Prysmian Group

Outside Plant

LMJ - Large Multi-Function Joint

Prysmian Part Number: *See Following Pages*

The LMJ is used for access applications within the external optical network and can be used for track, spur and loop applications. It can accommodate a wide variety of cables such as loose tube, central loose tube, Flextube and blown fibre. The modular tray system is designed for positive fibre management for Single Circuit Management (SCM) and Single Element Management (SEM), and the splice trays can accommodate a variety of different types of splice protectors and splitters. The joint has ten circular ports and one oval port for mechanical entry. Mechanical glands are used to seal cables into the circular ports. Multi way glands are also available to fit multiple cables into each circular port depending on the cable diameter. The closure can be mounted using one of the mounting brackets available or directly buried.

Features and Benefits

- A large closure for optical cable splicing with two vertical tray stacks.

- Different lengths available to configure the closure to the number of trays needed.

- Maximum capacity is 1344 fibres using 12 fibre single element trays.

- Capacity can be increased to 2688 fibres using 24 fibre single element trays or

  4032 fibres using 36 fibre single element trays.

- Contains a mechanical oval port and central loop storage for up to 276 fibres

  using loose tubes. (Loop capacity 3.4m of 23 elements, 2.2mmØ in medium joint).

- Two input manifolds manage cable tubes to a common routing channel.

- Input manifolds enable fibres to be passed from stack to stack.

- One mechanical oval port cable entry for cables up to 21.5mm. Ten circular port

  cable entries.

- Cables are sealed using mechanical sealing glands. Cables from 4 to 23mm in

  diameter can be accommodated into each circular port.

- Multi Way Entry Glands provide alternate mechanical entry to allow up to 8 cables

  in each circular port.

- Can accommodate a range of splitter modules from 1x2 to 2x64.

- The closure is sealed to IP68.

Kit Contents

The LMJ is supplied as an empty closure with a cap, a base, a clamp, a sealing gasket and a support frame.

Cable entry kits, splice trays and accessories are ordered separately as required.

The closures can also be pre-configured by Prysmian. Contact the Prysmian sales office for further information.

Additional Items

- Oval Port Entry Kits
- Circular Port Gland Kits
- Splicing Modules
- Splitter Modules
- Splice Protectors
- Mounting Brackets
- Closure Upgrade Kits

OASYS

Technical Data

- Required space envelope (mm):   (l) 493 x (d) 310 for LMJ Short Cap   (l) 600 x (d) 310 for LMJ Medium Cap
     (l) 721 x (d) 310 for LMJ Long Cap

- Capacity for Single Element Management (SEM) – 12f, 24f and 36f per tray)

	LMJ Short Cap	LMJ Medium Cap	LMJ Long Cap
Maximum number of trays	48 trays (24 + 24)	80 trays (40 + 40)	112 trays (56 + 56)
Maximum splices	576f	960f	1344f
Using 24f splice tray	1152f	1920f	2688f
Using 36f splice tray	1728	2880	4032

- Capacity for Single Circuit Management (SCM) – 4f per tray

	LMJ Short Cap	LMJ Medium Cap	LMJ Long Cap
Maximum number of trays	96 trays (48 + 48)	160 trays (80 + 80)	224 trays (112 + 112)
Maximum splices	384f	640f	896f

- Minimum Fibre Bend Radius (mm):   30
- Number of Cable Ports: 10 circular and 1 oval
- Cable Diameter Range (mm):
    - Circular Port: 4 to 23
    - Multi Port (in circular port):   5 to 9 (2 Way), 5 to 7 (4 Way), 3x2mm flat cable (8 Way),
    - Oval Port: 6 to 21.5
- Cable Retention (N):
    - Circular Port: > Cable (Ø/45) x 500N with central strength member secured.
    - 4 Way Multi Way (in circular port):   > 150N for cables with Aramid yarns, > 30N for cables without Aramid yarns
- Splitter capacity: See page 4
- Operating temperature: -20°C to + 60°C (5 to 95% RH)
- Material:-
    - Cap: GF Polypropylene
    - Base: GF Polypropylene
    - Clamp: GF Nylon
    - Splice Trays: FR ABS
- Testing:-
    - Closure Sealing: IP68 (5 metres) (IEC 61300-2-23)
    - Optical: Tested 1310nm,1550nm, 1625nm
    - Change of Temperature: IEC 61300-2-22
    - Dry Heat: BS EN 60068-2-2 Test Bb
    - Damp Heat: IEC 60068-2-3: 1969
    - Vibration: IEC 61300-2-1
    - Torsion: IEC 61300-2-5
    - Bending: IEC 61300-2-37
    - Impact: IEC 61300-2-12
    - Cable Retention: IEC 61300-2-4
    - Crush Resistance: IEC 61300-2-10

Logistics

Packing Dimensions (mm):
- (l) 563 x (d) 342 x (w) 302 Short Cap
- (l) 678 x (d) 342 x (w) 302 Medium Cap
- (l) 793 x (d) 342 x (w) 302 Long Cap

*Packed Weight (Kg):
- Short Cap: 6.0
- Medium Cap: 6.8
- Long Cap: 7.8

*Net Weight (Kg):
- Short Cap: 4.6
- Medium Cap: 5.5
- Long Cap: 6.3

* weights do not includes trays or kits

Part Numbers

LMJ - Closure

The LMJ Closure is supplied in three different sizes depending on the splice capacity required. The closure is supplied empty and is configured as required by adding splice modules, splitter modules and cable entry glands. The closure has a single oval port and 10 circular ports for mechanical entries.

The closure is supplied with the components below: -

01 x Closure Cap
01 x Closure Base
01 x Seal
01 x Clamp
01 x Pressure Test Valve
01 x Joint Chassis
02 x Input Manifold

An installed joint closure can be upgraded at a later date using a closure upgrade kit as shown below.

Prysmian Part No.	Joint Size	Total Tray Capacity	Splice Capacity SCM	Splice Capacity SEM (12f Tray)	Splice Capacity SEM (24f Tray)	Splice Capacity SEM (36f Tray)
XJTSC02256	Short Cap	48 (24+24)	384 *	576	1152	1728
XJTSC02257	Medium Cap	80 (40+40)	640 *	960	1920	2880
XJTSC02258	Long Cap	112 (56+56)	896 *	1344	2688	4032

* Single circuit trays are double trays where each tray unit comprises of a splice tray with a hinged inner splice tray providing two trays in a single tray footprint, where each of the two trays can accommodate 4 splices.

LMJ – Closure Upgrade Kits

Closure upgrade kits can be used to upgrade a joint to a larger size after it has been installed. The upgrade kit contains a larger cap and additional chassis plates. It contains all of the fixings required and an installation guide to describe the upgrade process. It does not include additional splice trays which are ordered separately.

Prysmian Part No.	Description	From (Tray Capacity)	To (Tray Capacity)
XJTSC02321	Short Cap to Medium Cap	48	80
XJTSC02322	Short Cap to Long Cap	48	112
XJTSC02323	Medium Cap to Long Cap	80	112

Additional Items
Mechanical Oval Port Entry Kits

The LMJ Oval Port Mechanical Entry Kit is used to install a loop of cable into the oval port of the LMJ. The kit contains all of the components required to prepare and install the cable, and route the cable fibres to the splice trays. The cables are sealed into the oval port using a mechanical gland system comprising of two plates and a rubber block that fits inside the oval port of the joint. It is important to order the correct kit dependant on the diameter of the cables to be sealed.

Typical weight of a kit is 216g

Prysmian Part No.	Gland Type	Sealing Type	Min Cable Ø	Max Cable Ø
XJTSC02382	Oval	Mechanical	6.0	8.0
XJTSC02269	Oval	Mechanical	8.1	10.0
XJTSC02270	Oval	Mechanical	10.1	12.0
XJTSC02271	Oval	Mechanical	12.1	14.0
XJTSC02272	Oval	Mechanical	14.1	16.0
XJTSC02273	Oval	Mechanical	16.1	18.0
XJTSC02555	Oval	Mechanical	18.1	20.0
XJTSC02556	Oval	Mechanical	20.1	21.5

Mechanical Circular Port Entry Glands

Circular port entry glands are used to install cables into one of the 10 ports of the LMJ base. The glands can be installed onto the cable and then simply pushed into the base of the joint. The kit contains all of the parts necessary to seal the cable and secure the strength members. Multi-way glands are available to install multiple smaller cables into one circular port. For larger cables a heat shrink port is also available (see page 6).

Typical weight of a kit is 110g

Prysmian Part No.	Gland Type	Number of Entries	Min Cable Ø	Max Cable Ø	Used For
XJTSC02278	Single	1	4.0	7.0	Single cable with Aramid or CSM
XJTSC01754	Single	1	7.1	20.0	Single cable with Aramid or CSM
XJTSC02193	Single	1	20.1	23.0	Single cable with Aramid or CSM
XJTSC02186	Dual	2	5.0	9.0	For interface with flexible conduit
XJTSC01755	Quad	4	5.0	7.0	Up to four cables with Aramid
XJTSC02767	Quad	4	4.0	6.0	With CSM retention for mini cables
XJTSC02768	Quad	4	5.0	7.0	With CSM retention for mini cables
XJTSC02769	Quad	4	7.0	8.5	With CSM retention for mini cables
XJTSC02260	8 Way	8	3.0	3.0	Up to 8 cables - 3.0mm Ø
XJTSC01878	8 Way	8	2.0x3.0 with messenger		Up to 8 flat cables 2.0 x 3.0mm
XJTSC03048	8 Way	8	2.0	3.0	Up to 8 cables 2.0 - 3.0mm Ø
XJTSC03049	8 Way	8	2.5	4.2	Up to 8 cables 2.5 – 4.2mm Ø

Splicing and Splitting Modules

Splicing Modules

Splicing modules are available to be installed into the LMJ. Single element modules for 12f, 24f AND 36F per tray can be utilised using 1.3mm splice protectors. A 12f per tray module is also available for 2.2mm splice protectors. Single circuit modules have double the tray capacity in the same space envelope. This is achieved using a double splice tray where each tray unit incorporates a hinged second tray within the first tray. Each SC tray can accommodate 4 spliced fibres. A crimp splice tray is also available (using the same tray as 36f). The 36f tray can also be used for 12f and 24f. When used as a 12f tray splice protectors no longer need to be stacked.

Typical weight of a pack of trays 145g

Prysmian Part No.	Tray Type	Splice Protector	No of Trays	Fibres per Tray	Fibre Capacity	Tray Positions Used
XJTSC02144	Single Element 12	1.3mm x 30mm	4	12	48	4
XJTSC02262	Single Element 12	2.2mm x 45mm	4	12	48	4
XJTSC02584	Single Element 16	2.2mm x 45mm	4	16	64	4
XJTSC02261	Single Element 24	1.3mm x 30mm	4	24	96	4
XJTSC02468	Single Element 36	1.3mm x 30mm	4	36	144	4
XJTSC02145	Single Circuit *	1.3mm x 30mm	8	4	32	4
XJTSC02468	Crimp	Crimp	4	12	48	4
XJTSC02897	Ribbon	Ribbon	2	24	48	4
XJTSC02583	Micro Module	1.3mm x 30mm	2	48	96	4

* Single circuit trays are double trays where each tray unit comprises of a splice tray with a hinged inner splice tray providing two trays in a single tray footprint, where each of the two trays can accommodate 4 splices.
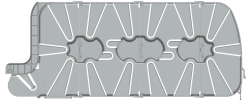
Splitter Modules

Splitter modules can be installed into the LMJ. The splitter modules are supplied with a splitter and the input fibre pre-installed into the bottom tray and the output fibres installed into a number of trays above depending on the size of the splitter. The splitter input tray is coloured green. Standard splitters use G657A1 fibre. Refer to data sheet AC005 for splitter technical information.

Prysmian Part No.	Splitter Ratio	Tray Type	Input Tray	Output Trays	Spare Trays	Outputs per Tray	Splice Protector	Tray Positions Used
XJTSC02310	1 x 4	SE12	1	1	2	4	1.3mm x 30mm	4
XJTSC02311	1 x 4	SC *	1	1	4	4	1.3mm x 30mm	4
XJTSC02312	1 x 8	SE12	1	1	2	8	1.3mm x 30mm	4
XJTSC02313	1 x 8	SC *	1	2	4	4	1.3mm x 30mm	4
XJTSC02314	1 x 16	SE12	1	2	1	8	1.3mm x 30mm	4
XJTSC02315	1 x 16	SC *	1	4	2	4	1.3mm x 30mm	4
XJTSC02316	1 x 32	SE24	1	2	1	16	1.3mm x 30mm	4
XJTSC02317	1 x 32	SC *	1	8	6	4	1.3mm x 30mm	8

* Single circuit trays are double trays where each tray unit comprises of a splice tray with a hinged inner splice tray providing two trays in a single tray footprint, where each of the two trays can accommodate 4 splices. Other splitter modules are available including onto trays with 2.2mm splice protectors. Contact Prysmian for further information.

Additional Items

Item	Prysmian Part No.	Description	Image
SILICONE GREASE	**XBFSC00260 (Pack OF 5)**	Grease is used when installing a cable into one of the entry glands. A sachet of grease is supplied with each gland. The purpose of this spare tube of grease is for use adding additional cables into the 4 Way Gland at a later date.	
SPLICE PROTECTORS 1.3mm	**XKTSC01284 (Pack OF 12)**	Splice protectors are used to protect the fibre splice. They are 1.3mm in diameter and 30mm in length.	
	XPESC00057 (Pack of 50)		
SPLICE PROTECTORS 2.2mm	**XKTSC00050 (Pack OF 12)**	Splice protectors are used to protect the fibre splice. They are 2.2mm in diameter and 45mm in length.	
	XPESC00053 (Pack of 50)		
SPLICE PROTECTORS Crimp	**XKTSC00079 (Pack of 12)**	Splice protectors are used to protect the fibre splice. They are 1.3mm x 3.2mm and 30mm in length.	
	XKTSC00078 (Pack of 50)		
HEAT SHRINK PORT	**XJTSC02608**	The Heat Shrink port is a mechanical port that plugs into a circular port of the LMJ base and enables a cable to be heat shrunk into the port. The port can be used for cases where larger sized cables need to be installed into the joint. The port can be used for cables up to 30mm in diameter.	
GLAND SPANNER	**XJTSC02320**	The gland spanner is used to tighten the cable glands used for circular port entry. The spanner has a flat profile on one end and a cupped profile on the other end. The cupped profile is used to tighten or loosen a gland already installed into the joint in cases where additional cable entry is required.	
WALL / POLE MOUNTING BRACKET	**XJTSC02597**	The Wall / Pole Mounting Bracket allows a Joint to be mounted vertically against a wall or a pole. The bracket is secured using either bolts or screws (provided).	
SUPPORT TOOL	**XJTSC02274**	The Support Tool allows the user to support a joint within a portable workbench. The bracket is designed to fit most commercially available workbenches.	
HANLDE KIT	**XJTSC02548**	The Handle Kit contains two handles and two long cable ties. The handles can be strapped to the LMJ cap to ease lifting in and out of the jointing pit.	
LOOP MANAGER KIT	**XJTSC02856**	The Loop manager kit can be used to support fibre loops that are stored between the two tray stacks. It is recommended this is used with flextube cables.	

Please contact your local sales office listed on **www.prysmiangroup.com**