



FIST Modular Splice Closure

Ordering Guide

FIST™ Modular Splice Closure: adapting to the constantly-changing needs of your network

To keep pace with subscriber demands, network providers today need real deployment efficiencies. The new FIST delivers versatility and efficiency by supporting many network applications with simplified planning and logistics and with ease of installation.



FIST fiber management

- Transient-free, modular, flexible fiber management
- FIST single-circuit and single-element splice trays
- Up to 1248 splices with standard domes: expandable splice capacity with extra collars
- Storage area for looped cable
- Compatible with all fiber types: G.652D and G.657 series



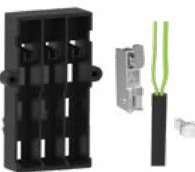
High-performance closure

- Uses FIST closure materials
- Base is completely removable, with easy access during installation and provisioning
- Tool-less base install: simply turn and lock pin
- Underground, ground-level, and aerial use
- IP68; 5mWH; 40 kPa



Superior gel seal

- Fully wraparound, 100 percent mechanical seal
- Eight interchangeable base segments
- Click and snap with no screws required
- Field and factory installable
- Easy day two or repair cable installation
- Easy release of gel segments by the un-triggering of the handle



Best-in-class cable fixation

- Universal termination for cables from 1-27 mm
- Full wraparound and remote cable preparation and cable termination unit (CTU) installation
- Integrated grounding feature for easy grounding wire attachment
- Possible to open gel segments with cable retention in place
- Only one hex wrench needed

BUILDING BLOCK 1: FIST Modular Splice Closure cable seals

Superior sealing performance

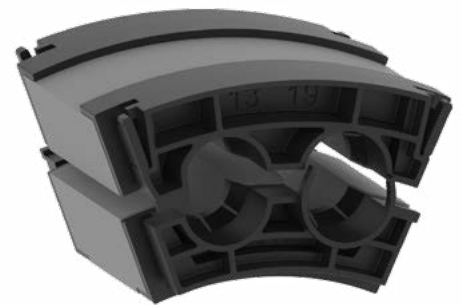
- Best available mechanical gel seal in the market
- 40 kPa and 5 m waterhead compliant with prEN50411 type 1

Easy installation

- Fully wraparound, 100% mechanical gel segments (Patented TENIO design)
- Easy to mount by click/snap function—no screws
- Easy day two or repair cable installation

CABLE OUTS	DIAMETER RANGE	MAXIMUM NUMBER OF IN/OUTLET PORTS
1	21-27 mm	8
2a	18-22 mm	16
2b	13-19 mm	16
3	6-14 mm	24
4	4-11 mm *	32
8	1-5 mm	64

* 4-7 mm in case of fixation with 4 small cable termination units (CTU); 4-11 mm in combination with cable attachment brackets.



BUILDING BLOCK 2: FIST Modular Splice Closure cable terminations

2A: Cable Termination Units (CTU)



Superior performance

- Best universal cable termination in the market—proven performance in TENIO family
- Stronger than tie wraps, safer than hose clamps (no cable damage)

Easy installation

- Fully wraparound and remote cable preparation and CTU installation
- Only 1 hex wrench needed
- Possibility to open gel segment while cable retention remains in place
- Flexible adapters to fit application and support

Cable construction independent

- Diameter range from 1-27 mm
- Central/dual strength member and aramid yarn termination



Option for superior cable attachment—NEW CTU XL with integrated grounding

- CTU XL to cover larger cable sizes
- Integrated grounding feature for easy grounding wire attachment

BUILDING BLOCK 2: FIST Modular Splice Closure cable terminations

2B: Cable Termination Brackets

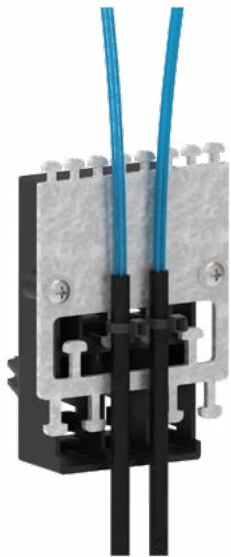


Industry-adopted techniques

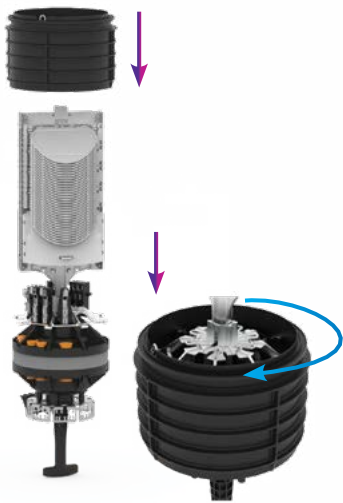
- According to standard installation practices in the field
- Solid performance

Flexible

- Possibility to open gel segment while cable retention remains in place
- Compatible with standard available components (hose clamps; tie wraps)
- Flexible adapters to fit application and support modular approach



BUILDING BLOCK 3: Dome & base enclosure



FIST commonality

- Compatible with existing round dome sizes and clamp
- Proven materials, used in FIST GCO2 and FOSC 400 series

State-of-the art design for fast re-entry

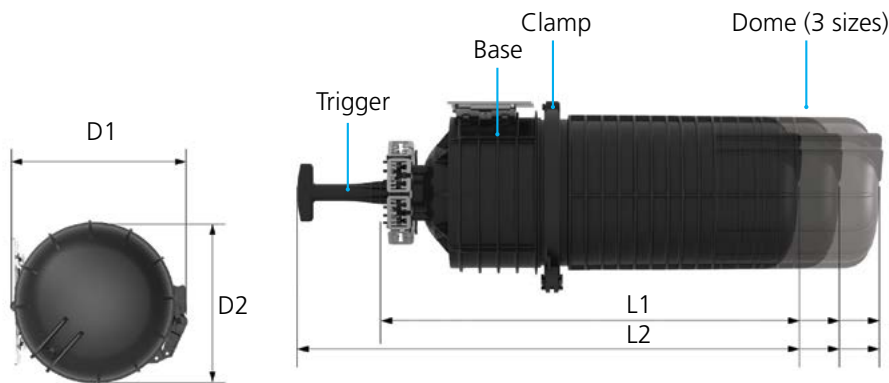
- Base/body completely removable from inner work, allowing full round access during installation and provisioning
- Easy tool-less base install by turn and locking pin

Superior quality

- Suited for underground/submerged, ground-level and aerial use

Micro-tube optimized

- Overlapping base to shield off unprotected cables coming out of tubes
- Remote fixation of micro-tubes by use of modular adapters and tube clamps
- External fixation bracket for optimal strain relief
- Option for standard water blocking devices in the closure (not preferred)



DOME SIZE	C (mm)	D (mm)	E (mm)	BF (BE + collar) (mm)
L2 (total length)	772	850	960	1020
L1 (length excl. trigger)	622	700	810	870
D1 (diameter with clamp)	291	291	291	291
D2 (diameter without clamp)	256	256	256	256

BUILDING BUILDING BLOCK 4: FIST Fiber Management



Optimized interface

- New FAS block with round shape for better fiber alignment
- Improved tubes grow-in/grow-out area
- Increased space between cable attachments and FAS block for ease of handling

Compatible with existing FIST organizer family

- Transient free, modular and flexible
- FIST single-circuit, single-element splice trays
- High and expandable splice count (1248 splices for E-size closure)
- Compatible with FSASA splitter cassette product range

Fiber and cable technology independent

- Compatible with all fiber types (G.652D and G.657 series)
- Storage area for looped cable



ORDERING

To configure a complete FIST Modular Splice Closure, the following items must be specified and ordered as indicated:

1. Closure

FIST Modular Splice Closures are shipped empty.

2. Cable seals

Total number of cable seals per closure MUST equal 8.

3. Cable termination units

Order 1 cable termination unit for each cable. Looped cables require 2 cable termination units. Alternatively, an internal cable fixation plate can be ordered per segment.

4. Trays

The FIST Modular Splice Closures are compatible with all existing MK2 FIST trays (splice, patch, splitter, etc.).

OPTIONAL/ADDITIONAL ORDERING INFORMATION

Accessories

- Mounting bracket: Order 1 mounting bracket per closure
- External cable fixation: Order 1 external cable fixation kit per closure
- Grounding kits
- Tube accessories

1: CLOSURE

NOTE: Empty closures can be ordered with MOQ of 1 piece
Quantity per box: 1 piece; Quantity per pallet: 6 pieces

KIT CONTENT: Dome with seal and clamp, removable base, closure inner frame including 2 FAS blocks, 2 FAS caps, 2 tray lids with channeling pin, installation instructions (or QR code reference)



PRODUCT DESCRIPTION	SINGLE CIRCUIT SPLICING CAPACITY (SC)	SINGLE ELEMENT SPLICING CAPACITY (SE)	SLIM SINGLE ELEMENT SPLICING CAPACITY (SLE)	ORDERING REFERENCE
C-size closure with 20 UMS height	40 trays/80 fibers	20 trays/240 fibers	40 trays/480 fibers	
No trays, no test valve				FIST-MSC-C8-N
No trays, with test valve				FIST-MSC-C8-V
D-size closure with 36 UMS height	72 trays/144 fibers	36 trays/432 fibers	72 trays/864 fibers	
No trays, no test valve				FIST-MSC-D8-N
No trays, with test valve				FIST-MSC-D8-V
E-size closure with 52 UMS height	104 trays/208 fibers	52 trays/624 fibers	104 trays/1248 fibers	
No trays, no test valve				FIST-MSC-E8-N
No trays, with test valve				FIST-MSC-E8-V
F-size closure with 60 UMS height	120 trays/240 fibers	60 trays/720 fibers	120 trays/1440 fibers	
No trays, no test valve				FIST-MSC-F8-N
No trays, with test valve				FIST-MSC-F8-V

2: CABLE SEALS

NOTE: Total number of segments ordered must equal 8 per closure

NOTE: Cable segments/dummy segments to be ordered in multiples of 5 pieces for cable segments or 10 pieces for dummy segments

KIT CONTENT: Adapter, gel segments (inner and outer part) and dummy rods



NUMBER OF OUTLETS	DIAMETER RANGE PER OUTLET	SUITABLE FOR STANDARD CABLES	SUITABLE FOR MICRO TUBES	SUITABLE FOR CABLES WITH METAL SHIELDING	ORDERING REFERENCE
1	21-27 mm	√		√	MSC-SKG1-21/27
2	18-22 mm	√		√	MSC-SKG2-18/22
2	13-19 mm	√		√	MSC-SKG2-13/19
3	6-14 mm	√	√		MSC-SKG3-6/14
3	6-14 mm	√	√	√	MSC-SKG3-6/14-GRND
4	4-11 mm *	√	√		MSC-SKG4-4/7-11
8	1-5 mm	√			MSC-SKG8-1/5
N/A	dummy				MSC-SKG-DUMMY

* 4-7mm in case of fixation with 4 small Cable termination UNITS (CTU); 4-11mm in combination with cable attachment brackets.

3. CABLE TERMINATION KITS

A: Cable termination units

NOTE: 1 CTU per cable. Looped cables require 2 CTUs.

NOTE: CTUs to be ordered in multiples of 20 pieces (CTU-S) / 10 pieces (CTU-L & G).

KIT CONTENT: Hex wrench, metal band(s), cable termination unit with/without grounding wire.



UNIT SIZE	GROUNDING WIRE	MAX CABLE SIZE	ORDERING REFERENCE
Small	No	Up to 7 mm	CTU-S
Large	No	Up to 16 mm	CTU-L
Giant	No	Up to 27 mm	CTU-G
Giant	Yes	Up to 27 mm	CTU-G-GRND*



*CTU-G termination unit with extra grounding wire attached

CABLE TERMINATION UNIT COMPATIBLE WITH SEALS	CTU-S	CTU-L	CTU-G	CTU-G-GRND*
	MSC-SKG8-1/5	√		
MSC-SKG4-4/7-11	√			
MSC-SKG3-6/14		√		
MSC-SKG3-6/14-GRND				√
MSC-SKG2-13/19			√	√
MSC-SKG2-18/22			√	√
MSC-SKG1-21/27			√	√

3. CABLE TERMINATION KITS

B: Cable termination brackets

NOTE: By use of the cable brackets, common practice cable fixation devices can be used
Use 1 cable fixation plate per segment

NOTE: Cable termination brackets to be ordered in multiples of 10 pieces

KIT CONTENT: Adapter plate + fixation material:



(1) Fixation material:
8 pieces tie wraps included in the kit



(2) Fixation material:
3 pieces of hose clamps 6-16 mm;
2 pieces hose clamps 11-25 mm and
2 dual strength member devices included
in the kit

MAX AMOUNT OF CABLES	FIXATION MATERIAL	ORDERING REFERENCE
Up to 8 cables	Tie-wraps	CTU-BRKT-1 (1)
Up to 3 cables	Hose clamps and dual-strength member fix devices (FACC-DSCT)	CTU-BRKT-2 (2)

TERMINATION BRACKETS COMPATIBLE WITH SEAL KITS	CTU-BRKT-1	CTU-BRKT-2
MSC-SKG8-1/5	√	
MSC-SKG4-4/7-11	√	
MSC-SKG3-6/14		√
MSC-SKG3-6/14-GRND		√
MSC-SKG2-13/19		√
MSC-SKG2-18/22		√
MSC-SKG1-21/27		

4. TRAYS (SPLICE/PATCH/SPLITTER)

NOTE: The UMS (universal mounting system) profiles and the modular groove plates provide the foundation for mounting combinations of FIST-SOSA2 (splice only sub-assembly) and/or FIST-SASA2 (splitter array sub-Assembly) modules.

NOTE: Refer to the separate datasheet of organizers for exact ordering information



OPTIONAL ACCESSORIES

Mounting Brackets

NOTE: Minimum order quantity of 1 piece

PRODUCT DESCRIPTION & KIT CONTENT	ORDERING REFERENCE
Wall/pole mount including: *Metal plate for wall/pole mount *Slide-on plate for closure fixation *Hose clamps for closure fixation	MSC-MOBRA
External cable/tube fixation bracket including: *Fixation screws to mount bracket to closure *8 pieces tie wraps *2 pieces hose clamps 11-25 mm	MSC-EXT/CF
Workstand bracket—In development	TBD



Grounding Segment

NOTE: The feedthrough grounding segment can be combined with the giant grounding cable termination units (CTU-G-GRND) to offer the possibility to ground shielding and additional metal strength members

NOTE: Grounding segments to be ordered in multiples of 5 pieces

PRODUCT DESCRIPTION & KIT CONTENT	ORDERING REFERENCE
Feedthrough grounding kit including dummy segment, feedthrough bolt pre-mounted with grounding wire	MSC-SKG-FDTHR



Tube Kits

NOTE: Tube kits to be ordered in multiples of 10 pieces

NOTE: Every tube kit contains the suitable adapter to fix on the external cable bracket and the crimp ring to fix on the tube

PRODUCT DESCRIPTION & KIT CONTENT	ORDERING REFERENCE
Set of 4 crimp rings for 7 mm tubes, incl. four-out adapter (tube not included)	MSC-CR7
Set of 4 crimp rings for 10 mm tubes, incl. four-out adapter (tube not included)	MSC-CR10
Set of 3 crimp rings for 12 mm tubes, incl. three-out adapter (tube not included)	MSC-CR12



QUICK GUIDE CONFIGURATOR

NOTE: Below table gives a combination overview of SEALS + CABLE TERMINATION KITS + TUBE KITS

	PRODUCT DESCRIPTION		NO GROUNDING			WITH GROUNDING	
	NUMBER OF OUTLETS	DIAMETER RANGE PER OUTLET	CABLE SEAL KITS	CABLE TERMINATIONS		CABLE SEAL KITS	CABLE TERMINATIONS
A. Cables	1	21-27 mm	MSC-SKG1-21/27	CTU-G		MSC-SKG1-21/27	CTU-G-GRND
	2	18-22 mm	MSC-SKG2-18/22	CTU-G		MSC-SKG2-18/22	CTU-G-GRND
				CTU-BRKT-2			
	2	13-19 mm	MSC-SKG2-13/19	CTU-G		MSC-SKG2-13/19	CTU-G-GRND
				CTU-BRKT-2			
	3	6-14 mm	MSC-SKG3-6/14	CTU-L		MSC-SKG3-6/14-GRND	CTU-G-GRND
				CTU-BRKT-2			
	4	4-7/11 mm*	MSC-SKG4-4/7-11	CTU-S		-	-
CTU-BRKT-1							
8	1-5 mm	MSC-SKG8-1/5	CTU-S		-	-	
			CTU-BRKT-1				
N/A	Dummy cable seal	MSC-SKG-DUMMY	-		-	-	

* 4-7 mm in case of fixation with CTU-S; 4-11 mm in combination with CTU-BRKT-1

	PRODUCT DESCRIPTION		NO GROUNDING			WITH GROUNDING	
	NUMBER OF OUTLETS	DIAMETER RANGE PER OUTLET	CABLE SEAL KITS	CABLE TERMINATIONS	TUBE KITS	CABLE SEAL KITS	CABLE TERMINATIONS
B. Micro Tubes	4	Tubes 4-11 mm*	MSC-SKG4-4/7-11	CTU-S	MSC-CR7	-	-
				CTU-BRKT-1	MSC-CR10	-	-
	3	Tubes 6-14 mm	MSC-SKG3-6/14	CTU-L	MSC-CR12	-	-
				CTU-BRKT-2		-	-

* 4-7 mm in case of fixation with CTU-S; 4-11 mm in combination with CTU-BRKT-1

SEAL SEGMENT							CABLE ATTACHMENTS			
SEGMENT	DUMMY RODS	ADAPTER	# OF CABLES	MIN Ø	MAX Ø	NOTES	TERMINATION UNITS		TERMINATION BRACKETS	
							CTU-	CTU-	CTU-BRKT-	
8x1-5 		8-out 	8	1	5	MSC-SKG8-1/5			OR 	
4x4-7/11 		8-out 	4	4	7/11	MSC-SKG4-4-7/11 Max 7 mm with CTU-S (no strength member) Max 11 mm with brackets			OR 	
3x6-14 		3-out Large 	3	6	14	MSC-SKG3-6/14			OR 	
3x6-14 		3-out Giant 	3	6	14	MSC-SKG3-6/14-GRND Kit to be used when grounding of cables is needed		OR 	OR 	
2x13-19 		3-out Giant 	2	13	19	MSC-SKG2-13/19		OR 	OR 	
2x18-22 		3-out Giant 	2	18	22	MSC-SKG2-18/22		OR 	OR 	
1x21-27 		1-out Giant 	1	21	27	MSC-SKG1-21/27		OR 	NA	
DUMMY 	NA	NA	NA	NA	NA	MSC-SKG-DUMMY	NA	NA	NA	
DUMMY GRND 	NA	NA	NA	NA	NA	MSC-SKG-FDTHR	NA	NA	NA	

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