DATA SHEET Ø30.5 METALLIC FLUSH MOUNTING SERIES NON ILLUMINATED3 POSITION STAYPUT, KEY REMOVABLE IN ALL POSITIONS

Model No.: **FMR4AK2-3PA + 3 C1+1 C2**
Description: **Ø30.5 Metallic flush mounting series non illuminated 3 position Stayput, Key Removable in all positions**

Salient Features:

- Quick installation
- Safe operation
- Robust design
- Aesthetically elegant
- Double pole double throw (DPDT) function
- Used for actuation authorization
- Compact design
- Flush mounting
- IP65 protection
- Can be used for elevator function
- All plastic raw material f1 UV stabilized as per UL746C
- HL3-R26 as per BS EN 45545-2

General Characteristics:

It is metallic stayputFMR series Key Selector for use in a panel cutout of Ø30.5mm & thickness 1 to 3mm. It is a 3 position switch with key removable in all positions. It is used in applications where proper authorization is needed to actuate controls. The actuator has IP65 as degree of protection as per IEC 60529. The actuator is bayonet locking into the Clip on bracket (4BRK). Two screws are provided with the bracket. After assembly, the lock screws are to be tightened with a torque of 1.2Nm so that they pierce through the paint of the panel. This will ensure good earthing to the unit.

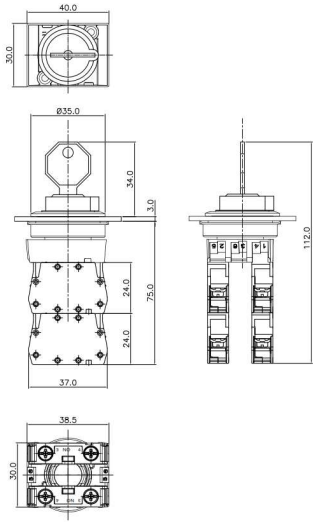
It is fitted with contact elements of FMR C… series. Refer Datasheet for FMR C1 element & Datasheet for FMR C2 element. A minimum of one contact element & a maximum of six clip on contact elements can be stacked on the bracket of this actuator by a simple push action.

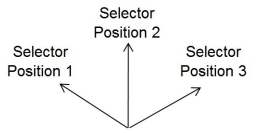
Available types	: Stayput& Spring return options available in 3 position & 2 position versions. Codes available on request.	
Degree of protection as per IEC 60529	: IP65	
Degree of Pollution	: 3	
Applicable standards	BS EN 45545-2: 2013+A1: 2015	Railway application-Fire protection on Railway vehicles Part 2: Requirements for fire behavior of materials & components (HL3 – R26)
	ASTM D635 & IEC60695-11-10 UL 746C & UL94	Rate of burning (V0 at 0.8mm, f1 UV stabilised)
	IEC/EN 60947-1: IEC 60947-1:2007 +AMD1:2010+AMD2:2014	Low-voltage switchgear and controlgear - Part 1: General rules
	IEC/EN 60947-5-1: 2016	Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices
	2011/65/EU	ROHS 2 EU Directive
Product Certification	CE	
	: Contacts: CE cULus	

Mechanical Characteristics:

Function indicator		Front viewing: White marking provided on Key selector knob
Terminal Capacity		: Maximum 2X1.5mm² or 1X 2.5mm² : Minimum 1X0.5mm²
Terminal marking		: 1NC 2 & 3NO 4
Terminal Torque	Nm	: 0.8Screw head compatible with Posidrive or Phillips screw driver
Contact material		: Brass, Silver plated : Brass terminal, Silver rivet gold plated (Low Voltage application)
Operation		: Slow break (NO/NC)
Operating torque	Nm	: 0.3
Operating force	N	: NA
Positive operation Conforming to IEC/EN 60947-5-1 Appendix K		: All functions incorporating a NC contact arepositive opening operation
Operating travel	mm	:NA

Mechanical life		: over 0.2 million operations
Ambient	°C	: -25 to +70
Storage	°C	: -25 to +40
Overall Dimensions with sketch (LXBXH)	mm	: 112X40X30
Vibration resistance Conforming to IEC 60068-2-6	Hz	: Frequency 10Hz to 500Hz, Acceleration: 100m/s2, Amplitude: 0.75mm, Sweep: 1 octave/min
Shock resistance Conforming to IEC 60068-2-27		: Half sine wave, Acceleration: 300m/s2, Pulse: 11ms, 3 shock per axis, 12 shocks
Viewing Angle	°	: NA
Optical Axial intensity	mcd	: NA
Weight	gms	: Actuator: 58
		: Pushbutton: 58 +10 for every single element

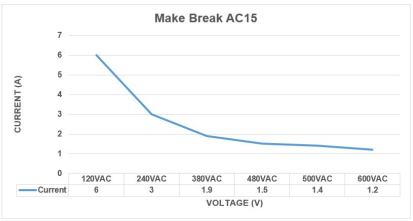


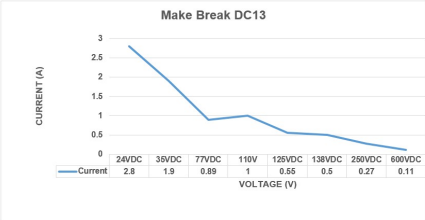


	Selector Position 1 combination	Selector Position 2 combination	Selector Position 3 combination
	Left	**Center**	**Right**
Output 1	**NC**	**NO**	**NC**
Output 2	**NO**	**NC**	**NC**

Electrical Characteristics of contacts:

Make & Break Capacity		: AC15: 415VAC, 4A as per IEC 60947-5-1 : DC13: 110VDC, 1A as per IEC 60947-5-1





: A600, Q600 (Upto 600V AC/DC)
As per CSA C22.2 no. 14-10, UL 508

A600	IEC	120V,6A	240V, 3A	380V, 1.9A	480V, 1.5A	500V, 1.4A	600V, 1.2A
Q600	IEC	125V, 0.55A	250V, 0.27A	400V, 0.15A	-	500V, 0.13	600V, 0.1A

A600	UL CSA	120V, 6A	240V, 3A	-	480V, 1.5A	-	600V, 1.2A
Q600	UL CSA	125V, 0.55A	250V, 0.27A	400V, 0.1A	480V, 0.1A	500V, 0.1A	600V, 0.1A

Electrical rating (for 1 million operation cycles at 3600 cycles per hour, load factor 0.5)		AC15 V 24 120 230 A 4 3 2 DC13 V 24 110 A 0.5 0.2
Rated insulation voltage	V	: 500
Rated thermal current	A	: 10
Low power application		: Gold plated NO & NC contact elements for low voltage low current switching circuits , <25mA Models: C1, C2 (cover mounting), C7 & C8 (Base mounting) (NO) (NC) (NO) (NC)
Protection against electric shock(ref 61058-1)		: Class II Appliances
Short circuit protection		: 10A HRC cartridge fuse, rated for resistive loading at 1000A prospective current
Dielectric Test	KV	: 2.5
Approvals regarding the part:		:CE : UL for Contact Blocks
Approvals regarding the material		
Polymeric parts		: UL-Recognized material
Rated Impulse Withstand		: NA
Polarity protection		: NA
Current Consumption	mA	: NA
Electrical Endurance as per IEC/EN 60947-5-1 Annex C		: 6050

Accessories & codes:

NA

Ordering codes

The ordering code for each product is mentioned in the Catalogue/Data Sheet and not indicated on each product because of the various combinations possible it becomes practically impossible to do so, more over the actuators, lamp unit and contact element, which together make a push button, are sold separately to OEM's as well as dealers. However the primary packing box always mentions the ordering code of the material it holds.

For actuator (with Bracket):

FMR	4A	K	2	-3PA
Flush **M**ounting **R**ound	Metal Clip on Series **A**ctuator	**K**ey Selector	Indicates color 2-Black	3PA= Key removable in all positions

For actuator (without Bracket):

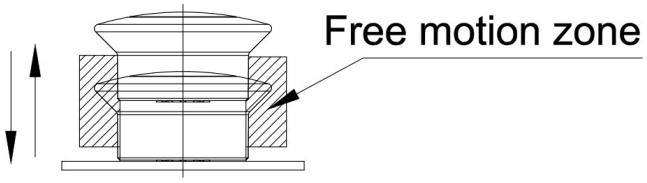
FMR	4A	K	2	-3PA	NB
Flush **M**ounting **R**ound	Metal Clip on Series **A**ctuator	**K**ey Selector	Indicates color 2-Black	3PA= Key removable in all positions	No Bracket

For Pushbutton

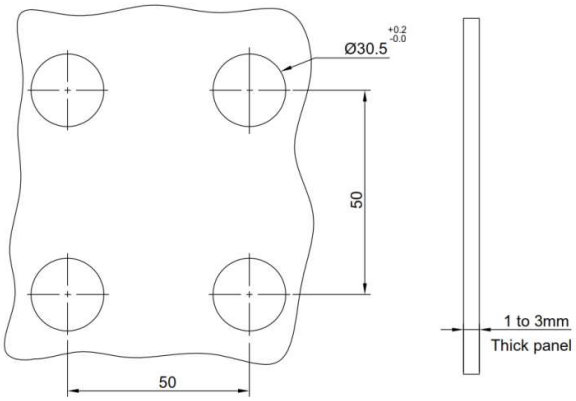
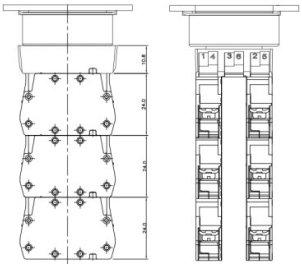
FMR	4PS	K	2	YY	-3PA
Flush Mounting Round	Metal Clip on Series Pushbutton Switch	**K**ey Selector	Indicates color 2-Black	Denotes No. of Contact Elements attached to the Push Button. 1st "Y" indicates noof. (NO) Contact elements 2nd "Y" indicates no. of (NC) Contact elements e.g. 01 indicates No of NO (Normally Open) Contacts & one NC (Normally Closed) contact	3PA= Key removable in all positions

Mounting Instructions:

Safety regulations: This unit may be installed & commissioned by personnel who are familiar with current regulation for health & safety at work & accident prevention. Ensure local regulations are met especially those relating to safety. This is for use on flat surface of type 4X, 12 enclosure.

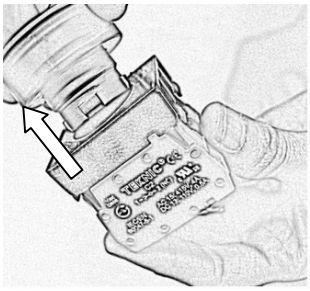


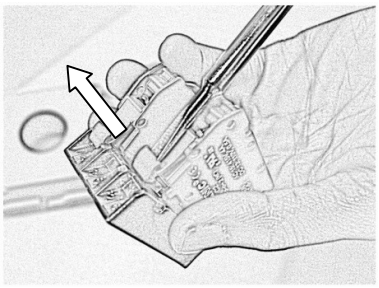
Ensure that this actuator will operate fully after installation. Failure to follow these will result in death or serious injury.

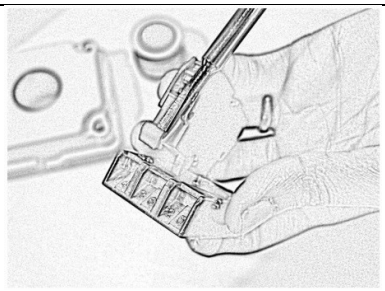
Mounting	: Fixing Centers: 50mm X 50mm min. Mounting Panel thickness: 1mm to 3mm 
No of elements possible	6 Nos. Max. Contact blocks can be mounted as shown below  Elements are not to be mounted in the center position

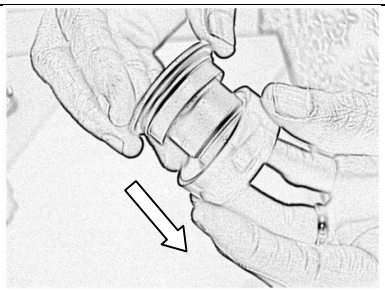
To install:

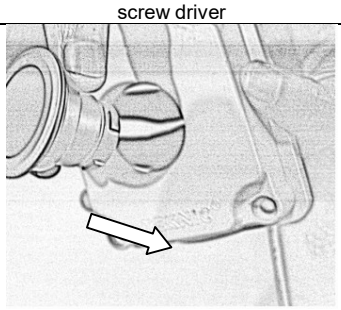

Turn the actuator in anticlockwise direction

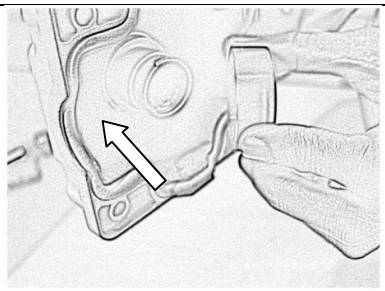

Remove the actuator from the bracket

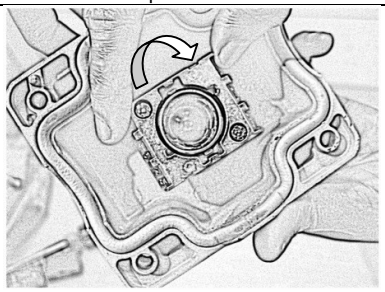

Insert screw driver in the element & twist the screw driver

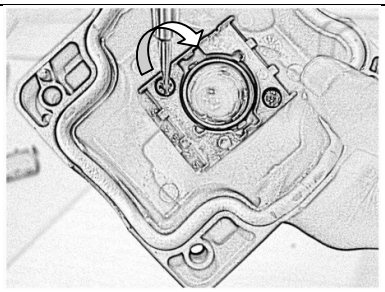

Release the contact element from the bracket

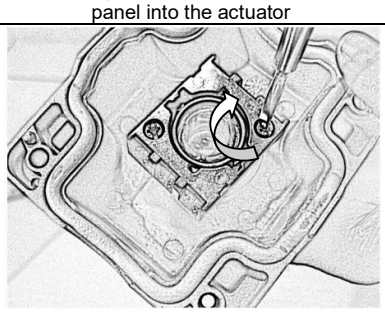

Remove the spacer from the actuator

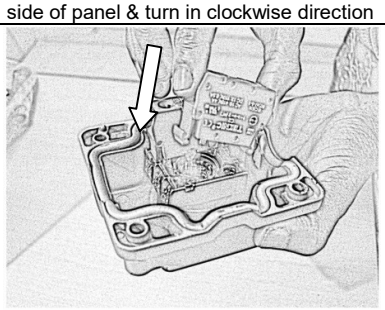

Insert the actuator in the Ø30.5 hole

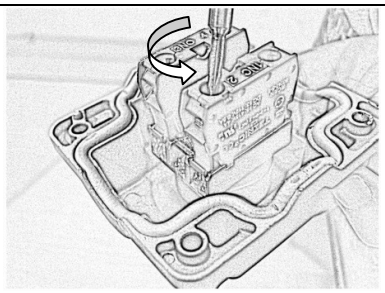

Insert the spacer from the rear side of the panel into the actuator


Insert the bracket in the actuator from the rear side of panel & turn in clockwise direction

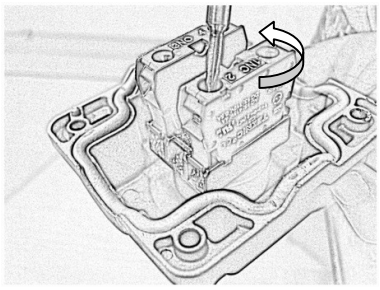

Tighten the lock screw with a torque of 1.2Nm


Tighten both the screws equally

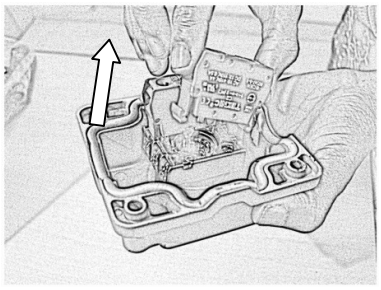

Press fit the element in the bracket


Open the terminal scews by turning in anticlockwise direction for wiring

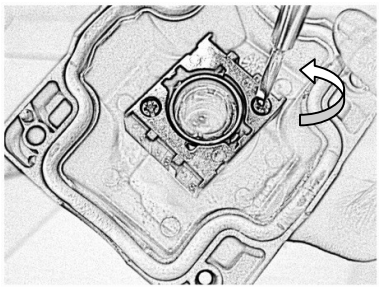
To uninstall:



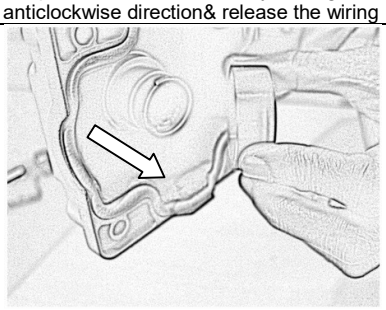
Open the terminal scews by turning in anticlockwise direction& release the wiring



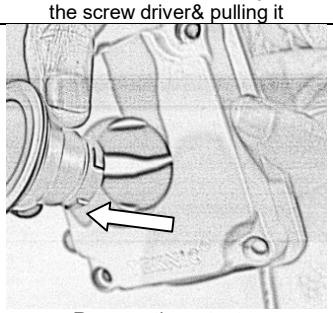
Remove the contact element by inserting the screw driver& pulling it



Loosen the lock screws in anticlockwise direction



Remove the spacer



Remove the actuator

Images are for representation only. Actual product may vary. If any more information is required, kindly contact our Marketing Department at +91-22-42532500 or email at ram.talreja@teknic.co.in

Teknic Electric India Pvt Ltd may incorporate modification or improvements on its products at any time without notice, & therefore, in such events it is possible that the relevant part of this Data Sheet does not apply to your product.

TEKNIC

MANUFACTURER DECLARATION

We,

TEKNIC ELECTRIC (I) PRIVATE LIMITED,
65, Marol Co-operative Industrial Estate,
M. Vasanji Road, Andheri (East),
Mumbai 400059, India.

Declare under sole responsibility that the following described products in our delivered version complies with the appropriate standards for Railways applications, based on its design & type as brought into circulation by us. In case of alteration of the product not agreed upon by us, this declaration will lose its validity.

Description of the Electrical Equipment:

Contact Elements	-Ø22.5	**C…**
Metallic Series Push Button Clip on Non illuminated Flush pushbuttons	-Ø22.5	**FMR4PSF…**
Metallic Series Push Button Clip on Non illuminated projecting pushbuttons	-Ø22.5	**FMR4PSP…**
Metallic Series Push Button Clip on Non illuminated Selector Pushbuttons	-Ø22.5	**FMR4PSS…**
Metallic Series Push Button Clip on illuminated Flush pushbuttons	-Ø22.5	**FMR4PSLRF…**
Metallic Series Push Button Clip on illuminated Selector Pushbuttons	-Ø22.5	**FMR4PSSL…**
Metallic Series Pilot Light	-Ø22.5	**FMR4PL…**
Metallic Series Push Button Clip on Non illuminated Key Selector Pushbuttons	-Ø22.5	**FMR4PSK…**
Metallic Series Push Button Clip on Non illuminated Mushroom Pushbuttons	-Ø22.5	**FMR4PSM…**
Metallic Series Push Button Clip on Non illuminated Selector Round knob Pushbuttons	-Ø22.5	**FMR4PSSPB…**

Applicable Standards:

BS EN 45545-2: 2013+A1: 2015	Railway application-Fire protection on Railway vehicles Part 2: Requirements for fire behavior of materials & components (HL3 – R26)
ASTM D635 & IEC60695-11-10 UL 746C & UL94	Rate of burning (V0 at 0.8mm, f1 UV stabilised)
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IEC/EN 60947-5-1: 2016	Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices
2011/65/EU	ROHS 2 EU Directive

02/04/2019
Assistant Manager
Quality System & Standards

*Refer Annexures for certifications

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