

Ordering Guide of the Tray Patching & Splicing Shelf (FIST-GPS2)



This document provides assistance with the selection of shelves for use in FIST cable termination applications. It includes the following sections:

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1 Product description

The generic tray patching & splicing shelf FIST-GPS2 is the **mechanical assembly** for the fiber management system that provides the function of cable splicing and patch cord patching and connecting in a rack environment.

This shelf can be used with Tyco racks as well as with other metric (ETSI) or 19" racks.

Multiple configurations are possible:

patching

1. between patch cords
2. pre-connectorized break-out cable to patch cords
3. pre-connectorized intrafacility cable to patch cords

splicing

1. loose tube cable to pigtails
2. non pre-connectorized intrafacility cable to pigtails
3. non pre-connectorized break-out cable to pigtails
4. and patching these pigtails to patch cords

167 MM HIGH VERSION



125 MM HIGH VERSION



456H0721.JPG
88 MM HIGH VERSION



GPS2-1HU.JPG
44 MM HIGH VERSION



The Generic Splice/Patch Shelf Trays FIST-GPST-12 are the **organizer trays** that house the connector adapters (typical for 12 connectors per tray, or 24 small form factor connectors), fibers and patch cords. It allows for Single Element splicing on the tray itself. An optional basket can be installed for integrated jumper overlength storage.

Refer to section 3.3 for limitations with respect to patch cord characteristics.

4 different chassis types are available:

- 167 mm high version
Maximum 8 trays (or 6 trays when the storage option is selected) can be installed
- 125 mm high version
Maximum 6 trays (or 4 trays when the storage option is selected) can be installed
- 88 mm high version
Maximum 4 trays (or 2 trays when the storage option is selected) can be installed
- 44 mm high version
Maximum 2 trays (or 1 tray when the storage option is selected) can be installed

All generic patching shelves consist of a metal chassis with drawer.

A bracket is installed at the rear of the drawer on which the trays can be hinged.

The connector adapters can be pre-installed in the organizer trays.

Pigtails can be pre-installed in the 'splice unit' area of the tray (pre-fibered options of the trays- see section 2.2).

Positive fiber management of the pigtails is guaranteed by bend controls on the trays and pigtail belts in the shelf.

The 88mm, 125mm and 167mm high versions have a slot in both side panels. In combination with a wrap-around trumpet this facilitates the accessibility of the shelf when adding or removing patch cords.

2 Ordering information

2.1 Order quantity / lead time

Products and accessories are grouped in three classes.

- Class A** standard products, small MOQ
- Class B** standard products, standard MOQ
- Class C** special products, higher MOQ, longer lead times, due to the lead time of the specific components in those products

The class of a component or accessory provides additional information on:

- MOQ** Minimum Order Quantity
- SPQ** Standard Packaging Quantity

MOQ and SPQ are used to calculate the correct order quantity of the desired component and/or accessory:

$$\text{Order quantity} = \text{MOQ} + n \times \text{SPQ} \quad (n \geq 0)$$

2.2 FIST-GPS2 shelf

Refer to section 3 for full product descriptions.

Ordering information

FIST-GPS2-X-X X N-X

Chassis type

167 mm high	125 mm high	88 mm high	44 mm high
	M Metric		
L 19"	I 19"	J 19"	K 19"

Tray options

NN Without trays						
Other options contain GPST-12 trays with following configuration						
Cable type	Pre-fibered	Splice holder or micro-fan-out	Patchcords leave shelf side			
			Left	Right	Left	Right
			Std. connectors		SFF connectors	
Patchcord or pre-connectorized BOC	No	-	AA	AA	AA	AA
Loose tube cable or non pre-connectorized IFC	No	SMOUV12(1) ANT RECORDsplice	EA	AE	FA	AP
			BA	AB	ZA	AZ
Pre-connectorized IFC	No	SMOUV12(1) ANT RECORDsplice	EA	AE	-	-
			FA	AF	-	-
			BA	AB	-	-

Number of trays and content

Trays only	Storage & trays
0 No trays	R Storage only
2 2 trays	S Storage + 1 tray (K only)
4 4 trays	T Storage + 2 trays (M, I, J, L only)
6 6 trays	U Storage + 4 trays (M, I, L only)
8 8 trays	V Storage + 6 trays (L only)

Connector adapter with retainer

N No connectors/pigtails

(1) Only for SMOUV-1120-02 (45 mm long heat-shrinkable splice protector) which is supplied with the kit.

Class A product. Products are available from stock for reasonable quantities.
MOQ: 1 pc, SPQ: 1 pc

Class C product. Lead-time on request.
MOQ: 1 pc, SPQ: 1 pc

Contact your local sales engineer in case of:

- For BOC/break-out cable with a max. of 2.8 mm applications an additional GTU-2 kit has to be ordered separately.
- For ribbon application

Specials:

- FIST-GPS2-K-NNN-R 44mm, storage only, no space for any trays
- FIST-GPS2-K-NNN-S-0 44mm, storage + space for 1 tray

Consumables, accessories and tools

For a list of accessories, please refer to the FIST-GPS2/GPST-12 ordering guide.

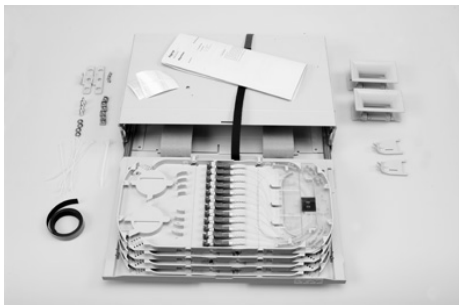


DSC00073.JPG
125 MM HIGH VERSION - PATCH-ONLY
FIST-GPS2-M-AAA-6

Standard kit content

- Metal chassis with drawer
- Mounting brackets
- Drawer includes:
 - Bracket onto which trays can be mounted
 - 2 tray support wedges
 - Velcro to secure the trays
 - Bend control(s) at the patching side for some configurations
- Splice/patch versions include foam and tie-wraps to fix the cable elements (loose tubes, break-out cable, intra-facility subunits) onto the trays
- Trays (if selected in the name string) which include:
 - Splice protector holder
 - Splice protectors (only if SMOUV is selected in the name string)
- One or two trumpets for guiding pigtails as they exit the shelf
- Metal front cover:
 - 167 mm high version: hingeable and removable cover
 - 125 mm high version: hingeable and removable cover
 - 88 mm high version: hingeable cover
 - 44 mm high version: front cover is part of the drawer, not hingeable
- Identification cards and card holders (not for GPS2-L-version)
- Mounting screws and nuts
- Installation Instructions

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125 MM HIGH VERSION - SPLICE/PATCH
FIST-GPS2-M-AEA-6



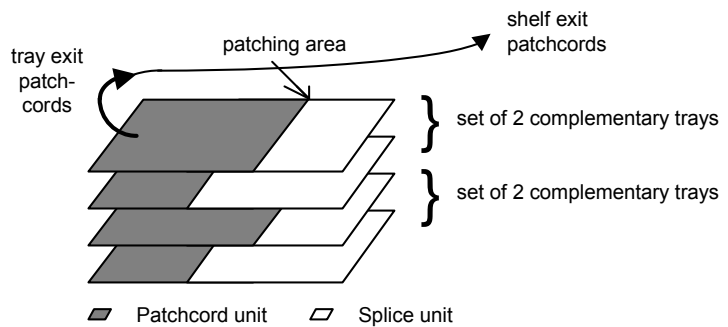
7N3K2104.JPG
88 MM HIGH VERSION - SPLICE/PATCH
FIST-GPS2-J-AEA-4

2.3 FIST-GPST-12 trays

FIST-GPST-12 trays are asymmetrical; the patching area is not located in the center of the tray but slightly moved to one side.

The patching areas of 2 consecutive trays should not fall on each other but alter. In general, all the patch cords of the trays within one shelf are leaving the shelf at the same side. Therefore trays are supplied per set of 2 complementary pieces.

Example



The following combinations are available (Refer to section 3 for more details):



7N3K2400.JPG
44 MM HIGH VERSION - SPLICE/PATCH + STORAGE
FIST-GPS2-K-AEA-S

FIST-GPST-12-XXX-2

Tray options

Trays are ordered per set of 2 complementary pieces (each set can hold 24 standard or 48 SFF fiber connections) with the following configuration:

Cable type	Pre-fibered	Splice holder holder or micro-fan-out	Patchcords leave shelf side			
			Left	Right	Left	Right
			Std. connectors	AA	SFF connectors	AA
Patchcord or pre-connectorized BOC	No	-	AA	AA	AA	AA
Loose tube cable or non-pre-connectorized IFC or non-preconnectorized BOC (3)	Yes (2)	SMOUV12 (1)	IA	AI	MA	AM
		ANT	JA	AJ	NA	AN
	No	RECORDsplice	VA	AV	WA	AW
		SMOUV12 (1)	EA	AE	PA	AP
Pre-connectorized IFC	No	ANT	FA	AF	QA	AQ
		RECORDsplice	BA	AB	ZA	AZ
		RECORDsplice	EA	AE	-	-
		ANT	FA	AF	-	-
		RECORDsplice	BA	AB	-	-

Connector adapter with retainer

N No connectors/pigtails

Min.return loss	SC	FC	E2000	LC
Single mode standard				
45 dB (FC)	A	C		L1
50 dB (UPC)	B	D	E9	L2
60 dB (APC 8°)	S3			
60 dB (APC 9°)				
Single mode low loss				
50 dB (UPC)	S6			
60 dB (APC 8°)	S7		F	
60 dB (APC 9°)	S8			
Single mode consumer grade				
50 dB (UPC)	SC	FC		LC
60 dB (APC 8°)	SD	FD		LD

- In case of Multi-mode application order empty trays and loose adapters only

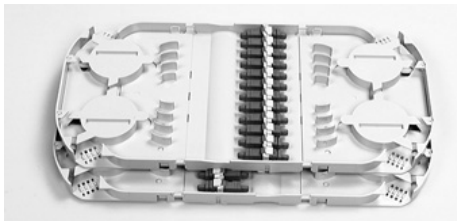
- In case of DIN/ST/MU adapter applications contact your local sales engineer

- (1) Only for SMOUV-1120-02 (45 mm long heat-shrinkable splice protector) which is supplied with the kit.
 - (2) Contact your local sales engineer for trays with pre-fibered pre-connectorized IFC.
 - (3) BOC: Break-out cable (diameter of individual pigtails inside the BOC is max. 2.8 mm). GTU2 needs to be ordered separately.
- Class A** product. Products are available from stock for reasonable quantities.
MOQ: 1 pc, SPQ: 1 pc
- Class B** product. Lead-time on request.
MOQ: 12 pcs, SPQ: 1 pc

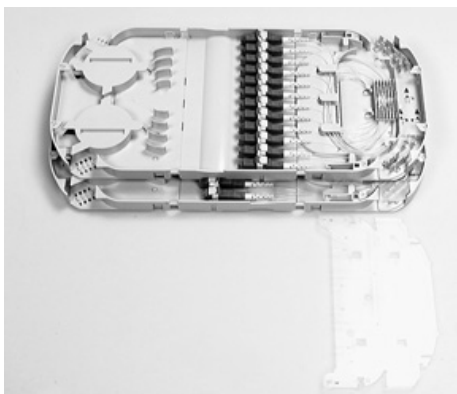
Standard kit content

- Patch/patch configuration: tray with 2 patch units
- Splice/patch configuration:
 - 1 patch and 1 splice unit
 - Splice protector holder
 - Splice protectors (only if SMOUV is selected in the name string)
 - GTU's (group termination units) (only for non-connectorized BOC applications)
 - If selected: adapters, 900µ pigtails

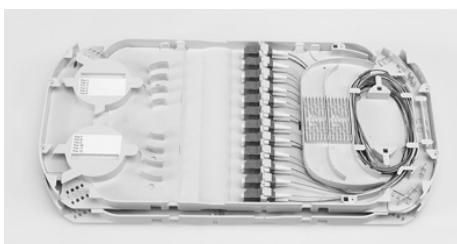
For tray layout options, see section 3.2.1



DSC00069.JPG
GPST-12 - PATCH-ONLY - INCL ADAPTERS
FIST-GPST-12-AAA-2



DSC00070.JPG
GPST-12 - SPLICE/PATCH - INCL ADP & 900µ PIGTAILS
FIST-GPST-12-AIA-2



DSC00247.JPG
GPST-12 - SPLICE/PATCH - INCL ADP & 900µ PIGTAILS
(SMALL FORM FACTOR CONNECTORS)
FIST-GPST-12-APL1-2

2.4 Accessories

2.4.1 Accessories for the 125 mm and 167 mm high version

Name	Qty/Pk	Description
side termination of cable		Consult FIST-UST ordering guide for side termination kits
FIST-CT-B-2	1 pc	Back cable termination unit for GPS2 (for max. 2 cables)
FIST-MB2-M	1 set	ETSI mounting brackets for 19" shelf
FIST-MB2-M-AS	1 set	ETSI mounting brackets for 19" shelf (asymmetrical mounting)
FIST-MB2-I	1 set	ETSI mounting brackets for ETSI shelf or 19" mounting brackets for 19" shelf (=part of standard kit)
FIST-MB2-B	1 set	23" mounting brackets for 19" shelf
FIST-GPS2-I-J-PTSTO-KIT	1 pc	Storage basket
FIST-GS-FLEX-17-50-S5027	50 m	Flexible tubing, internal \varnothing 17 mm
FIST-GS-FLEX-17-10	10 m	Flexible tubing, internal \varnothing 17 mm
FIST-GS-FLEX-12-50	50 m	Flexible tubing, internal \varnothing 12 mm
FIST-GPS2-ID-10	10 pc	Identification cards and card holders (only for 125mm shelf)

2.4.2 Accessories for the 88 mm high version

Name	Qty/Pk	Description
side termination of cable		Consult FIST-UST ordering guide for side termination kits
FIST-CT-2HU-B-2	1 pc	Back cable termination unit for GPS2 (for max. 2 cables)
FIST-MB2-2HU-M	1 pc	ETSI mounting bracket for 19" shelf
FIST-MB2-2HU-M-AS	1 pc	ETSI mounting bracket for 19" shelf (asymmetrical mounting)
FIST-GPS2-I-J-PTSTO-KIT	1 pc	Storage basket
FIST-GS-FLEX-12-50	50 m	Flexible tubing, internal \varnothing 12 mm
FIST-GPS2-2HU-ID-10	10 pc	Identification cards and card holders

2.4.3 Accessories for the 44 mm high version

Name	Qty/Pk	Description
FIST-CT-1HU-B-1	1 pc	Back cable termination unit for GPS2 (for 1 cable)
FIST-MB2-1HU-M	1 pc	ETSI mounting bracket for 19" shelf
FIST-GS-FLEX-10-50-S5027	50 m	Flexible tubing, internal \varnothing 10 mm
FIST-GPS2-1HU-ID-10	10 pc	Identification cards and card holders

2.5 Specials

Name	Qty/Pk	Description
FIST-GPS2-STO-I-L	1 pc	Patch cord storage shelf- 19" – patch cord in left
FIST-GPS2-STO-I-R	1 pc	Patch cord storage shelf- 19" – patch cord in right
FIST-GPS2-STO-M-L	1 pc	Patch cord storage shelf- ETSI – patch cord in left
FIST-GPS2-STO-M-R	1 pc	Patch cord storage shelf- ETSI – patch cord in right

2.6 Tools & miscellaneous

Name	Qty/Pk	Description
FIST-GTU2	18 pc	Group termination units
FISTV-E7187-6316	25 m	Velcro roll
FACC-CAGE-NUT-TOOL	1 pc	Cage nut installation tool
FACC-ALLEN-KEY-5-350	1 pc	Allen key, diameter 5 mm, length 350 mm for back mounting of shelf in rack

3 Product guide

3.1 Shelf description



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Chassis and drawer

The FIST-GPS2 chassis are ready to be fit inside an optical rack using mounting brackets, screws and cage nuts.

Shelves can be ordered according to the rack dimension:

- 167 mm high: 19" wide
- 125 mm high: ETSI or 19" wide
- 88 mm high: 19" wide
- 44 mm high: 19" wide

All chassis are painted (color RAL 7035).

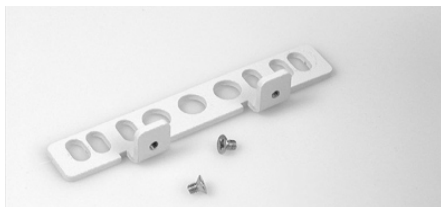
For ease of access to the connectors, the drawer can be pulled out and held in position with a releasable spring.

The drawer is equipped with a bracket necessary for mounting the trays and Velcro to secure them.

Mounting brackets

The sub rack has field-mountable brackets to accommodate for:

- Front mounting of the shelf
- Mounting with brackets 240mm from the back of the shelf.
- Mounting specifically for Tyco's FIST racks
- Back mounting
- When 19" sub racks are installed in ETSI frames, special ETSI mounting brackets need to be ordered separately (see accessories section 3.5).



GSS20G22.JPG



Cable attachment

In general cables are terminated in the rack (cable jacket and strength member attachment) and its loose tubes are guided in a flex tube towards the FIST-GPS2 sub rack. (Flex tube to be ordered separately). Accessories to fix the cable elements in the trays are included in the kit content. The kit content depends on the selected tray layout (related to cable type).

Cables can also be terminated on the side or back of the sub rack, but these accessories should be ordered separately (see section 3.5).

Cover

- The 125 mm and 167mm high version have a hingeable/removable metal cover. The 125 mm cover includes 2 identification cards and card holders at the back side of the cover (cards are visible when the cover is open).
- The 88 mm high version has a hingeable metal cover, including 2 identification cards and card holders at the back side of the cover (cards are visible when the cover is open)..
- In the 44 mm high version, the metal front cover is part of the drawer. An identification label is provided on the front side of the drawer.

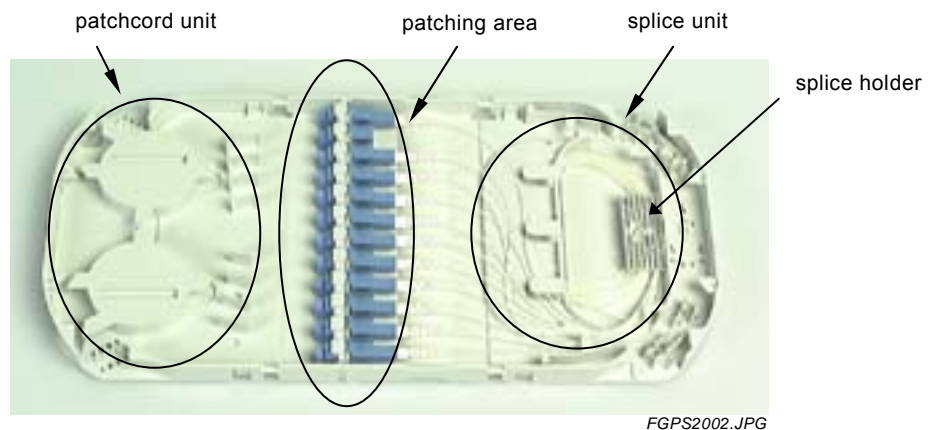
3.2 Name string options

3.2.1 Tray layout

FIST-GPS2 can be ordered:

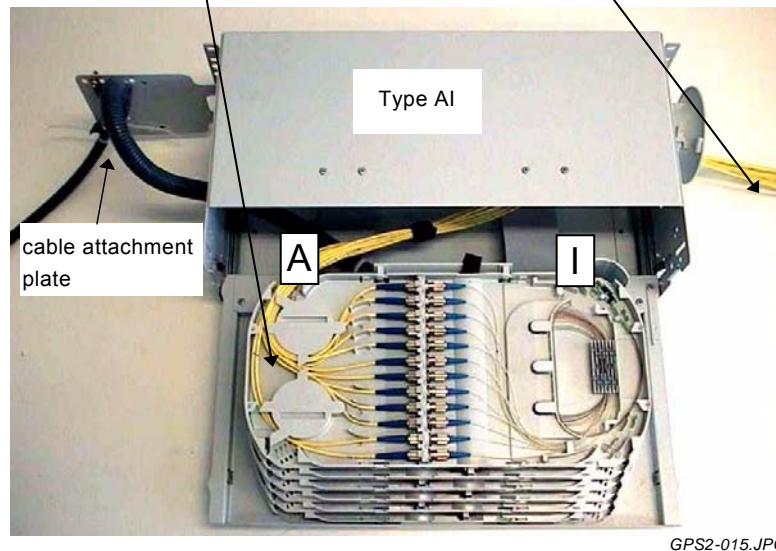
- without trays, option **NN** should be selected in that case.
- With empty trays for installation of adapters (in retainers) and/or pigtails filled trays ordered separately (see section 2.2)

The tray has a modular design: it consists of a base plate, on which 2 units can be clicked. The tray layout parameter will differ depending on the type of units installed and on which side the patch cords will leave the shelf.



Example:

Note that patch cords which enter the **shelf** at the RIGHT side, are routed to the patch cord unit located at the LEFT side of the **tray**.



In case the patch cords would enter the shelf from the left side; the pigtail unit (A) has to be at the right and the splice unit (I) at the left; this setup would require a type IA. The splice unit will get a different parameter depending on the splice holder type.

The different tray layout options are described in the following paragraphs.

Patching between patch cords

In this layout, two identical patch units are installed on the base plate.
This layout could also be used for patching pre-connectorized break-out cable.

Tray layout: AA



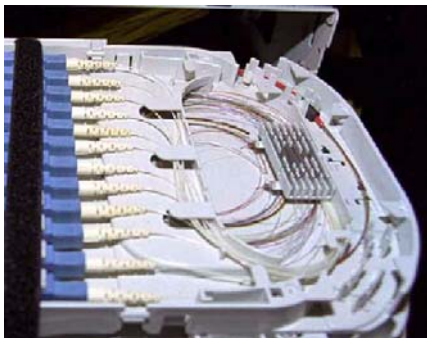
GPS2

Splicing & patching loose tube cable to pigtails

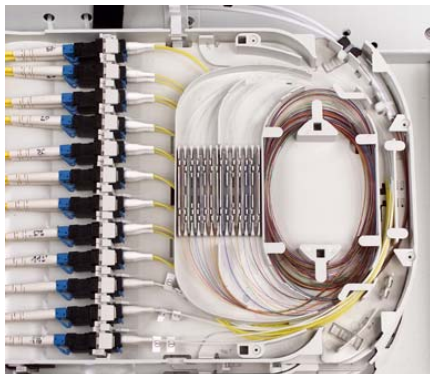
The loose tube is terminated on the tray and the fibers are spliced to the secondary coated pigtails coming from the patch panel.

The pigtail which is spliced in the splice unit should be 0.58 to 1.5 m long (and can be respliced up to 6 times, depending on its length). We recommend a pigtail length of 1 meter, which allows 5 resplices.

- * Pre-fibered trays contain the selected adapters with retainers and the pigtails between the patching area and splice holder. Pigtails are 900 µm, semi-tight and 1.5 m long (for the connector type of the pigtail, see section 3.2.2).



GPS2-013.JPG



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Tray layout

	Splice protector	Standard connectors	SFF connectors (small form factor)
Pre-fibered *	SMOUV ANT	AI – IA AJ – JA	MA – AM NA – AN
Not pre-fibered	SMOUV ANT	AE – EA AF – FA	PA – AP QA – AQ

The SMOUV versions of trays for splicing and patching loose tube cable to pigtails, are **CLASS A** Tyco Electronics products, the ANT and RECORDsplice versions are **CLASS B** for standard connectors and **CLASS C** for the SFF connector versions.

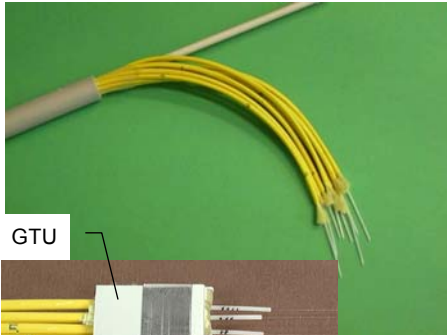
Splicing and patching break-out cable to pigtails

A break-out cable contains individual 900 µm fibers with kevlar and outer jacket (up to 2.8 mm) and a strength member which are bundled in an outer jacket. A break-out cable can be pre-connectorized or non pre-connectorized. When pre-connectorized, the patch units (AA) have to be used.

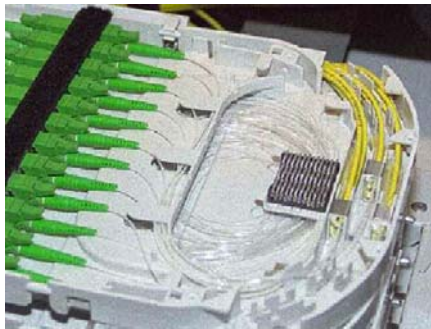
Three GTU's (group termination units) are used to attach the pigtail kevlar per group of 4 pigtails when the break-out cable is not-pre-connectorized. The GTU2 kits need to be ordered separately.

The pigtail which is spliced in the splice unit should be 0.58 to 1.5 m long (and can be respliced up to 6 times, depending on its length). We recommend a pigtail length of 1 meter, which allows 5 resplices.

* Pre-fibered trays contain the selected adapters with retainers and the pigtails between the patching area and splice holder. Pigtails are 900 µm, semi-tight and 1.5 m long (for the connector type of the pigtail, see section 3.2.2).



BOC.JPG



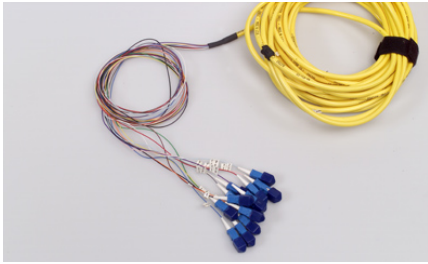
GPS2-014.JPG

Tray layout

	Splice protector	Standard connectors	SFF connectors (small form factor)
Pre-fibered *	SMOUV ANT	AK – KA AL – LA	Not applicable
Not pre-fibered	SMOUV ANT	AG – GA AH – HA	

All trays for splicing and patching break-out cables to pigtails are **CLASS C** products.

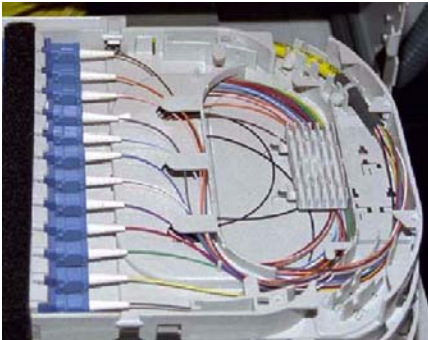
Splicing and patching IFC cable to pigtails



7N3K1584.JPG

An IFC is a number (e.g. 8 or 12) of 900 µm pigtails bundled in an outer jacket with kevlar and can be pre-connectorized or non pre-connectorized. An IFC has the great advantage of giving less congestion than 12 individual pigtails with outer jacket and kevlar.

Intra-facility cable is routed on the splice unit, whether it is pre-connectorized or not. In case one connector fails or a fiber breaks, the complete IFC should not be replaced since the splice holder can be used to splice a new pigtail to the broken fiber.



GPS2-015.JPG

* Pre-fibered trays contain the selected adapters with retainers and the pigtails between the patching area and splice holder. Pigtails are 900 µm, semi-tight and 1.5 m long (for the connector type of the pigtail, see section 3.2.2).

Tray layout

	Splice protector	Standard connectors	SFF connectors (small form factor)
Pre-fibered *	SMOUV ANT	AI – IA AJ – JA	MA – AM NA – AN
Not pre-fibered	SMOUV ANT	AE – EA AF – FA	PA – AP QA – AQ

The SMOUV versions of trays for splicing and patching IFC cable to pigtails, are **CLASS A** Tyco Electronics products, the ANT and RECORDsplice versions are **CLASS B** for standard connectors and **CLASS C** for the SFF connector versions.

3.2.2 Connector adapter with retainer (and pigtail if pre-fibered)

Un-pre-fibered shelves can be ordered with empty trays. Select N in the name string for adapter choice.

Trays with adapters on retainers only can be ordered. Select the appropriate adapter from the name string table (page 5)

The pre-fibered trays always include pre-installed adapters with retainers and pigtails. Pigtails are 900 µm, semi-tight and 1.5 m long (ribbon pigtails are shorter). Select the appropriate connector type from the table on page 5.

3.2.3 Number of trays and content

The number of trays can be selected.

Furthermore, the GPS2 offers the possibility to store a random overlength of jumpers underneath the trays.

The storage basket's height equals 2 trays in the 167mm, 125mm and 88mm shelf and equals 1 tray in the 44mm shelf.

For the storage basket capacity refer to section 3.3.



GPS2-1HU.JPG

Example of storage in 44 mm high version

Legend:

- FIST-GPST-12 tray
- Storage basket for 3HU and 2HU chassis
- Storage basket for 1HU chassis

Option	Chassis height	Chassis height			
		L: 167 mm	M or I: 125 mm	J: 88 mm	K: 44 mm
0	No trays				
2	2 trays				
4	4 trays				NA
6	6 trays			NA	NA
8	8 trays		NA	NA	NA
R	Storage + 0 trays				
S	Storage + 1 tray	NA	NA	NA	
S-0	Storage + space for 1 tray	NA	NA	NA	
T	Storage + 2 trays				NA
U	Storage + 4 trays			NA	NA
V	Storage + 6 trays		NA	NA	NA

specials:
FIST-GPS2-K-NNN-R
FIST-GPS2-K-NNN-S-0

44mm, storage only, no space for any trays
44mm, storage + space for 1 tray

3.3 Shelf capacity

Capacity	Chassis type							
	L		M, I		J		K	
# trays per shelf								
– without storage basket	8		6		4		2	
– with storage basket	6		4		2		1	
# connectors per shelf	Std.	SFF	Std.	SFF	Std.	SFF	Std.	SFF
– without storage basket	96	192	72	144	48	96	24	48
– with storage basket	72	144	48	96	24	48	12	24
Storage basket capacity (for Ø 2.4 mm patch cords)	72 x 2 m		48 x 3 m		24 x 6 m		12 x 3.5 m	
For Ø 1.8mm: +50%								
Compatible tray (set of 2 trays)	FIST-GPST-12-XXX-2							
# connectors per tray	12 (std. connectors) / 24 (SFF connectors)							
Splicing capacity per tray	12 or 24 splices when splice unit is used							
Jumper length inside shelf	± 0.9 m							

Limitations with respect to patch cord characteristics

The shelf for standard connectors is designed for patch cords with Ø 2.4 mm.

The shelf for SFF connectors is designed for patch cords with Ø 1.7 mm and the length of the connector inclusive boot shall be max. 40 mm for the pigtailed located at the splicing side of the tray.

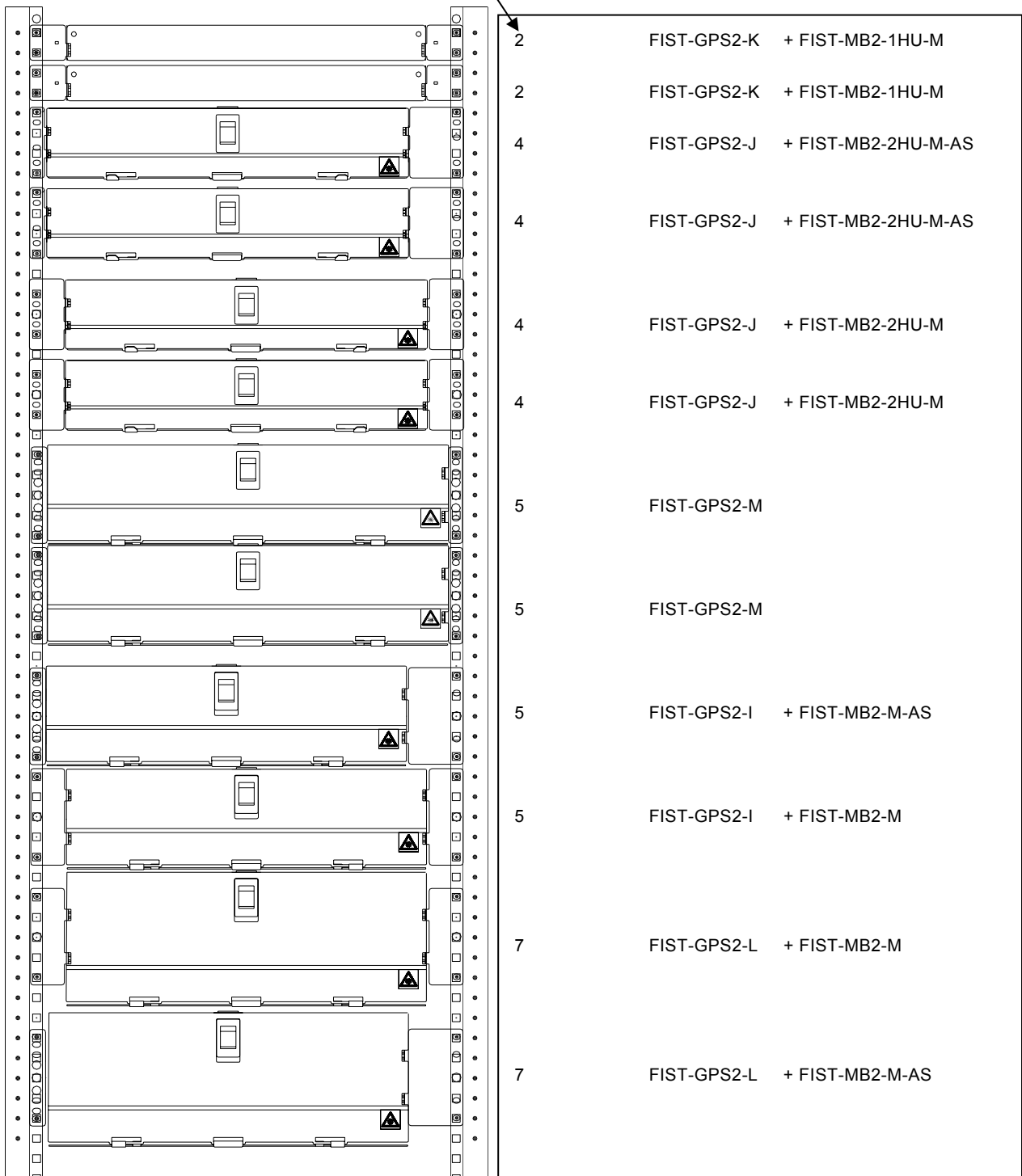
Contact the product manager for applications not covered by this document.

3.4 Shelf dimensions

Dimensions in mm	Chassis type				
	L	M	I	J	K
Width (with/without mounting brackets)	481 / 444	531 / 494	481 / 444	481 / 444	481 - 444
Height	167	125	125	88	44
HU - Height units	4 19" HU	5 metricHU	3 19" HU	2 19" HU	1 19" HU
Depth	280	280	280	280	280

Note: A HU is a "height unit". Refer to rack documentation for more details.

Height occupancy inside ETSI (=METRIC) GR2 rack:



Important note: The VPM (vertical patch cord management system) in FIST-GR2, FIST-UR and FIST-CAB2 is designed for applications with FIST-GPS2-M and FIST-GPS2-I only. Positions of plastic drums will have to be changed in case other shelf sizes are used.

3.5 Accessories

3.5.1 Accessories for the 125 or 167mm high version

Cable termination side

Consult the FIST-UST ordering guide (Universal Side Termination) for more details.



7N758971.JPG

Cable termination back

FIST-CT-B-2

Cable termination unit - back, to terminate max. 2 cables at the back of the shelf. This kit contains:

- bracket
- flex tube
- 1 flex tube clamp
- 2 strength member fixation devices
- mounting screws
- tie wraps



DSC00007.JPG

ETSI mounting brackets for 19" shelf

FIST-MB2-M

ETSI mounting brackets to mount a 19" shelf (125 mm high) between ETSI mounting profiles.



7N3K4322.JPG

Asymmetrical ETSI mounting brackets for 19" shelf

FIST-MB2-M-AS

ETSI mounting bracket to mount a 19" shelf (125 mm high) asymmetrically between ETSI mounting profiles (to gain space at one side of the shelf).



7N3K4323.JPG

ETSI mounting brackets for ETSI shelf or ETSI mounting brackets for ETSI shelf

FIST-MB2-I

These brackets are part of the standard GPS2-I or GPS2-M (see section 2.1).



GSS20G22.JPG

23" mounting brackets for 19" shelf

FIST-MB2-B

Brackets to mount a 19" shelf in a 23" equipment rack.



7N3K4323.JPG



7N759912.JPG

Pigtail storage basket
FIST-GPS2-I-J-PTSTO-KIT

The storage basket's height equals 2 trays and can be premounted in the shelf (see section 2.1)
Kit contains basket, screws + 1 extra bend control (to use in GPS2-M version only)
Basket capacity see section 3.3.



RA11.JPG

Flexible tubing
FIST-GS-FLEX-17-50-S5027

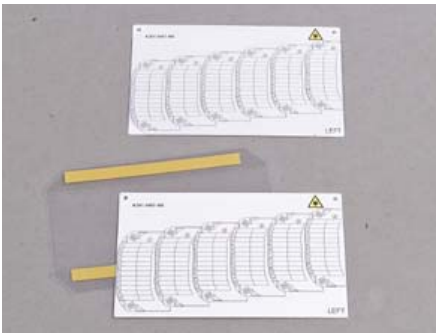
50 m of flex tube (internal Ø 17 mm) to route and group tubes from a cable attachment plate to the shelves when no side or back termination plate is used.

FIST-GS-FLEX-17-10

10 m of above version

FIST-GS-FLEX-12-50-S5027

50 m of flex tube (internal Ø 12 mm) to route and group tubes from a cable attachment plate to the shelves when no side or back termination plate is used. To be used when 2 flex tubes will be terminated on the shelf (to be installed at initial installation).



7N3K5401.JPG

Identification cards and card holders

FIST-GPS2-ID-10

10 identification cards and card holders.
For detailed layout, see Addendum 1.

3.5.2 Accessories for the 88 mm high version



7N758992.JPG

Cable termination side

Consult the FIST-UST ordering guide (Universal Side Termination)



DSC00005.JPG

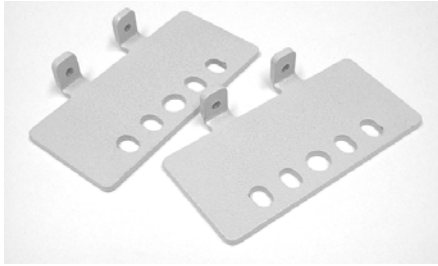
Cable termination back

FIST-CT-2HU-B-2

Cable termination unit - back, to terminate max. 2 cables at the back of the shelf.

This kit contains:

- bracket
- flex tube
- 1 flex tube clamp
- 2 strength member fixation devices
- mounting screws
- tie wraps



DCP03891.JPG

ETSI mounting brackets for 19" (88 mm) shelf

FIST-MB2-2HU-M

ETSI mounting bracket to mount a 19" shelf between ETSI mounting profiles.



7N759912.JPG

Asymmetrical ETSI mounting brackets for 19" (88 mm) shelf

FIST-MB2-2HU-M-AS

ETSI mounting bracket to mount a 19" shelf (88 mm high) asymmetrically between ETSI mounting profiles (to gain space at one side of the shelf). 1 bracket/kit

Pigtail storage basket

FIST-GPS2-I-J-PTSTO-KIT

The storage basket's height equals 2 trays and can be premounted in the shelf (see section 2.1)

The kit contains a basket, screws and a small bend control (only to be used in GPS2-M size)

Basket capacity see section 3.3.



RA11.JPG

Flexible tubing

FIST-GS-FLEX-12-50

50 m of flex tube (internal \varnothing 12 mm) to route and group tubes from a cable attachment plate to the shelves when no side or back termination plate is used.



7N3K6461.JPG

Identification cards and card holders

FIST-GPS2-2HU-ID-10

10 identification cards and card holders.

For detailed layout, see Addendum 2.

3.5.3 Accessories for the 44 mm high version



DSC00006.JPG

Cable termination back

FIST-CT-1HU-B-1

Cable termination unit - back, to terminate 1 cable at the back of the shelf.

This kit contains:

- flex tube
- 1 strength member fixation device
- tie wraps



7N753789.JPG

ETSI mounting brackets for 19" (44 mm) shelf

FIST-MB2-1HU-M

ETSI mounting bracket to mount a 19" shelf between ETSI mounting profiles.



RA11.JPG

Flexible tubing

FIST-GS-FLEX-10-50-S5027

50 m of flex tube (internal Ø 10 mm) to route and group tubes from a cable attachment plate to the shelves when no side or back termination plate is used.



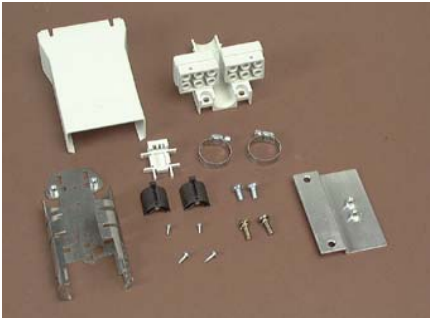
7N3K6460.JPG

Identification cards and card holders

FIST-GPS2-1HU-ID-10

10 identification cards.

For detailed layout, see Addendum 3.



GC020G15.JPG

Central core cable termination kit

FIST-GR-CTB100CC

Cable termination kit for max. 2 central core cables. Can be mounted next to the shelf. Strength member fixation (till 2.5 mm Ø).



7N3K1585.JPG

Tube divider to mount in rack side duct

FIST-GR-TD-5MM

Tube divider to be placed in the side duct of a rack. 6 tubes 5mm in – 6 tubes 5 mm out can be used to spread (ribbon) fibers over several tubes.



7N3K1586.JPG

Tube divider to mount in shelf

FIST-GPS2-TD-5MM

Tube divider to be placed behind the hinge of a GPS2 shelf. Typical application: 1 tube in (6 R12) 6 tubes out (each 1 R12). A bend control on the cover protects the jumpers leaving the shelf. Can be placed in GPS2 chassis types M, I (3 HU) and J (2 HU) only.



I&C003.JPG

5 mm tubing

FIST-TUBE-5MM-30

30 m of 5 mm tubing to route ribbon fibers between the tube dividers and the trays.

3.6 Specials



Patch cord storage shelf

FIST-GPS2-STO-I-L 19" – patch cord in left
FIST-GPS2-STO-I-R 19" – patch cord in right
FIST-GPS2-STO-M-L ETSI – patch cord in left
FIST-GPS2-STO-M-R ETSI – patch cord in right

Width: 19": 444mm ETSI: 494mm

Height: 125mm Depth: 280mm

With hingeable cover.

Alternative mounting brackets are similar to GPS2-I or GPS2-M

Storage capacity: maximum 250m for \varnothing 2.4 mm patch cords, for \varnothing 1.8mm: +50%

G

3.7 Tools & miscellaneous



DSC00099.JPG

Group termination unit

FIST-GTU2

This kit contains 18 group termination units.

In case not pre-connectorized break-out cable has to be spliced to pigtails, a GTU is used to attach the pigtail kevlar per group of 4 pigtails at the entrance of the splicing area of the tray.



FRWR044.JPG

Velcro roll

FISTV-E7187-6316

Velcro to segment or secure pigtails. Supplied on a roll 25 m long (width 25 mm) to be cut to length as required.



T004.JPG

Allen key

FACC-ALLEN-KEY-5-350

Allen key, diameter 5 mm, length 350 mm for back-mounting of shelves in rack.

Also needed to reposition pigtail drums in FIST-GR2, FIST-UR,...



T023.JPG

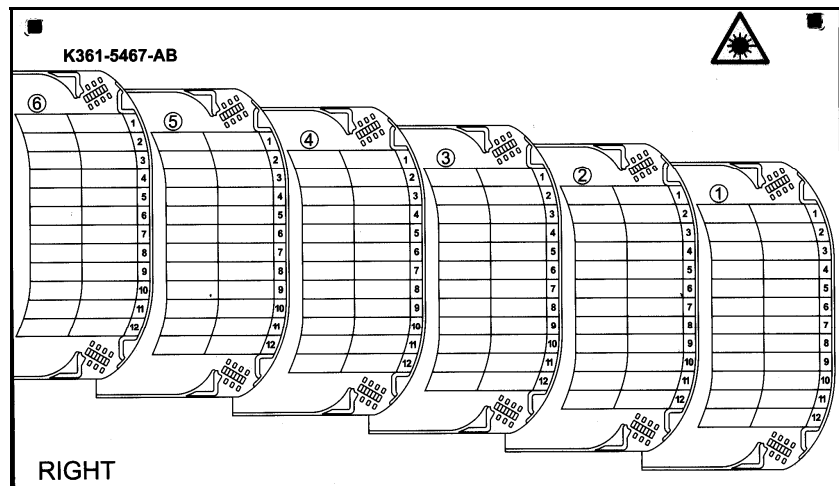
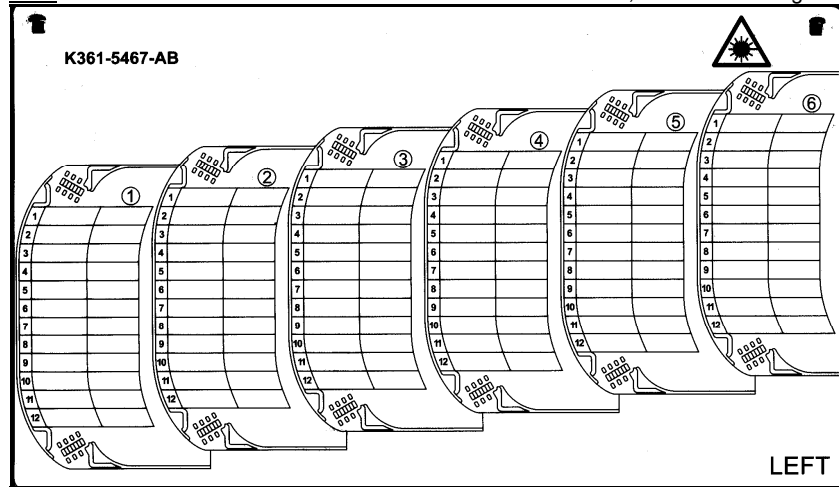
Cage nut tool

FACC-CAGE-NUT-TOOL

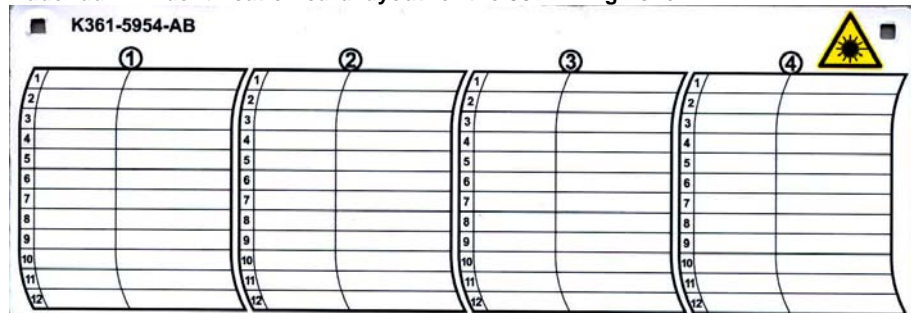
Tool to install cage nuts in the rack.

Addendum 1: identification card layout for the 125 mm high shelf

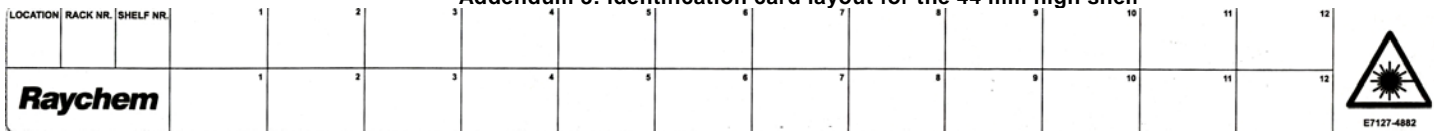
Note: a XLS-file of all ID cards can be found on TOSP intranet, section exchange elements



Addendum 2: identification card layout for the 88 mm high shelf



Addendum 3: identification card layout for the 44 mm high shelf



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