

# select®



Switch to select

**PRODUCT RANGE**

**ROTARY CAM SWITCHES  
(6A - 63A)**



**PADLOCK SWITCHES  
(6A - 32A)**



**BREAKER-CONTROL SWITCHES  
(16A - 32A)**



**KEY LOCK SWITCHES  
(6A - 63A)**



**ROTARY CAM SWITCHES  
(100A - 200A)**



**LED INDICATION LAMP (22.5 mm Ø)**



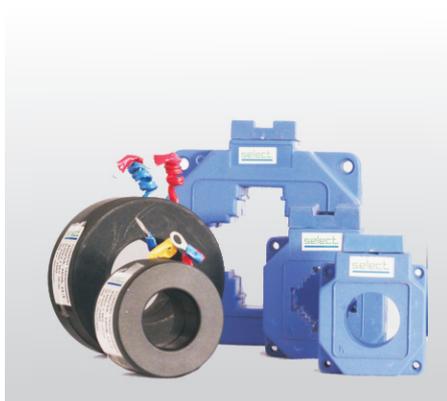
**MICRO SWITCHES**



**TOGGLE SWITCHES (6A - 15A)**



**CURRENT TRANSFORMERS**



**LIMIT SWITCHES**



## INTRODUCTION

We are a reputed manufacturer of electrical/electro-mechanical control gear products under the brand name select. Our product range includes Rotary Cam Switches, LED Indicating Lamps, Micro Switches, Toggle Switches, Door Limit Switch and Current Transformers. Our manufacturing facilities are based in Mumbai and we are an ISO 9001:2015 certified company.

Our manufacturing facilities are well equipped with tool room, plastic moulding shop, semi-automatic assembly line and testing centre. All required tooling and moulding is done in house to develop and manufacture our products with the highest level of reliability and aesthetics with our own dedicated design team. All our products are manufactured as per IEC/IS standards and our products have been tested and certified at NABL certified laboratories like ERDA, CPRI and Karandikar. Our products also carry the CE mark. Besides the catalogued products we also serve our customers with customised and value-added products.

select philosophy is based upon building partnership with all our team members, customers, suppliers and the overall society for mutual interest.

## TECHNICAL DATA

### 1. Rotary Cam Switch

Ratings: 6A, 10A, 12A, 16A, 25A, 32A, 40A, 63A, 100A, 150A, 200A

Voltage V(AC): 230, 440, 690

V(DC): 24V, 48V

Color Combinations: Yellow/Red, Grey/Black, Aluminum/Black, Black/Black

Mounting : 2 hole / 4 hole / base mounting / Din-Rail mounting

### 2. 22.5 mm LED Indicating Lamp

Voltage V(AC & DC): 6,12,24,30, 48,63,110,240, 415

Universal: 12V to 240V (AC/DC)

Degree of Protection: IP 65 from the front

Colors: Red, Amber, Green, Yellow, Blue, White, Clear

### 3. Micro Switches

Operating Force: 50gms to 500 gms

Configuration: 1NO/1NC and 1CO

Different types of lever/roller lever and push buttons available

### 4. Toggle Switches

Ratings : 6A, 10A and 15A

Configuration : SPST, SPDT, DPST, DPDT (spring return also available)

Voltage : 250VAC/28VDC

### 5. Current Transformers

Moulded Case / Resin Cast

### 6. Limit Switches

Open / Enclosed

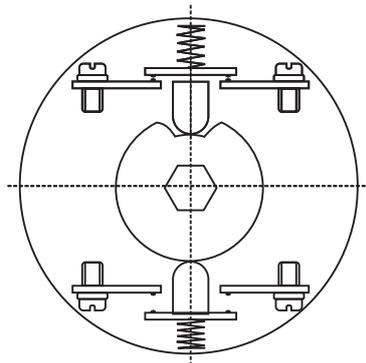
10 Amps 250 VAC



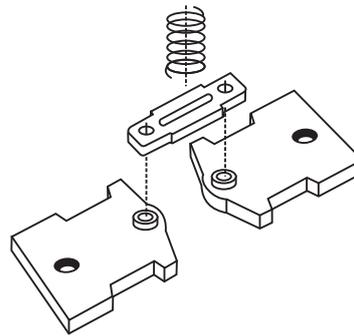
## ROTARY CAM SWITCHES

- [select](#) Rotary Cam Switches have been indigenously designed, developed and manufactured in accordance with international standards as per IEC 60947/2012-3.
- Our switches have been designed with a high level of aesthetics, ergonomics, keeping in mind the latest engineering practices.
- We strive to provide our customers with the best valued product to optimize customer satisfaction.
- We offer a wide variety of standard as well as customized switching solutions.
- Our switches have been tested and approved by NABL certified laboratories in India.

### CONSTRUCTION



Cam Assembly



Contact Assembly

Contacts : Double break type AgNi  
 Insulation : Glass filled polyamide  
 with high tracking index

Operation temp : -15° C to 55° C  
 Operating frequency : Upto 50-60 Hz  
 Humidity : 95%, Rh 48 hours

**Certified by ERDA / CPRI  
 As per IEC : 60947 / 2012-3**

### TECHNICAL SPECIFICATIONS

Series	Unit	S6	S10	S16 TP16	S25	S32	S40	S63	S100	S200
Rated Operational Current (Ie) AC21A / AC1	A	6	10	16	25	32	40	63	100	200
Rate Operational Voltage (Ue)	V	440	440	690	690	690	690	690	690	690
Isolating Voltage upto (Uiso)	V	250	250	415	415	415	500	500	690	690
Impulse withstand Voltage (Uimp)	kV	4	4	6	6	6	6	6	6	6
Rated Uninterrupted Current (Ith)	A	8	12	20	32	32	50	80	125	225
<b>Rated Operational Power</b>										
AC23A 3 Phase 220 - 240V	kW	1	1.8	3	5.5	7.5	11	15	30	37
380 - 440V	kW	2.2	3	7.5	11	15	18.5	22	41	55
500 - 690V	kW	-	-	7.5	11	15	18.5	22	37	45
AC3 3 Phase 110V	kW	0.25	0.37	0.55	1.5	2.2	2.5	3	-	-
220 - 240V	kW	0.8	1.5	2.2	4	5.5	7.5	15	22	22
380 - 440V	kW	1.5	3	5.5	7.5	11	15	18.5	33	45
500 - 690V	kW	-	-	5.5	7.5	11	15	18.5	33	45
<b>Short Circuit Capacity</b>										
Fuse Size (Type gG/gM)	A	6	10	16	25	32	40	63	100	200
Rated Fuse Short Circuit Current	kA	3	3	5	10	10	20	20	25	25
<b>Dc Rating</b>										
DC1 (Power) 48V	A	6	10	16	25	32	40	63	100	170
DC13 (Control) 24V	A	4	6	16	25	32	40	63	100	170
<b>Terminal Cross Section</b>										
Single / Multiple	min	mm <sup>2</sup>	0.7	0.7	1.5	1.5	2.5	2.5	4	10
	max	mm <sup>2</sup>	1.5	1.5	4	4	6	10	16	35
Fine strand with sleeve	min	mm <sup>2</sup>	0.7	0.7	1	1	1.5	2.5	2.5	10
	max	mm <sup>2</sup>	1.5	1.5	2.5	2.5	4	6	10	25
Terminal screw	Metric		M3	M3	M3.5	M4	M4	M5	M5	M10
Terminal Tighting Torque	NM		0.5	0.5	0.8	1.2	1.2	2	2	2.5

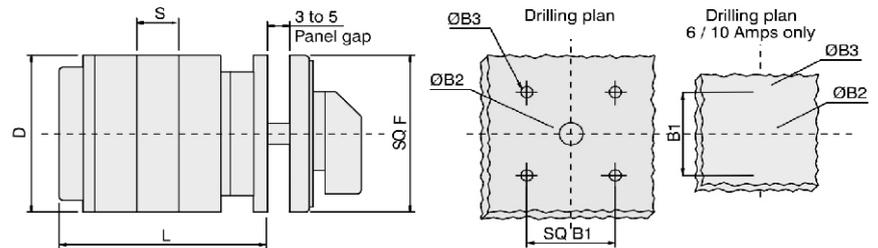
Switch life under standard operating conditions : Mechanical : 100,000 operations @ 300 cycles / hour  
 Electrical : 10,000 operations at 100% rated duty for 120 cycles / hour

# ROTARY CAM SWITCHES



## FRONT MOUNTINGS

- Features :**
- 1) Standard 4 hole front panel mounting
  - 2) Knob/Handle operatable
  - 3) Suitable for 30°/45°/60°/90°/Spring Return
  - 4) Available colors : Yellow/Red, Grey/Black, Grey/Black, Black/Black and aluminum finish.



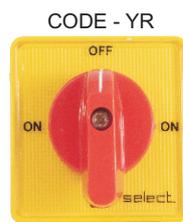
Length = Number of Stacks x S + W



TYPE	B1	B2	B3	D	F	S	W	Max
S6/S10/TP6/TP10	36	12	4.5	33	48	9.5	18.5	12
S16/TP16/TP20	36	12	4.5	46	48	12	26	21
S25/S32/TP25/TP32	48	12	5.5	52	64	15	27	15
S40/S63/S80	68	15	5.5	76	88	21	33	10
S100/S200	68	15	6	88	88	32	41	8



## Colour Combinations



Yellow Front Plate  
Red Knob



Grey Front Plate  
Black Knob



Black Front Plate  
Black Knob



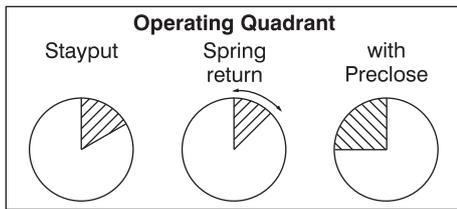
Alluminium Foil Front Plate  
Black Knob

# ROTARY CAM SWITCHES

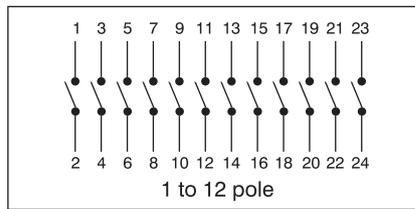
## ISOLATOR SWITCHES

- Wide range from 1 pole to 12 poles (customized isolator switches are available).
- Spring Return isolators upto 4 pole are available .
- Duty Rating: AC1/AC21 and AC3/23A.
- Application: For switching Main/Control/Instrumentation Circuits/Motor.
- Colours available : Yellow/Red, Grey/Black, Aluminum/Black, Black/Black

### Isolators - On/Off Switches



### Connections :

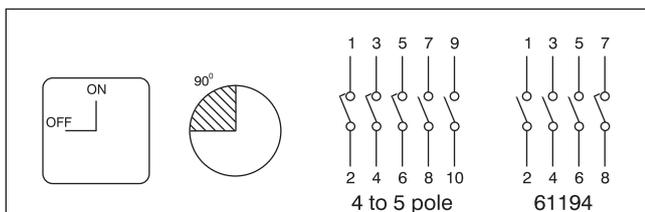


### Stayput

Plate Marking	60 Degree		90 Degree	90 Degree Complete Rotation	No of Stage
	Programme Code		Programme Code	Programme Code	
	SP 61001	SP 61191	SP 61195	1	
	SP 61002	SP 61192	SP 61198	1	
	SP 61003	SP 61199	SP 61197	2	
	SP 61004	SP 61194	SP 61196	2	
	SP 61005	-	-	3	
	SP 61006	SP 61906	-	3	
	SP 61007	-	-	4	
	SP 61008	-	-	4	
	SP 61009	-	-	5	
	SP 61010	-	-	5	
	SP 61011	-	-	6	
	SP 61012	-	-	6	

Available ampere rating : 6, 10, 16, 20, 32, 40, 63, 100 and 200 Amps

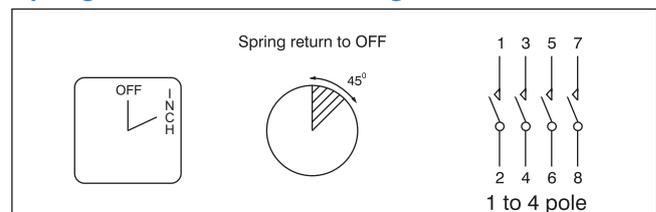
### Isolators with Preclose Contact



Description	Programme code	No of stages
4 Pole - 1 Pole Preclose	SP 61194	2
4 Pole - 3 Pole Preclose	SP 61904	2
5 Pole - 3 Pole Preclose	SP 61905	3
3 Pole with Neutral Terminal	SP 61178	2

Available ampere rating : 6, 10, 16, 20, 32, 40, 63, 100 and 200 Amps

### Spring Return Isolators 45 Degree



Description	Programme code	No of stages
1 Pole Spring Return	SP 61351	1
2 Pole Spring Return	SP 61352	1
3 Pole Spring Return	SP 61353	2
4 Pole Spring Return	SP 61354	2

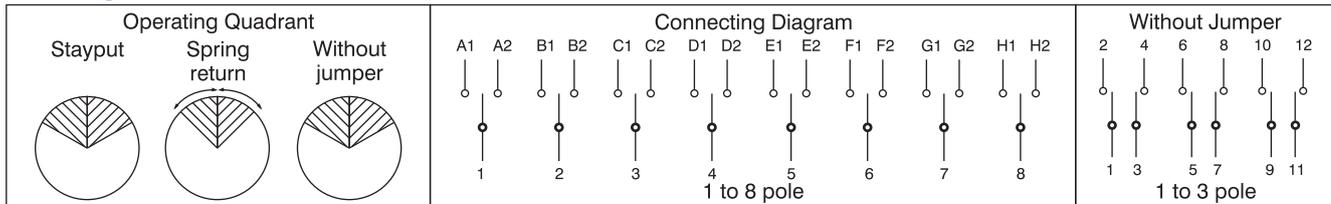
Available ampere rating : 6, 10, 16, 20, 32, 40, 63, 100 and 200 Amps

# ROTARY CAM SWITCHES

## CHANGEOVER SWITCHES

- [select](#) Changeover switches are used to operate two different circuits from two different sources with different number of inputs and outputs.
- Available WITH OFF and WITHOUT OFF.
- All switches by default are “Break before Make”.
- “Make before Break” type are offered against specific requirement.
- Application: Main Power supply (EB - Gensets), Auto Manual CO, Standby by-Remote - CO, Power Conditioners.
- Colours available: Yellow/Red, Grey/Black, Aluminum/Black, Black/Black

### Changeover with Off



### Stayput

Description		60 Degree Programme code	No of stages	Description		90 Degree Programme code
		SP 61025	1			SP 61151
1 pole		SP 61025	1	2 pole		SP 61152
2 pole		SP 61026	2	3 pole		SP 61153
3 pole		SP 61027	3	4 pole		SP 61154
4 pole		SP 61028	4	-		-
5 pole		SP 61029	5	-		-
6 pole		SP 61030	6	-		-
7 pole		SP 61031	7	-		-
8 pole		SP 61032	8	-		-



Available ampere rating : 6, 10, 16, 20, 32, 40, 63, 100 and 200 Amps

### Spring Return

Description		45 Degree Spring Return to "0"	No of stages	Description		Spring Return from 1 to "0"
		SP 61361	1			SP 61364
1 pole		SP 61361	1	2 pole		SP 61365
2 pole		SP 61362	2	3 pole		SP 61369
3 pole		SP 61363	3	-		-

Available ampere rating : 6, 10, 16, 20, 32, 40 and 63 Amps

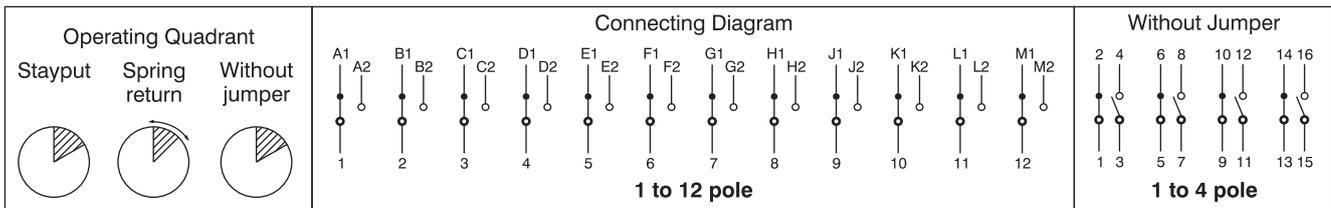
### Without Jumper

Description		60 Degree Stayput without Jumper	No of stages	Description		45 Degree Spring Return without Jumper
		SP 61625	1			SP 61761
1 pole without jumper		SP 61625	1	2 pole without jumper		SP 61762
2 pole without jumper		SP 61626	2	-		-
3 pole without jumper		SP 61627	3	-		-

Available ampere rating : 6, 10, 16, 20, 32, 40, 63, 100 and 200 Amps

# ROTARY CAM SWITCHES

## Changeover without Off



## Stayput

90 Degree Complete Rotation		No of stages	60 Degree		No of stages
Description	Programme code		Description	Programme code	
1 Pole	SP 61037	1	5 Pole	SP 61041	5
2 Pole	SP 61038	2	6 Pole	SP 61042	6
3 Pole	SP 61039	3	7 Pole	SP 61043	7
4 Pole	SP 61040	4	8 Pole	SP 61044	8
-	-	-	9 Pole	SP 61045	9
-	-	-	10 Pole	SP 61046	10
-	-	-	11 Pole	SP 61047	11
-	-	-	12 Pole	SP 61048	12



Available ampere rating : 6, 10, 16, 20, 32, 40, 63, 100 and 200 Amps

## Spring Return

45 Degree Spring Return		No of stages
Description	Programme code	
1 Pole	SP 61371	1
2 Pole	SP 61372	2
3 Pole	SP 61373	3

Available ampere rating : 6, 10, 16, 20, 32, 40 and 63 Amps

## Without Jumper

90 Degree Stayput without Jumper		No of stages	45 Degree Spring return without Jumper	
Description	Programme code		Description	Programme code
1 pole without jumper	SP 61637	1	1 pole without jumper	SP 61771
2 pole without jumper	SP 61638	2	-	-
3 pole without jumper	SP 61639	3	-	-
4 pole without jumper	SP 61640	4	-	-

Available ampere rating : 6, 10, 16, 20, 32, 40, 63, 100 and 200 Amps

# ROTARY CAM SWITCHES

## MULTISTEP SWITCHES

- Multistep switches connect different circuits to a common supply or different supplies to common circuits.
- Available WITH OFF and WITHOUT OFF.
- Poles available: 1 pole to 4 pole (WITH OFF), 1 pole to 6 pole (WITHOUT OFF)
- Application: Tap changing for power conditioners.
- Colours available: Yellow/Red, Grey/Black, Aluminum/Black, Black/Black



## Multistep Switches With Off

PROG NO.	DESCRIPTION	PLATE MARKING/ OPERATING QUADRANT	CONNECTION DIAGRAM/ TERMINAL MARKING	NO. OF STAGES
SP 61059	1 Pole - 2 Way	<b>2 WAY</b> 	<p><b>1 to 4 pole</b></p>	1
SP 61079	2 Pole - 2 Way			2
SP 61099	3 Pole - 2 Way			3
SP 61130	4 Pole - 2 Way			4
SP 61060	1 Pole - 3 Way	<b>3 WAY</b> 	<p><b>1 to 4 pole</b></p>	2
SP 61080	2 Pole - 3 Way			3
SP 61100	3 Pole - 3 Way			5
SP 61131	4 Pole - 3 Way			6
SP 61061	1 Pole - 4 Way	<b>4 WAY</b> 	<p><b>1 to 4 pole</b></p>	2
SP 61081	2 Pole - 4 Way			4
SP 61101	3 Pole - 4 Way			6
SP 61132	4 Pole - 4 Way			8
SP 61062	1 Pole - 5 Way	<b>5 WAY</b> 	<p><b>1 to 3 pole</b></p>	3
SP 61082	2 Pole - 5 Way			5
SP 61102	3 Pole - 5 Way			8
SP 61063	1 Pole - 6 Way	<b>6 WAY</b> 	<p><b>1 to 3 pole</b></p>	3
SP 61083	2 Pole - 6 Way			6
SP 61103	3 Pole - 6 Way			9
SP 61064	1 Pole - 7 Way	<b>7 WAY</b> 	<p><b>1 to 2 pole</b></p>	4
SP 61084	2 Pole - 7 Way			7
SP 61065	1 Pole - 8 Way	<b>8 WAY</b> 		4
SP 61066	1 Pole - 9 Way	<b>9 WAY</b> 		5
SP 61067	1 Pole - 10 Way	<b>10 WAY</b> 		5
SP 61068	1 Pole - 11 Way	<b>11 WAY</b> 		6

Available ampere rating : 6, 10, 16, 20, 32, 40 and 63 100 and 200 Amps

# ROTARY CAM SWITCHES



## Multistep Switches Without Off

PROG NO.	DESCRIPTION	PLATE MARKING/ OPERATING QUADRANT	CONNECTION DIAGRAM/ TERMINAL MARKING	NO. OF STAGES
SP 61049	1 Pole - 3 Way	<b>3 WAY</b> 	<p><b>1 to 6 pole</b></p>	2
SP 61069	2 Pole - 3 Way			3
SP 61089	3 Pole - 3 Way			5
SP 61120	4 Pole - 3 Way			6
SP 61124	5 Pole - 3 Way			8
SP 61126	6 Pole - 3 Way			9
SP 61050	1 Pole - 4 Way	<b>4 WAY</b> 	<p><b>1 to 4 pole</b></p>	2
SP 61070	2 Pole - 4 Way			4
SP 61090	3 Pole - 4 Way			6
SP 61121	4 Pole - 4 Way			8
SP 61051	1 Pole - 5 Way	<b>5 WAY</b> 	<p><b>1 to 4 pole</b></p>	3
SP 61071	2 Pole - 5 Way			5
SP 61091	3 Pole - 5 Way			8
SP 61122	4 Pole - 5 Way			10
SP 61052	1 Pole - 6 Way	<b>6 WAY</b> 	<p><b>1 to 3 pole</b></p>	3
SP 61072	2 Pole - 6 Way			6
SP 61092	3 Pole - 6 Way			9
SP 61053	1 Pole - 7 Way	<b>7 WAY</b> 	<p><b>1 to 3 pole</b></p>	4
SP 61073	2 Pole - 7 Way			7
SP 61093	3 Pole - 7 Way			11
SP 61054	1 Pole - 8 Way	<b>8 WAY</b> 	<p><b>1 to 3 pole</b></p>	4
SP 61074	2 Pole - 8 Way			8
SP 61094	3 Pole - 8 Way			12
* SP 61055	1 Pole - 9 Way	<b>9 WAY</b> 		5
* SP 61056	1 Pole - 10 Way	<b>10 WAY</b> 		5
* SP 61057	1 Pole - 11 Way	<b>11 WAY</b> 		6
* SP 61058	1 Pole - 12 Way	<b>12 WAY</b> 		6

## Multistep Switches without Jumper

SP 61649	1 Pole - 3 Way Without Off Without Jumper	<b>4 WAY</b> 		3
SP 61650	1 Pole - 4 Way Without Off Without Jumper	<b>4 WAY</b> 		2
SP 61670	2 Pole - 4 Way Without Off Without Jumper		<p><b>1 to 2 pole</b></p>	4

Available ampere rating : 6, 10, 16, 20, 32, 40 and 63 100 and 200 Amps  
 \*Available in 6 and 10 Amps

## ROTARY CAM SWITCHES

### INSTRUMENTATION SWITCHES

The Instrumentation Selector Switches help to :

- Measures currents in different circuits with a current transformer, a single ammeter and a switch.
- Measures voltages between phases and phase and neutral with one voltmeter and a switch.
- Measures voltages and currents of a circuit with one voltmeter, one ammeter and a single switch



### Voltmeter Selector Switches

PROG NO.	DESCRIPTION	PLATE MARKING / OPERATING QUADRANT	CONNECTION / TERMINAL MARKING	NO. OF STACKS
SP 61312	3 ph Line to Line			2
SP 61313	3 ph Line to Line & Line to Neutral			3
SP 61314	3 ph Line to Line, Line to Neutral & Without Off			3
SP 61311	3 ph Line to Neutral			2

Available ampere rating : 6, 10, 16 and 20 Amps

### Ammeter Selector Switches

PROG NO.	DESCRIPTION	PLATE MARKING / OPERATING QUADRANT	CONNECTION / TERMINAL MARKING	NO. OF STACKS
SP 61325	1 Pole - 3 Transformer with OFF			3

Available ampere rating : 6, 10, 16 and 20 Amps

## ROTARY CAM SWITCHES

### MOTOR CONTROL SWITCHES

- Motor control switches directly operate the motor with AC3 or AC4 duty rating
- Range: Forward Reverse, Star Delta, Two Speed Forward Reverse
- Colours available: Yellow/Red, Grey/Black, Aluminum/Black, Black/Black



### Forward Reverse Switches

PROG NO.	DESCRIPTION	PLATE MARKING / OPERATING QUADRANT	CONNECTION / TERMINAL MARKING	NO. OF STACKS
SP 61210	2 Pole			2
SP 61211	3 Pole			3
SP 61253	3 Pole Spring Return			3

Available ampere rating : 6, 10, 16, 20, 32, 40 and 63 100 and 200 Amps

### Motor Switches/Star Delta Switches

PROG NO.	DESCRIPTION	PLATE MARKING / OPERATING QUADRANT	CONNECTION / TERMINAL MARKING	NO. OF STACKS
SP 61200	OFF - STAR - DELTA			4

Available ampere rating : 6, 10, 16, 20, 32, 40 and 63 100 and 200 Amps

### Multi Speed Switches

PROG NO.	DESCRIPTION	PLATE MARKING / OPERATING QUADRANT	CONNECTION / TERMINAL MARKING	NO. OF STACKS
SP 61212	2 Speed Single Winding			4
SP 61213	2 Speed Single Winding			4
SP 61217	2 Speed Single Winding Reversing			6

Available ampere rating : 6, 10, 16, 20, 32, 40 and 63 100 and 200 Amps

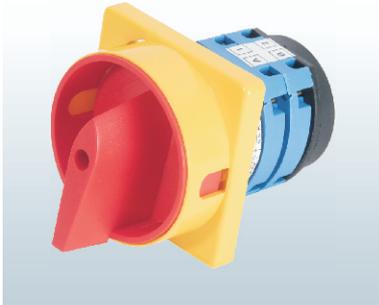
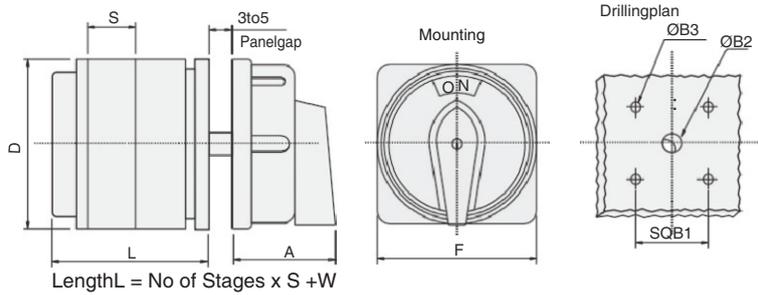
## MOUNTINGS

Mounting Code	Description	6/10A	16/20A	25/32A	40/63A	80/100/125A	200/400A
M00	Front Mounting 48 x 48 plate for 25/32A and 64 x 64 plate for 40/63A			✓	✓		
M02	Rear/Back Mounting with Standard Front Plate	✓	✓	✓	✓	✓	✓
M03	Front Mounting, Standard Mounting Plate	✓	✓	✓	✓	✓	✓
M12	Rear/Back Mounting with next size Plate		✓	✓	✓	✓	✓
M13	Front Mounting with next size Plate	✓	✓	✓	✓	✓	✓
M21	Din Rail Mounting on 35 mm Rail	✓	✓	✓			
M17	SS Enclosure		Max stages	upto 4	upto 4	upto 3	✓
M17	PVC/ABS Enclosure		Max stages	upto 4	upto 4	upto 3	upto2

# ROTARY CAM SWITCHES

## PADLOCK SWITCHES

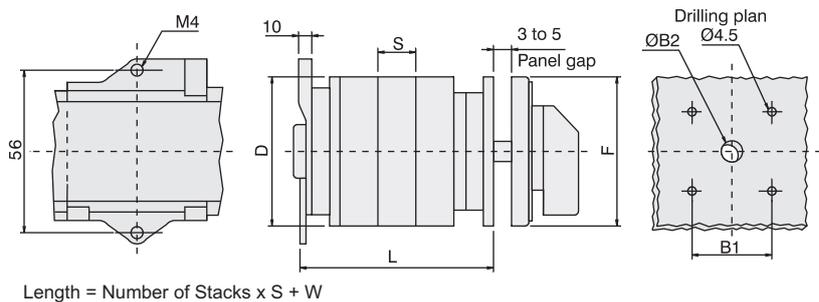
- Single hole mounting with std dia 22.5 mm
- Easy termination
- Available upto 32Amp



Type	A	B1	B2	B3	D	F	S	W	Max
S10 / S12	44	36	12	4.5	35	65	9	22	6
TP16 / TP20	44	36	12	4.5	58	65	12	26	6
S25 / S32	44	36	12	4.5	64	65	15	27	6

## Base Mounting with Din-rail

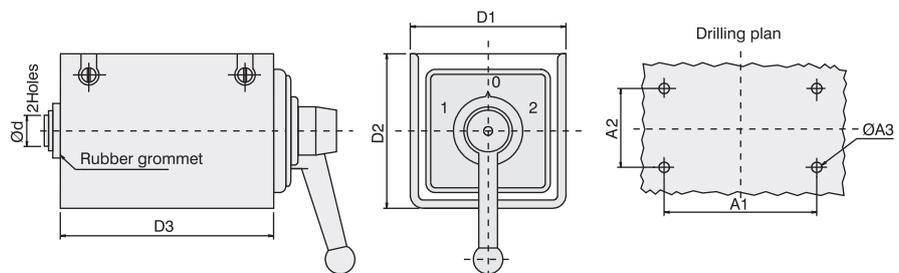
- Snap mounting base on Din EN50022 rail 35mm and 1.2 mm thick
- Provides easy termination.



TYPE	B1	B2	B3	D	F	S	W	Max
S6/S10/TP6/TP10	20	9	4.5	33	32	9.5	28.5	10
S16/TP16	36	12	4.5	46	48	12	37	12
S25/S32	48	12	5.5	52	64	15	38	8

## Enclosed Switches

- Switches mounted in sheet metal enclosures
- Provides protection from dust and hazardous environment.
- Knob/Handle operatable
- Suitable for switches upto 32 Amp.



TYPE	A1	A2	A3	D1	D2	D3	Max
S6/S10/TP6/TP10	70	60	4	85	89	98	4
S16/TP16	70	60	4	85	89	98	4
S25/S32	70	60	4	85	89	98	3
16 Amp Forward/Reverse	81	65	5	75	75	110	-

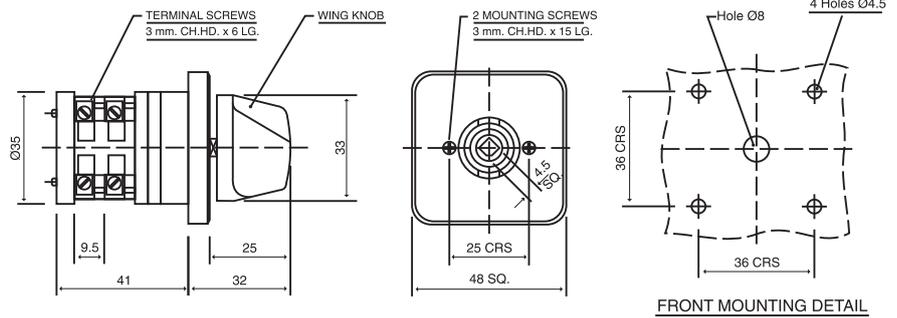
# ROTARY CAM SWITCHES

## S-12 TWO HOLE MOUNTING

MODEL S-12



PANEL MOUNTING DETAIL FOR S12 MODEL

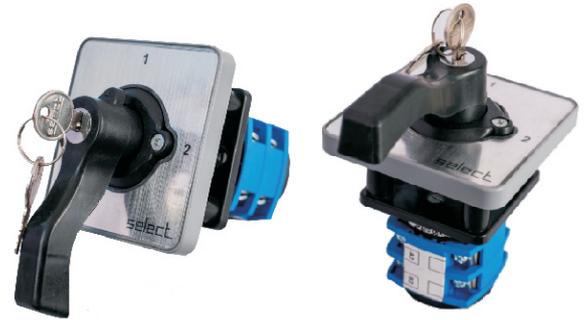


SWITCHING	POLE	S-12	SWITCHING	POLE	S-12	SWITCHING	POLE	SP-12												
ON-OFF 2 POS. 	1 2 3 4	S1160 S2160 S3260 S4260	SIX WAY NO OFF 	1 2 3 4	S136F S266F S396F S4126F	ELEVEN WAY NO OFF 	1 2	S163L S2123L												
ON-OFF 4 POS. 	1 2 3 4	S1190 S2190 S3290 S4290	SIX WAY WITH OFF 	1 2 3	S144FO S274FO S3114FO	ELEVEN WAY WITH OFF 	1 2	S163LO S2123LO												
TWO WAY NO OFF 	1 2 3 4	S116B S226B S336B S446B	SEVEN WAY NO OFF 	1 2 3	S144G S274G S3114G	TWELVE WAY NO OFF 	1 2	S163M S2123M												
TWO WAY WITH OFF 	1 2 3 4	S116BO S226BO S336BO S446BO	SEVEN WAY WITH OFF 	1 2 3	S144GO S284GO S312GO	REVERSING WITH OFF 	1 2	S226SK S336SK												
THREE WAY NO OFF 	1 2 3 4	S126C S236C S356C S466C	EIGHT WAY NO OFF 	1 2 3	S144H S284H S3124H	<b>Voltmeter Selector</b> <table border="1"> <thead> <tr> <th>SWITCHING</th> <th>POLE</th> <th>SP-12</th> </tr> </thead> <tbody> <tr> <td></td> <td>3</td> <td>S339VP Voltage between phases with off 4 position 90°</td> </tr> <tr> <td></td> <td>3</td> <td>S439VN Voltage between phases and Neutral with off 4 position 90°</td> </tr> <tr> <td></td> <td>3</td> <td>S444VPN 3 ph Line to Line &amp; Line to Neutral 8 position 45°</td> </tr> </tbody> </table>			SWITCHING	POLE	SP-12		3	S339VP Voltage between phases with off 4 position 90°		3	S439VN Voltage between phases and Neutral with off 4 position 90°		3	S444VPN 3 ph Line to Line & Line to Neutral 8 position 45°
SWITCHING	POLE	SP-12																		
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	3	S444VPN 3 ph Line to Line & Line to Neutral 8 position 45°																		
THREE WAY WITH OFF 	1 2 3 4	S124CO S234CO S354CO S464CO	EIGHT WAY WITH OFF 	1 2	S163HO S2123HO															
FOUR WAY NO OFF 	1 2 3 4	S126D S246D S366D S486D	NINE WAY NO OFF 	1 2	S163J S2123J															
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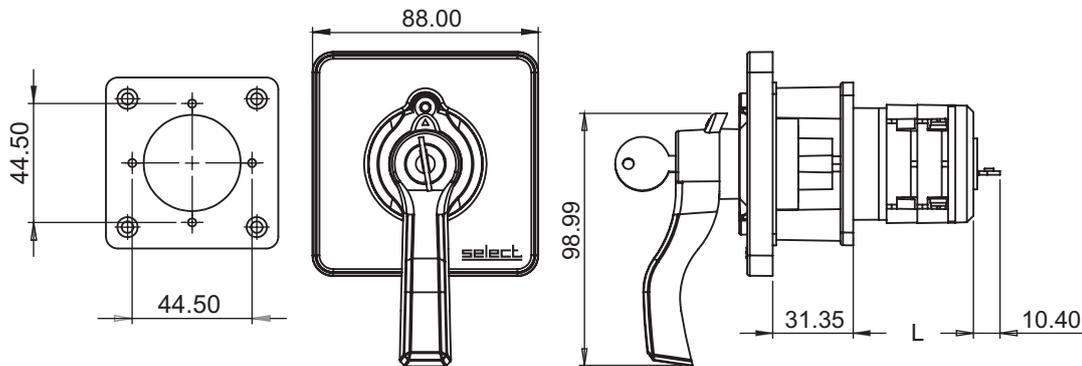
## ROTARY CAM SWITCHES

### KEY LOCKABLE SWITCH

- Key removable positions ON, OFF, all positions
- Pistol handle / T - Type handle available
- Customised key and lock available on request
- Colours available : Yellow/Red, Grey/Black, Aluminum/Black, Black/Black



No of Disc	2	3	4	5	6	Add for each Disc
12 AMP 'L'	42	57.5	67	76.5	86	9.5
16 AMP 'L'	47	59	71	83	95	12
32 AMP 'L'	53	68	83	98	113	15
63 AMP 'L'	69	89	109	129	149	20



SWITCHING	POLE	PROGRAMME	SWITCHING	POLE	PROGRAMME	SWITCHING	POLE	PROGRAMME
<b>ON - OFF</b>  90°	1 2 3 4	KLS1190 KLS2190 KLS3290 KLS4290	<b>FOUR WAY NO OFF</b>  90°	1 2 3 4	KLS129D KLS249D KLS369D KLS489D	<b>SIX WAY NO OFF</b>  60°	1 2 3 4	KLS136F KLS266F KLS396F KLS4126F
<b>2 WAY NO OFF</b>  90°	1 2 3 4	KLS119B KLS229B KLS339B KLS449B	<b>FOUR WAY WITH OFF</b>  60°	1 2 3 4	KLS136DO KLS256DO KLS386DO KLS4106DO	<b>FORWARD REVERSE</b>  90°	1 2 3 4	KLS226SK KLS336SK KLS61211 KLS61212
<b>2 WAY WITH OFF</b>  90°	1 2 3 4	KLS119BO KLS229BO KLS339BO KLS449BO	<b>FIVE WAY NO OFF</b>  60°	1 2 3 4	KLS136E KLS256E KLS386E KLS4106E			
<b>3 WAY WITH OFF</b>  90°	1 2 3 4	KLS124CO KLS234CO KLS354CO KLS464CO	<b>FIVE WAY WITH OFF</b>  60°	1 2 3 4	KLS136EO KLS266EO KLS396EO KLS4126EO			

## ROTARY CAM SWITCHES

### BREAKER CONTROL SWITCHES

- **select** Breaker control Switches are specially designed for remote tripping and closing of circuit breakers, and recommended wherever severe frequent operation are required.
- To eliminate the possibility of coil burnout with two consecutive closing operation.
- The contacts are of AgCdO, double butt type, ensuring long life and better breaking capacity.
- High insulation is achieved by use of high quality engineering plastics.
- The construction of our switch allows flexibility in programmes with different General and Customized switching combination like stay Put (SP), Sequence locking (SL), Lost motion device (LMD), Spring return mechanism (SRM).

#### GENERAL ENDURANCE :

Mechanical :- 1,00,000 Operations @ 300 cycle/hour

Electrical :- 10,000 Operations @ 20 cycle/hour

Operating Temperature :- -15°C to 55°C

Operating Frequency :- upto 50-60 kHz

#### TECHNICAL SPECIFICATION

DESCRIPTION		UNIT	S 16	S 25	S 32
Rated Operational Voltage	Ue	V AC	690	690	690
		V DC	250	250	250
Resistance To Surge Voltage	Uimp	kV	6	6	6
Rated Uninterrupted Current	Ith	A	20	32	40
<b>Rated Operational Current Ie</b>					
<b>Pilot Duty AC15</b>					
220-240V AC		A	6	8	14
380-440V AC		A	4	5	6
Short circuit protection HRC fuse size		A	16	25	32
Rated short circuit		kA	5	10	10
<b>Terminal cross section</b>					
Rigid wire	min	mm	1.5	1.5	2.5
	max		4	4	6
Flexible wire	min	mm	1	1	1.5
	max		2.5	2.5	4
Terminal Screw			M3	M4	M4
Terminal Tightening Torque			0.8 Nm	1.2 Nm	1.2 Nm



#### CODING SYSTEM

The Breaker control switches will bear the code no. as given below

1	2	3	4	5	6	7	8	9	10
B	C								

#### (3) Mechanism

- A. Spring Return
- B. Spring Return with Lost Motion Device
- C. Spring Return with Lost Motion Device plus Sequence Locking
- D. Spring Return with Sequence Locking
- E. Stay Put

#### (6) & (7) No. of packets with Lost Motion Device

Example:  
02 = 2 packets = 2 NO + 2 NC  
11 = 11 packets = 11 NO + 11 NC

#### (9) Angle of Throw

4 = 45°  
6 = 60°  
9 = 90°

#### (4) & (5) No. of Standard packets (1NO + 1NC per packet).

Example:  
01 = 1 packet = 1 NO + 1 NC  
02 = 2 packets = 2 NO + 2 NC  
11 = 11 packets = 11 NO + 11 NC

#### (8) Ampere Rating

16 Amp. = 16  
25 Amp. = 25  
32 Amp. = 32

#### (10) Colour Combinations

YR = Yellow / Red  
GB = Grey / Black  
BB = Black / Black  
AB = Aluminium Foil / Black

## LED INDICATING LAMPS

### 22.5 mmØ

- LED indicating lamps are based on well developed solid state technology which are aesthetically designed with robust designs enabling quick installation and safe operation.
- Our LED indicating lamps contains clustered LEDs which ensures diffused illumination with a Low Voltage Glow Protection.
- Application: Control Panels, Machine tools, Industrial/Commercial
- Colours: Red, Amber, Green, Yellow, Blue, White, Clear



### CODING SYSTEM

2PLL	COLOUR CODE							Operating Voltage
	R	Y	G	B	A	W	C	

### TECHNICAL SPECIFICATION:

Operating Voltage*	12 VAC/DC	24 VAC/DC	110 VAC/DC	240 VAC	415 VAC	220 VDC	24 to 240V AC/DC (UNIVERSAL)
Current consumption	Max consumption 20mA for AC circuits, Max consumption 15mA for DC circuits						
Degree of Protection	IP 65 as per IEC 60529						
Applicable Standards	IEC-60947-5-1						
Ambient Temperature	-25°C to +70°C						
Storage	-25° to +40°C						
Life Expectancy	1,00,000 hrs						
Rated insulation Voltage	500 V						
Dielectric Test	2.5 kV						
Terminal Capacity	Maximum 2x1.5mm or 1x2.5mm Minimum 1x0.5mm						

\* Other voltages like 6V, 30V, 48V, 63.5V, 125V available on request

## TOGGLE SWITCHES

- **select** Toggle Switches type TS are based on rocking contact mechanism.
- Housing : Thermoset Moulding
- Termination : Screw / Soldering
- Operating lever has a metallic seal for protection against harsh operating conditions.
- Application: construction and agriculture equipments, aviation facilities, office equipment, factory floor machinery, Controllers, medical equipments, valves and vending machines.



OPERATION	PARAMETERS
Contact Rating (Resistive)	6 Amp-250V AC 10 Amp -250V AC 15 Amp -250V AC 6 Amp-28V DC 10 Amp -28V DC 15 Amp -28V DC
Operating Temperature	-40°C to +70°C
Circuitry	SPST, SPDT, DPST, DPDT (spring return also available)
Mechanical & Electrical Life Expectancy	20,000 Operations
Mounting	Centre bush with suitable nuts and washer
Thickness of Panel	2-5 mm

## MICRO SWITCHES



### Micro Switch. Type S3

- Snap action with precision repeatability.
- Configuration 1NO / 1NC / 1 CO
- Basic Switch, with lever, with roller lever, with actuator.
- Operating force 50gms to 500gms
- Housing and cover : High grade engineering thermoplastic
- Application : power conditioners, domestic appliances, automobile, railways, telecom,gaming consoles, automation

### OPERATING FORCE

OPERATING FORCE MAX	RELEASE FORCE MAX	RATING
400 gms	125 gms	10 A/250 V AC
200 gms	75 gms	5 A/250 V AC
100 gms	40 gms	3 A/250 V AC
50 gms	20 gms	2 A/250 V AC

### TECHNICAL DATA

CURRENT RATING / VOLTAGE	6/10/15A 125/250VAC, 24VDC
ELECTRICAL ENDURANCE	10,000 CYCLES Min, as per IEC-61058-1
INITIAL INSULATION RESISTANCE	> 100 MEG. OHMS
INITIAL CONTACT RESISTANCE	< 10 MILLIOHMS
DI- ELECTRIC STRENGTH	POLE TO BODY-1500V FOR 1MIN. ACROSS OPEN CONTRACTS -750V
CONTACT GAP	MICRODISCONNECTION
HOUSING/COVER	PBT (FR)
TERMINAL MATERIAL	BRASS
CONTACT MATERIAL	SILVER/SILVER ALLOY
FIXING	BY SCREW
OPERATING TEMPERATURE	T85
REFERANNGE STANDARDS	IEC-61058-1
DEGREE OF PROTECTION	IP 40 (MECHANISM ONLY )
PROTECTION AGAINST ELECTRIC SHOCK	CLASS II APPLIANCES EN-61058-1
RESISTANCE TO HEAT&FIRE	LEVEL 'C', 850'C EN61058-1
DEGREE OF POLLUTION	NORMAL EN-61058-1
PROOF OF TRACKING INDEX	PTI 250V EN-61058-1



## DOOR LIMIT SWITCHES

- select Limit Switch Type SLS is used in all applications where a mechanical motion is converted into an electrical control signal.
- The limit switch Type SLS, which is mounted in a predetermined position, makes or breaks electrical contact inside the switch.
- The limit switch type SLS is used as a safety switch to limit, reverse, forward any movement or motion of a device in equipments.
- **Technical Specification :**
  - Rating 10A/500V AC ; 0.5A/250V DC
  - Standard : IEC 60947 Part I,III,V.
  - Mechanical Life : 50,000 cycles
  - Electrical Life : 25,000 cycles
  - Ambient Temperature : 40°C - 85°C
  - Contact : 1NO 1NC
  - Conductor :M3.5 X 1.5 SQ.MM stranded wire with 2x2.5sqmm solid screw terminal
  - Housing : Cast Aluminium
  - Cable Entry for Enclosure : M20
- **Application :** Machine tools, Hoists, Conveyors, Elevators, Panel Doors, Presses, Solenoid valves.



## CURRENT TRANSFORMERS



1. Moulded Case Current Transformers	2. Resin Cast Current Transformers
<b>Application</b>	
For use with Metering Applications and Utility Meters	For metering and relaying application in low voltage switchboards Voltage switchboards and switchgear. For use with ammeters in Panelboards and control panels.
<b>Features</b>	
<ul style="list-style-type: none"> <li>➤ Encapsulated in Polycarbonate Casing</li> <li>➤ Wide Range of Specifications</li> <li>➤ Ratio up to 7500 Amps</li> <li>➤ 1 Amp and 5 Amp Secondaries are Available</li> <li>➤ Designed as per IS/IEC/ANSI Standards</li> <li>➤ Busbar Mounting or Mounting Clamp or Dinrail available</li> </ul>	<ul style="list-style-type: none"> <li>➤ Encapsulated in Epoxy Resin</li> <li>➤ Wide Range of Specifications</li> <li>➤ Designed for Indoor Amps</li> <li>➤ 1 Amp and 5 Amp Secondaries are Available</li> <li>➤ Designed as Per IS/IEC/ANSI Standards</li> <li>➤ Supplied with Terminal or Studs</li> <li>➤ Busbar Mounting or Mounting Clamps Available</li> <li>➤ Available with Multi Core and Multi Tappings</li> </ul>
<b>Types</b>	
<ul style="list-style-type: none"> <li>➤ Bar Primary Type</li> <li>➤ Window Type Ring or Regular</li> </ul>	<ul style="list-style-type: none"> <li>➤ Wound Primary Type</li> <li>➤ Bar Primary Type</li> <li>➤ Window Type Ring or Rectangular</li> </ul>



select

Manufactured by :

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