

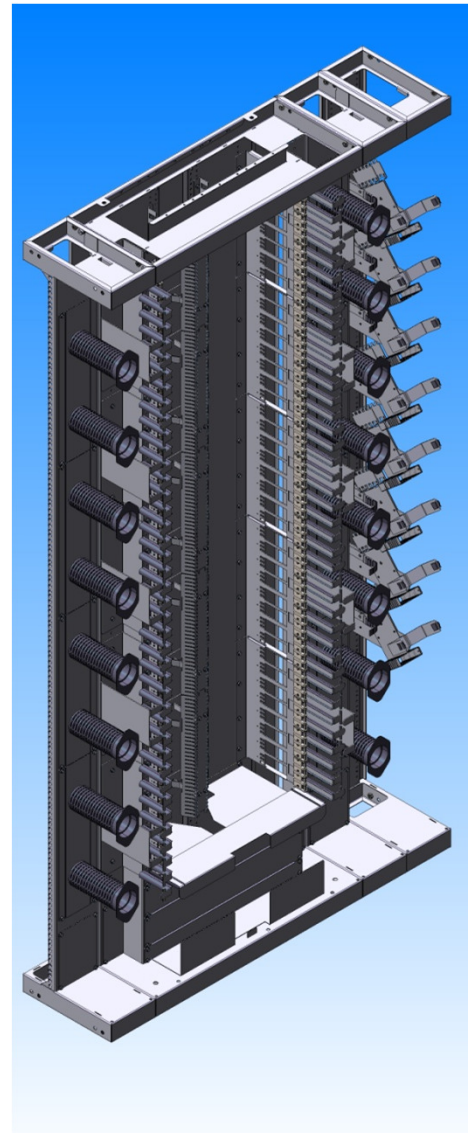


Solution highlights:

eFOS® is an optical fibre distribution/patch system for Passive Optical Networks. Main application of the system is fiber termination in Central Offices of FTTX networks. eFOS® combines the advantages of the Central Office systems available on the market. The system characteristics are:

- Maximum fiber density with double-rowed fiber modules – 960/1920/3840 fiber terminations for standard/SFF/URM^{*1)} adapter systems per **standard rack** (700-1300mm width, **2200mm** height, 300mm depth)
- Optional two-sided overlength patchcord storage for comfortable patching
- Optional rack extensions for gasblocker integration
- 3 different rack heights: 32HU/1800mm, 40HU/2200mm, 48HU/2600mm
- 6 different rack widths: 450/600/750mm (with single-row fiber modules), 700/ 1000/1300mm (with double-row fiber modules)
- Open and closed rack versions for all rack types

- The combined splice/patch fiber modules are 90 degrees rotatable and removable and are available in 2 sizes: 0,5 HU or 1 HU for 12/24/48 standard/SFF/URM adapters per module (see technical data on page 3)
- Metal frontplates for all adapter types
- 45 degrees, snap-in adapter holders for all conventional adapter types: SCsx, LCdx, E2000sx, E2000dx, LX.5, FC, ST and URM^{*1)}
- Support for different types of fiber protection pipes
- Using 5,0mm speedpipe blow-in systems, a complete pre-installation to the different levels of module carrier units is possible. This allows a fast, cost efficient installation of fiber cables to the Fiber modules for new installations as well as for extensions even for racks in operation.



Rack:

The eFOS® rack combines maximum fiber density with efficient cable management and maintainability. Open and closed rack versions are available.

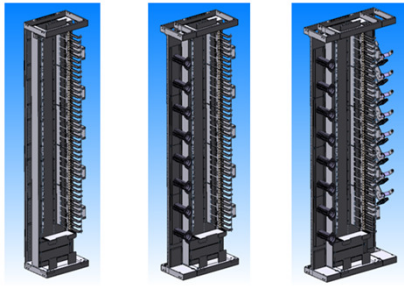
The eFOS® rack provides:

- Solutions for cross-connect and interconnect configurations
- Modular subunits for highest flexibility
- Backside vertical cable guidance for incoming cables
- Bending radius protection of 30mm for fibers and patchcords
- Intelligent patchcord management:
- Vertical patchcord cable guidance on left and right side
- Optional Mandrels on left and right side of the rack provide sufficient space for patchcord overlength storage
- Integrated patchcord management to adjacent racks avoids the usage of external ducts

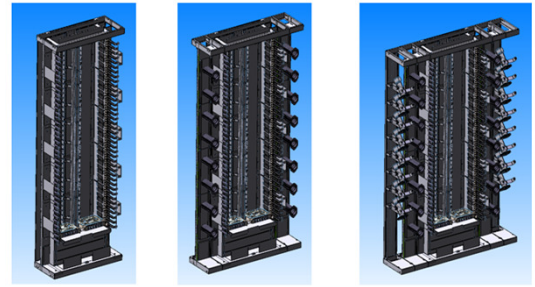
The rack is available in 3 different heights and 6 different widths, please see details of each type in the table “technical data” on page 3.

Rack variants – technical data:

Datenblatt



SINGLE ROW RACKS



DOUBLE ROW RACKS

| | Single row fiber module racks without mandrels | | | Single row fiber module racks with mandrels | | |
|--|--|--|---|---|--|---|
| | eFOS 450/32HU | eFOS 450/40HU | eFOS 450/48HU | eFOS 600/32HU | eFOS 600/40HU | eFOS 600/48HU |
| Rack height | 1800 mm | 2200 mm | 2600 mm | 1800 mm | 2200 mm | 2600 mm |
| Rack width | 450 mm | 450 mm | 450 mm | 600 mm | 600 mm | 600 mm |
| Rack weight (without adapter, pigtails, incoming cables) | Open rack: 50 kg Closed rack: 77 kg | Open rack: 62 kg Closed rack: 92 kg | Open rack: 74 kg Closed rack: 106 kg | Open rack: 60 kg Closed rack: 88 kg | Open rack: 72 kg Closed rack: 105 kg | Open rack: 84 kg Closed rack: 122 kg |
| Material | Powder coated steel metal | | | | | |
| Color | RAL 7035, light grey | | | | | |
| IP Protection | IP30 (closed rack) | | | | | |
| Flammability classification | UL 94V-0 | | | | | |
| Max. amount of Fiber modules | 32 Full-size OR 64 Half-size | 40 Full-size OR 80 Half-size | 48 Full-size OR 96 Half-size | 32 Full-size OR 64 Half-size | 40 Full-size OR 80 Half-size | 48 Full-size OR 96 Half-size |
| Max. amount of Fiber terminations / adapter system | 384 SC/E2000 768 LC/LX.5 1536 URM* | 480 SC/E2000 960 LC/LX.5 1920 URM* | 576 SC/E2000 1152 LC/LX.5 2304 URM* | 384 SC/E2000 768 LC/LX.5 1536 URM* | 480 SC/E2000 960 LC/LX.5 1920 URM* | 576 SC/E2000 1152 LC/LX.5 2304 URM* |

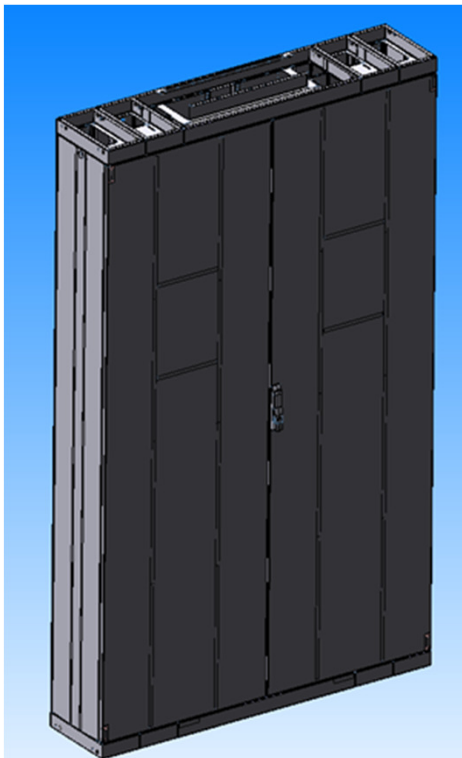
| | Single row fiber module racks with mandrels and gasblocker integration | | | Double row fiber module racks without mandrels | | |
|--|--|--|---|--|---|--|
| | eFOS 750/32HU | eFOS 750/40HU | eFOS 750/48HU | eFOS 700/32HU | eFOS 700/40HU | eFOS 700/48HU |
| Rack height | 1800 mm | 2200 mm | 2600 mm | 1800 mm | 2200 mm | 2600 mm |
| Rack width | 750 mm | 750 mm | 750 mm | 700 mm | 700 mm | 700 mm |
| Rack weight (without adapter, pigtails, incoming cables) | Open rack: 69 kg Closed rack: 99 kg | Open rack: 83 kg Closed rack: 116 kg | Open rack: 98 kg Closed rack: 132kg | Open rack: 83 kg Closed rack: 112 kg | Open rack: 98 kg Closed rack: 133 kg | Open rack: 115 kg Closed rack: 162 kg |
| Material | Powder coated steel metal | | | | | |
| Color | RAL 7035, light grey | | | | | |
| IP Protection | IP30 (closed rack) | | | | | |
| Flammability classification | UL 94V-0 | | | | | |
| Max. amount of Fiber modules | 32 Full-size OR 64 Half-size | 40 Full-size OR 80 Half-size | 48 Full-size OR 96 Half-size | 64 Full-size OR 128 Half-size | 80 Full-size OR 160 Half-size | 96 Full-size OR 192 Half-size |
| Max. amount of Fiber terminations / adapter system | 384 SC/E2000 768 LC/LX.5 1536 URM* | 480 SC/E2000 960 LC/LX.5 1920 URM* | 576 SC/E2000 1152 LC/LX.5 2304 URM* | 768 SC/E2000 1536 LC/LX.5 3072 URM* | 960 SC/E2000 1920 LC/LX.5 3840 URM* | 1152 SC/E2000 2304 LC/LX.5 4608 URM* |

Rack variants – technical data:

| | <u>Double row fiber module racks with 2-sided mandrels</u> | | | <u>Double row fiber module racks with 2-sided mandrels and 2-sided gasblocker integration</u> | | |
|--|--|--|--|---|--|--|
| | eFOS 1000/32HU | eFOS 1000/40HU | eFOS 1000/48HU | eFOS 1300/32HU | eFOS 1300/40HU | eFOS 1300/48HU |
| Rack height | 1800 mm | 2200 mm | 2600 mm | 1800 mm | 2200 mm | 2600 mm |
| Rack width | 1000 mm | 1000 mm | 1000 mm | 1300 mm | 1300 mm | 1300 mm |
| Rack weight (without adapter, pigtails, incoming cables) | Open rack: 98 kg Closed rack: 142 kg | Open rack: 118 kg Closed rack: 170 kg | Open rack: 138 kg Closed rack: 197 kg | Open rack: 123 kg Closed rack: 171 kg | Open rack: 148 kg Closed rack: 205 kg | Open rack: 174 kg Closed rack: 233 kg |
| Material | Powder coated steel metal | | | | | |
| Color | RAL 7035, light grey | | | | | |
| IP Protection | IP30 (closed rack) | | | | | |
| Flammability classification | UL 94V-0 | | | | | |
| Max. amount of Fiber modules | 64 Full-size OR 128 Half-size | 80 Full-size OR 160 Half-size | 96 Full-size OR 192 Half-size | 64 Full-size OR 128 Half-size | 80 Full-size OR 160 Half-size | 96 Full-size OR 192 Half-size |
| Max. amount of Fiber terminations / adapter system | 768 SC/E2000 1536 LC/LX.5 3072 URM* | 960 SC/E2000 1920 LC/LX.5 3840 URM* | 1152 SC/E2000 2304 LC/LX.5 4608 URM* | 768 SC/E2000 1536 LC/LX.5 3072 URM* | 960 SC/E2000 1920 LC/LX.5 3840 URM* | 1152 SC/E2000 2304 LC/LX.5 4608 URM* |

*URM is a registered trademark of euromicron AG. For highest density applications with URM systems each Miniflex fiber protection will contain 24 fibers.

Rack – closed versions:



The closed rack version provides doors and side panels, which can easily be mounted and removed on site.

Rack features:

- Robust steel metal construction, color: RAL 7035 light grey
- IP Protection: IP30
- Flammability classification: UL 94V-0
- Top or bottom cable entry possible
- Top cover provides openings for cables (with optional brushes)
- Doors have an opening angle of up to 180°
- Doors are equipped with integrated turning lever and lock
- Both doors accommodate A4 document-holder on inner side
- Easy expansion with side-by-side or back-to-back mounting of racks
- Single row fiber module racks have 1 front door
- Double row fiber module racks have 2 front doors
- Customized solutions regarding special dimensions, front doors, locks and colouring can be offered on request

Rack - scope of supply:

Standard scope of supply of an eFOS® delivery is a rack with

- assembled vertical cable guidance for incoming cables
- assembled patchcord guidance (on both sides for double row fiber modules racks)
- assembled bottom cable trough
- assembled 8HU carrier units

Optional supply (depending on rack variant):

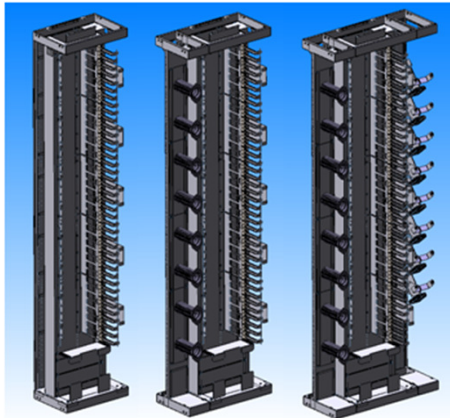
- mandrel rack extension (on both sides for double row fiber modules racks)
- rack extension for gasblocker integration
- doors with turning lever/lock (2 doors for double row fiber modules rack)
- side panels (in case of a closed rack)

Fiber modules have to be ordered separately.

Required rack accessories, fiber protection type and length will be determined according to the eFOS® configuration process (see last page) and have to be ordered separately.

Rack variants:

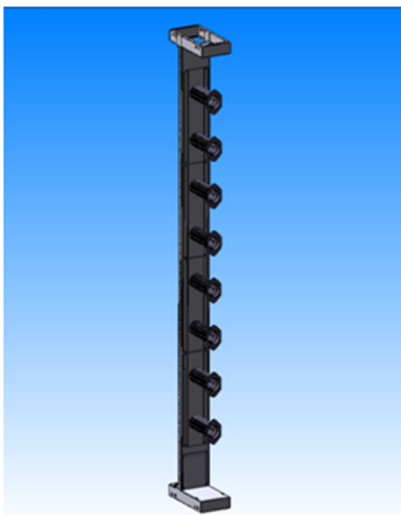
Single row fiber module racks



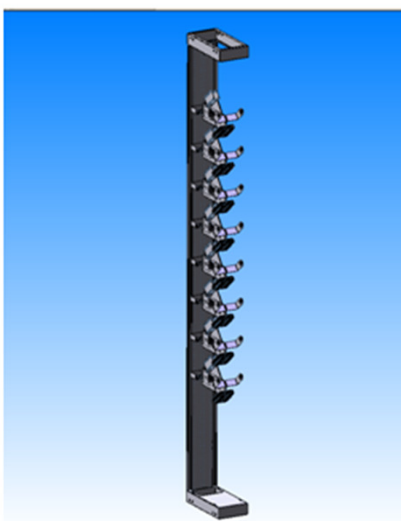
The rack includes:

- assembled vertical cable guidance for incoming cables
- assembled patchcord guidance
- assembled bottom cable trough
- assembled 8HU carrier units
- optional mandrels for storage of patchcord overlenght
- optional gasblocker rack extensions for gasblocker integration

| Description- Basis Rack |
|---|
| Basis rack 32HU/1800mm height, open rack, 450mm width |
| Basis rack 40HU/2200mm height, open rack, 450mm width |
| Basis rack 48HU/2600mm height, open rack, 450mm width |



| Description – Mandres rack extension |
|---|
| Mandrel rack extension 32HU/1800mm height, 150mm width, 6 Mandrels |
| Mandrel rack extension 40HU/2200mm height, 150mm width, 8 Mandrels |
| Mandrel rack extension 48HU/2600mm height, 150mm width, 10 Mandrels |

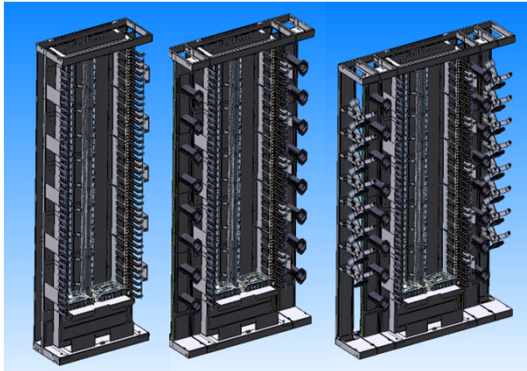


| Description – Gasblocker rack extension |
|---|
| Gasblocker rack extension 32HU/1800mm height, 150mm width, 6 gasblocker clamps (GBC) |
| Gasblocker rack extension 40HU/2200mm height, 150mm width, 8 gasblocker clamps (GBC) |
| Gasblocker rack extension 48HU/2600mm height, 150mm width, 10 gasblocker clamps (GBC) |

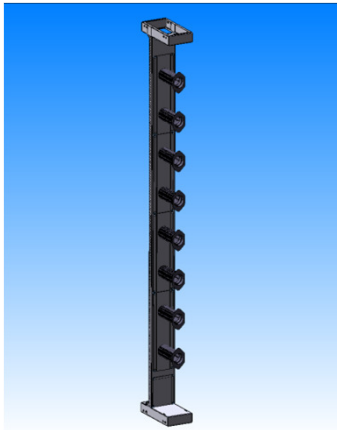
Double row fiber modules racks

The rack includes:

- assembled central vertical cable guidance for incoming cables
- assembled patchcord guidance on both sides
- assembled bottom cable trough
- assembled 8HU carrier units on both sides
- optional mandrels for storage of patchcord overlenght
- optional gasblocker rack extensions for gasblocker integration

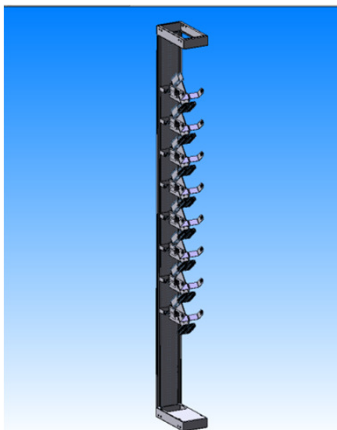


| Description – Basis rack |
|--|
| Basis rack 32HU/1800mm height, open rack, 700mm width |
| Basis rack 40HU/2200mm height, open rack, 700 width |
| Basis rack 48HU/2600mm height, open rack, 700 mm width |



| Description – Mandrel rack extension*) |
|---|
| Mandrel rack extension 32HU/1800mm height, 150mm width, 6 Mandrels |
| Mandrel rack extension 40HU/2200mm height, 150mm width, 8 Mandrels |
| Mandrel rack extension 48HU/2600mm height, 150mm width, 10 Mandrels |

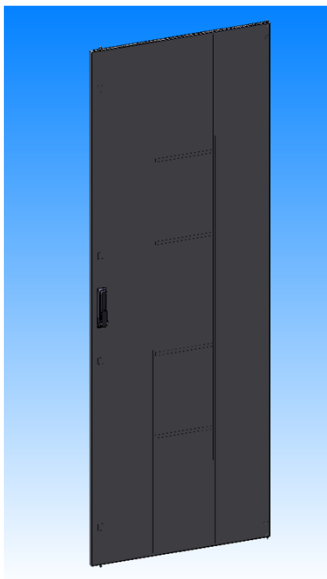
*) 1 or 2 Mandrel rack extensions can be ordered for double row fiber module racks



| Description – Gasblocker rack extension*) |
|---|
| Gasblocker rack extension 32HU/1800mm height, 150mm width 6 gasblocker clamps (GBC) |
| Gasblocker rack extension 40HU/2200mm height, 150mm width 8 gasblocker clamps (GBC) |
| Gasblocker rack extension 48HU/2600mm height, 150mm width 10 gasblocker clamps |

*) 1 or 2 Gasblocker rack extensions can be ordered for double row fiber module racks

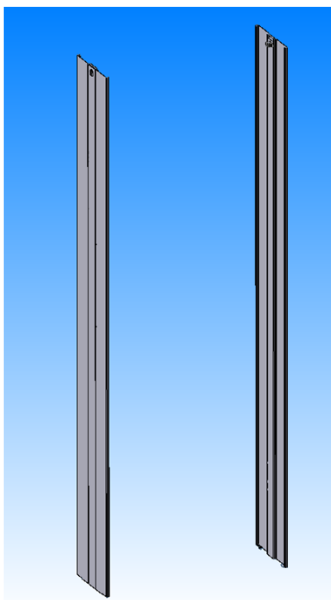
Rack components:



Rack doors

- Easy and fast installation and removing of doors
- Doors have an opening angle of up to 180°
- Doors are equipped with integrated turning lever and lock
- Both doors accommodate A4 document holder on inner side

| Door type |
|---|
| Single door for eFOS 450/32HU/1800mm |
| Single door for eFOS 450/40HU/2200mm |
| Single door for eFOS 450/48HU/2600mm |
| Single door for eFOS 600/32HU/1800mm |
| Single door for eFOS 600/40HU/2200mm |
| Single door for eFOS 600/48HU/2600mm |
| Single door for eFOS 750/32HU/1800mm |
| Single door for eFOS 750/40HU/2200mm |
| Single door for eFOS 750/48HU/2600mm |
| Left door for eFOS 700/32HU/1800mm |
| Right door for eFOS 700/32HU/1800mm |
| Left door for eFOS 700/40HU/2200mm |
| Right door for eFOS 700/40HU/2200mm |
| Left door for eFOS 700/48HU/2600mm |
| Right door for eFOS 700/48HU/2600mm |
| Left door for eFOS 1000/32HU/1800mm |
| Right door for eFOS 1000/32HU/1800mm |
| Left door for eFOS 1000/40HU/2200mm |
| Right door for eFOS 1000/40HU/2200mm |
| Left door for eFOS 1000/48HU/2600mm |
| Right door for eFOS 1000/48HU/2600mm |
| Left door for eFOS 1300/32HU/1800mm |
| Right door for eFOS 1300/32HU/1800mm |
| Left door for eFOS 1300/40HU/2200mm |
| Right door for eFOS 1300/40HU/2200mm |
| Left door for eFOS 1300/48HU/2600mm |
| Right door for eFOS 1300/48HU/2600mm |



Rack side- and back- panels

Easy and fast installation and removing of side panels for racks with Mandrel or gasblocker rack extension (e.g. to remove 1 side panel for side-by-side rack configurations). Side panels for basis racks and back panels are fixed with screws.

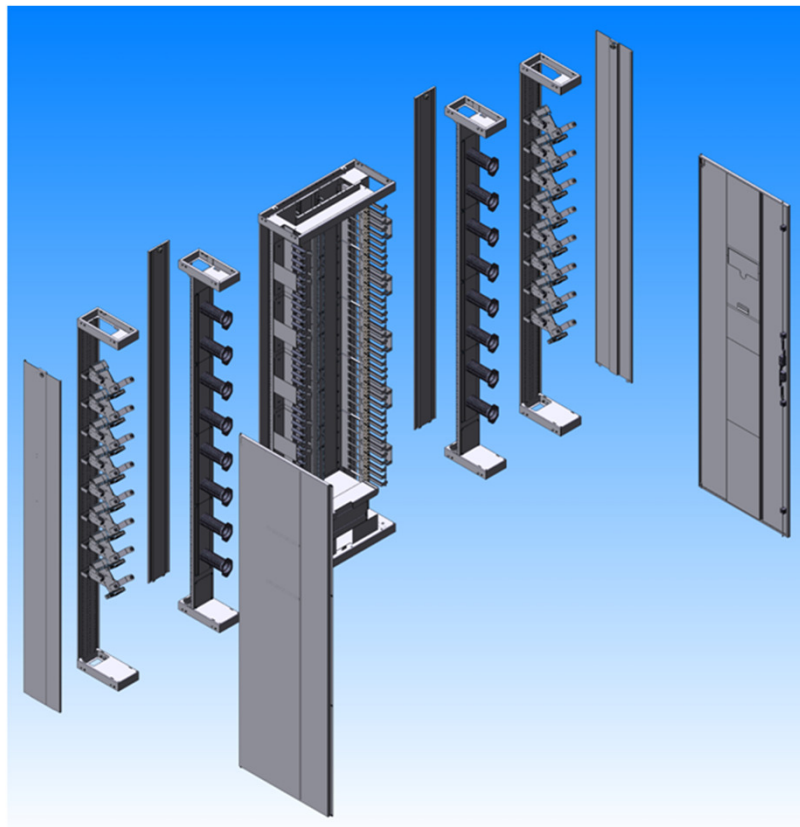
| Side panel type |
|---|
| Side panel for Basis rack usable for right and left side, 32HU/1800mm |
| Side panel for Basis rack usable for right and left side, 40HU/2200mm |
| Side panel for Basis rack usable for right and left side, 48HU/2600mm |
| Side panel for Extension rack usable for right and left side, 32HU/1800mm |
| Side panel for Extension rack usable for right and left side, 40HU/2200mm |
| Side panel for Extension rack usable for right and left side, 48HU/2600mm |
| Back panel for Mandrel rack extension, 32HU/1800mm |
| Back panel for Mandrel rack extension, 40HU/2200mm |
| Back panel for Mandrel rack extension, 48HU/2600mm |

Rack ordering code:

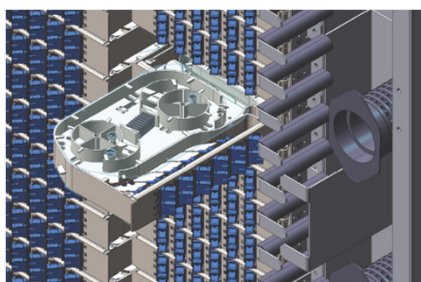
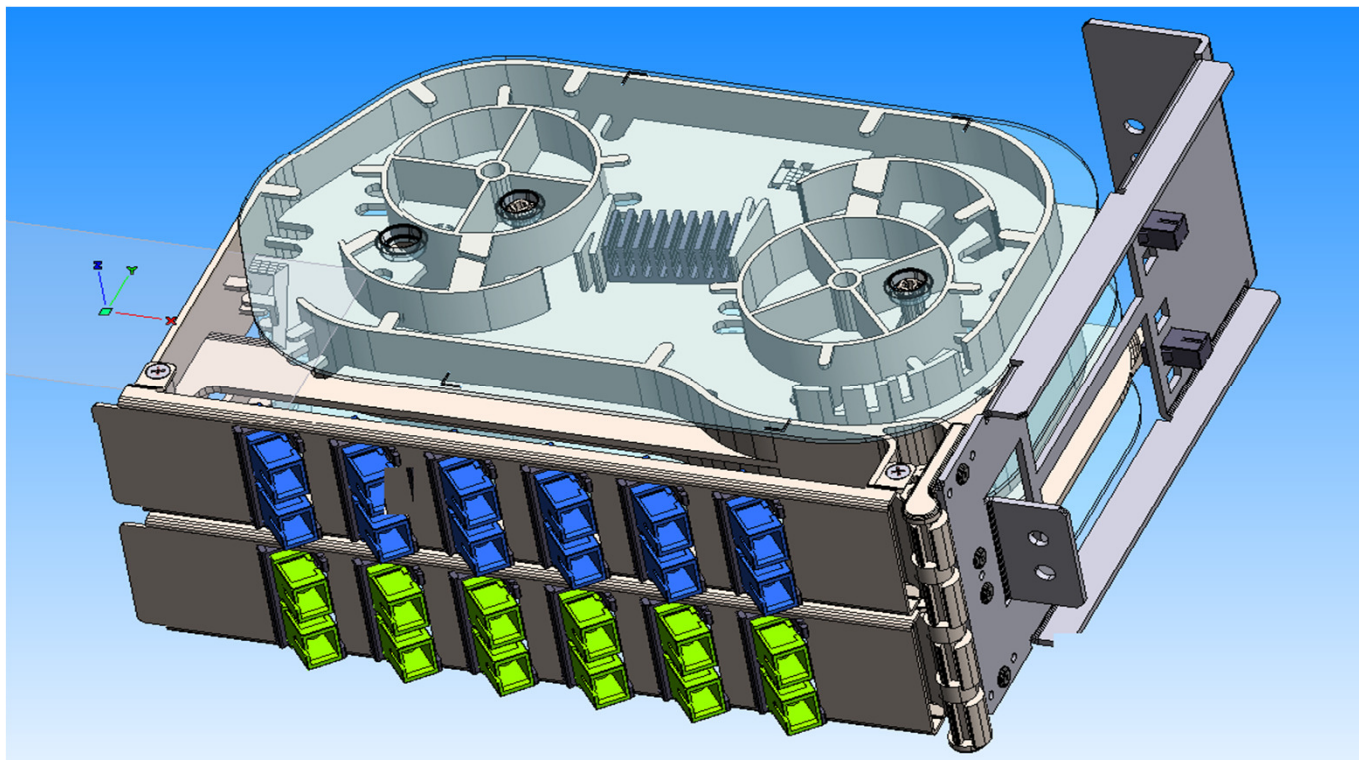
| Fiber Optic Distribution Rack | Rack width mm | Rack height in HU | Front door type | Back wall | Top cover | Special variant | | |
|-------------------------------|---------------|-------------------|-----------------|-----------|-----------|-----------------|----|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | 450 | | | | | | | Basic rack 450mm width with single row fiber modules |
| | 600 | | | | | | | Basic rack 600mm width with single row fiber modules |
| | 750 | | | | | | | Basic rack 750mm width with single row fiber modules |
| | 700 | | | | | | | Basic rack 700mm width with double row fiber modules |
| | 1000 | | | | | | | Basic rack 1000mm width with double row fiber modules |
| | 1300 | | | | | | | Basic rack 1300mm width with double row fiber modules |
| | | 32HU | | | | | | Basic rack 1800mm height |
| | | 40HU | | | | | | Basic rack 2200mm height |
| | | 48HU | | | | | | Basic rack 2600mm height |
| | | | ML | | | | | Mandrels on left side (viewed from front side of rack) |
| | | | MR | | | | | Mandrels on right side (viewed from front side of rack) |
| | | | MLR | | | | | Mandrels on left and right side (viewed from front side of rack) |
| | | | | GL | | | | Gasblockers on left side (viewed from front side of rack) |
| | | | | GR | | | | Gasblockers on right side (viewed from front side of rack) |
| | | | | GLR | | | | Gasblockers on left and right side (viewed from front side of rack) |
| | | | | | FO | | | Open rack |
| | | | | | F2 | | | with front door (1 for 600, 2 for 700/1000/1300 width, simple door knob) |
| | | | | | FL | | | with front door (1 for 600, 2 for 700/1000/1300 width, with integrated turning lever with lock) |
| | | | | | | B0 | | without back wall |
| | | | | | | B1 | | with back wall |
| | | | | | | | R0 | without top cover |
| | | | | | | | R1 | with top cover + brushes |
| | | | | | | | NN | 2 digits for special variants |

Accessories

| | |
|------|--|
| MS1 | Side-by-side; back-to-back fixing set |
| MSUB | Upper fixing set for bricks |
| MSUC | Upper fixing set for concrete |
| MSLC | Lower fixing set for concrete |
| MSLR | Lower fixing set for raised floor |
| PLI | Plinth with levelling feet (dimensions upon request) |
| DFF | Double floor frame (dimensions upon request) |



Fiber Modules:

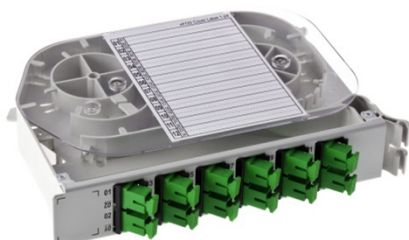


The multi-circuit management fiber modules of eFOS® are used as combined splice & patch modules. They offer highest fiber density together with best maintainability. Maximum flexibility is guaranteed with metal frontplates and 45° angled adapter holders for all conventional adapter types.

The fiber modules are available in 2 sizes:

- as half-size fiber modules with a height of 0,5 HU
- as full-size fiber modules with a height of 1 HU

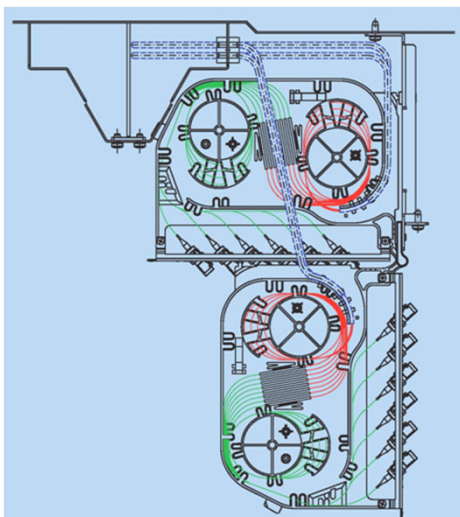
Fiber modules can be equipped with different adapter types or with a closed frontplate without adapters for a splice-through version (in this case, a loop-back connection of fibers can be provided via splices)



| | Fiber module capacity per adapter/connector system | | | | | | |
|------------------------|--|------|----------------------|------|--------------------|-------|-------|
| | SCsx | LCdx | E2000 ^{*1)} | LX.5 | URM ^{*2)} | ST | FC |
| | Max. amount of adapters | | | | | | |
| Half-size fiber module | 6 | 6 | 6 | 6 | - | 6 | 6 |
| Full-size fiber module | 12/16 | 12 | 12/16 | 12 | 6 | 12/16 | 12/16 |
| | Max. amount of pigtails | | | | | | |
| Half-size fiber module | 6 | 12 | 6 | 12 | - | 6 | 6 |
| Full-size fiber module | 12/16 | 24 | 12/16 | 24 | 24 | 12/16 | 12/16 |
| | Max. amount of splices | | | | | | |
| Half-size fiber module | 6 | 12 | 6 | 12 | - | 6 | 6 |
| Full-size fiber module | 12/16 | 24 | 12/16 | 24 | 48 | 12/16 | 12/16 |

*1) E2000 can be implemented as simplex or as duplex version.

*2) URM is a registered trademark of euromicron Germany. URM is implemented in eFOS® as 8-port adapter system, each adapter connecting 8 fibers via 4 duplex pigtails/patchcords.



Material of the LSZH fiber modules is mixed Polycarbonat / ABS. The symmetrical design of the multi-circuit management fiber modules enables to use the same module for left- and right-side mounting. A uniform module color optimizes stockkeeping, while individual threefold color code labelling (on front, side and cover) offers fast and clear module and fiber identification.

Features:

- Fiber modules are 90 degrees rotatable and removable from the rack
- Incoming fibers and pigtails are stored in separate areas
- Easy to snap in adapter holders (except for URM system) enable comfortable cleaning of pigtail-connector ferrules by taking off the adapter holders. URM adapters are screwed to the angled URM-frontplate
- Same splice protection holder for both shrink and crimp splice protection
- Two-sided, easy to remove transparent covers per fiber module
- Bending radius protection for all fibers and pigtails
- Overlength storage of incoming cable subtube is possible on the bottom side of the module
- Integration of splitters up to 1x64 possible

Scope of delivery of a fiber module is fiber tray, frontplate, angled adapter holders, fiber protection pipe holder, shrink/crimp rubber splice holder, 2 transparent covers, inserted adapters and pigtails, threefold labelling, fixation element for protection tube as well as door latch. Shrink / crimp splice protection is not delivered with the fiber module, and has to be ordered separately.

Fiber modules – Ordering Information:

| | <i>Adapter type</i> |
|--|---------------------------|
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 SCsx UPC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 SCsx UPC Swing shutter |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 E2000sx UPC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 LCdx UPC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 LX.5dx UPC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 ST UPC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 FC UPC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 8 SCsx UPC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 8 SCsx UPC Swing shutter |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 8 E2000sx UPC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 8 ST UPC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 8 FC UPC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 SCsx UPC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 SCsx UPC Swing shutter |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 E2000sx UPC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 6 E2000dx UPC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 LCdx UPC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 LX.5dx UPC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 6 URM 8-port UPC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 ST UPC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 FC UPC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 16 SCsx UPC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 16 SCsx UPC Swing shutter |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 16 E2000sx UPC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 8 E2000dx UPC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 16 ST UPC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 16 FC UPC |

“x” has to be replaced with digit “3” for LEFT Fiber tray
 “x” has to be replaced with digit “4” for RIGHT Fiber tray

Fiber modules – Ordering Information:

| | <i>Adapter type</i> |
|--|---------------------------|
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 SCsx APC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 SCsx APC Swing shutter |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 E2000sx APC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 LCdx APC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 LX.5dx APC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 FC APC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 8 SCsx APC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 8 SCsx APC Swing shutter |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 8 E2000sx APC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 8 FC APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 SCsx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 SCsx APC Swing shutter |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 E2000sx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 6 E2000dx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 LCdx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 LX.5dx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 6 URM 8-port APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 FC APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 16 SCsx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 16 SCsx APC Swing shutter |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 16 E2000sx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 8 E2000dx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 16 FC APC |

“x” has to be replaced with digit “3” for LEFT Fiber tray

“x” has to be replaced with digit “4” for RIGHT Fiber tray

Remark: full-size Fiber modules support 2 Fiber protection tubes / half-size Fiber modules support 1 Fiber protection tube

Fiber modules – Ordering Information:

| | <i>Adapter type</i> |
|--|---------------------------|
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 SCsx APC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 SCsx APC Swing shutter |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 E2000sx APC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 LCdx APC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 LX.5dx APC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 6 FC APC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 8 SCsx APC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 8 SCsx APC Swing shutter |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 8 E2000sx APC |
| Fiber module half-size (0,5HU) with mounted adapter + pigtails G657A | 8 FC APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 SCsx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 SCsx APC Swing shutter |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 E2000sx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 6 E2000dx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 LCdx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 LX.5dx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 6 URM 8-port APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 12 FC APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 16 SCsx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 16 SCsx APC Swing shutter |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 16 E2000sx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 8 E2000dx APC |
| Fiber module full-size (1 HU) with mounted adapter + pigtails G657A | 16 FC APC |

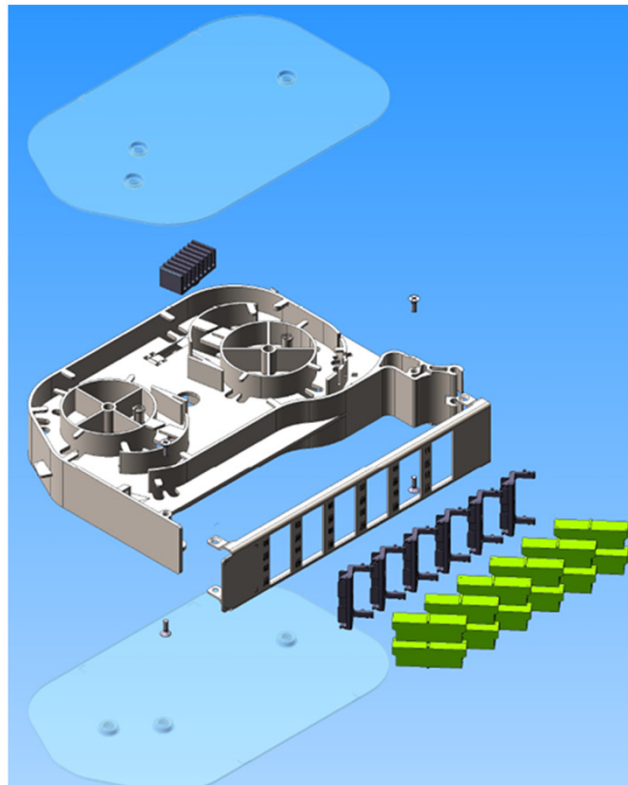
“x” has to be replaced with digit “3” for LEFT Fiber tray

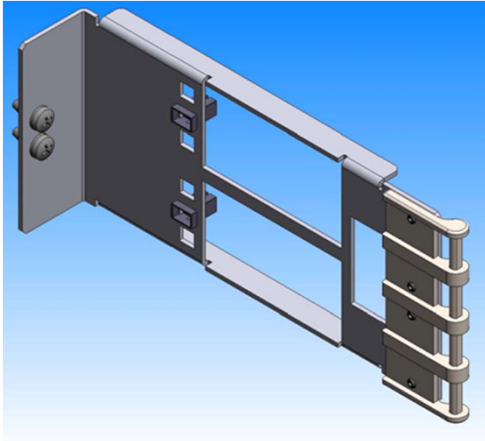
“x” has to be replaced with digit “4” for RIGHT Fiber tray

Remark: full-size Fiber modules support 2 Fiber protection tubes / half-size Fiber modules support 1 Fiber protection tube

Fiber Module ordering code:

| Fiber Optic Module | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
|--------------------|--------------|-----------------|------------------|------------|-------------------|-----------------|----------------|------------------|---|--|
| Height of tray | Cut out type | Adapter mounted | Number of fibers | Fiber type | Pigtails inserted | Splitter module | Fiber diameter | Special variants | | |
| FOM | | | | | | | | | | Fiber Optic Module |
| H6 | | | | | | | | | | 0.5 HU half size module with 6 adapter positions incl. frontplate+adapter holder+shrink/crimp splice holder+2 transparent covers |
| H8 | | | | | | | | | | 0.5 HU half size module with 8 adapter positions incl. frontplate+adapter holder+shrink/crimp splice holder+2 transparent covers |
| F12 | | | | | | | | | | 1 HU full-size module with 12 adapter positions incl. frontplate+adapter holder+shrink/crimp splice holder+2 transparent covers |
| F16 | | | | | | | | | | 1 HU full-size module with 16 adapter positions incl. frontplate+adapter holder+shrink/crimp splice holder+2 transparent covers |
| | .00 | | | | | | | | | Splice-through version without cutout, without adapter holder |
| | .12 | | | | | | | | | FC/APC |
| | .13 | | | | | | | | | FC/APC |
| | .22 | | | | | | | | | SC/APC |
| | .23 | | | | | | | | | SC/APC |
| | .28 | | | | | | | | | SC/APC with integrated swing shutter |
| | .29 | | | | | | | | | SC/APC with integrated swing shutter |
| | .32 | | | | | | | | | ST/APC |
| | .42 | | | | | | | | | LCdx/APC |
| | .43 | | | | | | | | | LCdx/APC |
| | .72 | | | | | | | | | E2000sx/APC |
| | .73 | | | | | | | | | E2000sx/APC |
| | .74 | | | | | | | | | E2000sx/APC |
| | .75 | | | | | | | | | E2000sx/APC |
| | A2 | | | | | | | | | LX 5/APC |
| | A3 | | | | | | | | | LX 5/APC |
| | B2 | | | | | | | | | URM/APC (8-port adapter system with duplex connectors/batchcords) |
| | B3 | | | | | | | | | URM/APC (8-port adapter system with duplex connectors/batchcords) |
| | N | | | | | | | | | Without adapters |
| | W | | | | | | | | | With mounted adapters |
| | | | .nn | | | | | | | Number of fibers |
| | | | | 1 | | | | | | SM G652 C/D |
| | | | | 2 | | | | | | SM G657 A |
| | | | | 3 | | | | | | SM G657 B |
| | | | | 4 | | | | | | G62.5 OM2 |
| | | | | 5 | | | | | | G50 OM2 |
| | | | | 6 | | | | | | G50 OM2+ |
| | | | | 7 | | | | | | G50 OM3 |
| | | | | 8 | | | | | | G50 OM4 |
| | | | | N | | | | | | Without pigtails |
| | | | | W | | | | | | With inserted pigtails (stripped) |
| | | | | | | SP | | | | splitter modules |
| | | | | | | | 250d | | | Color coded easy strip dismantled Fiberpigtails |
| | | | | | | | 250n | | | Color coded easy strip not dismantled Fiberpigtails |
| | | | | | | | | NN | | Special variants |





Module carrier unit:

The eFOS® module carrier unit accommodates the Fiber module and enables the rotation of the Fiber module in the rack and the removal of Fiber modules from the rack. A flexible mix of half-size and full-size Fiber modules is possible by using 4 different sizes of carrier modules (2, 4, 6, 8 HU). 8HU is the standard module carrier unit. Material: powder coated steel. Color: RAL 7035 light grey.



Fiber protection:

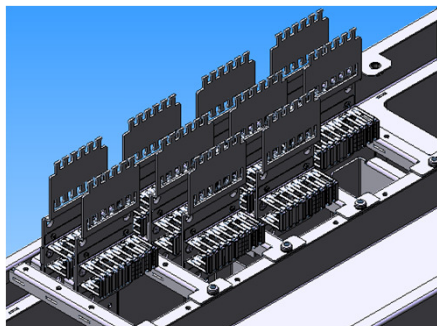
eFOS® offers two types of fiber protection types for incoming cables. **Miniflex** slit version kink resistance is used for optimal bending radius limitation of incoming loose tube cables, **Speedpipe** protection pipes offer the possibility to blow-in fibers directly up to the splice modules.

| Miniflex: | Type: |
|---|---------------------------|
| Miniflex tube - slotted PBT tube ID=3,1mm AD= 5,0mm black, slit version | OFPT-S-5.0-3.1-PBT-BLK-VO |
| Speedpipe: | |
| Speedpipe indoor, ø 5x0,50 | |



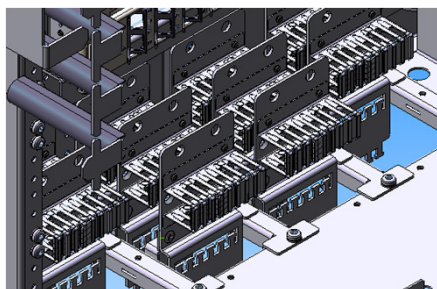
Miniflex fiber protection tubes are usually delivered separately (cut to correct lengths) with each rack. All fiber protection tubes have an outside diameter of 5,0 mm.

With **Speedpipe** protection tubes a pre-installation ist possible by using our cable feeding tool.



Cable clamp set:

The eFOS® cable clamp sets are mounted on top or on the bottom side of the cabinet and secure the strain relief of incoming cables and also serve as hold point for the cable conduits. Optionally also the central strength member of incoming cables can be fixed. A cable clamp set includes cable clamp, mounting rail, protection bar and screws. Material: powder coated steel. Color: RAL 7035 light grey



| Cable clamp set |
|--|
| Cable clamp set for multi-tube cables without strain relief |
| Cable clamp set for multi-tube cables with strain relief |
| Cable clamp set for single-tube cables without strain relief |
| Cable clamp set for single-tube cables with strain relief |

The same cable clamp sets can be used for top and bottom rack mounting (have to be turned upside-down for bottom mounting, as shown in the drawing).



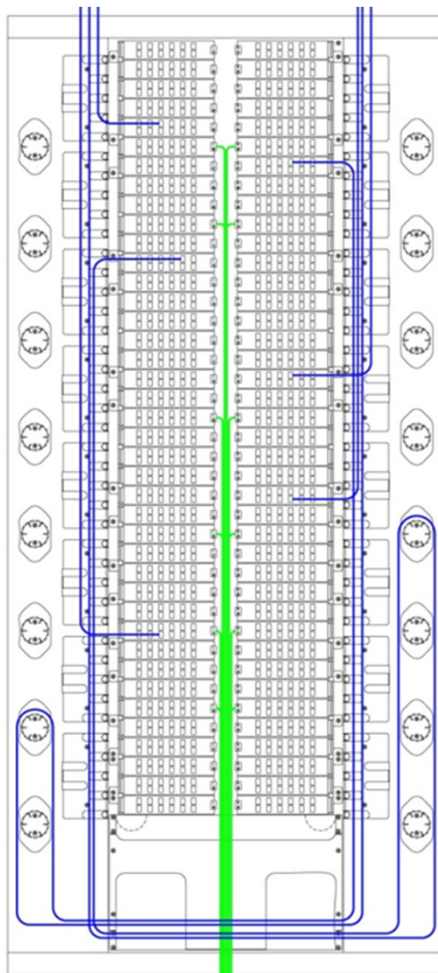
Fixing sets

Several fixing sets are available for eFOS to mount the racks to the wall, to the floor or to mount multiple racks side-by-side oder back-to-back to each other.

| Fixing set |
|--|
| Side-by-side / back-to-back fixing set |
| Upper fixing set for bricks |
| Upper fixing set for concrete |
| Lower fixing set for concrete |
| Lower fixing set for raised floor |
| Plinth with levelling feet |

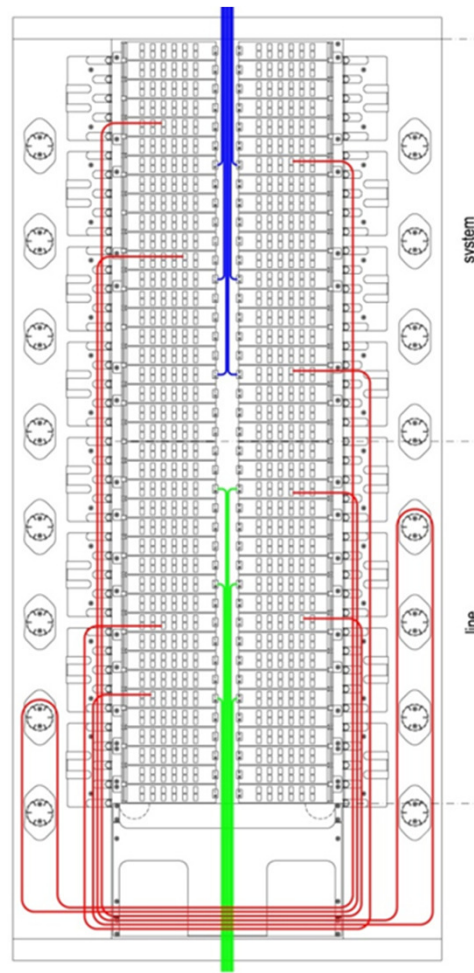
eFOS Configurations:

The main application of eFOS® is Fiber termination in Central Offices of FTTH networks. The eFOS® distribution/patch system can be placed as distribution node within the passive distribution network or between active components and the passive distribution network. Please find below some examples for different eFOS® configurations.



Interconnect configuration:
bottom cables to LINE, external patching and upper patchcord connection with SYSTEM rack

- internal patchcord connection (cross-connection)
- external patchcord/cable connection (interconnection)
- incoming/outgoing cable (line)



Cross-connect configuration:
bottom cables to LINE, internal patching and upper external patchcord connection with SYSTEM rack

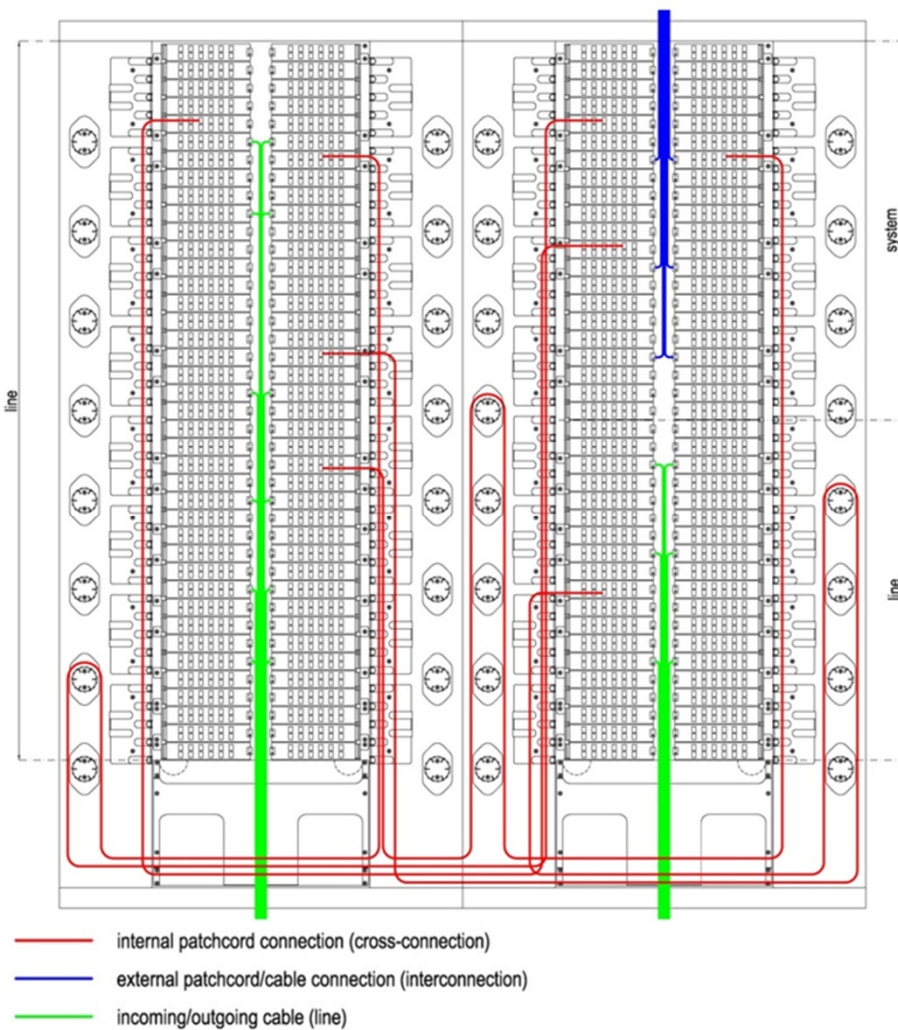
- internal patchcord connection (cross-connection)
- external patchcord/cable connection (interconnection)
- incoming/outgoing cable (line)

LINE....connection to passive optical distribution network
SYSTEM.....connection to active optical equipment (transmitter, receiver)

Recommended patchcord length is:

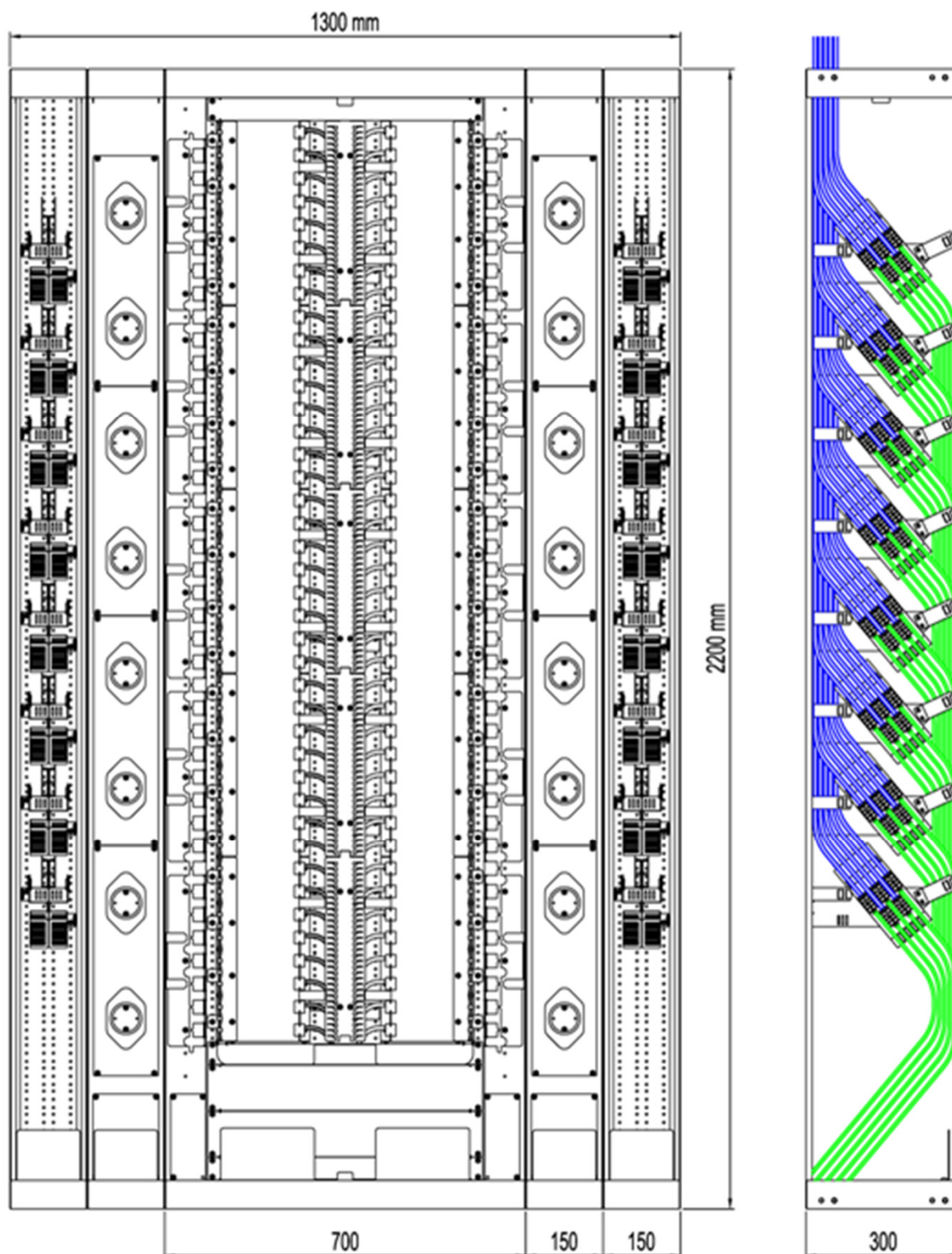
- 5m within the same rack
- 6m for patchcord connections to adjacent rack

eFOS Configurations:



Cross-connect configuration with 2 racks:
 bottom cables to LINE,
 internal patching between
 racks and upper external
 patchcord connection with
 SYSTEM rack

Dimensions of eFOS rack (example configuration):



eFOS planning process:

The eFOS® planning process usually starts with the selection of the adapter system. With the required Fiber termination capacity and the type of incoming cables, the cable management (cable clamp set, fiber protection type and installation variant) can be determined. Next step is the assignment of fiber terminations to fiber modules. This leads to the selection of fiber module types (0,5 HU / 1 HU), the determination of fiber module ordering code and the required amount of each fiber module type. With the given limitations for the rack types (dimensions, open/closed versions) the type and amount of required racks can be calculated. With this figure, a floor plan can be created and the rack ordering code can be determined.

