

Model No.: **FMR C1**  
 Description: **FMR Series Clip on Contact element, Normally Open Panel mounting screw & captive clamp connection**



### Salient Features:

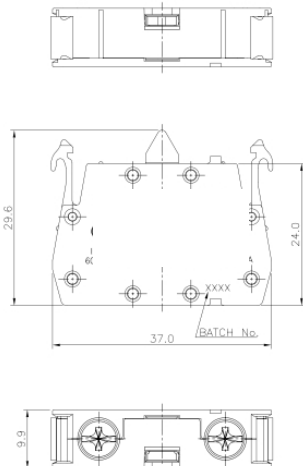
- Aesthetically elegant
- Robust Construction
- Simple to fix
- Safe operation
- Good flame resistance
- Shrouded Terminals
- Long life
- All plastic raw material f1 UV stabilized as per UL746C
- HL3-R26 as per BS EN 45545-2

### General Characteristics:

It's a cover mounting type, Normally open (NO) contact element. This can be fitted with any illuminated/non-illuminated metallic or plastic operating head. These contact elements are interchangeable & can be stacked without additional hardware. A maximum of six & four elements can be stacked with non-illuminated & illuminated operating heads respectively. They have fully shrouded terminals and are protected against the ingress of small objects during assembly and wiring. The contact elements are double break contacts.

|                       |                                                                                                                                                                                                                         |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Available types       | : Gold plated NO contact elements for low voltage low current switching circuits < 25mA are available on request.<br>Models: FMR C3, FMR C4(cover mounting),<br>(NO) (NC)<br>FMR C7 FMR C8 (Base mounting)<br>(NO) (NC) |
| Degree of protection  | : NA                                                                                                                                                                                                                    |
| Degree of Pollution   | : 3                                                                                                                                                                                                                     |
| Applicable standards  | UL508<br>IEC 60947-5-1 & 60947-5-5<br>CSA 22.2                                                                                                                                                                          |
| Product Certification | CE cULus                                                                                                                                                                                                                |

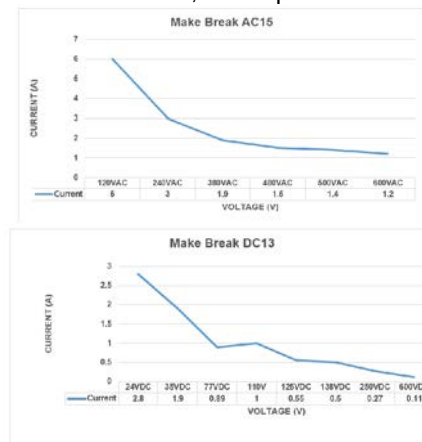
### Mechanical Characteristics:

|                                                                 |     |                                                                                                       |
|-----------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------|
| Function indicator                                              |     | : NA                                                                                                  |
| Terminal Capacity                                               |     | : Maximum 2X1.5mm <sup>2</sup> or 1X 2.5mm <sup>2</sup><br>: Minimum 1X0.5mm <sup>2</sup>             |
| Terminal marking                                                |     | : 3NO 4<br>: Customized markings on stickers available on request                                     |
| Terminal Torque                                                 | Nm  | : 0.8 Screw head compatible with Posidrive or Phillips screw driver                                   |
| Contact material                                                |     | : Brass terminal, Silver rivet gold plated (Low Voltage application)                                  |
| Operation                                                       |     | : Slow make/break                                                                                     |
| Operating torque                                                | Nm  | : NA                                                                                                  |
| Operating force                                                 | N   | : 3                                                                                                   |
| Positive operation<br>Conforming to IEC/EN 60947-5-1 Appendix K |     | : All functions incorporating a NC contact are positive opening operation                             |
| Operating travel                                                | mm  | : 5                                                                                                   |
| Mechanical life                                                 |     | : over 2 million operations                                                                           |
| Ambient                                                         | °C  | : -25 to +70                                                                                          |
| Storage                                                         | °C  | : -25 to +40                                                                                          |
| Overall Dimensions with sketch (LXBXH)                          | mm  |                    |
| Vibration resistance<br>Conforming to IEC 60068-2-6             | Hz  | : Frequency 10Hz to 500Hz, Acceleration: 100m/s <sup>2</sup> , Amplitude: 0.75mm, Sweep: 1 octave/min |
| Shock resistance<br>Conforming to IEC 60068-2-27                |     | : Half sine wave, Acceleration: 300m/s <sup>2</sup> , Pulse: 11ms, 3 shock per axis, 12 shocks        |
| Viewing Angle                                                   | °   | : NA                                                                                                  |
| Optical Axial intensity                                         | mcd | : NA                                                                                                  |
| Weight                                                          | gms | : 10                                                                                                  |

### 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  | 230 |
| A    | 4   | 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 contact elements for low voltage low current switching circuits, <25mA

Short circuit protection

: 10A HRC cartridge fuse, rated for resistive loading

Dielectric Test

kV

: 2.5

Approvals regarding the part:

:   

Approvals regarding the material

Polymeric parts

: UL-Recognized material

Rated Impulse Withstand

kV

: 4

Polarity protection

: NA

Current Consumption

mA

: NA

Electrical Endurance

: Conforming to IEC/EN 60947-5-1 Annexure C

Contact resistance

mΩ

: <10 (Initial)

### Accessories & codes:

#### Element lug (LUG)



Accessories shown in the picture may not be a part of standard equipment.

#### ACCESSORY INSTALLATION AND SAFETY TIPS

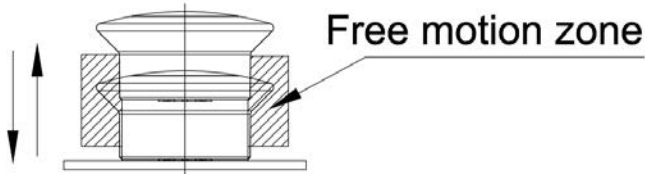
Use extreme caution while selecting and installing the accessories. The addition of unsuitable accessories can lead to unsafe operating conditions. Your friendly Dealer will assist you in selecting quality accessories and installing them correctly.

### Ordering codes

The ordering code **FMR C1** for each element is mentioned in the catalogue, primary packing and on each product.

### 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.

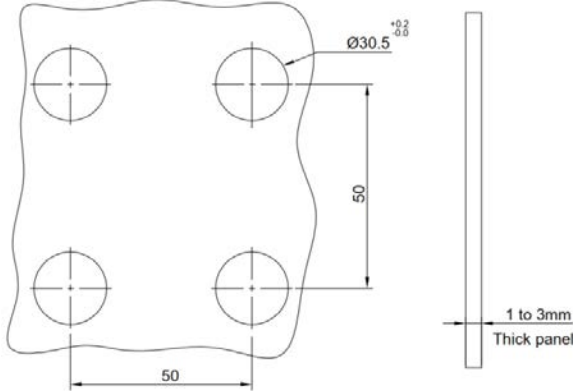


Ensure that this actuator will operate fully after installation. Failure to follow these will result in death or serious injury.

#### Mounting

: Fixing Centers: 40mm X 30mm Min.

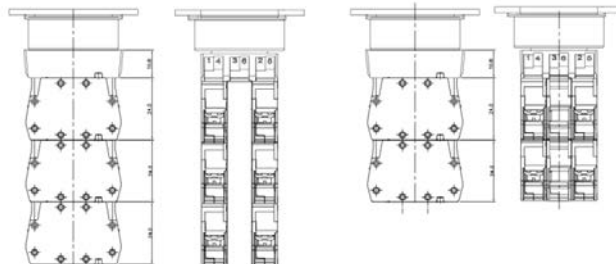
Mounting Panel thickness: 1mm to 6mm



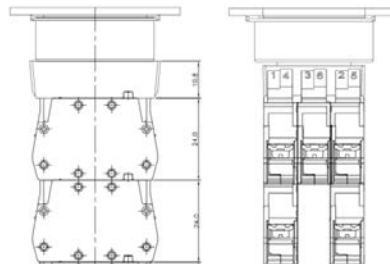
#### No of elements possible

6 Nos. Max. Contact blocks can be mounted for non-illuminated as shown below

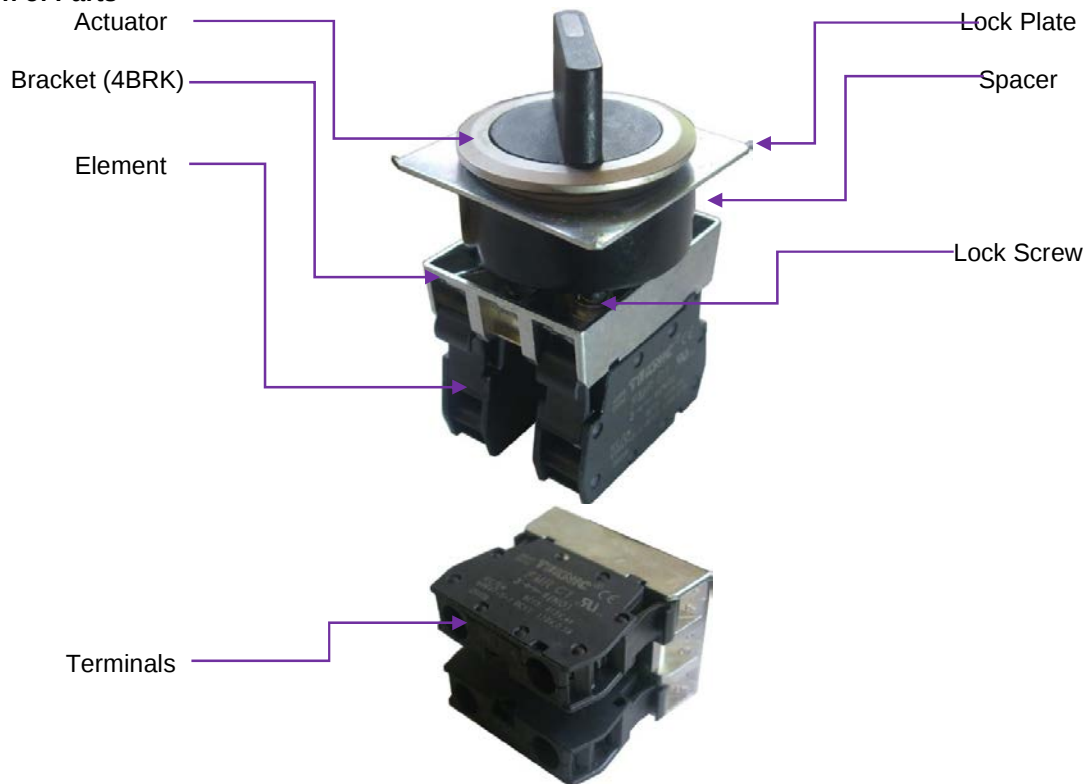
#### Non illuminated Type



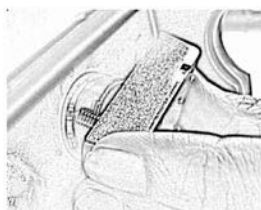
#### Illuminated Type



### Location of Parts



### To install with metal bracket:



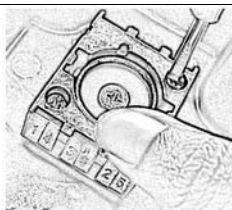
Insert the actuator in the bracket



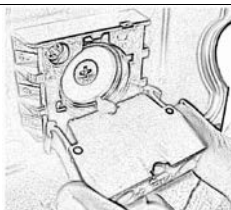
Turn it in clockwise direction



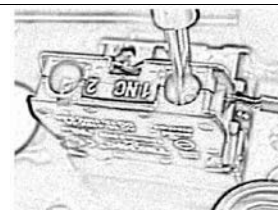
Tighten the lock screw in clockwise direction



Tighten both the screws equally with 1.2Nm torque



Snap fit the element by simple push action

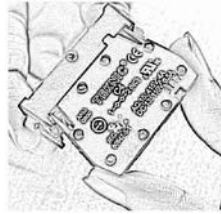


Connect the wires by unscrewing the terminal & then tightening with a torque of 0.8Nm

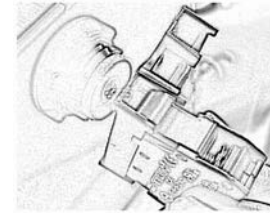
### To install with Plastic bracket:



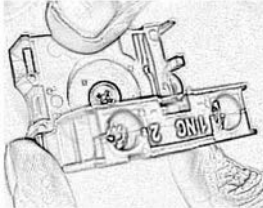
Snap fit the element by simple push action



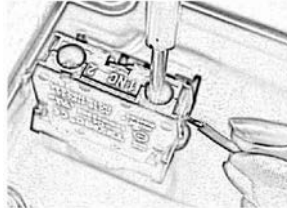
Element locks with a click sound



Push the bracket to the actuator

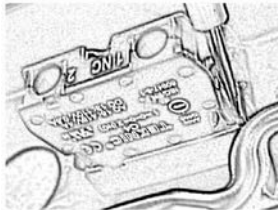


Element snap fits to the actuator

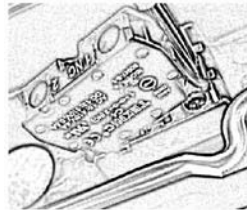


Connect the wires by unscrewing the terminal  
& then tightening with a torque of 0.8Nm

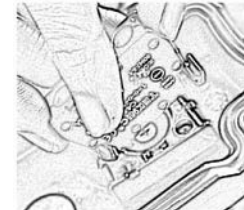
### To uninstall from Metal Bracket



Insert the screw driver in the slot of the element

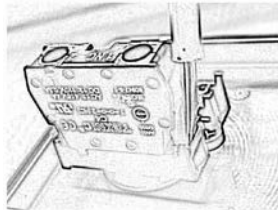


Twist the screw driver a bit

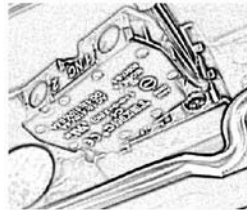


The element separates out

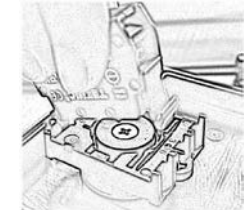
### To uninstall from Plastic Bracket



Insert the screw driver in the slot of the element



Twist the screw driver a bit



The element separates out

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@teknico.in](mailto:ram.talreja@teknico.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.

### 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                                                                    | -Ø30.5 | FMR C...                    |
| Metallic Series Push Button Clip on Non illuminated Flush pushbuttons               | -Ø30.5 | FMR4PSF...                  |
| Metallic Series Push Button Clip on Non illuminated projecting pushbuttons          | -Ø30.5 | FMR4PSP...                  |
| Metallic Series Push Button Clip on Non illuminated Selector Pushbuttons            | -Ø30.5 | FMR4PSS...                  |
| Metallic Series Push Button Clip on illuminated Flush pushbuttons                   | -Ø30.5 | FMR4PSLRF...<br>FMR4PSLF... |
| Metallic Series Push Button Clip on illuminated Selector Pushbuttons                | -Ø30.5 | FMR4PSSL...                 |
| Metallic Series Pilot Light                                                         | -Ø30.5 | FMR4PL...                   |
| Metallic Series Push Button Clip on Non illuminated Key Selector Pushbuttons        | -Ø30.5 | FMR4PSK...                  |
| Metallic Series Push Button Clip on Non illuminated Mushroom Pushbuttons            | -Ø30.5 | FMR4PSM...                  |
| Metallic Series Push Button Clip on Non illuminated Selector Round knob Pushbuttons | -Ø30.5 | 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)

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



01/01/2020  
Assistant Manager  
Quality System & Standards

\*Refer Annexures for certifications

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