

Prysmian
Group
INSTALLATION INSTRUCTION

OAsys® Equipment meets BT
OTIAN® Equipment Specifications

OAsys® INTERNAL PLANT
SRS4000 Shelf General Installation Guide



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7. Patch & Routing Patch Cords
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INSTALLATION INSTRUCTION

1.0 COMPONENT PARTS AND ADDITIONAL ITEMS

General Note

- 1. This Installation Guide is written in general terms and as such the connectors and adaptors are for reference only.**
- 2. The installation procedure described in this document is applicable for all fibre types.**
- 3. The colour coding for this product is as follows:**

Blue	-	Single mode PC
Green	-	Single Mode APC
Beige	-	Multi Mode PC

Tools & Additional Items Required

Additional Items Required:	Prysmian Part No.	Pack Size
SPLICE PROTECTOR 1.3mm x 30	XKTSC01284	12
SPLICE PROTECTOR 1.3mm x 30	XPESC00057	50
SPLICE PROTECTOR 2.2mm x 45	XKTSC00050	12
SPLICE PROTECTOR 2.2mm x 45	XPESC00053	50
SPLICE PROTECTOR - CRIMP	XKTSC00079	12
SPLICE PROTECTOR - CRIMP	XKTSC00078	50

Fixings:	ETSI Mounting Bracket Kit – XKTSC00171
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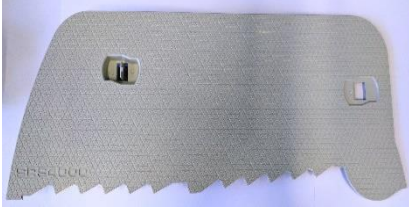


Tools:	Pozi Drive Screwdrivers No.1, No.2 and No.3 Flush Cutting Tool 1A – BT Item Code 07680
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PRYSMIAN HELPLINE: + 44 (0) 78161916333 connectivity.help@prysmiangroup.com

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Component Parts (pictures not to scale)

<p>1 Splicing and patching Shelf 1U, 2U or 3U</p>	<p>2 Top Cover</p>	<p>3 Bend Limiting Tube</p>
		
<p>4 Rapid Cable Anchor (ARS)</p>	<p>5 Patch Cord Bend Manager</p>	<p>Fastenings, Fixings & Tools</p>
		<p>6 Tube Installation Tool</p>  <p>7 Screw M6 x 12mm Pozi Pan Hd. 8 M6 Cage Nuts 9 Cable Ties 2.5 x 100 10 Cable Ties 3.6 x 295 11 Screw M4 x 10mm Pozi Pan Hd. 12 Screw M4 x 6mm Pozi Pan Hd. 13 Velcro</p>

2.0 CABLE PREPARATION

Step 2.1



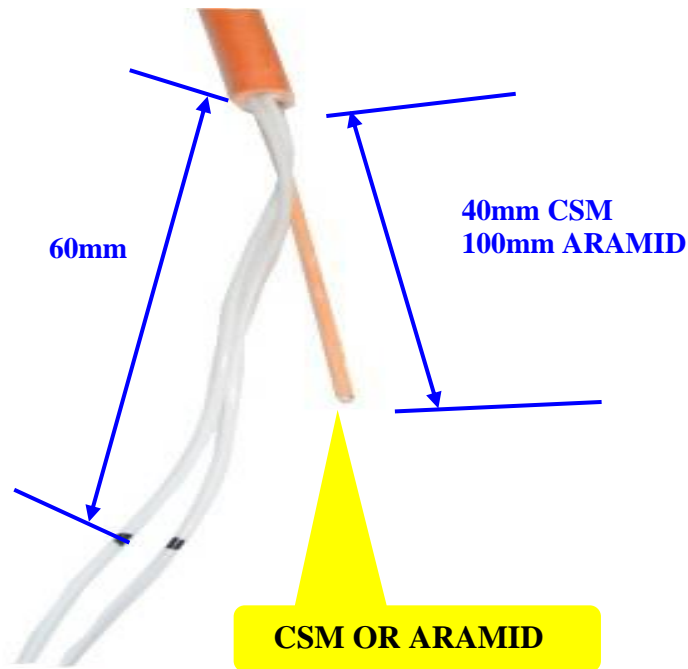
Clean before you connect.

It is important that all fibre connectors and adapters are cleaned prior to mating using approved local practice. Failure to clean may result in either poor signal performance and/or permanent damage to the connector end faces.

- Prior to installation ensure that there is a minimum of 3m of cable spare for installation, termination, and storage purposes.
- Make a Butt Mark 2m from end of cable.
- Remove the outer sheath back to the Butt mark and remove all tapes and bindings.
- Remove all unwanted cable elements.

2.0 CABLE PREPARATION

Step 2.2

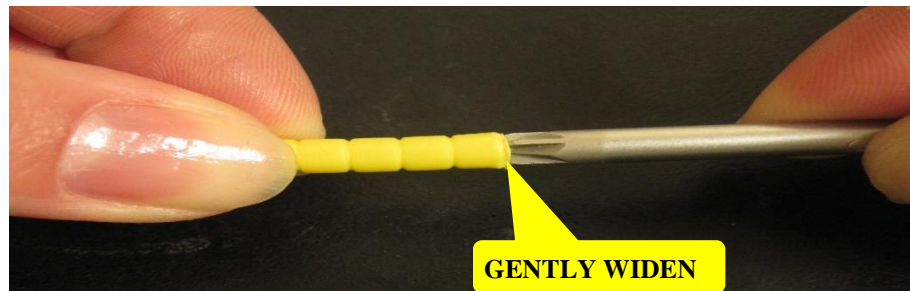
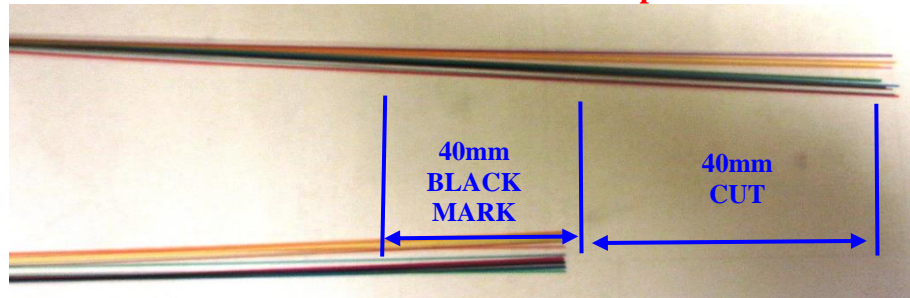


- If using Central Strength Member (CSM) cut to a length of 40mm from the cable butt.
- If using Aramid Yarns cut to a length of 100mm from the cable butt.
- Make a mark on the exposed cable elements 60mm from the cable butt.
- Remove the protective tube/sheath from the elements back to this mark to expose the fibres.

2.0 CABLE PREPARATION

Step 2.3 - 72F OR 96F CABLE INSTALLATION of 2 elements per tube:

GO TO STEP 4 IF INSTALLING 24F OR 48F of 1 element per tube.



- If installing 72f or 96f from 2 elements into the tube, ensure to cut the fibres from 1 of the elements 40mm shorter and MARK fibres 40mm back from end with a black marker as shown.
- To ease insertion of elements gently widen the tube entrance with the end of a cross head screwdriver.

NOTE: this will help with element identification once the fibres are through the tube.

2.0 CABLE PREPARATION

Step 2.4



- Ensure that the CSM is in the centre boss of the ARS (4) and the cable butt is approximately in line with the end of the cable support cradle of the ARS.
- Fit the M4 x 10mm screw (11) to secure the CSM.

2.0 CABLE PREPARATION

Step 2.5

Ensure that the cable ties are secured with the large end in this position.

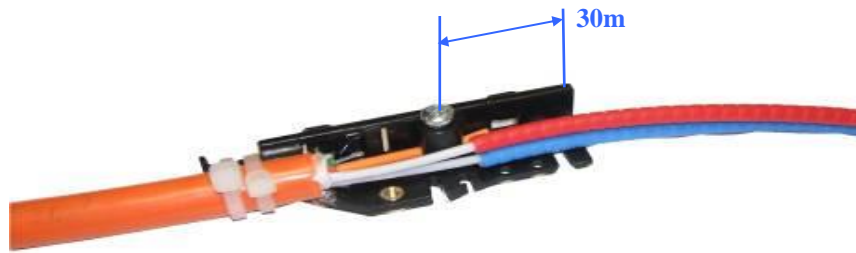


- Secure the cable butt to the ARS using 2, 3.5 x 295mm cable ties (10)
- Remove excess cable tie length with a Flush Cutting Tool 1A.

NOTE: The cable ties must be installed with the large end of the cable tie in the position as illustrated above.

2.0 CABLE PREPARATION

Step 2.6



- Thread the fibres from cable element No.1 into the BLUE Bend Limiting Tube (3).
- Thread the fibres from cable element No.2 into the RED Bend Limiting Tube (3).
- The end of each tube should be approximately 30mm from the end of the ARS body.

2.0 CABLE PREPARATION

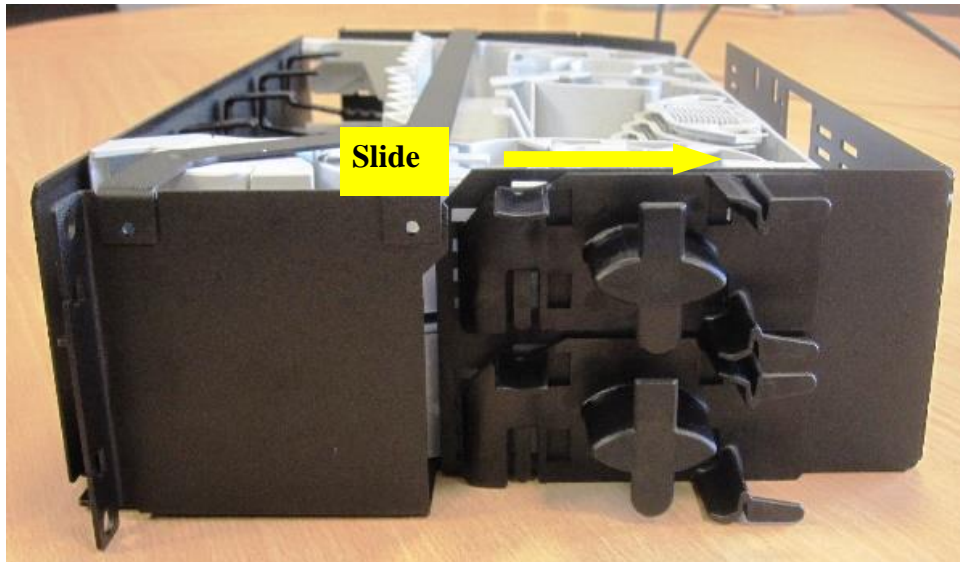
Step 2.7



- Thread two, 2.5mm x 100mm cable ties (9) through the 4 holes in the body of the ARS and secure the BLUE and RED tubes to the ARS body.

2.0 CABLE PREPARATION

Step 2.8



- Fit the Patch Cord Bend Manager (5) to the Right-Hand Side of the SRS4000 Shelf.
- Fix the Bend Manager in position by sliding it until the tab is engaged and the bend manager is locked.

2.0 CABLE PREPARATION

Step 2.9



- Select the rack mounting position for the shelf and fit 4 Cage nuts (8) into the rack uprights.
- If the Shelf is to be used in an ETSI front mounted rack, fit ETSI conversion brackets (not supplied), order part number XKTSC00171.

2.0 CABLE PREPARATION

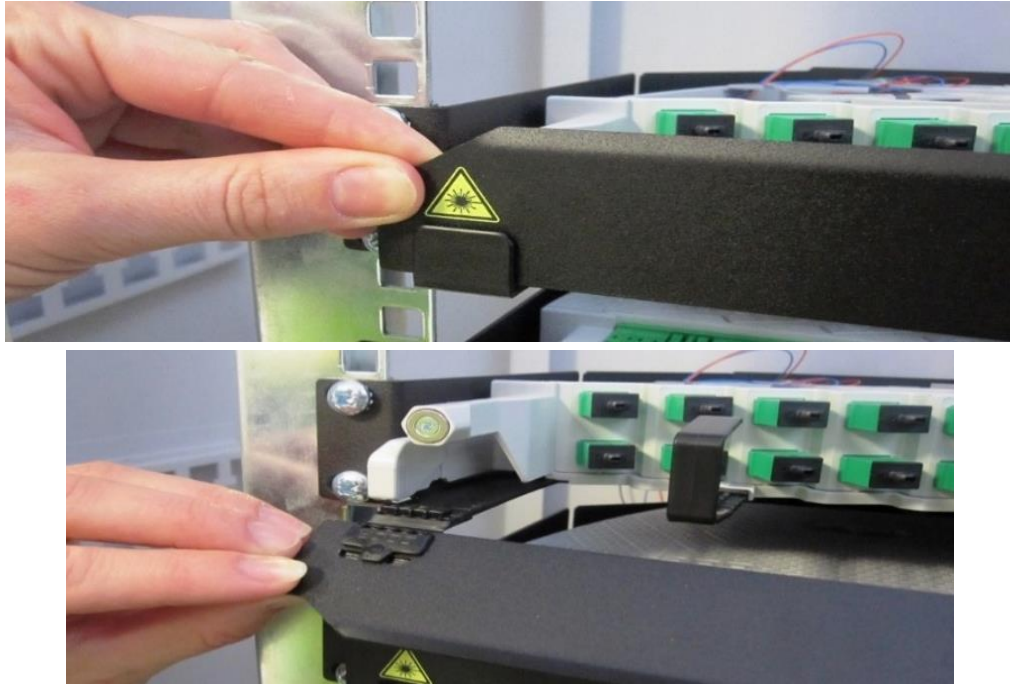
Step 2.10



- Using four, M6 x 12mm screws (7) fit shelf in position.

3.0 SPLICE 1U SHELF

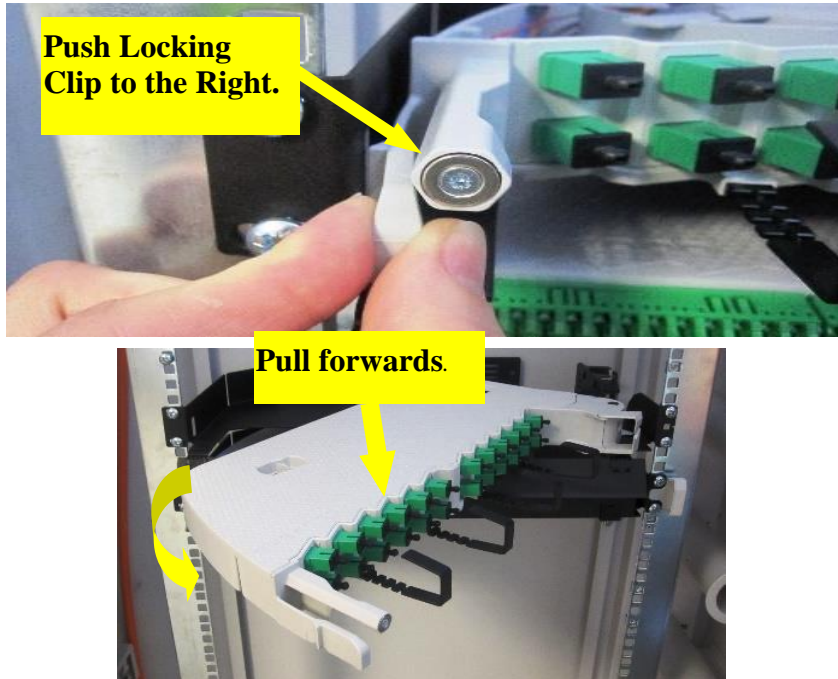
Step 3.1



- Gently place your finger on the cover and pull down to release the magnetic grip and leave to hang freely.

3.0 SPLICE 1U SHELF

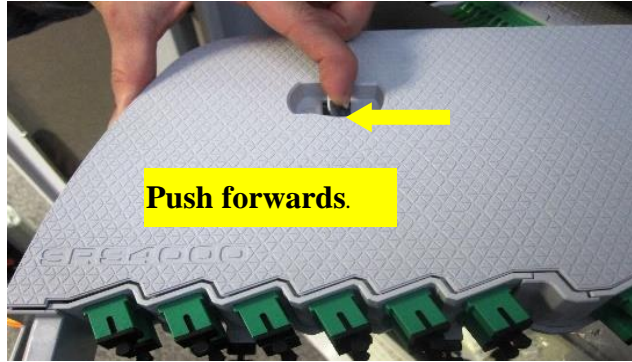
Step 3.2



- To unlock the splice and patch module, hold the locking clip and push to the right and pull forward.
- Swing out the Splice and patch Module to fully open.

3.0 SPLICE 1U SHELF

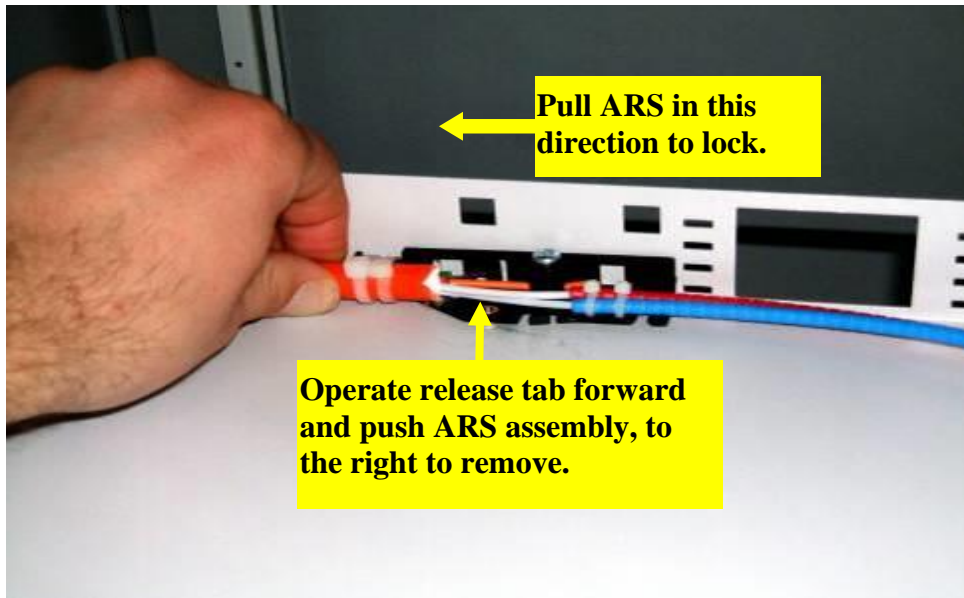
Step 3.3



- Place finger, on the tab in the cover, pull towards you and lift out.

3.0 SPLICE 1U SHELF

Step 3.4

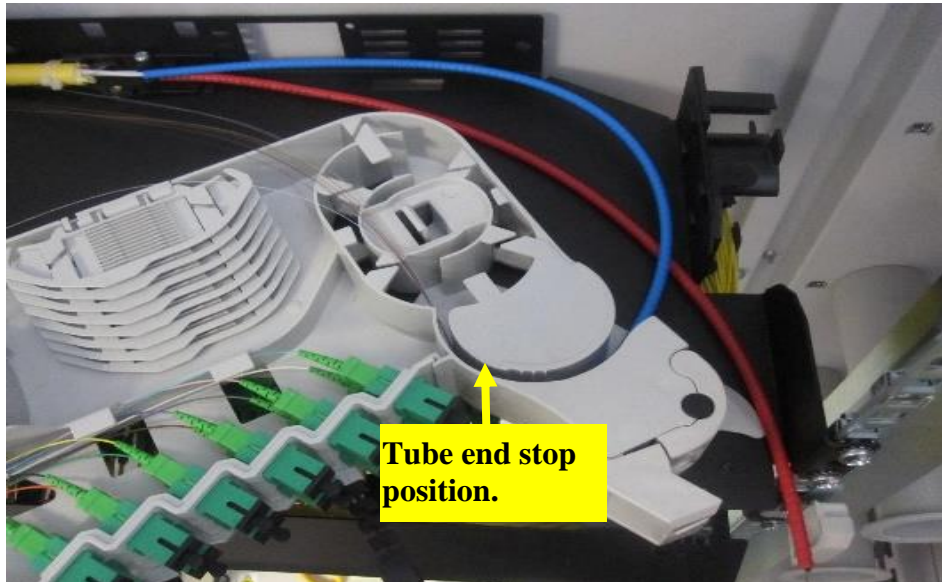


- Feed spare cable into rack.
- Locate the two angled legs on the back of the ARS into the lower pair of square locating holes.
- Pull the ARS and Cable assembly to the left and the ARS will now lock into position.

NOTE: If the ARS needs to be removed, then place a flat bladed screwdriver behind the release tab and push the ARS assembly to the right.

3.0 SPLICE 1U SHELF

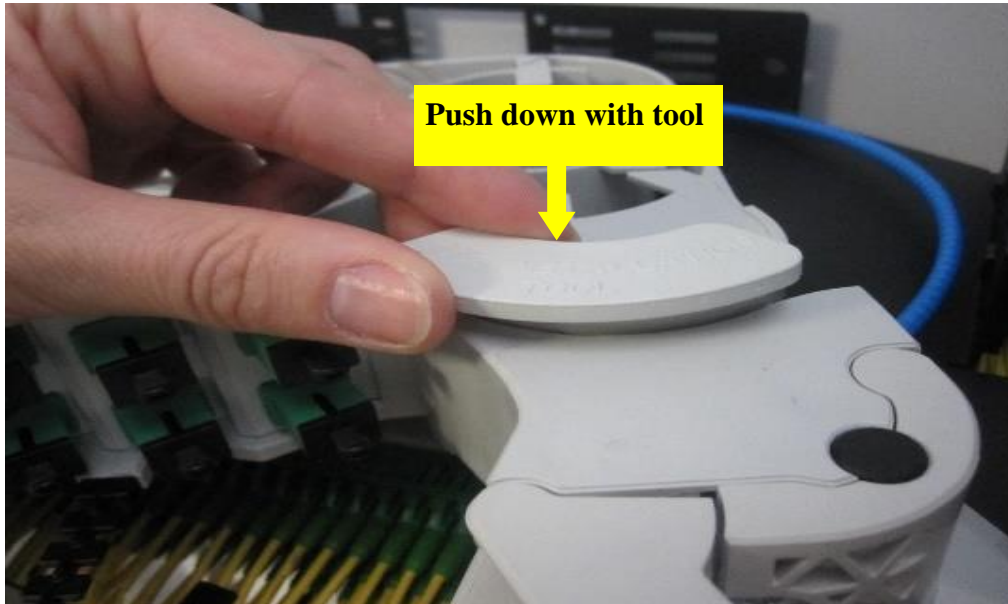
Step 3.5



- Fully open the module.
- Select the Blue Tube and route around back of module and into the tube location area.
- Locate the end of the tube at the tube stop position and push the tube downwards so that the groves in the tube align with the splines on the module.

3.0 SPLICE 1U SHELF

Step 3.6



- Use the tube installation tool (6) to push the tube into position. The tube will stop when the base of the module is reached.

3.0 SPLICE 1U SHELF

Step 3.7



- Route the 12, fibres from the BLUE Tube in direction of Arrow.

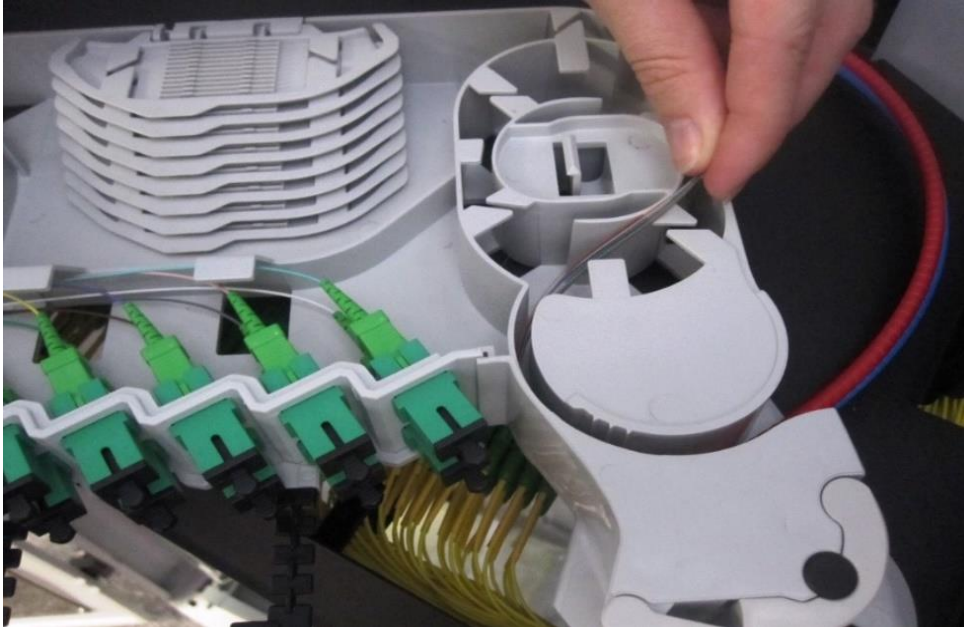
NOTE: An arrow indicating DIRECTION - FIBRE IN is embossed into the module base at this point.

- Store the fibres from the BLUE tube in the Right-hand fibre storage area.

NOTE: The fibres from the BLUE tube are from Cable element No.1 and represent Fibre Numbers 1 to 12.

3.0 SPLICE 1U SHELF

Step 3.8

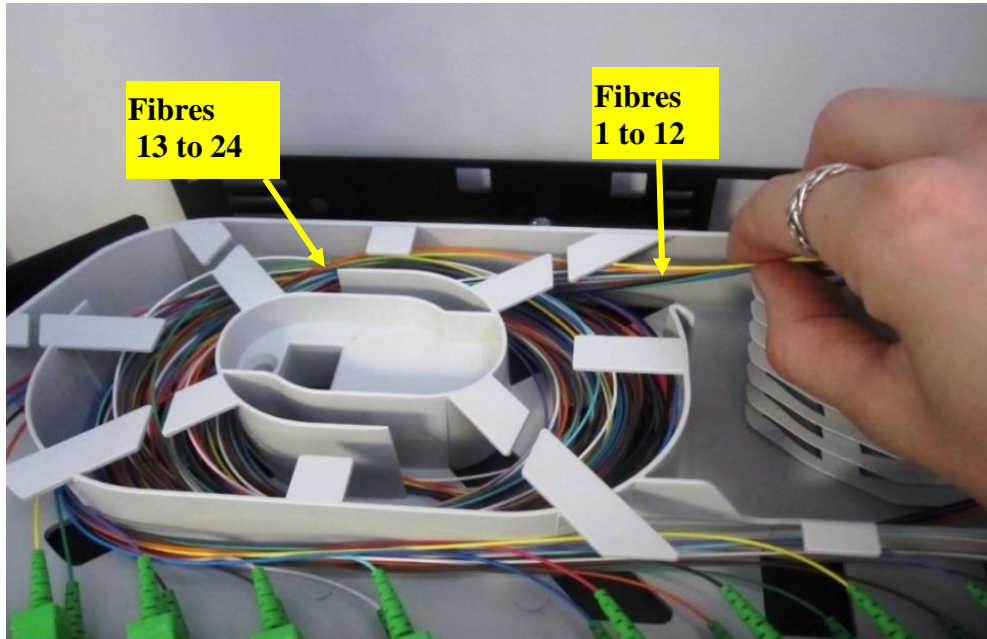


- Repeat Steps 5 to 7 for the RED Tube.
- Store fibres as indicated in Step 9.

NOTE: The fibres from the RED tube are from Cable element No.2 and represent Fibre Numbers 13 to 24.

3.0 SPLICE 1U SHELF

Step 3.9



- Remove Pigtails from Left Hand Storage Area.
- Segregate the Pigtails into 2 groups of 12, Fibres.

NOTE: Each Group of 12 Pigtails is identified with a label, 1-12, 13-24, 25-36, 37-48, 49-60, 61-72, 73-84 & 85-96.

3.0 SPLICE 1U SHELF

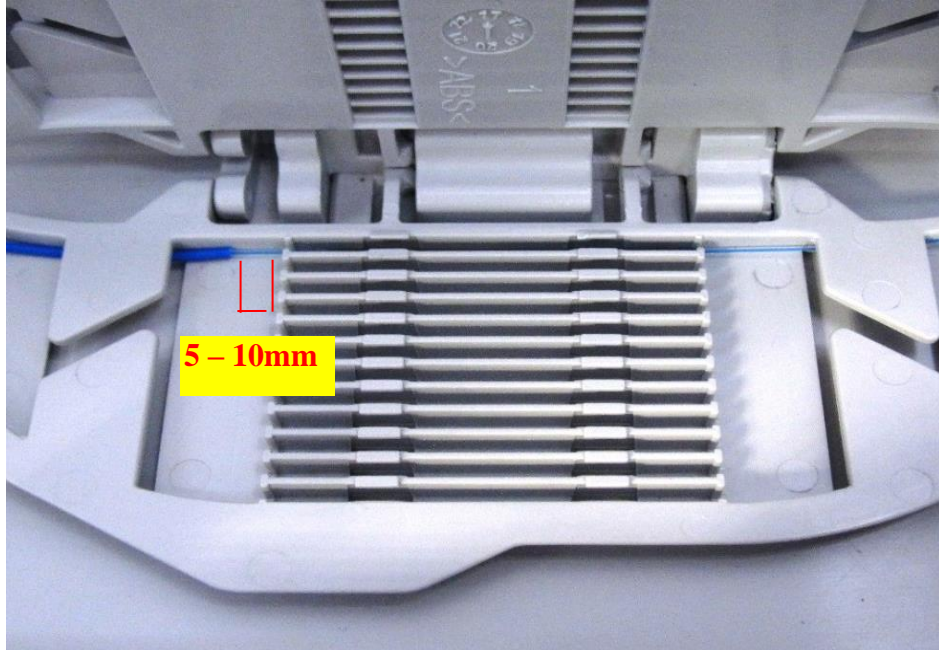
Step 3.10



- Select the 12 Primary Coated Fibres from the BLUE tube (Fibres 1 to 12).
- Flip up all the trays and start from the bottom tray first.

3.0 SPLICE 1U SHELF

Step 3.11

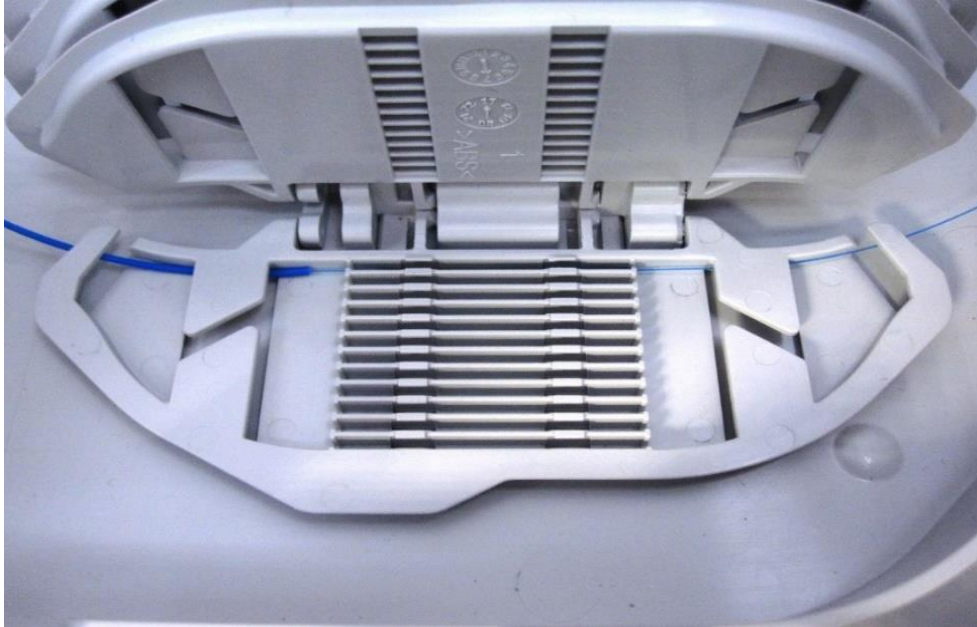


- Starting with Fibre No. 1 (see correct colour sequence diagram), splice the Blue Pigtail to the Blue Primary Input Fibre and store the splice protector in the Splice Protector Bay.
- Repeat for fibres 2 through to 12 and store each spliced fibre in sequence in the splice protector bay.

NOTE: Ensure that enough 900µm buffering is removed from the Pigtail fibre to allow a gap of 5 to 10mm from the buffering to the splice protector. This will allow the splice protector to shrink down onto 250µm fibre only, as illustrated in the photograph above.

3.0 SPLICE 1U SHELF

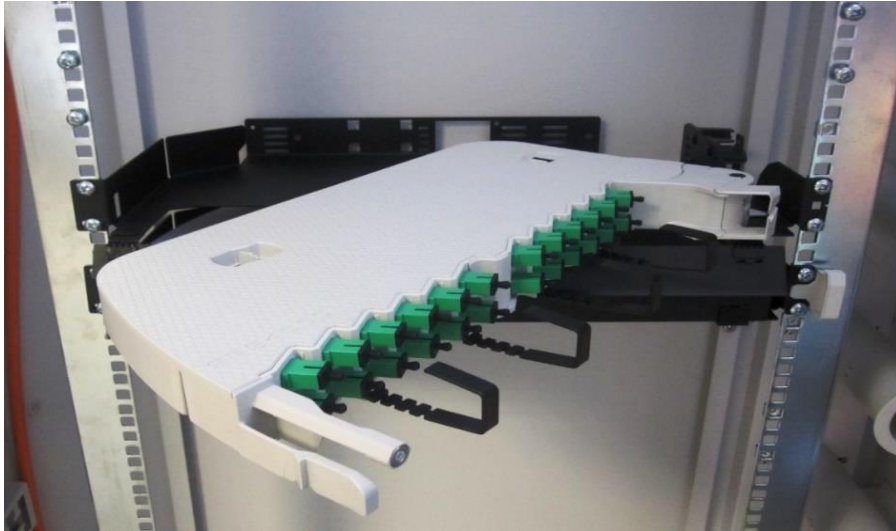
Step 3.12



- Store the first 12 in the pigtail storage area and the first group of Primary coated fibres in the input fibre storage area.
- Use the next splice protector bay on top of the first set of spliced fibres.
- Repeat Steps 10 to 11 for the 12 Fibres from the RED Tube and the remaining 12 Pigtail Fibres (Fibres 13 to 24).

3.0 SPLICE 1U SHELF

Step 3.13



- Replace the protective cover over the splicing area by sliding the right-hand clip into position and then pushing firmly down until the left-hand clip is secure.

3.0 SPLICE 1U SHELF

Step 3.14

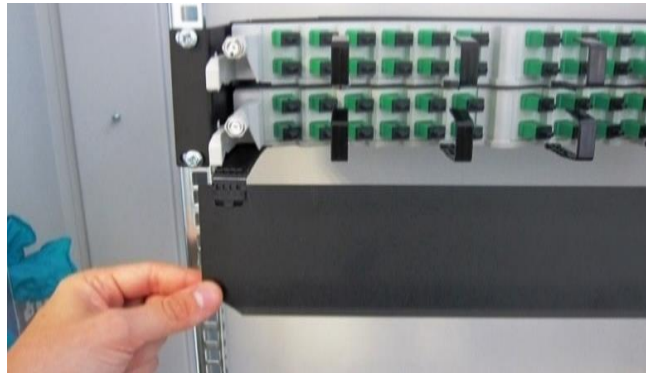


- Swing Module back into the closed position and carefully close the front door. Magnetic connection will engage keeping the door in the closed position.

NOTE: When closing the module lift slightly before pushing back into place.

4.0 SPLICE 2U & 3U SHELF

Step 4.1

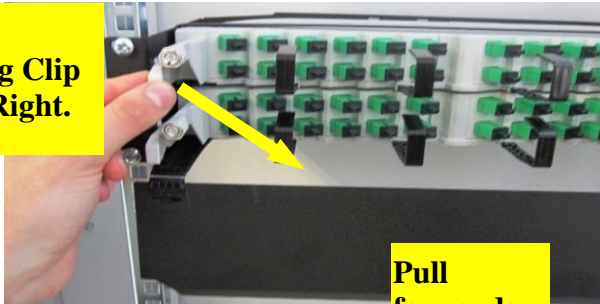


- Gently place your fingers on the cover and pull down to release the magnetic grip and leave to hang freely.

4.0 SPLICE 2U & 3U SHELF

Step 4.2

**Push
Locking Clip
to the Right.**



**Pull
forwards.**



- To unlock the splice and patch module, hold the locking clip and push to the right and pull forward.
- Swing out the Splice and patch Module to fully open.

4.0 SPLICE 2U & 3U SHELF

Step 4.3

**GO TO
SECTION 3.0**

**FOLLOW
STEP 3 TO 12**

- Repeat STEP 3 TO 12 as in section 3.0.
- Repeat as until all shelves are installed.

**NOTE: ENSURE YOU START INSTALLING USING THE
BOTTOM SHELF FIRST WORKING YOUR WAY UP THE
UNIT TO THE TOP SHELF.**

4.0 SPLICE 2U & 3U SHELF

Step 4.4

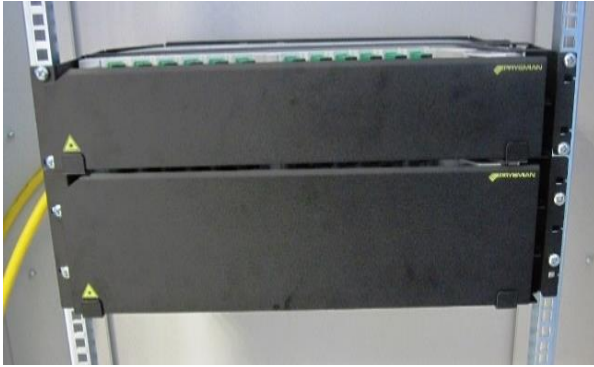


- Replace the protective cover over the splicing area by sliding the right-hand clip into position and then pushing firmly down until the left-hand clip is secure.
- Swing Module back into the closed position and carefully close the front door. Magnetic connection will engage keeping the door in the closed position.

NOTE: When closing the module lift slightly before pushing back into place.

4.0 SPLICE 2U & 3U SHELF

Step 4.5



- Any 1U, 2U or 3U can be used together as required.

NOTE: 2U and 3U shown mounted together.

5.0 PATCH ONLY 1U SHELF

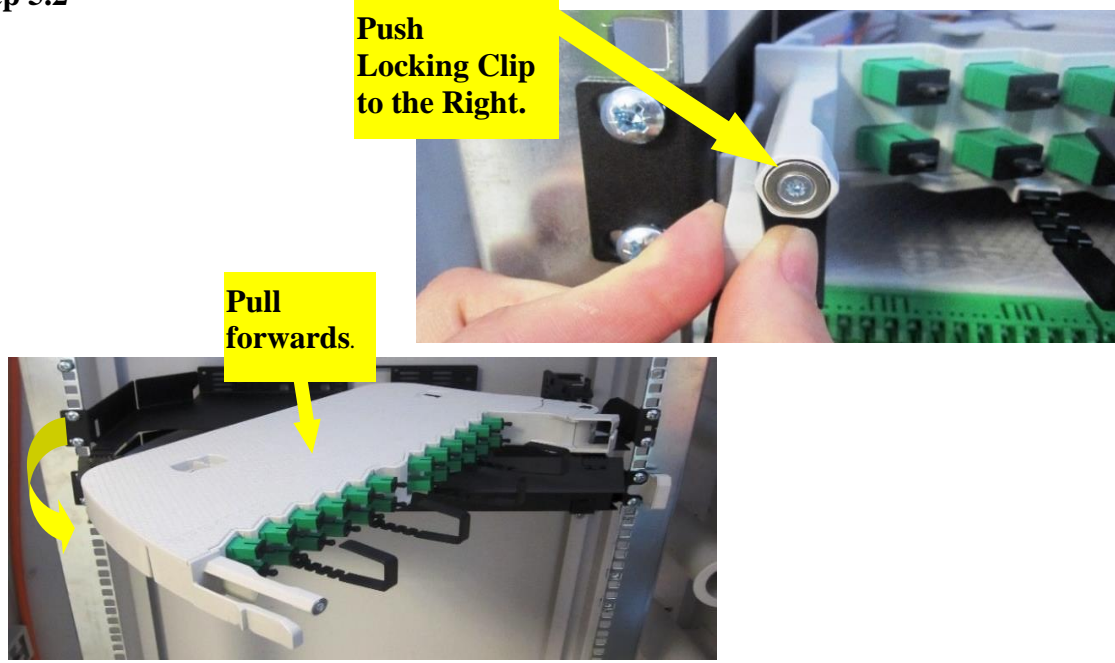
Step 5.1



- Gently place your fingers on the cover and pull down to release the magnetic grip and leave to hang freely.

5.0 PATCH ONLY 1U SHELF

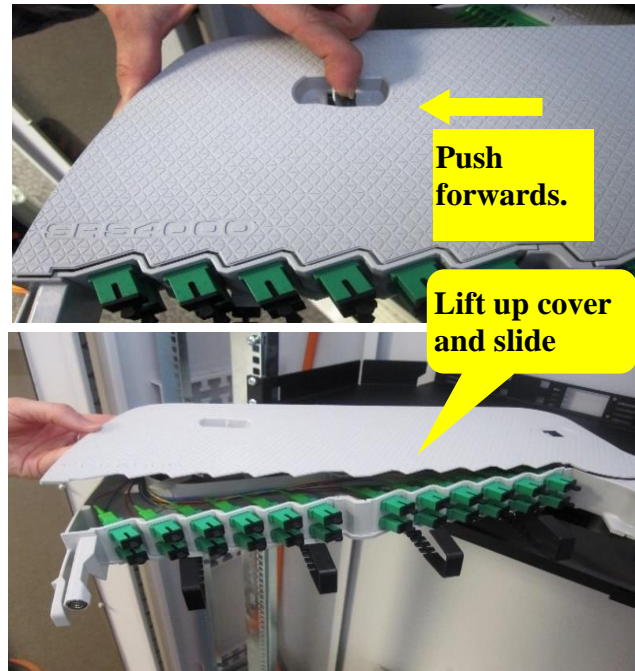
Step 5.2



- To unlock the splice and patch module, hold the locking clip and push to the right and pull forward.
- Swing out the Splice and patch Module to fully open.

5.0 PATCH ONLY 1U SHELF

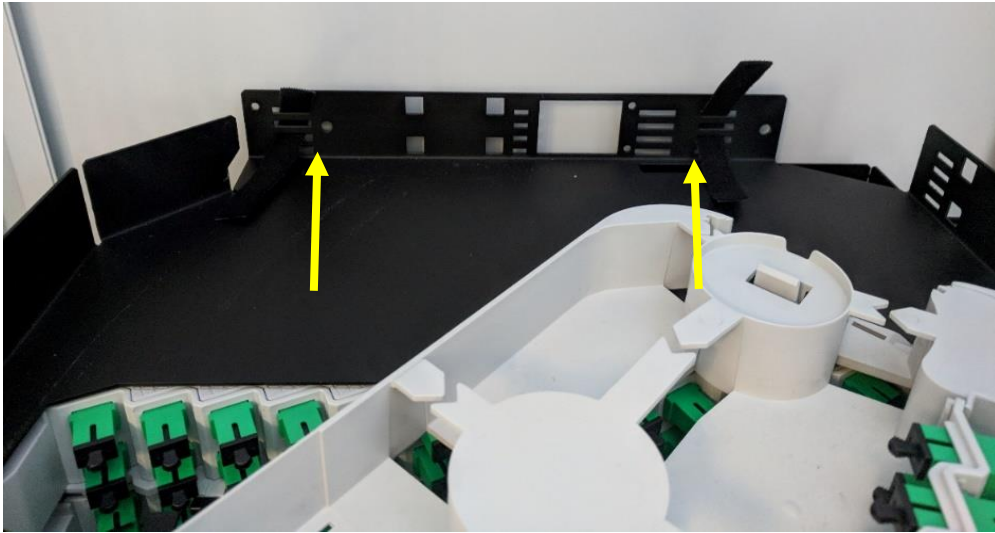
Step 5.3



- Place finger, on the tab in the cover, pull towards you and lift out.

5.0 PATCH ONLY 1U SHELF

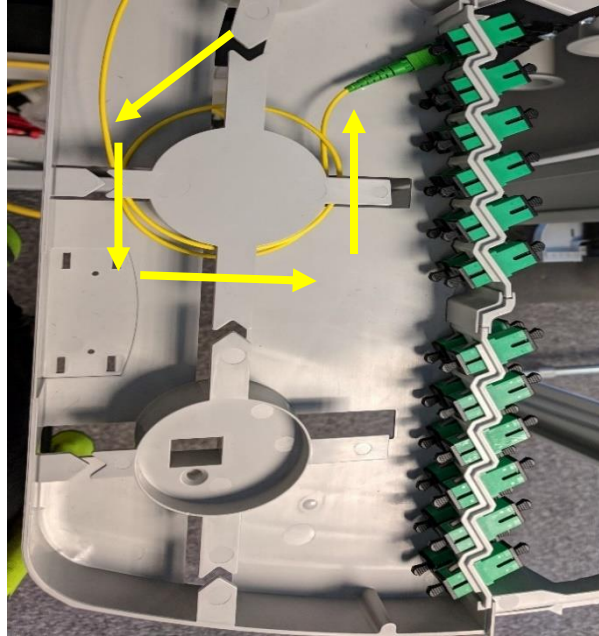
Step 5.4



- Install 2 velcro (13) ties as shown.
- These are to secure the incoming patch cords.

5.0 PATCH ONLY 1U SHELF

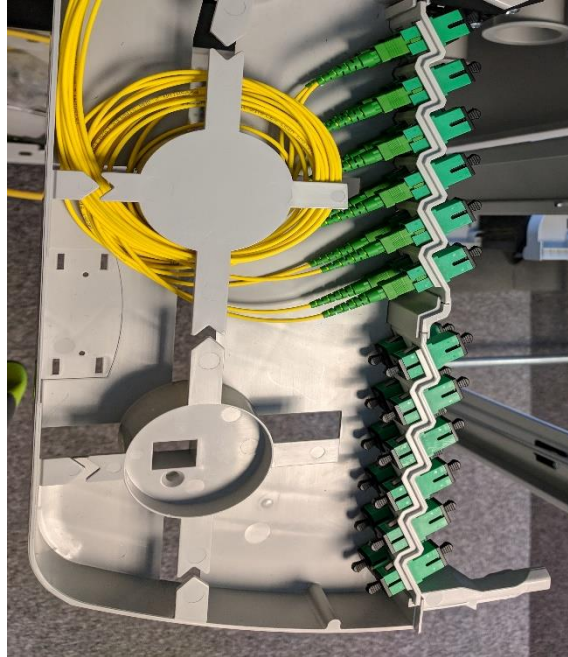
Step 5.5



- Loosely secure the patch cord at the back of the shelf using the velcro tie.
- Pull 1.3m from the first piece of Velcro.
- Route the patch cord as shown.
- Ensure you take one full loop around the centre mandrel and connect the patch cord into adapter position first as shown.

5.0 PATCH ONLY 1U SHELF

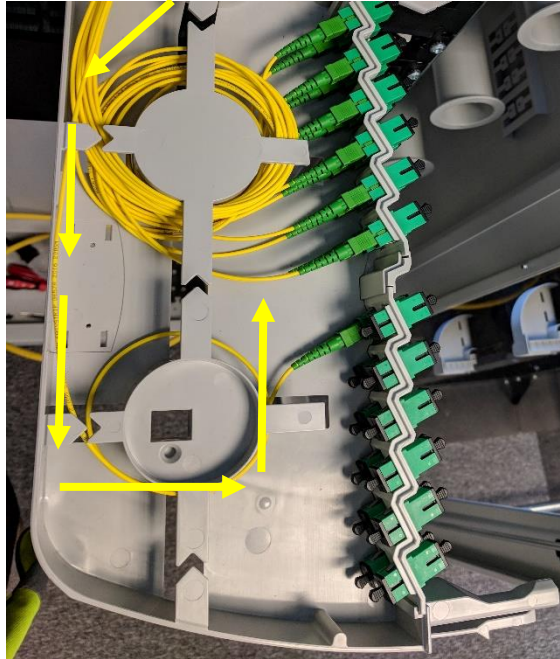
Step 5.6



- It is essential that one patch cord is installed first to ensure correct length.
- It is now possible to route the remaining patch cords to first side of the panel.
- Any excess patch cord length should be lost around the mandrel.

5.0 PATCH ONLY 1U SHELF

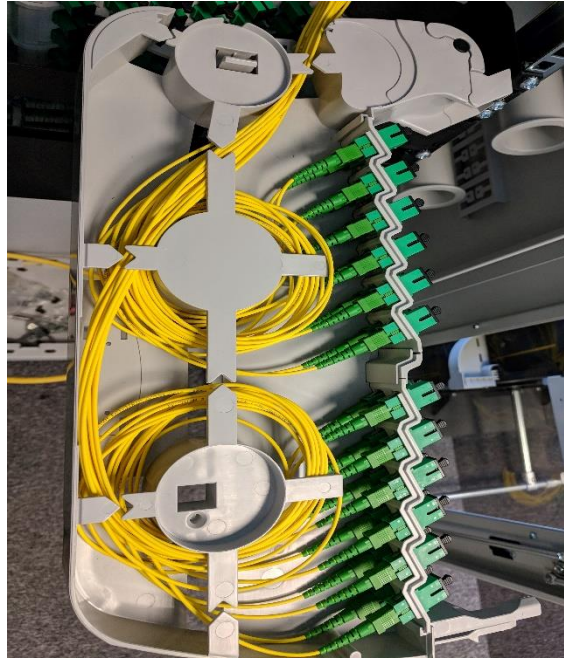
Step 5.7



- Install Loosely secure the patch cord at the back of the shelf using the velcro tie.
- Pull 1.5m from the first piece of Velcro.
- Route the patch cord as shown.
- Ensure you take one full loop around the centre mandrel and connect the patch cord into adapter position first as shown.

5.0 PATCH ONLY 1U SHELF

Step 5.8



- It is essential that one patch cord is installed first to ensure correct length.
- It is now possible to route the remaining patch cords to first side of the panel.
- Any excess patch cord length should be lost around the mandrel.

5.0 PATCH ONLY 1U SHELF

Step 5.9



- Replace the protective cover over the splicing area by sliding the right-hand clip into position and then pushing firmly down until the left-hand clip is secure.
- Swing Module back into the closed position and carefully close the front door. Magnetic connection will engage keeping the door in the closed position.

NOTE: When closing the module lift slightly before pushing back into place.

6.0 PATCH ONLY 2U & 3U SHELF

Step 6.1



- Gently place your fingers on the cover and pull down to release the magnetic grip and leave to hang freely.

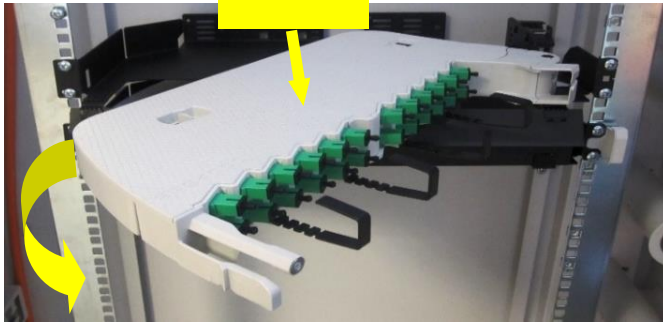
6.0 PATCH ONLY 2U & 3U SHELF

Step 6.2

**Push Locking
Clip to the
Right.**



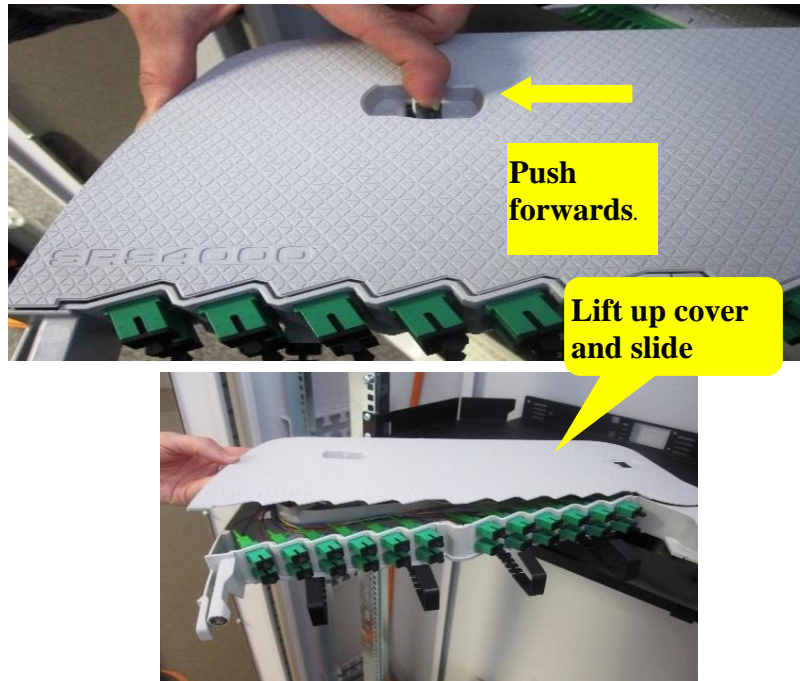
**Pull
forwards.**



- To unlock the splice and patch module, hold the locking clip and push to the right and pull forward.
- Swing out the Splice and patch Module to fully open.

6.0 PATCH ONLY 2U & 3U SHELF

Step 6.3



- Place finger, on the tab in the cover, pull towards you and lift out.

6.0 PATCH ONLY 2U & 3U SHELF

Step 6.4

**GO TO
SECTION 5.0**

**FOLLOW
STEP 4 TO 8**

- Repeat STEP 4 TO 8 as in section 5.0.
- Repeat as until all shelves are patched.

**NOTE: ENSURE YOU START INSTALLING USING THE
BOTTOM SHELF FIRST WORKING YOUR WAY UP THE
UNIT TO THE TOP SHELF.**

6.0 PATCH ONLY 2U & 3U SHELF

Step 6.5

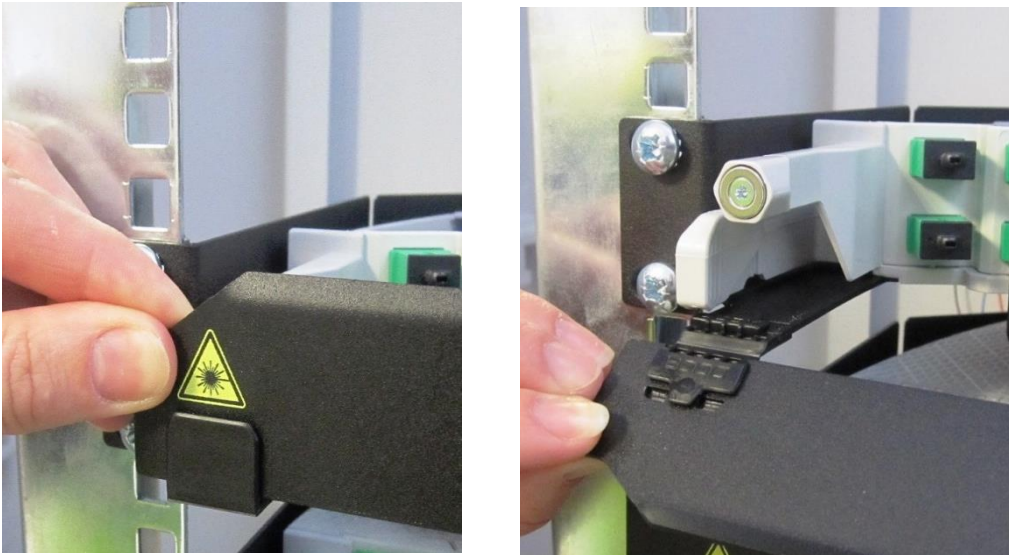


- Replace the protective cover over the splicing area by sliding the right-hand clip into position and then pushing firmly down until the left-hand clip is secure.
- Swing Module back into the closed position and carefully close the front door. Magnetic connection will engage keeping the door in the closed position.

NOTE: When closing the module lift slightly before pushing back into place.

7.0 PATCH & ROUTING PATCH CORDS

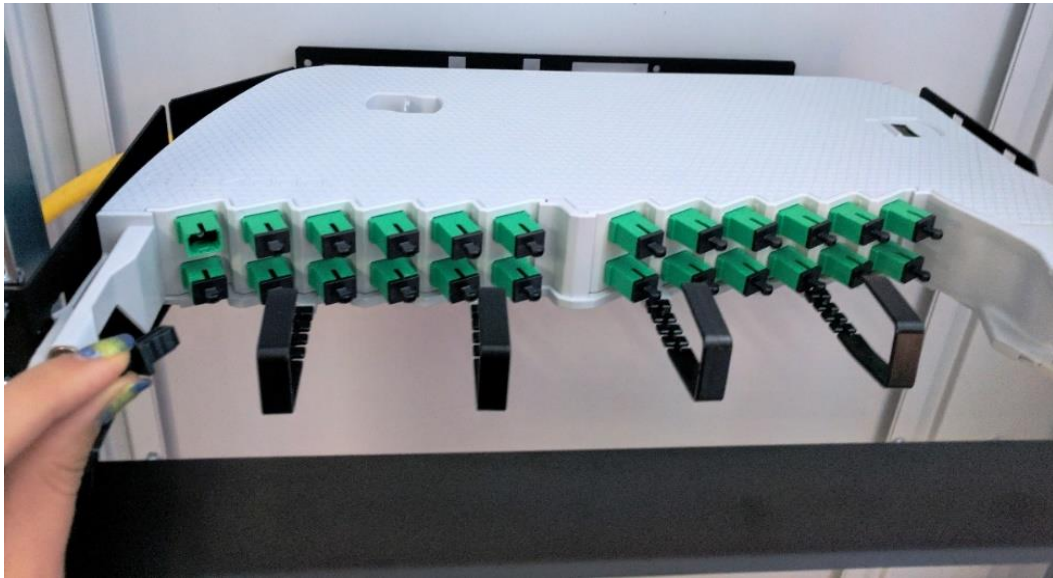
Step 7.1



- Gently place your fingers on the cover and pull down to release the magnetic grip and leave to hang freely exposing the patch cord adapters.

7.0 PATCH & ROUTING PATCH CORDS

Step 7.2



⚠ Clean all connectors before making any connections.

- Remove adapter plug covers.

7.0 PATCH & ROUTING PATCH CORDS

Step 7.3



- Plug Patch Cord Connectors into the adapters in the desired sequence.
- Route the patch cords along the front of the module as shown in Step 4

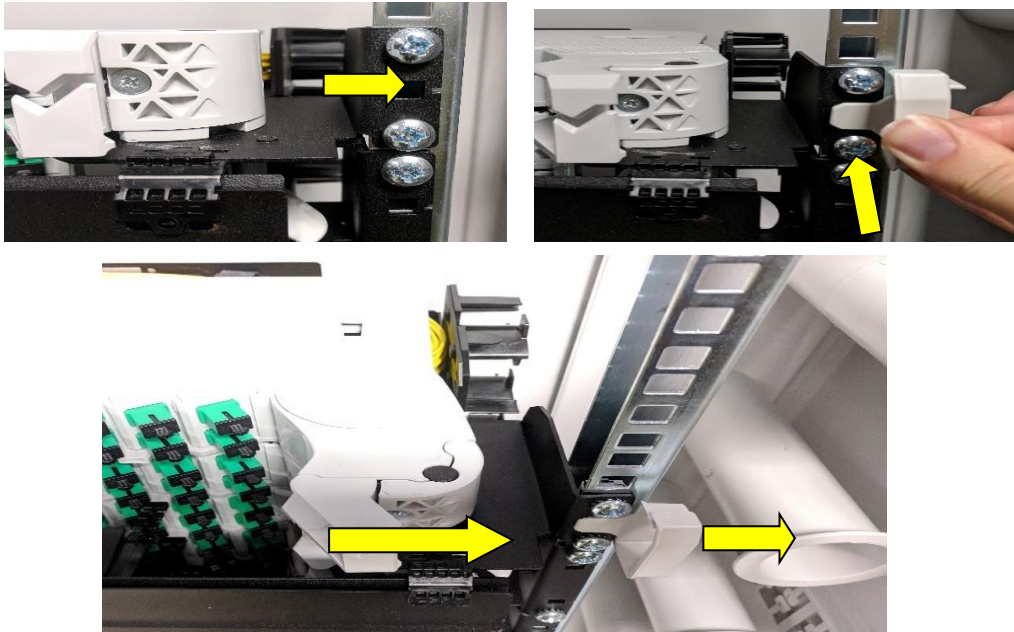
OR

- Route the patch cords through the side bend manager, either up or down, as shown in Step 5.

NOTE: ONCE A ROUTING HAS BEEN CHOSEN THE OTHER ROUTING CAN NEVER BE USED.

7.0 PATCH & ROUTING PATCH CORDS

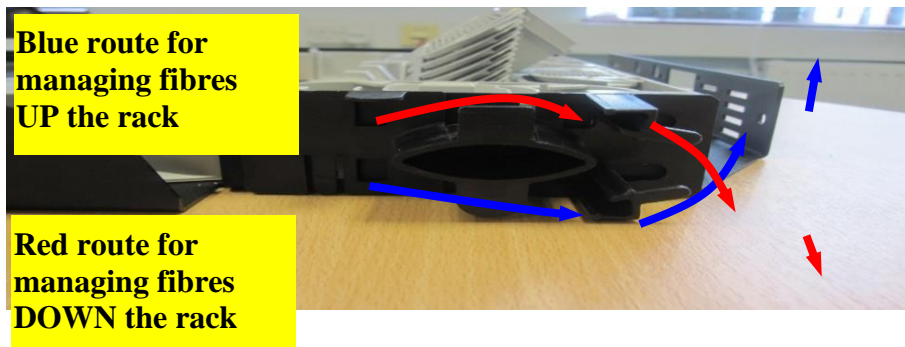
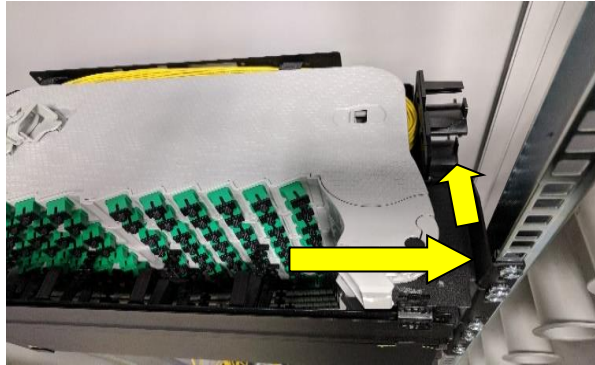
Step 7.4



- To route patch cords across the front of the rack install the Patch Guide by clipping into position firmly as shown and then route the patch cords through the loop.
- If using 2U or 3U, only install the Patch Guide to the applicable unit.

7.0 PATCH & ROUTING PATCH CORDS

Step 7.5



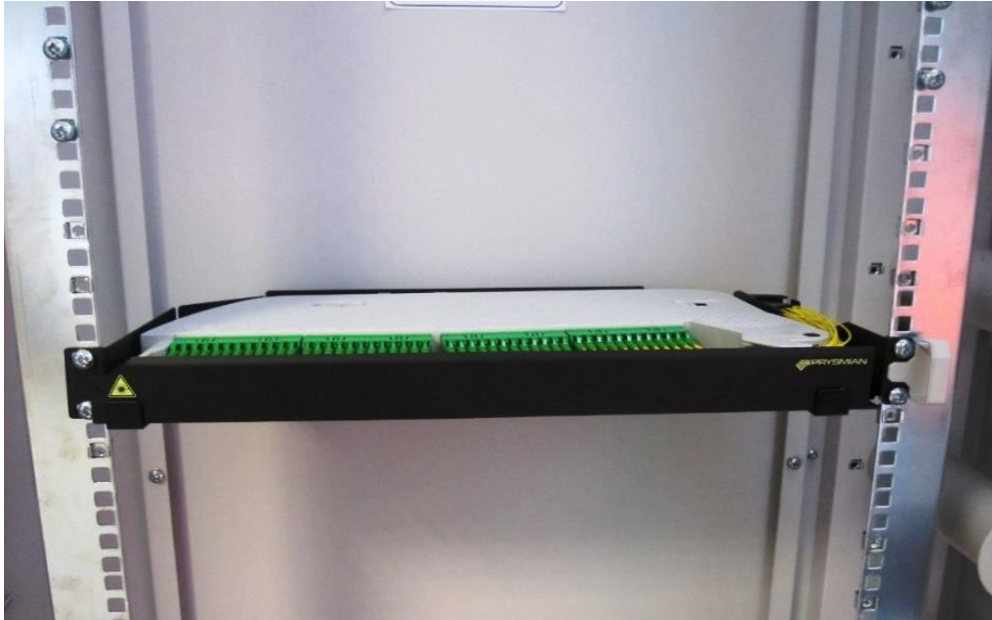
**Blue route for
managing fibres
UP the rack**

**Red route for
managing fibres
DOWN the rack**

- To route fibres over the side bend manager see diagram above.
- Follow the RED arrows if Patch cords are routed downwards into the rack.
- Follow the BLUE arrows if Patch cords are routed upwards into the rack.

7.0 PATCH & ROUTING PATCH CORDS

Step 7.6



- On completion of Patch Cord Installation, carefully close the front door. Magnetic connection will engage keeping the door in the closed position.
- Fill in the door label with details of routings and circuits as necessary.