

## CAM SWITCHES

### ▶ 1 SPEED STARTER, FORWARD/OFF/REVERSE - 3 PHASE MOTOR

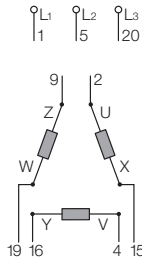
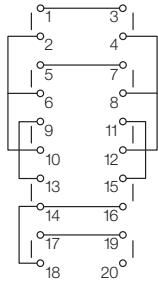
 Technical Info (p. 224)

#### IN ENCLOSURE

IP40 standard - IP65 available upon request

Contact Configuration - 9153

No. of contacts	REV			FWD	
	Δ	Y	0	Y	Δ
1 - 2				X	X
3 - 4	X	X			
5 - 6	X	X			
7 - 8				X	X
9 - 10	X				X
11 - 12	X				X
13 - 14		X		X	
15 - 16		X		X	
17 - 18	X				X
19 - 20	X	X		X	X



NZ13GXQ






SZ13GXQ



TZ13GXQ

Mounting and Dimensions see pg 226 to 229

Switch Series	General use rating - amps	Number of contacts	Positions	Designation	Part Number
PR12	12	10		PR12 9153 C8 BCQ3	NZ13GXQ
PR17	16	10		PR17 9153 C8 BCQ3	SZ13GXQ
PR21	20	10		PR21 9153 C8 BCQ3	TZ13GXQ

# CAM SWITCHES

## ► Technical Specifications

UL/CSA Characteristics	PR 12	PR 17	PR 21	PR 26	PR 40	PR 63	PR 125	PR 160
<b>► UL/CSA</b>								
1 PHASE 110/120 VAC	0.5 HP	1 HP	1.5 HP	2 HP	3 HP	5 HP	N/A	N/A
3 PHASE 110/120 VAC 220/240 VAC 440/480 VAC 550/600 VAC	1 HP	2 HP	3 HP	3 HP	7.5 HP	10 HP	N/A	N/A
	3 HP	5 HP	5 HP	7.5 HP	15 HP	20 HP	N/A	N/A
	5 HP	7.5 HP	10 HP	15 HP	30 HP	40 HP	N/A	N/A
	3 HP	10 HP	15 HP	20 HP	30 HP	40 HP	N/A	N/A
GENERAL USE (600 V) (MOTOR CONTROLLER)	12 A	16A	20 A	25 A	50 A	63 A	N/A	N/A
UL 508 RECOGNIZED	YES	YES	YES	YES	YES	YES	No	No
CSA CERTIFIED	YES	YES	YES	YES	YES	YES	No	No
<b>IEC Characteristics</b>								
<b>► For thermal current AC-20 Ith I<sub>c</sub>(A)</b> (IEC 60 947-3)	20	25	32	40	63	80	200	250
<b>► Rated operating current for AC-21 A I<sub>e</sub>(A)</b> (IEC 60 947-3)								
Switching of resistive loads including moderate overloads	16	20	25	32	50	80	160	200
<b>► Rated operating current for AC-15 A I<sub>e</sub>(A) at 230V AC</b> (IEC 60 947-3)								
Control of electromagnetic loads	6	8	10	12	-	-	-	-
<b>► Performance in AC 23 (kW)</b> (IEC 60 947-3)								
Switching of motors or other highly inductive loads								
- 3 x 230 V	4	5.5	7.5	11	15	18.5	-	-
- 3 x 400 V	7.5	11	11	11	22	25	-	-
- 3 x 500 V	5.5	11	11	11	25	25	-	-
- 3 x 690 V	4	10	10	11	18.5	22	-	-
<b>► Performance in AC 3</b> (IEC 60 947-3)								
Control of squirrel-cage motors starting and switching off motors while running								
- In kW								
- 3 x 230 V	3	4	4	5.5	11	15	-	-
- 3 x 400 V	4	7.5	7.5	11	18.5	22	-	-
- 3 x 500 V	5.5	7.5	7.5	11	18.5	22	-	-
- 3 x 690 V	3	7.5	7.5	11	18.5	22	-	-

## CAM SWITCHES

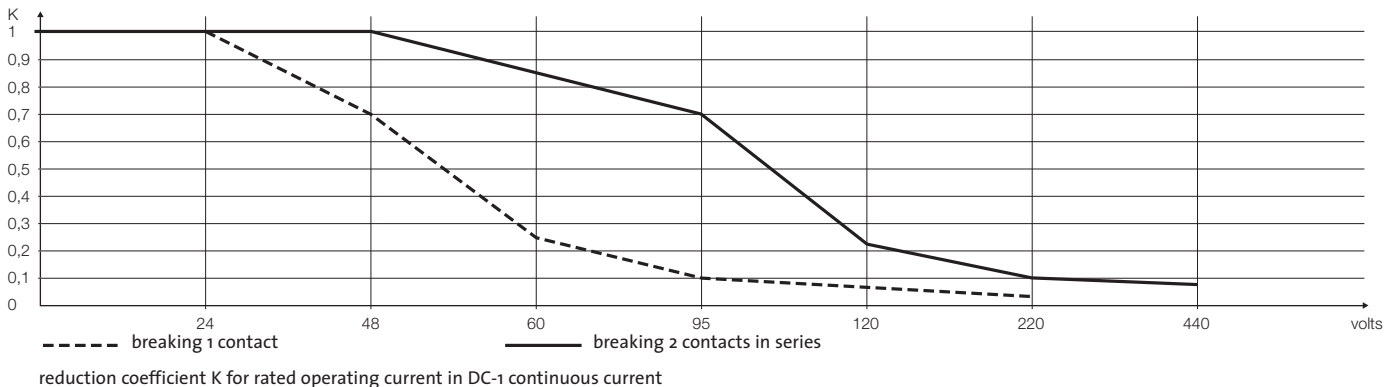
### ► Technical Specifications

IEC Characteristics	PR 12	PR 17	PR 21	PR 26	PR 40	PR 63	PR 125	PR 160
<b>► Performance in AC 3 - cont.</b>								
- In HP (for reference)								
- 3 x 230 V	4	5.5	5.5	7.5	15	20	-	-
- 3 x 400 V	5.5	10	10	15	25	30	-	-
- 3 x 500 V	7.5	10	10	15	25	30	-	-
- 3 x 690 V	4	10	10	15	25	30	-	-
<b>► Rated insulation voltage <math>U_i</math> (V)</b>								
- Max. rated voltage $U_e(v)$ IEC	690	690	690	690	690	690	690	690
- CSA (Canada)	600	600	600	600	600	600	600	600
- UL (USA)	600	600	600	600	600	600	600	600
<b>► Rated short time withstand current <math>I_{cw}</math> (A) for 1 sec</b>								
	300	400	420	800	1000	1000	2000	2400
<b>► Maximum wire size (mm<sup>2</sup>)</b>								
- rigid	4	6/4 <sup>(1)</sup>	6/4 <sup>(1)</sup>	6	16	16	ø 8 screw for eyelet	
- flexible	2.5	4	4	6	16	16	ø 8 screw for eyelet	
<b>► Maximum wire size (AWG)</b>								
- rigid	10	8/10 <sup>(1)</sup>	8/10 <sup>(1)</sup>	8	6	6		
- flexible	14	12	12	8	6	6		
(1): These values correspond to terminals with jumpers								
<b>► Mechanical durability</b> 1,250,000 operations, maximum rate 150 operations per hour								
<b>► Operating temperature limits</b> - 20°C to + 70°C - 4°F to + 158°F (beyond these limits consult us)								

### ► Rated operating current in DC-1 low inductive loads (< 1 ms)

	PR 12	PR 17	PR 21	PR 26	PR 40	PR 63	PR 125	PR 160
Rated operating current $I_e$ (A) 24 V DC	16	20	25	32	50	80	-	-

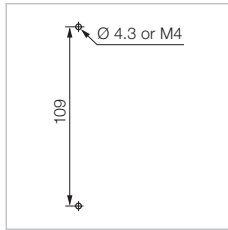
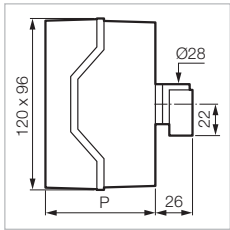
$I_e$  (A): rated current for breaking 1 contact. For higher voltages you must use a reduction coefficient K in the following graph



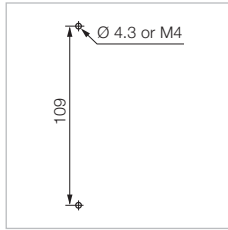
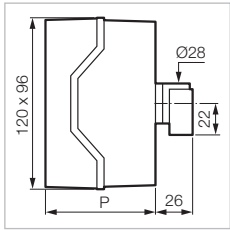
## CAM SWITCHES

### ► Dimensions

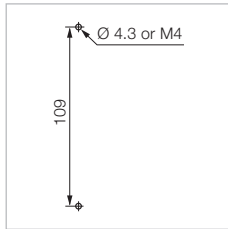
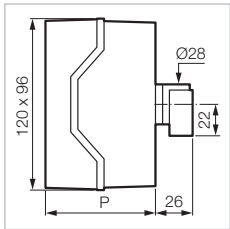
#### ENCLOSURES



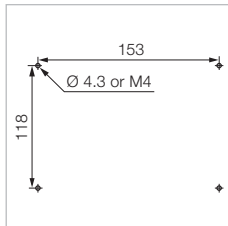
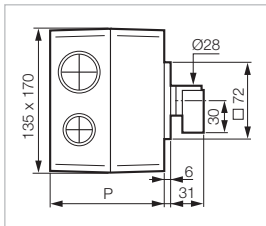
PR 12	No. of contacts	P*
	1-6	77
	7-10	101



PR 17/21	No. of contacts	P*
	1-6	77
	7-10	101



PR 26	No. of contacts	P*
	1-4	77
	5-8	101



PR 40/63	No. of contacts	P*
	1-4	107
	5-8	145