

T Rotary Switches, P Switch-Disconnectors

Main Switches, Maintenance Switches

Rotary Switches
Switch-Disconnectors

Circuit diagram	Front plate no.	Main contacts	Auxiliary contacts	Max. three-phase motor rating (per set of 3 contacts) 50 – 60 Hz	Rated uninter-rupted current I _u	For use as -> Flush mounting Front IP 65
	FS 908	No. of poles M	M B	AC-3 220 V 380 V 660 V 230 V 400 V 690 V 240 V 440 V	kW kW kW	A
						Basic type For ... insert mounting form
						Mounting form Article no.
						Price See Price List

Main switches

	1	0 0	1 1.3 -	20	T0-1-8200/...	EA/SVB 053110
			1.8 3.6 -	32	T3-1-8200/...	EA/SVB 066576
			5 7.3 -	63	T5B-1-8200/...	EA/SVB 094279
			7.3 12.3 -	100	T5-1-8200/...	EA/SVB 097224
	2	0 0	2.2 2.2 -	20	T0-1-102/...	EA/SVB 091078
			3 5.5 -	32	T3-1-102/...	EA/SVB 014374
			7.5 11 -	63	T5B-1-102/...	EA/SVB 094469
			11 18.5 -	100	T5-1-102/...	EA/SVB 098808
	3	0 0	3 4 4	20	T0-2-1/...	EA/SVB 038873
			5.5 7.5 7.5	25	P1-25/...	EA/SVB 041097
			7.5 13 15	32	P1-32/...	EA/SVB 081438
			15 30 30	63	P3-63/...	EA/SVB 031607
			22 37 37	100	P3-100/...	EA/SVB 074320
			22 37 22	125	T6-2/...	EA/SVB 012679
	3+N	0 0	3 4 4	20	T0-2-8900/...	EA/SVB 207400
			5.5 7.5 7.5	25	P1-25/...	EA/SVB/N 081587
			7.5 13 15	32	P1-32/...	EA/SVB/N 091079
			15 30 30	63	P3-63/...	EA/SVB/N 010398
			22 37 37	100	P3-100/...	EA/SVB/N 019890
	6	0 0	3 4 4	20	T0-3-8342/...	EA/SVB 029382
			6.5 12 15	32	T3-3-8342/...	EA/SVB 071326
			15 22 22	63	T5B-3-8342/...	EA/SVB 092308
			18.5 30 30	100	T5-3-8342/...	EA/SVB 096383
	8	0 0	3 4 4	20	T0-4-8344/...	EA/SVB 008267
			6.5 12 15	32	T3-4-8344/...	EA/SVB 008964
			15 22 22	63	T5B-4-8344/...	EA/SVB 092062
			22 30 30	100	T5-4-8344/...	EA/SVB 095961

T Rotary Switches, P Switch-Disconnectors Front Plates

Rotary Switches
Switch-Disconnectors

Switch size	Dimensions mm	Standard front plates		Emergency-Stop front plates Yellow		Blank plates Can be engraved on rear	
		Type Article no. State front plate no. required	Price See Price List	Type Article no.	Price See Price List	Type Article no.	Price See Price List
T0, T3, P1	45 × 45 (frame size 48 × 48)	FS...-T0 903197		FS 908 GE-T0 003198		FS 980-T0 003199	
P3, T5, T5B	84 × 84 (frame size 88 × 88)	FS...-P3 995545		FS 908 GE-P3 031475		FS 980-P3 043340	
TM	29 × 29 (frame size 30 × 30)	-		-		FS 980-TM-E 071438	
		-		-		FS 980-TM-EZ 073811	

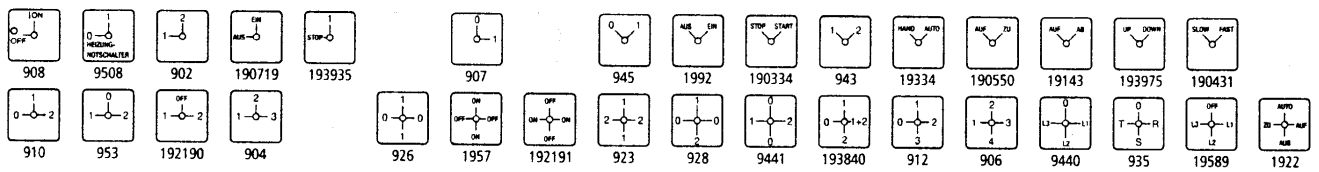
Standard front plates
Silver-coloured with black lettering

Standard pack: 1 off

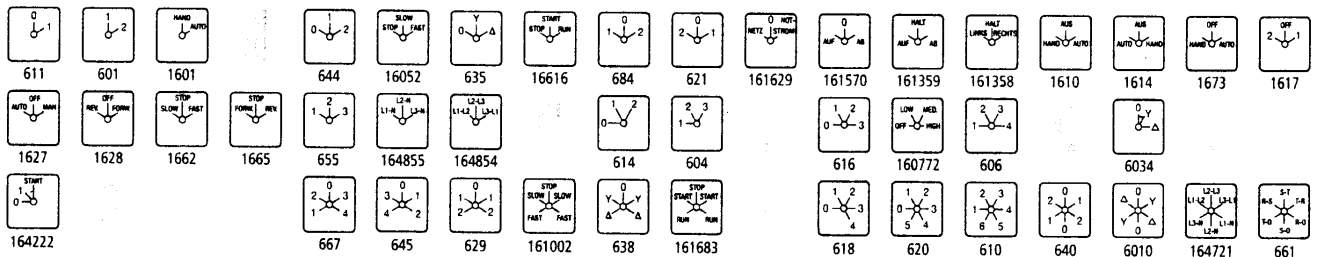
The standard front plates illustrated should be used for non-standard switches where possible. Standard catalogue front plates for standard switches can be exchanged on request with order, for those illustrated here, at no extra charge (not applicable to T6, T8 and TM), provided the switching angles, the number of switch positions, and the location of the 0 position match.

Example: T0-1-8210/E+FS161570

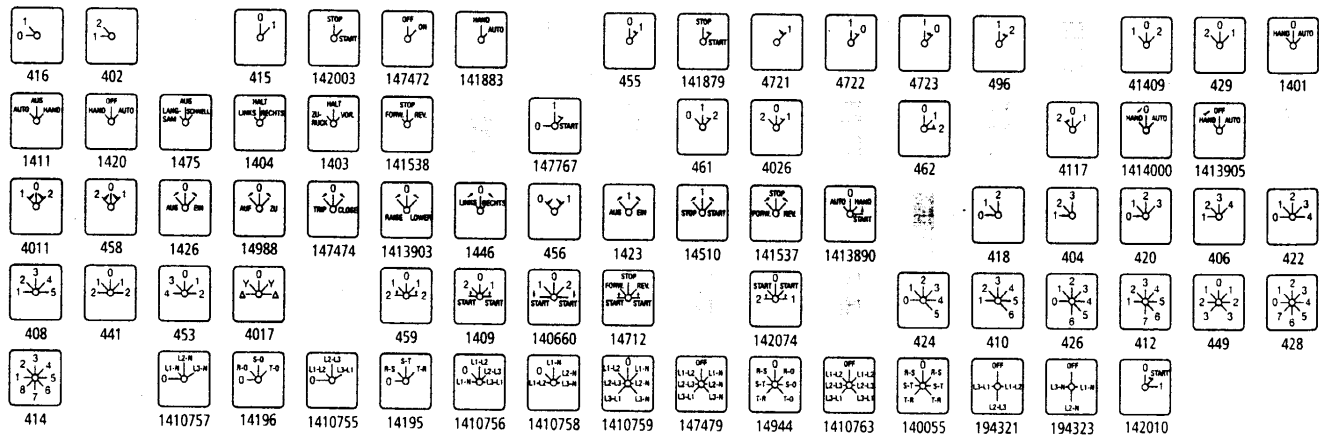
Switching angle 90°



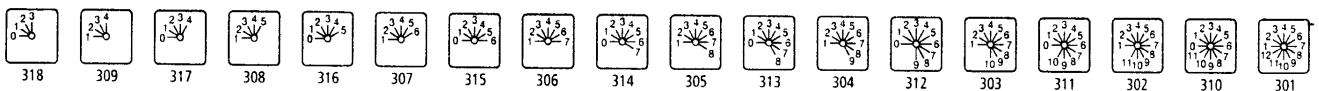
Switching angle 60°



Switching angle 45°



Switching angle 30°



T Rotary Switches, P Switch-Disconnectors Front Plates

Non-standard front plates

Non-standard front plates

Height of letters

Type
Article no.

Price
See Price
List

Type suffix
Article no.

Price
See Price
List

≤ 2 characters

> 2 characters

mm

mm

Non-standard front plates

4.0	3.0	FS-SOND-T0 003200	+FS-SOND-T0 065213
8.0	5.0	FS-SOND-P3 060606	+FS-SOND-P3 065214
3.5	2.5	FS-SOND-TM-E 092829	-
3.5	2.5	FS-SOND-TM-EZ 095202	-

Non-standard front plates

Silver-coloured with black lettering

Standard pack: 1 off

Inscription to order (note maximum number of characters per field)

The FS number is sufficient for reordering.

For non-standard T0, T3 and T5(B) switches, the front plate is included in the price.

For standard switches, the front plate is included in the price for orders exceeding 49 off.

Switching angle

90°/45°

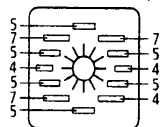
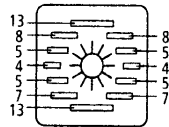
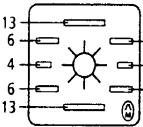
60°/30°

60°/30°

Max. number of characters

FS-SOND-T0 (T3, T5)

FS-SOND-TM-E (EZ)



FS-SOND-T0 (T3, T5, P1, P3)

Standard front plates

arranged in their numerical sequence:

301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317

318 402 404 406 408 410 412 414 415 416 418 420 422 424 426 428 429

441 449 453 455 456 458 459 461 462 496 601 604 606 610 611 614 616

618 620 621 629 635 638 640 644 645 655 661 667 684 902 904 906 907

908 910 912 923 926 928 935 943 945 953 980 1401 1403 1404 1409 1411 1420

1423 1426 1446 1475 1601 1610 1614 1617 1627 1628 1662 1665 1673 1922 1957 4011

4017 4026 4117 4721 4722 4723 6010 142010 6034 9440 9441 9508 14195 14196 14510 14712 14944

14988 16052 16616 19143 19334 19589 41409 140055 140660 141537 141538 141879 141883 142003 142074 147472 147474

147479 147767 160772 161002 161358 161359 161570 161629 161683 164222 164721 164854 164855 190334 190431 190550 190719

192190 192191 193840 193935 193975 194321 194323 1410755 1410756 1410757 1410758 1410759 1410763 1413890 1413903 1413905 1414000

Rotary Switches
Switch-Disconnectors

T Rotary Switches, P Switch-Disconnectors Contact Sequences

	Basic type	Contact sequence		Basic type	Contact sequence
Main switches On-Off switches Safety switches without auxiliary contacts Switching angle 90°	T0-1-8200/...		Main switches On-Off switches Safety switches with auxiliary contacts Switching angle 90°	T0-2-15679/...	
	T3-1-8200/...			P1-25/.../HI11	
	T5B-1-8200/...			P1-32/.../HI11	
	T5-1-8200/...			P3-63/.../HI11	
	T0-1-102/...			P3-100/.../HI11	
	T3-1-102/...			T0-3-15683/...	
	T5B-1-102/...			T3-3-15683/...	
	T5-1-102/...			P1-25/.../N/HI11	
	T0-2-1/...			P1-32/.../N/HI11	
	P1-25/...			P3-63/.../N/HI11	
	P1-32/...			P3-100/.../N/HI11	
	P3-63/...			T0-3-15681/...	
	P3-100/...			T3-3-15681/...	
	T6-2/...			T5B-3-8901/...	
	T0-2-8900/...			TB-3-8901/...	
	P1-25/.../N			T0-4-15682/...	
	P1-32/.../N			T3-4-15682/...	
	P3-63/.../N			T5B-4-15682/...	
	P3-100/.../N			T5-4-15682/...	
	T0-3-8342/...			T6-160-6/...	
	T3-3-8342/...			T8-3-8342/...	
	T5B-3-8342/...			T5B-4-8903/...	
	T5-3-8342/...			T5-4-8903/...	
	T0-4-8344/...				
	T3-4-8344/...				
	T5B-4-8344/...				
	T5-4-8344/...				


Rotary Switches
Switch-Disconnectors

HPL 1999/2000

P Switch-Disconnectors

Technical Data

 Rotary Switches
Switch-Disconnectors

				P1-25	P1-32	P3-63	P3-100	
General								
Standards				IEC/EN 60 947, IEC/EN 60 204, CSA, UL Switch-disconnectors to IEC/EN 60 947-3 				
Lifespan, mechanical	Operations			3×10^5	3×10^5	10^5	10^5	
Max. operating frequency	Ops./h			50	50	50	50	
Climatic proofing				Damp heat, constant, to IEC 60 068 Part 2-3 Damp heat, cyclic, to IEC 60 068 Part 2-30				
Ambient temperature	Open	Min./Max.	°C	-25/+50	-25/+50	-25/+50	-25/+50	
	Enclosed	Min./Max.	°C	-25/+40	-25/+40	-25/+40	-25/+40	
Mounting position				As required				
Dimensions				→ Page 07/103				
Weights				→ Page 18/025				
Mechanical shock resistance (half-sinusoidal shock 20 ms)				g	> 20	> 20	> 20	> 20
Contacts								
Rated operational voltage U_e				V AC	690	690	690	690
Rated impulse withstand voltage U_{imp}				V	6000	6000	6000	6000
Overvoltage category/pollution degree					III/3	III/3	III/3	III/3
Rated uninterrupted current I_u (with max. cable connected)				A	25	32	63	100
Load-carrying capacity in intermittent operation, Class 12, AB 60/40/25 % DF $\times I_e$					1.3/1.6/2	1.3/1.6/2	1.3/1.6/2	1.3/1.6/2
Short-circuit rating	Max. fuse			A gL	25	50	80	100
Rated short-time withstand current (1 s current) I_{cw}				A_{rms}	640	640	1260	2000
Isolating characteristics to IEC/EN 60 947				Up to VAC	660/690	660/690	660/690	660/690
Safe isolation to VDE 0106 Part 101 and Part 101 A1 between the main contacts and the auxiliary contacts				V AC	440	440	440	440
Protection against direct contact				Finger- and back-of-hand proof to IEC 536				
Switching angles					90°	90°	90°	90°
Contacts (current paths)				Max.	7	7	7	7
Current heat loss per contact at I_e				W	1.1	1.8	4.5	7.5
Terminal capacity								
Solid or stranded ¹⁾				mm ²	1 × (1.5 - 6)	1 × (1.5 - 6)	1 × (2.5 - 35)	1 × (2.5 - 35)
				mm ²	2 × (1.5 - 6)	2 × (1.5 - 6)	2 × (2.5 - 10)	2 × (2.5 - 10)
Flexible including ferrule ¹⁾ (ferrule to DIN 46 228)				mm ²	1 × (1 - 4)	1 × (1 - 4)	1 × (1.5 - 25)	1 × (1.5 - 25)
				mm ²	2 × (1 - 4)	2 × (1 - 4)	2 × (1.5 - 6)	2 × (1.5 - 6)
Terminal screw					M4	M4	M5	M5

Notes

Main switch characteristics to IEC/EN 60 204;
positive opening of contacts, operator element positively located on shaft

¹⁾ P1-...:
Max. 2 sizes difference admissible between 2
conductors
P3-...:
Max. 2 sizes difference admissible between 2
conductors

P Switch-Disconnectors

Technical Data

			P1-25	P1-32	P3-63	P3-100	
Switching capacity							
AC							
	Rated making capacity	$\cos \varphi = 0.35$	A	240	320	800	950
	Rated breaking capacity	230 V AC, $\cos \varphi = 0.35$	A	190	260	640	760
	Motor load switches	400 V AC, $\cos \varphi = 0.35$	A	150	300	600	740
		500 V AC, $\cos \varphi = 0.35$	A	170	290	590	880
		690 V AC, $\cos \varphi = 0.35$	A	150	250	340	520
AC-21A	Load-break switches	Rated operational current I_e 380 – 440 V, 3~	A	25	32	63	100
AC-3	Motor load switches, for operational switching	220 – 240 V, 3~	kW	5.5	7.5	15	22
		380 – 440 V, 3~	kW	7.5	13	30	37
		500 V, 3~	kW	7.5	18.5	30	45
		660/690 V, 3~	kW	7.5	15	30	37
AC-23A	Motor load switches (Main switches, maintenance switches)	220 – 240 V, 3~	kW	7	8.5	18.5	30
		380 – 440 V, 3~	kW	13	15	37	50
		500 V, 3~	kW	11	18.5	37	65
		660/690 V, 3~	kW	11	18.5	30	75
DC							
DC-1	Load-break switches L/R = 1 ms	Rated operational current I_e	A	25	32	63	100
		Voltage per contact pair in series	V	60	60	60	60
DC-23A	Motor load switches L/R = 15 ms	24 V	A	25 (1)	25 (1)	50 (1)	50 (1)
		48 V	A	25 (2)	25 (2)	50 (2)	50 (2)
		60 V	A	25 (3)	25 (3)	50 (3)	50 (3)
		120 V	A	12 (3)	12 (3)	25 (3)	25 (3)
		Figures in brackets: number of contacts to be switched in series					
			N-P1...	N-P3...			
Switched neutral							
Switching capacity			As P1-32		As P3-100		
HI11-P1/P3							
Auxiliary contacts							
Standards			Control circuit isolators to IEC/EN 947 Part 5/EN 60 947 Part 5 ☉				
Rated insulation voltage U_i			V AC	500			
Rated uninterrupted current I_u with max. cable connected			A	10			
Rated operational current I_e AC-15 at 220 – 240/380 – 415/500 V			A	6/4/3			
Short-circuit rating without welding Maximum fuse			A gL	10			
Terminal capacity $s = \text{solid}$		Min. s/f	mm ²	0.75/0.5			
$f = \text{flexible with ferrule}$		Max. s/f	mm ²	2.5/1.5			
Control circuit reliability 24 V DC, 10 mA		Fault probability	H _F	< 10 ⁻⁵ , < 1 fault in 100 000 operations			

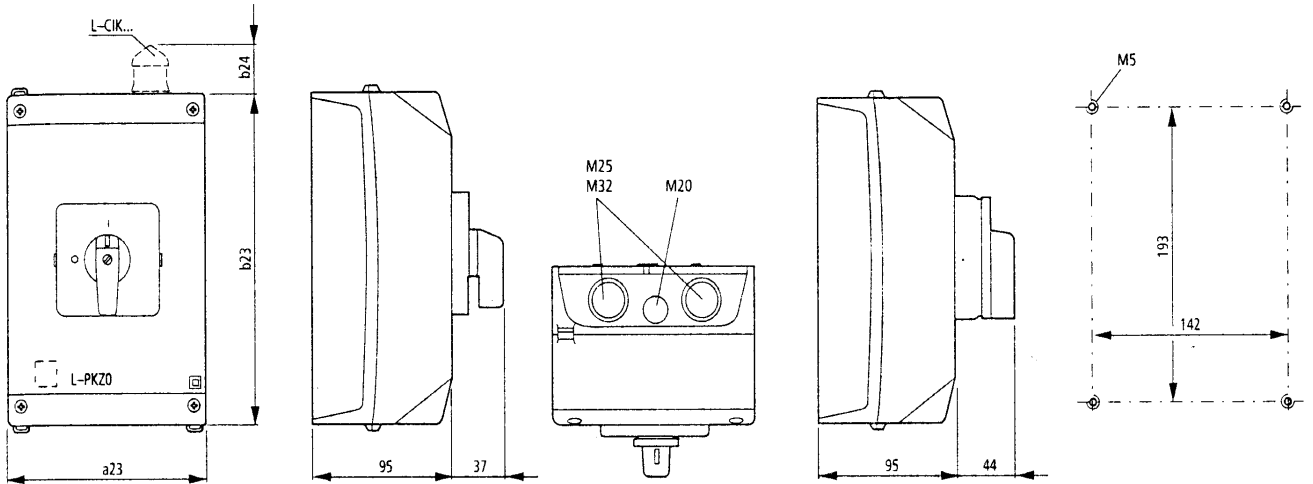
P Switch-Disconnectors

Dimensions

Surface mounting
P3-63/14

Surface mounting main switches/safety switches
P3-63/14/SVB
P3-63/14/SI
T5B-.../14/SI

Drilling dimensions

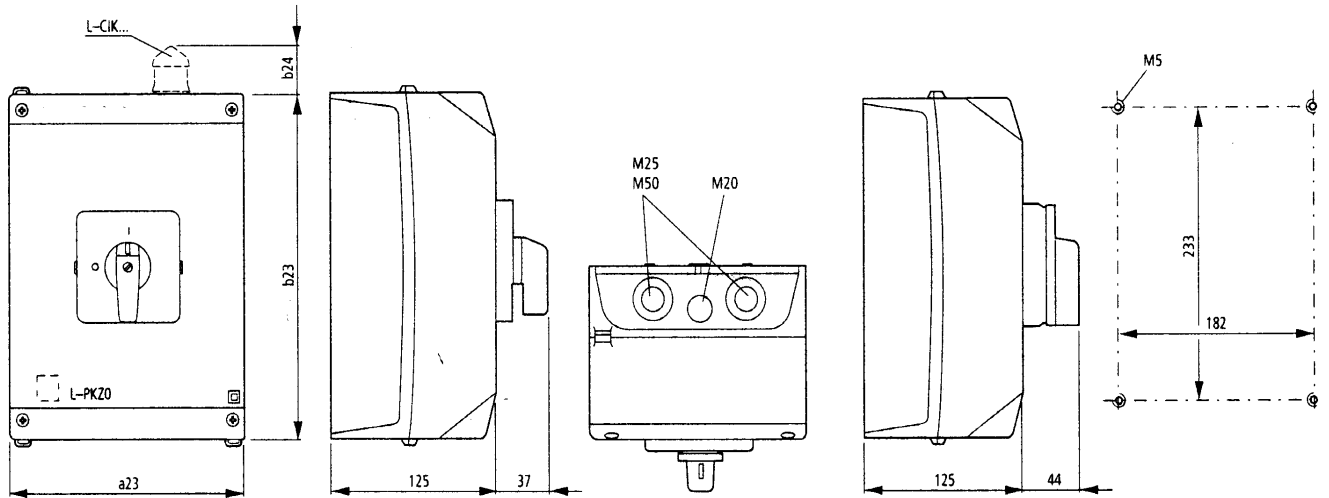


Surface mounting

P3-100/15

Surface mounting main switches/safety switches
P3-100/15/SVB
P3-100/15/SI
T5-.../15/SI

Drilling dimensions



Type	a2	a3	a4	a21	a22	a23	a31	a32	a33	b2	b3	b21	b22	b23	b24	b31
P1.../12	48	49	53.5	65	48	100	15	15	83	48	70	65	17	180	35.5	49
P3-63/14	87	72	71.5	87	87	160	18	15	114	87	83	87	27	240	35.5	60
P3-100/15	87	72	71.5	87	87	200	18	15	114	87	83	87	27	280	35.5	60

Type	c2	c3	c20 min./max.	c20 with up to 4 ZAV/ZVV	c21	c22	c23	c24	c25	c27	c28	c31	c32	c33
P1.../12	59	86	96 - 112	212	35	32	65	68	58	35	80	25	25	27
P3-63/15	59	82	103 - 118	218	37	41	63	81	65	44	125	25	25	37
P3-100-15	59	82	103 - 118	218	37	41	63	81	65	44	125	25	25	37

