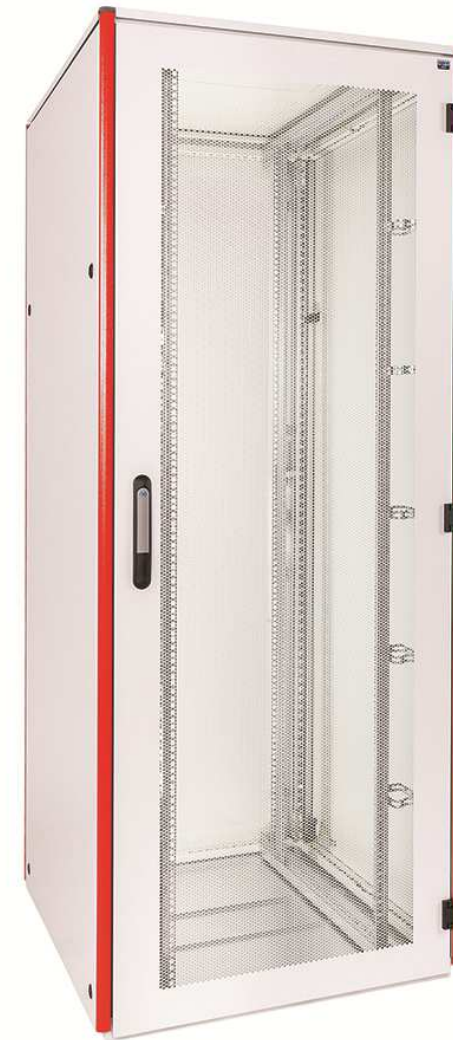1x grounding kit (installed)

Finish:
- trim parts/base: RAL 7035 light gray
- design profile: RAL 3002 carmine red

Dimensions:
- W x D: 800 x 800 mm

Lieferform:
- fully assembled, base provided

PerCONNECT® EcoFlex'IT™ 19"-standing distributor RAL 7035

Mat.-No.: 110A0411

Shipment & integrated accessories:
- solid frame construction (welded frame)
- 19" level 19 HU, front and rear
- fast and easy access due to dismountable frame covers
- dimensions W x D: 600 x 700 mm
- pre-perforated cut-outs for easy cable entry in top & bottom
- possibility to mount fan-units in top & bottom
- door hinges interchangeable
- doors with lever lock (profile semi cylinder optional)
- covers and side walls with sash fasteners

Additional technical information:
- material: sheet metal
- cover made from aluminium
- surface: powder coated RAL 7035 light gray
- side walls in RAL 7037 dust gray

Delivery:
- completely assembled

2.2.2 19"-installation components

2.2.2.1 19"-distribution panels

PerCONNECT® EcoFlex'IT™ 19"-distribution panel LC

Delivery:		
1x 1HU 19" housing made of aluminium	12 Fibers SM/PC	110A4111G657A1
1x cover unscrewable	24 Fibers SM/PC	110A4112G657A1
- adapter: LC	48 Fibers SM/PC	110A4113G657A1
	12 Fibers OM3	110A4111OM3
	24 Fibers OM3	110A4112OM3
	48 Fibers OM3	110A4113OM3
	12 Fibers OM4	110A4111OM4
	24 Fibers OM4	110A4112OM4
	48 Fibers OM4	110A4113OM4

PerCONNECT® EcoFlex'IT™ 19"-distribution panel MTP®

Delivery:		
1x 1HU 19 housing made of aluminium	72 Fibers SM/APC	110A4191G657A1
1x cover unscrewable	96 Fibers SM/APC	110A4192G657A1
- adapter: MTP®	144 Fibers SM/APC	110A4193G657A1
	72 Fibers OM3	110A4191OM3
	96 Fibers OM3	110A4192OM3
	144 Fibers OM3	110A4193OM3
	72 Fibers OM4	110A4191OM4
	96 Fibers OM4	110A4192OM4
	144 Fibers OM4	110A4193OM4
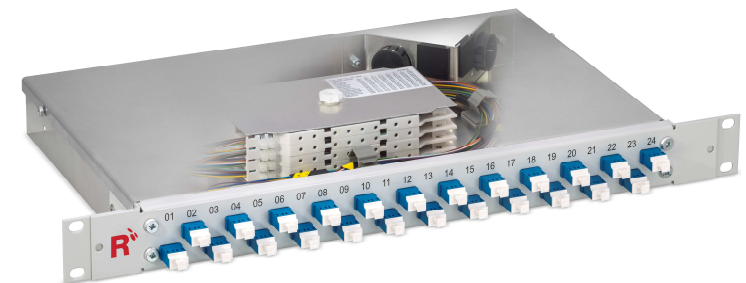
2.2.2.2 19" splice panels

PerCONNECT® EcoFlex'IT™ 19"-splice panel LC

Delivery:	12 Fibers SM/PC	110A4611G657A1
1x 1HE 19"housing made from aluminium	24 Fibers SM/PC	110A4612G657A1
1x cover unscrewable	48 Fibers SM/PC	110A4613G657A1
- adapter type: LC-Duplex	12 Fibers OM3	110A4611OM3
- with factory-assembled splice cassettes	24 Fibers OM3	110A4612OM3
and pigtail bundle cable	48 Fibers OM3	110A4613OM3
	12 Fibers OM4	110A4611OM4
	24 Fibers OM4	110A4612OM4
	48 Fibers OM4	110A4613OM4
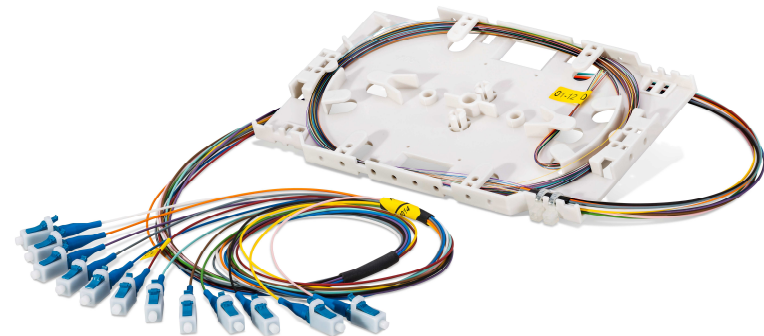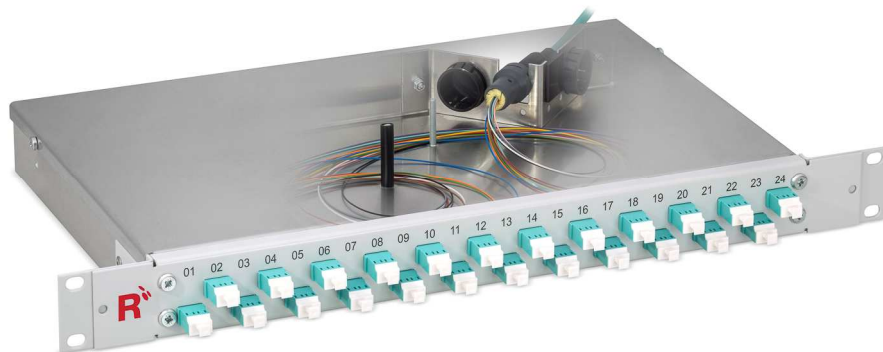
2.2.3 Accessories

PerCONNECT® 19"-patch cord guide

Delivery: Bracket PA 56 mm   111A0450
1x 1HE 19"-patch cord guide (steel)   Bracket metal 110 mm   111A0469
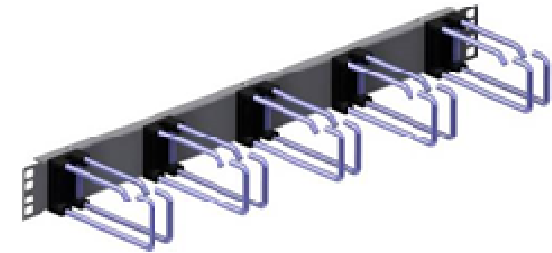
PerCONNECT® square interface

to fix cables in „Pre-/PerCONNECT® style,   6 mm to 18 mm   111L0650
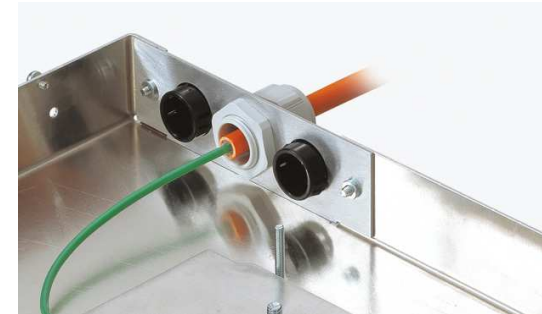tool-less mounting through simple hook-in
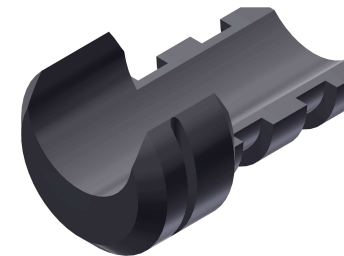
PerCONNECT® cable clamp modular mountable

| PG cable gland | up to 6x PG 16 | 111L0417 |

| square interface | up to 6 (straight) | 111L0425 |
| | up to 4 (angularly 45°) | 111L0416 |

2.3 Active network components

Basic requirement for PerCONNECT® EcoFlex'IT™ is the usage of a passive cooling industrial switch.

Switches already used successfully in projects are:

- CISCO (19" from the series IE4010 and IE5000, DIN rail from the series IE4000)
- Microsens (19" from the series Profi Line, DIN rail from the series Profi Line +)
- Hirschmann (19" from the series Mach 1040)

About Rosenberger OSI:

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

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

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

Rosenberger

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