

# Ziegler

Redefine Innovative Metering

# Technical Datasheet

REVERSE FORWARD SWITCHES

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CAM SWITCH

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## CAM SWITCH

### REVERSE FORWARD SWITCHES

Reverse Forward switches are used of the controlling the direction the motors. To move motor in forward or reverse direction R/F switches are preferred as compare to general contractors. This switches usually used with a rating of 25A, 32A, 40A, 63A as per industrial requirements or standards. Ziegler R/F comes IEC 60947-3 standards to control motor in forward or reverse direction with 2 Pole or 3 Pole option.

#### Product Features

- Compact Design.
- Reliable Design.
- Quick and Easy to install.
- Safer Design.
- Ingress Protection.
- IP 50 protection for front facia.
- Multi pole design.
- Quick and easy installation.
- Arrow marking on knob for long distance visibility.



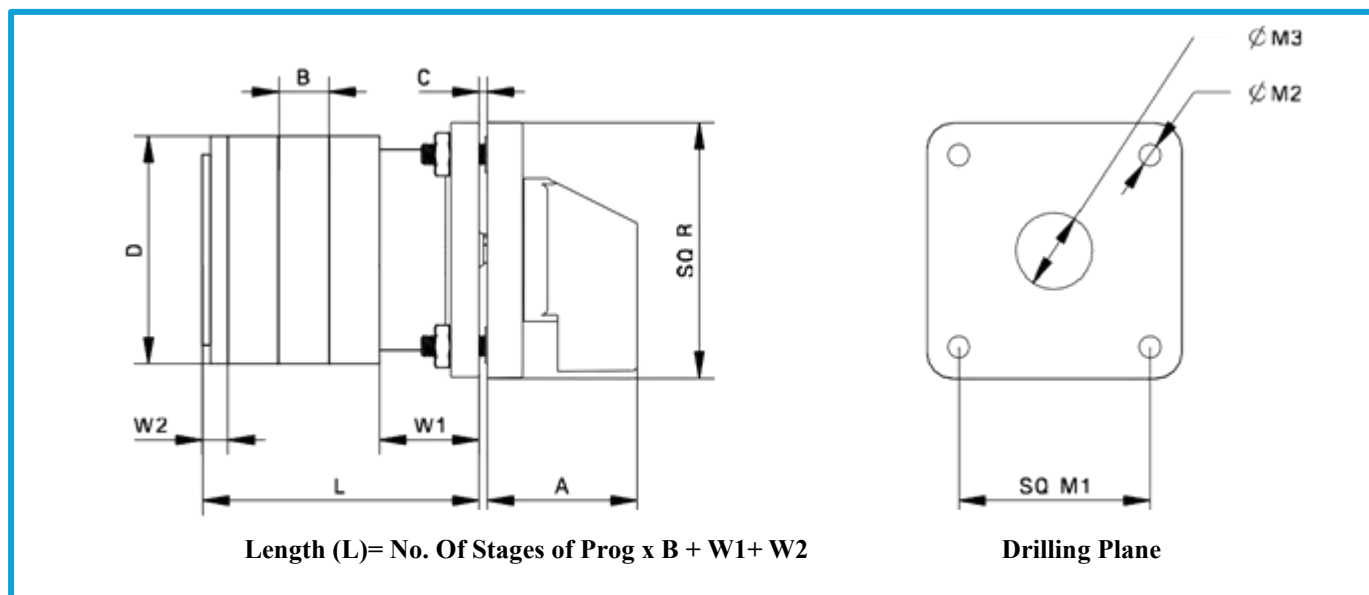
● ZCAM 25A

● ZCAM 32A

● ZCAM 40A

● ZCAM 63A

### ROTARY CAM SWITCHES DIMENSIONAL DETAILS



TYPE	A	B	C(max)	D	L	M1	M2	M3	R	W1	W2
Ziegler CAM 25A Reverse Forward	34	15	4	53	73	48	4	12	64	24	6
Ziegler CAM 32A Reverse Forward	34	15	4	53	73	48	4	12	64	24	6
Ziegler CAM 40A Reverse Forward	34	15	4	53	73	48	4	12	64	24	6
Ziegler CAM 263A Reverse Forward	42.4	30	4	72	96	68	5.5	18	88	19.5	13.5

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### PRODUCT RANGES

Sr.No	Motor	Degree	Ampere Rating				No. Of Stack
			25A	32A	40A	63A	
1	2Pole	45D	*	*	*	*	2
		60D	*	*	*	*	
2	3Pole	45D	*	*	*	*	3
		60D	*	*	*	*	

### INSTALLATION

**Panel Mounting Assembly**

Procedure:-

1. First unscrew knob and front plate.
2. Insert the Cam Switch from inside of the panel door and then mount front plate on it keeping panel door in between.
3. Insert mounting screws and screw them tightly.
4. Install marking plate on it and follow it with knob.
5. Top marking Sticker on Front Plate should be on top side of the switch.

### AC DUTY RATINGS

Category	Typical AC Application
AC-1	Non-Inductive or slightly inductive loads, Resistance furnaces
AC-3	Squirrel-cage motors: starting switching off motors during running
AC-15	Control of AC electromagnetic loads.
AC-21-A	Switching of resistive loads, including moderate overloads (frequent switching)
AC-23-A	Switching of motor loads or other highly inductive loads(frequent switching)

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### TECHNICAL SPECIFICATION

<b>Conformance to standards :</b> European : IEC60947-1 IEC 60947-3 IEC 60947-5  <b>CE</b>		<b>Operating Conditions :</b> Frequency : 50/60 Hz Operating Temp. : -25°C to 60°C Over voltage category : III Storage : -40°C to 80°C Max.Altitude : 2000m IP: 50 Front				<b>Switch Life :</b> Mechanical Life : 1 Lac operations @ 300 Cycles/hr Electrical Life : 10,000 operations @ 100% Rated duty at 120 cycles/hr Contacts : Double break type AgNi Double break type AgCdO							
Parameter		Unit	6A	10A	16A	20A	25A	32A	40A	63A	100A	200A	
Rated operational voltage (Ue)		V	440	440	690	690	690	690	690	690	690	690	
Rated Insulation voltage (Ui)		V	440	440	690	690	690	690	690	690	690	690	
Rated operational current (Ie)		A	6	10	16	20	25	32	40	63	100	200	
Conventional free air thermal current (Ith)		A	6	10	16	20	25	32	40	63	100	200	
Rated short time withstand current (Icw)		(1s- Current)	72	120	192 *	240 *	300	384	480	756	1200	2400	
Rated Impulse withstand voltage (Uimp)		KV	4	4	4	4	6	6	6	6	6	6	
Rated Fuse short circuit current		KA	3	3	5	5	10	10	10	10	15	25	
Fuse size (Type gG /gM)		A	6	10	16	20	25	32	50	63	100	200	
AC23A 3phase		220-240V	KW	1.1	1.8	3	3.7	4.7	5.5	7.5	11	22	
		380-440V	KW	1.8	3	5.5	7.5	7.5	11	15	18.5	37	
		500V	KW	-	-	5.5	7.5	11	15	18.5	22	45	
		660-690V	KW	-	-	5.5	7.5	11	15	18.5	22	45	
AC23A 1phase		110V	KW	0.25	0.37	0.55	0.75	1.5	2.2	2.2	3	-	
		220-240V	KW	0.5	0.75	1.5	2.2	3	3.7	5.5	7.5	-	
		380-440V	KW	0.75	1.1	2.2	3.7	5.5	7.5	7.5	11	-	
AC3 3phase		220-240V	KW	1.1	1.5	3	3	4.7	5.5	7.5	11	22	
		380-440V	KW	1.8	2.2	5.5	5.5	7.5	11	15	18.5	37	
		500V	KW	-	-	5.5	5.5	11	15	18.5	22	45	
		600-690V	KW	-	-	5.5	5.5	11	15	18.5	22	45	
AC3 1phase		110V	KW	0.25	0.3	0.55	0.6	1.5	2.2	2.2	3	-	
		220-240V	KW	0.5	0.55	1.5	2.2	3	3.7	5.5	7.5	-	
		380-440V	KW	0.75	0.75	2.5	3	5.5	7.5	7.5	11	-	
AC21A/AC1			A	6	10	16	20	25	32	40	63	100	
AC15		220-240V	A	2	2.5	5	5	8	14	16	16	20	
		380-440V	A	1	1.5	4	4	5	6	7	7	10	
Terminal cross -section													
Single / Multiple(Prepared with lug)		Min	mm2	1	0.7	1.5	1.5	2.5	2.5	4	4	10	
		Max	mm2	1.5	1.5	4	4	4	6	10	16	35	
Fine strand with sleeve(Prepared with lug)		Min	mm2	1	0.7	1	1	1.5	1.5	2.5	2.5	10	
		Max	mm2	1.5	1.5	2.5	2.5	4	4	6	16	35	
Terminal screw			Metric	M3	M3	M3	M3	M4	M4	M4	M4	M10	
Terminal tightening torque			Nm	0.8	0.8	0.8	0.8	1.2	1.2	1.2	1.2	2.5	

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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: Momentary Reverse Forward										
<b>Ampere code :</b> D : 25A E : 32A F : 40A G : 63A										
<b>Positioning Angle :</b> 45 : 45 Degree 60 : 60 Degree										
<b>Rotation Angle :</b> L : Less than 360° rotation degree										
<b>Pole :</b> 2 : 2 pole 3 : 3 pole										
<b>No. of ways</b>										
<b>With Off</b>										
<b>Knob Shape</b> F : Flang shape										
<b>Front Plate Color</b> S : Silver sheet and Black knob Y : Yellow sheet and Red knob										
<b>Blank</b>										
<b>Customer Specification</b>										

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