Ribbon End-to-End Solution

Edition Q1/2025

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HUBER+SUHNER

Revolutionise your data center management with the Ribbon End-to-End solution

In today's digital world, gaining a competitive edge means embracing innovation. The Ribbon End-to-End Solution from HUBER+SUHNER sets new standards for data center management. With mass-fusion splicing, a space-saving design, and cutting-edge technology, we enable unprecedented efficiency, reduced downtime, and faster deployments.

Optimized Total Cost of Ownership (TCO)

The space-saving design enhances future scalability by increasing port density in racks and simplifying installation efforts.

Faster deployment and roll-out

Mass-fusion splicing reduces splicing time, while the dry cable design eliminates the need for gel, streamlining cable processing. Optimized coiling and placement options further enhance cable management.

Higher operational efficiency

Fewer technicians are needed due to easy processing; therefore, reducing maintenance costs with improved handling. The system integrates seamlessly with LISA and IANOS for streamlined management.

Components of the Ribbon End-to-End Solution

OptiRibbon and OptiSlim cables are engineered for mass-fusion splicing and feature superior stripping properties for quick and hassle-free processing.

The LISA is a trusted, high-density fiber management system which is designed to maximize fiber efficiency. Optical Distribution Frame (ODF) LISA can support up to 28,000 fibers, making it the perfect choice for meet-me rooms and high-capacity distribution zones.

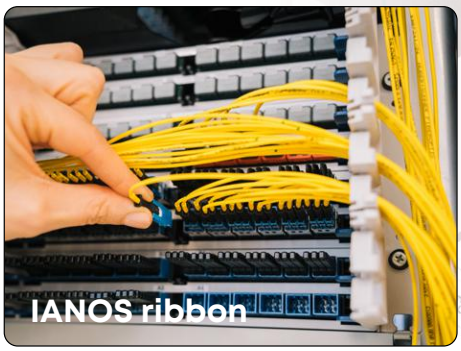
The IANOS Connectivity System is a cutting-edge modular fiber management platform designed for top-of-rack, backbone, and cross-connect applications in 19 inch cabinets

The Ribbon Splice Box (RSB) is a highly efficient splice-through panel designed for ODF and 19 inch cabinets, offering outstanding splicing density.

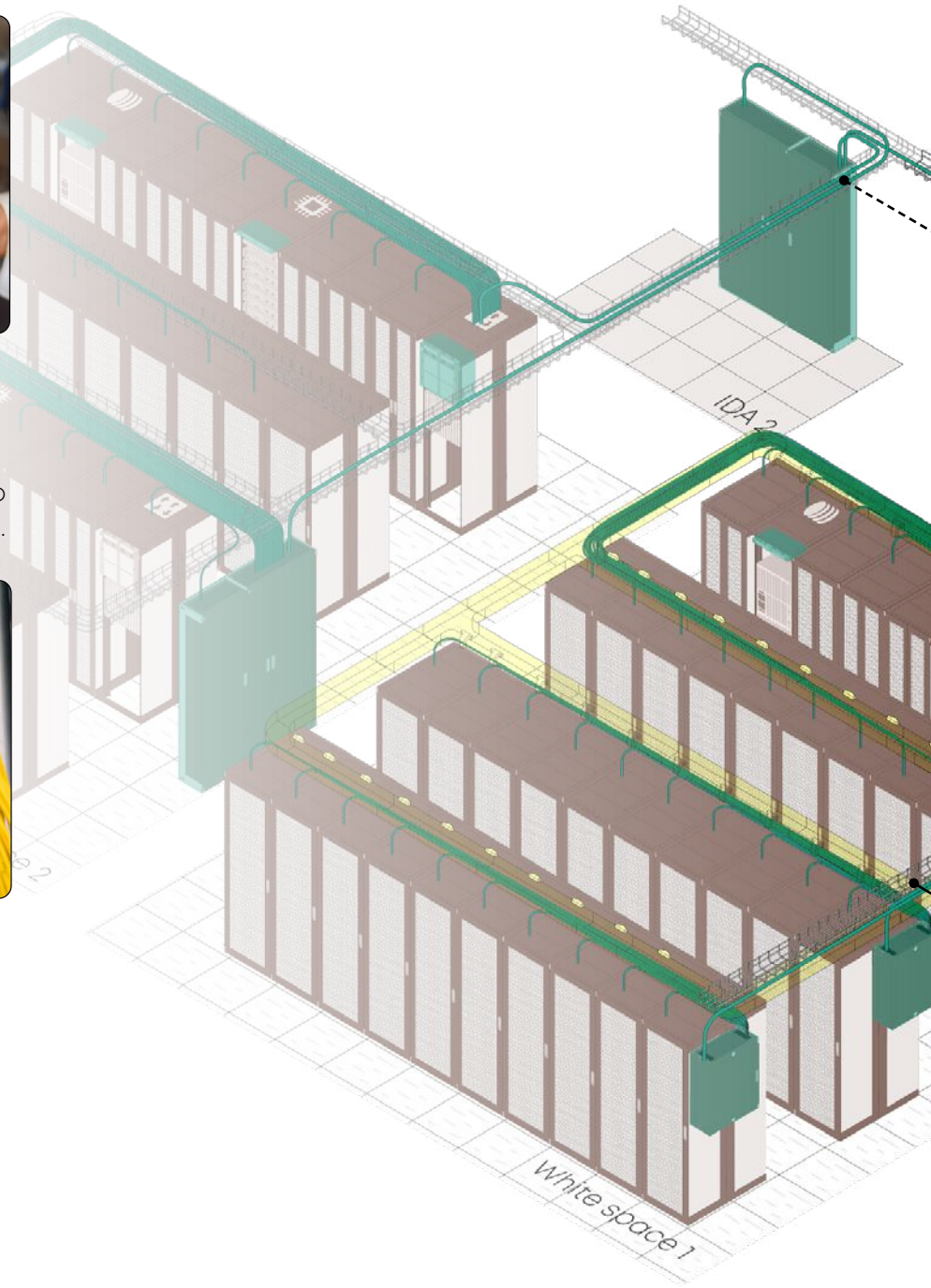
Ribbon End-to-End Solution at a glance

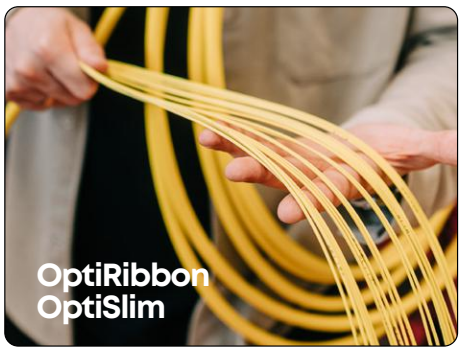
Our Ribbon End-to-End solution, complements our data center and central office portfolio with ribbon fibers ranging from building entry point to the white space.

LISA ribbon system consists of chassis and cassettes containing OptiRibbon fibers that can be mounted in 300 mm deep racks to create optical distribution frames.



IANOS ribbon contains modules equipped with OptiRibbon fibers, which are added to IANOS chassis.

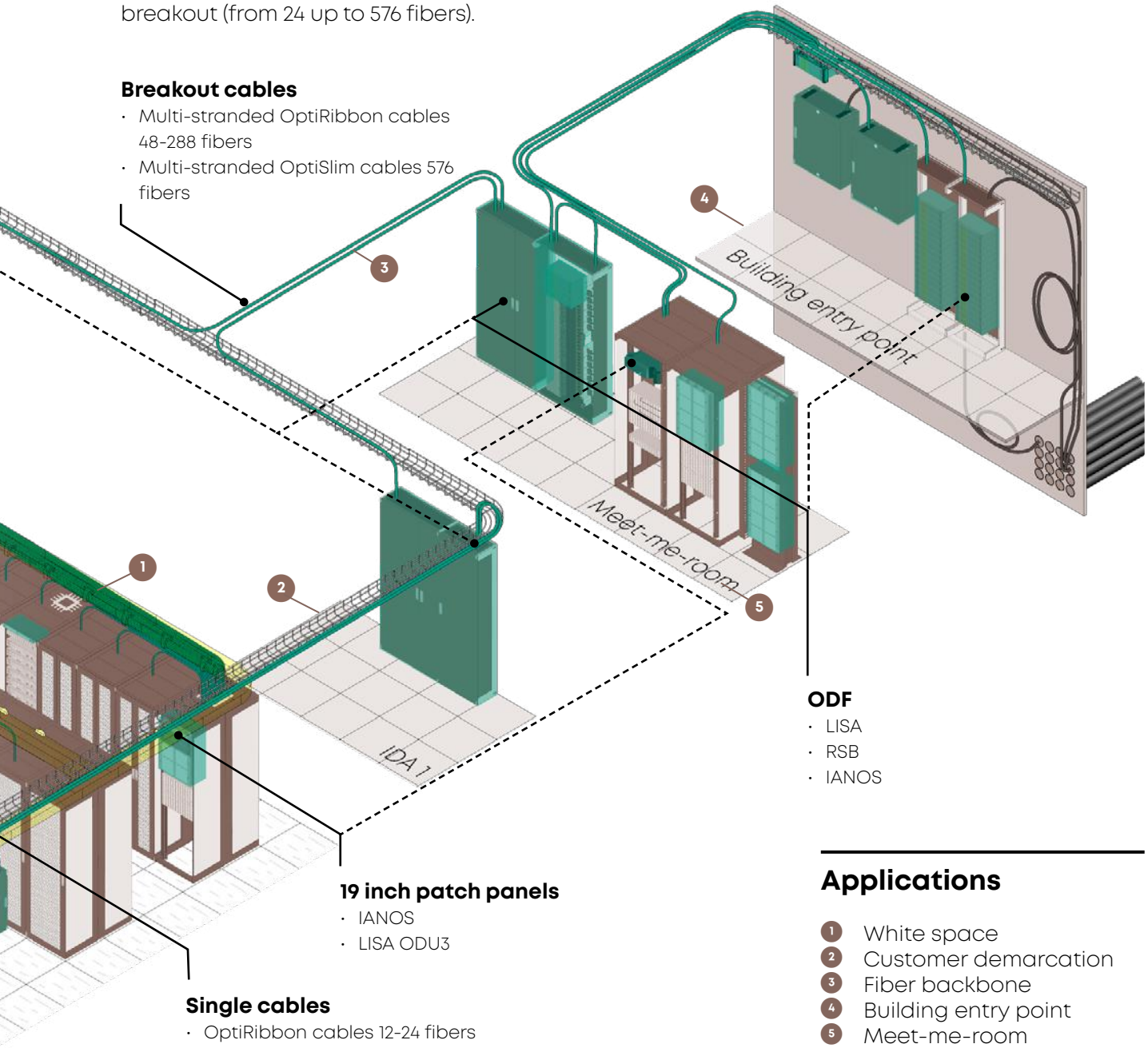




OptiRibbon OptiSlim is a family of fiber optic cables with flexible ribbons and loose fibers for data center applications, single-stranded (12 or 24 fibers) or breakout (from 24 up to 576 fibers).

RSB allows to splice incoming flat, flexible ribbons or loose from outside cables to OptiRibbon cables. Suitable for floor, wall racks and cabinets.

Breakout cables
- Multi-stranded OptiRibbon cables 48-288 fibers
- Multi-stranded OptiSlim cables 576 fibers



ODF
- LISA
- RSB
- IANOS

19 inch patch panels
- IANOS
- LISA ODU3

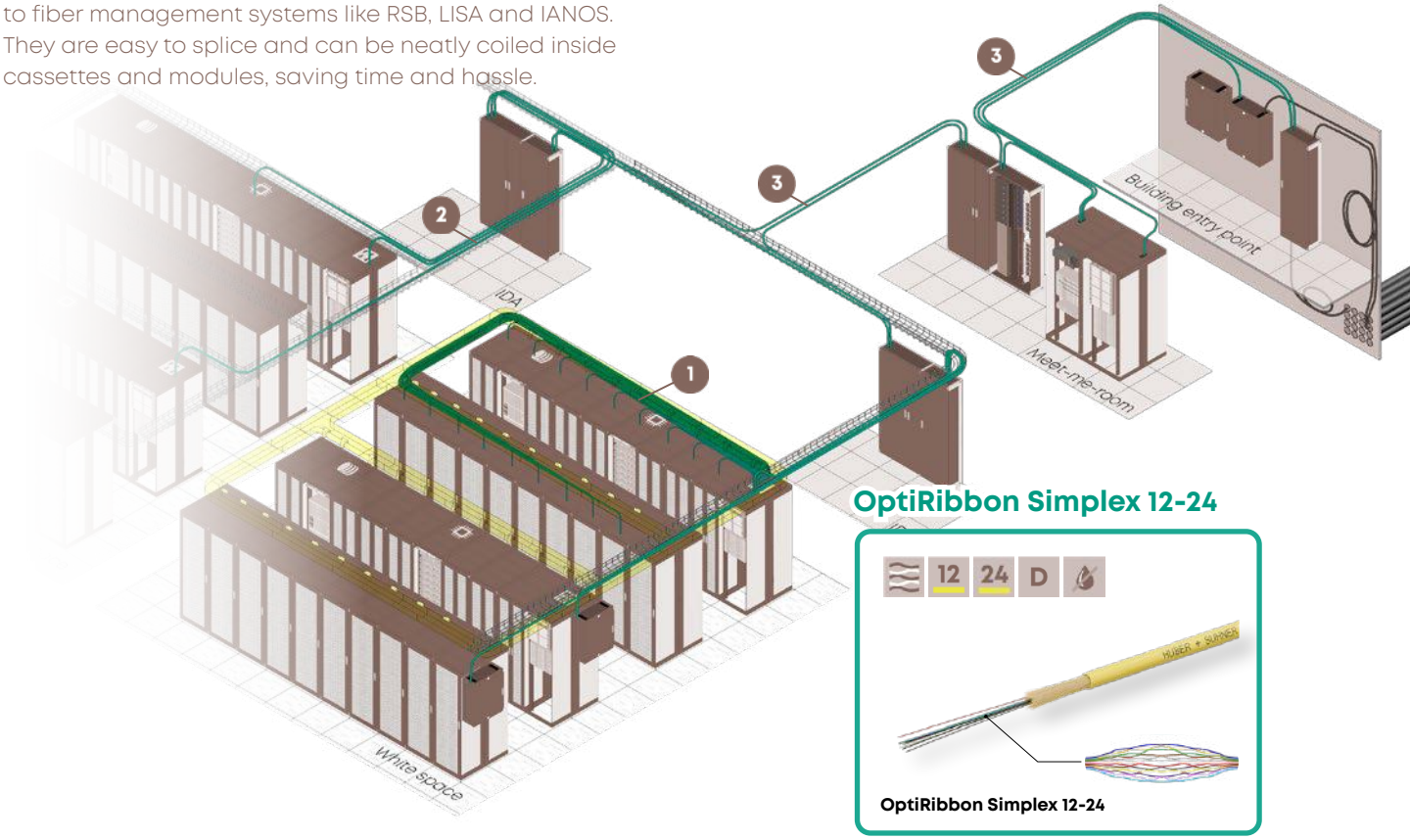
Single cables
- OptiRibbon cables 12-24 fibers

Applications

1. White space
2. Customer demarcation
3. Fiber backbone
4. Building entry point
5. Meet-me-room

Featuring OptiRibbon cables

Reduce installation time and space in pathways with OptiRibbon cables. Cables are designed to fit perfectly to fiber management systems like RSB, LISA and IANOS. They are easy to splice and can be neatly coiled inside cassettes and modules, saving time and hassle.

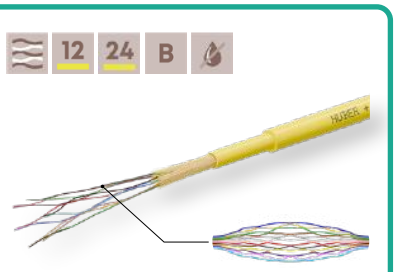


OptiRibbon Simplex 12-24

OptiRibbon Simplex 12-24

- One 12- or 24- fiber strand, 1 or 2 ribbons
- Small, robust but soft
- Fast preparation and installation

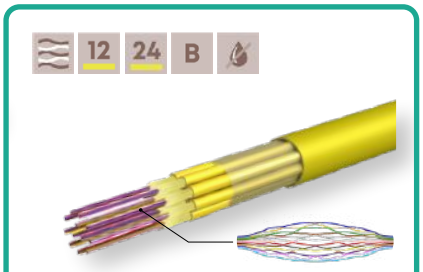
OptiRibbon DJ 12-24



OptiRibbon DJ 12-24

- One 12- or 24- fiber strand, 1 or 2 ribbons
- Small, robust but soft
- Fast preparation and installation

OptiRibbon Breakout 48-288



OptiRibbon Breakout 48-288

- Multiple 12- or 24- fiber strands, 1 or 2 ribbons each
- Small, robust but soft
- 48 to 288 fibers

Applications

1 Customer demarcation

OptiRibbon DJ or simplex cables can be used to connect customer edge equipment from the white space to the distributor.

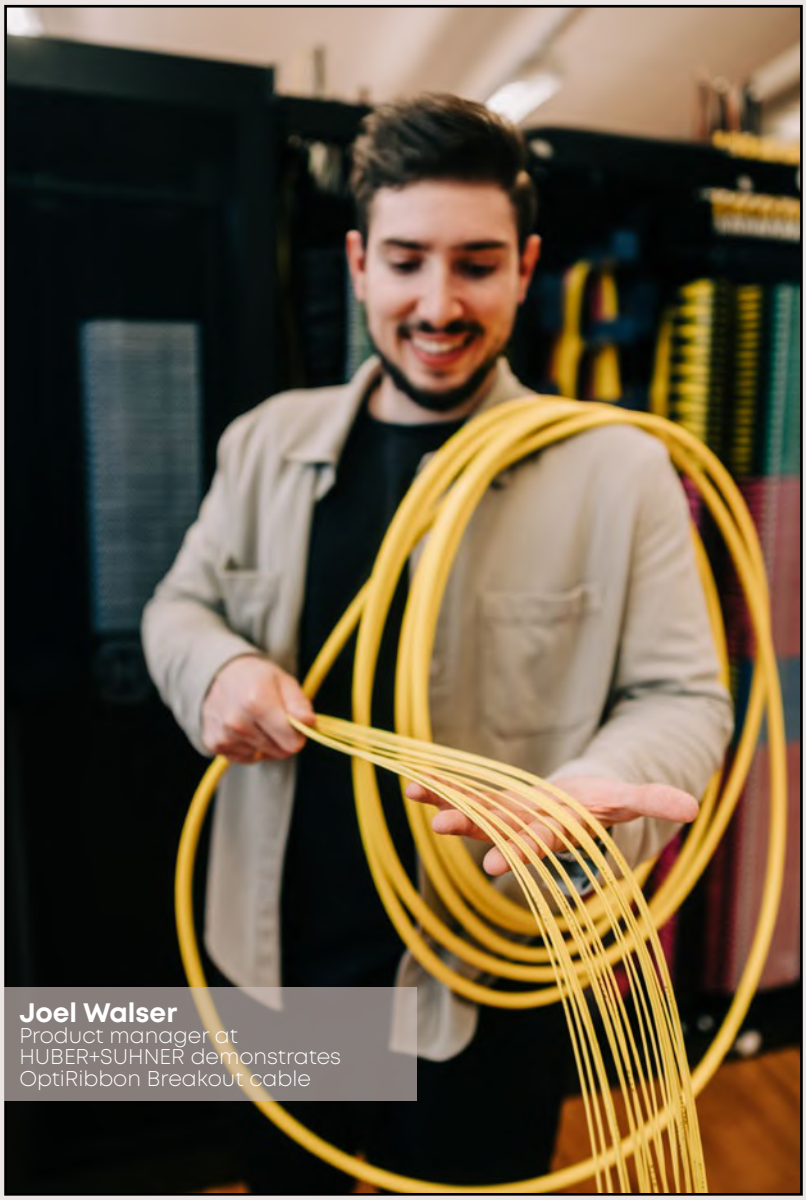
2 White space

OptiRibbon DJ or simplex cables can be used to connect customer equipment inside the white space.

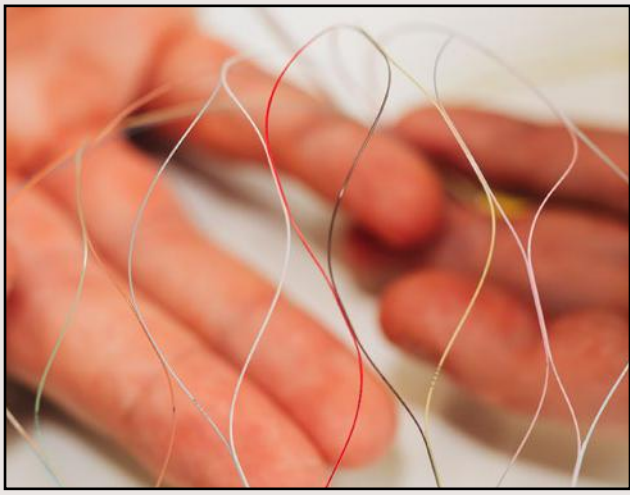
3 Fiber backbone

OptiRibbon Breakout 48-288 cables can be used to connect various distributors.

Up **to 60 % faster** splicing with OptiRibbon. Over the course of a full workday, this adds up to huge time savings helping you **get more done** with fewer resources.



Joel Walser
Product manager at
HUBER+SUHNER demonstrates
OptiRibbon Breakout cable



Recommended for High-Safety Buildings

For better fire safety, the cable industry recommends using B2ca-class cables in buildings and at least Cca-class cables in high-safety structures like data centres.

Splice OptiRibbon fast and easy

OptiRibbon enables faster mass fusion splicing, reducing downtime and maintenance in data centers.
OptiRibbon can be successfully spliced using single fusion splicing as well.

FMS compatible

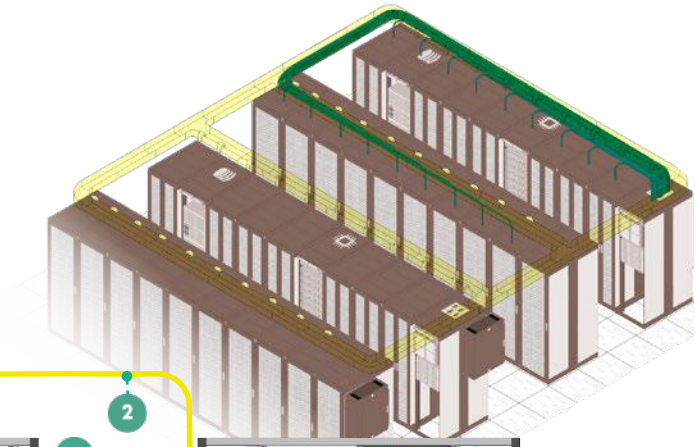
The cable construction and fiber is compatible with FMS (fiber management systems), like LISA and IANOS and can be easily spliced and coiled inside cassettes and modules.

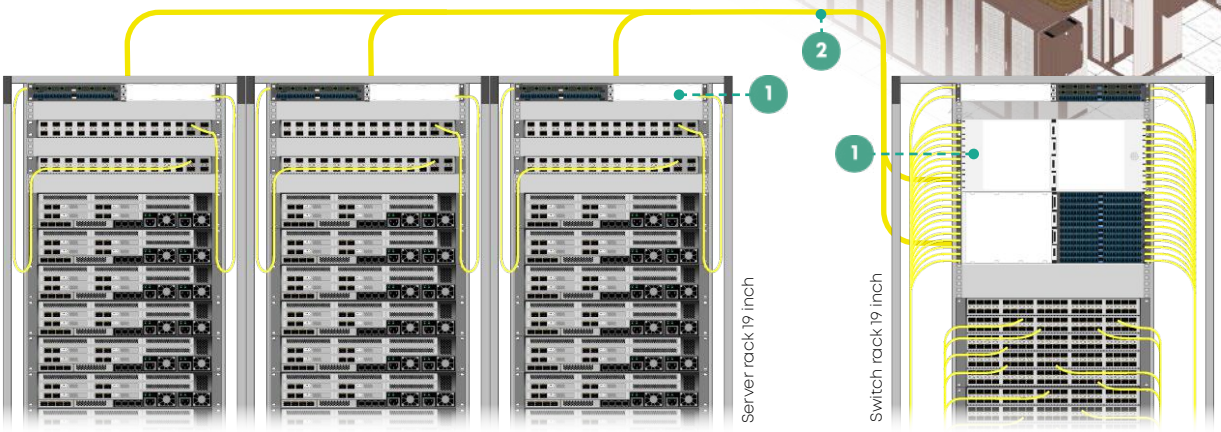
Applications

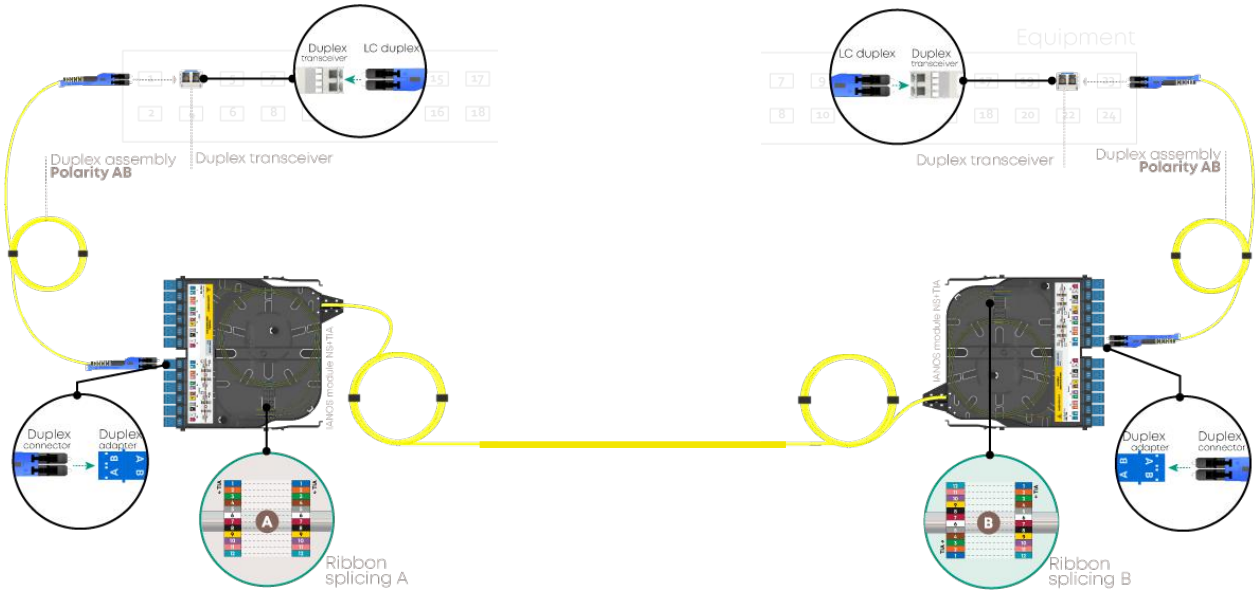
OptiRibbon DJ on a white space

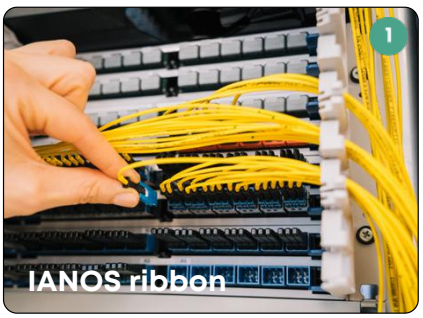
Use 12- or 24- OptiRibbon DJ for interconnection of tenants's active equipment on a white space.

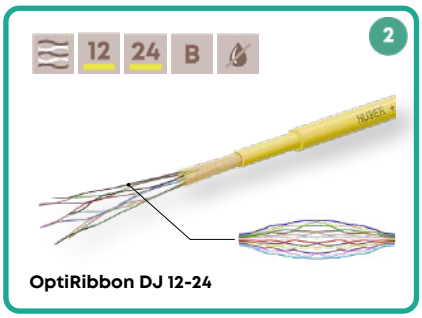
Due to faster splicing, more permanent links can be installed at the same time compared to a conventional splicing approach.







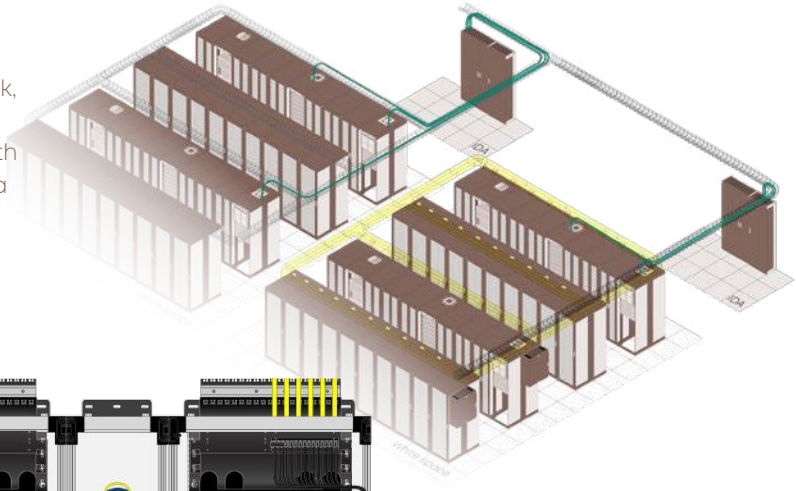


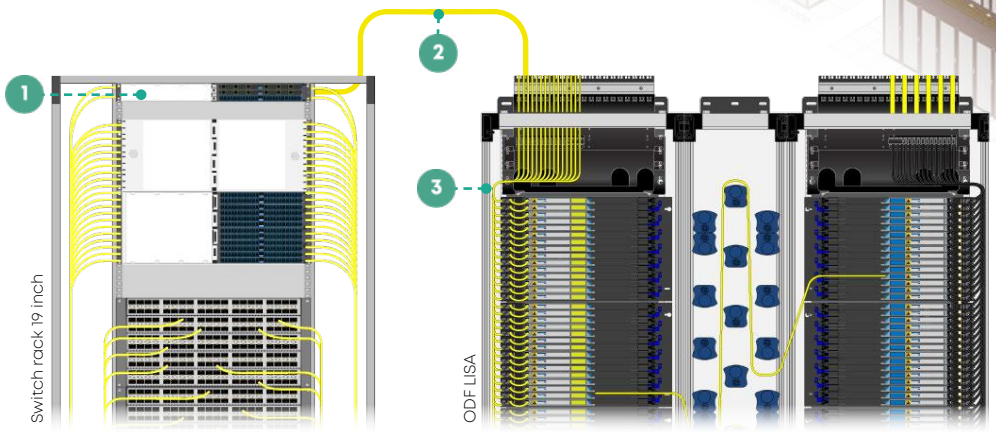


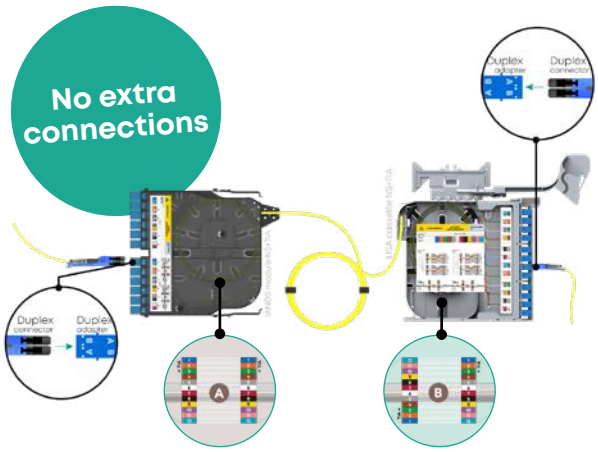
OptiRibbon DJ for customer demarcation

Use the 12- or 24-OptiRibbon DJ to connect end customers to the fiber backbone.

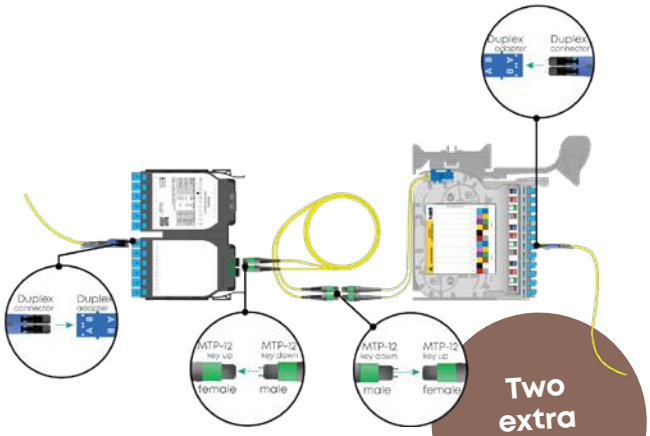
Planning pre-terminated cables can be a tedious task, but ribbon splicing simplifies the process. Deploy the cable without pre-measuring, cut it to the exact length needed, and splice it inside the module. The result is a permanent link with greater optical performance.



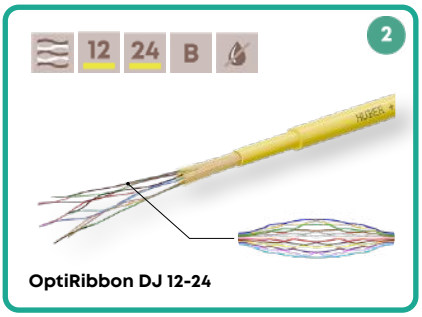




Permanent link using splicing

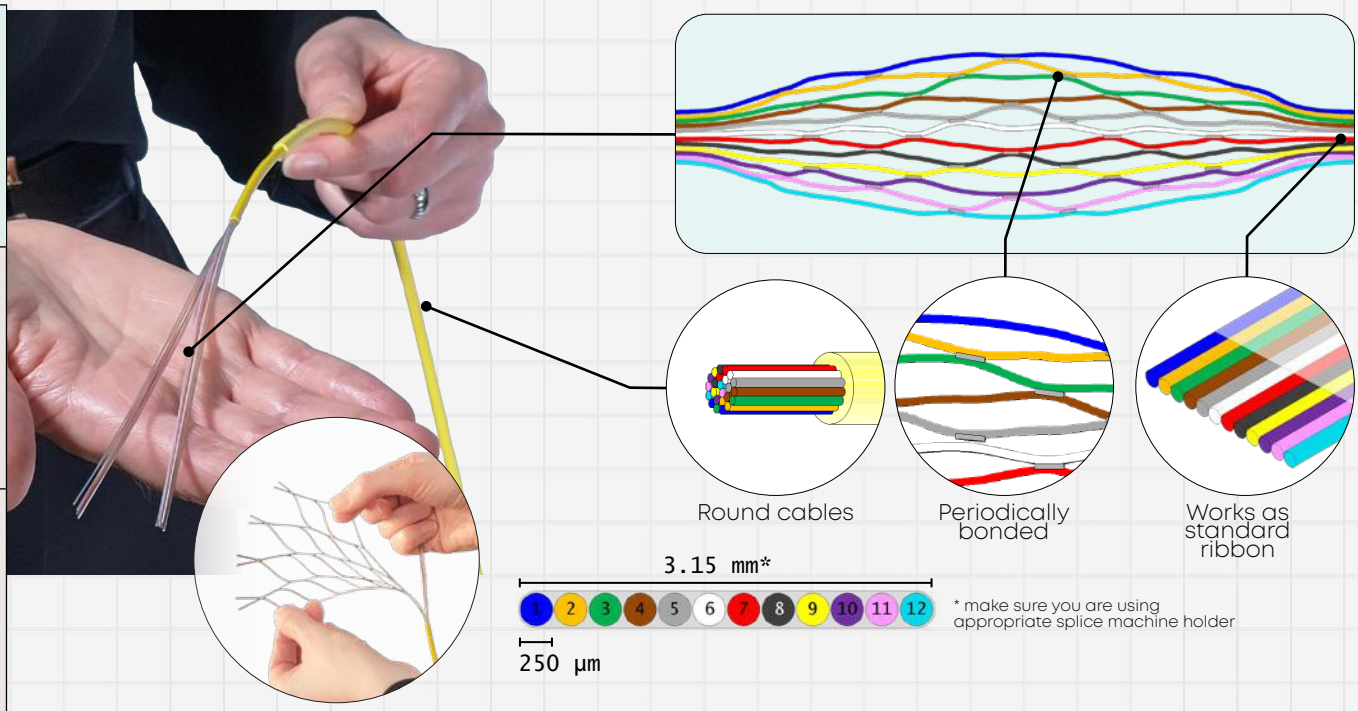


Permanent link using pre-terms

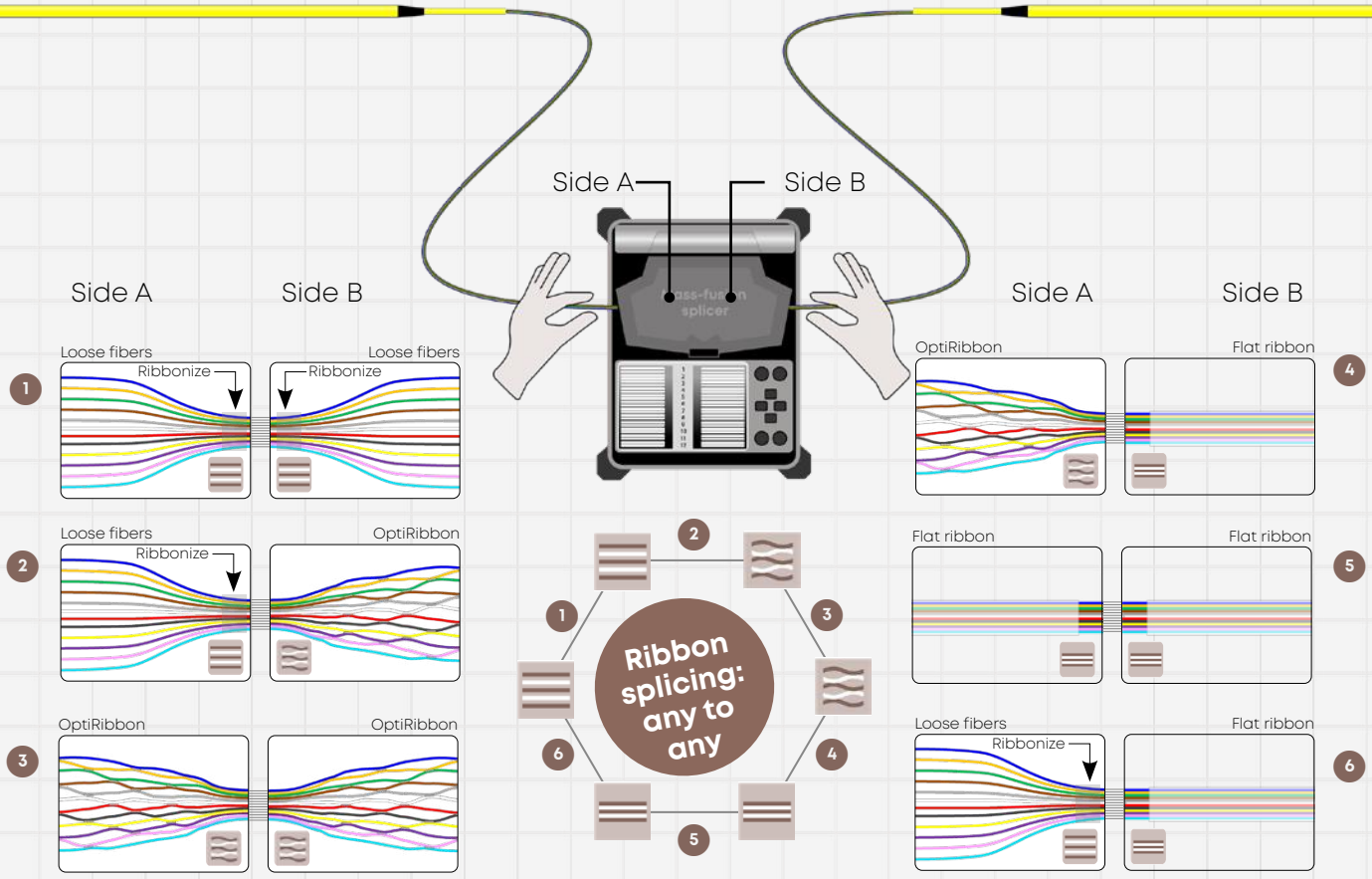


Technical overview

OptiRibbon fiber construction



Mass fusion splicing of different fiber types

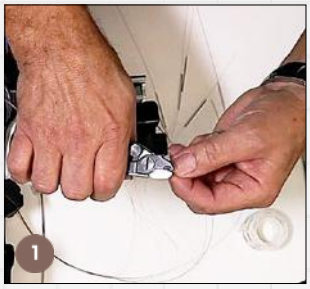


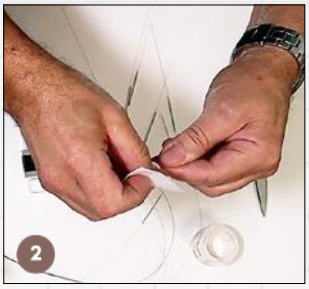
Benefits of using OptiRibbon fiber

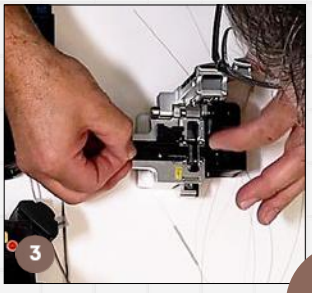
The approximate timing of single splicing a 24x fiber by an experienced technician

1	Stripping
2	Cleaning
3	Cleaving
4	Fusion
5	Protection
6	Coiling

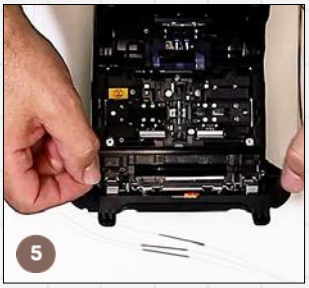
Total time: 45 min

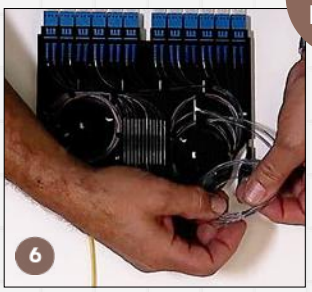


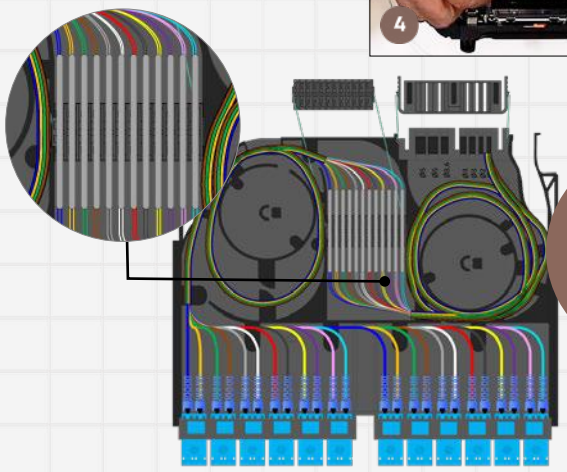




45 min.

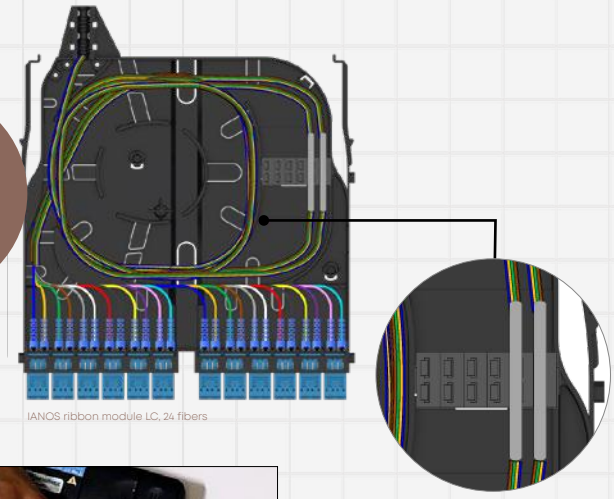






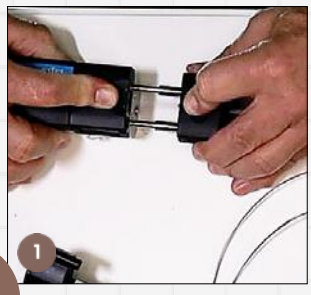
IANOS standard module LC, 24 fibers

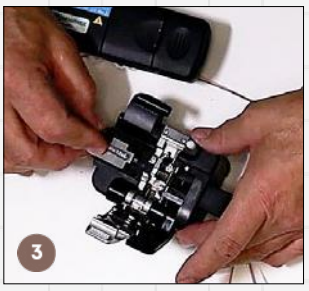
30 min. time saved

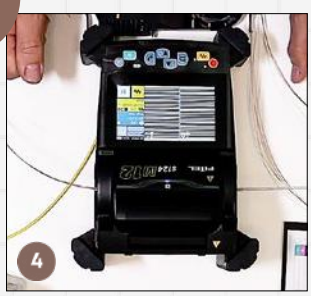


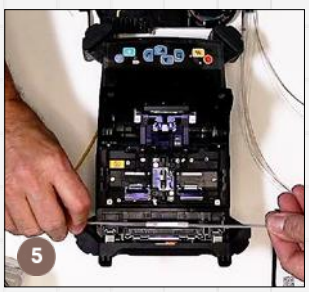
IANOS ribbon module LC, 24 fibers

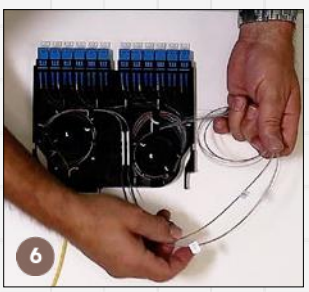
15 min.











The approximate timing of mass splicing a 24x fiber by an experienced technician

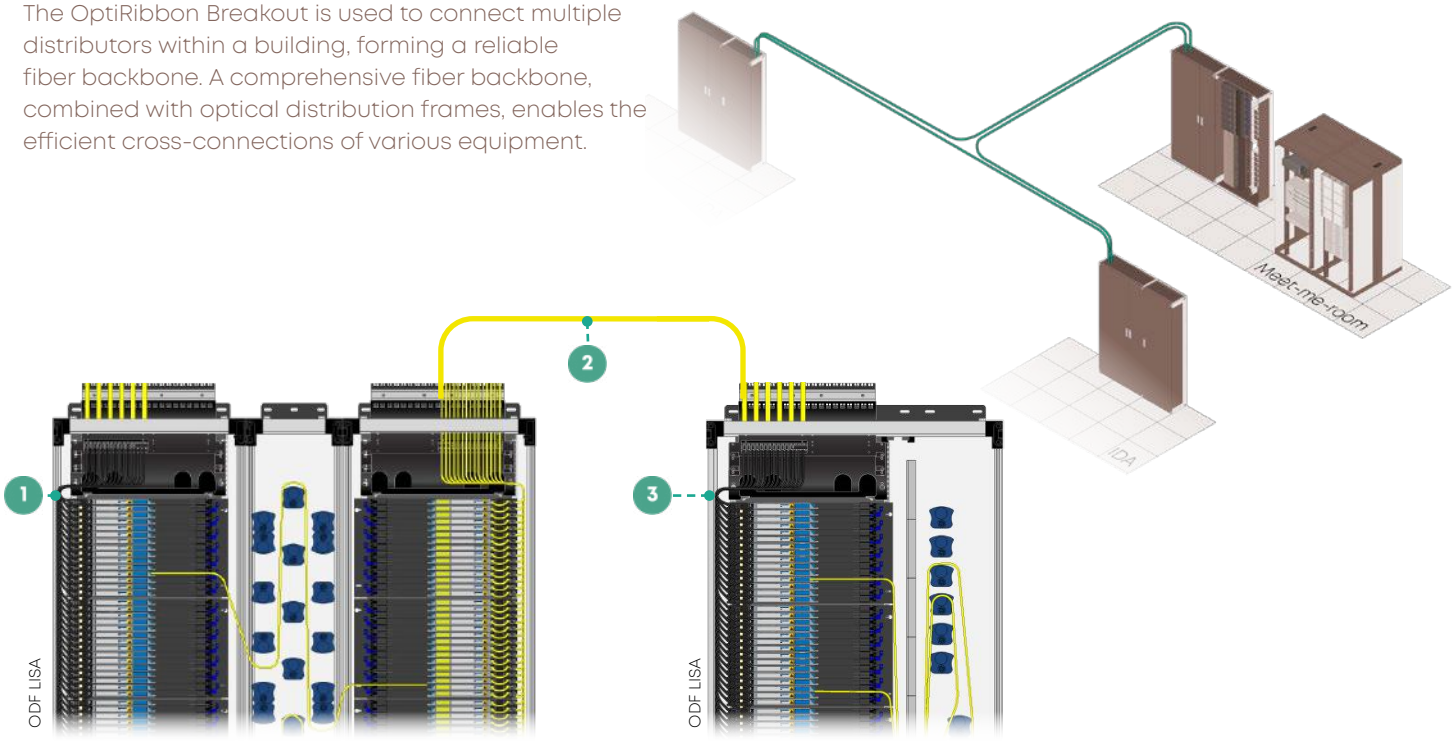
1	Stripping
2	Cleaning
3	Cleaving
4	Fusion
5	Protection
6	Coiling

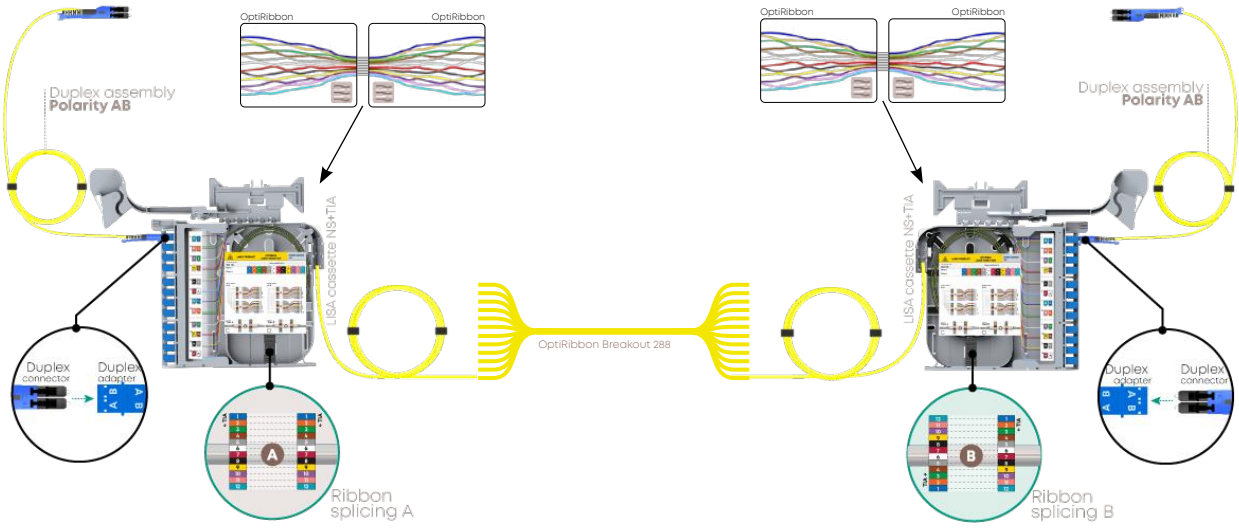
Total time: 15 min

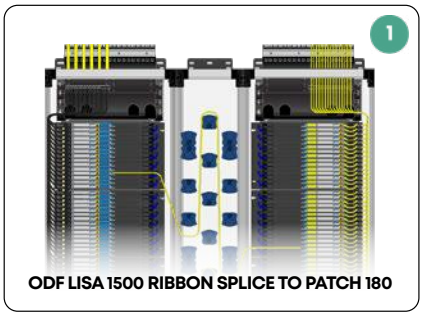
Applications

OptiRibbon Breakout in fiber backbone

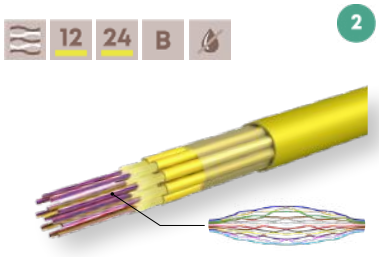
The OptiRibbon Breakout is used to connect multiple distributors within a building, forming a reliable fiber backbone. A comprehensive fiber backbone, combined with optical distribution frames, enables the efficient cross-connections of various equipment.







ODF LISA 1500 RIBBON SPLICE TO PATCH 180

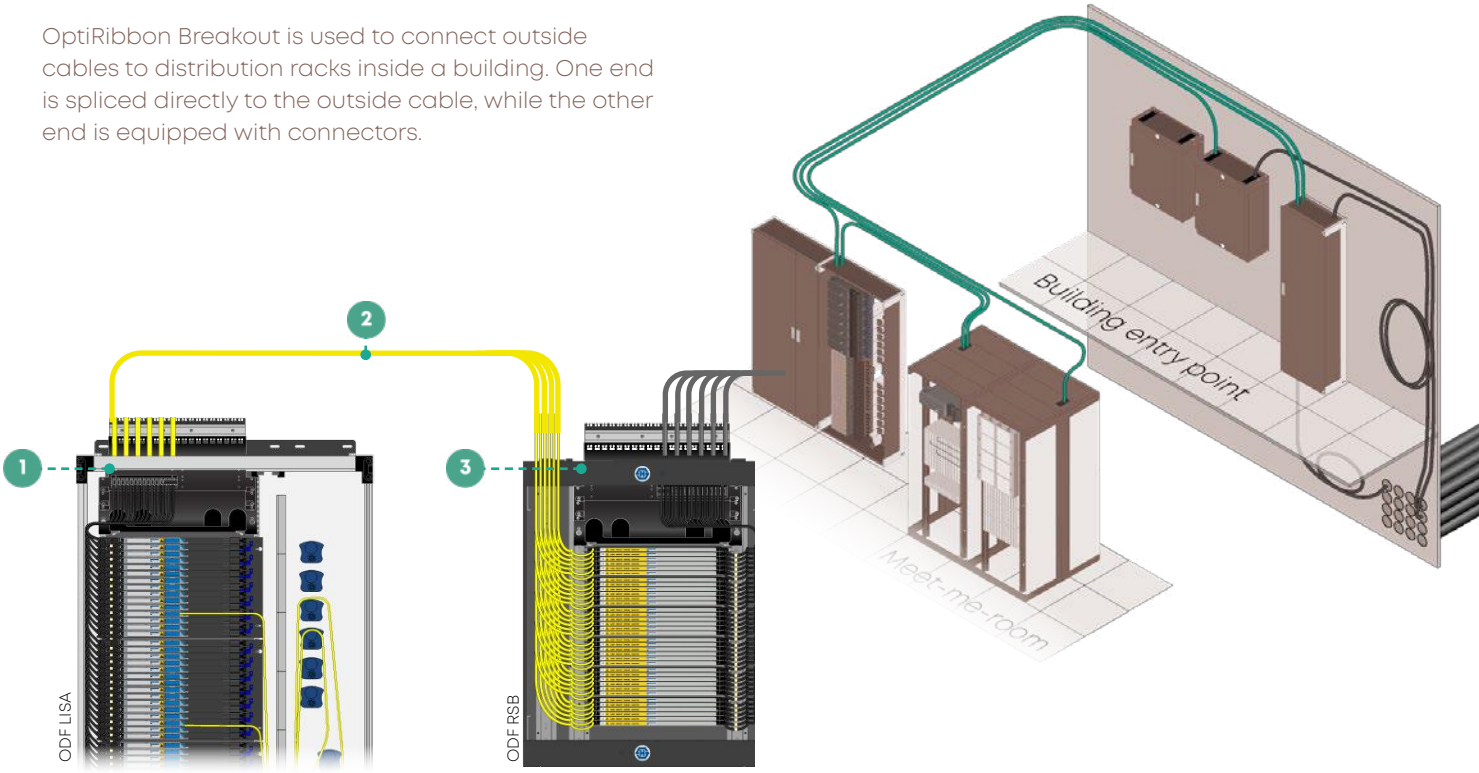


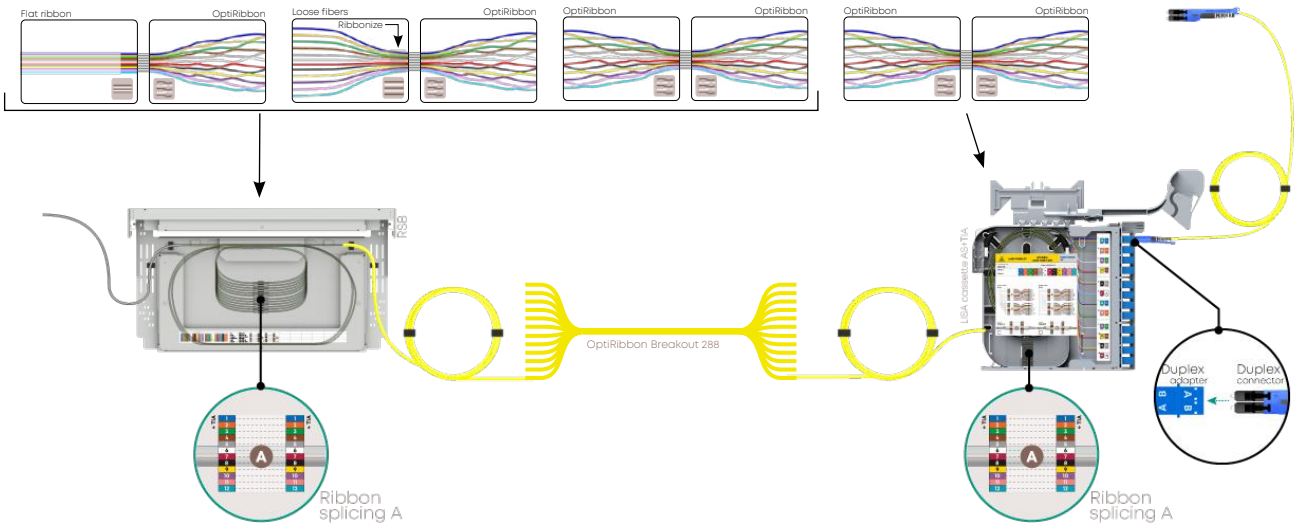
OptiRibbon Breakout 48-288

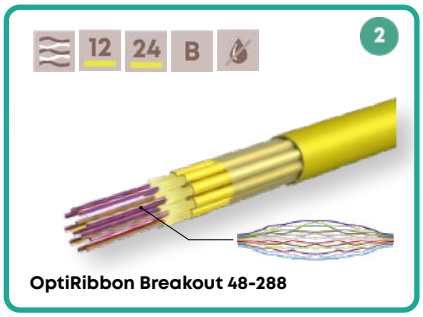
ODF LISA 900 RIBBON SPLICE TO PATCH 90

OptiRibbon Breakout in building entry point

OptiRibbon Breakout is used to connect outside cables to distribution racks inside a building. One end is spliced directly to the outside cable, while the other end is equipped with connectors.



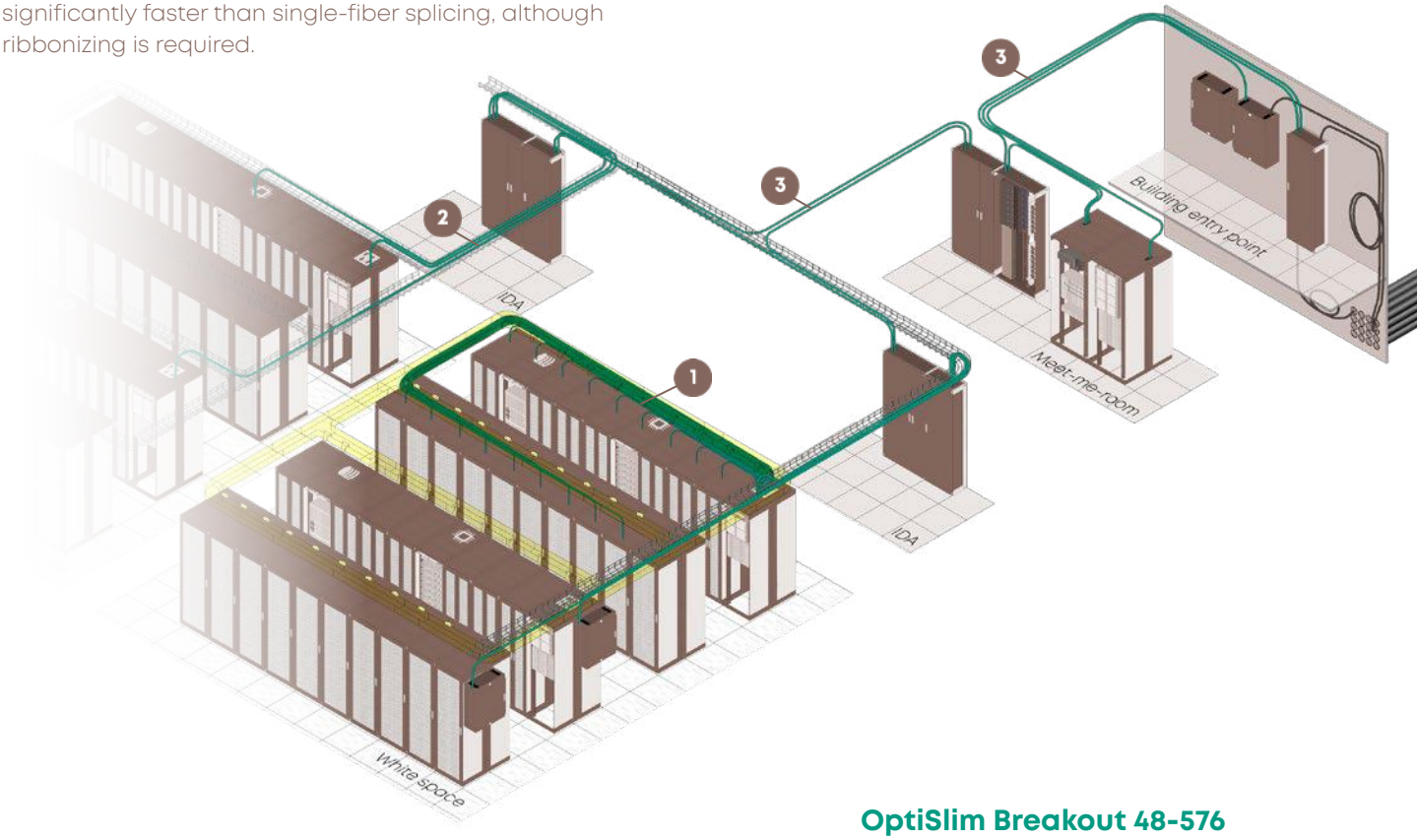




Featuring OptiSlim cables

OptiSlim cables, the most compact in the Opti portfolio, contains loose fibers rather than a ribbon accomodating a higher fiber count than the OptiPack and OptiRibbon.

When using ribbon splicing, terminating these cables is significantly faster than single-fiber splicing, although ribbonizing is required.



Applications

1 **Customer demarcation**

OptiSlim cables can be used to connect customer edge equipment from the white space to the distributor.

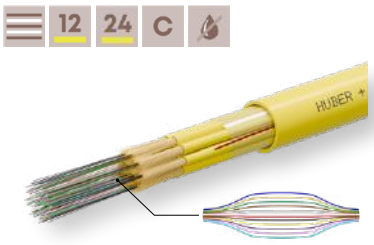
2 **White space**

OptiSlim cables can be used to connect customer equipment inside the white space.

3 **Fiber backbone**

OptiSlim Breakout 48-576 cables can be used to connect various distributors.

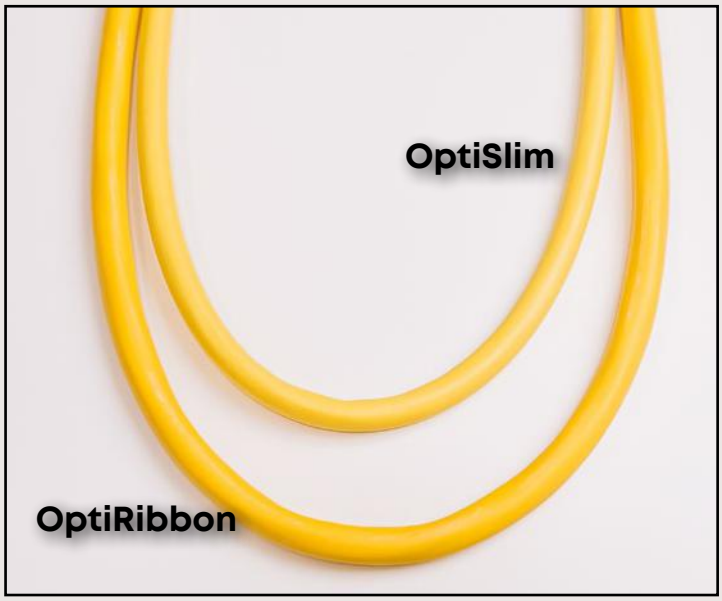
OptiSlim Breakout 48-576

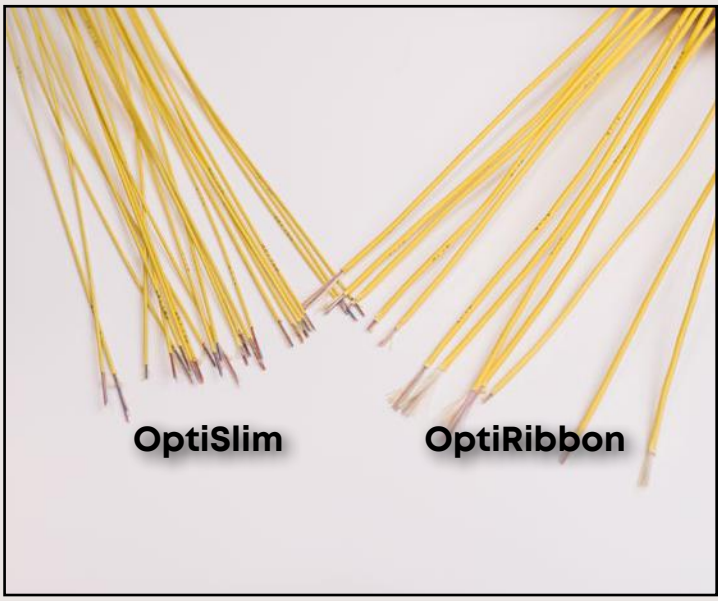


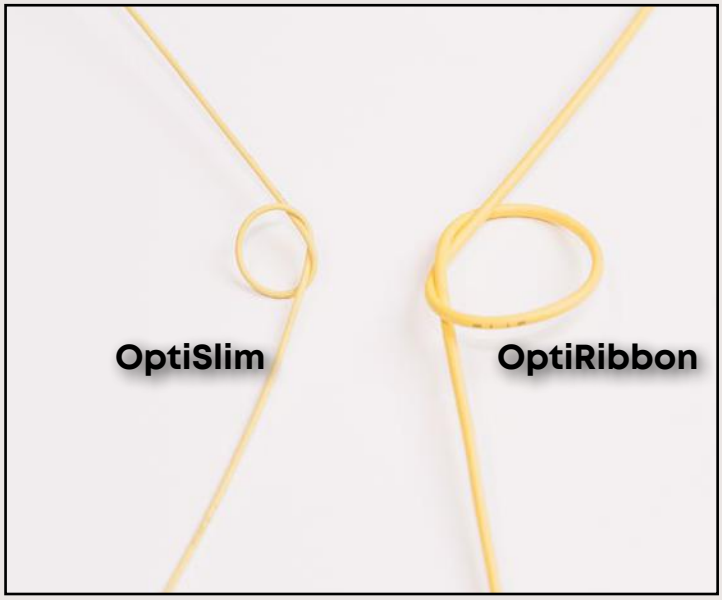
OptiSlim Breakout 48-576

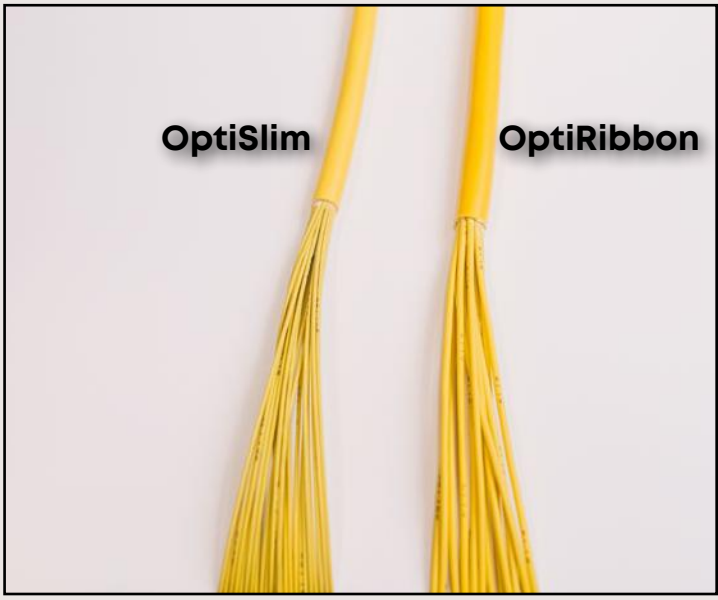
- Each strands 12 fiber
- Compact and even softer
- Ideal for ribbonization, mass-fusion splicing
- 48 to 576 fibers

OptiSlim cables are the **most compact**, offering high capacity and fast termination with ribbon splicing.









Recommended for High-Safety Buildings

For better fire safety, the cable industry recommends using B2ca-class cables in buildings and at least Cca-class cables in high-safety structures like data centres.

Density

OptiSlim's diameter-optimized design achieves higher packing density, enabling the bundling of more fibers in a compact space. This efficiency allows for more cables and links in data centers, where space is often limited.

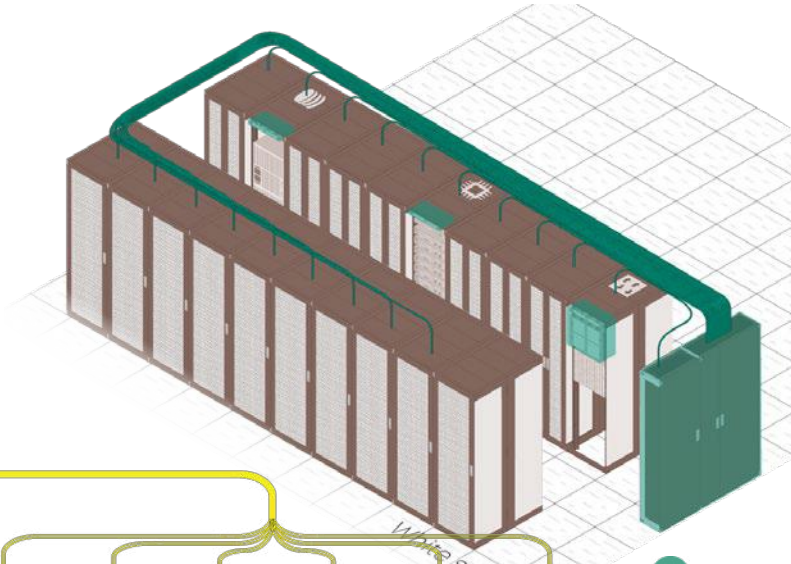
Is compatibile with FMS

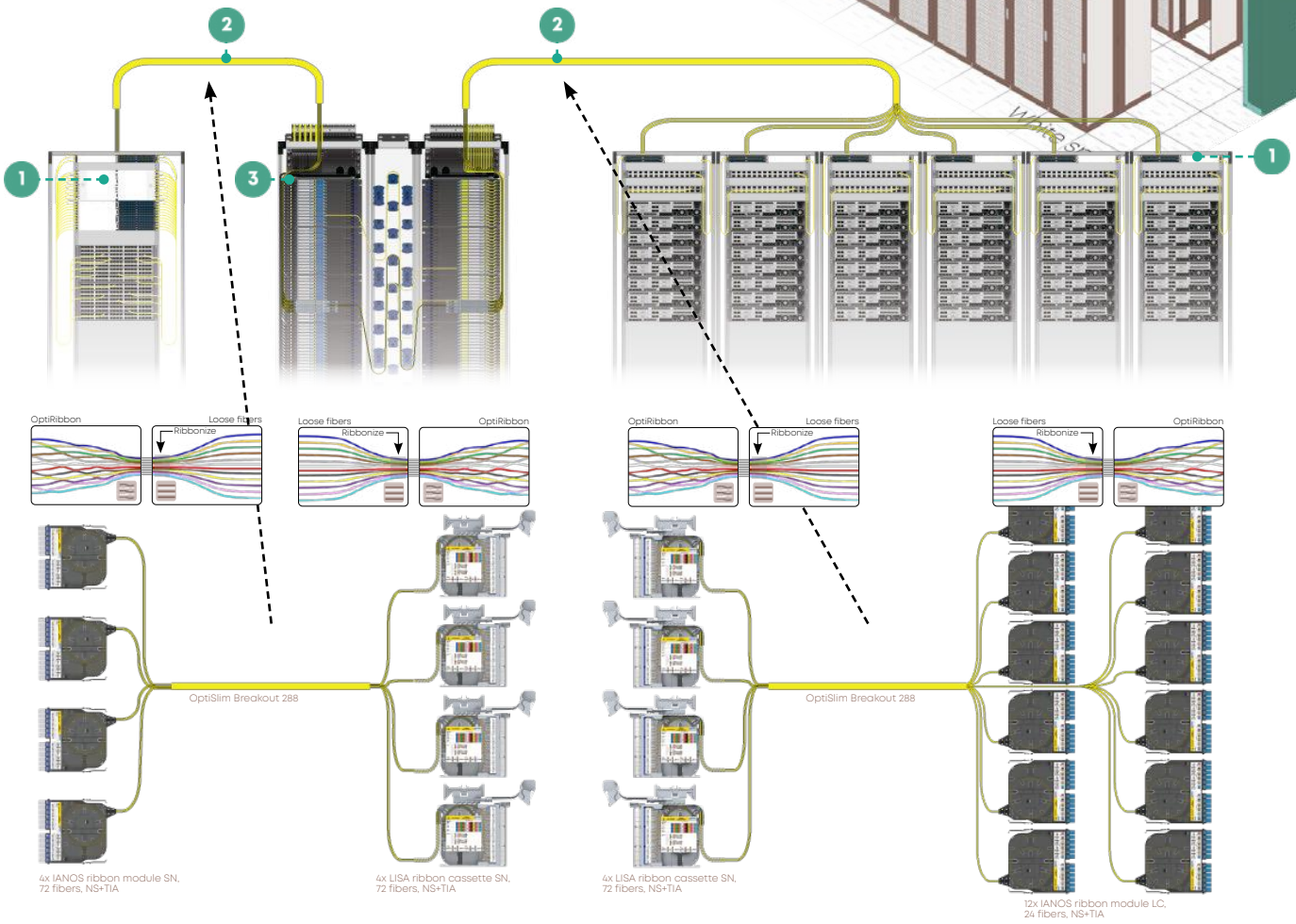
The OptiSlim cable construction is compatible with various FMS. When combined with ribbonizing and mass fusion splicing, it enables rapid installation.

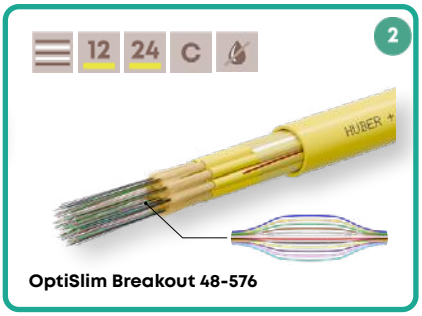
Applications

OptiSlim Breakout in cross-connect cabling in white spaces

OptiSlim Breakout, similar to OptiRibbon Breakout cables, can serve multiple server racks with a single cable. This reduces cable pulling time, reduces space in cable pathways and improve attenuation performance in the fiber optic link by splicing fibers.

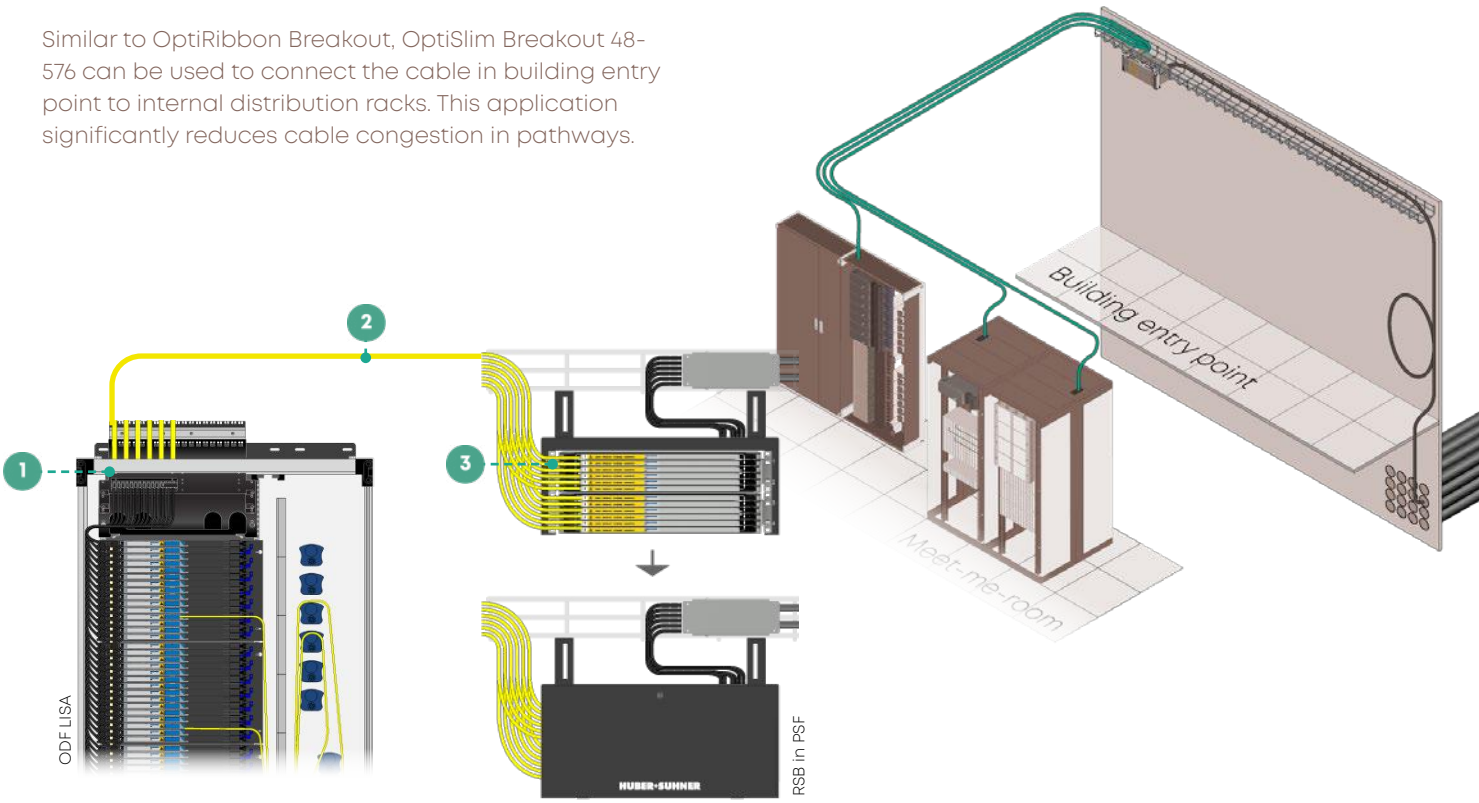


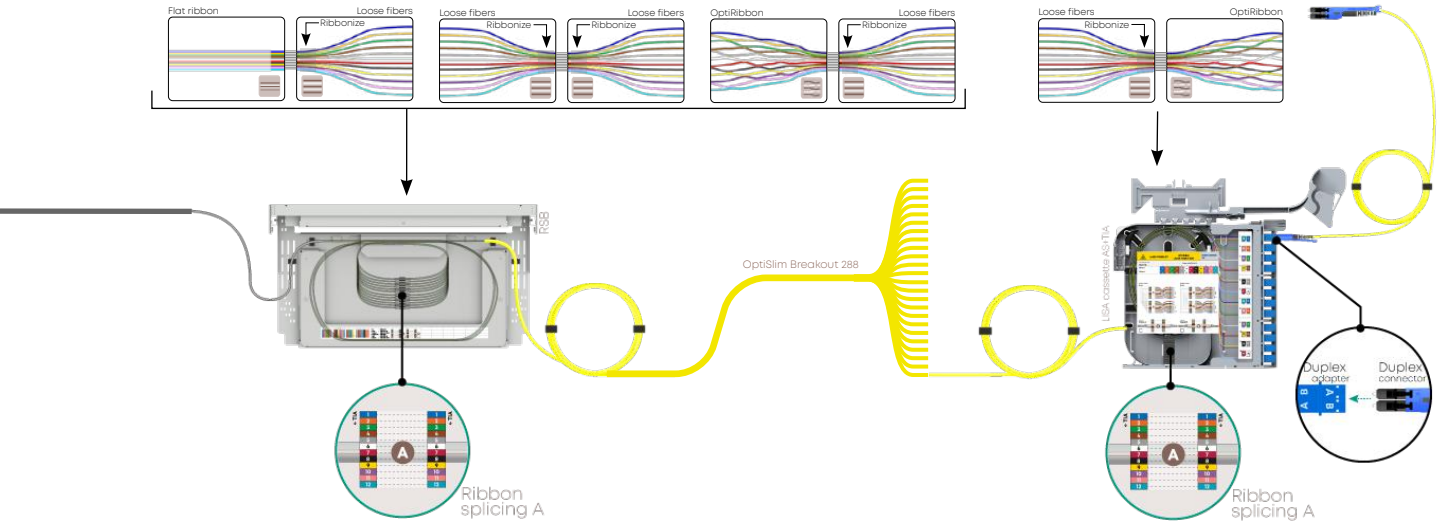


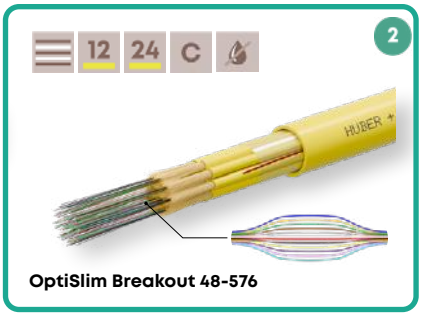


OptiSlim Breakout in building entry point

Similar to OptiRibbon Breakout, OptiSlim Breakout 48-576 can be used to connect the cable in building entry point to internal distribution racks. This application significantly reduces cable congestion in pathways.

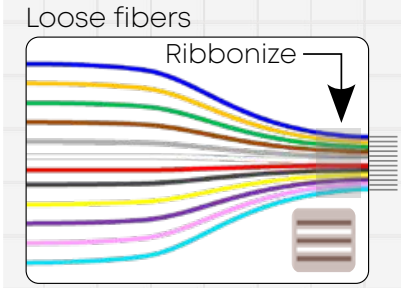


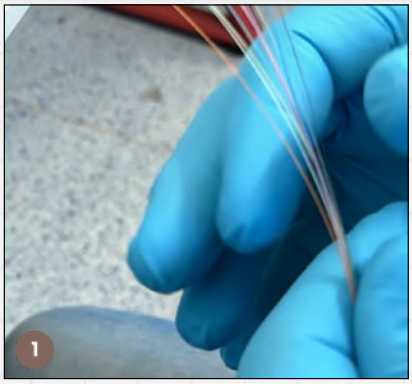




Technical overview

Ribbonizing loose fibers



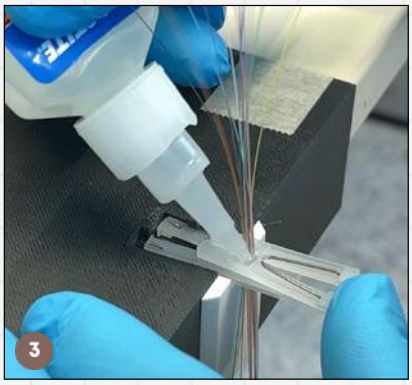


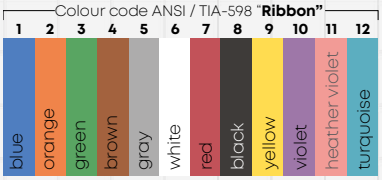
Approximate time of an experienced technician completing a 12-fiber ribbonization

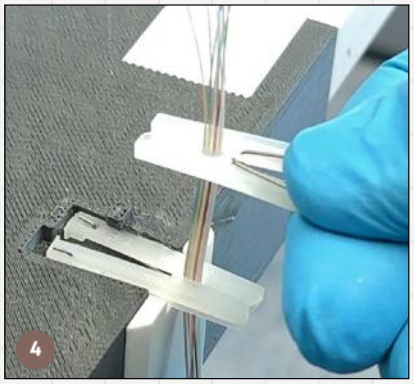
1	Release fibers
2	Colour sorting, according TIA-598
3	Applying glue
4	Glue spreading
5	Drying

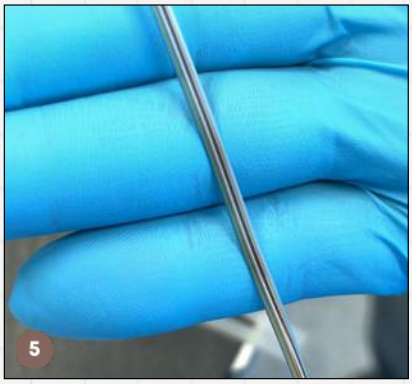
Total time: 2 min

2 min.



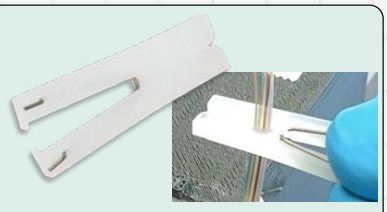






Loose fibers can be **ribbonized** and then spliced using **mass splicing**. This method significantly saves time compared to splicing individual fibers, especially when dealing with **high fiber counts**.

Manuel Sa De Jesus Olimpio
Process engineer at HUBER+SUHNER demonstrated splicing and ribbonizing

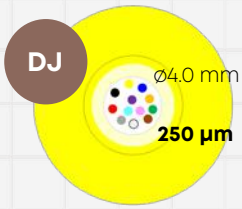
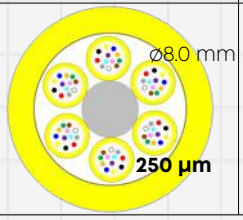
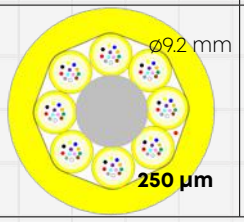
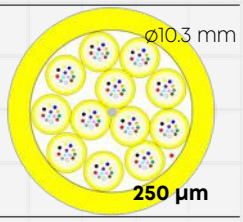


Disposable 12 fibers ribbonizer tool
85012951
TOOL-MT-GLUE-RIBBON-DIE

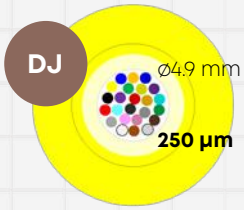
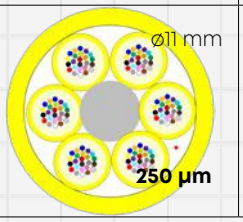
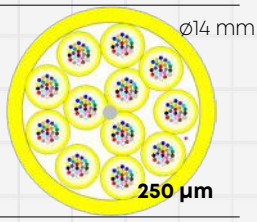
Adhesive Loctite 4861
84127953
Adhesive_Loctite 4861

Comparison of Cable Transects - OptiRibbon vs OptiSlim

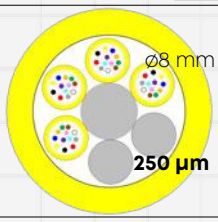
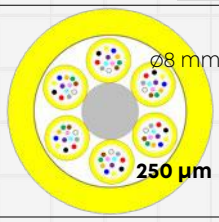
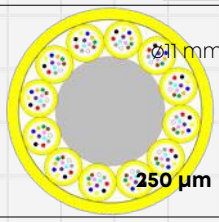
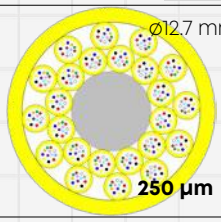
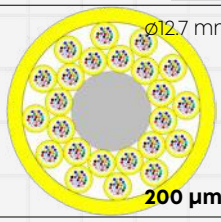
OptiRibbon Breakout with 2.0mm tube 12 fibers each

12 fibers 12-12	48 fibers 48-12	72 fibers 72-12	96 fibers 96-12	144 fibers 144-12
				

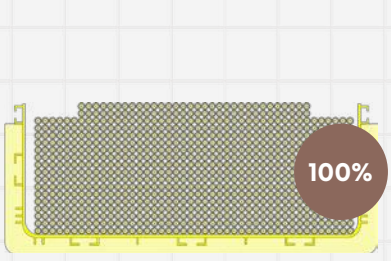
OptiRibbon Breakout with 3.0mm tube 24 fibers each

24 fibers 24-2x12	96 fibers 96-2x12	144 fibers 144-2x12	288 fibers 288-2x12
			

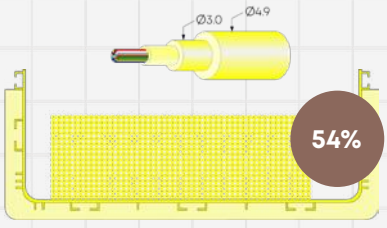
OptiSlim Breakout with 1.7mm tube 12- or 24- fibers each

48 fibers 48-12	72 fibers 72-12	144 fibers 144-12	288 fibers 288-12	576 fibers 576-24
				

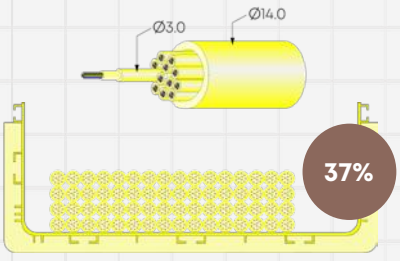
Optimization of fiber pathways capacity with Opti- cables



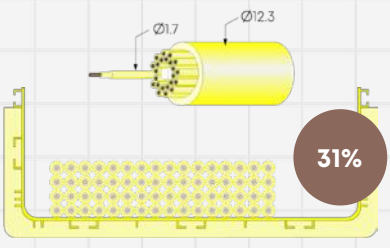
Example: 768x Generic 6.5mm 24-fiber cable



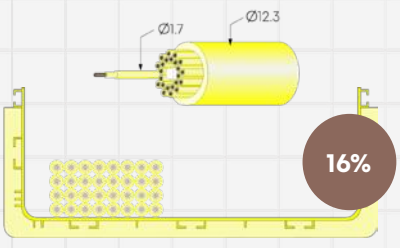
768x OptiRibbon DJ 24



64x OptiRibbon Breakout 288



64x OptiSlim Breakout 288

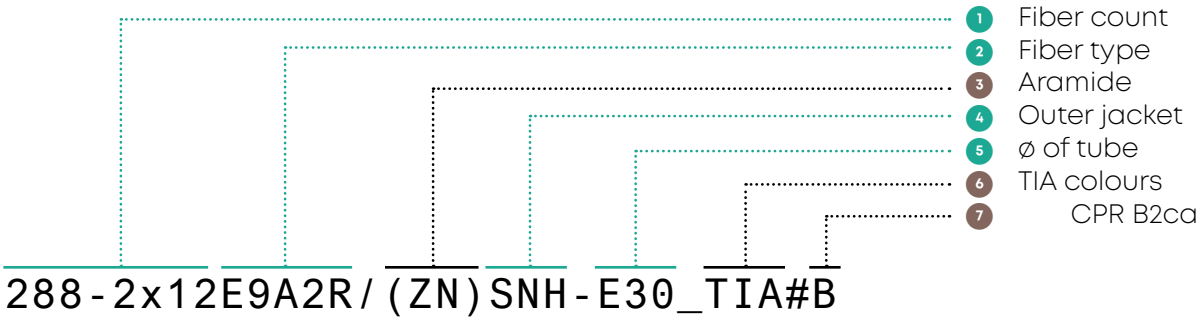


32x OptiSlim Breakout 576

The capacity of pathways can be greatly enhanced by utilizing **compact Opti-** cable types.

Order Guide

Order code OptiRibbon



1 Fiber count

12 Base-12, one ribbon per tube

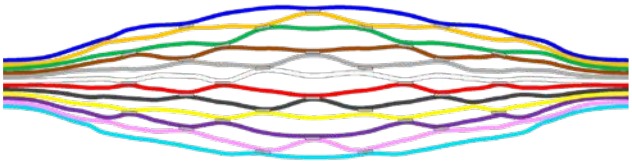
12-12	OptiRibbon DJ 12 fibers
48-12	OptiRibbon Breakout 48 fibers
72-12	OptiRibbon Breakout 72 fibers
96-12	OptiRibbon Breakout 96 fibers
144-12	OptiRibbon Breakout 144 fibers

24 Base-24, two ribbons per tube

24-2x12	OptiRibbon DJ 24 fibers
96-2x12	OptiRibbon Breakout 96 fibers
144-2x12	OptiRibbon Breakout 144 fibers
288-2x12	OptiRibbon Breakout 288 fibers

2 Fiber type

E9A2R E9/125A2, ITU G.657.A2, **OptiRibbon**, 250 µm



* Ribbon colour code - TIA-598-C

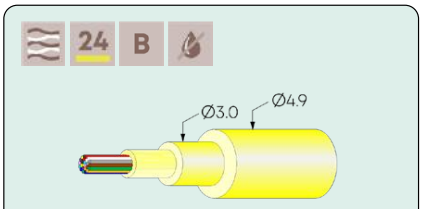
4 Outer jacket

HH	Outer jacket LSFH, no strain relief (double jacket)
SNH	Outer jacket LSFH, with strength member

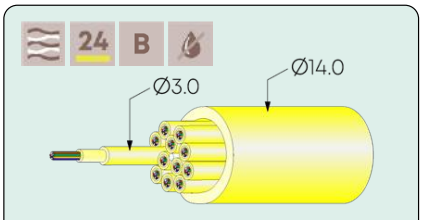
5 Diameter of tube

E20	12	2.0mm
E30	24	3.0mm

Top choice items

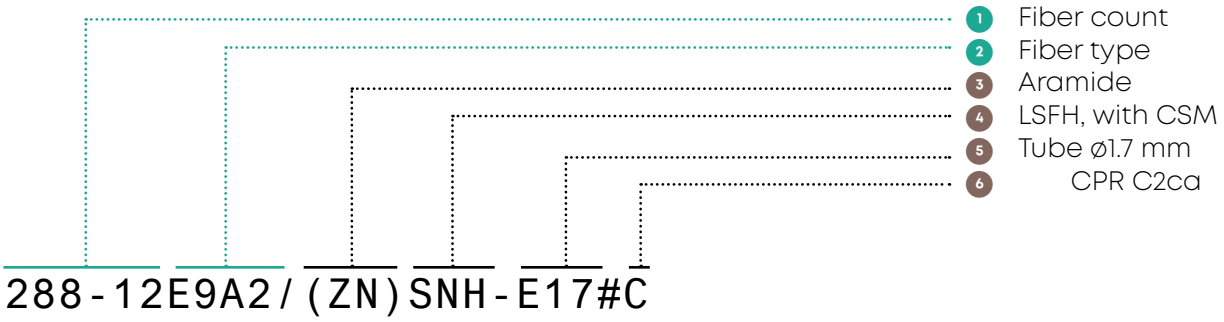


OptiRibbon DJ 24 cable, LSFH, 9/125µm, G.657.A2, ø4.9mm, B2ca
85226047
24-2x12E9A2R/(ZN)HH-E30_TIA#B



OptiRibbon breakout 288 cable, LSFH, 9/125µm, G.657.A2, ø14mm, B2ca
85242567
288-2x12E9A2R/(ZN)SNH-E30_TIA#B

Order code OptiSlim



1 Construction

12 Base-12, 12 fibers per tube

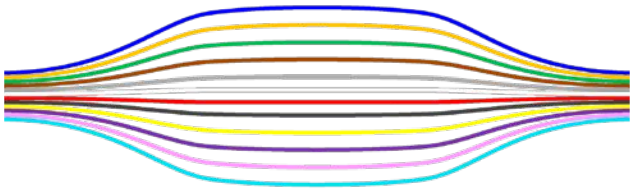
- **48-12** OptiSlim Breakout 48 fibers
- **72-12** OptiSlim Breakout 72 fibers
- **144-12** OptiSlim Breakout 144 fibers
- **288-12** OptiSlim Breakout 288 fibers

24 Base-24, 24 fibers per tube

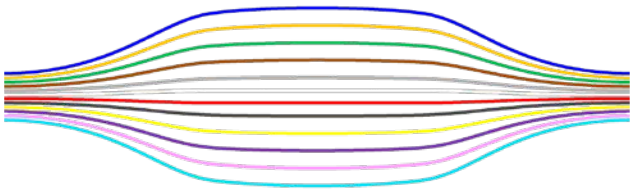
- **576-24** OptiSlim Breakout 576 fibers, only with E9A2**S** (200 µm)

2 Fiber type

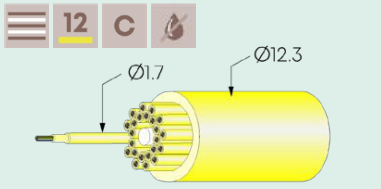
E9A2 E9/125A2, ITU G.657.A2, **250 µm**



E9A2S E9/125A2, ITU G.657.A2, **200 µm**



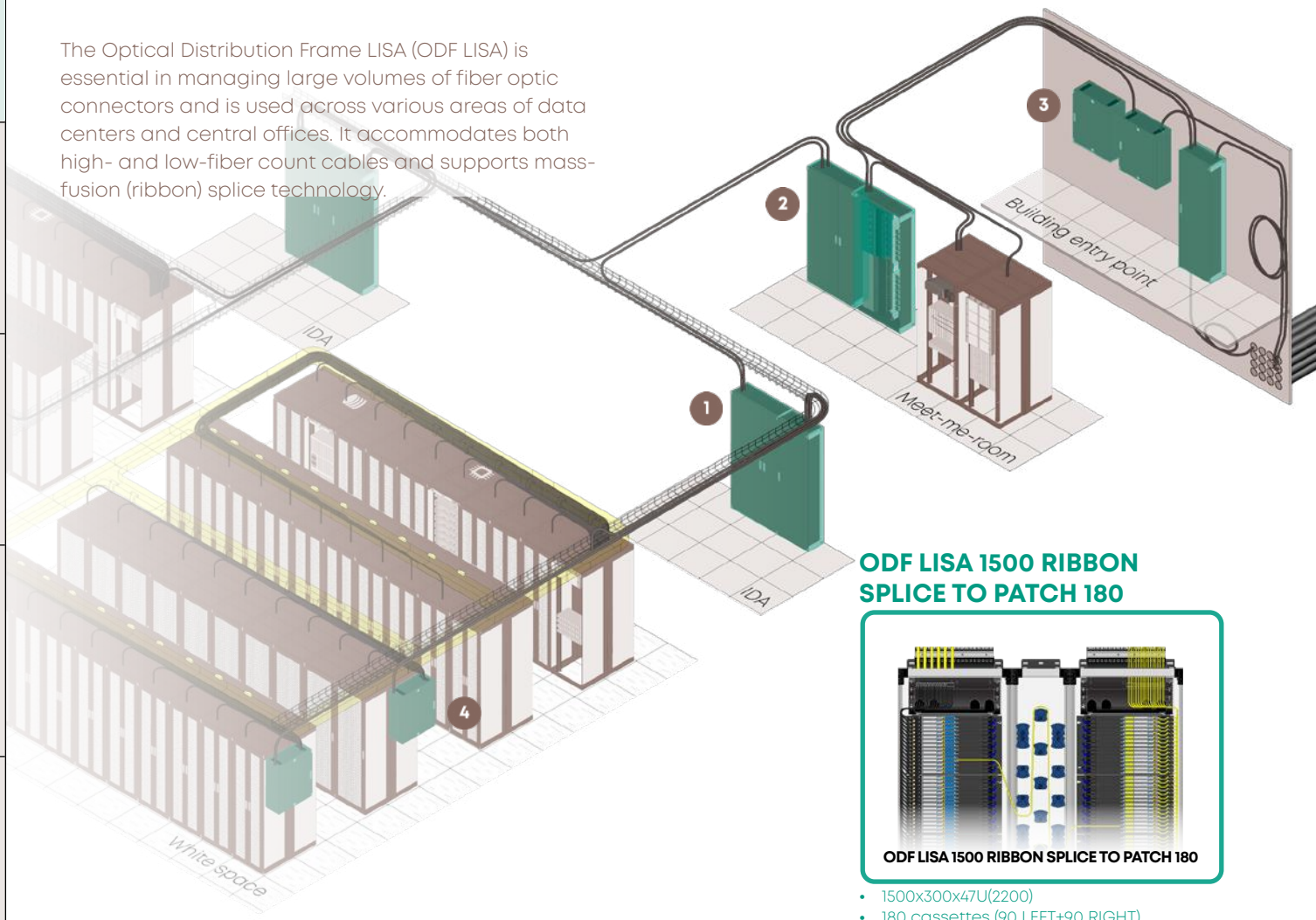
Top choice items



OptiSlim breakout 288 cable, LSFH, 9/125µm, G.657.A2, ø12.3mm, B2ca
85250964
288-12E9A2/(ZN)SNH-E17#C

Featuring the ODF LISA ribbon

The Optical Distribution Frame LISA (ODF LISA) is essential in managing large volumes of fiber optic connectors and is used across various areas of data centers and central offices. It accommodates both high- and low-fiber count cables and supports mass-fusion (ribbon) splice technology.

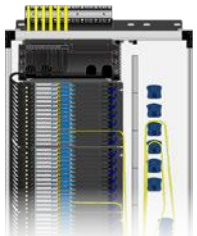


ODF LISA 1500 RIBBON SPLICE TO PATCH 180

ODF LISA 1500 RIBBON SPLICE TO PATCH 180

- 1500x300x47U(2200)
- 180 cassettes (90 LEFT+90 RIGHT)
- from 2160 to 25920 fibers

ODF LISA 900 RIBBON SPLICE TO PATCH 90



ODF LISA 900 RIBBON SPLICE TO PATCH 90

- 900x300x47U(2200)
- 90 cassettes (LEFT or RIGHT)
- from 1080 to 12960 fibers

ODF LISA 700 RIBBON SPLICE TO PATCH 15

ODF LISA 700 RIBBON SPLICE TO PATCH 15

- 750x300x17U(900)
- 15 cassettes (LEFT)
- from 180 to 2160 fibers

Applications

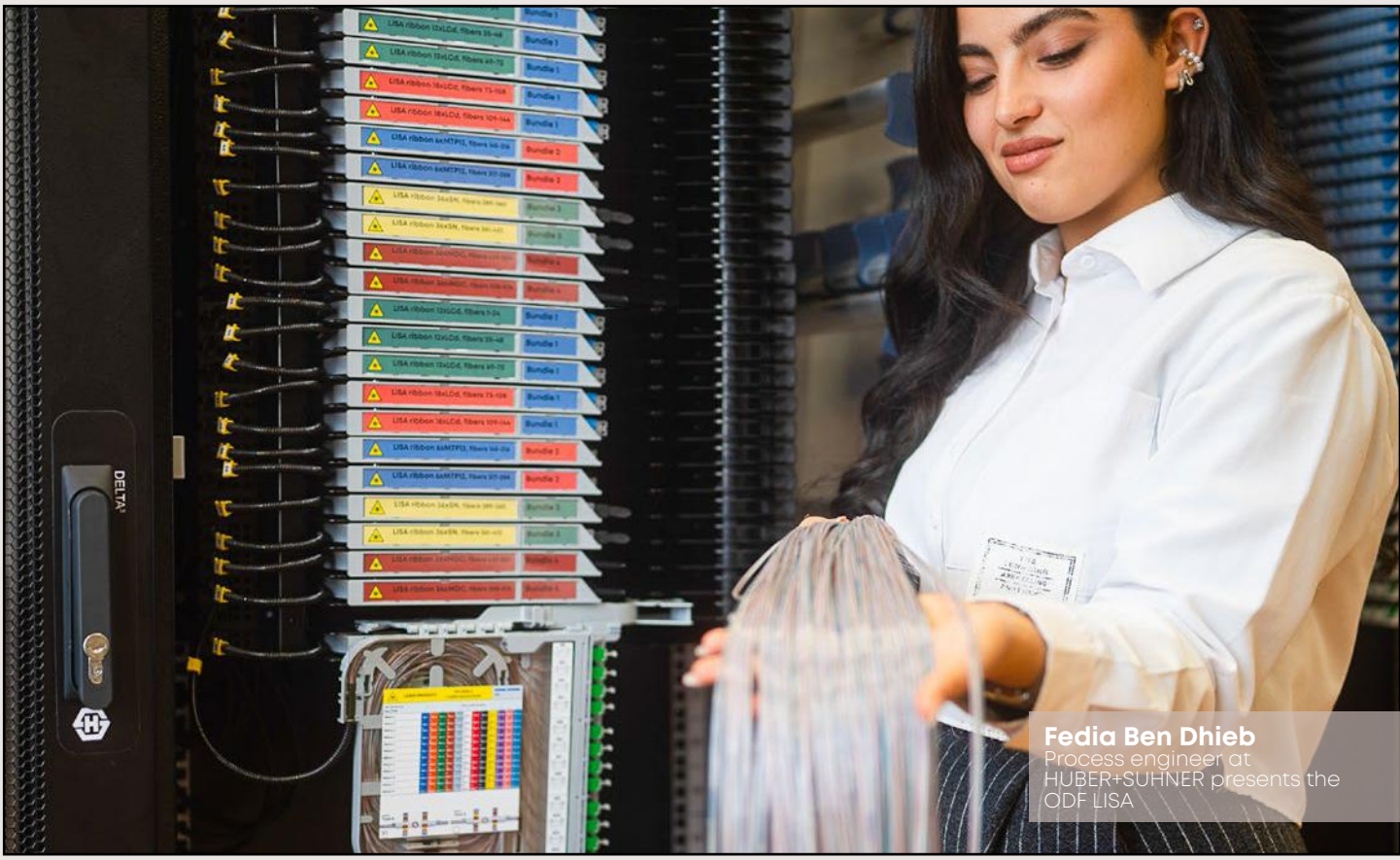
1. **Customer demarcation**
   The ODF LISA ribbon is used to consolidate customer demarcation cabling.

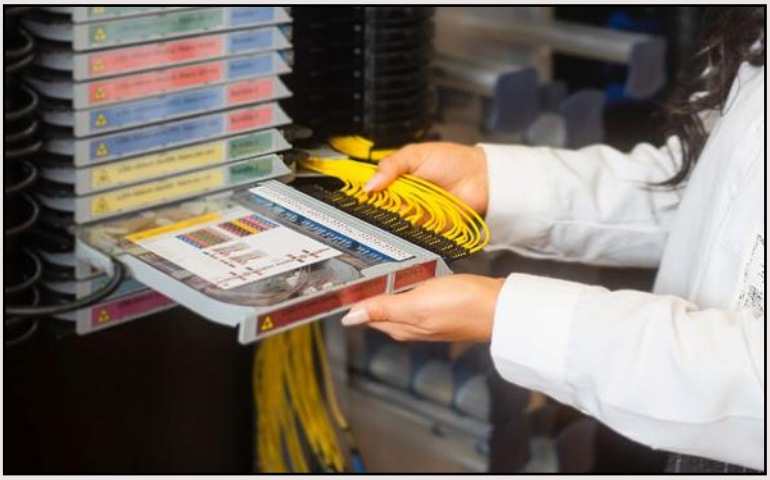
2. **Meet-me-room**
   The ODF LISA ribbon is used in the meet-me-room as a central cross-connect point.

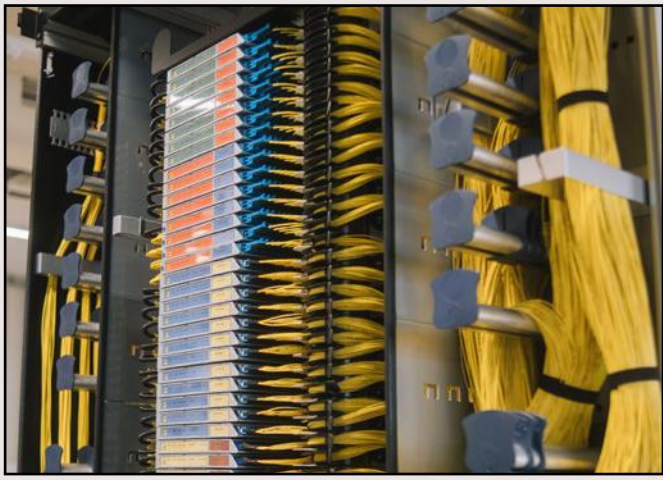
3. **Building entry point**
   The ODF LISA ribbon is used to present outside cables on connectors in the BEP (Building Entry Point).

4. **Zone distribution**
   Create zone distributors with small ODFs

While the ODF appears unchanged, **numerous enhancements** have been implemented to simplify installation and increase fiber density







Modularity

ODF LISA can be configured in many different ways, from wall cabinets to large frames, cross-connecting thousands of ports

Density

ODF LISA supports up to 28,000 fibers, making it the perfect choice for meet-me rooms and high capacity distribution zones

Handling

With service access from the front only and integrated patch cord management, the ODF LISA minimises installation time and operational disruptions

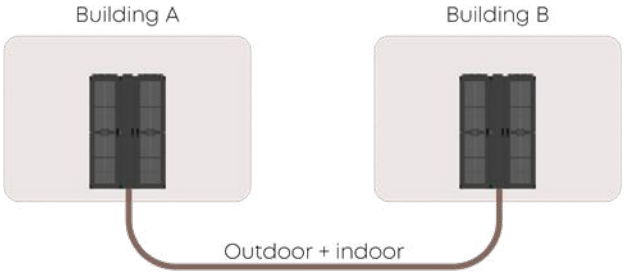
ODF LISA ribbon applications in DCI

Building A to Building B indoor

ODF LISA is used to provide fiber optic connections from a cable which connects room to room or building to building in a campus.

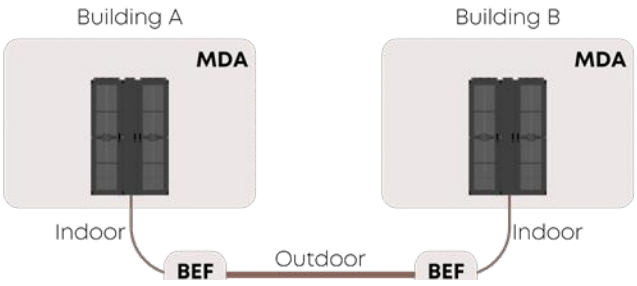
Depending on the type of the cable, ODF can be physically placed close to building entry point, or inside internal rooms.

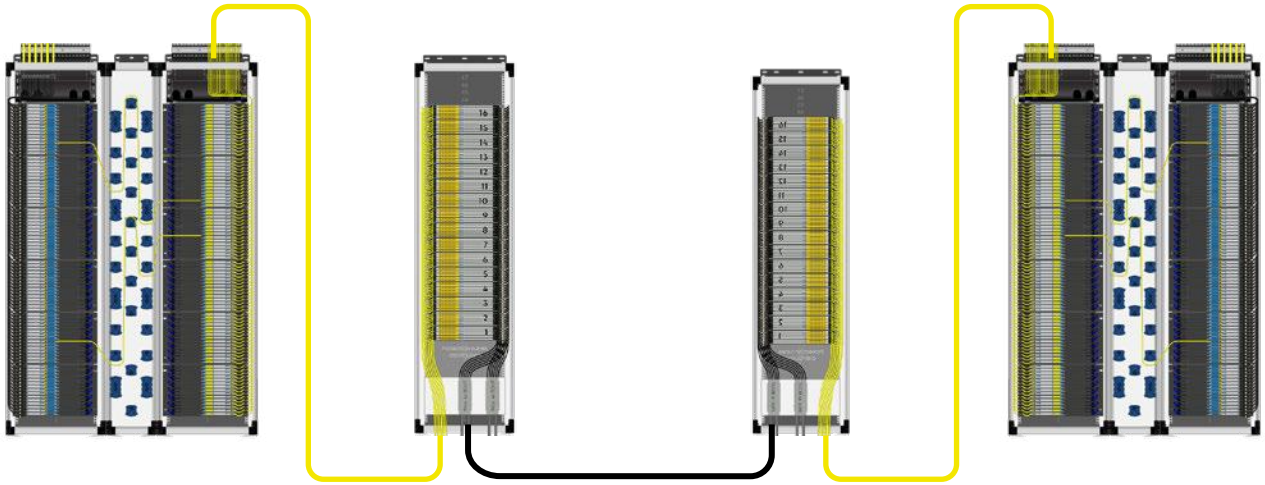
Universal or indoor cables can be used.



Building A to Building B indoor+outdoor

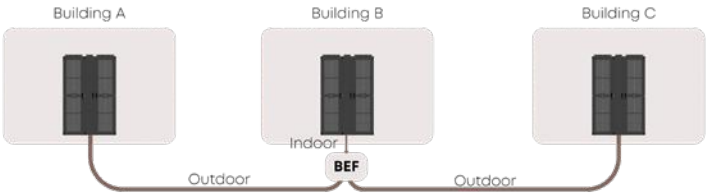
If buildings are located at a large distance and outdoor cables are used, then a transition from outdoor to indoor is required.

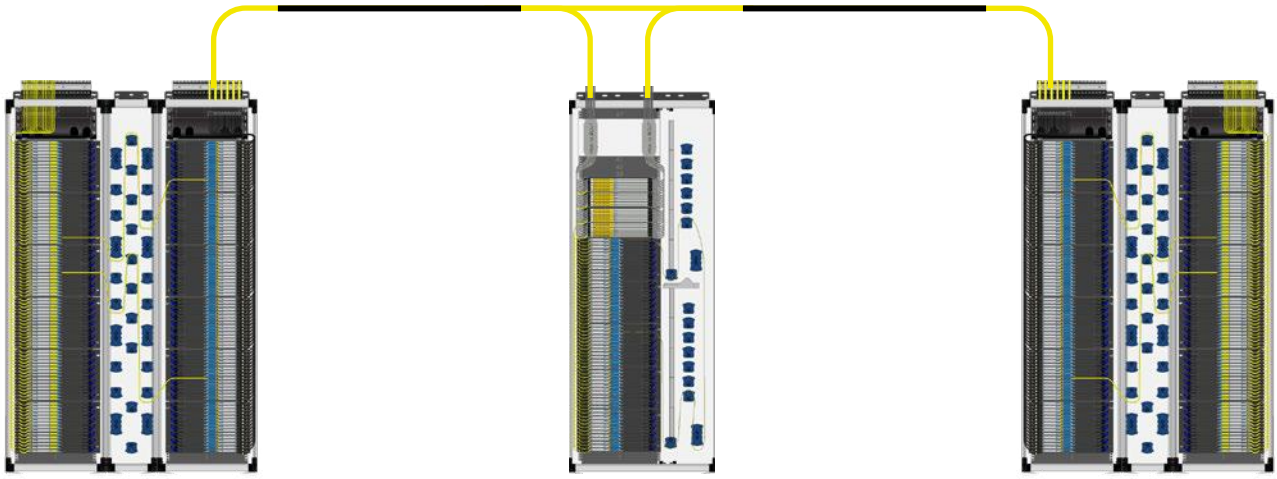




Building A to Building C via Building B indoor+outdoor

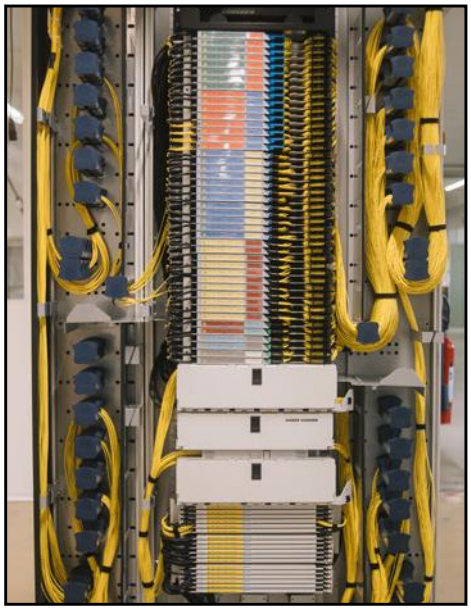
A cable can be deployed between distanced building, passing an intermediate building. By splicing a specific amount of fibers from the cable and leaving other fibers uninterrupted, three buildings can be interconnected.

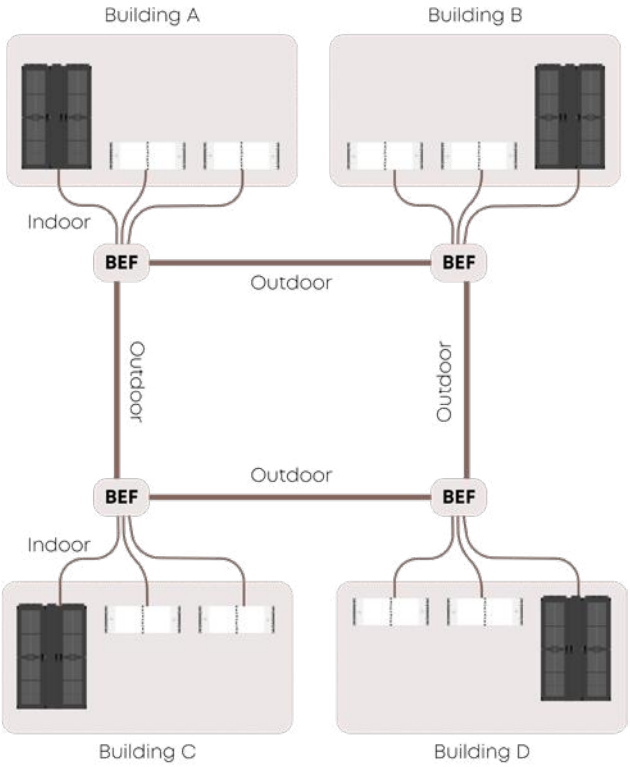




Data center interconnect applications

There can be various data center interconnect scenarios. ODF LISA due to its modularity can be configured in a way that all these scenarios can be served.





ODF LISA ribbon designs

ODF LISA main components

1 CDR 1500 | NGR 1500 Double access rack

2 LISA chassis

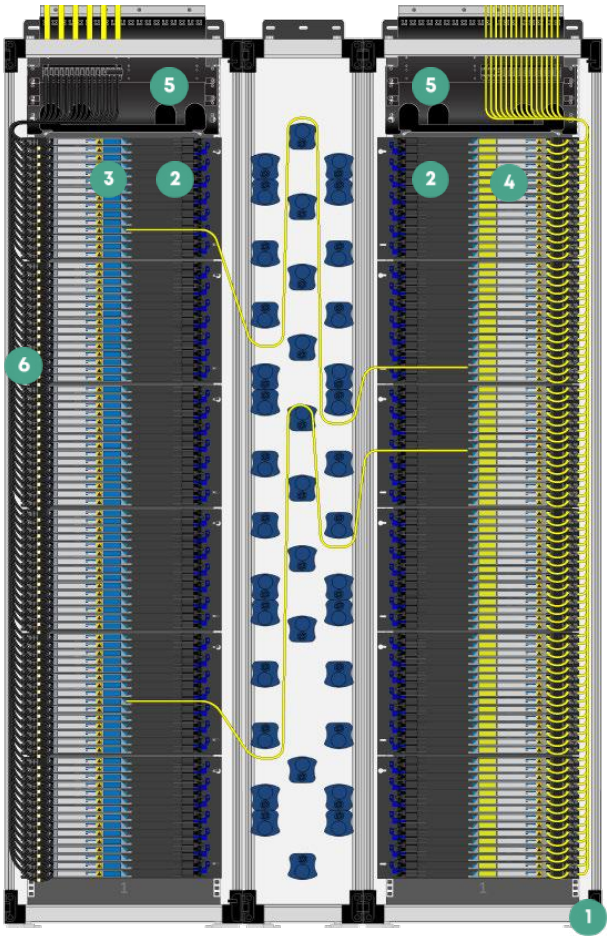
3 L LISA ribbon splice cassettes LEFT new

4 R LISA ribbon splice cassettes RIGHT new

5 Rack accessories new

6 Other accessories new

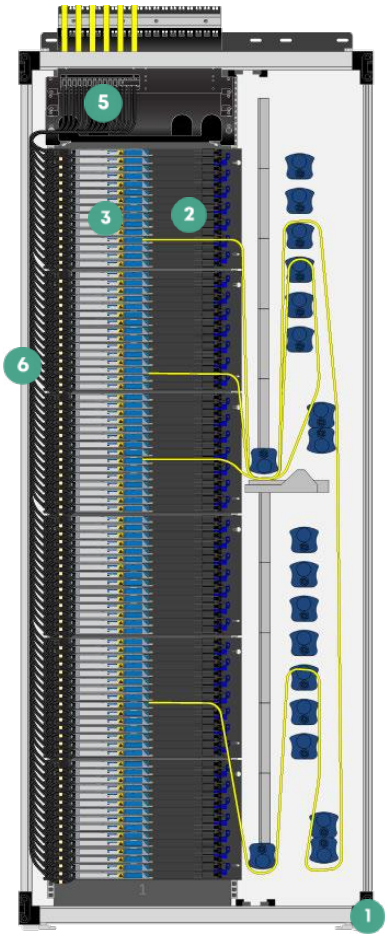
DESIGN 1. ODF LISA 1500 RIBBON SPLICE TO PATCH 180 CASSETTES



Technical data

Base rack	NGR 1500 or CDR 1500
Maximum number of LISA chassis	6x 7U LEFT + 6x 7U RIGHT
Maximum number of cassettes	**180x** | 90x LEFT + 90x RIGHT
12f cassette capacity | connectors	2160 | SC, E2000, LCd, MDC, SN, MTP-12
24f cassette capacity | connectors	4320 | E2000, LCd, MDC, SN, MTP-12
36f cassette capacity | connectors	6480 | LCd, MDC, SN, MTP-12
48f cassette capacity | connectors	8640 | MDC, SN, MTP-12
72f cassette capacity | connectors	12960 | MDC, SN, MTP-12
144f cassette capacity | connectors	**25920** | MTP-12
Application	**Ribbon** splicing to patching
Cable entry option	Top **OR** bottom
Patch cord over-length management	Integrated into rack
Footprint	300 x 1500
Minimum footprint with service, mm	900 x 1500
Patch cord types	**3.5m** | 4.0m | 4.5m

DESIGN 2. ODF LISA 900 RIBBON SPLICE TO PATCH 90 CASSETTES

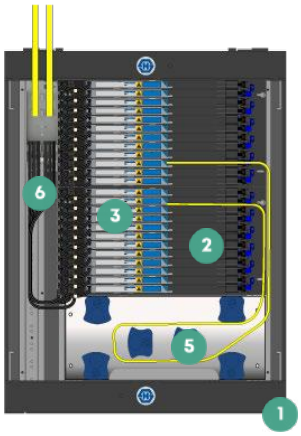


The modularity of the ODF LISA enables a **diverse** array of designs.

Technical data

Base rack	NGR 900 or CDR 900
Maximum number of LISA chassis	6x 7U LEFT
Maximum number of cassettes	**90x** LEFT
12f cassette capacity | connectors	1080 | SC, E2000, LCd, MDC, SN, MTP-12
24f cassette capacity | connectors	2160 | E2000, LCd, MDC, SN, MTP-12
36f cassette capacity | connectors	3240 | LCd, MDC, SN, MTP-12
48f cassette capacity | connectors	4320 | MDC, SN, MTP-12
72f cassette capacity | connectors	6480 | MDC, SN, MTP-12
144f cassette capacity | connectors	**12960** | MTP-12
Application	**Ribbon** splicing to patching
Cable entry option	Top **OR** bottom
Patch cord over-length management	Integrated into rack
Footprint	300 x 900
Minimum footprint with service, mm	900 x 900
Patch cord types	**3.5m** and 5.0m

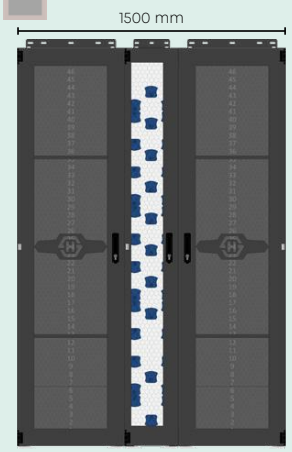
DESIGN 3. ODF LISA 700 RIBBON SPLICE TO PATCH 30 CASSETTES



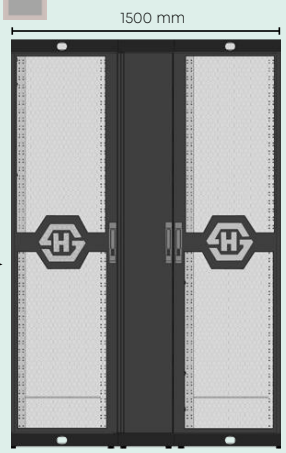
Technical data

Base rack	WCB7-17
Maximum number of LISA chassis	2x 7U LEFT
Maximum number of cassettes	**30x** LEFT
12f cassette capacity | connectors	360 | SC, E2000, LCd, MDC, SN, MTP-12
24f cassette capacity | connectors	720 | E2000, LCd, MDC, SN, MTP-12
36f cassette capacity | connectors	1080 | LCd, MDC, SN, MTP-12
48f cassette capacity | connectors	1440 | MDC, SN, MTP-12
72f cassette capacity | connectors	2160 | MDC, SN, MTP-12
144f cassette capacity | connectors	**4320** | MTP-12
Application	**Ribbon** splicing to patching
Cable entry option	Top **OR** bottom
Patch cord over-length management	Spare
Footprint	300 x 700
Minimum footprint with service, mm	900 x 700
Patch cord types	3.0m

ODF LISA 1500 DOUBLE ACCESS



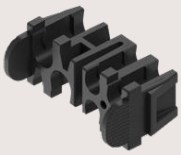
Cable distribution rack (CDR) 1500 47U, perforated doors
85109330
CDR15-U47-PFLR-STA-BK
on request
CDR15-47U-PFLR-STA-GY



Next generation rack (NGR) 1500 46U, perforated doors
85144056
NG1522NS-Q828B1S11R1C1B-1BA00A
85144052
NG1522NS-Q828B1S11R1C1B-1AA00A

LISA chassis LEFT 7U
85109665
LISA-FIBER-CHASSIS-L-HD-7U-BK
85109661
LISA-FIBER-CHASSIS-L-HD-7U-GY

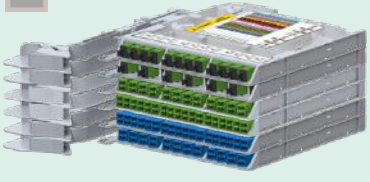
LISA chassis RIGHT 7U
85109668
LISA-FIBER-CHASSIS-R-HD-7U-BK
85109666
LISA-FIBER-CHASSIS-R-HD-7U-GY



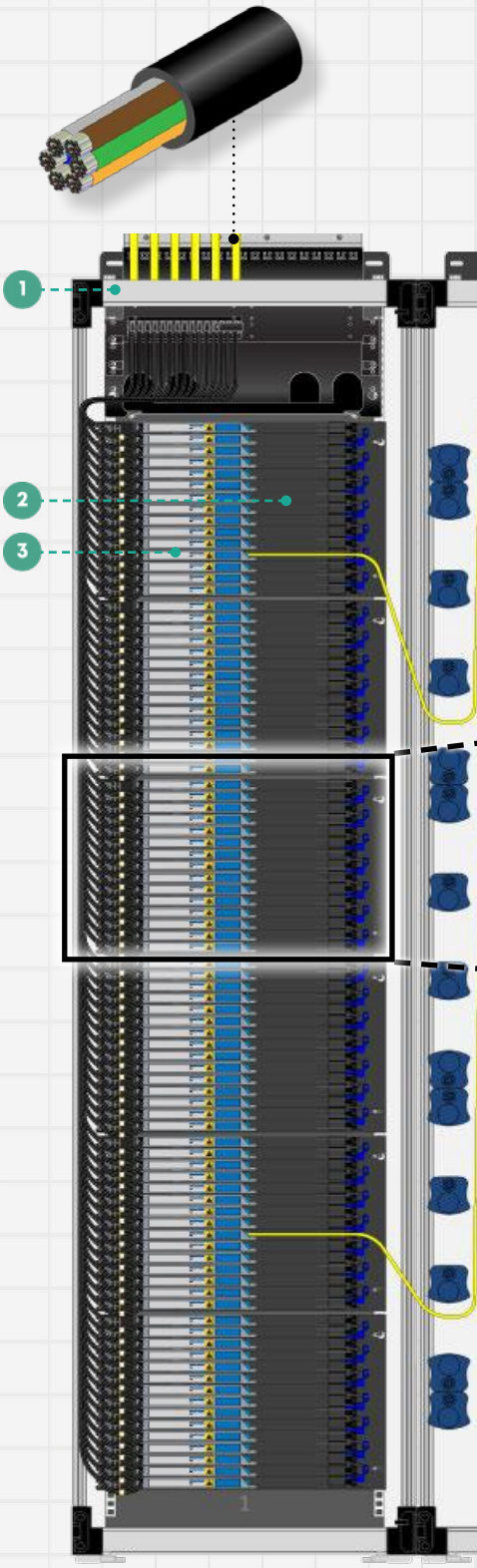
Gland for protection tube fits in LISA chassis, 6-way
2 x 7.1mm + 4 x 5mm
85237899
OFBLT-Conduit-Gland-6-way-BK

Spare part

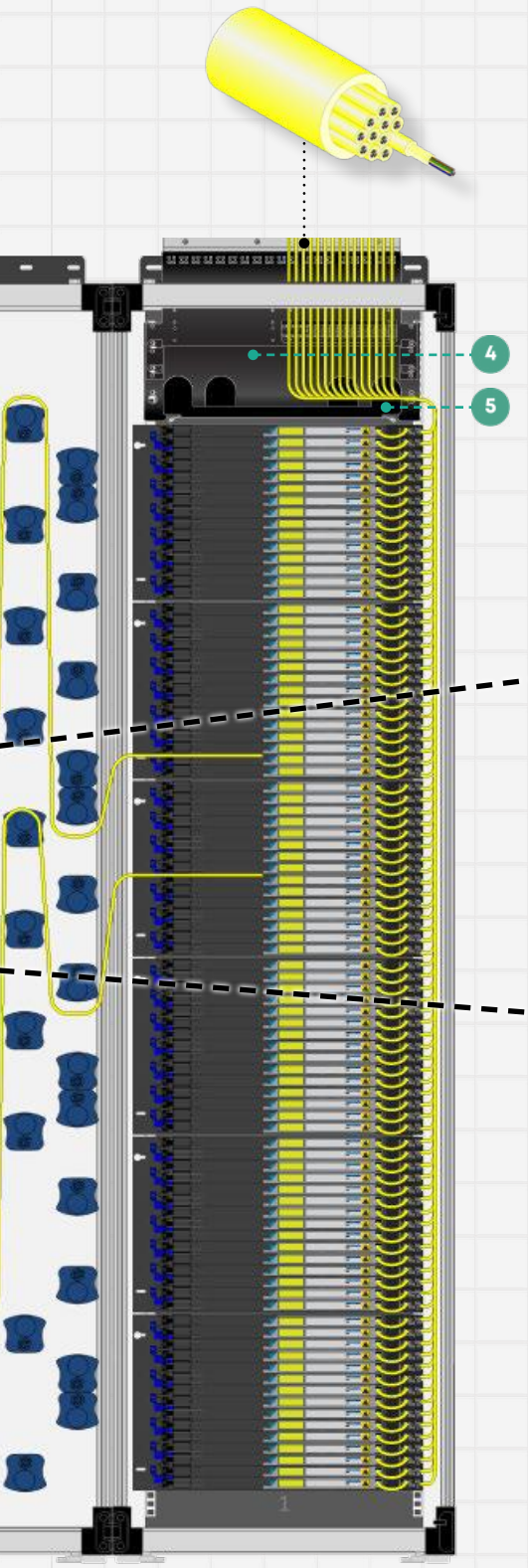
LISA ribbon splice cassettes LEFT



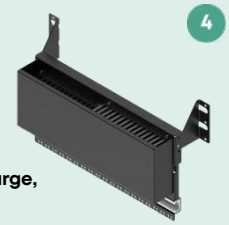
LISA ribbon splice cassettes RIGHT



Example: ODF LISA 1500 SPLICE
180x ribbon cassettes
(90 LEFT and 90 RIGHT)



4

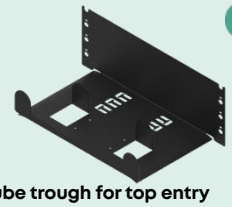


Breakout plate large, for 90 tubes
85243396
CDR/NGR-B/OUT-PLT-19"-BK-7.1-90-KIT
85243397
CDR/NGR-B/OUT-PLT-19"-GY-7.1-90-KIT

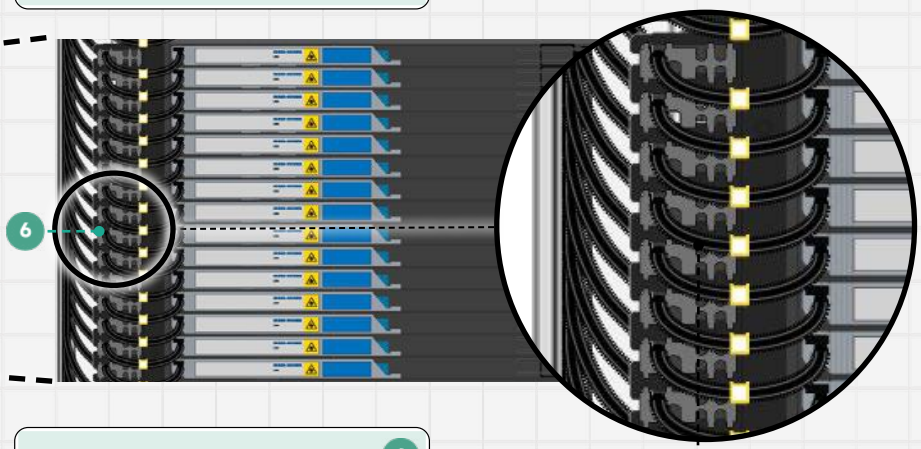
Spare part

Additional comb for breakout plate, for 90 ø7.1mm tubes and 6 CSM
85237829
CDR/NGR-B/OUT-PLT-19"-BK-7.1-EXP-KIT
85237842
CDR/NGR-B/OUT-PLT-19"-GY-7.1-EXP-KIT

5



Protection tube trough for top entry
85135058
CDR-CABLE-TROUGH-UNI-19"-BK
85110556
CDR-CABLE-TROUGH-UNI-19"-GY



6

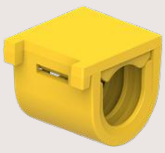
Kit

Protection tube kit for up to 90 cassettes
85244903
CP-TUBE-7.1-KIT-90-LISA-BK

Spare part

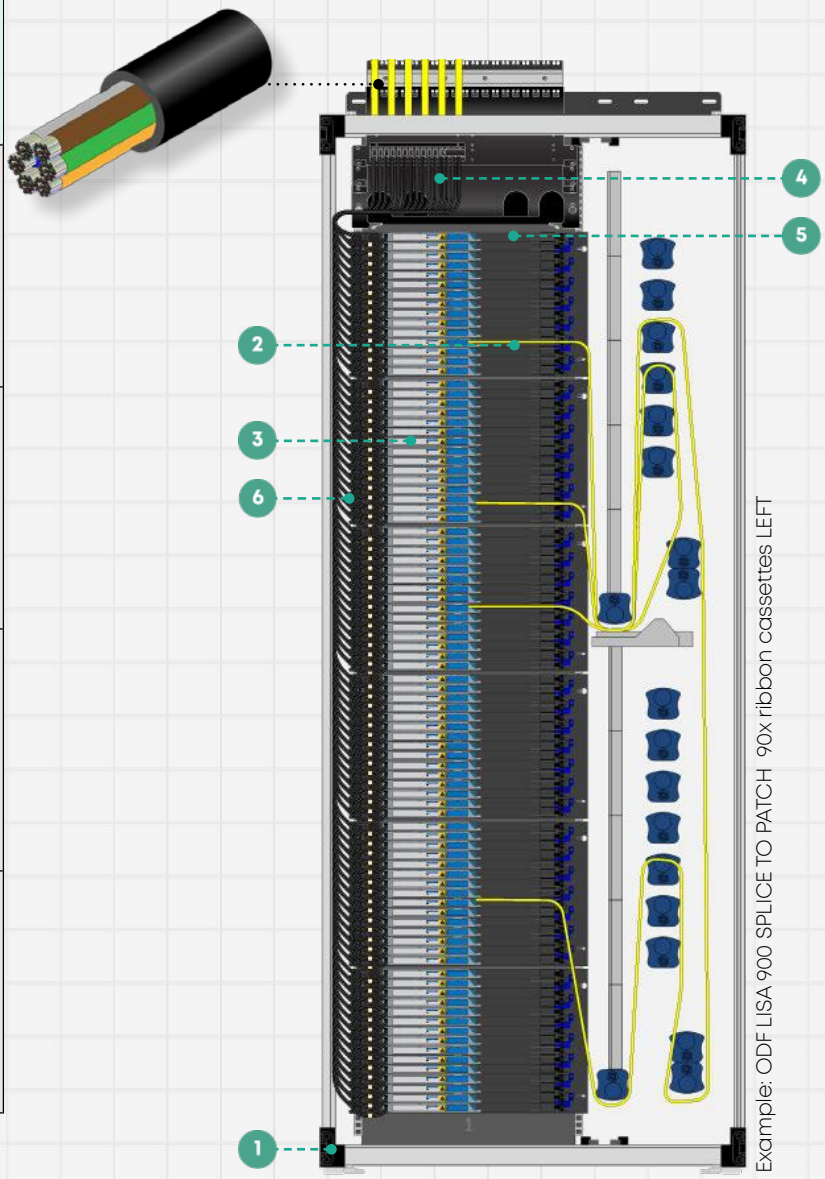
Optical fiber protection tube, 7.1mm, 100m spool, black
85227875
OFPT-FLEX-7.1-5.0-PA-V0-BK-100m

Spare part



Labelling clip for 7.1 mm tube, 100 pcs bag, yellow
85240185
OFPT-NMBR-CLP-7.1-YE_100-P

ODF LISA 900



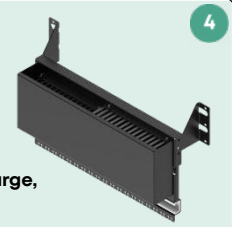
Example: ODF LISA 900 SPLICE TO PATCH 90x ribbon cassettes LEFT

Cable distribution rack (CDR) 900 47U, solid doors
85029090
CDR09-47U-SDLR-STA-BK
85029086
CDR09-47U-SDLR-STA-GY

Next generation rack (NGR) 900 46U, solid doors
85095770
NG0922S-T011B1S11R1C1B-1B0000A
85088557
NG0922S-T011B1S11R1C1B-1A0000A

LISA chassis LEFT 7U
85109665
LISA-FIBER-CHASSIS-L-HD-7U-BK
85109661
LISA-FIBER-CHASSIS-L-HD-7U-GY

LISA ribbon splice cassettes LEFT

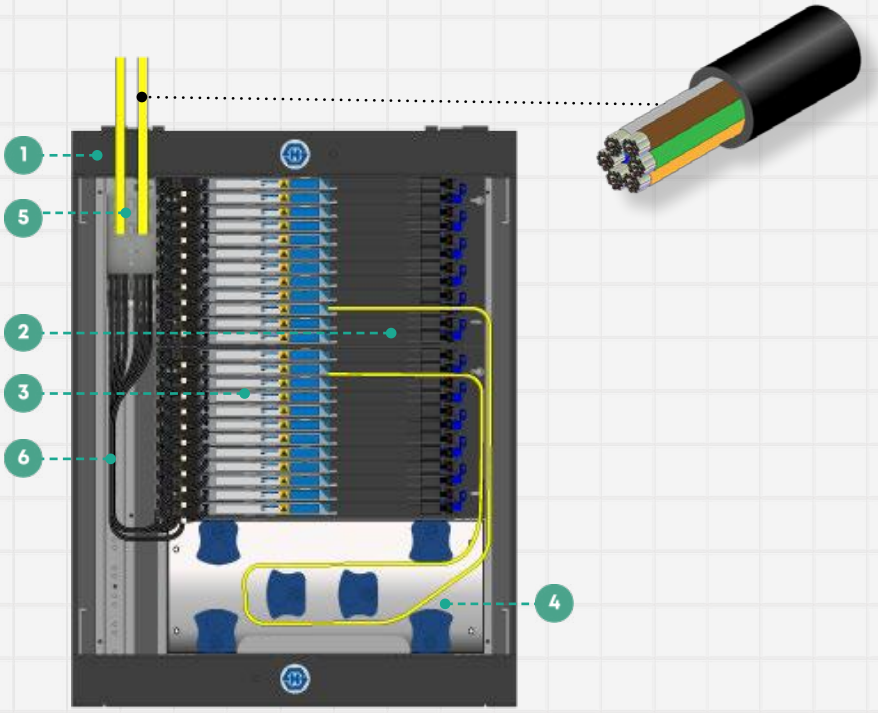


Breakout plate large, for 90 tubes
85243396
CDR/NGR-B/OUT-PLT-19"-BK-7.1-90-KIT
85243397
CDR/NGR-B/OUT-PLT-19"-GY-7.1-90-KIT

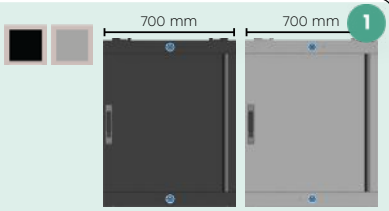
Protection tube trough for top entry
85135058
CDR-CABLE-TROUGH-UNI-19"-BK
85110556
CDR-CABLE-TROUGH-UNI-19"-GY

Protection tube kit for up to 90 cassettes
85244903
CP-TUBE-7.1-KIT-90-LISA-BK

ODF LISA 700



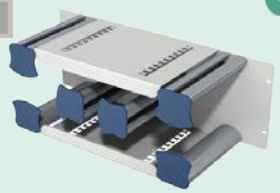
Example: ODF LISA 700 SPLICE TO PATCH
30x ribbon cassettes LEFT and overlength manager



Wall cabinet 17U
84084915 WCB7-17-BK
84082846 WCB7-17-GY

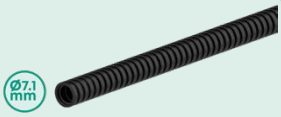
LISA chassis LEFT 7U
85109665
LISA-FIBER-CHASSIS-L-HD-7U-BK
85109661
LISA-FIBER-CHASSIS-L-HD-7U-GY

LISA ribbon splice cassettes LEFT



Cross-connect unit 4U, overlength manager
85105090 ODR-XU-4U-BK
85105089 ODR-XU-4U-GY

Stackable breakout box for 12 tubes
85243698 B/OUT-BOX-12x7.1-GY

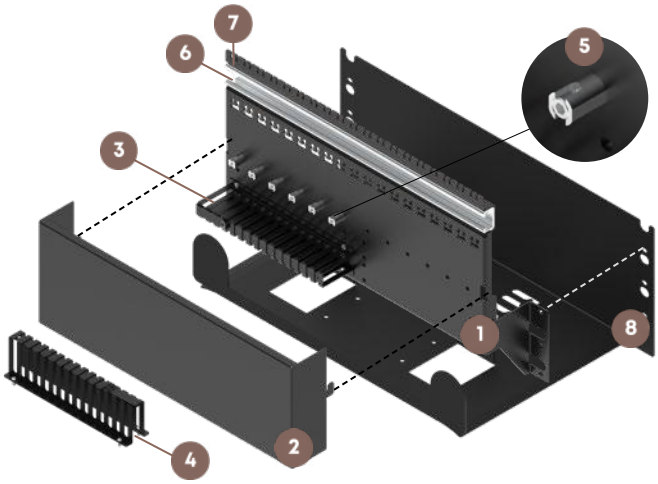


Optical fiber protection tube, 7.1mm, 100m spool, black
85227875
OFPT-FLEX-7.1-5.0-PA-V0-BK-100m

Labelling clip for 7.1 mm tube, 100 pcs bag, yellow
85240185
OFPT-NMBR-CLP-7.1-YE_100-P

Featuring a large breakout plate

Breakout plate - elements

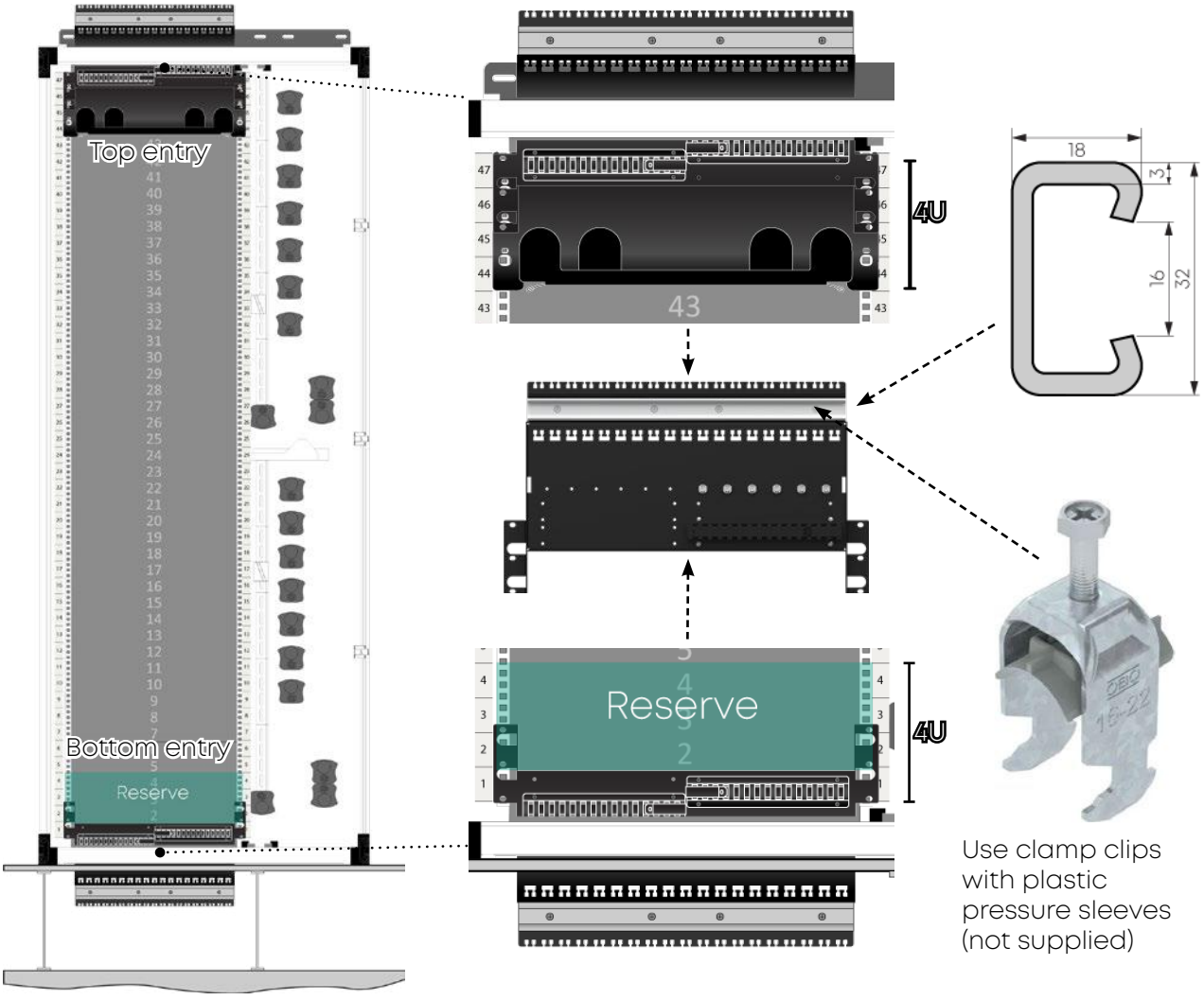


Properties

1. 19 inch breakout plate
2. Cover (**included**)
3. One comb for **up to 90** tubes ø7.1mm
4. Additional comb for up to 90 tubes (to be ordered separately)
5. 6x CSMs (central strength member fixation) mounted
6. Equipped with C-rail for clamps
7. Equipped with T-slots for cable ties
8. 19 inch trough, used in **top entry only** (to be ordered separately)

Installation example

Installation example

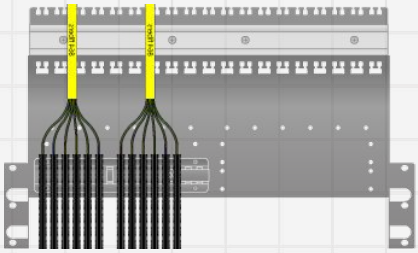


Use clamp clips with plastic pressure sleeves (not supplied)

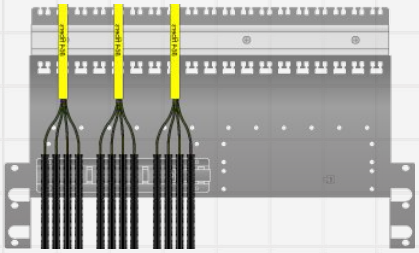
Use cases

864-fiber cable breakout variants

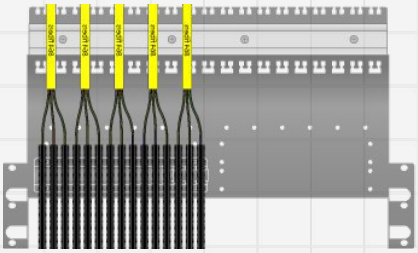
2x 864 fiber cables
72x 24 fiber cassettes



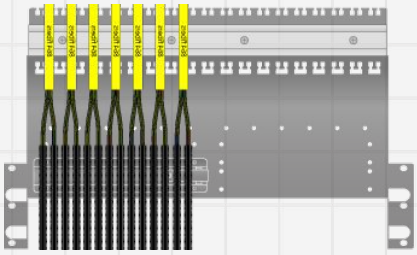
3x 864 fiber cables
72x 36 fiber cassettes



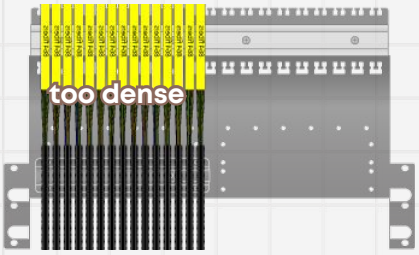
5x 864 fiber cables
90x 48 fiber cassettes



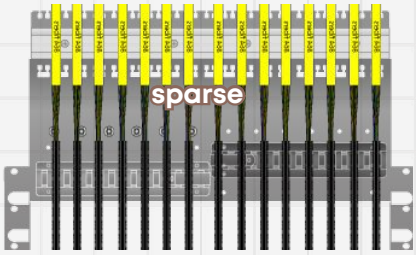
7x 864 fiber cables
84x 72 fiber cassettes



15x864 fiber cables
90x 144 fiber cassettes

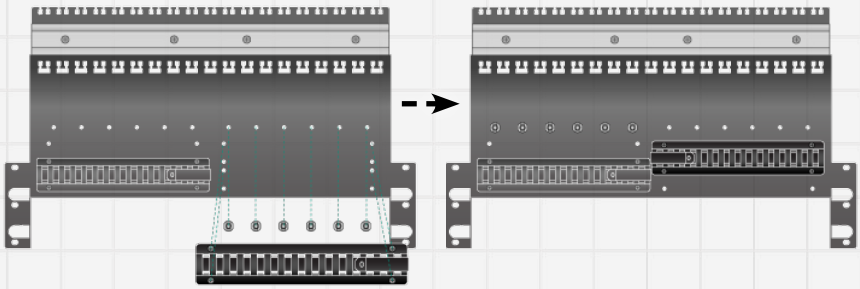


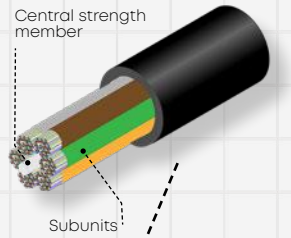
15x 864 fiber cables
90x 144 fiber cassettes
Increased distances



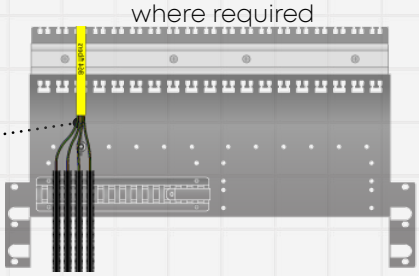
Add comb if required
(extension kit)

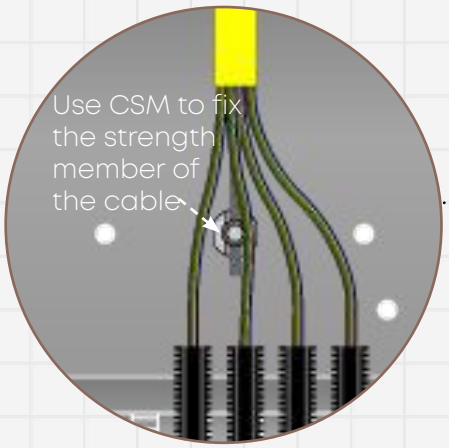
Now the breakout plate can
accomodate 180 tubes



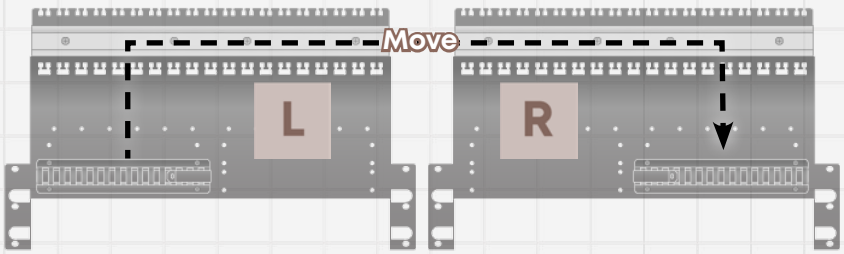


Use central strength member
where required





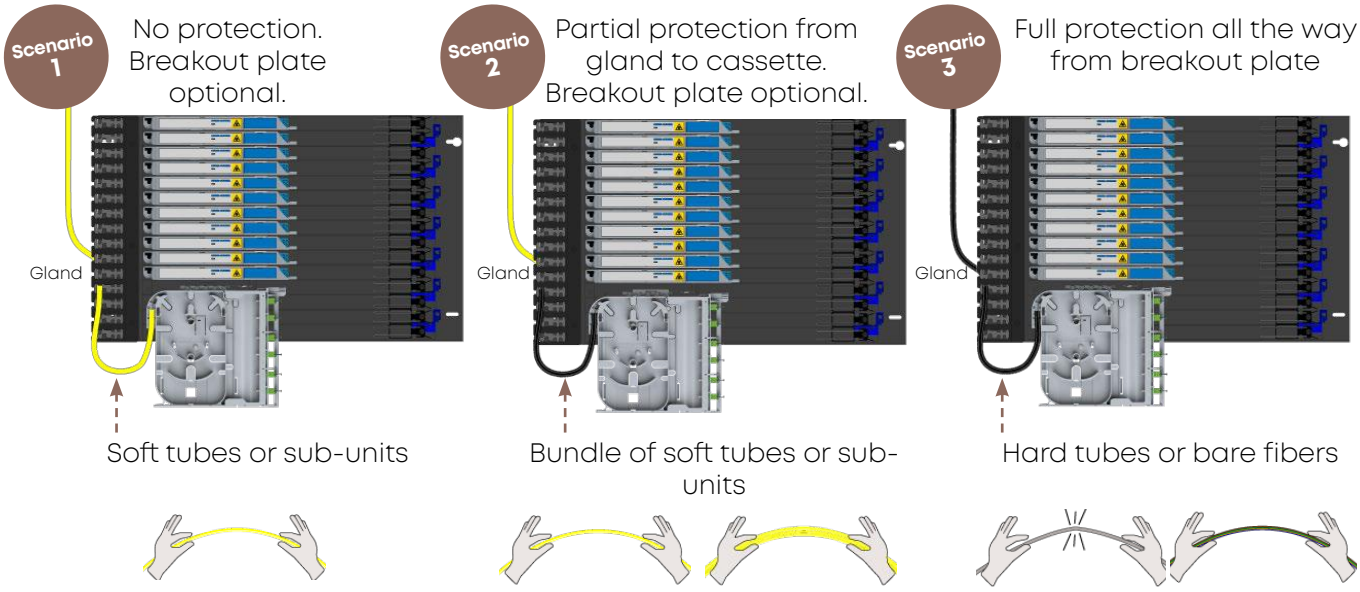
Convert from LEFT to RIGHT design by re-mounting comb



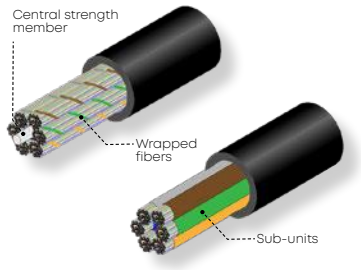
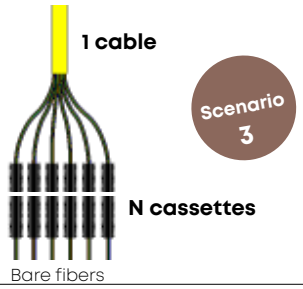
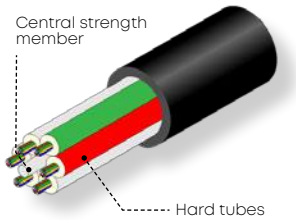
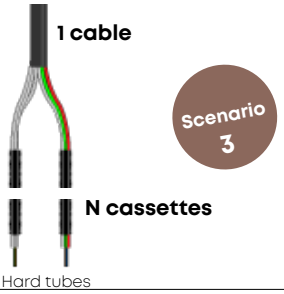
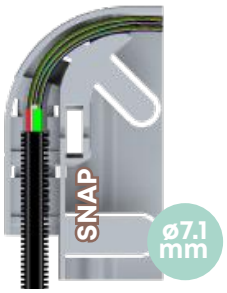
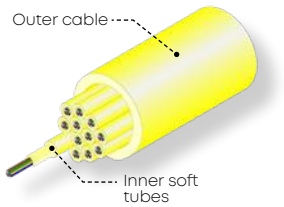
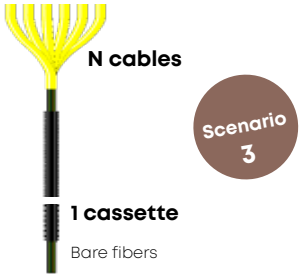
Tip. De-mount CSM if not required!

Cable terminations

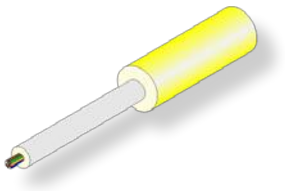
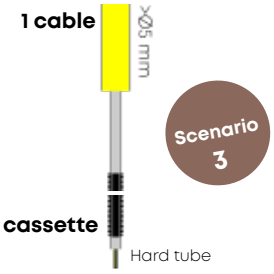
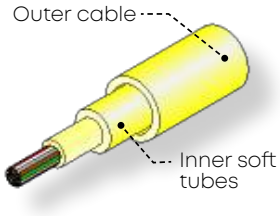
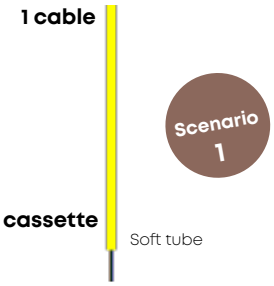
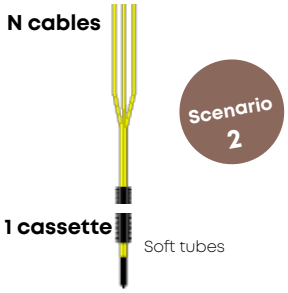
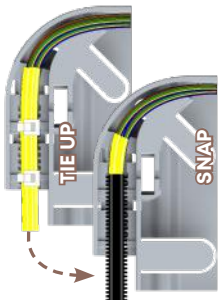
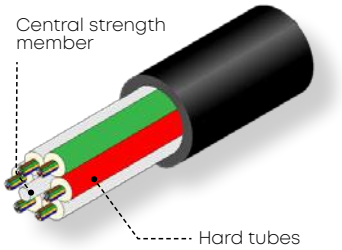
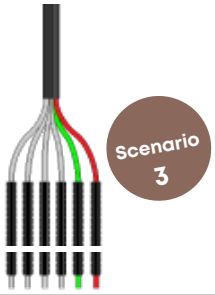
Usage of protection tubes

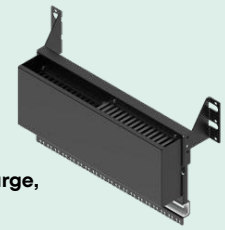


Usage of breakout plate and terminations on LISA ribbon cassette

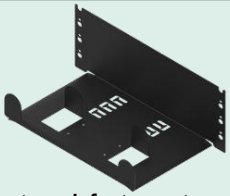
Use case	Description	Cable types	Example	Cassette termination
1	A **breakout 1 to N** occurs when **fibers** from a **high-fiber-count** cable are separated into **multiple** protection tubes, which are then routed to individual cassettes.		864 fiber cable → 6x 144 fiber cassettes 	
2	A **breakout 1 to N** occurs when **loose tubes** from a **multifiber loose tube** cable are separated into **multiple** protection tubes, which are then routed to individual cassettes.		72 fiber cable → 2x 36 fiber cassettes 	
3	Cable **bundling N to 1** happens when several low-fiber-count cables or units from larger cable are combined into a **single** protection tube, which is then directed to a cassette.	OptiPack OptiRibbon OptiSlim 	72 fiber cable → 1x 72 fiber cassette 	

Usage of breakout plate and terminations on LISA ribbon cassette

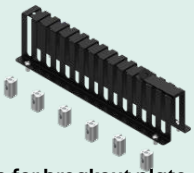
4	In certain situations, the single cable must be **transitioned directly** into a protection tube when it cannot be secured to the cassette.		24 fiber cable → 1x 24 fiber cassette 	
5	The flexible single cable can be **directly secured** to the cassette if its diameter is less than 5 mm.	OptiPack DJ OptiRibbon DJ 	24 fiber cable → 1x 24 fiber cassette 	
6	Even if several smaller cables can be directly secured to the cassette without protection tubes, it is still **recommended** to use a **protection tube** for added safety.		3x 12 fiber cables bundled → 1x 36 fiber cassette 	
7	Protection tubes, **except** those with a **7.1 mm** diameter, can be secured to the cassette using **cable ties**.		144 fiber cable → 6x 24 fiber cassettes 	



Breakout plate large, for 90 tubes
85243396
CDR/NGR-B/OUT-PLT-19"-BK-7.1-90-KIT
85243397
CDR/NGR-B/OUT-PLT-19"-GY-7.1-90-KIT



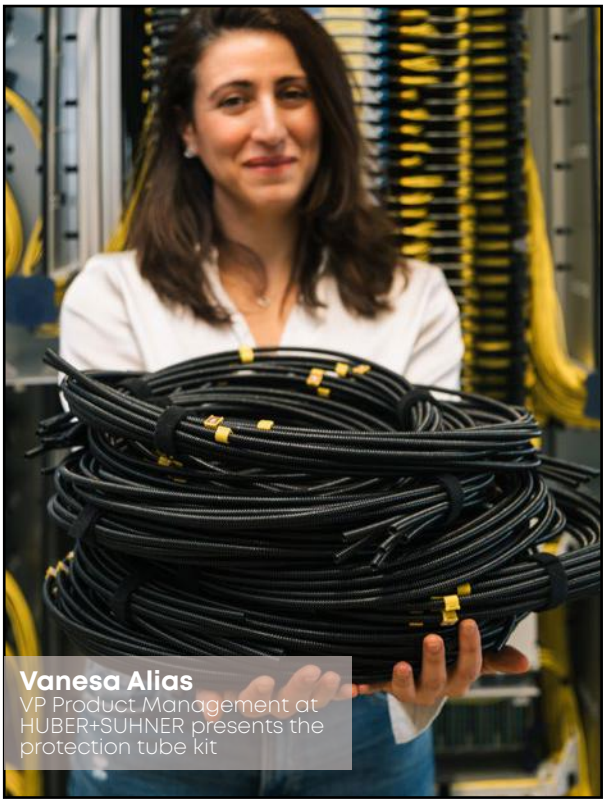
Protection tube trough for top entry
85135058
CDR-CABLE-TROUGH-UNI-19"-BK
85110556
CDR-CABLE-TROUGH-UNI-19"-GY

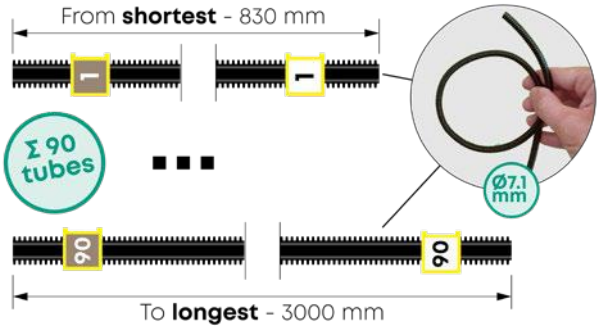


Additional comb for breakout plate, for 90 ø7.1mm tubes and 6 CSM
85237829
CDR/NGR-B/OUT-PLT-19"-BK-7.1-EXP-KIT
85237842
CDR/NGR-B/OUT-PLT-19"-GY-7.1-EXP-KIT

Featuring the protection tube kit

Protection tube kit - elements





Properties

1. Fifteen tube sets, each containing 6 tubes, totalling 90 tubes in all, cut to specific lengths
2. Marking clips (dark and bright) are mounted on both sides
3. Spare tubes, marking clips and velcro straps are included

Quantity of kits per ODF LISA required:

Type of ODF	Quantity of kits required
ODF LISA 1500	2
ODF LISA 900	1

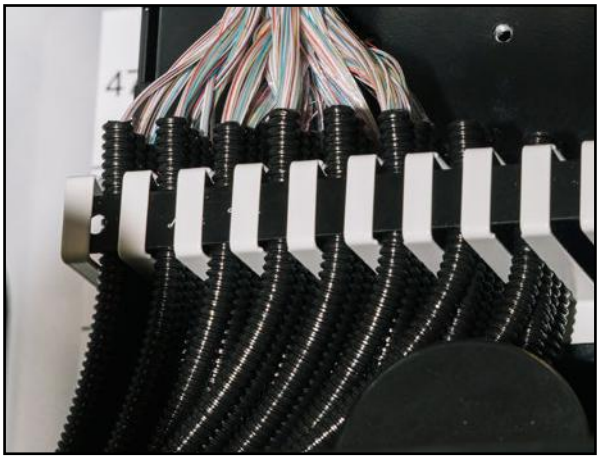
Tube lengths

Casssette/tube number	Tube set number	Length of tubes in mm
1-6	1	830
7-12	2	985
13-18	3	1140
19-20	4	1295
25-30	5	1450
31-36	6	1605
37-42	7	1760
43-48	8	1915
49-54	9	2070

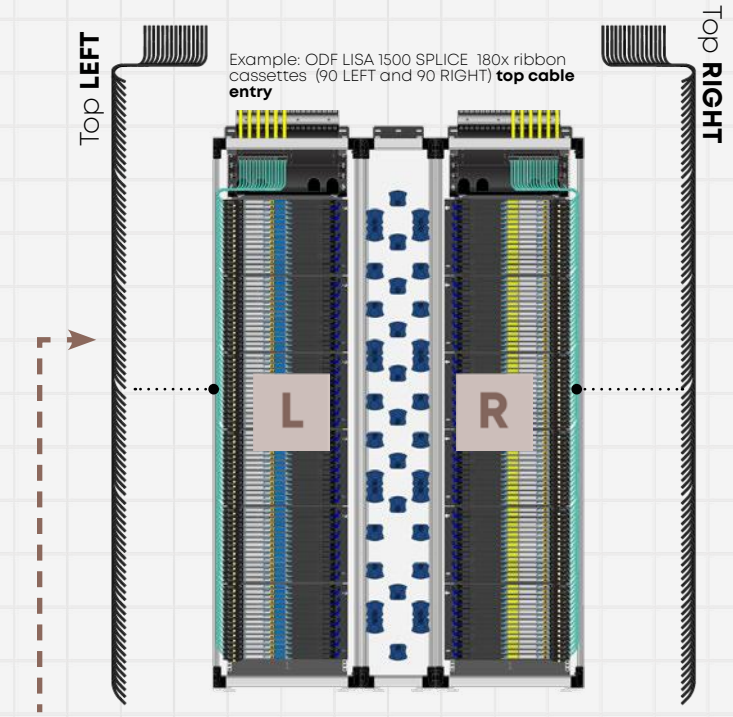
Casssette/tube number	Tube set number	Length of tubes in mm
55-60	10	2225
61-66	11	2380
67-72	12	2535
73-78	13	2690
79-84	14	2845
85-90	15	3000

* 1x spare 3m tube and 10x spare marking clips included in every set

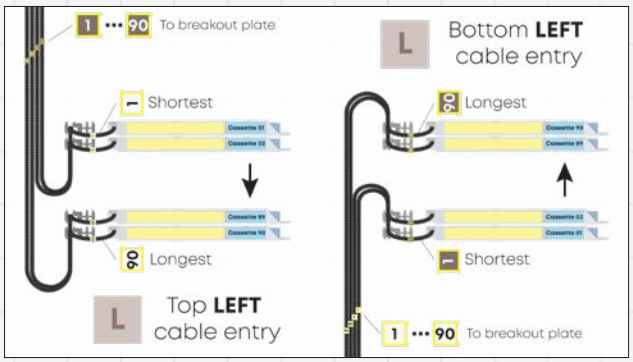
Protection tube kit for up to 90 cassettes
85244903
CP-TUBE-7.1-KIT-90-LISA-BK

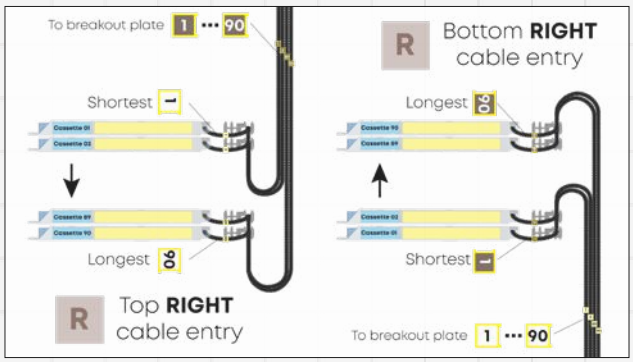


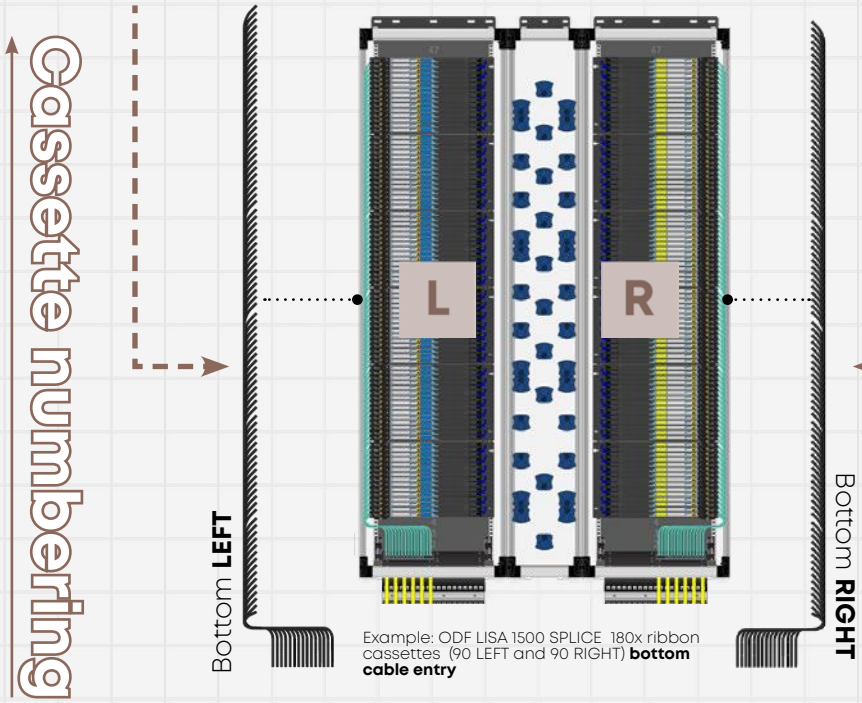
Use cases



The **same kit** is used in **any** 46U or 47U ODF configuration: left, right, top and bottom

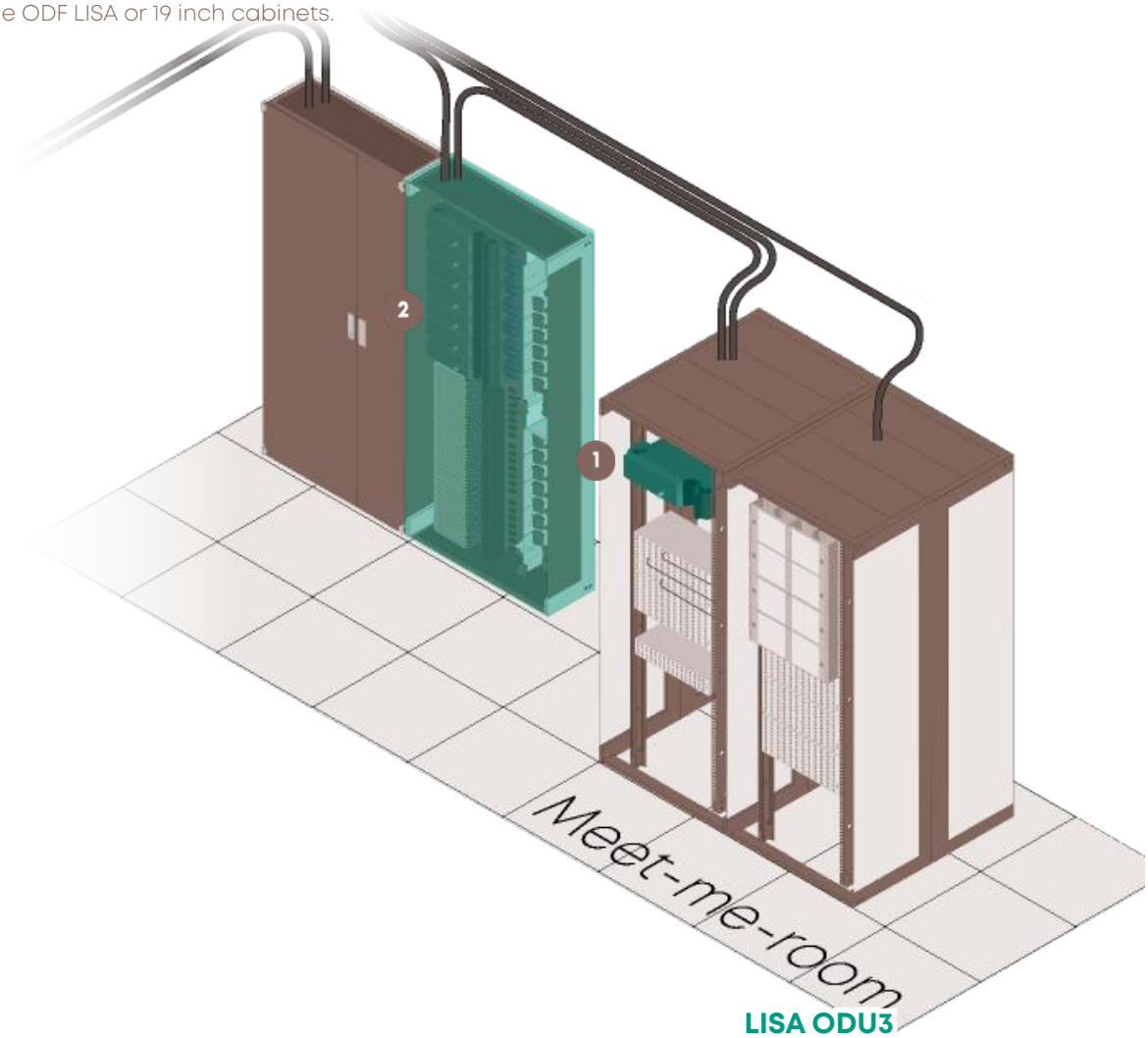






Featuring the LISA ODU3

The LISA ODU3 is a 19 inch patch panel designed to accommodate LISA ribbon cassettes and can be used in either the ODF LISA or 19 inch cabinets.



Applications

1 **Meet-me-room or white space → switch cabling**

LISA ODU3 used in switch or server racks as top-of rack or middle-of-rack panel.

2 **Meet-me-room → ODF LISA with ODU3**

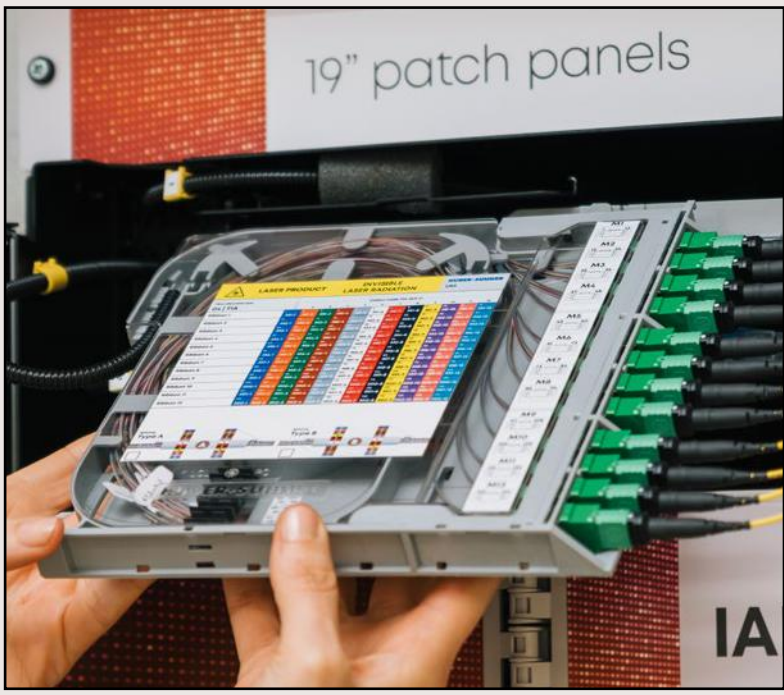
LISA ODU3 used as lockable chassis inside the ODF LISA

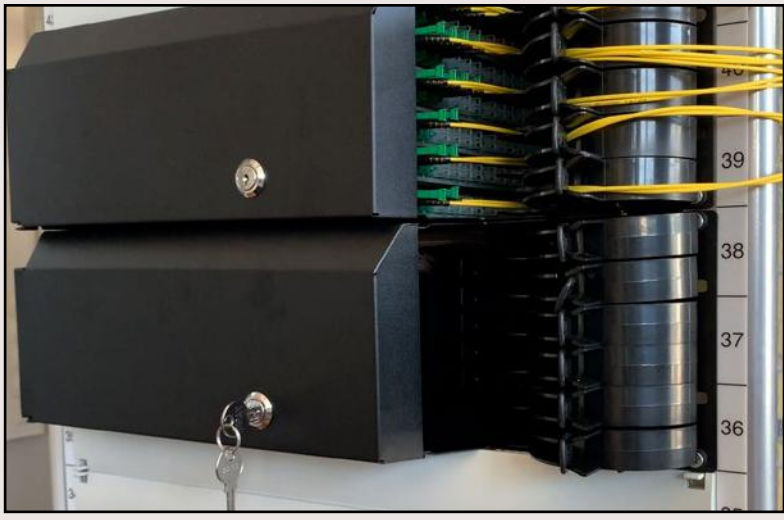
LISA ODU3

- Rack height 3U
- Maximum 6 LISA LEFT ribbon cassettes
- From 72 to 864 fibers
- Black or grey

The LISA ODU3 chassis offers compatibility with any 19 inch rack or ODF, **secure access**, patch cord guidance and versatile mounting options.

Dmitry Tsyplakov
Product Manager at HUBER+SUHNER presents the LISA cassette





Density

Four times more fibers can be deployed in the LISA ODU3 thanks to the new cassette design

Splice faster

Faster splicing with the ribbon pigtail

Work faster

Larger tube → less tubes required. Simple and similar installation as existing approach.

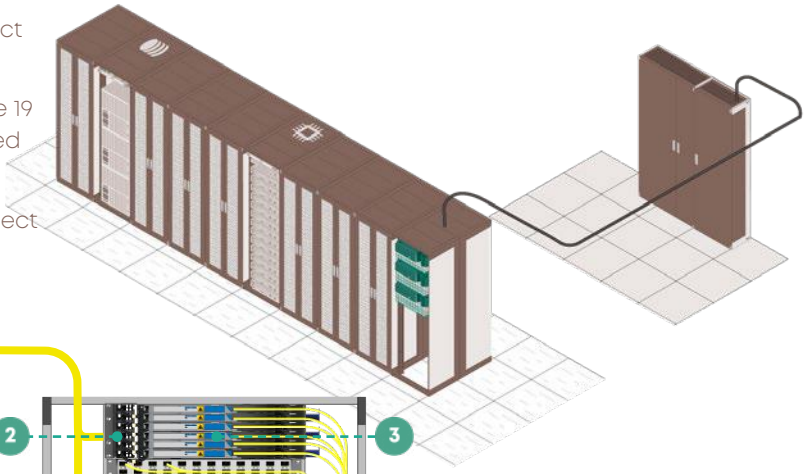
LISA ODU3 applications

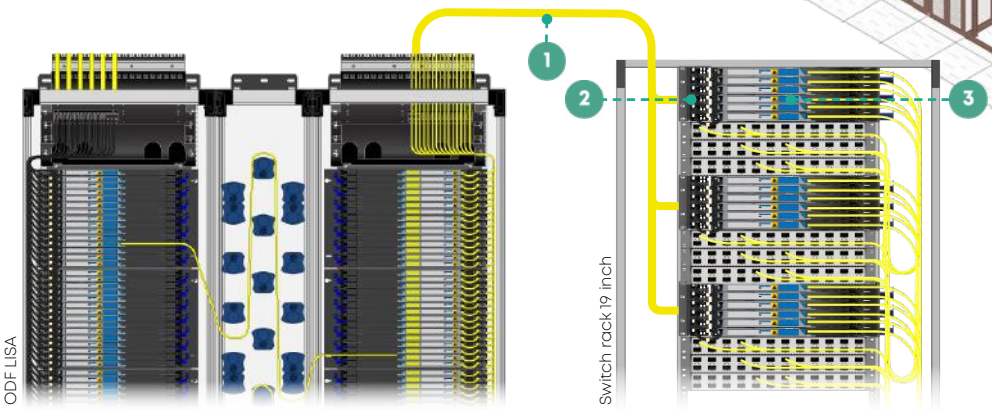
Switch cabling with LISA ODU3

The LISA ODU3 is installed in a 19 inch rack to connect to active equipment.

On day one, a ribbon cable links the ODF LISA to the 19 inch rack with the LISA ODU3. LISA cassettes are used on both ends, in the ODU3 and the ODF.

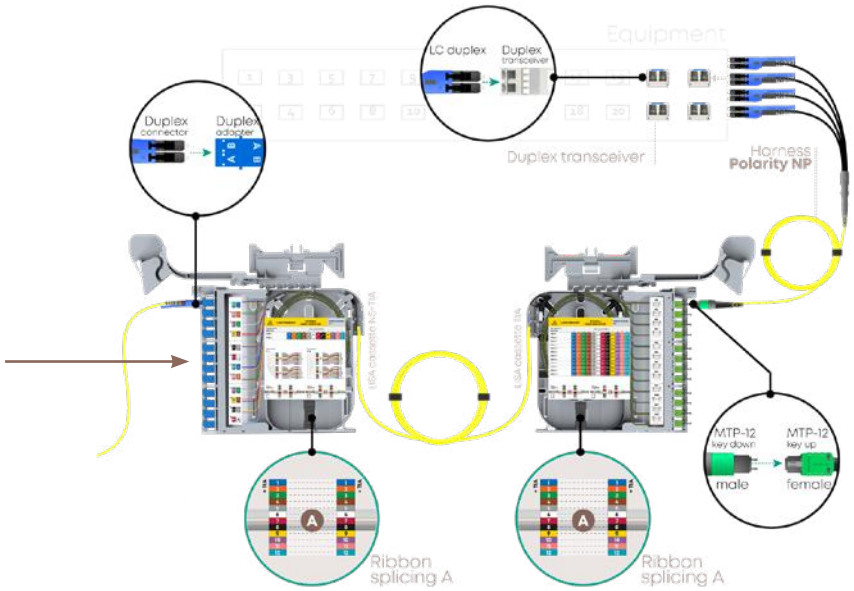
MTP to LC harness cables or MTP patch cords connect transceivers to the LISA cassettes.

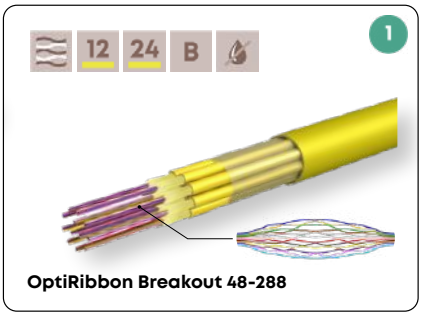




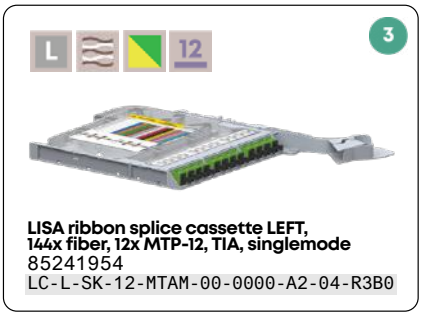
LISA ribbon splice cassettes LEFT

* Various cassettes possible





OptiRibbon Breakout 48-288

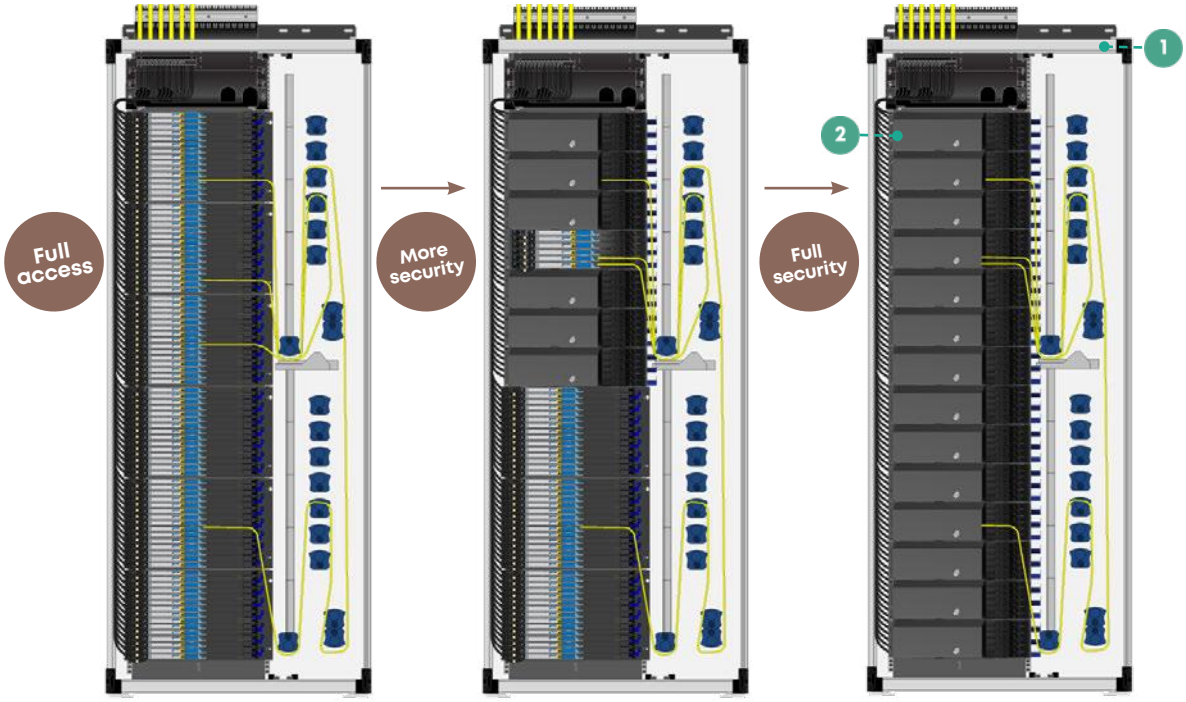


LISA ribbon splice cassette LEFT, 144x fiber, 12x MTP-12, TIA, singlemode
85241954
LC-L-SK-12-MTAM-00-0000-A2-04-R3B0

ODF LISA with ODU3

The LISA ODU3 is used to create another type of ODF LISA. It features a lockable door for added security of critical connections.

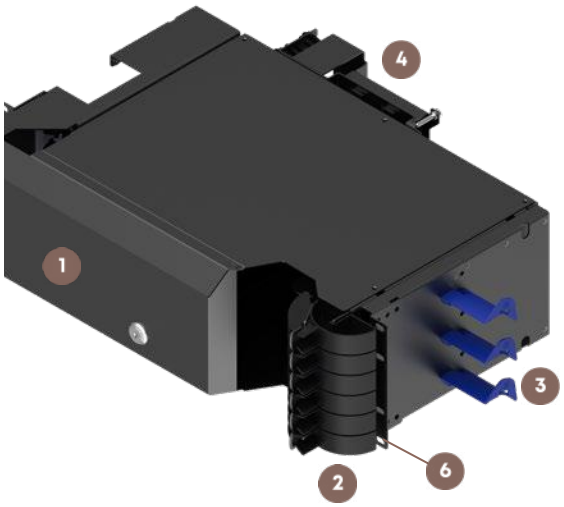
In meet-me-rooms, it presents cables from various service providers in lockable chassis with restricted access.



Technical details ODF LISA with ODU3	
Base rack	NGR 900 or CDR 900
Maximum number of LISA ODU3 chassis	**14x** 3U LEFT
Maximum number of cassettes	**84x** LEFT
12f cassette capacity | connectors	1008 | SC, E2000, LCd, MDC, SN, MTP-12
24f cassette capacity | connectors	2016 | E2000, LCd, MDC, SN, MTP-12
36f cassette capacity | connectors	3024 | LCd, MDC, SN, MTP-12
48f cassette capacity | connectors	4032 | MDC, SN, MTP-12
72f cassette capacity | connectors	6048 | MDC, SN, MTP-12
144f cassette capacity | connectors	**12096** | MTP-12
Application	**Ribbon** splicing to patching
Cable entry option	Top **OR** bottom
Patch cord over-length management	Integrated into rack
Footprint	300 x 900
Minimum footprint with service, mm	900 x 900
Patch cord types	3.5 m and 5.0 m

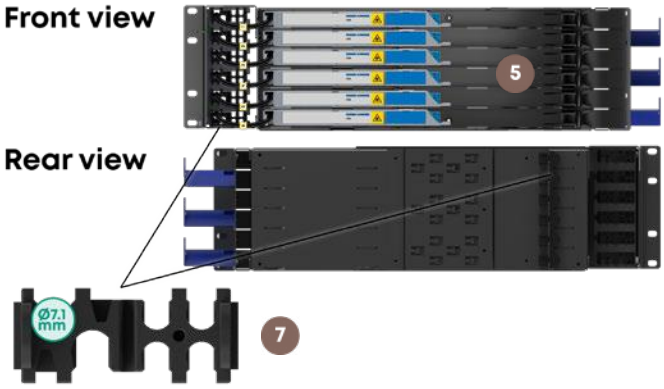
Overview

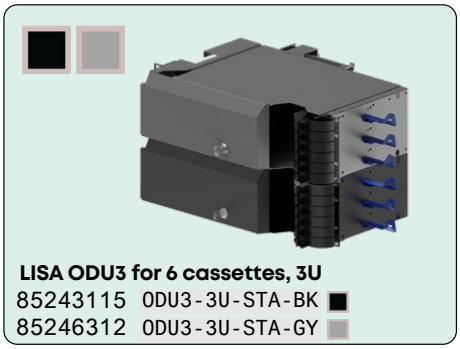
LISA ODU3 - elements



Properties

1. Door with lock
2. Horizontal mandrel for patch cord management
3. Vertical detachable mandrels for patch cord management
4. Removable cable fixation plate and cover
5. 6 slots for LISA cassettes LEFT
6. Reversible left and right mounting bracket for ODF or 19 inch cabinet installation
7. Fixation glands for protection tube ø7.1 mm and ø5 mm and set of 6x protection tubes





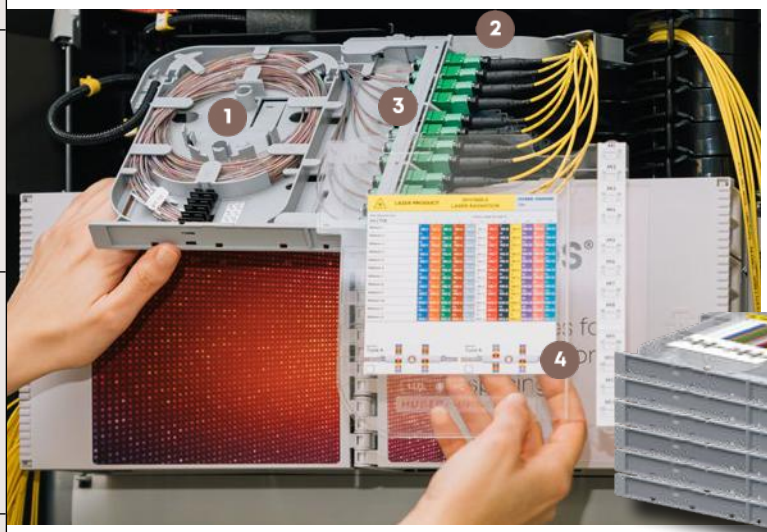
LISA ODU3 for 6 cassettes, 3U

85243115 ODU3-3U-STA-BK ■
85246312 ODU3-3U-STA-GY ■

Mladen Sichev
Account manager at HUBER+SUHNER presents the LISA ODU3

Featuring the LISA ribbon cassette

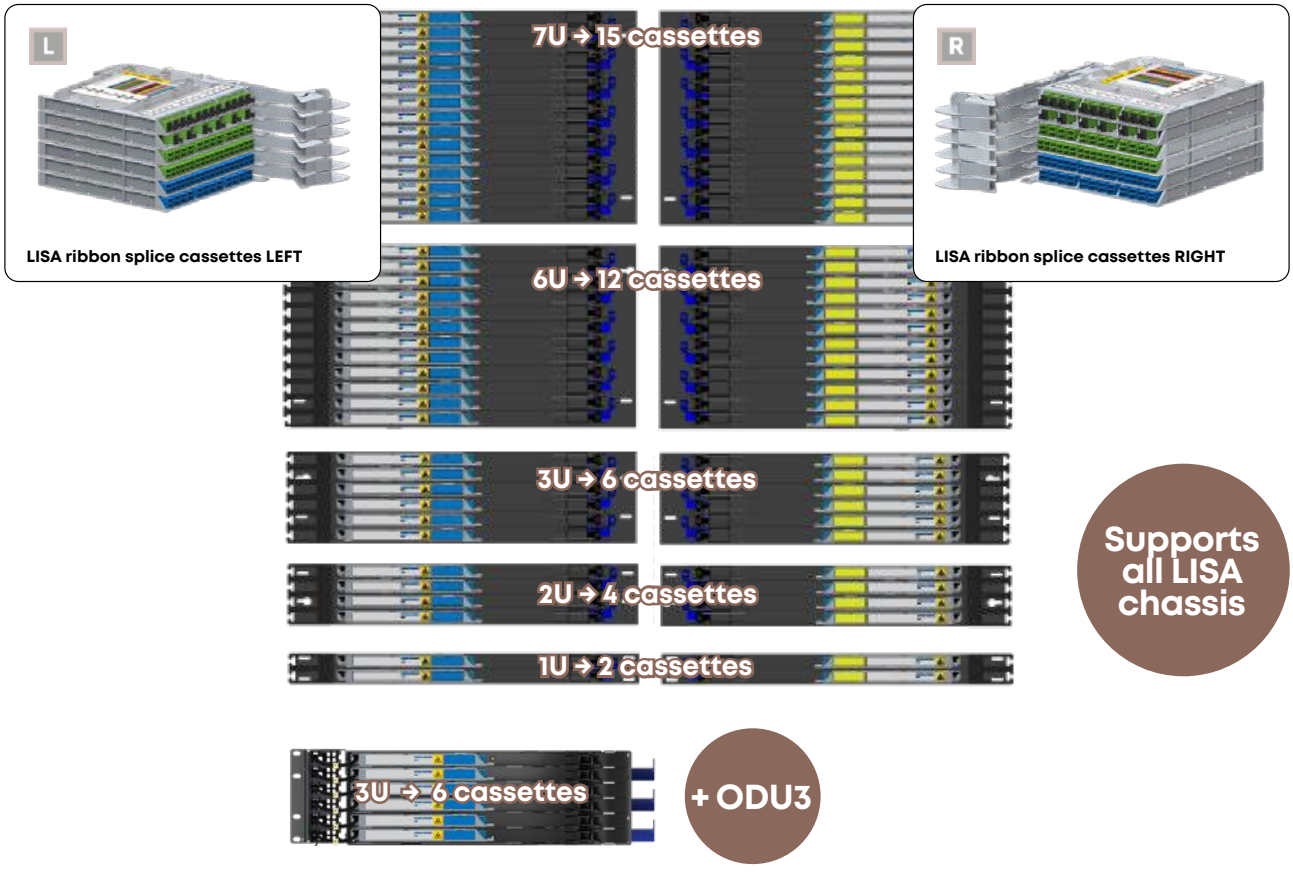
LISA ribbon cassette overview



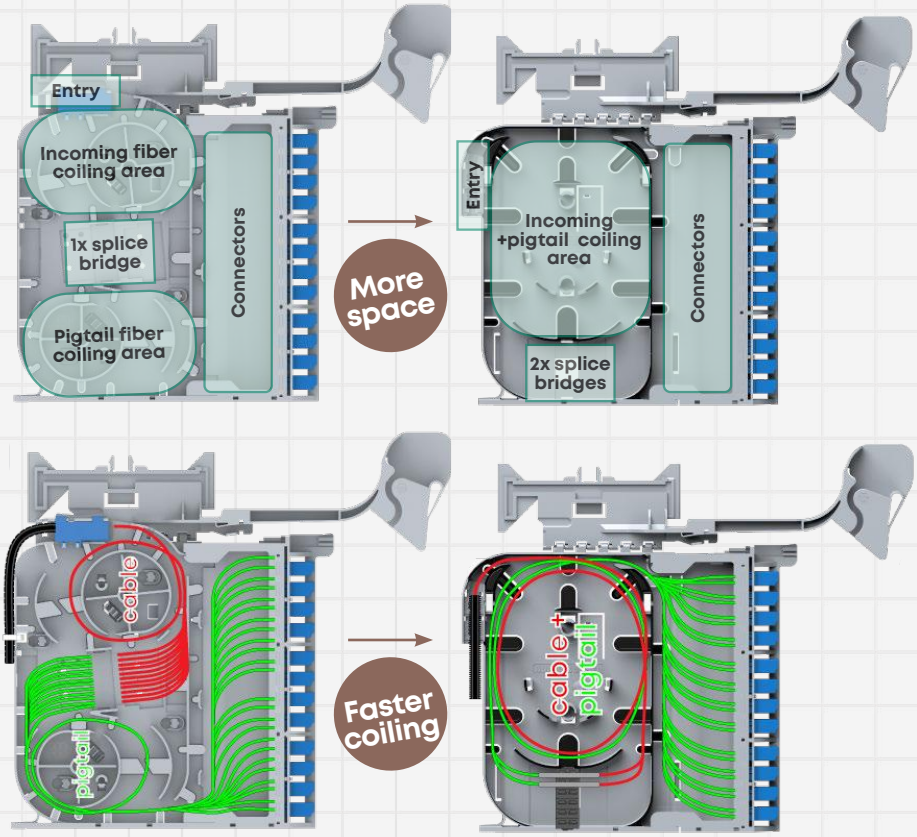
Properties

1. Enlarged cassette body for fiber coiling
2. Hinge + patch cord arm compatible with LISA chassis
3. Adapter plate supporting various connectivity
4. Transparent cover and label

LISA ribbon cassette in LISA chassis and LISA ODU3



LISA standard and ribbon cassette comparison



Description code starts with

`LC-L-SH-...` `LC-R-SH-...`
`LC-L-RH-...` `LC-R-RH-...`

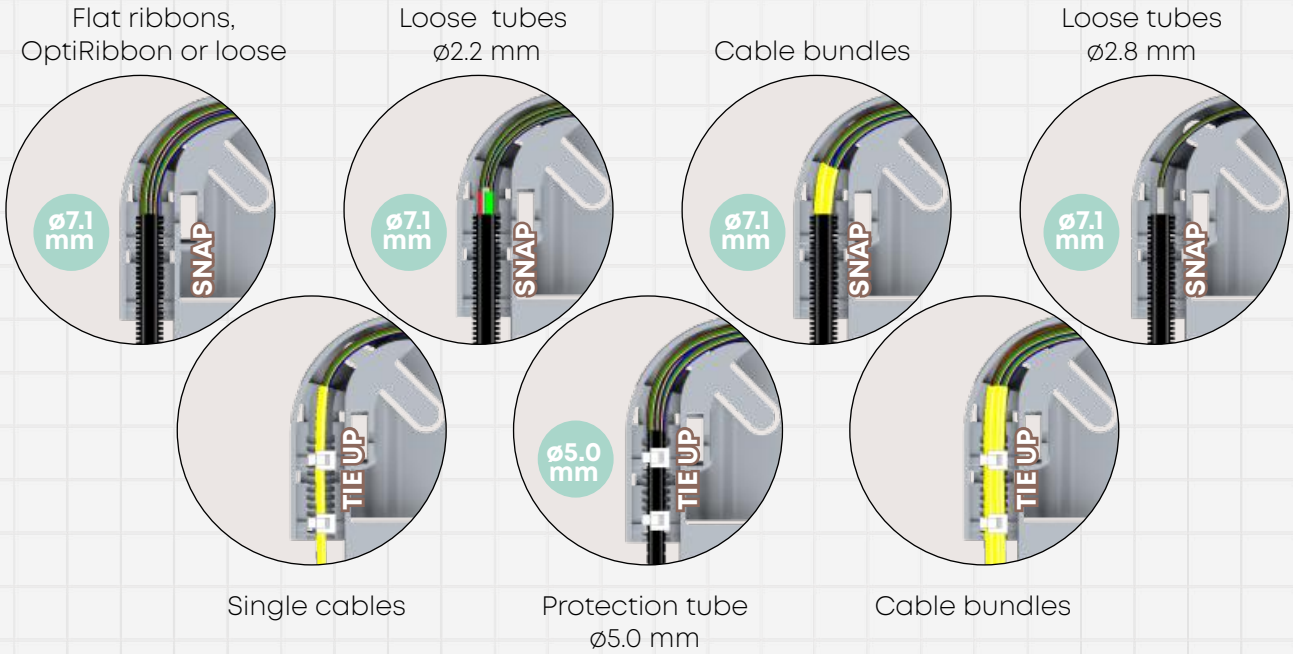
Description code starts with

`LC-L-SK-...` `LC-R-SK-...`

Updates

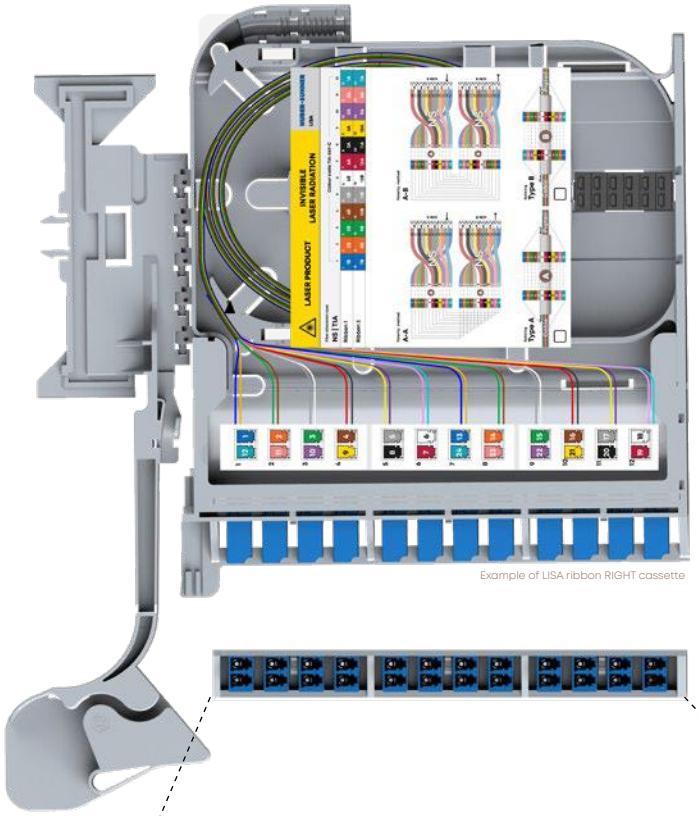
- A larger and combined coiling area, up to 144 fibers
- Modified cassette entry + support 7.1mm protection tube. Standard cassette supports 5.0mm tube.
- Up to 2x splice bridges, to store up to 12 ribbon splice sleeves
- New front plates to support VSFF
- OptiRibbon pigtails instead of flat ribbons

Cable terminations on LISA ribbon cassette



Cassette types

LISA ribbon cassette types



Example of LISA ribbon RIGHT cassette

Front plate design configurations

12x LCd UPC

12x LCd APC

18x LCd UPC

18x LCd APC

6x MTP Base-8 or -12

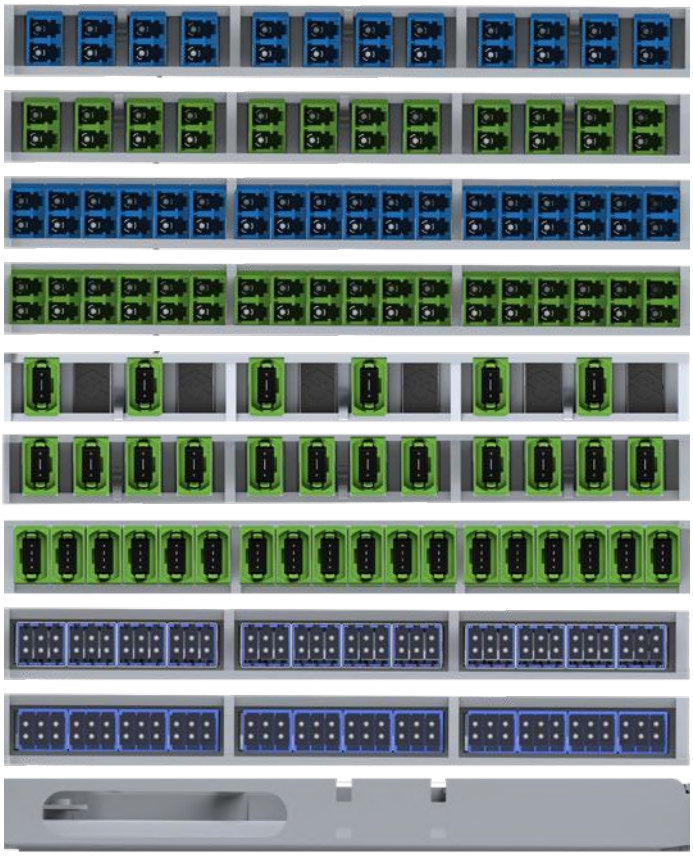
12x MTP Base-8 or -12

18x MTP Base-8

36x SN UPC

36x MDC UPC

Splice through



Featuring the Helper tool

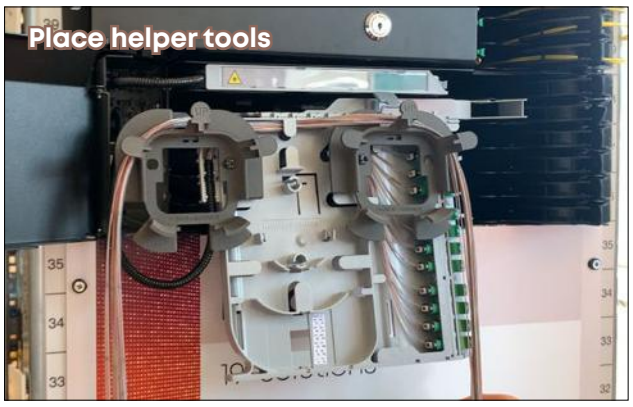
Helper tool

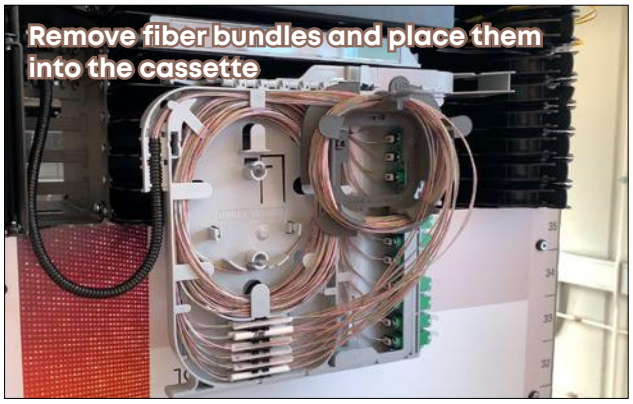
Properties

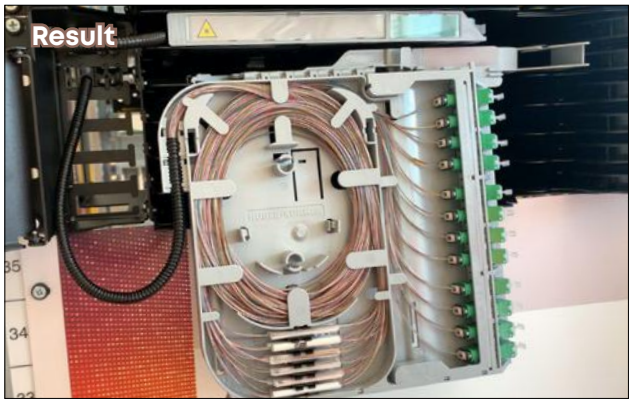
- Optional tool which simplifies fiber coiling
- Attachable/detachable
- Coil size matches cassette body
- Kit consists of two similar pieces

Help tool for LISA ribbon cassette
85241941
LC-X-HELPTOOL

How it works?

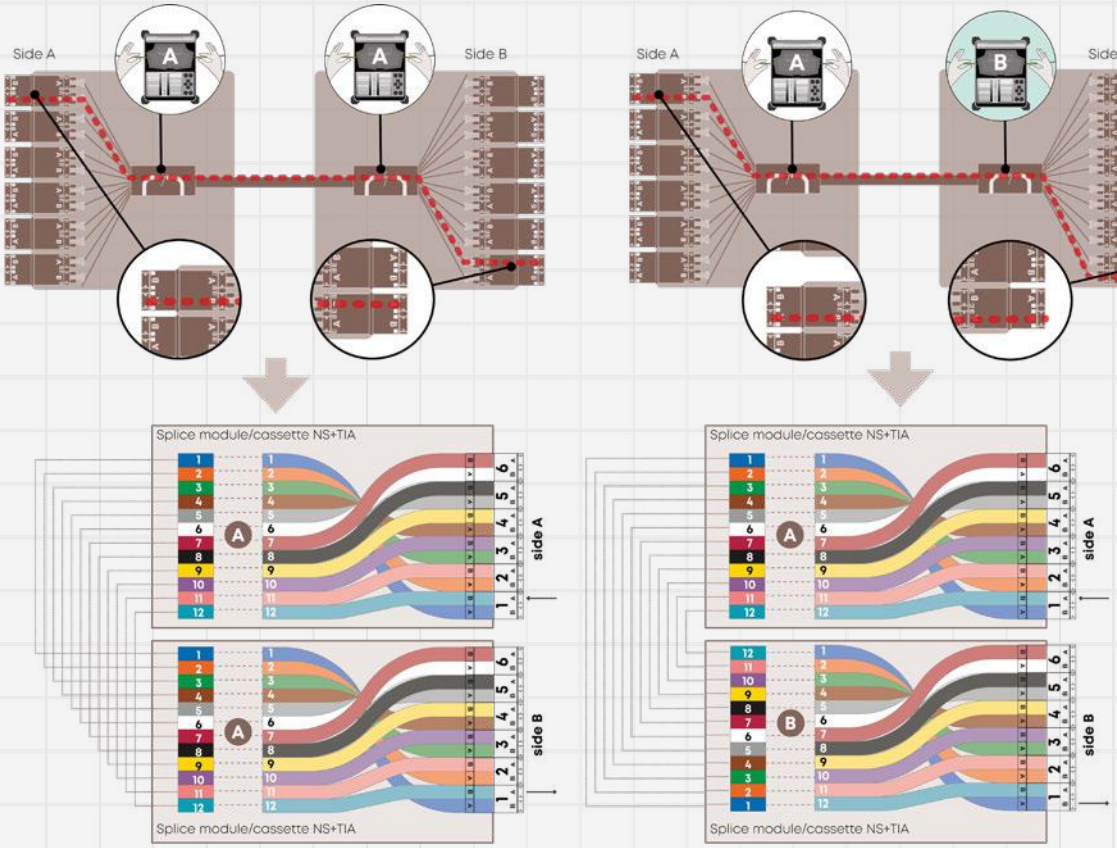




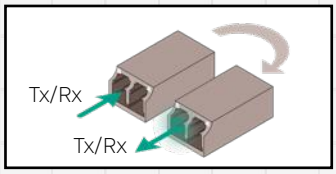


Splicing methods and polarity

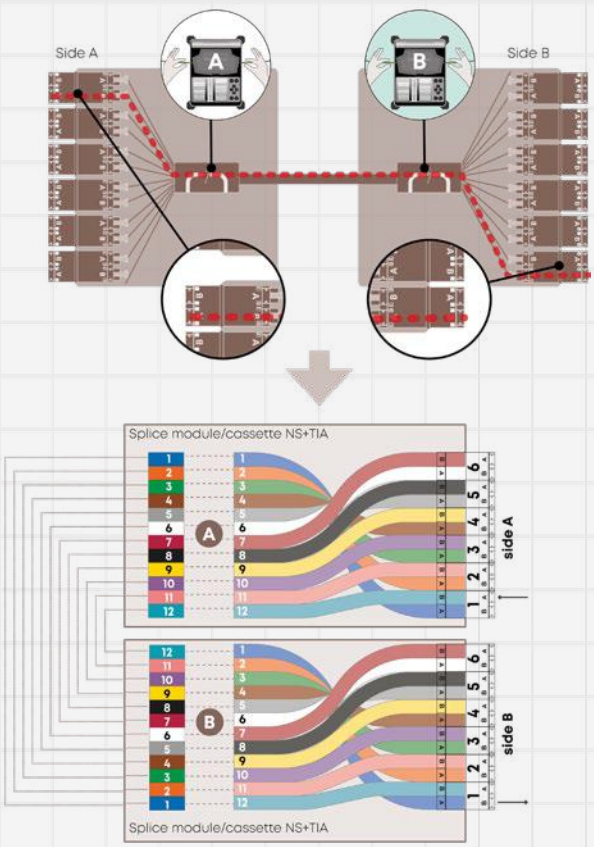
Splicing method NS+TIA



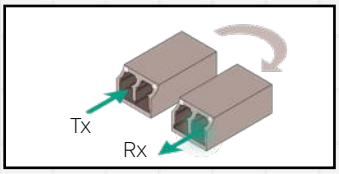
Duplex permanent link A-A
→ **side A: type A** ribbon splicing
→ **side B: type A** ribbon splicing



Central office

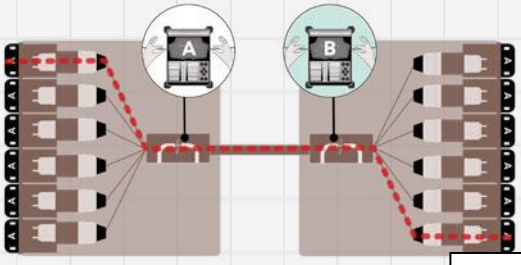


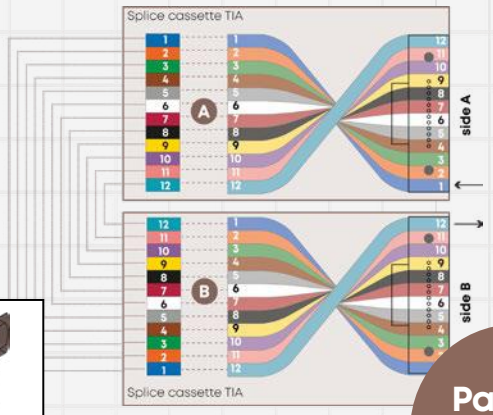
Duplex permanent link A-B
→ **side A: type A** ribbon splicing
→ **side B: type B** ribbon splicing

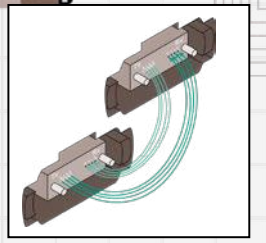


Data center

Splicing method TIA



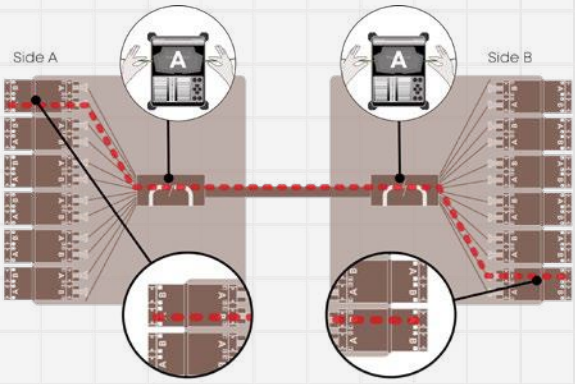




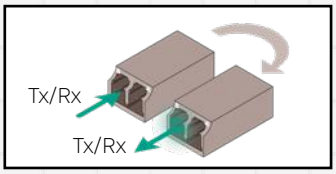
Parallel permanent link B
→ **side A: type A** ribbon splicing
→ **side B: type B** ribbon splicing

Parallel Base-8 or -12

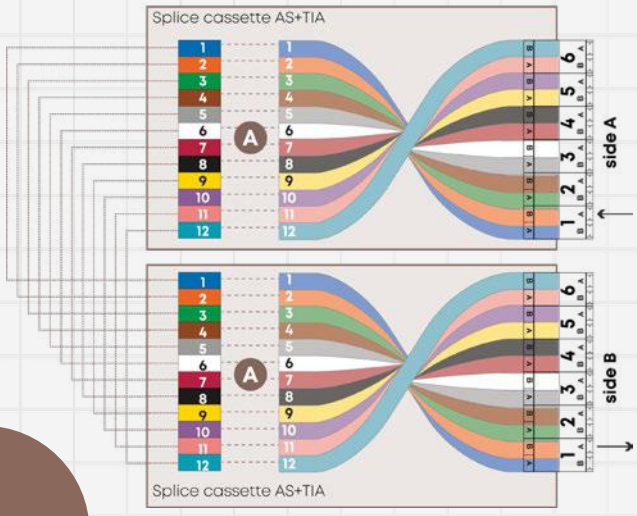
Splicing method AS+TIA



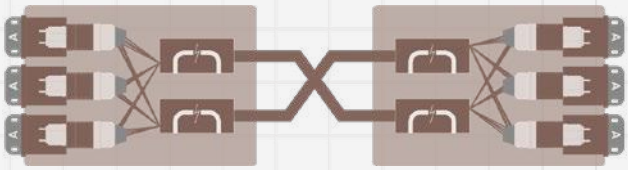
Duplex permanent link A-A
→ **side A: type A** ribbon splicing
→ **side B: type A** ribbon splicing



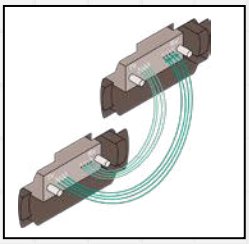
Backbone



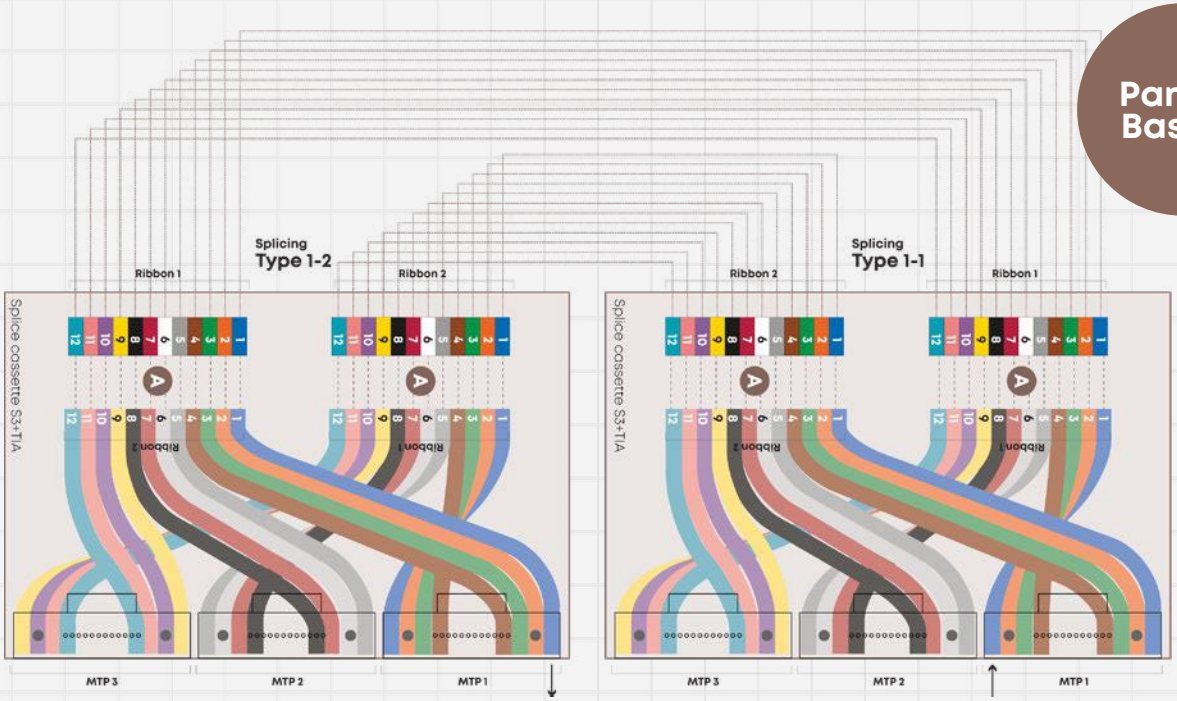
Splicing method S3+ TIA



Parallel permanent link B
→ **side A: type A 1-1** ribbon splicing
→ **side B: type A 1-2** ribbon splicing



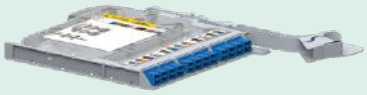
Parallel Base-8



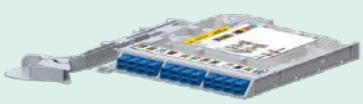
Ordering information

LISA ribbon splice cassette 12x LCd, AS+TIA

Backbone



LISA ribbon splice cassette LEFT, 24x fiber, 12xLCd UPC, AS+TIA, singlemode
85257384
LC-L-SK-12-LCUD-00-0000-A2-AS-R1S0



LISA ribbon splice cassette RIGHT, 24x fiber, 12xLCd UPC, AS+TIA, singlemode
85257455
LC-R-SK-12-LCUD-00-0000-A2-AS-R1S0

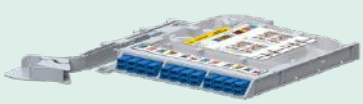
LISA ribbon splice cassette LEFT, 24x fiber, 12xLCd APC, AS+TIA, singlemode
85260315
LC-L-SK-12-LCAD-00-0000-A2-AS-R1S0

LISA ribbon splice cassette RIGHT, 24x fiber, 12xLCd APC, AS+TIA, singlemode
85260318
LC-R-SK-12-LCAD-00-0000-A2-AS-R1S0

LISA ribbon splice cassette 12x LCd, NS+TIA

Data center + Central office

LISA ribbon splice cassette LEFT, 24x fiber, 12xLCd UPC, NS+TIA, singlemode
85241942
LC-L-SK-12-LCUD-00-0000-A2-NS-R1S0



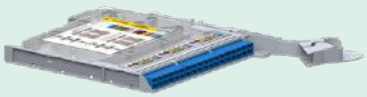
LISA ribbon splice cassette RIGHT, 24x fiber, 12xLCd UPC, NS+TIA, singlemode
85241943
LC-R-SK-12-LCUD-00-0000-A2-NS-R1S0

LISA ribbon splice cassette LEFT, 24x fiber, 12xLCd APC, NS+TIA, singlemode
85241944
LC-L-SK-12-LCAD-00-0000-A2-NS-R1S0

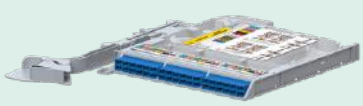
LISA ribbon splice cassette RIGHT , 24x fiber, 12xLCd APC, NS+TIA, singlemode
85241945
LC-R-SK-12-LCAD-00-0000-A2-NS-R1S0

LISA ribbon splice cassette 18x LCd, NS+TIA

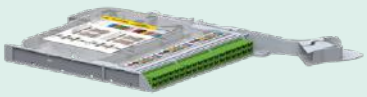
Data center + Central office



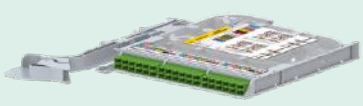
LISA ribbon splice cassette LEFT, 36x fiber, 18xLCd UPC, NS+TIA, singlemode
85241946
LC-L-SK-18-LCUD-00-0000-A2-NS-R1S0



LISA ribbon splice cassette RIGHT, 36x fiber, 18xLCd UPC, TIA+NS, singlemode
85241948
LC-R-SK-18-LCUD-00-0000-A2-NS-R1S0



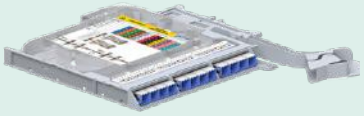
LISA ribbon splice cassette LEFT, 36x fiber, 18xLCd APC, NS+TIA, singlemode
85241949
LC-L-SK-18-LCAD-00-0000-A2-NS-R1S0



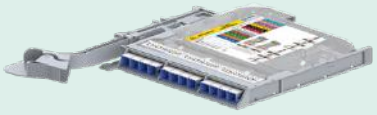
LISA ribbon splice cassette RIGHT , 36x fiber, 18xLCd APC, NS+TIA, singlemode
85241951
LC-R-SK-18-LCAD-00-0000-A2-NS-R1S0

LISA ribbon splice cassette 36x SN, NS+TIA

Data center



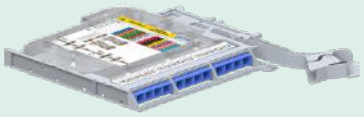
LISA ribbon splice cassette LEFT, 72x fiber, 36x SN UPC, NS+TIA, singlemode
85247436
LC-L-SK-12-SNU6-00-0000-A2-NS-R1S0



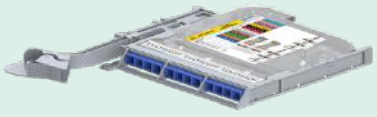
LISA ribbon splice cassette RIGHT, 72x fiber, 36x SN UPC, NS+TIA, singlemode
85247437
LC-R-SK-12-SNU6-00-0000-A2-NS-R1S0

LISA ribbon splice cassette 36x MDC, NS+TIA

Data center



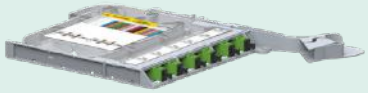
LISA ribbon splice cassette LEFT, 72x fiber, 36x MDC UPC, NS+TIA, singlemode
85247434
LC-L-SK-12-MDU6-00-0000-A2-NS-R1S0



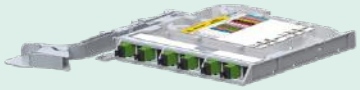
LISA ribbon splice cassette RIGHT, 72x fiber, 36x MDC UPC, NS+TIA, singlemode
85247435
LC-R-SK-12-MDU6-00-0000-A2-NS-R1S0

LISA ribbon splice cassette 6x MTP Base-12 male, TIA

Parallel Base-8 or -12



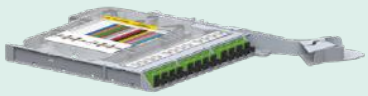
LISA ribbon splice cassette LEFT, 72x fiber, 6x MTP-12, TIA, singlemode
85241952
LC-L-SK-06-MTAM-00-0000-A2-04-R1B0



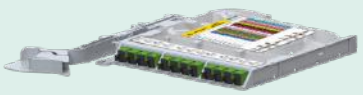
LISA ribbon splice cassette RIGHT, 72x fiber, 6x MTP-12, TIA, singlemode
85241953
LC-R-SK-06-MTAM-00-0000-A2-04-R1B0

LISA ribbon splice cassette 12x MTP Base-12 male, TIA

Parallel Base-8 or -12



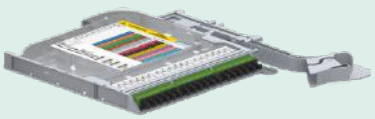
LISA ribbon splice cassette LEFT, 144x fiber, 12x MTP-12, TIA, singlemode
85241954
LC-L-SK-12-MTAM-00-0000-A2-04-R3B0



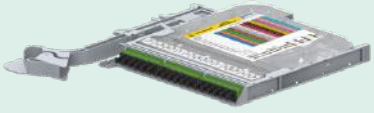
LISA ribbon splice cassette RIGHT , 144x fiber, 12x MTP-12, TIA, singlemode
85241955
LC-R-SK-12-MTAM-00-0000-A2-04-R3B0

LISA ribbon splice cassette 18x MTP Base-8 male, S3+TIA

Parallel Base-8



LISA ribbon splice cassette LEFT, 144x fiber, 18x MTP-8, S3+TIA, singlemode
85256082
LC-L-SK-18-M8AM-00-0000-A2-S3-R3B0

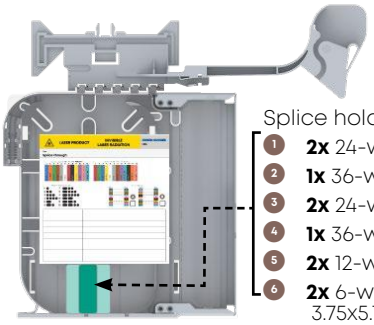


LISA ribbon splice cassette RIGHT , 144x fiber, 12x MTP-8, S3+TIA, singlemode
85256060
LC-R-SK-18-M8AM-00-0000-A2-S3-R3B0

LISA ribbon splice through cassettes

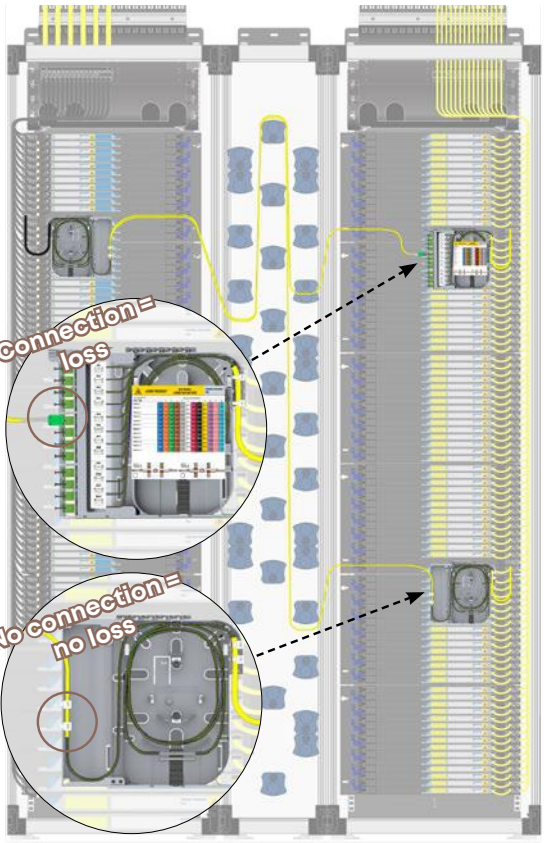
LISA ribbon splice through cassette features

The LISA ribbon splice through cassette can be installed in any LISA LEFT or RIGHT chassis to create a secure connection between incoming and outgoing cables. Once the cables are spliced, they cannot be disconnected, enhancing security and improving the loss budget. Additionally, each cassette can have up to two different splice holders (not just ribbon) to accommodate various types of splice protectors.



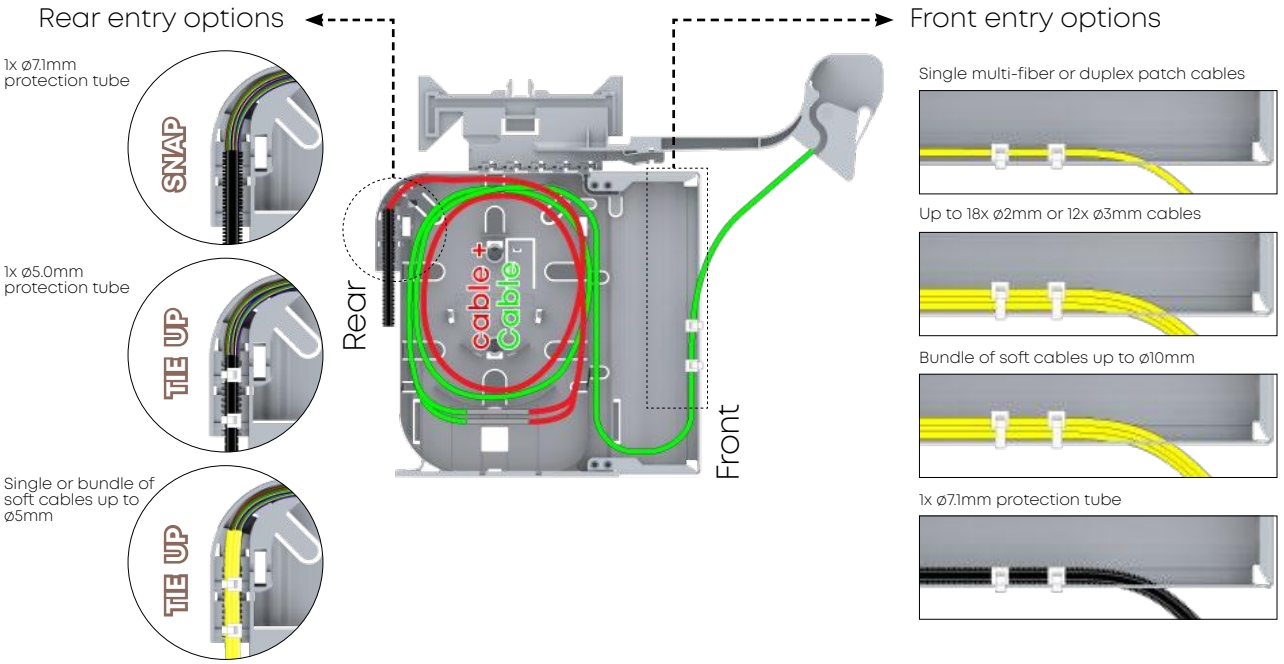
Splice holder quantity and types:

1. **2x** 24-way sandwich
2. **1x** 36-way sandwich
3. **2x** 24-way heatshrink ø1.5 mm
4. **1x** 36-way heatshrink ø1.5 mm
5. **2x** 12-way heatshrink ø2.4 mm
6. **2x** 6-way ribbon heatshrink 3.75x5.75 mm



Stacking two splice holders enables high splice density.

LISA splice through cassette splicing scheme and cable options



Ordering information

LISA ribbon splice through cassette LEFT, up to 144 fibers
85251755
LC-L-SK-01-Xi00-00-0000-00-00-R100

LISA ribbon splice through cassette RIGHT up to 144 fibers
85251756
LC-R-SK-01-Xi00-00-0000-00-00-R100

Versatile splicing

Adding different splice holders and protectors customises a cassette for various splicing techniques.

Technical details

Type of fiber	Any type of fiber: loose single fibers, OptiRibbons (flexible ribbons) or flat ribbons
Number of fibers	Up to 144 fibers (loose fibers or 12 ribbons)
Front	Various cable entry options: · Single multi-fiber or duplex patch cables · Up to 36x ø1.6mm, 18x ø2mm or 12x ø3mm soft cables · Bundle of soft cables up to ø10mm · 1x ø7.1mm protection tube
Rear	Various cable entry options (same on all LISA ribbon cassettes) · 1x ø7.1mm protection tube · 1x ø5.0mm legacy protection tube · Single or bundle of soft cables <ø5.0mm
Colour code	TIA, DIN or any other
Splice holders	Includes 1x splice holder for 6x ribbon splice protectors Other splice holders can be ordered additionally, as per table below
Splice protectors	Includes 6x heatshrink ribbon splice protectors Other splice protectors can be ordered additionally, as per table below

Splice holders and protectors overview

Holder	Illustration	Stacking	Design	Protector (sleeve)	LISA cassette capacity in fibers
❶ Splice holder 24-way sandwich 84103969 SPL-COMP-ACS-SW-24-WAY		Yes	1 row | 24 single sleeves	Splice protector, single, sandwich, 30 mm, 150 pcs 23218558 SPL-PR-SW-30-150P	48
❷ Splice holder 36-way sandwich 84103960 SPL-COMP-FTII-SW-36-WAY		No	2 row | 18 single sleeves		36
❸ Splice holder 24-way heatshrink Ø1.5 mm 84123618 SPL-COMP-ACS-HS1.5-24-WAY		Yes	2 rows | 12 single sleeves per row	Splice protector, single, heatshrink Ø1.5 mm, 40 mm, 12 pcs 84004470 SPL-PR-HS-1.5x40mm-12P	48
❹ Splice holder 36-way heatshrink Ø1.5 mm 84142487 SPL-COMP-FTII-HS1.5-36-WAY		No	3 rows | 12 single sleeves per row		36
			1 row | 12 ribbon sleeves	Splice protector, ribbon, slim, heatshrink 1.5x40 mm, 50 pcs 85258823 SPL-PR-RB-1.5x40mm-50P	144
❺ Splice holder 12-way heatshrink Ø2.4 mm 84127301 SPL-COMB-ACS-HS2.4-12-WAY		Yes	1 row | 12 single sleeves	Splice protector, heatshrink Ø2.4 mm, 45 mm, 12 pcs 84004457 SPL-PR-HS-2.4x45mm-12P Splice protector, heatshrink Ø2.4 mm, 45 mm, 100 pcs 84005214 SPL-PR-HS-2.4x45mm-100P Splice protector, heatshrink Ø2.4 mm, 60 mm, 100 pcs 84005215 SPL-PR-HS-2.4x60mm-100P	24
❻ Splice holder 6-way ribbon heatshrink 3.75x5.75 mm 85069503 SPL-COMP-FTII-RB-06-WAY-BK		Yes	1 row | 6 ribbon sleeves	Splice protector, heatshrink ribbon 3.75x4.75, 40 mm, 50 pcs 85134949 SPL-PR-RB-3.75x4.75x40mm-50P	144

Order code overview

Order code LISA ribbon splicing cassette

1 Orientation
2 Method
3 **Front plate**
4 Rear part (not used)
5 Fiber
6 Colour code
7 Configuration, type
8 Performance

LC-L-SK-12-LCAD-00-0000-A2-NS-R1S0

1 Orientation

LC-L	LISA cassette LEFT	L
LC-R	LISA cassette RIGHT	R

2 Method

SK	Splicing cassette for mass fusion splicing - "ribbon ready", with hinge included

3 Front plate

Quantity of adapters or connectors at front or rear, e.g. 06, 12, 18 etc.

12-LCAD

Adapter family

LC	LC (duplex only)
SC	SC (simplex only)
E2	E2000 (simplex or duplex)
MD	MDC
SN	SN
MT	MTP Base-12
M8	MTP Base-8
Xi	Splice through

Polishing (colour)

U	UPC (blue)
A	APC (green)
0	No adapter

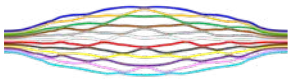
Adapter type

D	Duplex (LC or E2000)
S	Simplex (SC or E2000)
6	VSFF 3x duplex vertical (6f)
Q	VSFF 3x duplex vertical, blank in the middle (4f)
M	MTP male inside
F	MTP female inside
0	No adapter

5 Fiber type

A2	E9/125A2, ITU G.657.A2, OptiRibbon

All LISA ribbon splice cassettes equiped with flexible ribbon fiber (OptiRibbon), which is suitable for mass and single fusion splicing



* Ribbon colour code - TIA-598-C

6 Colour code front plate

NS	NS+TIA method for duplex applications
04	TIA colour code for MPO/MTP applications
S3	Conversion from 3x MTP Base-8 to 2x MTP Base-12
AS	TIA colour code for legacy duplex and simplex applications

7 Configuration

R0	1x ribbon splice protection holder (≤ 72 fibers), protectors **excluded**
R1	1x ribbon splice protection holder (≤ 72 fibers), 3.75x4.75x40 protectors **included**
R2	2x ribbon splice protection holders (≤ 144 fibers), protectors **excluded**
R3	2x ribbon splice protection holders (≤ 144 fibers), 3.75x4.75x40 protectors **included**
H0	1x single splice protection holder, type Ø1.5x40mm (≤ 36 fibers), protectors **excluded**
H1	1x single splice protection holder, type Ø1.5x40mm (≤ 36 fibers), protectors **included**
H2	2x single splice protection holder, type Ø1.5x40mm (≤ 48fibers), protectors **excluded**
H3	2x single splice protection holder, type Ø1.5x40mm (≤ 48 fibers), protectors **included**

8 Performance

S0	Class S - Singlemode standard (LC, SC, MDC, SN)
B0	Class B - Singlemode elite (MTP, E2000)

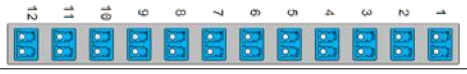
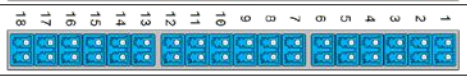
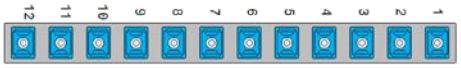
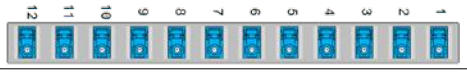
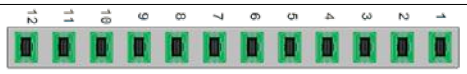
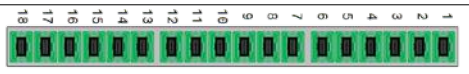
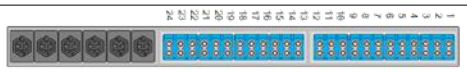
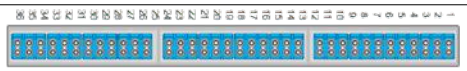
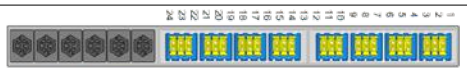
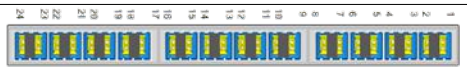
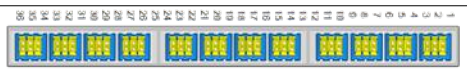
Optical performance LISA ribbon cassette and IANOS ribbon module

Type of connector	Insertion loss IEC 61300-3-4 method B	Insertion loss, mean values	Return loss **UPC**	Return loss **APC**
LC, SC, E2000 singlemode	≤ 0.30 dB	0.12 dB	≥ 50 dB	≥ 65 dB
MDC, SN singlemode	≤ 0.30 dB	0.20 dB	≥ 50 dB	≥ 65 dB
MTP singlemode	≤ 0.35 dB	0.10 dB	not available	≥ 65 dB

Customise

Create your own LISA ribbon cassette design

LISA ribbon cassette adapter front plate designs

Adapter type		Front plate configuration	Design and port numbering	Maximum fiber quantity per cassette	Number of ribbons	Suitable connector
LC duplex	Standard	12-LC**x**D		24	2	Any LC - duplex or simplex
	HD	18-LC**x**D		36	3	High-density only (e.g. LC-XD)
SC		12-SC**x**S		12	1	SC simplex
E2000	Simplex	12-E2**x**S		12	1	E2000 simplex
	Duplex	12-E2**x**D		24	2	E2000 duplex or simplex
MPO/MTP 12-fiber		06-MTA**y**		72	6	MTP/MPO 8- or 12- fiber compatible - female or male
		12-MTA**y**		144	12	
MPO/MTP 8-fiber		18-M8A**y**		144	12	
MDC	6 channel	08-MD**x**6		48	4	MDC senior
	6 channel with blank	12-MD**x**Q		48	4	
	6 channel	12-MD**x**6		72	6	
SN	6 channel	08-SN**x**6		48	4	SN senior
	6 channel with blank	12-SN**x**Q		48	4	
	6 channel	12-SN**x**6		72	6	
Splice-through		01-Xi00		144	12	-

Note
x: **U** → UPC (blue adapter) | **A** → APC (green adapter)
y: **F** → female inside (green adapter) | **M** → male inside (green adapter)

Featuring the IANOS ribbon

IANOS is a modular 19 inch solution, designed to manage low to medium volumes of fiber optic connectors, consists of patch panels and various modules. IANOS now supports IANOS ribbon modules that makes installation faster and maintenance simpler.

Applications

1. **White space → top of rack**
   The IANOS ribbon as top of rack

2. **White space → end of row**
   White space → demarcation
   The IANOS ribbon as end of row or middle of row solution

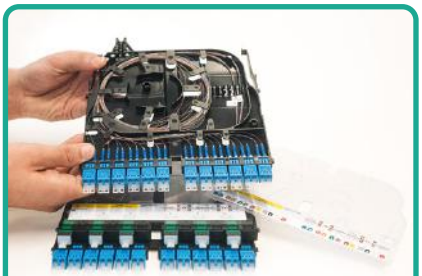
3. **Meet-me-room → distribution**
   IANOS ODF ribbon can be used in meet-me-room to present outside cables on connectors

IANOS chassis

IANOS chassis + accessories

- 1U or 4U 19 inch patch panel
- Lite (fixed) and standard (sliding) designs
- From 4 to 24 modules

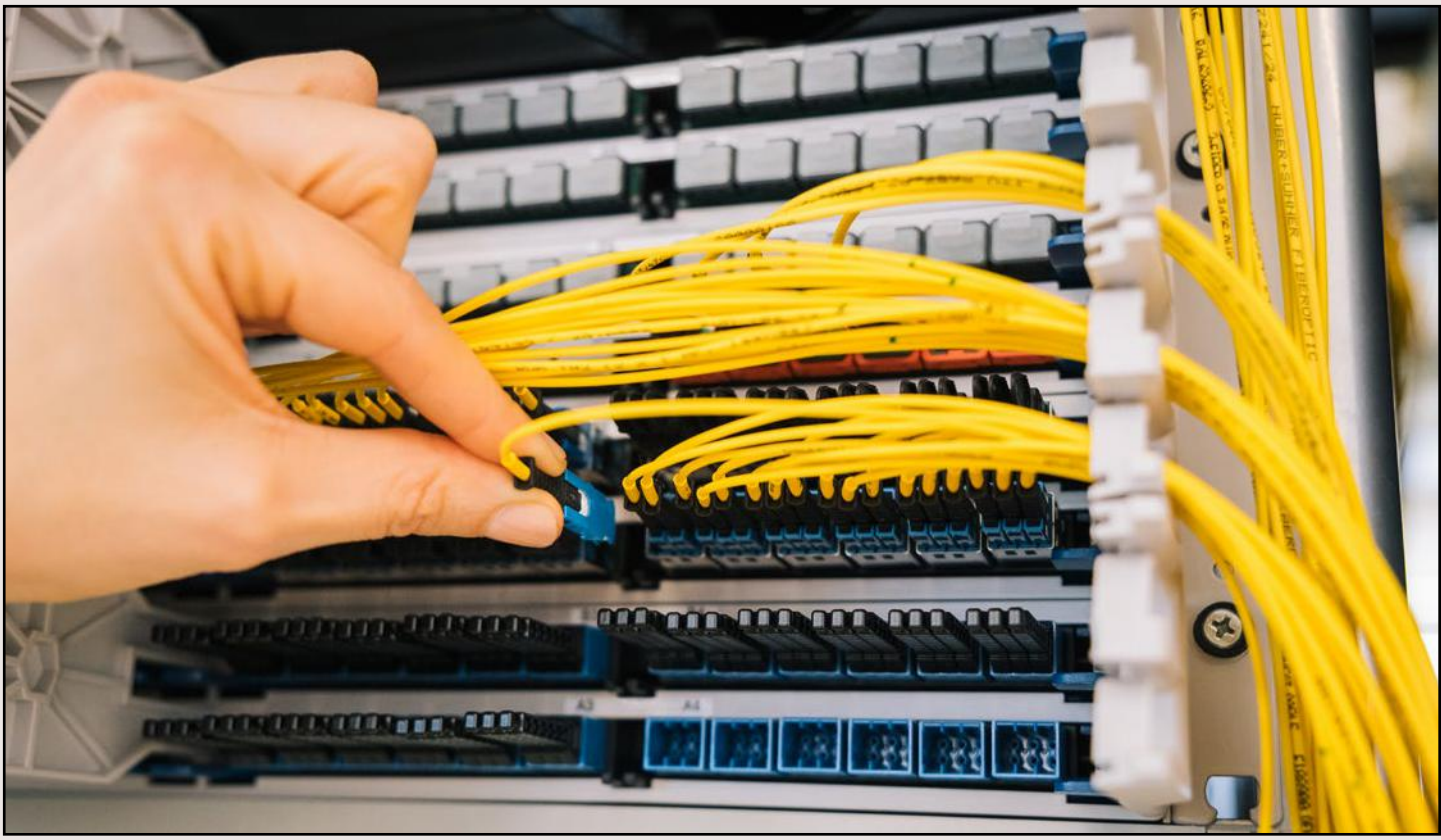
IANOS ribbon modules



IANOS ribbon splice modules

- Up to 144 fibers per module
- Various adapter designs

IANOS® enables the **highest** possible **packing** density without compromising handling, allowing data centers to maximize revenue-generating space by minimizing the footprint of passive equipment.



Barkha Sharma
Marcom manager at HUBER+SUHNER oversees marketing activities

Density

Three times as many fibers can be deployed in a 19 inch rack using the IANOS system with ribbon fibers

Splice faster

Faster splicing with the ribbon pigtail

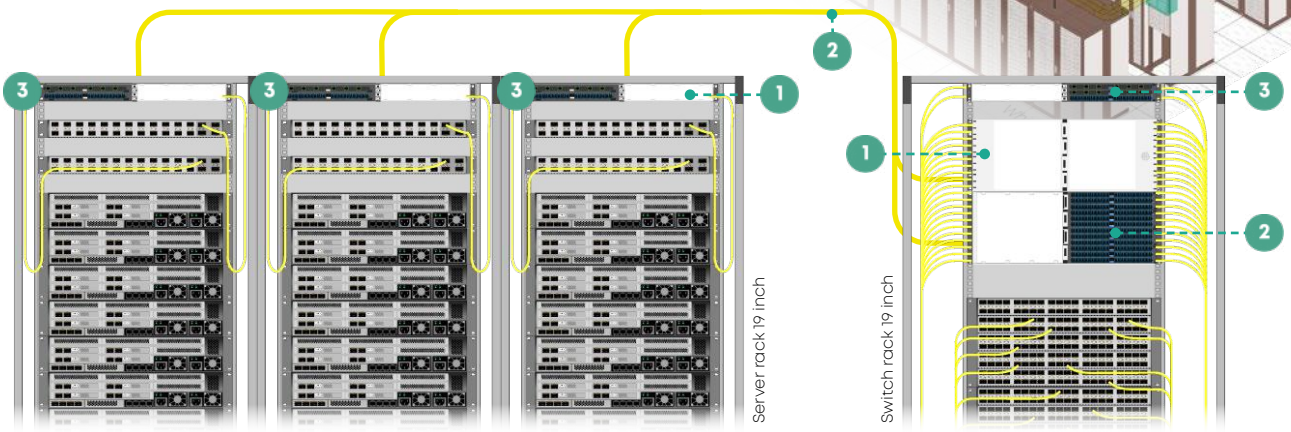
Work faster

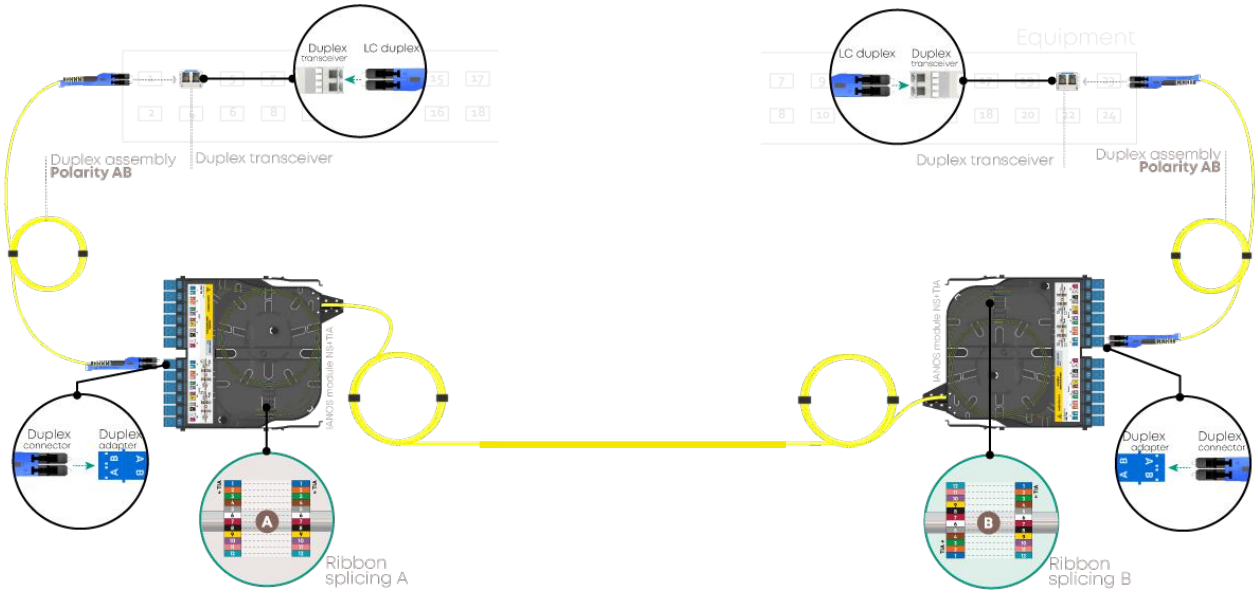
Larger tube ➔ less tubes required. Simple and similar installation as existing approach.

IANOS ribbon applications

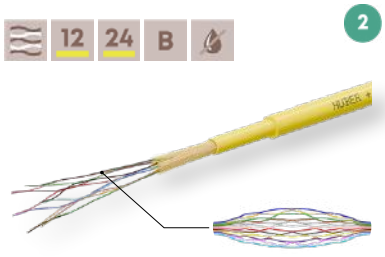
IANOS ribbon in top-of-rack, end-of-row or as demarcation point

Various IANOS chassis, combined with IANOS ribbon modules, support top- or middle-of-rack setups to connect leaf or access switches within customer cages. Larger IANOS chassis with modules are used in switch racks for end-of-row designs.
The IANOS can also connect to backbone fiber, serving as a demarcation point between the data center operator and the customer.

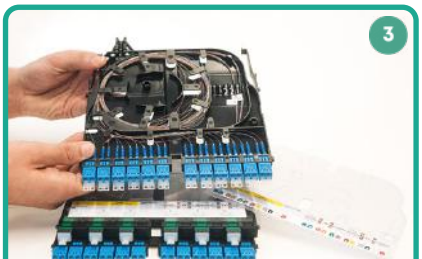




1 IANOS chassis + accessories



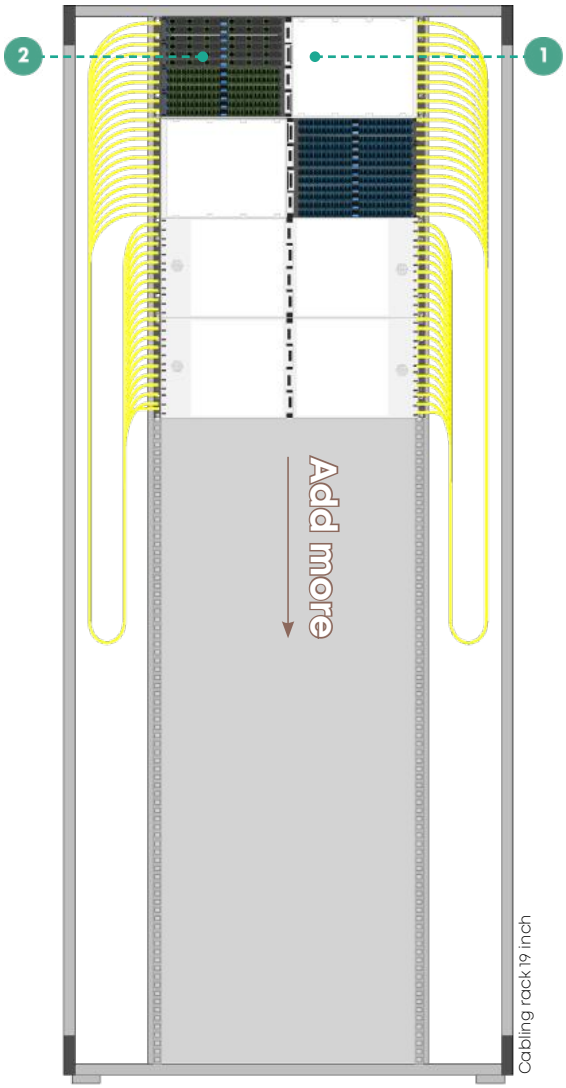
2 OptiRibbon DJ 12-24

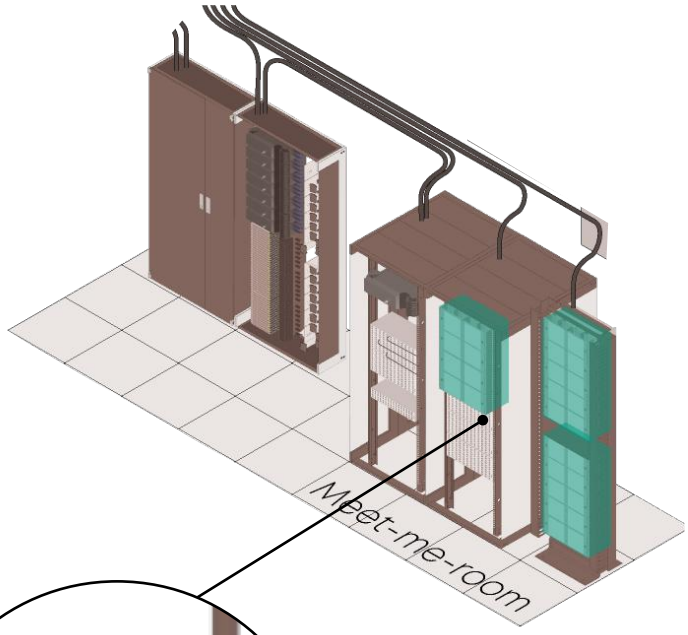


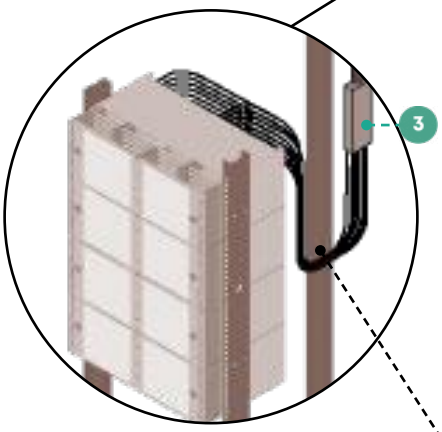
3 IANOS ribbon splice modules

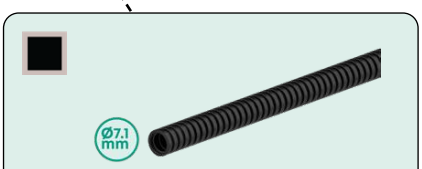
Meet-me-room → distribution

An ODF can be set up using a standard 19 inch cabling cabinet or a two-post frame with IANOS ribbon solution. High-fiber-count ribbon cables can be connected to IANOS ribbon splicing modules with stackable breakout boxes.



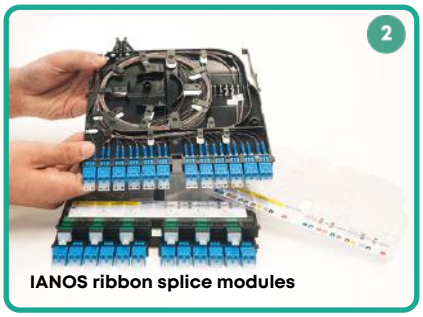






Optical fiber protection tube, 7.1mm, 100m spool, black
85227875
OFPT-FLEX-7.1-5.0-PA-V0-BK-100m

IANOS chassis + accessories

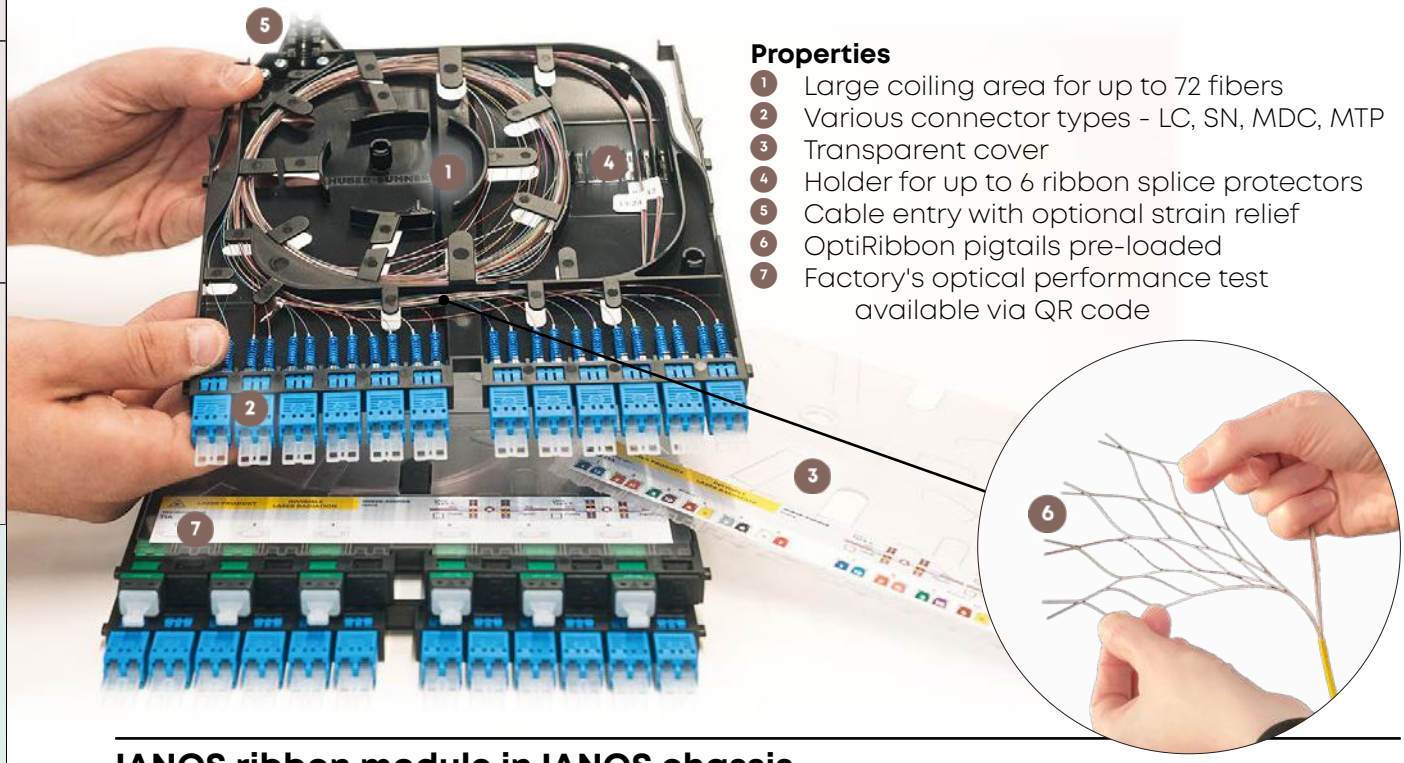


IANOS ribbon splice modules

Stackable breakout box

IANOS ribbon module overview

IANOS ribbon module - elements



Properties

1. Large coiling area for up to 72 fibers
2. Various connector types - LC, SN, MDC, MTP
3. Transparent cover
4. Holder for up to 6 ribbon splice protectors
5. Cable entry with optional strain relief
6. OptiRibbon pigtails pre-loaded
7. Factory's optical performance test available via QR code

IANOS ribbon module in IANOS chassis

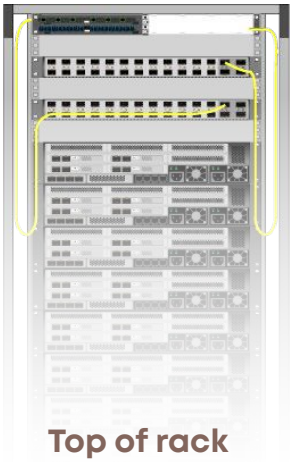
- IANOS 1U lite, up to 4 modules
- From 24 to 288 fibers

- IANOS 4U lite, up to 16 modules
- From 24 to 1152 fibers

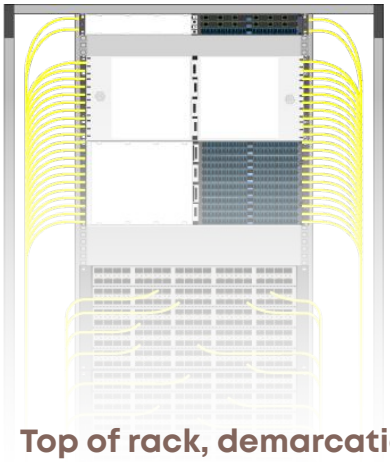
- IANOS 1U standard, up to 6 modules
- From 24 to 432 fibers

- IANOS 4U standard, up to 24 modules
- From 24 to 1728 fibers

Supports all IANOS panels



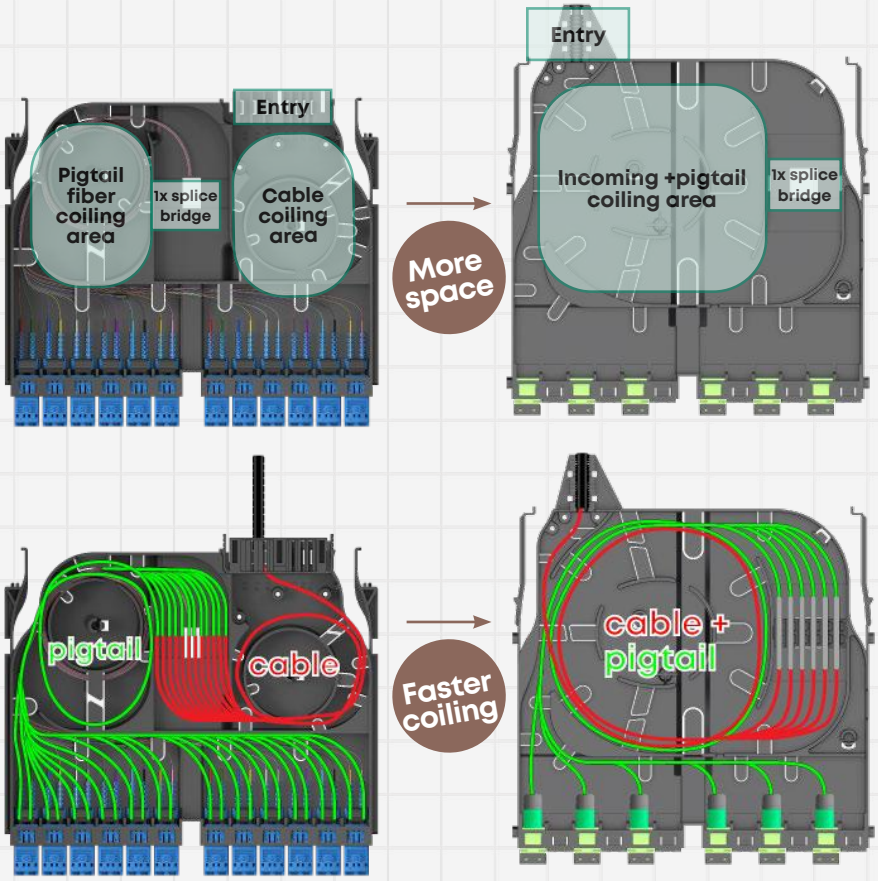
Top of rack



Top of rack, demarcation, End- or middle-of-row

Distribution

IANOS standard and ribbon module comparison



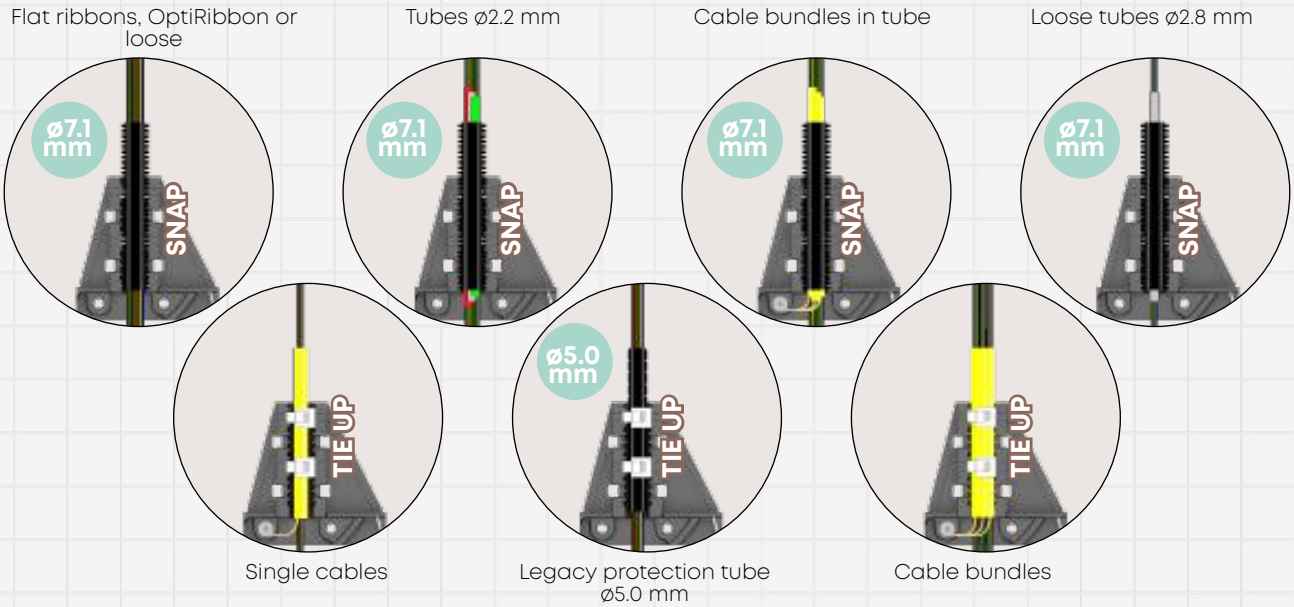
Description code starts with
`ISD-...`

Description code starts with
`IKD-...`

Updates

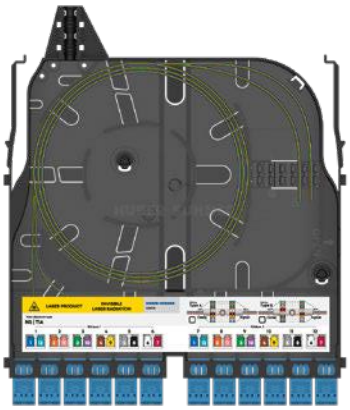
- Combined larger coiling area, for up to 72 fibers
- Modified module entry to support 7.1mm protection tube.
- Splice bridge, to store up to 6 ribbon splice sleeves (72 fibers)
- Transparent cover

Cable terminations

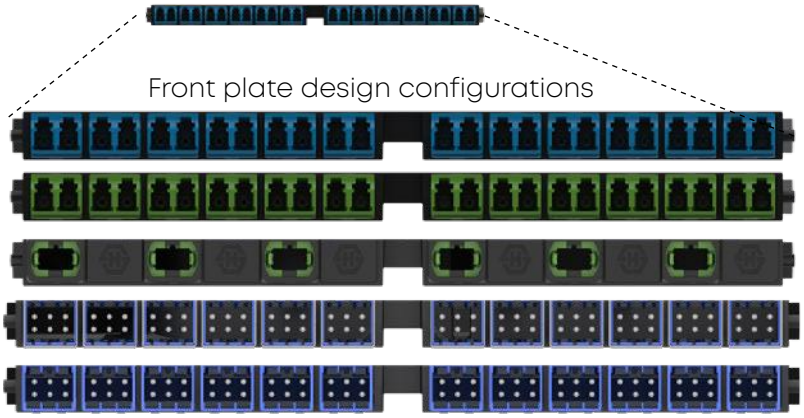


Module types

IANOS module types



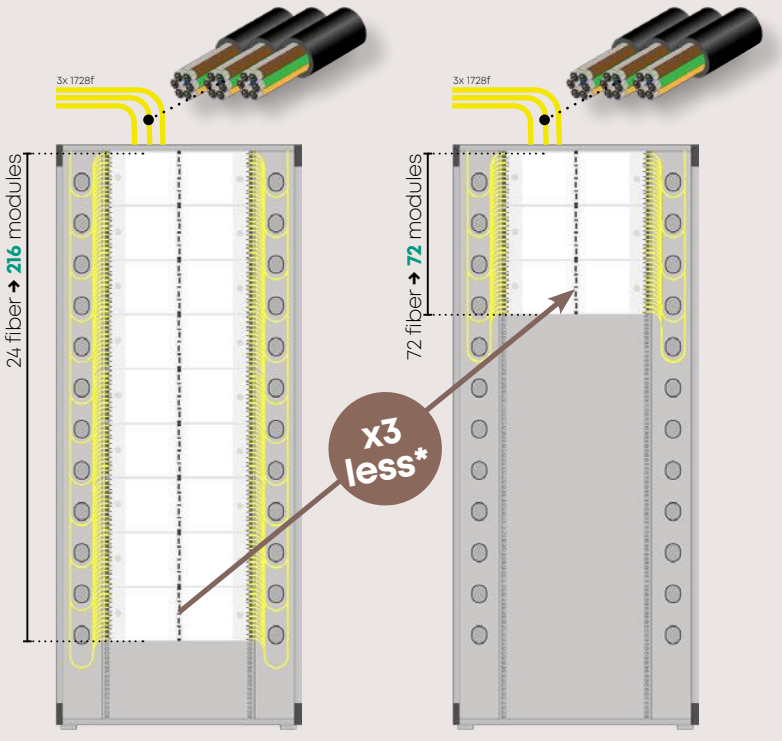
Example of IANOS ribbon module



Splicing 3x 1728-fiber ribbon cable in 19 inch rack

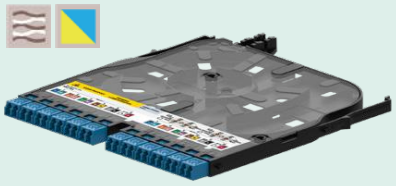
Maximum number of fibers in ODF IANOS		
Fiber quantity per module	**24**	**72**
Maximum fiber quantity per 1U	**144**	**432**
Maximum fiber quantity per 4U	**576**	**1728**
Maximum fiber quantity per 42U cabinet	5760	17280
LC duplex	✓	
MDC or SN	✓	✓
MTP Base-12	✓	✓

Maximum number of cables in ODF IANOS and utilized rack height		
	24-fiber module	72-fiber module
432 fiber cable	13 | 39U	40 | 40U
576 fiber cable	10 | 40U	30 | 40U
864 fiber cable	6 | 36U	20 | 40U
1728 fiber cable	3 | 36U	10 | 40U
3456 fiber cable	1 | 24U	5 | 40U

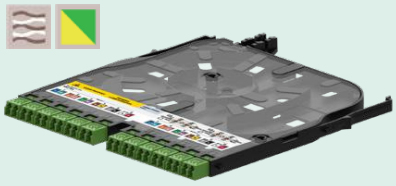


*** 3 times less modules used**

IANOS ribbon splice module
24 fibers, 12x LCD, NS+TIA

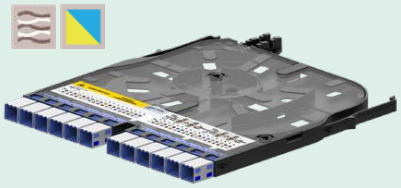


IANOS ribbon splice module,
24 fibers, 12x LCd UPC
85247273
IKD-12-LCUD-00-0000-A2-NS-R1S0

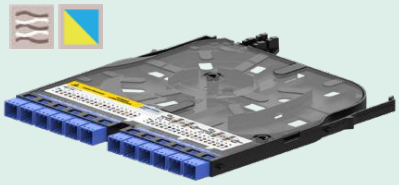


IANOS ribbon splice module,
24 fibers, 12x LCd APC
85247274
IKD-12-LCAD-00-0000-A2-NS-R1S0

IANOS ribbon splice module
72 fibers, 36x VSFF, NS+TIA

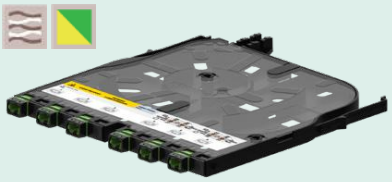


IANOS ribbon splice module,
72 fibers, 36x SN UPC
85251362
IKD-12-SNU6-00-0000-A2-NS-R1S0



IANOS ribbon splice module,
72 fibers, 36x MDC UPC
85251368
IKD-12-MDU6-00-0000-A2-NS-R1S0

IANOS ribbon splice module
72 fibers, 6x MTP Base-12



IANOS ribbon splice module,
72 fibers, 6x MTP-12
85246978
IKD-06-12CM-00-0000-A2-04-R1B0

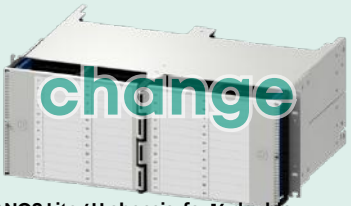
IANOS chassis and accessories

IANOS chassis

IANOS 1U chassis, for 6 double modules
85102690
IANOS-STD-CHASSIS-FLX-1U-2G-T4

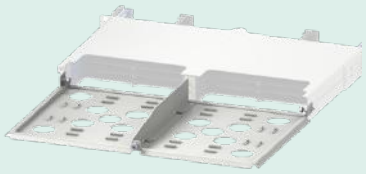
IANOS 4U chassis, for 24 double modules
85103010
IANOS-STD-CHASSIS-FLX-4U-2G-T4

IANOS 1U lite chassis, for 4 double modules
85086220
IANOS-LITE-STANDARD-T4



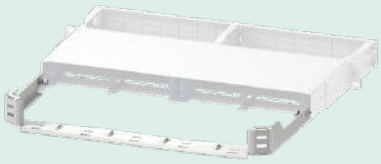
IANOS Lite 4U chassis, for 16 double modules
85213417
IANOS-LITE-4U-T4

IANOS cable managers

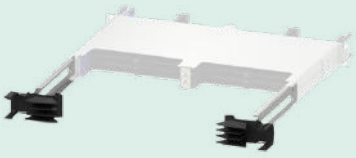


IANOS 1U rear cable manager, for 600+ mm cabinets
85069473
IANOS-REAR-CABLE-MGR-1U-T4

IANOS 4U rear cable manager, for 600+ mm cabinets
85069474
IANOS-REAR-CABLE-MGR-4U-T4



IANOS 1U or 1U lite rear cable manager, for 600+ mm cabinets
85107331
IANOS-LITE-REAR-CAB-MGR-1U-T4



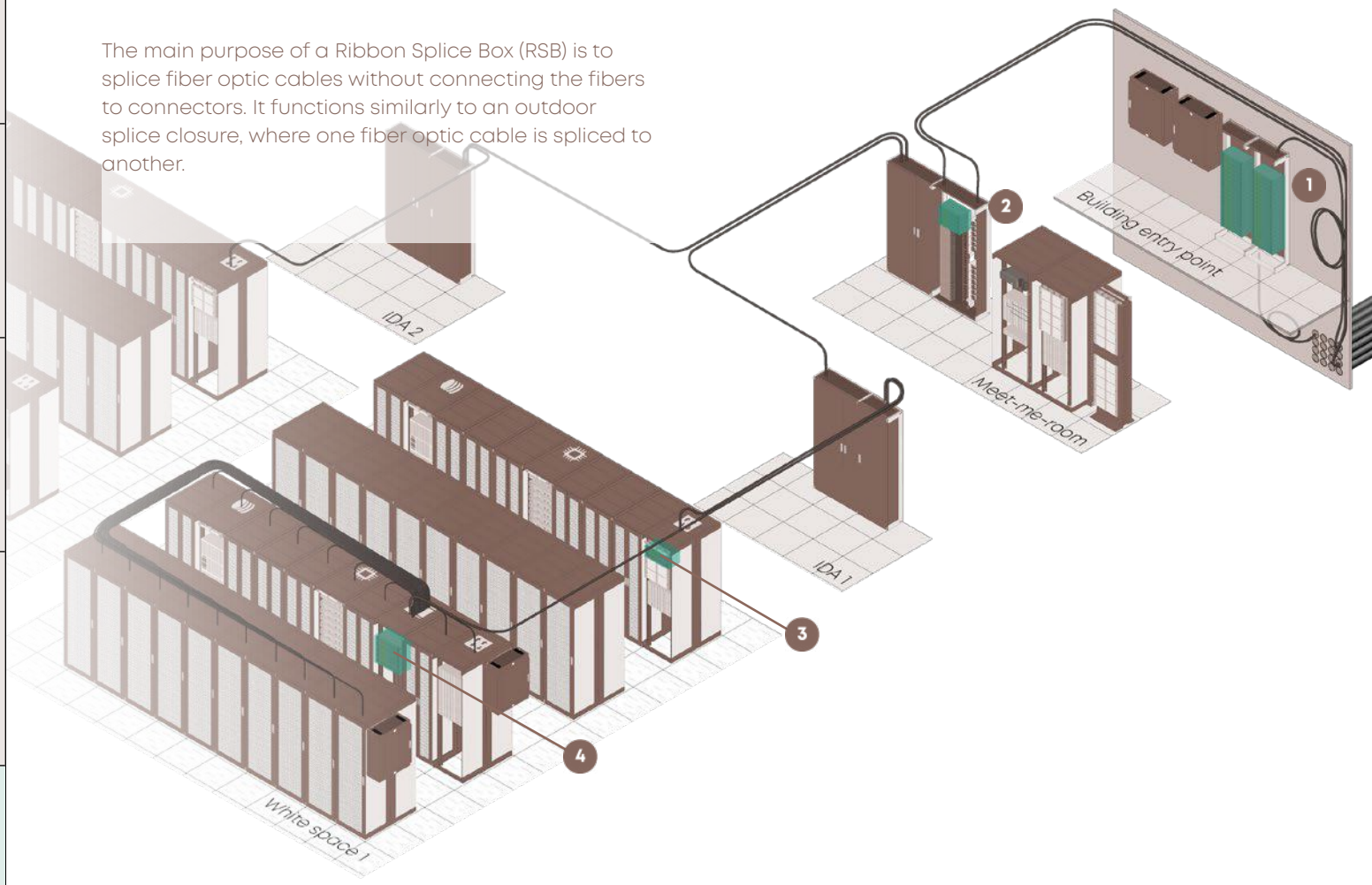
IANOS 1U rear cable manager, for 750+ mm cabinets
85108771
IANOS-CABLE-MANAGER-REAR-1U

IANOS 4U rear cable manager, for 750+ mm cabinets
85108772
IANOS-CABLE-MANAGER-REAR-4U

Raphael Meyer
Product Manager at
HUBER+SUHNER showcases
the IANOS ribbon module

Featuring the RSB

The main purpose of a Ribbon Splice Box (RSB) is to splice fiber optic cables without connecting the fibers to connectors. It functions similarly to an outdoor splice closure, where one fiber optic cable is spliced to another.



Applications

1 **Building entry point**
RSB connects outdoor and indoor cables, installable in 300mm racks or 19 inch cabinets.

2 **Fiber storage**
RSB accesses and splices some fibers while storing the rest.

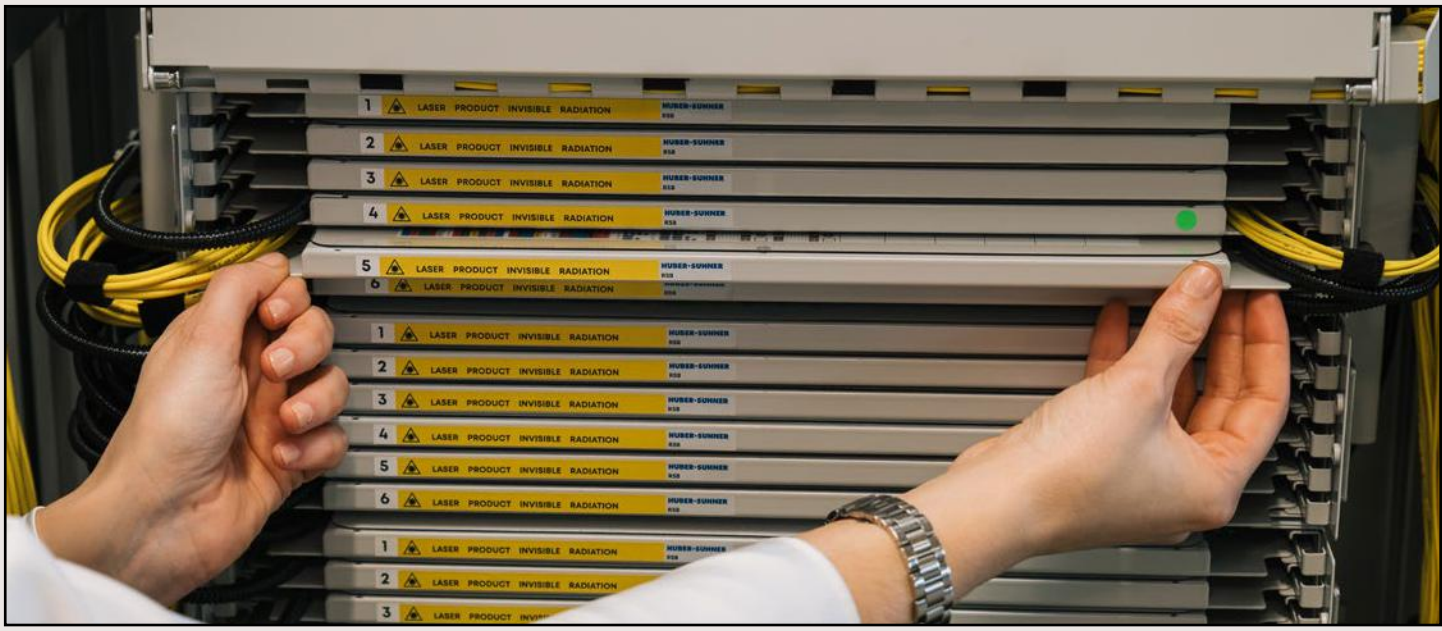
3 **Splice point**
RSB saves time by enabling ribbon splicing.

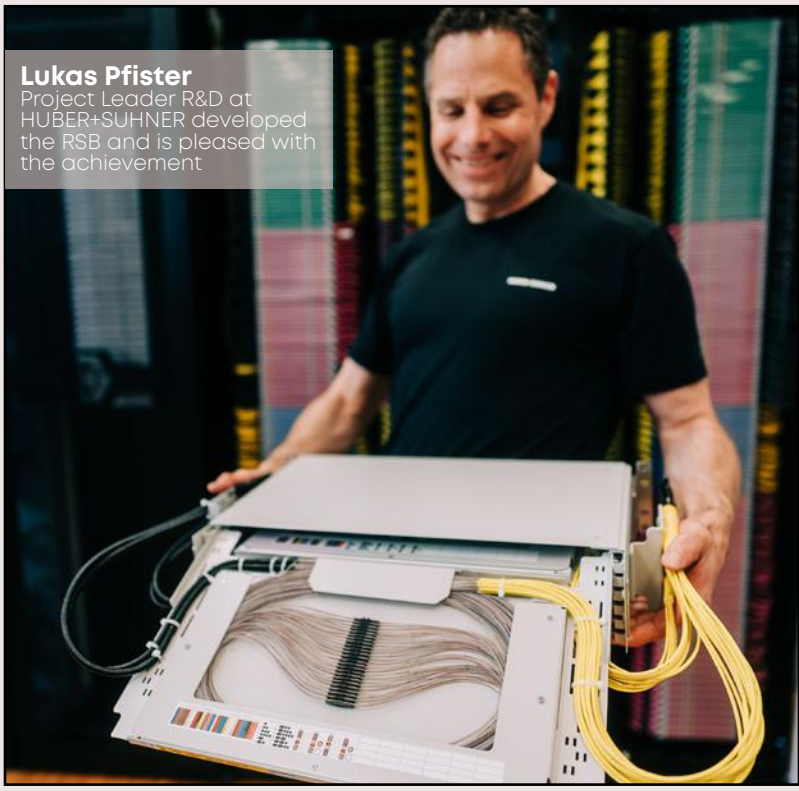
4 **Fixed cross-connect**
RSB enables centralized fiber optic cross-connects.

Ribbon splice box (RSB)

- Rack height 2U
- 6 drawers 288 fibers max each
- Up to 1,728 fibers

Mass-fusion splicing in **RSB** allows up to 1,728 fibers in a 2U space, with each drawer handling up to 288 fibers. An ODF can house 20 RSBs, enabling over 34,000 fibers.





Lukas Pfister
Project Leader R&D at HUBER+SUHNER developed the RSB and is pleased with the achievement

Consolidation

Centralizes up to 1,728 fibers in just 2U of rack space

Efficiency

Supports mass and single fusion splicing for efficient installation

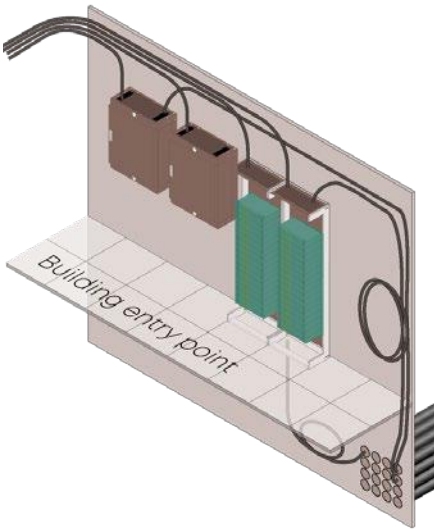
Versatility

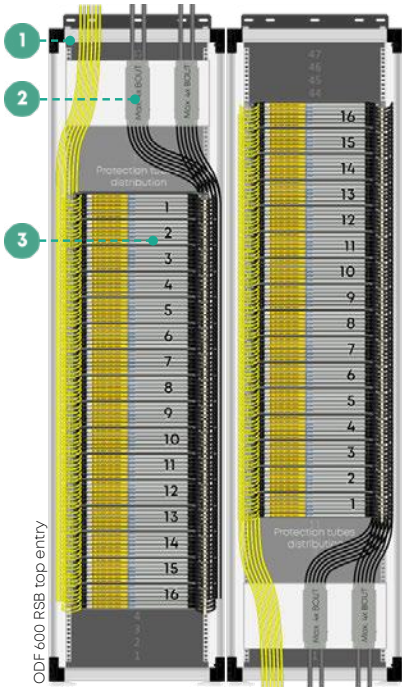
Ideal for any outdoor-to-indoor fiber transitions and for any rack type.

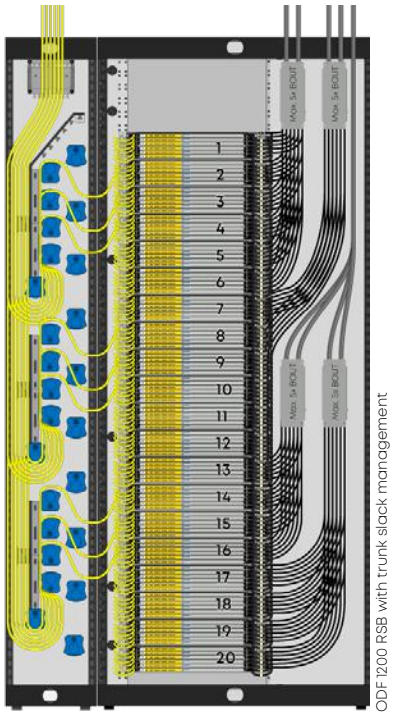
RSB applications

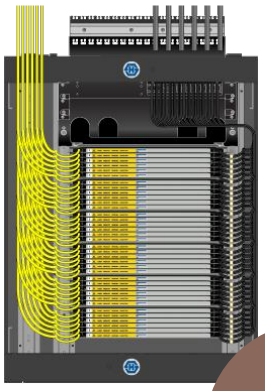
RSB in building entry point

RSB is used to connect outdoor cables to indoor cables. It can be installed in either 300mm deep racks with front access or 19 inch cabinets. Various ODF designs can be created to accommodate different combinations of incoming and outgoing cables.









Multiple options

Technical data

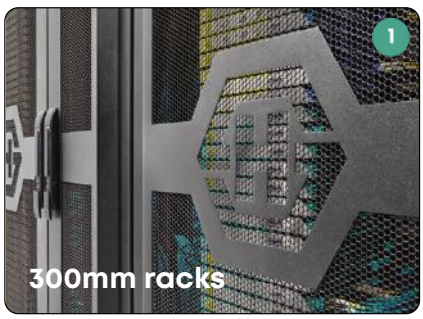
Base rack	NGR 600 or CDR 600	
Number of fibers	144 per drawer	**13824**
	288 per drawer	**27648**
Size (DxWxH), mm	300 x 600 x 2200	

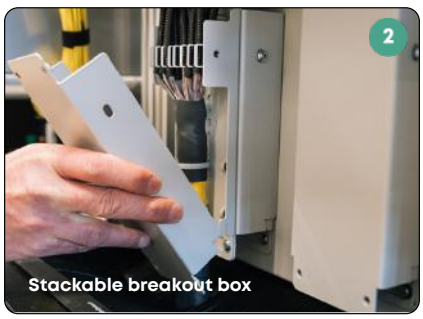
Technical data

Base rack	NGR 1200 or CDR 1200	
Number of fibers	144 per drawer	**17280**
	288 per drawer	**34560**
Size (DxWxH), mm	300 x 1200 x 2200	

Technical data

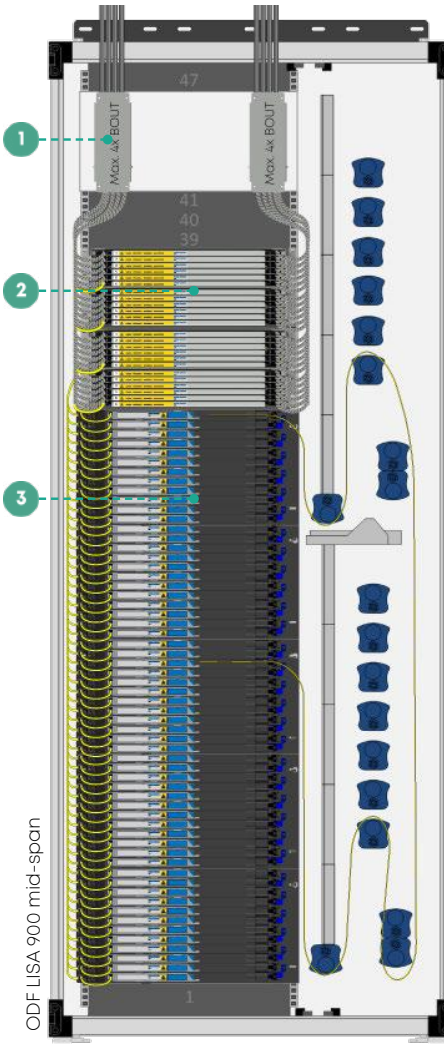
Base rack	Wall cabinet 17U	
Number of fibers	144 per drawer	**5184**
	288 per drawer	**10368**
Size (DxWxH), mm	300 x 700 x 900	

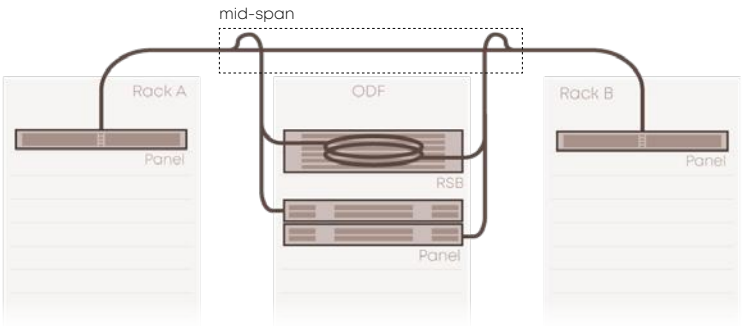


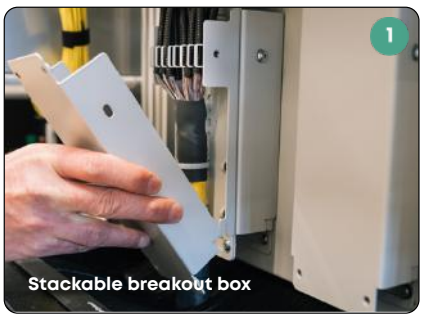


Fiber storage in RSB in a mid-span application

RSB is used in mid-span applications. A portion of the fibers from the cable connecting racks can be accessed, grouped into bundles, fixed via a breakout box, and spliced to cassettes. The remaining fibers continue uninterrupted, coiled, and stored inside the RSB.





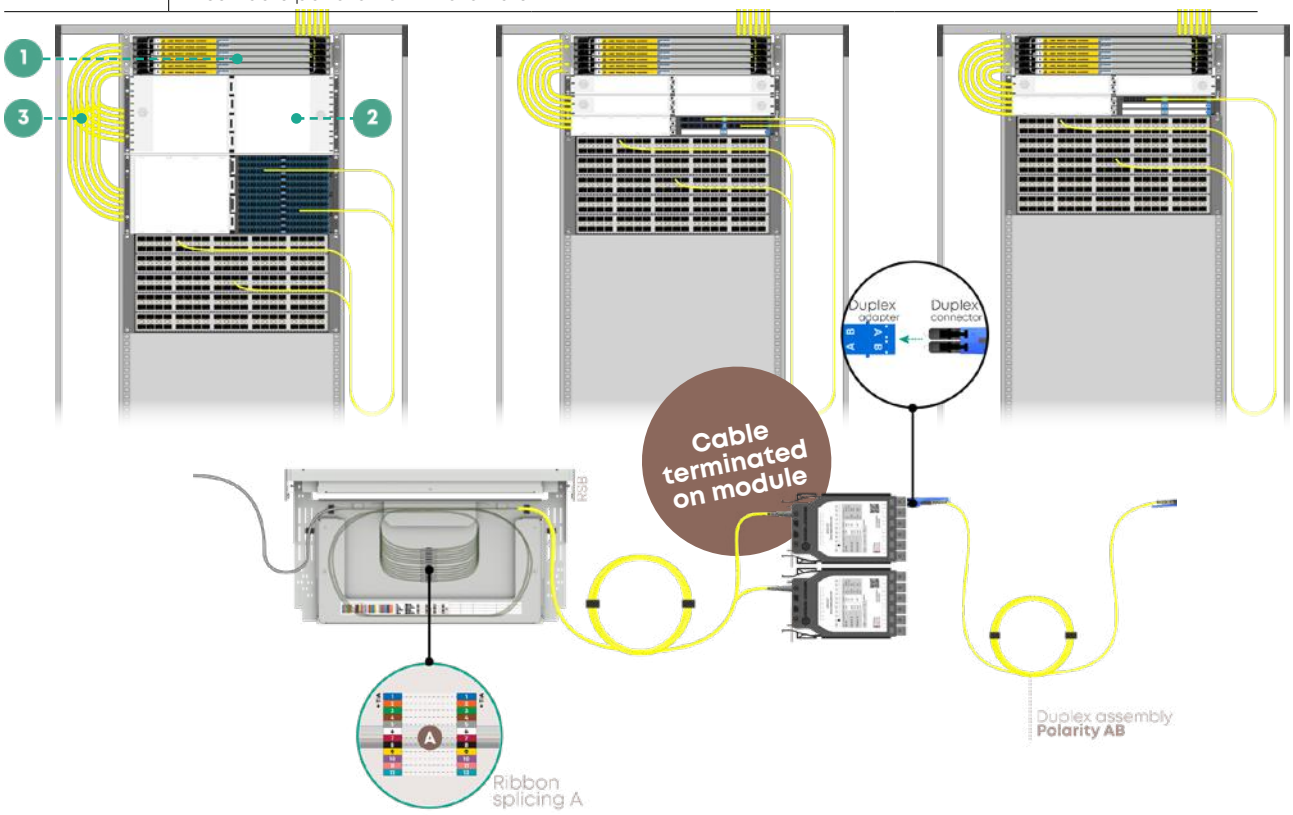


RSB applications

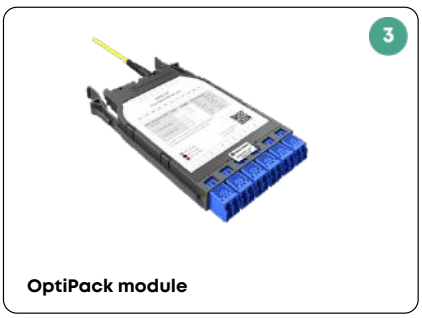
RSB as splice point

RSB serves as an enlarged splice point. During large-scale installations, ribbon splicing within the RSB can save significant cassetizing time compared to splicing each cable in individual cassettes. For optimal efficiency, combine the RSB with one-side terminated modules, harnesses, or assemblies.

	Solution 1	Solution 2	Solution 3
Fiber quantity	1152		
Quantity and type of pigtail	96x OptiPack module IANOS LC, 12-fiber	32x OptiPack module IANOS SN, 36-fiber	96x MTP jumper + IANOS patch module, 12-fiber
Number of IANOS chassis	2x 4U chassis	3x 1U chassis	2x 1U chassis
RSB configuration	· 192 fibers per drawer → 6 drawers · 288 fibers per drawer → 4 drawers		



IANOS chassis + accessories

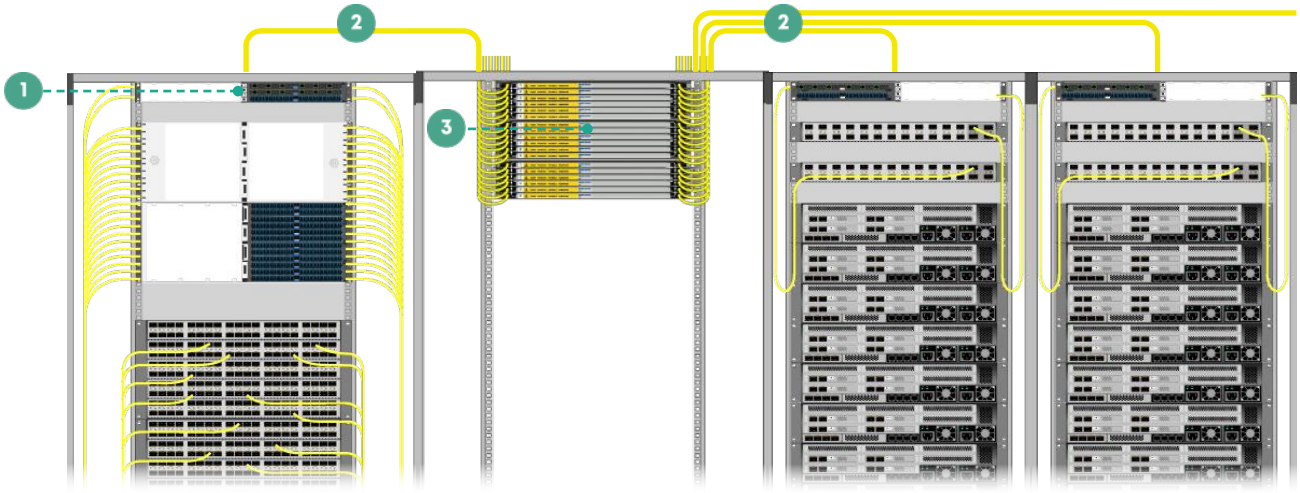


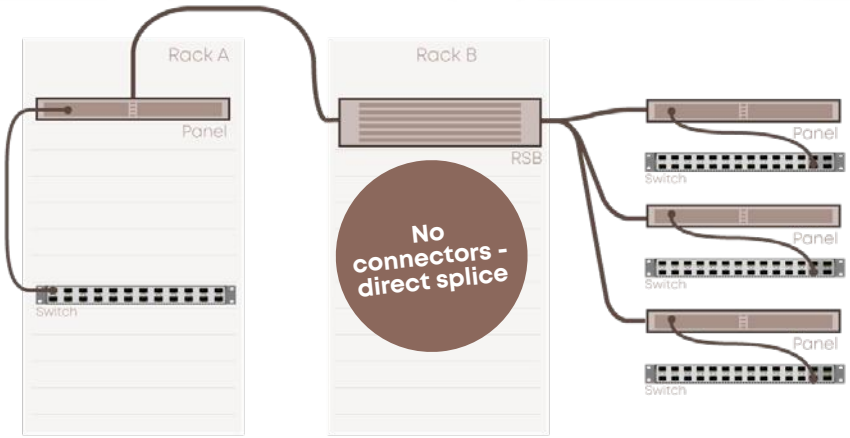
OptiPack module

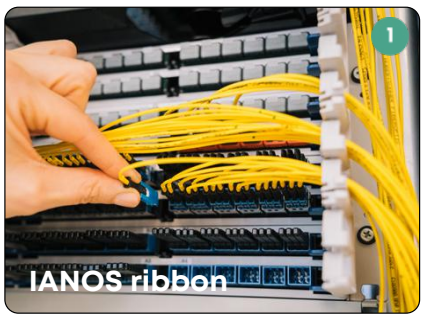
Fixed cross-connect with RSB

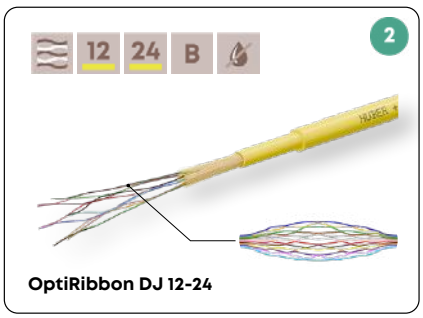
RSB is used to facilitate fixed fiber optic cross-connects. Dedicate a rack to serve as a central node and route all pre-terminated cables to this node for centralised splicing.

With support for both single and mass fusion splicing, and the capacity to handle a large number of fibers, various configurations can be created.



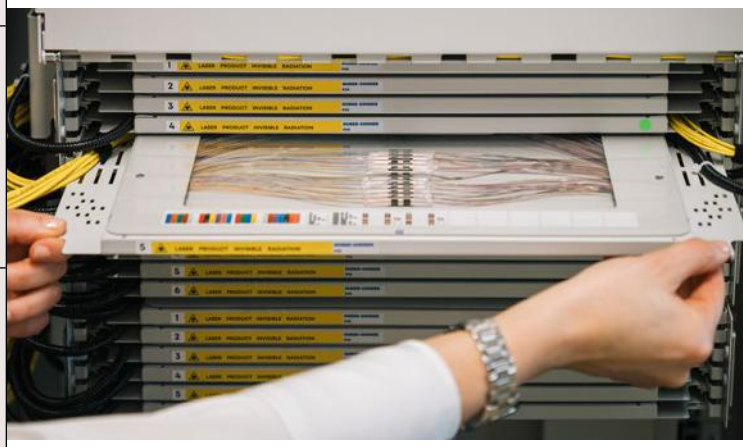






RSB overview

RSB elements



Properties

- 6 drawers, each drawer can contain:
  - ≤ 288 fibers (24 ribbon protectors for mass splicing)
  - ≤ 144 fibers (144 single protectors for single splicing)
- Drawer front sliding and 45 deg. tilting
- Transparent cover to secure fibers
- Mounting bracket changeable
- Side cable fixation

RSB rack mounting

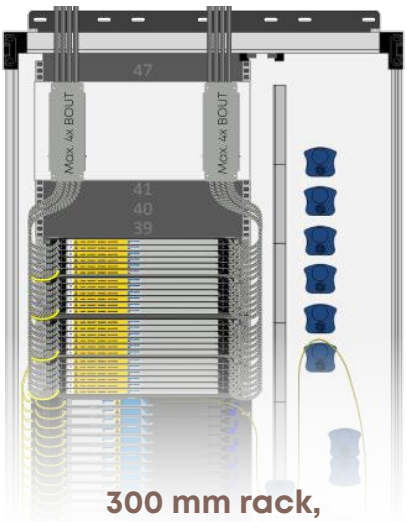
300mm rack rear mounting

Adjustable mounting depth. Turn the mounting bracket around

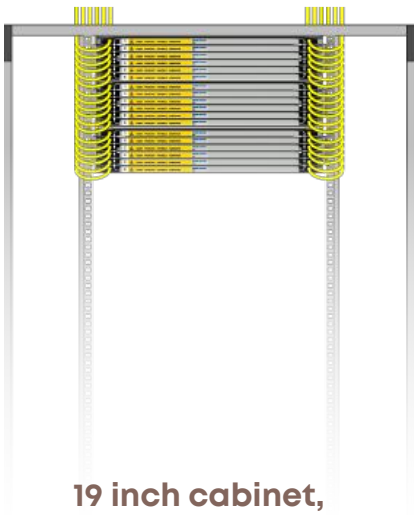
19 inch front mounting

Add a tie bracket for rear mounting

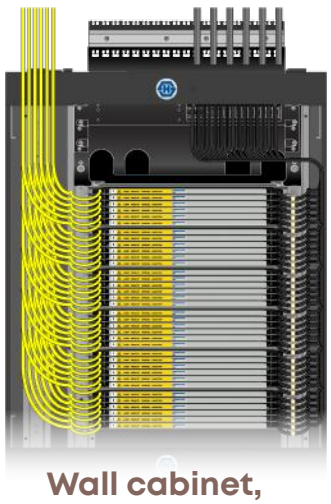
300 mm and 19 inch supported



300 mm rack, rear entry

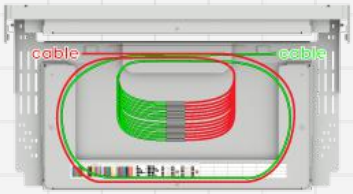


19 inch cabinet, rear and front entry



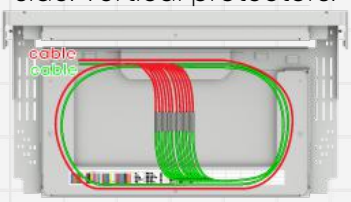
Wall cabinet, rear entry

RSB splicing scheme



Cable entry on **opposite** sides. Horizontal protectors

Cable entry on the **same** side. Vertical protectors.



Splicing scheme

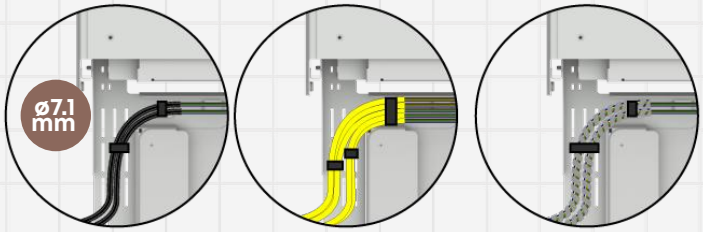
The RSB splicing scheme is versatile, accommodating all types of coiling and splice protectors.

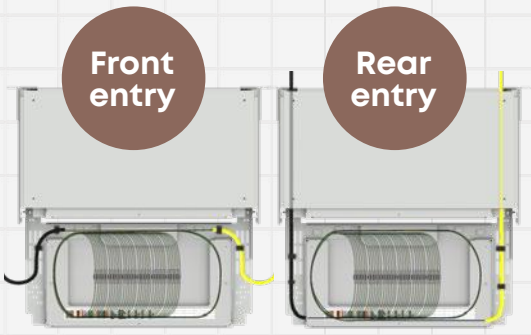
Cable entry

Protection tube ø7.1 mm. Front entry

Cable bundles. Front entry

Spiral wraps. Front entry

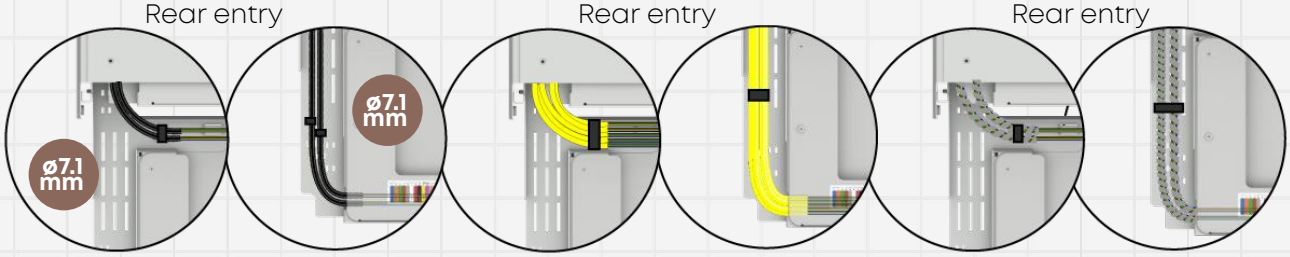




Protection tube ø7.1 mm. Rear entry

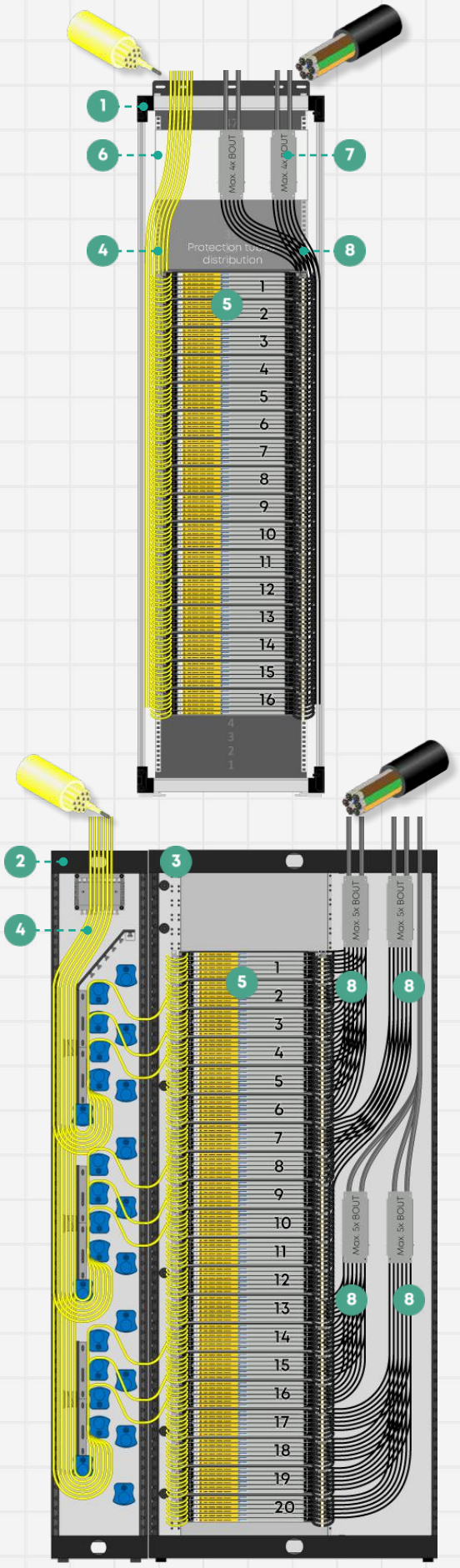
Cable bundles. Rear entry

Spiral wraps. Rear entry



Option 1 Option 2 Option 1 Option 2 Option 1 Option 2

ODF RSB designs



1

600 mm

Next generation rack (NGR) 600 mm, solid door with key lock, with side panels, 46U
91000028
NG0622S-U020B1S11R1C1B-1BOO00A
91000028
NG0622S-U020B1S11R1C1B-1AOO00A

2

L

300 mm

NGR 300, 2200 mm, LEFT trunk cable management with top entry, solid doors
85159350
NG0322N-T200B1S00R1C1B-1BOO00A
85141279
NG0322N-T200B1S00R1C1B-1AOO00A

3

900 mm

Remove all mandrels and plates

Next generation rack (NGR) 1500 46U, perforated doors
91000028
NG0922S-T077B1S11R1C1B-1BOO00A
91000028
NG0922S-T077B1S11R1C1B-1AOO00A

4

5

RSB including mounting brackets, splice holders excluded, 2U, grey
85235663
RSB-2U-GY

6

ODF 19 inch mounting plate for breakout box
85259301 CDR/NGR-MOUNT-PLATE-19"

7

Stackable breakout box for 12 tubes
85243698 B/OUT-BOX-12x7.1-GY

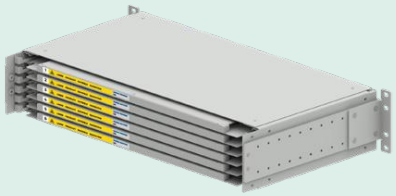
8

Optical fiber protection tube, 7.1mm, 100m spool, black
85227875
OFPT-FLEX-7.1-5.0-PA-V0-BK-100m

You will also need various small items; please check with your seller.

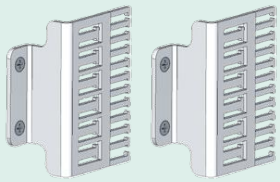
Ordering information

RSB



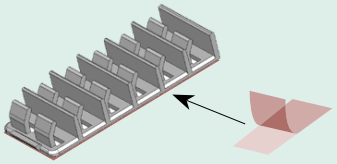
RSB including mounting brackets, splice holders excluded, 2U, grey
85235663
RSB-2U-GY

RSB cable fixations

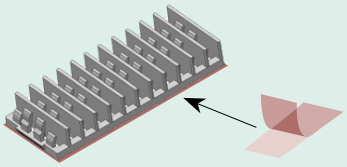


Cable fixation bracket for RSB, 2 pcs.
85254356
RSB-TIE-BRKT-KIT

Splice holders on adhesive tape



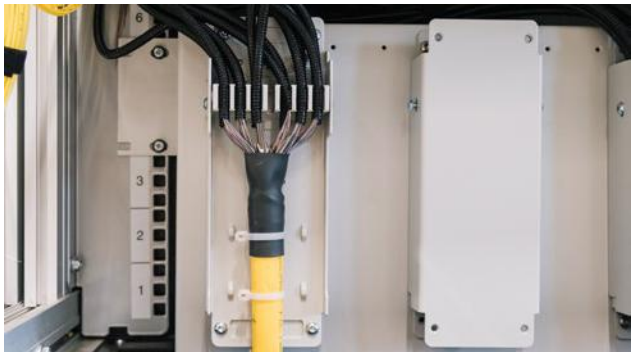
Splice holder with adhesive tape, for 6 ribbon splice protectors
85255724
SPL-COMP-FTII-RB-06-WAY-BK-AD



Splice holder with adhesive tape, for 36 single splice protectors 1.5mm
85255725
SPL-COMP-ACS-HS1.5-24-WAY-AD

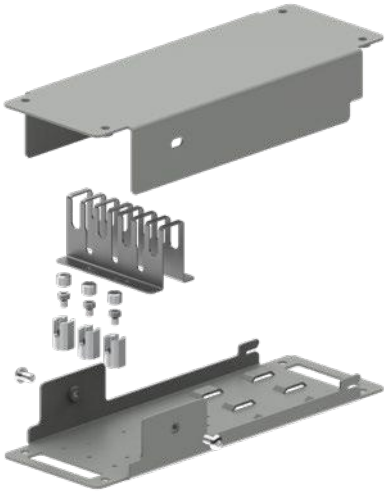
Featuring new accessories

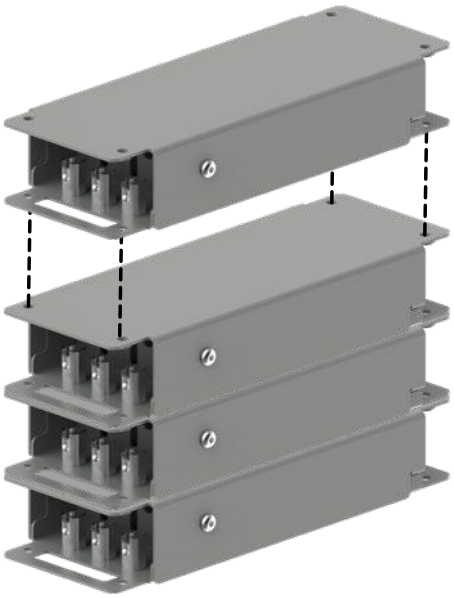
Stackable breakout box



Properties

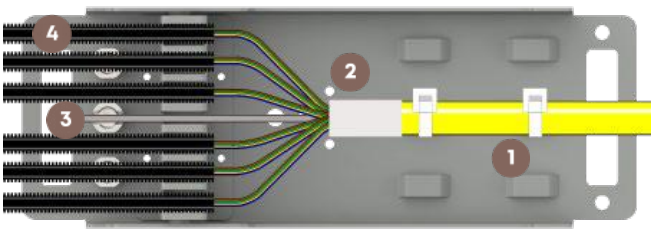
- 2U width, 5U height
- One box can be mounted onto another
- Supports up to 12x ø7.1 mm protection tubes per box
- Supports multiple cable breakout configurations
- Various installation possibilities: in ODF, in 19 inch cabinets, wall cabinets and more
- 3x central strength member





Cable preparation

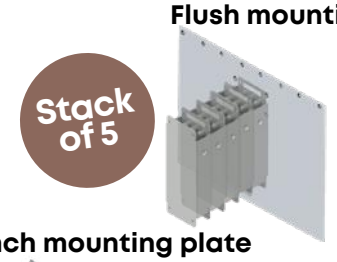
1. Fix cable on to the box using cable ties
2. Protect fibers on cable opening
3. Fix central strength member if exist
4. Spread fibers or inner tubes across protection tubes



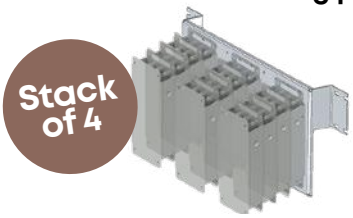
Installation variants

1. Outside racks → can be mounted on basket trays, raceways or flush on a wall, underneath or above racks
2. Inside the ODF → using 300mm section space - up to 5 boxes can be stacked in two rows
3. Inside the ODF → on 19 inch inch mounting plate. Up to 4 breakout boxes can be stacked in three columns, totalling 12 boxes.
4. Inside 19 inch cabinets → on the side or on the rear, directly on 19 inch profile or using side bracket

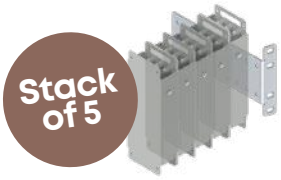
Flush mounting

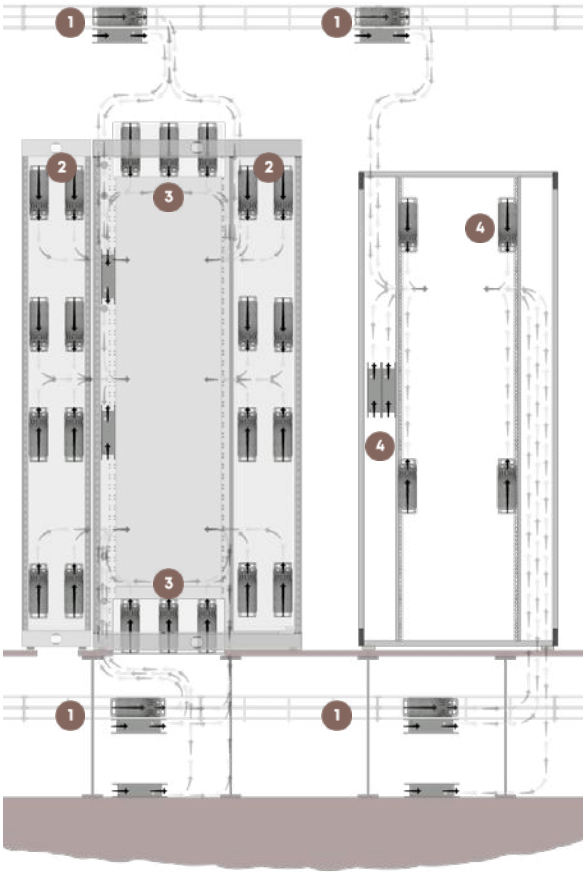


19 inch mounting plate

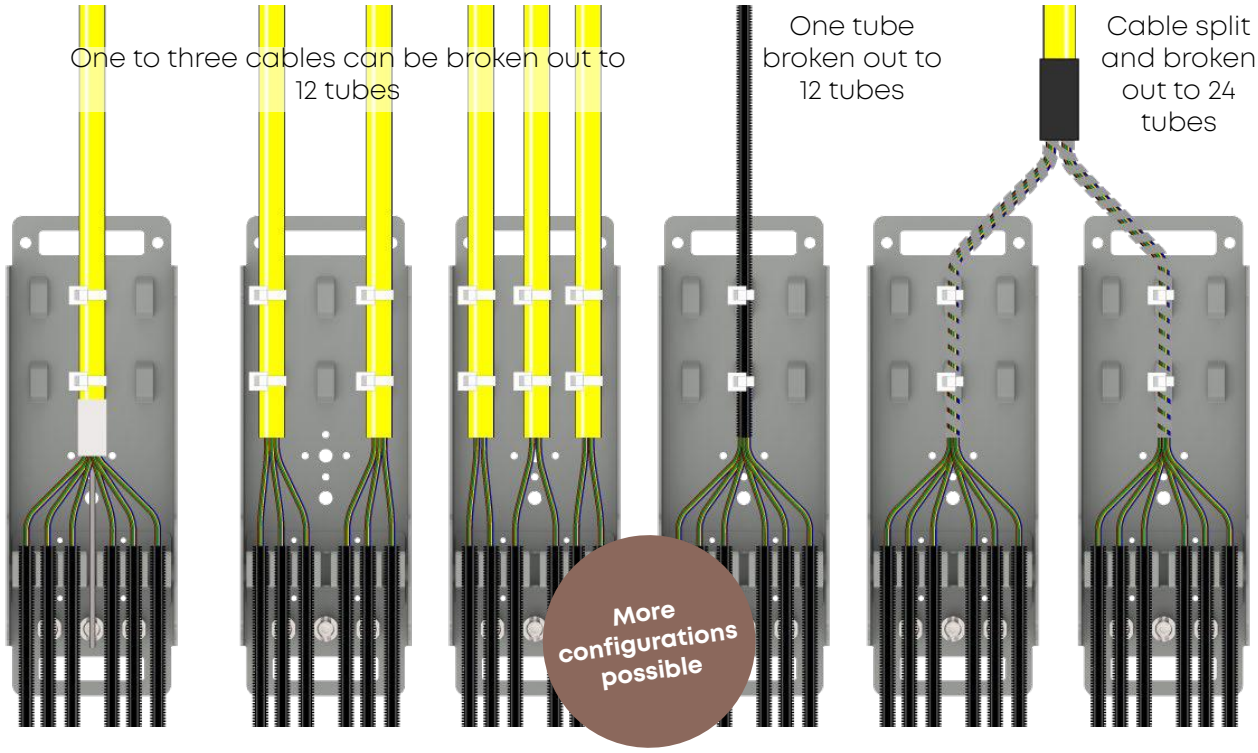


Side bracket





Possible configurations of stackable breakout box

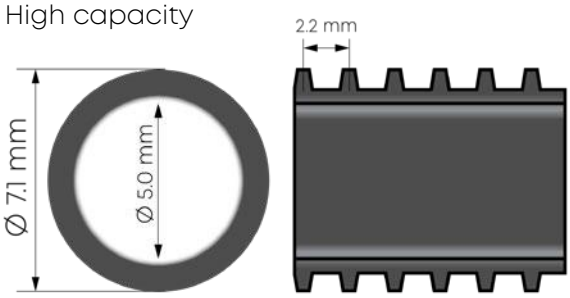


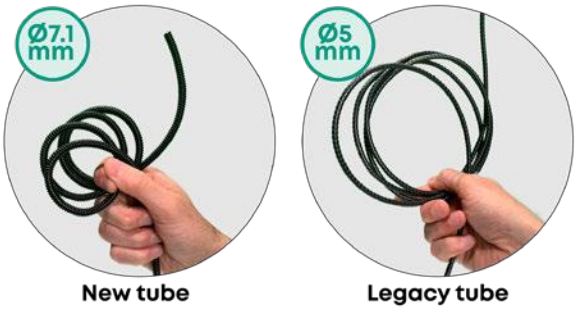
Featuring new accessories

Protection tube ø7.1

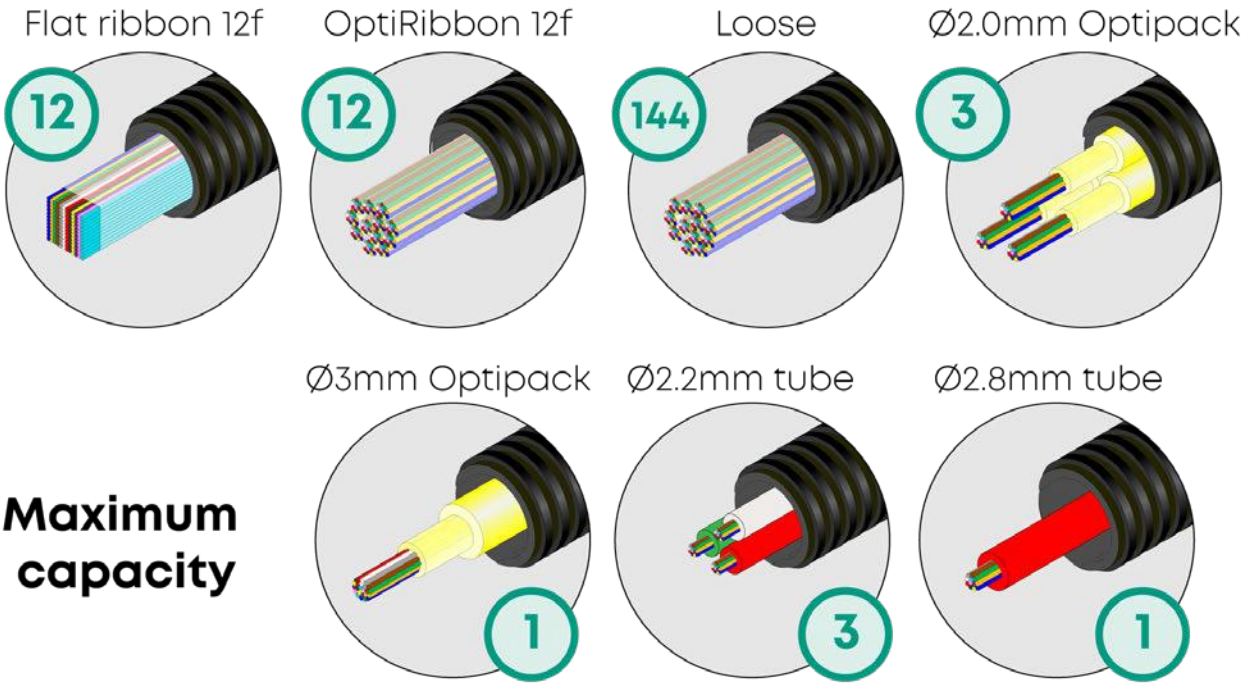
Properties

- Supplied on 100 m spool
- Outer diameter ø7.1 mm, inner diameter ø5.0 mm
- Can be fixed on all LISA cassettes
- Less flexural rigidity, higher capacity and flexibility compare to ø5.0 mm tube
- Imflammable
- High capacity





Maximum capacity

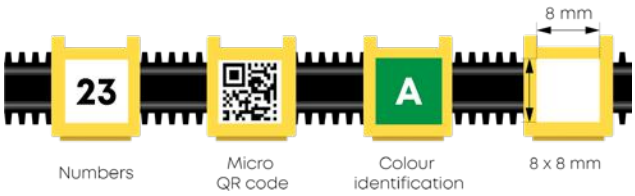


Labeling clip for protection tube ø7.1mm

Properties

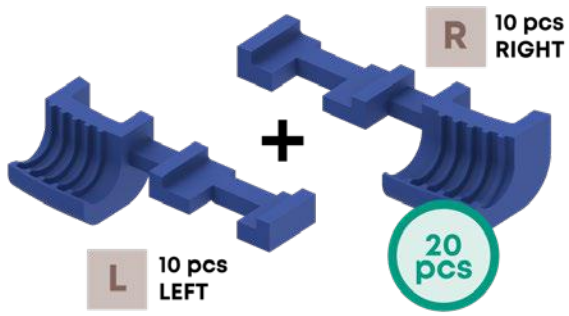
- Easily attachable/detachable
- 100 pcs supplied in a recyclable paper bag
- Various marking options

Marking options*



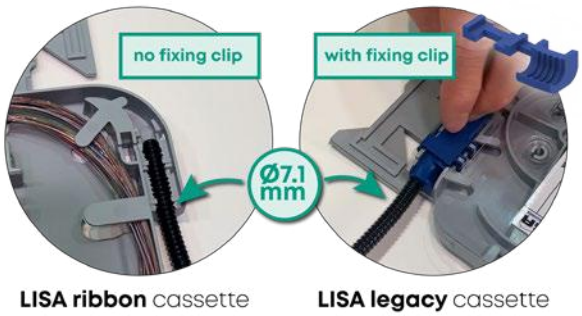
*marking labels are not included, just demonstrated as examples

Fixing clip for standard cassette



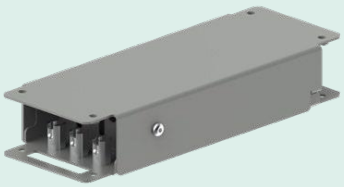
Properties

- To fix ø7.1 mm protection tube to a standard cassette
- One bag contains 10 left and 10 right clips
- Secured with a blue clip



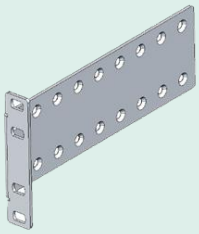
Ordering information

Stackable breakout box

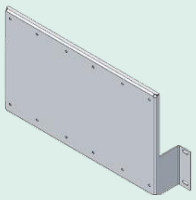


Stackable breakout box for 12 tubes
85243698 B/OUT-BOX-12x7.1-GY

Stackable breakout box mounting plates

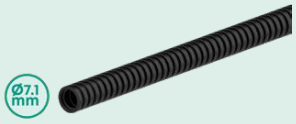


2/3U side mounting bracket
85191429 SY-HD-CHASSIS-2/3U_Mounting_Bracket



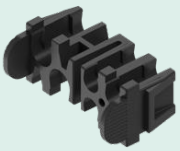
ODF 19 inch mounting plate for breakout box
85259301 CDR/NGR-MOUNT-PLATE-19"

Protection tube accessories

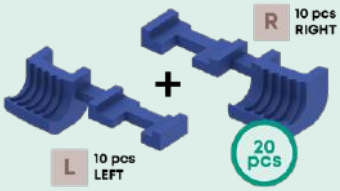


Optical fiber protection tube, 7.1mm, 100m spool, black
85227875
OFPT-FLEX-7.1-5.0-PA-V0-BK-100m

Labelling clip for 7.1 mm tube, 100 pcs bag, yellow
85240185
OFPT-NMBR-CLP-7.1-YE_100-P



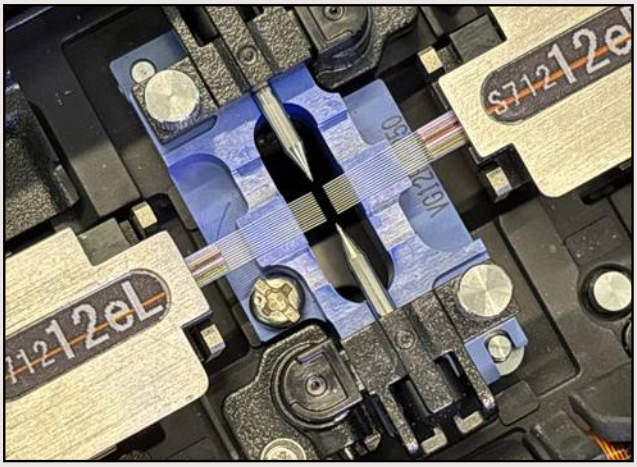
Gland for protection tube fits in LISA chassis, 6-way
2 x 7.1mm + 4 x 5mm
85237899
OFBLT-Conduit-Gland-6-way-BK

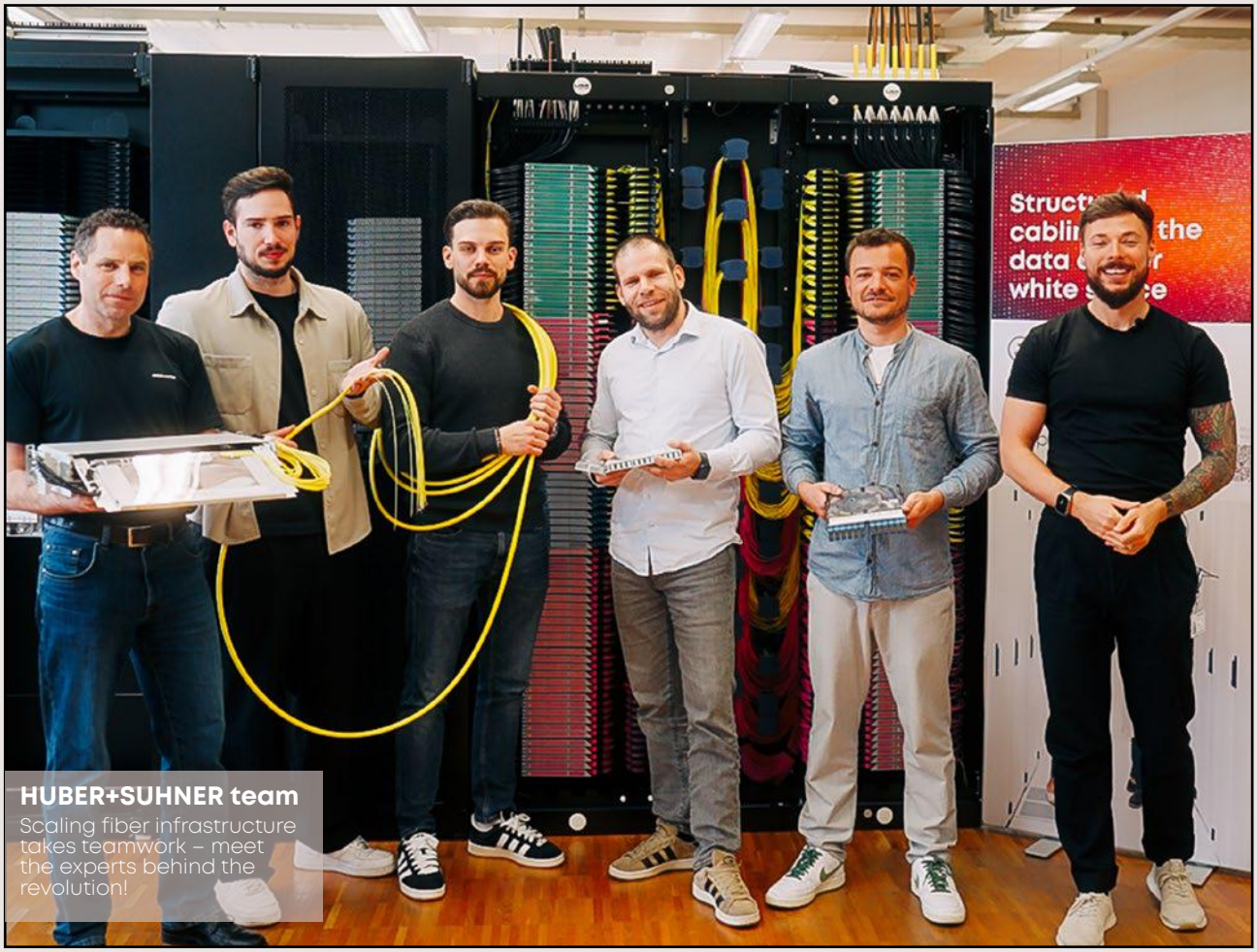


Fixation clip for 7.1mm tube into LISA legacy cassettes, 10 left +10 right in a bag
85241325
LC-X-7.1-TUBE-FIXING-KIT_10_PACK

A strong network starts with a strong team

Looking to take your fiber infrastructure to the next level?
Our Ribbon end-to-end solution offers the highest density, maximum efficiency, and seamless scalability.





HUBER+SUHNER team
Scaling fiber infrastructure takes teamwork – meet the experts behind the revolution!

About HUBER+SUHNER

We are a leading global supplier of components and systems solutions. With our broad range of products and deep know-how, we serve the industry, communications and transportation markets with applications from the three technologies of radio frequency, fiber optics and low frequency. And as a global company with a presence in over 80 countries, we stay close to our customers. Always.

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HUBER+SUHNER is certified according to
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