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ISIS Practice

All people who work on the Openreach fibre network

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# ***Installation Practices for the Universal Node 1A & TM Range of Fibre Nodes***

*Installation instructions*

## ***About this document ...***

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Issue 25	21-Feb-2023	Evan Rogers	New port kit contents and rules – section 2.4
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Issue 18	24-Sep-2020	Michael Rose	Update to include new splitters.
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Issue 16	09-Jul-2019	Chief Engineers Office Technical Documentation Team	Update to storage of splitter legs section 2.21 ULW 4 port gland 2.2mm trays for large & Xlarge node L&XL node clamp section 2.20 added.
Issue 15	09-Jul-2018	Chief Engineers Office Technical Documentation Team	link correction within section 2.5
Issue 15	08-Jun-2018	Chief Engineers Office Technical Documentation Team	4 way COF 600 port kit added. COF 730 added to IP 351 and IP 413
Issue 14	23-Oct-2017	Chief Engineers Office Technical Documentation Team	PDF update, attachment IP414 within section 2.9
Issue 14	12-Oct-2017	Chief Engineers Office Technical Documentation Team	New 2 tube BFT port kit added IP 424, update to IP369, IP 415 and update to IP 386
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			now 414, 258 now 412.
Issue 12	16-Mar-2017	Chief Engineers Office Technical Documentation Team	Section 1 tables update to include IP guide references. Following IP guides up issued IP349, 400, 369, 354. IP 389 replaced by IP 410
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Issue 3	20-Apr-2016	Chief Engineers Office Technical Documentation Team	Removal of COF250/SST cable entry
Issue 2	14-Mar-2016	Chief Engineers Office Technical Documentation Team	New Installation of COF200 in circular port link
Issue 1	22-Dec-2015	Chief Engineers Office Technical Documentation Team	New component, first issue of document. (SN)

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# **1      *Introduction***

These instructions describe the practices required to install the Termination Multifunction (TM) range of joints. These include the Extra-Large, Large, Medium and Small nodes.

The nodes vary in size and tray capacity and are of a modular design so that they can be configured in the field to perform a variety of function. The joints are supplied with high capacity single element trays but can also be fitted with high capacity single circuit trays. Cable ports in the base of the closures use mechanical non-heatshrink sealing technologies to accept a range of cables and BFT.

The nodes can also accept splitter devices to provide customer PON connections

The design of these nodes is such that the circular port seals are common across the whole range of joints. The oval port seals differ slightly across the range with the Extra large and large sharing the same oval ports and the Small and Medium being common.

The following details each of the nodes features and capabilities and lists all the associated components and item codes.



## 2 Descriptions and Item Codes

### 2.1 TM Series Node Family



TM Series Extra Large Node (no Trays)	TM Large Node	TM series Medium Node MMJ (2.2mm tray)	TM Small Node
<p>TM series extra large fibre node is supplied without trays – 100183.</p> <p>Tray layout is field configurable by the addition of Single Element, ribbon and Single Circuit splicing tray modules.</p> <p>Element trays – 100185</p> <p>Ribbon trays – 097225</p> <p>Circuit trays – 100186 which need to be ordered separately.</p> <p>Maximum capacity of the node is 80 trays (40 per side).</p>	<p>TM series extra large fibre node is supplied without trays – 100184.</p> <p>Tray layout is field configurable by the addition of Single Element, ribbon and Single Circuit splicing tray modules.</p> <p>Element trays – 100185</p> <p>Ribbon trays – 097225</p> <p>Circuit trays – 100186 which need to be ordered separately.</p> <p>Maximum capacity of the node is 48 trays (24 per side).</p>	<p>TM series medium fibre node. Supplied fully populated with 24 high capacity single element trays.</p> <p>Trays support 2.2mm splice protector 5A, item code 076071 other sized splice protectors are not compatible.</p> <p>Cable ports in the base of the closure use mechanical non-heat shrink sealing technologies to accept a range of cables and BFT.</p> <p>NOTE: the joint is no longer supplied with any port seals, please refer to the table and order the required seals separately.</p>	<p>TM series small fibre node. Supplied fully populated with 12 high capacity single element trays.</p> <p>Trays support 2.2mm splice protector 5A, item code 076071 other sized splice protectors are not compatible.</p> <p>Cable ports in the base of the closure use mechanical non-heat shrink sealing technologies to accept a range of cables and BFT.</p> <p>NOTE: the joint is no longer supplied with any port seals, please refer to the table and order the required seals separately.</p>



*Installation Practices for the Universal Node 1A & TM Range of Fibre Nodes*

Cable ports in the base of the closure use mechanical non-heat shrink sealing technologies to accept a range of cables and BFT, see table for available options. The node can accept upto 4 splitter devices to provide 128 customer PON connections.

An integral MOBRA (mounting bracket) arm is included with the joint.

The table details the available components required for configuring the node.

Cable ports in the base of the closure use mechanical non-heat shrink sealing technologies to accept a range of cables and BFT, see table for available options.

The node can also accept 4 splitter devices to provide 128 customer PON connections.

An integral MOBRA (mounting bracket) arm is included with the joint.

The table details the available components required for configuring the node.

The node can also accept 2 splitter devices to provide 64 customer PON connections.

The node can be mounted underground on a MOBRA or can be pole mounted, the MOBRA arm and pole mounting brackets are not supplied with the joint and should be ordered seperately.

The table details the available components required for configuring the node,

The node can also accept 1 splitter devices to provide 32 customer PON connections. The node can be mounted underground on a MOBRA or can be pole mounted, the MOBRA arm and pole mounting brackets are not supplied with the joint and should be ordered separately. The table details the available components required for configuring the node





via this link

Prysmian technical information BT019 for the Extra-Large node is available. The Extra-large node's pressure release valve can be found at the top of the node cap/lid facing to the side. This allows blown fibre tubing and bundle to be used within the Extra-Large node.

## 2.2 Node Features





BT Item Description (Short)	TM Extra Large Node	TM Large Node	TM series Medium Node MMJ)2.2mm tray	TM series Small Node (CMJ)2.2mm tray
BT Item Code	100183	100184	092756	092753
Prysmian part number	XJTSC02019	XJTSC02406	XJTSC02399	XJTSC02390
VTU Capacity	80 (40 per side)	48 (24 per side)	24	12
Splitter Format (field installed when req'd)	Individual Splitter Device/s – max. 4 x (2:32), 4 x (2x 2:16), 4 x (2:8) or 4 x (2:4)  Field fitted.		Individual Splitter Device/s – max. 2 x (2:32), 2x (2x 2:16), 2 x (2:8) or 2 x (2:4)  Field fitted.	Individual Splitter Device/s – max. 1 x (2:32), 1 x (2x 2:16), 1 x (2:8) or 1 x (2:4)  Field fitted.
Splitter Capacity	128way		64way	32way
Pole / Wall Mount	No		Yes	
Minimum JUF Size	4			2 (No MOBRA)
No. of Ports	1 oval + 10 circular		1 oval + 4 circular	
Round Port Kits	Common Mechanical port seals / kits for all nodes.			
Oval Port Kits	Shared oval port kits		Shared oval port kits	
Mounting (shared Arm & knuckle /bracket)	JUF		PM & JUF	
Pressure Relief Valve	Yes			
Installation Guide	IP349		IP400	

	 IP349 - 04 - Universal Node BT (2)  Issue 4	 IP400 - 06 - CMJ MMJ - Installation -  Issue 6
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## 2.3 Oval Port Kits



Node Type	Extra Large & Large			Medium & Small		
BT Item Description (Short)	TM Series Extra Large & Large Node Oval Port kit for COF205, COF260 72f (SDMB 5), 36f ULW, 4f and 12f FDC, 6.0 – 8.0mm cable	TM Series Extra Large & Large Node Oval Port kit for COF209 & COF 600, 8-10mm cables	TM Series Extra Large & Large Node Oval Port kit for COF 200 201 & COF 730, 11.5-17.5mm cable	TM Series Small & Medium Node Oval Port Kit for COF 205 4 12 fibre drop cable and 36f ULW cable	TM Series Small & Medium Node Oval Port kit for COF 209 cable	TM Series Small & Medium Oval Port Kit for COF 600 cable


<i>Installation Practices for the Universal Node 1A &amp; TM Range of Fibre Nodes</i>						
<b>BT Item Description (Long)</b>	Enables installation of looped-through cable COF205, COF260 72f (SDMB 5), 36f ULW, 4f and 12f FDC, 6.0 – 8.0mm cable into the oval port.	Enables installation of looped-through COF209 & COF 600 cable into the oval port.	Enables installation of looped-through 11.5-17.5mm cable into the oval port.	Enables installation of COF 205, 4, 12 fibre drop cable (splice only) and Aerial 36f ULW cable into the oval port.	Enables installation of COF 209 cable into the oval port.	Enables installation of COF 600 cable into the oval port.
<b>BT Item Code</b>	082258	090260	085856	088360	088361	092231
<b>Manufacturer Part Number</b>	XJTSC02183	XJTSC02269	XJTSC02185	XJTSC02028	XJTSC02030	XJTSC02029
<b>Manufacturer Item Description</b>	LMJ - Oval Port Kit 6.0-8.0mm	LMJ – OVAL PORT KIT 8.1mm-10.0mm	LMJ-Oval Port Kit 11.5-17.5mm	CMJ - MECH OVAL PORT KIT - 5 TO 7mm	CMJ - MECH OVAL PORT KIT - 9 TO 11mm	
<b>Cable type/Diameter</b>	6-8mm cables, COF205, COF260 72f (SDMB 5), 36f ULW, 4f and 12f FDC	COF209 & COF 600 cable, 8-10mm cables	COF200, COF201 & COF 730, 11.5-17.5mm cables	COF205, 36f ULW, 4, 12 fibre drop cable, 5-7mm cables	COF209, 9-11mm cables	COF 600 7.1mm to 9mm
<b>Number of Cables</b>	2	2	2	2	2	2
<b>Installation Guide</b>	IP369	IP410	IP351	IP415	IP415	IP415
	 IP369 - 09 - LMJ - Mech Oval Port COF  Issue 9	 IP410 - 01 - LMJ - Mech Oval Port COF  Issue 1	 IP351 - 07 - LMJ - Mech Oval Port COF2  Issue 7	 IP415 - 02 -Oval Port cof200 205 209  Issue 2		

## 2.4 New Cable Circular Port Kits

**Note:** When installing an external cable into a cable chamber joint the cable must be gas sealed using the CCJ port kit. For ribbon cable follow the guidance provided in EPT/COF/D533.



Node Type	Extra Large, Large, Medium & Small					
BT Item Description (Short)	TM Series Circular Port Kit for a single 20-23mm diameter cables	P-KIT 1W ALL COF200, 209 & 800	P-KIT 4W ALL COF215 & 12-48 COF401/950	P-KIT 4W ALL COF250	P-KIT 1W CCJ ALL COF200 & 800	P-KIT 4W ALL COF600 & 96F COF401/950
BT Item Description (Long)	Circular port kit enables installation of one cable ranging in diameter from 20mm to 23 into a circular port	Circular port kit enables installation of one: <b>COF200</b> <b>COF 800.</b>  Also enables the legacy cables <b>COF201</b> <b>COF209, (SDMB 3 &amp; 4)</b> or <b>COF 730</b>	Circular port kit enables the installation of four: <b>COF401</b> <b>COF 215</b> <b>COF 260 72 fibre &amp; 144 fibre SDMB5</b> or <b>COF 950 12-48 fibre</b> into a circular port.	Circular port kit enables the installation of four: <b>COF 250</b> into a circular port.	Provides the necessary gas sealing requirements for cable chamber installation of one: <b>COF200</b> <b>COF 800.</b>  Also enables the legacy cables <b>COF201</b> <b>COF209 SDMB 3 &amp; 4</b>	Circular port kit enables the installation of four: <b>COF 600</b> <b>COF 950 96 fibre</b> <b>COF 260 144 &amp; 288 fibre SDMB3&amp;4</b> into a circular port.

		into a circular port.			or <b>COF 730</b> into a circular port.	
<b>BT Item Code</b>	086020	082322	082323	088363	091081	092760
<b>Manufacturer Part Number</b>	XJTSC02193	XJTSC02826	XJTSC03322	XJTSC03528	XJTSC02337	XJTSC03323
<b>Cable type/Diameter</b>	20 – 23mm cables	7 – 20mm	5.0 – 7.0mm	COF250 (SST)	7 – 20mm	6 – 8.5mm
<b>Number of Cables</b>	1	1	4	4	1	4
<b>Installation Guide</b>	IP365	IP413	IP439	IP385	IP386	IP439
<b>Check Latest Issue</b>						










## 2.5 REFERENCE ONLY – Old Cable Circular Port Kits

**Note:** When installing an external cable into a cable chamber joint the cable must be gas sealed using the CCJ port kit. For ribbon cable follow the guidance provided in EPT/COF/D533.



Node Type	Extra Large, Large, Medium & Small						
BT Item Description (Short)	TM Series Circular Port Kit for a single 20-23mm diameter cables	TM Series Circular Port Kit for a single COF200, COF201, COF730, COF950, COF260 144f (SDMB 3&4) or COF209 cable	TM Series Circular Port Kit for two COF205 or two COF260 72f (SDMB 5) cables	TM Series Circular Port Kit for four, 4f / 12f fibre drop cable or four, 36f ULW cable, or four COF950 12f / 24f / 48f cable	TM Series Circular Port Kit for COF250 Cable (SST Cable) (CBT Tail Cable)	TM Series Circular Port Kit for CCJ Gas blocking of Dual Layer COF200 cable, COF730 cable and COF800 cable	TM Series Circular Port Kit for 4 COF600 cables or 4 COF950 96f cables
BT Item Description (Long)	Circular port kit enables installation of one cable ranging in diameter from 20mm to 23 into a circular port	Circular port kit enables installation of one COF200, or one COF201, or one COF209, COF260 (SDMB 3 & 4) or one COF730 cable into a circular port	Circular port kit enables installation of one or two COF205, or one or two COF260 72f (SDMB 5) cables into a circular port	Circular port kit enables the installation of four, 4f / 12f fibre drop cables or four 36f ULW cables or four COF950 2f/ 24f/ 48f cables into a circular port	Circular port kit enables the installation of 4 COF250 cables into a circular port	Circular port kit required when installing COF200, COF730 or COF800 cables into TM series nodes in cable chambers. Provides the necessary gas sealing requirements for cable chamber installation	Circular port kit enables the installation of 4 COF600 cables or 4 COF950 96f cables into a circular port
BT Item Code	086020	082322	082323	088362	088363	091081	092760
Manufacturer Part Number	XJTSC02193	XJTSC01754	XJTSC02186	XJTSC01755	XJTSC02352	XJTSC02337	XJTSC02769
Cable type/Diameter	20-23mm cables	COF200,201,209, COF950, COF260 144f (SDMB 3 & 4)	COF205, 4/12 fibre drop, 36f ULW, COF600, 5-9mm cables	4/12 fibre drop cable, 36f ULW 5.0 - 7.0mm	COF250 (SST)	COF800, COF200, COF730	COF600 7.0mm-8.5mm

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		7.1-20mm cables					
Number of Cables	1	1	2	4	4	1	4
Installation Guide	IP365	IP413	IP414	IP439	IP385	IP386	IP439
	 IP365 - 03 - Mech Seal - Circular 20-23mm  Issue 3	 71cofd945  Issue 3   COF260 144F 7.5mm IP272 - 03 - CMJ - Sir  Issue 1	 IP414 - 02 - Mech Seal - Circular COF 20-23mm  Issue 2	 101cofd945.pdf	 IP385 - 03 - Mech Seal - 4 Way SST Glar  Issue 3  Do not install more than 20 COF 250 cables into a single node. The GRP strength members cause the cable to be resistant to bending with more than 20 cables being difficult to manage.	 IP386 - 04 - Mech Seal - COF 200 Doubl  Issue 4  If the cable is not gas sealed correctly during initial installation (as per IP386), please refer to the following guide to complete a retrospective gas block.   Retro Gas Block.pdf	 IP439 - 10 - Mech Seal - 4 Way CSM GI



## 2.6 Blown Fibre Tube Circular Port Seals



Node Type	Extra Large, Large, Medium & Small				
BT Item Description (Short)	TM Series Circular Port Kit for 7BFT 6mm	TM Series Circular Port Kit for 4BFT 6mm (XJTSC01791)	TM Series Circular Port Kit 7 BFT 5mm	TM Series Circular Port Kit for 4BFT 5mm	TM Series Circular Port Kit for 2BFT 5mm
BT Item Description (Long)	Circular port kit enables installation of one 7 tube 6mm BFT into a circular port	Circular port kit enables installation of one 4 tube 6mm BFT into a circular port	Circular port kit enables installation of one 7 tube 5mm BFT into a circular port	Circular port kit enables installation of one 4 tube 5mm BFT into a circular port	Circular port kit enables installation of two 2 tube 5mm BFT into a circular port
BT Item Code	082321	079662	082257	079665	092759
Manufacturer Part Number	XJTSC02009	XJTSC01791	XJTSC02008	XJTSC01764	XJTSC02579
Manufacturer Item Description	MECH SEAL - FLEXICON 7 TUBE 6mm	MECH SEAL - FLEXICON 4 TUBE 6mm (FoD)	MECH SEAL - FLEXICON 7 TUBE 5mm (FoD)	MECH SEAL - FLEXICON 4 TUBE 5mm	
Cable type/Diameter	7 BFT 6mm	4 BFT 6mm	7 BFT 5mm	4 BFT 5mm	2 BFT 5mm
Number of Cables	1	1	1	1	2
Installation Guide	IP354	IP354	IP354	IP354	IP424

	 IP354 - 04 - LMJ - BF Gland Flysheet1 (00%  Issue 4  Please note, the connectors for the flexible copex to attach to the sheathing of the BFT is not included in the mechanical seal pack and will need to be ordered seperatley.  See table for items required	 IP424 - 05.pdf  Issue 5
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TM Series Nodes – Connectors for flexible conduit		
Item Code	Description	Used with
071196	7BFT (4.5/6mm) connector for Conduit Flexible 25mm	7BFT 6mm
066134	7BFT (2.74/4mm) connector for Conduit Flexible 25mm x 10	4BFT 5mm & 7BFT 4mm
071195	4BFT (4.5/6mm) connector for Conduit Flexible 25mm (BAG OF 10)	7BFT 5mm and 4BFT 6mm

## 2.7 Other Port Kit

Prysmian Installation Practice IP409 (issue 2) is available




## 2.8 Mounting kits



Node Type	Extra Large & Large		Medium & Small		
BT Item Description (Short)	TM Extra Large & Large MOBRA mounting kit	TM Series Extra Large & Large MOBRA Bracket	TM Series Small & Medium Node MOBRA mounting kit	TM Series Small & Medium Node Pole mounting kit.	TM Series Small and Medium Node Flat Wall mounting kit.
BT Item Description (Long)	MOBRA arm used for mounting the TM extra large & large nodes onto MOBRA's	Bracket used for securing the TM extra large and large onto a MOBRA 3A	MOBRA arm used for mounting the TM small and medium nodes onto MOBRA's	Bracket used for mounting the TM small & medium nodes onto poles	Bracket used for mounting the TM small & medium nodes onto flat surfaces
Node Type	Extra Large & Large		Medium & Small		
BT Item Code	N/A – SUPPLIED WITH JOINT	089793	088358	088359	104630
Manufacturer Part	N/A – SUPPLIED WITH JOINT	XJTSC02274	XJTSC02405	XJTSC00136	

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Number					
Manufacturer Item Description	N/A – SUPPLIED WITH JOINT	LMJ - SUPPORT BRACKET KIT	CMJ- MOBRA MOUNING KIT	COMPACT JOINT POLE FIXING KIT	
Used For	Mounting the joint in a joint box	Mounting the joint to a MOBRA 3A	Mounting the joint in a joint box	Mounting the joint on a pole	Mounting the joint on a wall
Installation Guide			IP 472		
			 IP472 - 01 - CMJ - MOUNTING GUIDE FC  Issue 1		



## 2.9 SOSA Trays



Node Type	Universal Node		Extra Large & Large		
BT Item Description (Short)	TM Series 2.2mm High Capacity Single Element Tray Module for use with	TM Series 2.2mm High Capacity Single Circuit Tray Module for use with UN1A	TM Series Large & Extra Large 2.2mm High Capacity Single Element Tray Module for use with	TM Series Large & Extra Large 2.2mm High Capacity Single Circuit Tray Module for use	TM Series Ribbon Fibre Tray module with 2 trays can accommodate 6 ribbons (72 fibres) for

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	UN1A 082254	082254	089165, 088963, 100183 & 100184	with 089165, 088963, 100183 & 100184	use with 089165, 088963, 100183 & 100184
<b>BT Item Description (Long)</b>	<p>Element splicing tray module for use with the Universal Node item code 082254.</p> <p>Module is 4VTU (Vertical Tray Units) high, and contains 4 High Capacity Single Element splicing trays.</p> <p>Trays support 2.2mm splice protector 5A, item code 076071 other sized splice protectors are not compatible</p>	<p>Single circuit splicing tray module for use with the Universal Node item code 082254.</p> <p>Module is 4VTU (Vertical Tray Units) high, and contains 4 High Capacity Single Circuit splicing trays, each tray containing Sub-trays 1 and 2.</p> <p>Trays support 2.2mm splice protector 5A, item code 076071 other sized splice protectors are not compatible</p>	<p>Element splicing tray module for use with large &amp; extra large nodes.</p> <p>Module is 4VTU (Vertical Tray Units) high, contains 4 High Capacity Single Element splicing trays and comes without the back plane.</p> <p>Modules to be ordered for incremental build on demand.</p> <p>Trays support 2.2mm splice protector 5A, item code 076071 other sized splice protectors are not compatible</p>	<p>Single circuit splicing tray module for use with TM large &amp; extra large nodes.</p> <p>Module is 4VTU (Vertical Tray Units) high, and contains 4 High Capacity Single Circuit splicing trays, each tray containing Sub-trays 1 and 2 and comes without the back plane.</p> <p>Trays support 2.2mm splice protector 5A, item code 076071 other sized splice protectors are not compatible</p>	<p>Ribbon splicing tray module for use with TM large &amp; extra large nodes.</p> <p>Module is 4VTU (Vertical Tray Units) high, and contains 2 ribbon trays, each tray accommodates 3 x 12f ribbons</p> <p>Trays support protector Splice 7A, item code 101833 other sized splice protectors are not compatible</p>
<b>BT Item Code</b>	100187	100188	100185	100186	097255
<b>Manufacturer Part Number</b>	XJTSC02144	XJTSC02155	XJTSC02462	XJTSC02463	
<b>Manufacturer Item Description</b>	LMJ - SOSA SE 4	LMJ - SOSA SC 8	LMJ - SOSA SE 4	LMJ - SOSA SC 8	
<b>Notes</b>	NOTE : These versions are for use with the universal node 1a 082254.		NOTE: These versions will only fit item codes 089165, 088963, 100183 and 100184 (large and extra large nodes) as back plates come pre-fitted with the closures. The cannot be used for 082254 Universal Node 1a		Refer to the ribbon cable installation practices for further details.

Installation Practices for the Universal Node 1A & TM Range of Fibre Nodes				
Number of Trays	4	8 (4 DOUBLE TRAYS)	4	8 (4 DOUBLE TRAYS)
	 via this link		 IP407 - 01 - LMJ - UN SOSA Flysheet .ç  Issue 1	EPT/COF/D533 - Ribbon Fibre Cable Installation Practices
				2

## 2.10 Splitter Devices



Splitter packaging



Splitter installed

Note: The red colour in the picture above is part of the packaging and not the colour of the splitter legs.

A range of splitters are available of varying split levels for the TM nodes including 32-way, 16-way, 8-way and 4-way. As well as varying split levels the splitters are available in different colours, the colour scheme identifies the order the splitters are installed into the nodes and follows the BT fibre colour code. In the case of the 32-way splitters blue, orange, green and red are available, for the other splitters only blue and orange colours are currently available.

The table below details the order in which the various splitter should be installed into the nodes.

Splitter Number / Order of installation	32 way	16 Way	8 Way	4 Way
1	<b>088364</b> - TM Series 2 32 SPLITTER Blue legs	<b>089792</b> - TM series 2 x 2:16 Splitter Blue fibres	<b>093690</b> - TM Series 2 x 8 way Splitter Blue Legs	<b>093694</b> - TM Series 2 x 4 way Splitter Blue Legs
2	<b>088365</b> -TM Series 2 32 SPLITTER Orange Legs	<b>089792</b> - TM series 2 x 2:16 Splitter Orange fibres	<b>093693</b> - TM Series 2 x 8 way Splitter Orange Legs	<b>104290</b> - TM Series 2 x 4 way Splitter Orange Legs
3	<b>104942</b> - TM Series 2 32 SPLITTER Green Legs	<b>089792</b> - TM series 2 x 2:16 Splitter Blue fibres	<b>093690</b> - TM Series 2 x 8 way Splitter Blue Legs	<b>093694</b> - TM Series 2 x 4 way Splitter Blue Legs
4	<b>104943</b> - TM Series 2 32 SPLITTER Red Legs	<b>089792</b> - TM series 2 x 2:16 Splitter Orange fibres	<b>093693</b> - TM Series 2 x 8 way Splitter Orange Legs	<b>104290</b> - TM Series 2 x 4 way Splitter Orange Legs



IP349 - 04 -  
Universal Node BT (2)

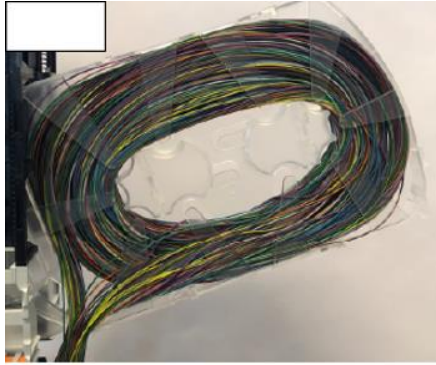
Large and Extra-Large Installation / Storage:



Splitter Legs Storage  
(2).pdf


Small and Medium Installation / Storage:

## 2.11 Loop Manager




<b>BT Item Description (Short)</b>	<b>TM Series Loop Manager Kit. For loop through of ribbon cable</b>
<b>BT Item Description (Long)</b>	The loop manager is a cassette type device that offer protection to the fibre bundless of a ribbon cable when looping through and storing in the central loop area
<b>Node Type</b>	Extra Large & Large
<b>BT Item Code</b>	104817
<b>Manufacturer Part Number</b>	
<b>Manufacturer Item Description</b>	
<b>Installation Guide</b>	IP 427



	 IP427.pdf  Issue 1
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## 2.12 Replacement Parts

BT Item Description (Short)	TM Series replacement Clamp L & XL Node
BT Item Description (Long)	This is a replacement clamp kit for the TM Series large and extra large nodes. The kit contains the clamp itself and a replacement O ring and is supplied with installation instructions.
Node Type	Extra Large & Large
BT Item Code	095937
Manufacturer Part Number	XSPSC00441
Manufacturer Item Description	
Installation Guide	IP 483
	 IP483 - 01 - LMJ - Clamp Replacement (

	Issue 1
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