TEKNIC

CE

ROTARY CAM SWITCHES

TEKNIC

ROTARY CAM SWITCHES

CONTENT PAGE NO.

INTRODUCTION

Teknic introduces a complete range of Rotary Cam Switches in the 6 &10 Amp current rating category, to meet all the requirements of the electrical industry. This is a CE marked product, in accordance with the applicable standard IEC 60947-3. Our switches have a finger proof and robust design, thereby providing an optimum performance guarantee. The unique product design enables a quick installation of the product, and a safe operation life. This product can be used effectively in a wide range of Electrical, Electronics & Instrumentation applications viz Control Panels, Elevator Industry, Motor Control, Automation & Machinery.

Teknic Rotary Cam Switches offer complete design flexibility to assemble complex switching programs, contact ratings and customize all switching applications. It is suitable for AC switching applications.

SALIENT FEATURES:

- Quick installation
- Safe operation
- Robust design
- Wide application e.g. elevator industries, motor control, automation, machineries etc.
- Standard & Customized legends possible
- Optimum performance
- Choice of multiposition/multiple circuits
- Used for measuring application

GENERAL CHARACTERISTICS:

It's a manual cam operated control switch assembled on packet principle with wide application in electrical, electronics & instrumentation equipment's. It is available with minimum one & maximum six packets. Different cams are used for making breaking depending upon contact sequence. The Cam, which closes and opens the contacts, has rotary movement to multiple positions, thereby multiple Circuit functions can be controlled. Further, the flexibility in the switch type selection covering various current /voltage ratings and options to select the number of contacts, is added advantage. This ensures that a right switch is chosen for the desired application.

CONSTRUCTION: Each packet has two sets of double break bimetal rivet contact for effective making & breaking. Packets are made from insulating material that can withstand mechanical & electrical stresses & have excellent electrical properties.

SWITCHING ANGLE: It is used to perform Make and Break operation in a sequential way by rotating the switch to different positions. Switching angle 30, 45 & 90 are available depending upon number of positions.

MOUNTING: Available in panel mounting version. Fixing centers are: 36X36 & 25X30

WARRANTY: 12 months from the date of supply against manufacturing defects.

AVAILABLE TYPES: Available in momentary, stay put & combination of momentary & stay put. Also available without flange. Knob plate combination given in chart in ordering code. Flange available in yellow, grey, black & silver. Knobs available in regular & extended type in red & black colour.

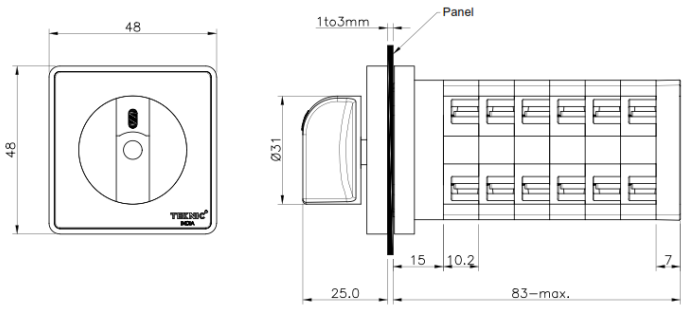
DEGREE OF PROTECTION: IP40 as per IEC 60529
: IP65 as per IEC 60529 with Gasket provided on request

DEGREE OF POLLUTION : 3

APPLICABLE STANDARDS: IEC 60947-3
: IEC 60204-1

PRODUCT CERTIFICATION: As per IEC 60947-3 (CE)

MECHANICAL CHARACTERISTICS:

FUNCTION INDICATOR		**:** Arrow indication on the knob : Marking on Legend plates (customized available on request)
TERMINAL CAPACITY		: 1 X 2.5mm² : 2 X 1.0 mm²
TERMINAL MARKING		: Alphanumeric
TERMINAL TORQUE	Nm	: 0.8
CONTACT MATERIAL		: Brass terminal (for regular applications)/ Bimetal rivet(Silver/Nickel/Cu) : Contact material for Low voltage/Low Current options available on request
OPERATION		: Slow break (NO/NC)
OPERATING TORQUE	Nm	: 11
POSITIVE OPERATION CONFORMING TO IEC/EN 60947-5-1 APPENDIX K		: All functions incorporating a NC contact are positive opening operation
MECHANICAL LIFE		: 2,00,000 operations
AMBIENT	°C	: -25 to + 70
STORAGE	°C	: -25 to + 40
OVERALL DIMENSIONS WITH SKETCH (LXBXH)	mm	: 
WEIGHT	gms	: 65 + 18 for every packet

ELECTRICAL CHARACTERISTICS:

MAKE & BREAK CAPACITY		Utilization category: AC21; Rating: 10A; : 3phase 415V 10A — Utilization category: AC23A; Rating: 415V 2.2kW
RATED INSULATION VOLTAGE	V	: 500
RATED OPERATING VOLTAGE	V	: 415/440 VAC 3 Phase
RATED THERMAL CURRENT	A	: 12
LOW POWER APPLICATION		: Low voltage/Low Current options for infrequent applications available on request (<25mA)
DIELECTRIC TEST	KV	: 2.5
APPROVALS REGARDING THE PART		: as per IEC 60947-3 - Complied
POLYMERIC PARTS		: UL-Recognized material
ELECTRICAL ENDURANCE		: at rated current over 50000 operations
RATED IMPULSE WITHSTAND	KV	: 4

ORDERING CODES:

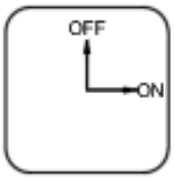
The ordering code for each product is mentioned in the Catalogue/Data Sheet and not indicated on each product because of the various combinations possible it becomes practically impossible to do so. However the primary packing box always mentions the ordering code of the material it holds.

E.g. R10-A12300-Y

R10-	A	1	2	3	00	-Y
Rotary Cam Switch 10A Will be R6 for 6 Amp	Number of Ways A= 1 Way B= 2 Way C= 3 Way D= 4 Way E= 5 Way F= 6 Way G= 7 Way H= 8 Way J= 9 Way K= 10 Way L= 11 Way M= 12 Way R=Ammeter V=Voltmeter	Number of poles per position	Number of discs	Degree of rotation 3=30°with OFF 4=45° with OFF 6=60° with OFF 9=90° with OFF T=30° NO OFF F=45° NO OFF S=60°NO OFF N=90°NO OFF	Combinations of Legends & Functions ANNEXURE A	Knob plate combination

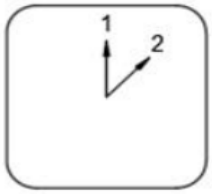
Code	Knob	Plate
Y	Regular Red	Yellow
K	Regular Black	Black
G	Regular Black	Grey
S	Regular Black	Silver
L	Regular Black	Yellow
BY	Extended Black	Yellow
RY	Extended Red	Yellow
BB	Extended Black	Black
BG	Extended Black	Grey
BS	Extended Black	Silver

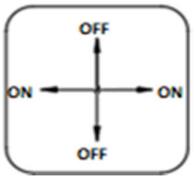
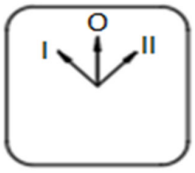
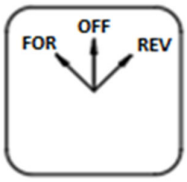
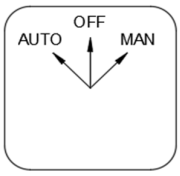
ON – OFF SWITCHES:

DESCRIPTION	POLES	6 AMPS ITEM CODE	10 AMPS ITEM CODE
ON-OFF			
	1	R6-A11901-Y	R10-A11901-Y
	2	R6-A21901-Y	R10-A21901-Y
	3	R6-A32901-Y	R10-A32901-Y
	4	R6-A42901-Y	R10-A42901-Y

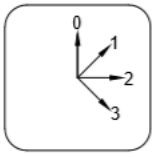
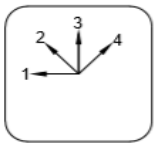
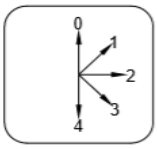
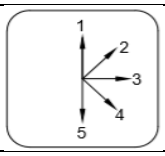
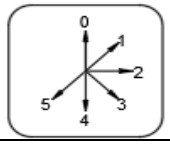
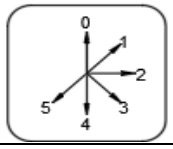
CHANGE OVER SWITCHES:

CHANGE OVER SWITCHES:

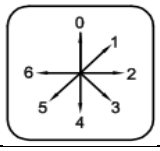
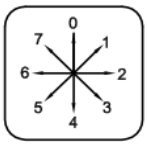
DESCRIPTION	POLES	6 AMPS ITEM CODE	10 AMPS ITEM CODE
2 WAY NO OFF			
	1	R6-B11N02-Y	R10-B11N02-Y
	2	R6-B22N02-Y	R10-B22N02-Y
	3	R6-B33N02-Y	R10-B33N02-Y
	4	R6-B44N02-Y	R10-B44N02-Y
	1	R6-B11F13-Y	R10-B11F13-Y
	2	R6-B22F13-Y	R10-B22F13-Y
	3	R6-B33F13-Y	R10-B33F13-Y
	4	R6-B44F13-Y	R10-B44F13-Y

DESCRIPTION	POLES	6 AMPS ITEM CODE	10 AMPS ITEM CODE
2 WAY WITH OFF			
	1	R6-B11903-Y	R10-B11903-Y
	2	R6-B22903-Y	R10-B22903-Y
	3	R6-B33903-Y	R10-B33903-Y
	4	R6-B44903-Y	R10-B44903-Y
	1	R6-B11401-Y	R10-B11401-Y
	2	R6-B22401-Y	R10-B22401-Y
	3	R6-B33401-Y	R10-B33401-Y
	4	R6-B44401-Y	R10-B44401-Y
	1	R6-B114-14-Y	R10-B114-14-Y
	2	R6-B224-14-Y	R10-B224-14-Y
	3	R6-B334-14-Y	R10-B334-14-Y
	4	R6-B444-14-Y	R10-B444-14-Y
	1	R6-B11415-Y	R10-B11415-Y
	2	R6-B22415-Y	R10-B22415-Y
	3	R6-B33415-Y	R10-B33415-Y
	4	R6-B44415-Y	R10-B44415-Y
	1	R6-B11416-Y	R10-B11416-Y
	2	R6-B22416-Y	R10-B22416-Y
	3	R6-B33416-Y	R10-B33416-Y
	4	R6-B44416-Y	R10-B44416-Y
3 WAY NO OFF			
	1	R6-C12F02-Y	R10-C12F02-Y
	2	R6-C23F02-Y	R10-C23F02-Y
	3	R6-C35F02-Y	R10-C35F02-Y
	4	R6-C46F02-Y	R10-C46F02-Y

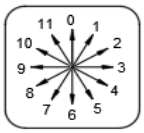
MULTI STEP SWITCHES:

DESCRIPTION	*POLES*	*6 AMPS* *ITEM CODE*	*10 AMPS* *ITEM CODE*
3 WAY WITH OFF			
	**1**	**R6-C12403-Y**	**R10-C12403-Y**
	2	**R6-C23403-Y**	**R10-C23403-Y**
	3	**R6-C35403-Y**	**R10-C35403-Y**
	4	**R6-C46403-Y**	**R10-C46403-Y**
4 WAY NO OFF			
	**1**	**R6-D12F04-Y**	**R10-D12F04-Y**
	2	**R6-D24F04-Y**	**R10-D24F04-Y**
	3	**R6-D36F04-Y**	**R10-D36F04-Y**
4 WAY WITH OFF			
	**1**	**R6-D12405-Y**	**R10-D12405-Y**
	2	**R6-D24405-Y**	**R10-D24405-Y**
	3	**R6-D36405-Y**	**R10-D36405-Y**
5 WAY NO OFF			
	**1**	**R6-E13F06-Y**	**R10-E13F06-Y**
	2	**R6-E25F06-Y**	**R10-E25F06-Y**
5 WAY WITH OFF 	**1**	**R6-E13407-Y**	**R10-E13407-Y**
	2	**R6-E25407-Y**	**R10-E25407-Y**
6 WAY NO OFF 	**1**	**R6-F13F08-Y**	**R10-F13F08-Y**
	2	**R6-F26F08-Y**	**R10-F26F08-Y**

MULTI STEP SWITCHES:

DESCRIPTION	POLES	6 AMPS ITEM CODE	10 AMPS ITEM CODE
6 WAY WITH OFF 	1	R6-F13409-Y	R10-F13409-Y
	2	R6-F26409-Y	R10-F26409-Y
7 WAY NO OFF 	1	R6-G14F10-Y	R10-G14F10-Y
7 WAY WITH OFF 	1	R6-G14411-Y	R10-G14411-Y
8 WAY NO OFF 	1	R6-H14F12-Y	R10-H14F12-Y
8 WAY WITH OFF 	1	R6-H14301-Y	R10-H14301-Y
9 WAY NO OFF 	1	R6-J15T02-Y	R10-J15T02-Y
9 WAY WITH OFF 	1	R6-J15303-Y	R10-J15303-Y
10 WAY NO OFF 	1	R6-K15T04-Y	R10-K15T04-Y

MULTI STEP SWITCHES:

DESCRIPTION	*POLES*	*6 AMPS*	*10 AMPS*
		ITEM CODE	*ITEM CODE*
10 WAY WITH OFF 	**1**	**R6-K15305-Y**	**R10-K15305-Y**
11 WAY NO OFF 	**1**	**R6-L16T06-Y**	**R10-L16T06-Y**
11 WAY WITH OFF 	**1**	**R6-L16307-Y**	**R10-L16307-Y**
12 WAY NO OFF 	**1**	**R6-M16T08-Y**	**R10-M16T08-Y**

DIMENSIONAL DRAWING:

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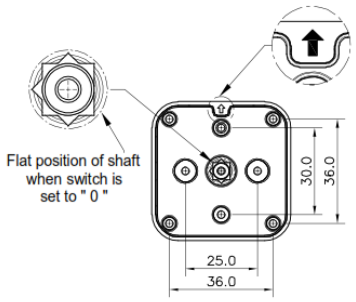
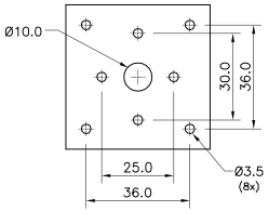
(TEKNIC Group Company)

Rotary Cam Switch - Installation Manual
Standard Switches

DS : QA : 160
Rev - A
Page - 1 of 2



Switch Mounting Details
8 holes - for self threading screw - M3x9 mm



Drilling Plan

Caution - To prevent electrical shock,disconnect from power source before installing or servicing

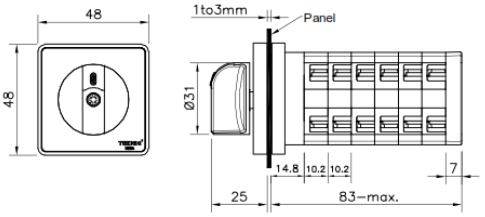
Use copper conductors only - 60 / 75°C Stranded or Solid

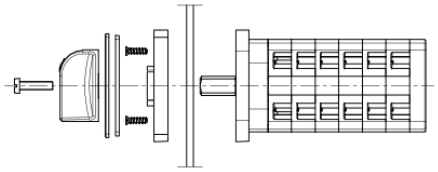
Terminal Capacity - 1x2.5 sq.mm / 2x1.0 sq.mm

Terminal Torque - 0.8 N-m

IP - 40 as per IEC 60529 , IP - 65 as per IEC 60529 (on request)

Class of protection against electric shock - 2





CONNECTIONS:

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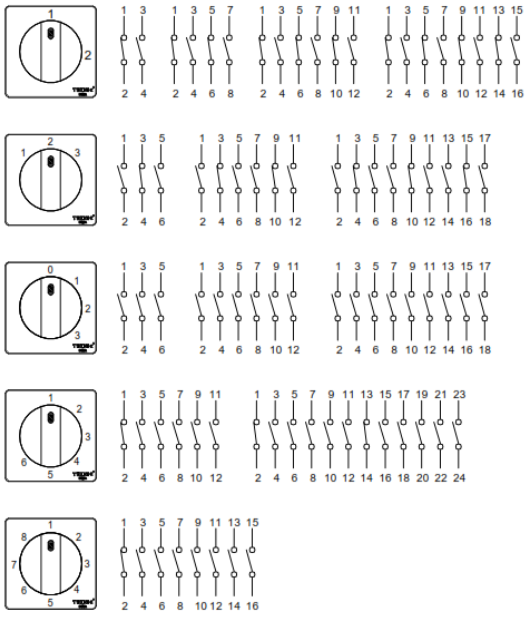
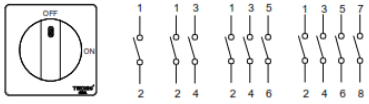
DS : QA : 160
Rev - A
Page - 2 of 2

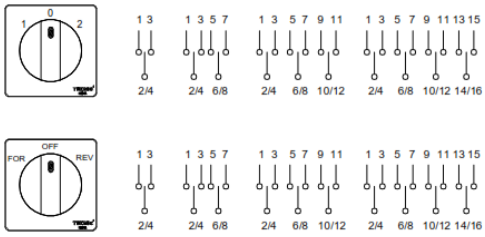
Step Switch



ON - OFF Switch



Changeover Switch



Contact us for any information
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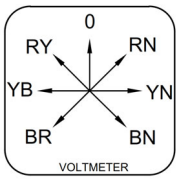
email : teknic@teknic.co.in
website : www.teknic.co.in

VOLTAGE SELECTOR SWITCHES:

3 PHASE-PHASE & 3 PHASE-NEUTRAL

DESCRIPTION	*POLES*	*6 Amps*	*10 Amps*
		ITEM CODE	*ITEM CODE*
	**2**	**R6-V23401-Y**	**R10-V23401-Y**

CONNECTIONS:

Disc	Terminal Marking	Contact	BR	YB	RY	0	RN	YN	BN
			Position						
3	N	11 - 12					X	X	X
	R	9 - 10	X		X		X		
2		7 - 8			X				
	Y	5 - 6		X				X	
1	V2	3 - 4	X	X					
	V1 B	1 - 2							X

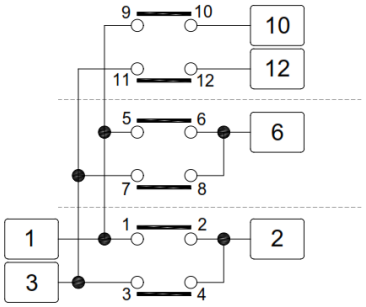
Open Contact

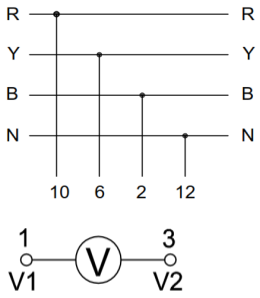
X Closed Contact

X Break before Make
X

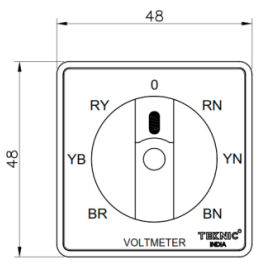
X X Contact closed No interruption during change over

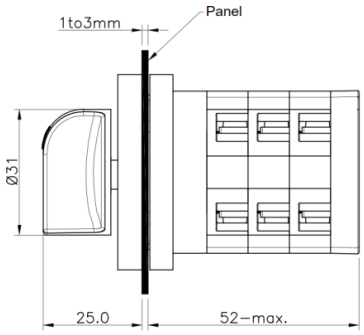
WIRING DIAGRAM:





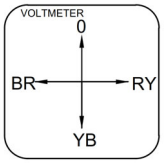
DIMENSIONAL DRAWING:



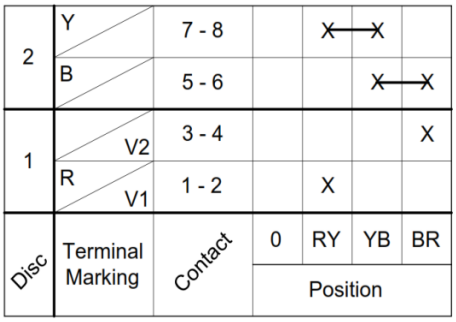


VOLTAGE SELECTOR SWITCHES:

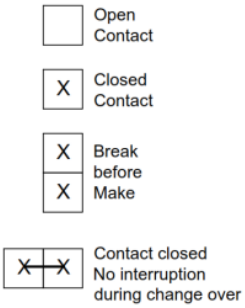
3 PHASE

DESCRIPTION	*POLES*	*6 Amps*	*10 Amps*
		ITEM CODE	*ITEM CODE*
	**2**	**R6-V22902-Y**	**R10-V22902-Y**

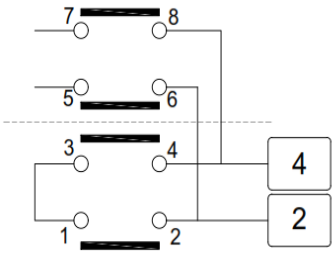
CONNECTIONS:

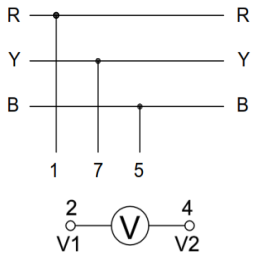


Disc	Terminal Marking	Contact	0	RY	YB	BR
			Position			
2	Y	7 - 8		X	X	
	B	5 - 6			X	X
1	V2	3 - 4				X
	R V1	1 - 2		X		

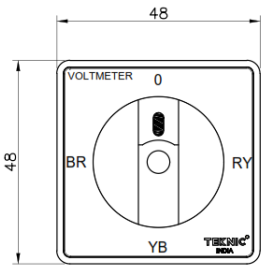


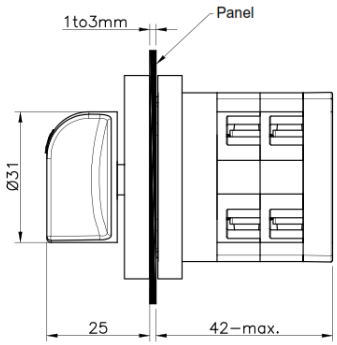
WIRING DIAGRAM:





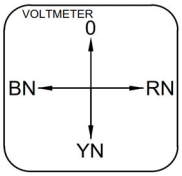
DIMENSIONAL DRAWING:



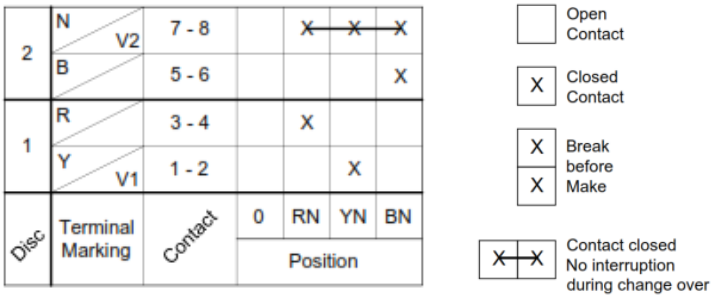


VOLTAGE SELECTOR SWITCHES:

3 PHASE-NEUTRAL

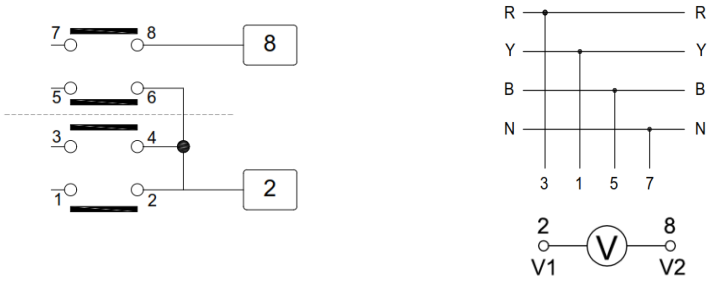
DESCRIPTION	*POLES*	*6 Amps*	*10 Amps*
		ITEM CODE	*ITEM CODE*
	**2**	**R6-V22903-Y**	**R10-V22903-Y**

CONNECTIONS:

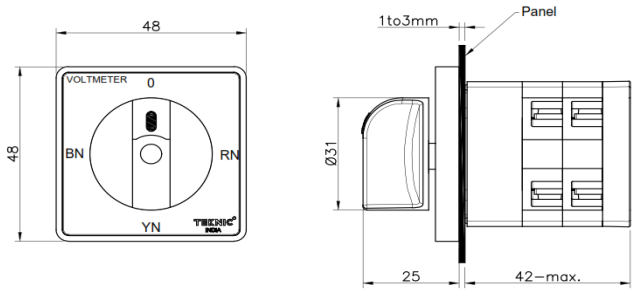


Note: Neutral with Early Make – Late Break

WIRING DIAGRAM:

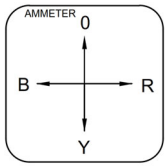


DIMENSIONAL DRAWING:

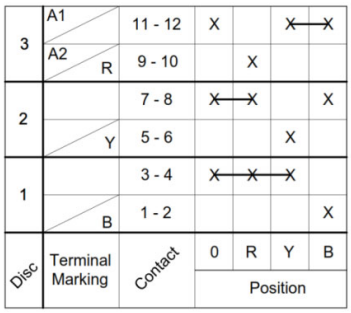


AMMETER SELECTOR SWITCHES:

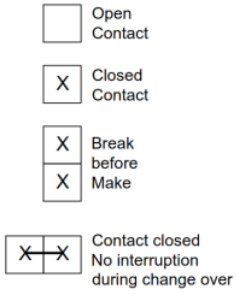
CURRENT IN EACH PHASE WITH OFF

DESCRIPTION	*POLES*	*6 Amps*	*10 Amps*
		ITEM CODE	*ITEM CODE*
	**3**	**R6-R33901-Y**	**R10-R33901-Y**

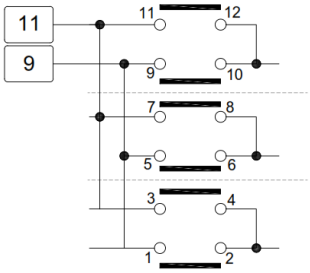
CONNECTIONS:

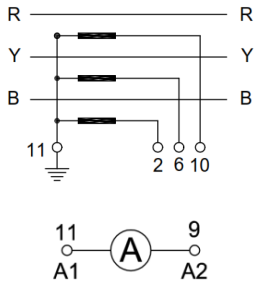


Disc	Terminal Marking	Contact	0	R	Y	B
			Position			
3	A1	11 - 12	X		X—X	
	A2 R	9 - 10		X		
2		7 - 8	X—X			X
	Y	5 - 6			X	
1		3 - 4	X—X—X			
	B	1 - 2				X

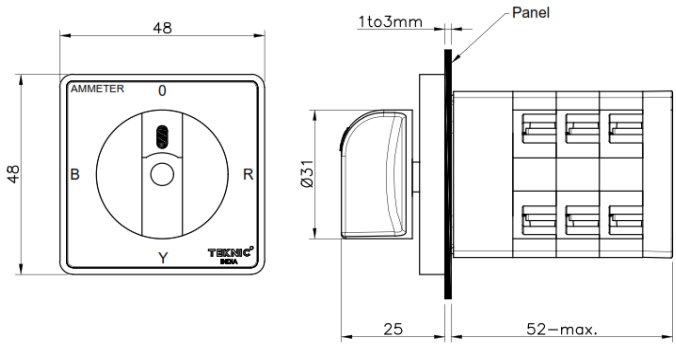


WIRING DIAGRAM:





DIMENSIONAL DRAWING:



ANNEXURE-A (LEGEND PLATE):

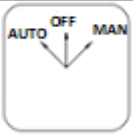
30 Degree Switch

Legend Plate No.	Legend Plate Marking
01	
02	
03	
04	
05	
06	
07	
08	

45 Degree Switch

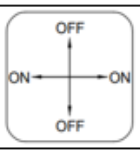
Legend Plate No.	Legend Plate Marking
01	
02	
03	
04	
05	
06	
07	
08	

45 Degree Switch

Legend Plate No.	Legend Plate Marking
09	
10	
11	
12	
13	
14	
15	
16	

ANNEXURE-A (LEGEND PLATE):

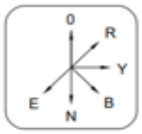
90 Degree Switch

Legend Plate No.	Legend Plate Marking
01	
02	
03	

VSS

Legend Plate No.	Legend Plate Marking
01	
02	
03	

ASS

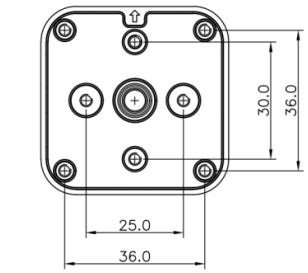
Legend Plate No.	Legend Plate Marking
01	
02	

MOUNTING INSTRUCTION:

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.

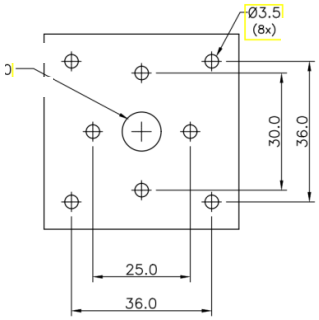
Ensure that this Rotary Cam switch will operate fully after installation. Failure to follow these will result in death or serious injury.

Mounting	: Fixing Centers: 30mm X 25mm Min. : Mounting Panel thickness: 1mm to 3mm : Fixing Centers: 36mm X 36mm min.



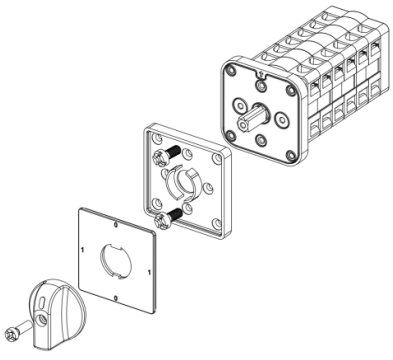
Switch Mounting Details

8 holes - for self threading screw - M3x9 mm



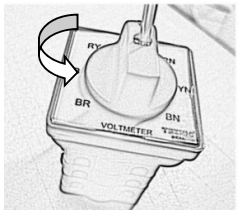
Drilling Plan

Drilling Plan

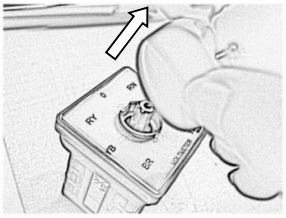


No of elements possible	: 6 Packets maximum

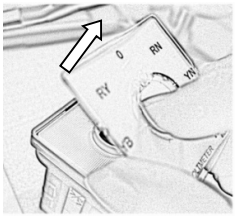
TO INSTALL:



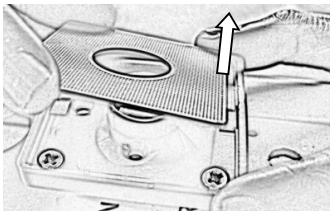
Remove the screw on the knob by turning in anticlockwise direction



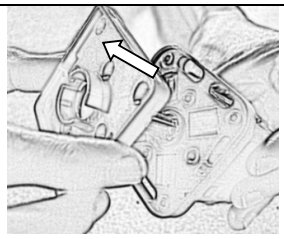
Remove the knob by pulling it up



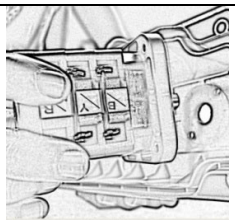
Remove the transparent legend plate taking care of the markings on it



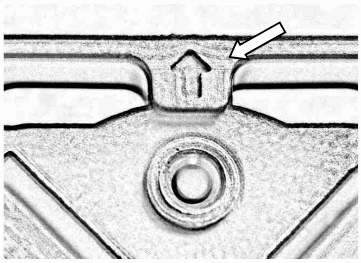
Remove the opaque inner plate



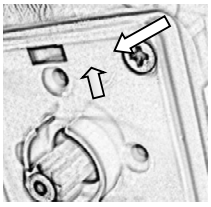
Remove the yellow flush plate



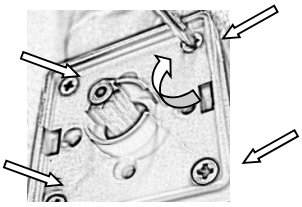
Align the shaft of the rotary switch with the panel hole.



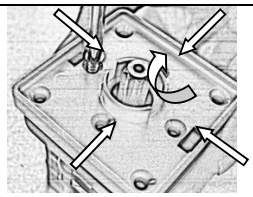
Align the arrow on the rotary cam switch body top position on the panel



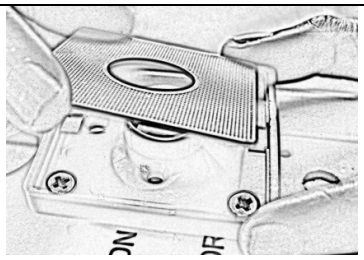
Align the arrow of the yellow flush plate with the arrow. Mount the yellow flush plate from above the panel.



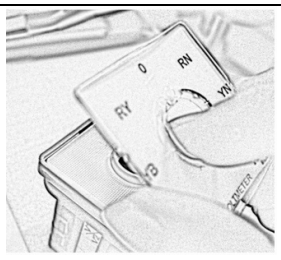
Tighten the panel fixing screws provided with the switch as a kit



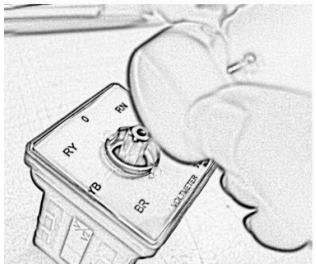
Alternatively you may use the other four holes for fixing the screws



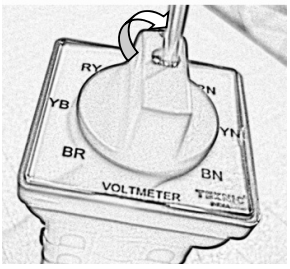
Place the opaque inner plate back on the yellow flush plate



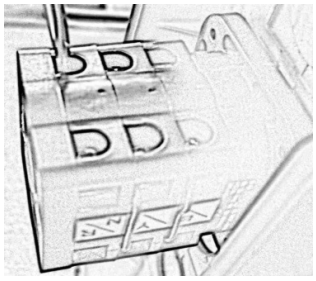
Place the transparent legend plate taking care of the projections provided & the readability of the legends



Place back the selector knob

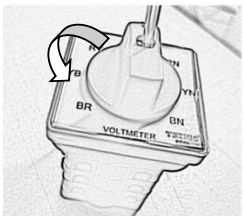


Tighten the screw of the selector knob in clockwise direction with a torque of 1.2Nm

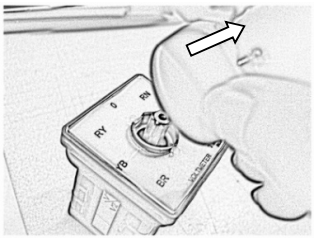


The unit is ready for wiring

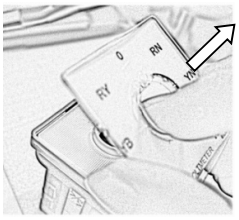
TO UNINSTALL:



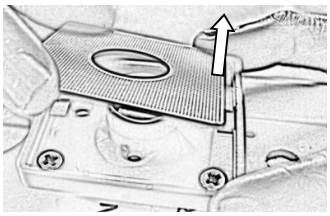
Remove the wiring. Remove the screw on the knob by turning in anticlockwise direction



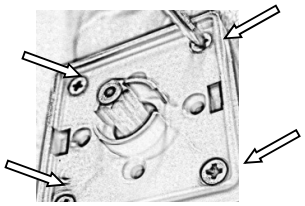
Remove the knob by pulling it up



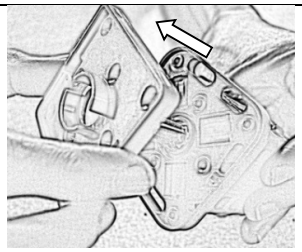
Remove the transparent legend plate taking care of the markings on it



Remove the opaque inner plate



Remove the panel fixing screws



Remove the yellow flush plate