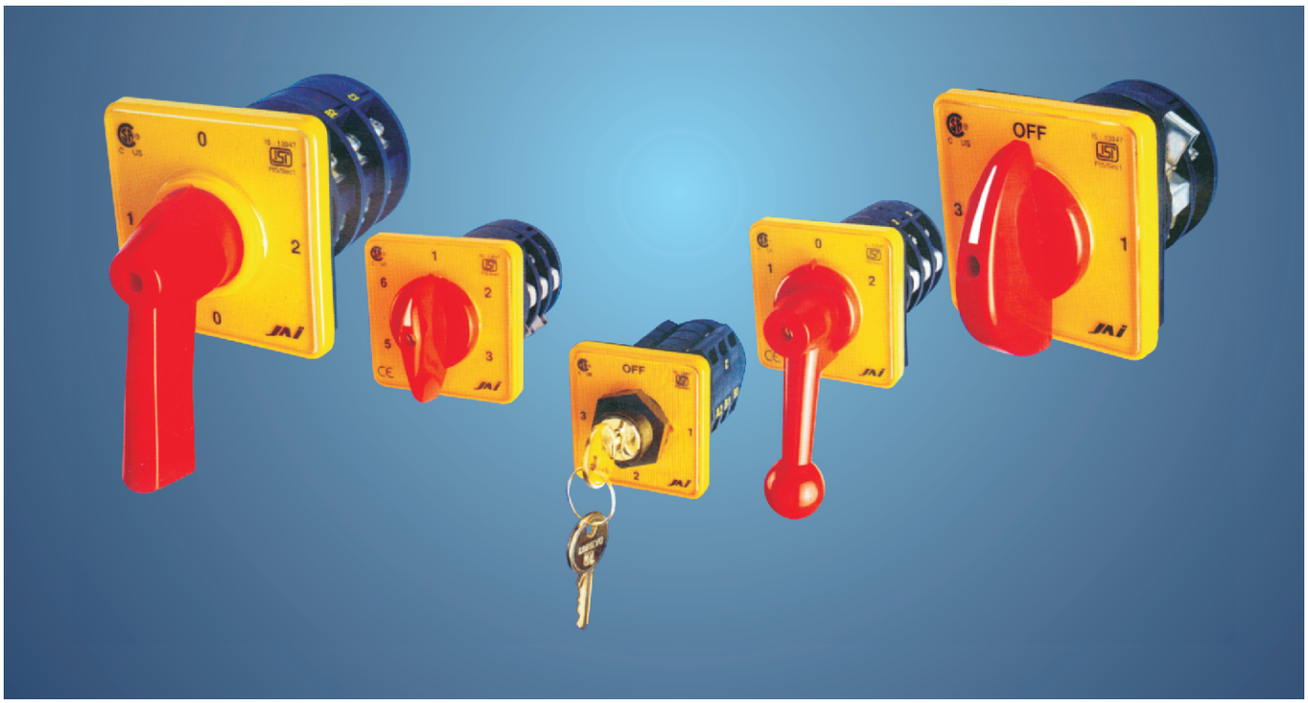
CAM OPERATED ROTARY SWITCHES



JMI Cam operated Rotary Switches are in great demand owing to their sophistication and the marks of ISI, SI and CE. Manufactured on the basis of latest concepts in switching technology, JMI switches are guaranteed for greater reliability in performance. Made to suit various circuits of multi- pole and multi-positions, JMI switches enable easy hand operation. JMI Cam operated Rotary Switches are designed for ON LOAD switching and assembled on add-n-block systems and are used for various applications.

Range

Switches are available up to 12 positions with 30°, 45°, 60° & 90° switching angles.

Instrument switches like Voltmeter/ Ammeter selector switches are available Phase to Phase, Phase to Neutral with off or without off, Direct and through CT operated to read Voltage and Amperage respectively.

Range of products includes Phase Change over, Forward/Reverse with single or Double speed, Star Delta switches for smooth change over and other Motor Control Applications.

These switches are available with Sheet Steel or Aluminium Housing.

APPROXIMATE DIMENSIONS. NOT FOR CONSTRUCTION

Amps	Other diameters O.D.	Adapter plate A.P	Position block P.B	Contact Block (C.B.)												Contact cover C.C	CAP C.C
				1	2	3	4	5	6	7	8	9	10	11	12		
10 Amps	035	-	11.0	9.5	19.0	28.5	38.0	47.5	57	66.5	76	8.5	95	104.5	114	4.0	5.0
10 Amps	046.5	8.0	12.0	12.0	24	36	48	60	72	84	96	108	120	132	114	4.0	7.5
10 Amps	050	8.0	13.5	15.0	30	45	60	75	90	105	120	135	150	165	180	3.5	7.5
10 Amps	070	10.0	14.5	21.3	42.6	63.9	85.2	106.5	127.8	149.1	170.4	191.7	21.3	234.3	255.6	4.5	9.0

Back of panel mounting size (length) = AP+ PB+CB+C.C+C.= + 0.5 mm

Note: Exclude Thickness Of Adapter plate (A.P) for plastic version dimensions.

CAM OPERATED ROTARY SWITCHES

Mounting

Two types of mounting plates for flush back of panel mounting are available with different dimensions.

Indicating plate

Elegant and aesthetic indicating plates made of plastic are provided with attractive colour combination. Other colour combinations indicating plates are provided on request.

Specification

JNi Cam Operated Rotary Switches comply with IS 13947/Part5/Sec.1 of 1993 & JEC 947-5-1 and carry unique **ISI** mark.

JNi Cam Operated Rotary Switches are certified by **CSA** International, Canada, US and they conform to European Standards **CE**.

Temperature

JNi Cam Operated Rotary Switches are recommended for use up to 55° C ambient temperature, and they will withstand hot falling sand up to 300° F.

High Voltage

All switches withstand a test of 2.5 KV for one minute between phase and earth and between terminals when the switch is off.

Construction

JNi Cam operated Rotary switches are units of contact blocks assembled on add-on block system, supported by a hexagonal operating centre shaft. High quality insulating materials are used to withstand Mechanical & Electrical stress and have excellent effective properties.

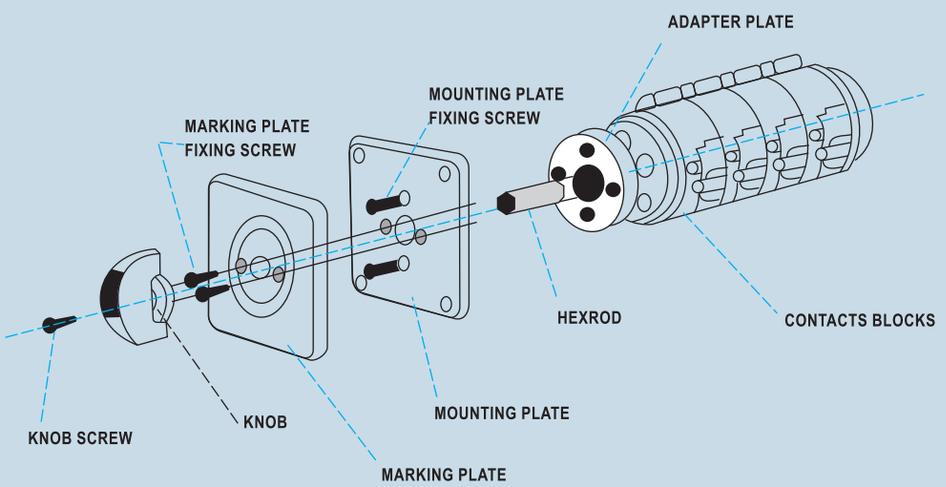
Contact blocks are made of Engineering grade plastic to increase the hfe, insulation and mechanical strength.

Switches are provided with two independent sets of double break type contacts with silver contact tips. For perfect making and breaking, stainless steel springs are provided.

Different types of Cams are used for different contact sequences.

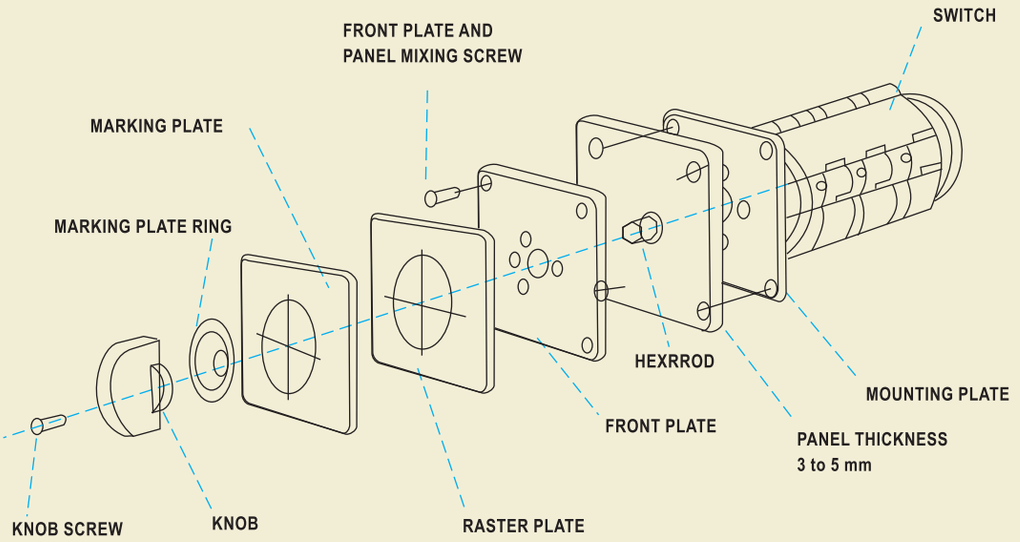
Beautiful and sleek knobs or handles are provided for smooth operation of making and breaking.

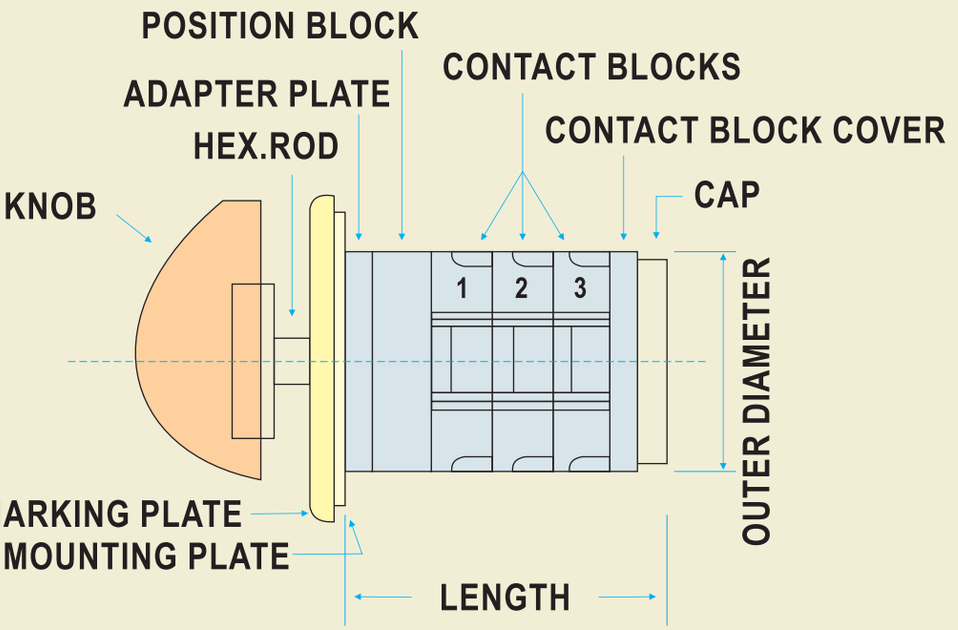
Metal Plate Assembly



Assembly drawing

Plastic Plate Assembly





CAM OPERATED ROTARY SWITCHES

Technical specifications

Generallyconforms to the specification of Low Voltage switchgear and control gear IS 13947 (part 5/Sec-1)1993 IEC 947-5-1 AC 15/DC 13.

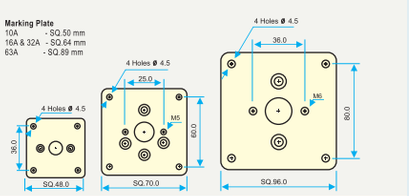
Mechanical life	: 3 million operations
Maximum switching cycle	: Class 300 (300 operations/hour)
Class of mechanical durability	: 3
Operating temperature	: -25 C to +55 C
Rated voltage	: 415 V AC/240 V DC
Rated impulce voltage	: 1.5 KV
Frequency	: 50 Hz
Rated insulation voltage	: 600 V AC
Polution degree.	: 3

AMPS		10	16	32	63
AC APPLICATION - Continuous Current Ith (open)	A	12.5	20	40	80
Duty - @415V, 50 Hz					
AC-1	A	10	16	32	63
AC-2	A	8	10	20	40
AC-3	A	3	8	12	25
AC-4	A	2.5	4	8	16
AC-15	A	2.5	4	8	10
AC-21A	A	12	20	40	80
AC-22A	A	10	16	32	63
AC-23A	A	5	8	16	32
DC Application@240V		1.5	3	6	12
DC-1	A	0.75	1.2	2.5	5
DC-3	A	0.75	1	2	4
DC-5	A	0.75	1.5	3	6
DC-13	A	0.75	1.2	2.5	5
DC-23A	A				
Terminal cross section					
SINGLE STRAND mm2		2	4	6	16
SINGLE STRAND mm2		1.5	2.5	4	10

* Duty rating according to IS 13947 (pt.5/Sec-1): 1993/IEC 947-5-1

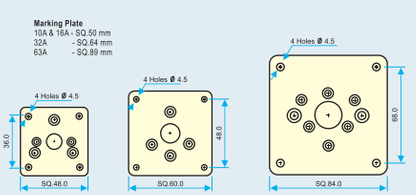
NOTE: *Due to induction of improvement from time to time the right is reserved to supply products which may differ slightly from those illustrated and described in this catalogue*

JB9 Metal Moulding Plates



10 Amps | 16 Amps & 32 Amps | 63 Amps

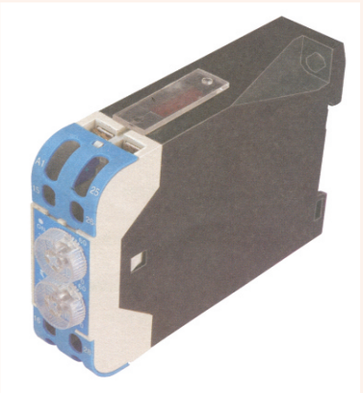
J09 Plastic Moulding Plates



10 Amps & 16 Amps | 32 Amps | 63 Amps

ELECTRONIC TIMER DIN RAIL

ANALOG TIMER



FEATURES :

- 2digit display
- DIN / screw mounting
- 5 Amps contact rating
- User programmable modes
- UP or DOWN count programmable
- Finger protection terminals
- Wide power range

ANALOG TIMER SPECIFICATIONS

Operating Voltage range	24V to 240V AC/DC for Operating Voltage range AVM Senes
	230 V AC, ± 20%
Power consumption	7VA
Allowable ripple for DC	3% Maximum
Ambient temperature	-10°C to 55°C for operating -25°C to 65°C for storage
Contact rating	5A at 230 V AC for resistive load
Humidity	35% to 85%
Rated Frequency	50 / 60 Hz ± 5%
Recovery time	0.1 sec minimum
Repeat accuracy	±1% maximum
Resetting time	0.1 sec minimum
Life Expectancy	Mechanical -10 Million operations min
	Electrical -100,000 operation min
Setting Accuracy	+ 10% max w.r.t full scale

DIGITAL TIMER DIN RAIL

MODEL DC-99.

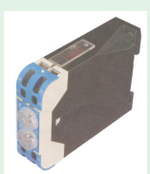
FEATURES :

- 2digit display
- DIN / screw mounting
- 5 Amps contact rating
- User programmable modes
- UP or DOWN count programmable
- Finger protection terminals
- Wide power range

DIGITAL TIMER SPECIFICATIONS

Range	0.1 second, to 99 hours
Set point	T1 or T1 & T2
Units	Seconds, Minutes, hours Independent for T1 and T2
Resolution	One count of display Independent for T1 and T2
Modes	on delay, interval, unequal cyclic on first, unequal cyclic off first
Direction of counting	UP (incrementing) or Down (decrementing) selectable
Program lock	Possible
Display	2 digit of size 7.5 mm
Accuracy	0.01 % of set time ± display count
Timing Start delay	0.05 second max
Output	1 change over (potential free)
Contact rating	5A at 230 V AC for resistive load
User programming	By means of 2 key switches
Program memory	Non volatile
Supply voltage	24V to 240V AC / DC
Power consumption	Less than 2VA
Life Expectancy	Mechanical -10 Million operations min
	Electrical-100,000 operations min
Humidity	35% to 85%
Weight	Approx. 130 gms.

ELECTRONIC TIMER DIN RAIL

MODEL	TIME RANGES	Modes	Supply voltage	Relay contact
 SVM330 SVM660 SVH330 SVH660	3/30 SEC/MIN 6/60 SEC/MIN 3/30 MIN/HOUR 6/60 MIN/HOUR	ON DELAY INTERVAL EQUAL CYCLIC ON FIRST EQUAL CYCLIC OFF FIRST ALL MODES ARE USER SELECTAB LE	230V AC*	1 C/O**
 AVM330 AVM660 AVH330 AVH660	3/30 SEC/MIN 6/60 SEC/MIN 3/30 MIN/HOUR 6/60 MIN/HOUR		24-240 V AC/DC	1 C/O
 UEC660	6/60 SEC/M IN/HOUR	UN EQUAL CYCLIC ON FIRST UN EQUAL CYCLIC OFF FIRST	230V AC*	1 C/O**
 FR 009	ON TIME 6/60 SEC/MIN PAUSE TIME 6/60 SEC	FORWARD/ REVERSE	230V AC*	1 C/O
 RC 660	RUN TIME 6/60 SEC/MIN TRANSFER TIME 40/1 00 ms	STAR DELTA	230V AC*	1 C/O

* Other voltage ranges are also available as per customer requirement
** Models are also available with 2NO + 2NC

ELECTRONIC TIMER DIN RAIL