

Ziegler

Redefine Innovative Metering

Technical Datasheet

SPRING RETURN SWITCHES

CAM SWITCH

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SPRING RETURN SWITCHES

Spring Return switches are momentary switches which act as a multiple push button to energize the contacts of contactors for controlling the motor operations. These switches are used in industrial panels, for Generator controls, for Motor controls, for mains switching and many more in aggressive environments according to IEC/EN 60947-1,3,5. Ziegler offers a complete series of SR switches.

Product Features

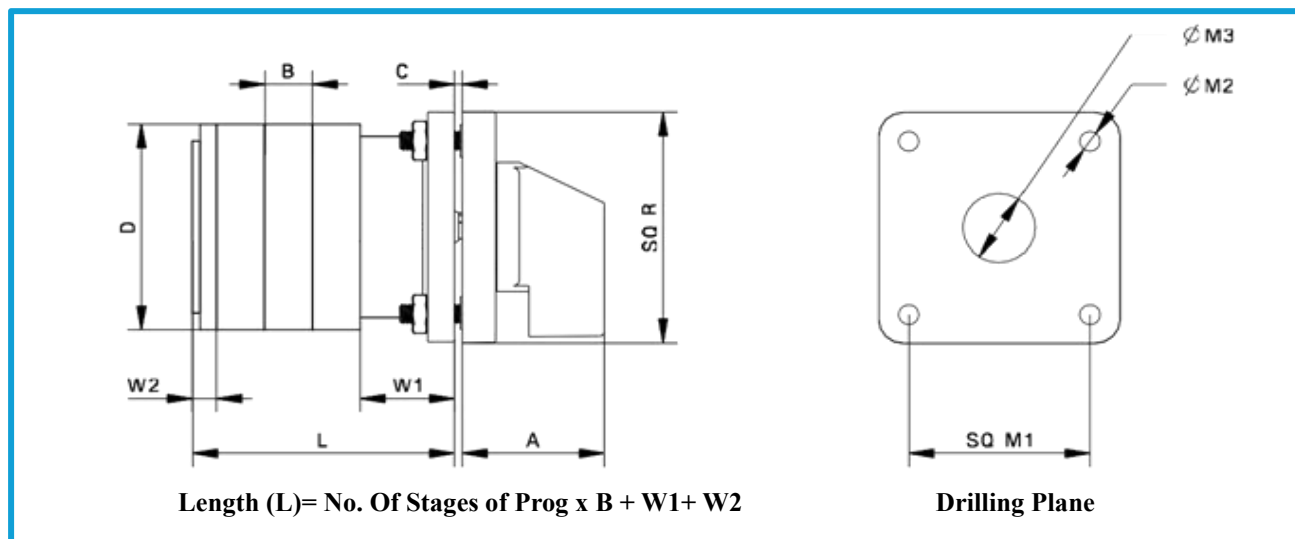
- Touch proof terminals with IP 20 protection for 16A switch.
- IP 50 protection for front face.
- Multi pole design.
- Quick and easy installation.
- Arrow marking on knob for long distance visibility.
- Compact design.
- 60 & 90 Degree Angle of throw.
- Flag Type knob handle.
- Spring loaded mechanism.
- Standard mounting plate.



● ZCAM 16A

● ZCAM 25A

ROTARY CAM SWITCHES DIMENSIONAL DETAILS

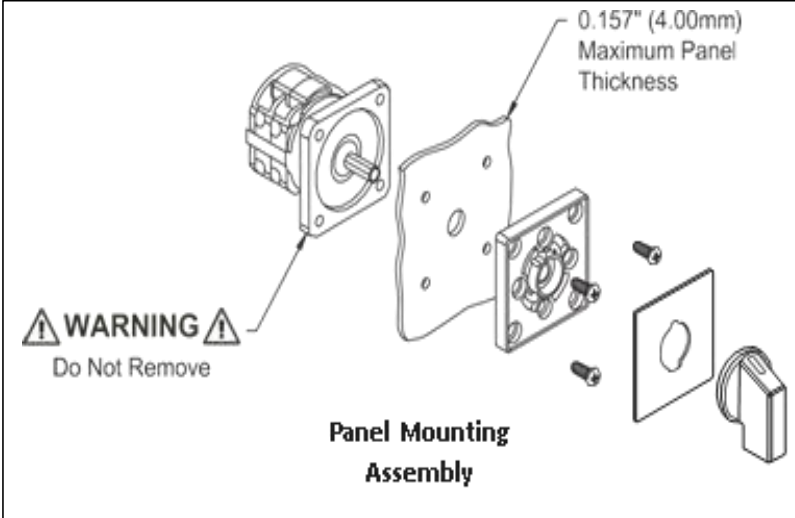


Type	A	B	C _(Max.)	D	M1	M2	M3	R	S	W1	W2
Ziegler Cam 16A	29	9.5	4	43	36	4	7	60	48	19	5
Ziegler Cam 25A	34	14.3	4	53	48	4	12	64	64	24	6.2

SPRING RETURN SWITCHES

CAM SWITCH

INSTALLATION



The diagram illustrates the 'Panel Mounting Assembly' for a cam switch. It shows the cam switch unit, a front plate, a panel door, a marking plate, and mounting screws. A callout indicates a '0.157" (4.00mm) Maximum Panel Thickness'. A warning symbol with the text 'WARNING Do Not Remove' is shown. The assembly steps are listed to the right.

WARNING
Do Not Remove

0.157" (4.00mm)
Maximum Panel
Thickness

**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)

SPRING RETURN SWITCHES

CAM SWITCH

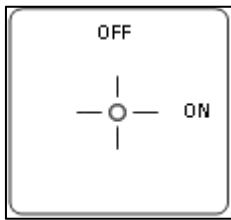
TECHNICAL DATA

Conformance to standards : European : IEC 60947-1 IEC 60947-3 IEC 60947-5 CE		Operating Conditions : 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				Switch Life : 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)	A	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	22
		380-440V	KW	1.8	3	5.5	7.5	7.5	11	15	18.5	37	37
		500V	KW	-	-	5.5	7.5	11	15	18.5	22	45	45
		660-690V	KW	-	-	5.5	7.5	11	15	18.5	22	45	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	22
		380-440V	KW	1.8	2.2	5.5	5.5	7.5	11	15	18.5	37	37
		500V	KW	-	-	5.5	5.5	11	15	18.5	22	45	45
		600-690V	KW	-	-	5.5	5.5	11	15	18.5	22	45	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	200
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	10
		Max	mm2	1.5	1.5	4	4	4	6	10	16	35	70
Fine strand with sleeve(Prepared with lug)		Min	mm2	1	0.7	1	1	1.5	1.5	2.5	2.5	10	10
		Max	mm2	1.5	1.5	2.5	2.5	4	4	6	16	35	50
Terminal screw			Metric	M3	M3	M3	M3	M4	M4	M4	M4	M10	M10
Terminal tightening torque			Nm	0.8	0.8	0.8	0.8	1.2	1.2	1.2	1.2	2.5	2.5

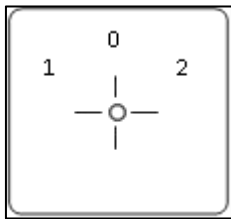
SPRING RETURN SWITCHES

CAM SWITCH

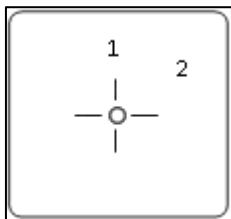
RISH CAM SPRING RETURN SWITCHES



ON-OFF Spring Return Switches		Current Rating	
Description		16A	25A
ON OFF SPRING RETURN 90D 1P OFF		*	*
ON OFF SPRING RETURN 90D 2P OFF		*	*
ON OFF SPRING RETURN 90D 3P OFF		*	*
ON OFF SPRING RETURN 90D 4P OFF		*	*



DOUBLE THROW with OFF		Current Rating	
Description		16A	25A
DOUBLE SPRING RETURN 60D 1P 2W with OFF		*	*
DOUBLE SPRING RETURN 60D 2P 2W with OFF		*	*
DOUBLE SPRING RETURN 60D 3P 2W with OFF		*	*



Spring Return Switches without OFF		Current Rating	
Description		16A	25A
SPRING RETURN 60D 1P 2W W/OFF		*	*
SPRING RETURN 60D 2P 2W W/OFF		*	*
SPRING RETURN 60D 3P 2W W/OFF		*	*

SPRING RETURN SWITCHES

CAM SWITCH

Ordering information

<p>CSRX</p> <p>CSR1: ON-OFF(16A) CSR2: Double throw(16A) CSR3: SR without OFF(16A) CSR4: ON-OFF(25A) CSR5: Double throw(25A) CSR6: SR without OFF(25A)</p> <p>Ampere code : A : 16 A B : 25 A</p> <p>TYPE : 1 : ON-OFF Spring Return Switch 2 : Double throw with spring return switch 3 : Spring return switch without off</p> <p>NO. of Pole : 1 : 1 pole 2 : 2 pole 3 : 3 pole 4 : 4 pole</p> <p>Max. No. of ways : XX : no ways 01 : 2 ways 02 : 4 ways</p> <p>OFF/W W : without OFF O : with OFF</p> <p>ANGLE 6 : 60 Degree 9 : 90 Degree</p> <p>Knob Shape F : Flang shape</p> <p>Front Plate Color A : Silver sheet and Black B : Yellow sheet and Red</p>										
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Sr. No.	Description
1	DOUBLE THROW SPRI RETURN 25A 60D 1P 2W OFF
2	DOUBLE THROW SPRI RETURN 16A 60D 1P 2W OFF

Ziegler

Redefine Innovative Metering

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