



# Data Sheet

## Reverse Forward

Cam Switch



Measure



Control

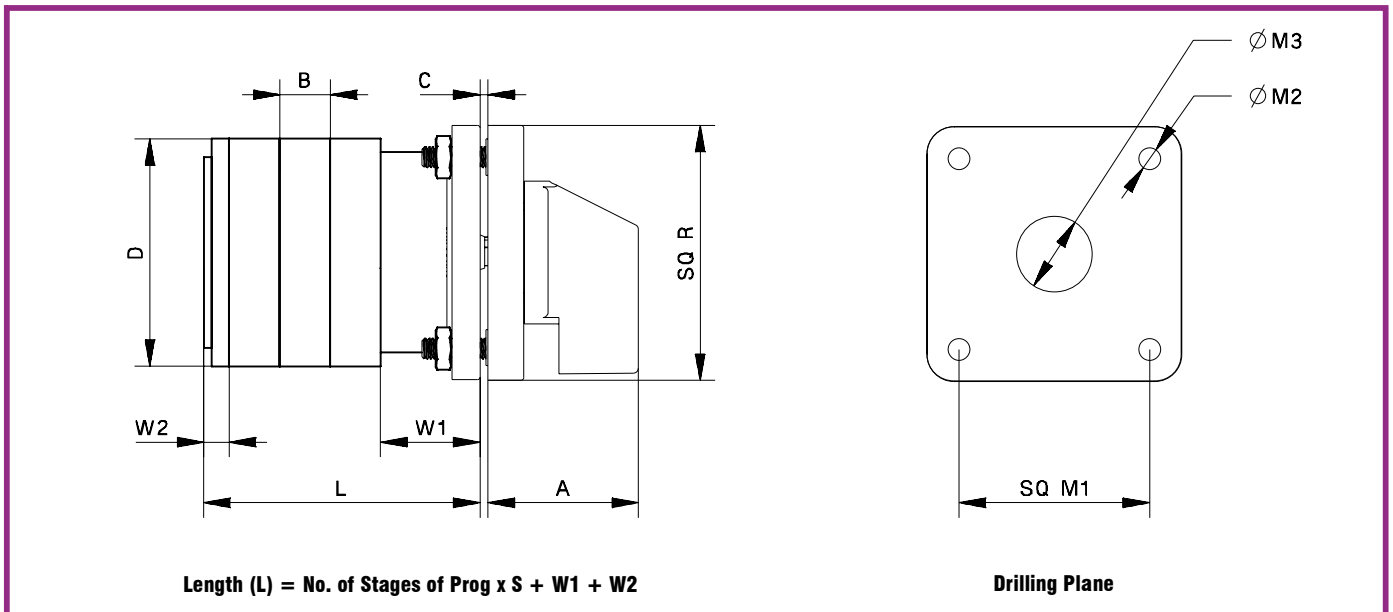


Record



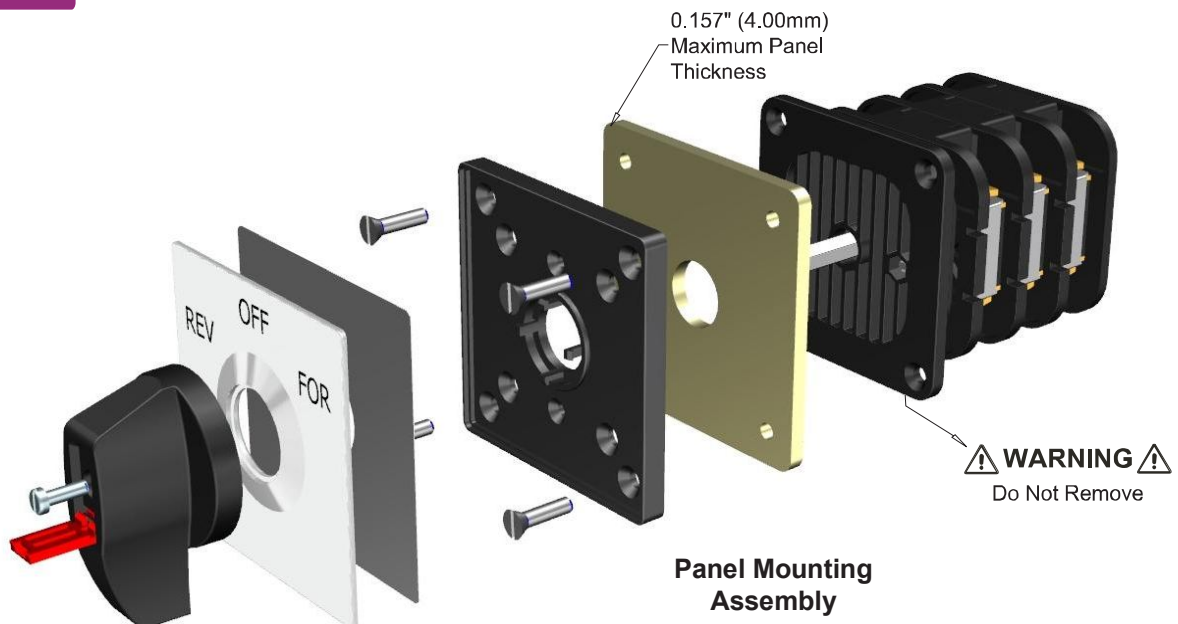
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### Rotary Cam Switches Dimensional Details



| TYPE                         | A    | B  | C | D  | L  | M1 | M2  | M3 | R  | W1   | W2   |
|------------------------------|------|----|---|----|----|----|-----|----|----|------|------|
| Rish Cam 25A Reverse Forward | 34   | 15 | 4 | 53 | 73 | 48 | 4   | 12 | 64 | 24   | 6    |
| Rish Cam 32A Reverse Forward | 34   | 15 | 4 | 53 | 73 | 48 | 4   | 12 | 64 | 24   | 6    |
| Rish Cam 40A Reverse Forward | 34   | 15 | 4 | 53 | 73 | 48 | 4   | 12 | 64 | 24   | 6    |
| Rish Cam 63A Reverse Forward | 42.4 | 30 | 4 | 53 | 73 | 68 | 5.5 | 18 | 88 | 19.5 | 13.5 |

### Installation



All the dimensions are in mm.



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### Product Features

#### Compact Size:

Different contact design, contact material & terminal allows us to make them compact.

#### Reliable Design:

These switches are tested in various laboratories as per National and International standards for performance and user safety.

#### Quick & Easy to Install:

Self Lifting clamp screw across terminals makes installation quick and easy.

#### Safer Design:

Knob cover for knob screw to avoid direct metal contact. Higher rating wire can be used across terminals because of larger space for lugs in 63A Reverse Forward switch.

#### Ingress Protection:

IP50 Class of protection from front for user safety during normal operation



### Application

This switches have wide application in motor control for Forward Reverse of motor with 2pole & 3pole option.

### Product Ranges

| Sr. No. | Motor  | Angle | Ampere Rating |     |     |     | No. of Stack |
|---------|--------|-------|---------------|-----|-----|-----|--------------|
|         |        |       | 25A           | 32A | 40A | 63A |              |
| 1       | 2 Pole | 45D   | ✓             | ✓   | ✓   | ✓   | 2            |
|         |        | 60D   | ✓             | ✓   | ✓   | ✓   |              |
| 2       | 3 Pole | 45D   | ✓             | ✓   | ✓   | ✓   | 3            |
|         |        | 60D   | ✓             | ✓   | ✓   | ✓   |              |



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### Technical Data

|  |   |  |
|--|---|--|
| <b>Conformance to standards :</b>                    | <b>Operating Conditions :</b>   | <b>Switch Life :</b>   |
| European : IEC 60947-1<br>IEC 60947-3<br>IEC 60947-5 | Frequency : 50/60 Hz<br>Operating Temp. : -25 °C to 60 °C<br>Over voltage category : III<br>Storage : -40 °C to 80 °C<br>Max. Altitude : 2000 m<br>IP: 50 Front | Mechanical Life : 1 Lac operations @ 300 Cycles/hr<br>Electrical Life : 10,000 operations @ 100% Rated duty at 120 cycles/hr<br>Contacts : Double break type AgNi<br>Double break type AgCdO |
| Indian : IS 13947-1/3/5                              |   |  |

| Parameter  | Unit     | 25A    | 32A  | 40A  | 63A  |      |
|--|----------|--------|------|------|------|------|
| Rated operational voltage (Ue)                             | V        | 690    | 690  | 690  | 690  |      |
| Rated Insulation voltage (Ui)                              | V        | 690    | 690  | 690  | 690  |      |
| Rated operational current (Ie)                             | A        | 25     | 32   | 40   | 63   |      |
| Conventional free air thermal current (Ith)                | A        | 25     | 32   | 40   | 63   |      |
| Rated Impulse withstand voltage (Uimp)                     | KV       | 6      | 6    | 6    | 6    |      |
| Rated short time withstand current (Icw) (1s- Current)     | A        | 300    | 384  | 480  | 756  |      |
| Rated Fuse short circuit current                           | KA       | 10     | 10   | 10   | 10   |      |
| Fuse size (Type gG /gM)                                    | A        | 25     | 32   | 50   | 63   |      |
| AC-23A 3phase  | 220-240V | KW     | 4.7  | 5.5  | 7.5  | 11   |
| Frequent switching of motors or other high inductive load. | 380-440V | KW     | 7.5  | 11   | 15   | 18.5 |
|  | 500V     | A      | -    | -    | -    | -    |
|  | 660-690V | KW     | 11   | 15   | 18.5 | 22   |
| AC-23A 1phase  | 110V     | KW     | 1.5  | 2.2  | 2.2  | 3    |
| Frequent switching of motors or other high inductive load. | 220-240V | KW     | 3    | 3.7  | 5.5  | 7.5  |
|  | 380-440V | KW     | 5.5  | 7.5  | 7.5  | 11   |
| AC-3 3phase  | 220-240V | KW     | 4.7  | 5.5  | 7.5  | 11   |
| Direct on-line starting                                    | 380-440V | KW     | 7.5  | 11   | 15   | 18.5 |
|  | 500V     | KW     | 11   | 15   | 18.5 | 22   |
|  | 600-690V | KW     | 11   | 15   | 18.5 | 22   |
| AC-3 1phase  | 110V     | KW     | 1.5  | 2.2  | 2.2  | 3    |
| Direct on-line starting.                                   | 220-240V | KW     | 3    | 3.7  | 5.5  | 7.5  |
|  | 380-440V | KW     | 5.5  | 7.5  | 7.5  | 11   |
| AC-21A/AC1   |          | A      | 25   | 32   | 40   | 63   |
| AC-15  | 220-240V | A      | 8    | 14   | 16   | 16   |
| Switching of control devices,Contactors.                   | 380-440V | A      | 5    | 6    | 7    | 7    |
| AC-4 3 phase   | 220-240V | KW     | 1.5  | 2.5  | 3.7  | 5.5  |
| Direct on-line starting,Reversing,plugging and inching.    | 380-440V | KW     | 3    | 5.5  | 6    | 7.5  |
|  | 500V     | KW     | 3    | 5.5  | 6    | 7.5  |
|  | 660-690V | KW     | 3    | 5.5  | 6    | 7.5  |
| AC-4 1 phase   | 110-120V | KW     | 0.45 | 0.75 | 1.1  | 1.2  |
| Direct on-line starting,Reversing,plugging and inching.    | 220-240V | KW     | 1.1  | 1.5  | 2.2  | 2.4  |
|  | 380-440V | KW     | 2.2  | 3    | 3.7  | 4    |
| <b>Terminal cross -section</b>                             |          |        |      |      |      |      |
| Single / Multiple (Prepared with Lug)                      | Min      | mm2    | 2.5  | 2.5  | 4    | 4    |
|  | Max      | mm2    | 4    | 6    | 10   | 16   |
| Fine strand with sleeve (Prepared with Lug)                | Min      | mm2    | 1.5  | 1.5  | 2.5  | 2.5  |
|  | Max      | mm2    | 4    | 4    | 6    | 16   |
| Terminal screw   |          | Metric | M4   | M4   | M4   | M4   |
| Terminal tightening torque                                 |          | Nm     | 1.2  | 1.2  | 1.2  | 1.2  |

\* Rated short time withstand current (0.5s- current)



Measure



Control



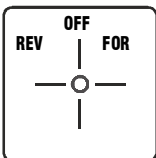
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### Ordering Information

|                                |          |           |          |          |           |          |          |          |          |           |
|--------------------------------|----------|-----------|----------|----------|-----------|----------|----------|----------|----------|-----------|
| <b>CRFX</b>                    | <b>X</b> | <b>XX</b> | <b>X</b> | <b>X</b> | <b>XX</b> | <b>X</b> | <b>X</b> | <b>X</b> | <b>X</b> | <b>XX</b> |
| CRF1-Reverse Forward           |          |           |          |          |           |          |          |          |          |           |
| <b>Ampere Rating Code</b>      |          |           |          |          |           |          |          |          |          |           |
| D : 25A                        | <b>E</b> |           |          |          |           |          |          |          |          |           |
| E : 32A                        | <b>F</b> |           |          |          |           |          |          |          |          |           |
| F : 40A                        | <b>G</b> |           |          |          |           |          |          |          |          |           |
| G : 63A                        | <b>G</b> |           |          |          |           |          |          |          |          |           |
| <b>Positioning Angle</b>       |          |           |          |          |           |          |          |          |          |           |
| 45 :45 Degree                  |          | <b>45</b> |          |          |           |          |          |          |          |           |
| 60 :60 Degree                  |          | <b>60</b> |          |          |           |          |          |          |          |           |
| <b>Rotation Angle</b>          |          |           |          |          |           |          |          |          |          |           |
| L:Less than 360 rotation Angle |          |           | <b>L</b> |          |           |          |          |          |          |           |
| <b>No of pole</b>              |          |           |          |          |           |          |          |          |          |           |
| 2 : 2 Pole                     |          |           |          | <b>2</b> |           |          |          |          |          |           |
| 3 : 3 Pole                     |          |           |          | <b>3</b> |           |          |          |          |          |           |
| <b>No of Ways</b>              |          |           |          |          | <b>XX</b> |          |          |          |          |           |
| <b>With OFF</b>                |          |           |          |          |           | <b>O</b> |          |          |          |           |
| <b>Knob Shape</b>              |          |           |          |          |           |          | <b>F</b> |          |          |           |
| <b>Front Plate Colour</b>      |          |           |          |          |           |          |          |          |          |           |
| S: Silver Sheet & Black Knob   |          |           |          |          |           |          | <b>S</b> |          |          |           |
| Y: Yellow Sheet & Red Knob     |          |           |          |          |           |          | <b>Y</b> |          |          |           |
| <b>Blank</b>                   |          |           |          |          |           |          |          |          | <b>0</b> |           |
| <b>Customer Specification</b>  |          |           |          |          |           |          |          |          |          | <b>00</b> |



| Sr.No | Ordering Code      | Description                |
|-------|--------------------|----------------------------|
| 1     | CRF1-G60L3XXOFS000 | Reverse forward 3P 60D 63A |
| 2     | CRF1-G60L2XXOFS000 | Reverse forward 2P 60D 63A |



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All specifications are subject to change without notice



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## RISHABH INSTRUMENTS PVT. LTD.

Domestic (India): +91 253 2202028/99 | [marketing@rishabh.co.in](mailto:marketing@rishabh.co.in)

International: +91 253 2202004/06/08/99 | [global@rishabh.co.in](mailto:global@rishabh.co.in)

[www.rishabh.co.in](http://www.rishabh.co.in)