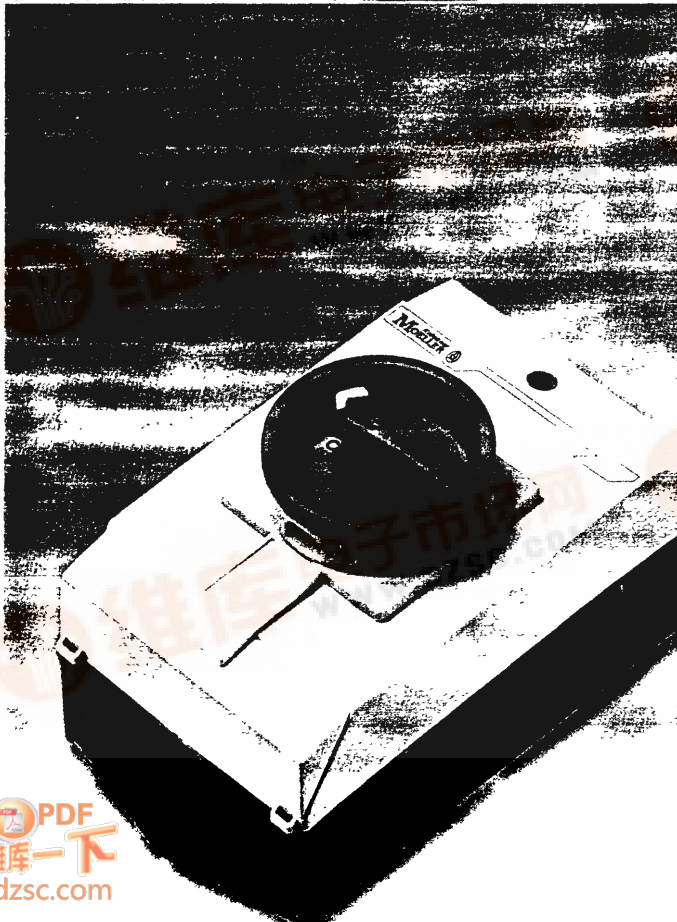
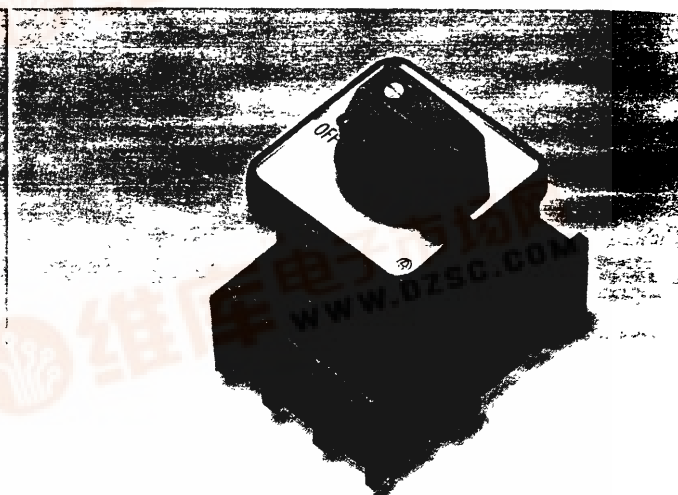


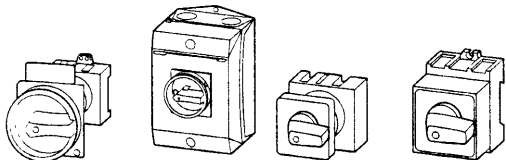
T Rotary Switches, P Switch-Disconnectors

Rotary Switches
Switch-Disconnectors

T Rotary Switches, P Switch-Disconnectors

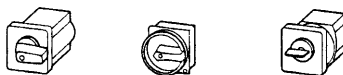
Overview

T rotary switches, P switch-disconnectors



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TM mini rotary switches

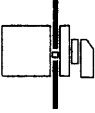
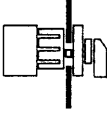
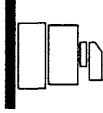
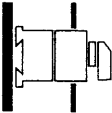
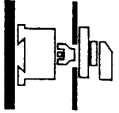


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Technical data	07/093
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T Rotary Switches, P Switch-Disconnectors

Overview of Functions

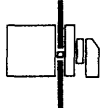
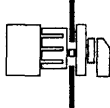
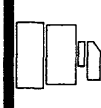
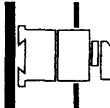
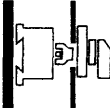
Function	Flush mounting .../E...	Centre mounting .../EZ...	Surface mounting .../I...	Service distribution board mounting .../IVS...	Rear mounting .../Z...
					
On-Off switches					
Main switches Maintenance switches For use as Emergency-Stop devices ¹	→ 07/012		→ 07/013		→ 07/013
Main switches Maintenance switches with auxiliary contacts For use as Emergency-Stop devices ¹	→ 07/014		→ 07/015		→ 07/015
Main switches Maintenance switches	→ 07/013		→ 07/013		→ 07/013
Main switches Maintenance switches with auxiliary contacts	→ 07/015		→ 07/015		→ 07/015
On-Off switches with black thumb-grip	→ 07/016 → 07/072	→ 07/017 → 07/072	→ 07/017	→ 07/017	→ 07/017
On-Off switches with black thumb-grip with auxiliary contacts	→ 07/018	→ 07/019	→ 07/019	→ 07/019	→ 07/019
On-Off switches For use as Emergency-Stop devices ¹	→ 07/020		→ 07/021	→ 07/021	
Control circuit isolators	→ 07/072				
Safety switches 25 – 100 A For use as Emergency-Stop devices ¹			→ 07/022		
Safety switches 25 – 100 A			→ 07/023		
Safety switches 63 – 200 A			→ 10/022		
Safety switches 250 – 315 A			→ 10/040		

Notes

¹ To IEC/EN 60 204-1;
With red thumb-grip and yellow front plate

T Rotary Switches, P Switch-Disconnectors

Overview of Functions

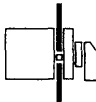
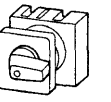
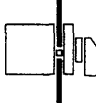
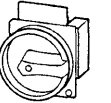
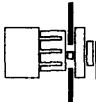
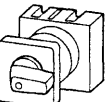
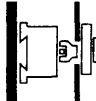
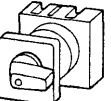
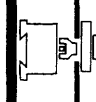
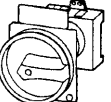
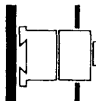
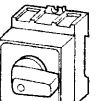
Function	Flush mounting .../E...	Centre mounting .../EZ...	Surface mounting .../I...	Service distribution board mounting .../IVS...	Rear mounting .../Z...
					
Control switches					
Changeover switches Mains transfer-, group switches	→ 07/024 → 07/073	→ 07/025 → 07/073	→ 07/025	→ 07/025	→ 07/025
Reversing switches	→ 07/030 → 07/080	→ 07/031 → 07/080	→ 07/031	→ 07/031	→ 07/031
Star-delta switches	→ 07/030	→ 07/031	→ 07/031	→ 07/031	→ 07/031
Multi-speed switches	→ 07/032	→ 07/033	→ 07/033	→ 07/033	→ 07/033
Step switches	→ 07/034 → 07/075	→ 07/034 → 07/075	→ 07/035	→ 07/035	→ 07/035
On-Off switches, changeover switches	→ 07/038 → 07/079	→ 07/038 → 07/079	→ 07/039	→ 07/039	→ 07/039
Hand/Auto switches	→ 07/040 → 07/074	→ 07/040 → 07/074	→ 07/041	→ 07/041	→ 07/041
Spring-return switches	→ 07/042 → 07/079	→ 07/042 → 07/079	→ 07/043	→ 07/043	→ 07/043
Universal control switches	→ 07/044	→ 07/044	→ 07/045	→ 07/045	→ 07/045
Coding switches	→ 07/044 → 07/080	→ 07/044 → 07/080	→ 07/045	→ 07/045	→ 07/045
Series switches	→ 07/044	→ 07/044	→ 07/045	→ 07/045	→ 07/045
Instrument selector switches (voltage)	→ 07/046	→ 07/046	→ 07/047	→ 07/047	→ 07/047
Instrument selector switches (current)	→ 07/046	→ 07/046	→ 07/047	→ 07/047	→ 07/047
Switches with locking arrangements	→ 07/048		→ 07/049		→ 07/049

T Rotary Switches, P Switch-Disconnectors

Technical Overview

				Switch size			
				TM	T0	T3	T5B
Three-phase motor rating	AC-3	220 – 240 V	kW	1,5	3	6,5	15
		380 – 440 V	kW	2,2	4	12	22
		690 V	kW	–	4	15	22
Rated operational current	AC-21	380 – 440 V, 3~	A	10	12	25	63
	AC-15	220 – 240 V	A	2,5	6	10	16
		380 – 415 V	A	1,5	4	6	6
Rated uninterrupted current			A	10	20	32	63
Mounting							

Mounting

		Type	Degree of protection				
Surface mounting ¹⁾							
		.../I ...	IP 65	—	●	●	●
		.../I 45/...	IP 65	—	—	—	—
		.../I 48/...	IP 65	—	—	—	—
Surface mounting main switch ¹⁾							
		.../I .../SVB...	IP 65	—	●	●	●
Flush mounting							
		.../E...	Front IP 65	●	●	●	●
Flush mounting main switch/flush mounting control circuit isolator							
		.../EA/SVB...	Front IP 65	—	●	●	●
		TM.../E/SVB	Front IP 65	●	—	—	—
Centre mounting							
		.../EZ...	Front IP 65	—	●	●	—
		TM.../EZ	Front IP 65	●	—	—	—
Rear mounting							
		.../Z...	Front IP 65	—	●	●	●
Rear mounting main switch							
		.../V/SVB...	Front IP 65	—	●	●	●
Service distribution board mounting							
		.../IVS...	Front IP 30	—	●	—	—

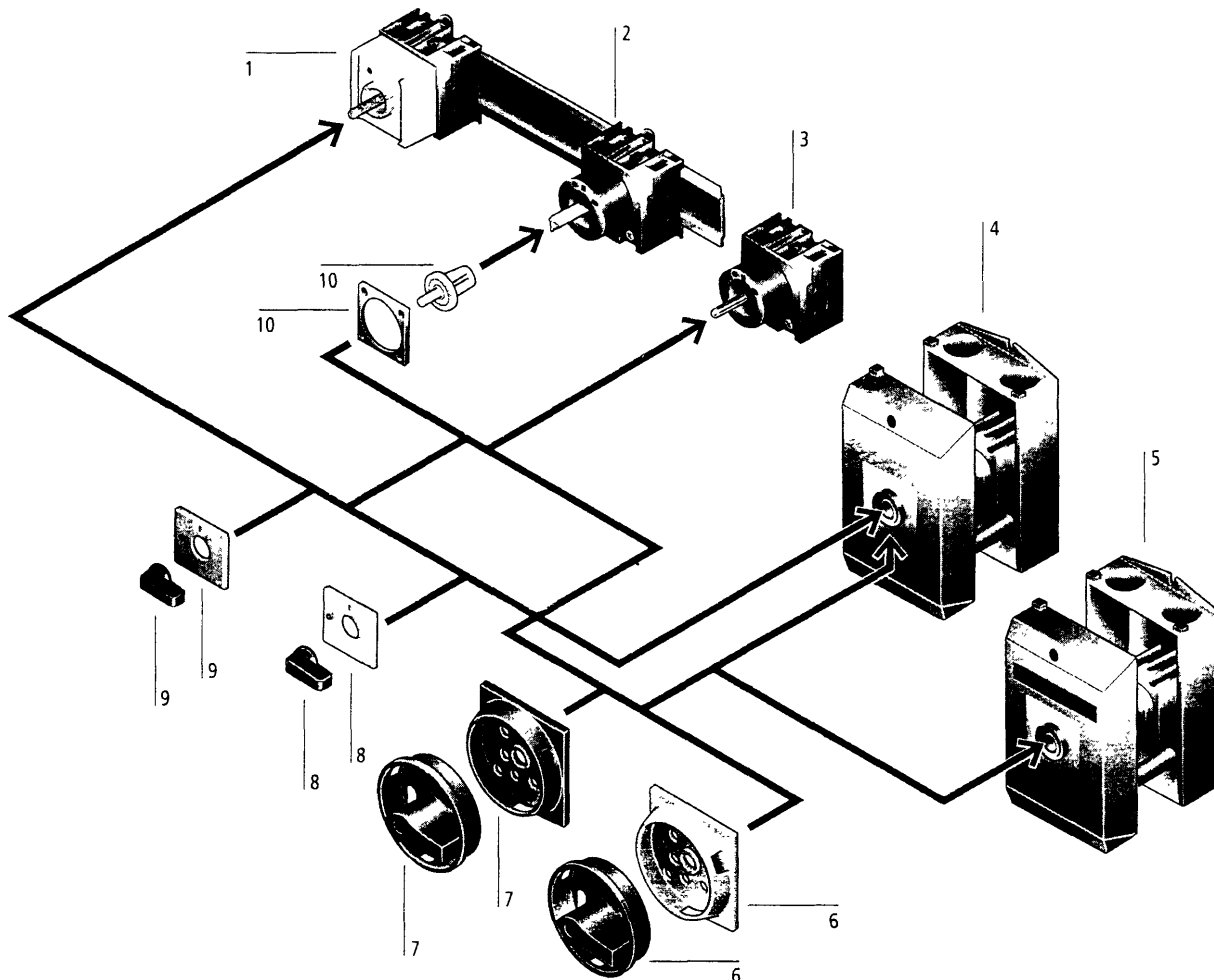
T Rotary Switches, P Switch-Disconnectors

Technical Overview

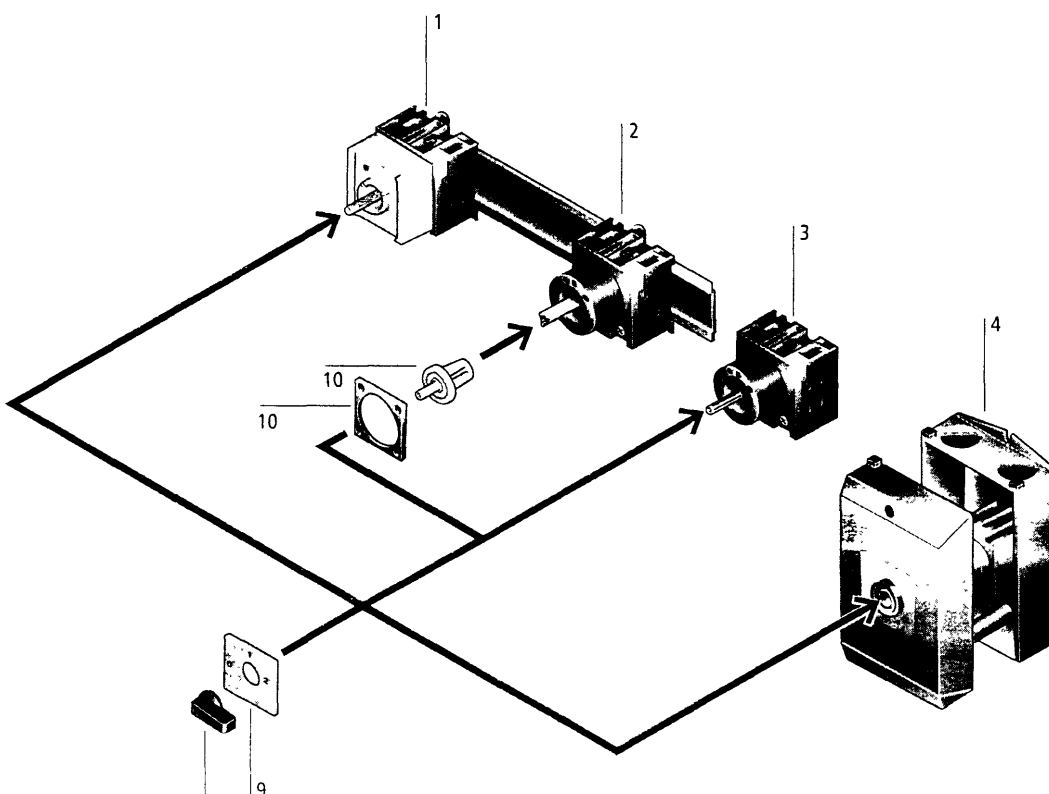
T5	T6-2	T6-3-8212	T6-160-6/...	T8-3-8342/...	T8-3-8212	P1		P3-63	P3-100
18,5	22	22	22	37	37	5,5	7,5	15	22
30	37	37	37	55	55	7,5	13	30	37
30	22	22	22	37	37	7,5	18,5	30	37
80	-	-	-	-	-	25	32	63	100
16	-	-	-	-	-				
6	-	-	-	-	-				
100	125	125	160	275/315	315	25	32	63	100

T Rotary Switches System Overview

T0, T3, T5B, T5 On-Off switches



T0, T3, T5B, T5 control switches



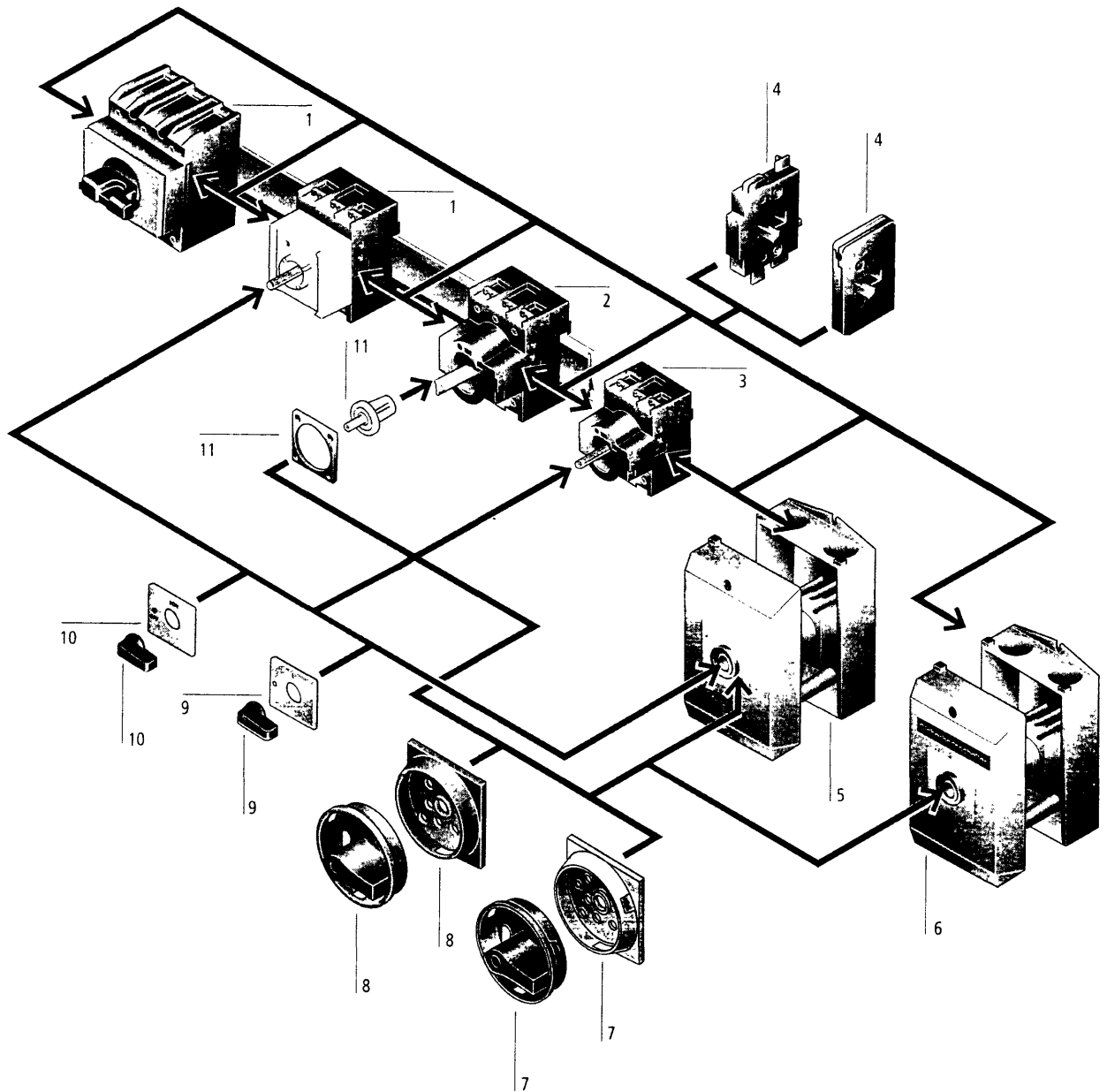
T Rotary Switches

System Overview

Distribution board mounting (.../IVS) 1 Front IP 30 For snap fitting on top-hat rail to EN 50 022 Flush mounting – Up to three contact units in a service distribution board (45 mm mounting depth) – Up to 11 contact units in a control panel → Page 07/017	Centre mounting (.../EZ) 3 Front IP 65 Mounting in a standard 22.3 mm aperture to IEC/EN 60 947-5-1 Centre fixing means 'one-man' fitting → Page 07/017	Main switch (assembly kit) 6 For use as Emergency-Stop device To IEC/EN 60 204-1 With red rotary handle and yellow locking collar Lockable in the 0 (Off) position → Page 07/060
Rear mounting (.../Z) 2 Front IP 65 Secure by snap fitting or screw fixing (T0 or T3) For snap fitting on top-hat rail to EN 50 022 Coupling drive in door or cover Connection from front → Page 07/017	Surface mounting (.../I...) 4 IP 65  Insulated PE terminal Enclosures designed for metric cable glands to EN 50 262 → Page 07/017	Main switch (assembly kit) 7 With black rotary handle and locking collar Lockable in the 0 (Off) position → Page 07/060
Rear mounting main switches (.../IV/SVB) 2 Front IP 65 To IEC/EN 60 204 and IEC/EN 60 947 Part 3, up to 8 contacts for T0..., and up to 12 contacts for T3 With door interlock in I (On) position → Page 07/013	Surface mounting main switches (.../I...) 4 IP 65  To IEC/EN 60 204 and IEC/EN 60 947 Part 3, up to 8 contacts for T0..., and up to 10 contacts for T3 Lockable in the 0 (Off) position using up to three padlocks Enclosures designed for metric cable glands to EN 50 262 → Page 07/013	Thumb-grip 8 for use in Emergency-Stop devices To IEC/EN 60 204-1 Red thumb-grip with yellow front plate → Page 07/060
Flush mounting (.../E) 3 Front IP 65 Fitting and connection from rear Terminal: Pozidriv screw Finger- and back-of-hand proof Type T8 with extension terminals as standard → Page 07/016	Safety switches (.../I...) 5 IP 65  Insulated PE terminal With cover fixing in the 0 (Off) position Lockable in the 0 (Off) position using up to three padlocks Enclosures designed for metric cable glands to EN 50 262 With 'Safety Switch' label Colour: orange For Switzerland: comply with the Swiss Accident Insurance Institute Directive → Page 07/022	Thumb-grip 9 Black thumb-grip with silver-coloured front plate → Page 07/060
Flush mounting main switches (.../EA/SVB) 3 Front IP 65 To IEC/EN 60 204 and IEC/EN 60 947 Part 3, 8 contacts for T0..., and up to 12 contacts for T3 N terminal and PE terminal → Page 07/012		Coupling drive 10 Includes push-fit shaft For retrofit conversion of T0(T3)-.../XZ basic switches to rear mounting form Spare part for T0(T3)/(P1)-.../Z For retrofit conversion of T5(B)-.../E flush mounting switches to rear mounting form Spare part for T5(B)-.../Z → Page 07/064

P Switch-Disconnectors System Overview

P1, P3 On-Off switches



p Switch-Disconnectors

System Overview

Distribution board mounting (.../IVS) 1	Flush mounting main switches (.../EA/SVB) 3	Safety switches (.../I...-SI) 6
Front IP 30	Front IP 65	IP 65 
Fitting dimensions to DIN 43 880	To IEC/EN 60 204 and IEC/EN 60 947 Part 3	Insulated PE terminal
For snap fitting on top-hat rail to EN 50 022	N terminal and PE terminal	With cover fixing in the 0 (Off) position
Space requirement	Lockable in the 0 (Off) position using up to three padlocks	Lockable in the 0 (Off) position using up to three padlocks
P1, 3-pole: 3 width units	2 add-on modules can be fitted (or retrofitted)	With 'Safety Switch' label
P3, 3-pole: 4 width units		Colour: orange
P3-.../IVS can be locked in 0 (Off) position by means of padlocking feature		Enclosures designed for metric cable glands to EN 50 262
→ Page 07/017	→ Page 07/012	For Switzerland: comply with the Swiss Accident Insurance Institute Directive
		→ Page 07/022
Rear mounting (.../Z) 2	Centre mounting (.../EZ) 3	Main switch (assembly kit) For use as Emergency-Stop device 7
Front IP 65	Front IP 65	To IEC/EN 60204 Part 1
Can be secured by snap fitting or screw fixing	Mounting in a standard 22.3 mm aperture to IEC/EN 60 947-5-1	With red rotary handle and yellow locking collar
For snap fitting on top-hat rail to EN 50 022	Centre fixing means 'one-man' fitting	Lockable in the 0 (Off) position
Coupling drive in door or cover	→ Page 07/017	→ Page 07/060
Connection from front		
2 add-on modules can be fitted (or retrofitted)		
→ Page 07/017		
	Add-on modules 4	Main switch (assembly kit) 8
	Switched neutral (early-make contact)	With black rotary handle and locking collar
	HI 11 auxiliary contact = 1 make contact + 1 break contact	Lockable in the 0 (Off) position
	Finger-proof	→ Page 07/060
	Auxiliary make contact: always connected as load-shedding contact (late-make, early-break)	
	→ Page 07/062	
Rear mounting main switches (.../V/SVB) 2	Surface mounting (.../I...) 5	Thumb-grip for use in Emergency-Stop devices 9
Front IP 65	IP 65 	To IEC/EN 60204 Part 1
To IEC/EN 60 204 and IEC/EN 60 947 Part 3	Insulated PE terminal	Red thumb-grip with yellow front plate
With door interlock in I (On) position	Add-on modules for retrofitting: P1: + 1, P3: + 2	→ Page 07/060
Maintenance key for commissioning or servicing	Enclosures designed for metric cable glands to EN 50 262	
Lockable in the 0 (Off) position using up to three padlocks	→ Page 07/017	Thumb-grip 10
2 add-on modules can be fitted (or retrofitted)		Black thumb-grip with silver-coloured front plate
→ Page 07/013		→ Page 07/060
	Surface mounting main switches (.../I...) 5	
	IP 65 	Coupling drive 11
	Insulated PE terminal	Includes push-fit shaft
	To IEC/EN 60 204 and IEC/EN 60 947 Part 3	For retrofit conversion of T0(T3)-.../XZ basic switches to rear mounting form
	Lockable in the 0 (Off) position using up to three padlocks	Spare part for T0(T3)/(P1)-.../Z
	Add-on modules for retrofitting: P1: + 1, P3: + 2	For retrofit conversion of T5(B)-.../E flush mounting switches to rear mounting form
	Enclosures designed for metric cable glands to EN 50 262	Spare part for T5(B)-.../Z
	→ Page 07/013	→ Page 07/064

T Rotary Switches, P Switch-Disconnectors

Key to Type References, Modular System

Rotary switches are suitable for a number of different switching and control functions, e.g. as On-Off switches, main/Emergency-Stop switches, main circuit/control circuit switches, instrument selector switches.

The switches consist of a handle, basic switch and mounting accessories.

The contact chambers (contact units) have one or two contacts.

Catalogue K115 shows over 800 standard contact sequences (Please enquire).

Examples of the most important standard contact sequences are shown on the following pages.

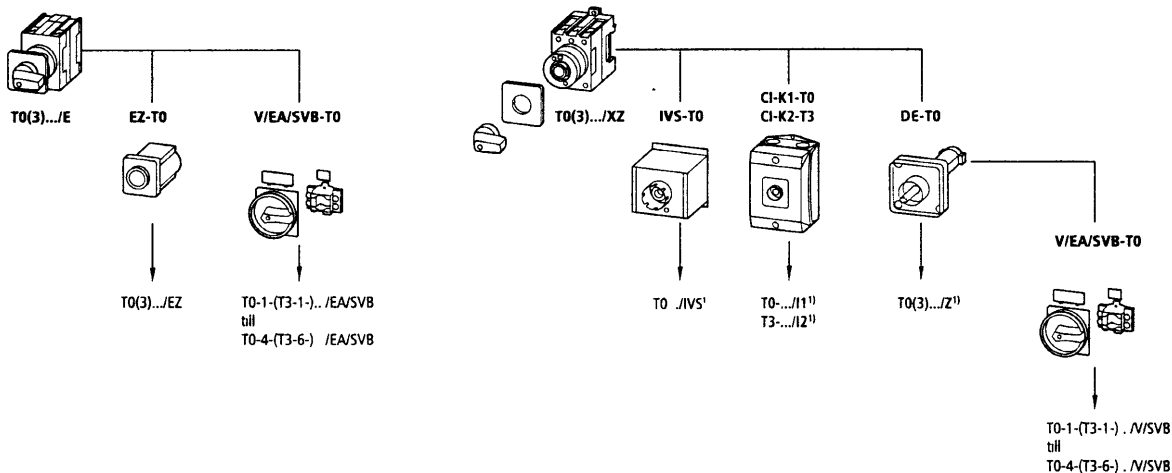
T rotary switches and P switch-disconnectors are manufactured without PCB, CFC, asbestos or silicon. The contacts are cadmium-free.

T0 and T3 rotary switches

Key to type references

Switch size T0 or T3	Number of contact chambers = contact units	Contact sequence number	Mounting form → Page 07/004	Front plate type (if different from list type) → Page 07/052	Accessories → Page 07/054
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Using the modular system to convert the mounting form of T0 and T3

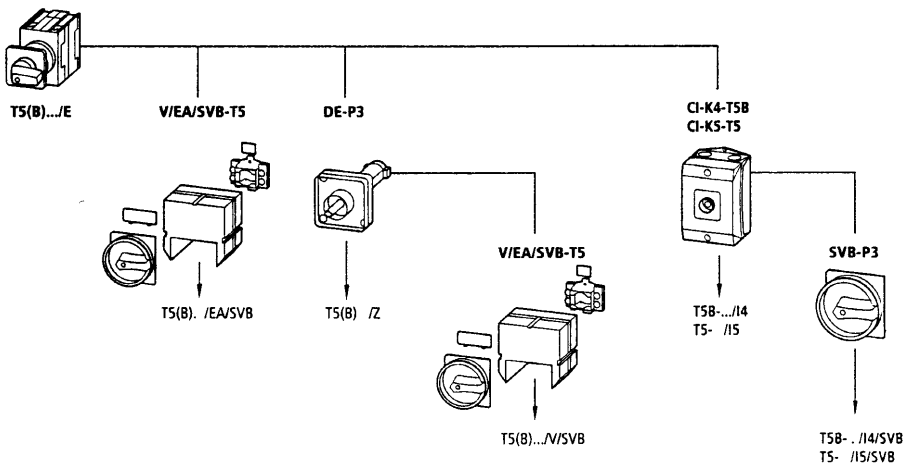


T5(B) rotary switches

Key to type references

Switch size T5(B)	Number of contact chambers = contact units	Contact sequence number	Mounting form → Page 07/004	Front plate type (if different from list type) → Page 07/052	Accessories → Page 07/054
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Using the modular system to convert the mounting form of T5(B)



Notes

Types preceded by "+" are additions to the basic type and cannot be ordered separately.

¹ Includes shaft

Rotary Switches, P Switch-Disconnectors

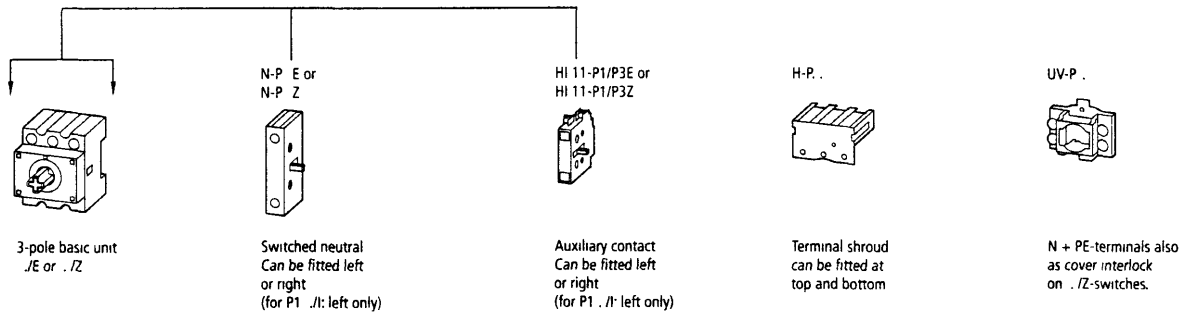
Key to Type References, Modular System

P1 and P3 switch-disconnectors

Key to type references

P.....				
↑	↑	↑	↑	↑
Switch size P1 or P3	Rated uninterrupted current	Mounting form → Page 07/005	Type suffix (if required)	Accessories → Page 07/054

Add-on functions provided by modular system



TM mini rotary switches

The TM rotary switch requires very little space due to its exceptionally small dimensions. It is particularly well suited for switching the low voltages and low currents which occur in electronic control panels, for example. The gold-plated contacts provide extra stability and safety.

TM mini rotary switches have consecutive terminal marking, starting with 1.

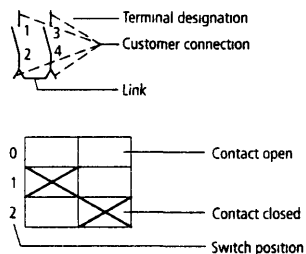
Select TM switches starting from → Page 07/072

Key to type references

TM-.....			
↑	↑	↑	↑
Number of contact chambers = contact units	Contact sequence number	Mounting form → Page 07/072	Accessories → Page 07/081

Circuit diagrams

On pages 07/012 – 051
and 07/072 – 080



Example:
(see also Ordering Example on Page 07/109)

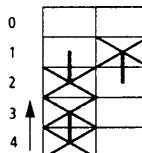


Switch position 1:
Contact 1 – 2 open,
Contact 3 – 4 closed.

Switching from 1 to 2:
Contact 1 – 2 closes with early make,
Contact 3 – 4 opens with late break.

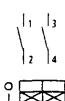
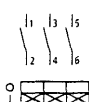
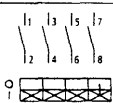
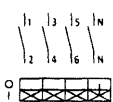
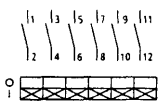
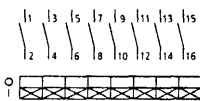
Switching from 2 to 3:
Contact 1 – 2 opens briefly.

Switching from 3 to 4:
Contact 1 – 2 remains closed.
Automatic return from 4 to 3.



T Rotary Switches, P Switch-Disconnectors

Main Switches, Maintenance Switches

Circuit diagram	Front plate no.	Main contacts	Auxiliary contacts	Max. three-phase motor rating (per set of 3 contacts) 50 – 60 Hz			Rated uninterrupted current I_u	For use as -> Flush mounting Front IP 65		
		No. of poles		AC-3						
				220 V	380 V	660 V				
				230 V	400 V	690 V				
				240 V	440 V					
										
	FS 908									
		M	M B	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	

Standard pack: 1 off

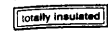
Notes

¹⁾ To IEC/EN 60 204 Part 1, with red rotary handle and yellow locking collar, lockable in 0 (Off) position

T Rotary Switches, P Switch-Disconnectors

Main Switches, Maintenance Switches

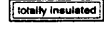
Emergency-Stop device¹⁾Surface mounting³⁾

 Totally insulated
IP 65

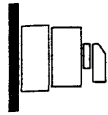
Rear mounting
Front IP 65

Without Emergency-Stop function²⁾

Flush
mounting
Front IP 65

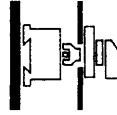
Surface
mounting³⁾  IP 65

Rear mounting
Front IP 65



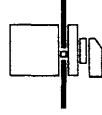
Mounting
form
Article no.

Price
See Price
List



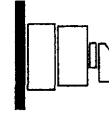
Mounting
form
Article no.

Price
See Price
List



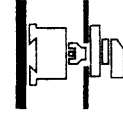
Mounting
form
Article no.

Price
See Price
List



Mounting form
Article no.

Price
See Price
List



Mounting form
Article no.

Price
See Price
List

11/SVB 207145	V/SVB 057856	EA/SVB-SW 055483	11/SVB-SW 207146	V/SVB-SW 060229
12/SVB 207200	V/SVB 007255	EA/SVB-SW 068949	12/SVB-SW 207201	V/SVB-SW 004882
14/SVB 207240	V/SVB 094273	EA/SVB-SW 094278	14/SVB-SW 207241	V/SVB-SW 094272
15/SVB 207275	V/SVB 097222	EA/SVB-SW 097223	15/SVB-SW 207276	V/SVB-SW 097221
11/SVB 207143	V/SVB 095824	EA/SVB-SW 093451	11/SVB-SW 207144	V/SVB-SW 022330
12/SVB 207198	V/SVB 019120	EA/SVB-SW 016747	12/SVB-SW 207199	V/SVB-SW 021493
14/SVB 207238	V/SVB 094463	EA/SVB-SW 094468	14/SVB-SW 207239	V/SVB-SW 094462
15/SVB 207273	V/SVB 098806	EA/SVB-SW 098807	15/SVB-SW 207274	V/SVB-SW 098805
11/SVB 207147	V/SVB 043619	EA/SVB-SW 041246	11/SVB-SW 207148	V/SVB-SW 045992
12/SVB 207293	V/SVB 055335	EA/SVB-SW 048365	12/SVB-SW 207294	V/SVB-SW 050738
12/SVB 207314	V/SVB 095676	EA/SVB-SW 053111	12/SVB-SW 207315	V/SVB-SW 055484
14/SVB 207343	V/SVB 048218	EA/SVB-SW 057857	14/SVB-SW 207344	V/SVB-SW 060230
15/SVB 207373	V/SVB 088558	EA/SVB-SW 062603	15/SVB-SW 207374	V/SVB-SW 064976
-	V/SVB 015052	EA/SVB-SW 067349	-	V/SVB-SW 069722
11/SVB 207151	V/SVB 207405	EA/SVB-SW 207401	11/SVB-SW 207152	V/SVB-SW 207406
12/SVB/N 207298	V/SVB/N 086333	EA/SVB-SW/N 083960	12/SVB-SW/N 207296	V/SVB-SW/N 088706
12/SVB/N 207319	V/SVB/N 095825	EA/SVB-SW/N 093452	12/SVB-SW/N 207317	V/SVB-SW/N 098198
14/SVB/N 207349	V/SVB/N 015144	EA/SVB-SW/N 012771	14/SVB-SW/N 207346	V/SVB-SW/N 017517
15/SVB/N 207379	V/SVB/N 024636	EA/SVB-SW/N 022263	15/SVB-SW/N 207376	V/SVB-SW/N 027009
11/SVB 207159	V/SVB 034128	EA/SVB-SW 031755	11/SVB-SW 207160	V/SVB-SW 036501
12/SVB 207208	V/SVB 076072	EA/SVB-SW 073699	12/SVB-SW 207209	V/SVB-SW 078445
14/SVB 207242	V/SVB 092300	EA/SVB-SW 092307	14/SVB-SW 207243	V/SVB-SW 092299
15/SVB 207279	V/SVB 096381	EA/SVB-SW 096382	15/SVB-SW 207280	V/SVB-SW 096380
11/SVB 207163	V/SVB 014007	EA/SVB-SW 008268	11/SVB-SW 207164	V/SVB-SW 008272
12/SVB 207212	V/SVB 020598	EA/SVB-SW 008965	12/SVB-SW 207213	V/SVB-SW 008967
14/SVB 207248	V/SVB 092056	EA/SVB-SW 092061	14/SVB-SW 207249	V/SVB-SW 092055
15/SVB 207283	V/SVB 095959	EA/SVB-SW 095960	15/SVB-SW 207284	V/SVB-SW 095958

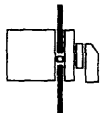
Standard pack: 1 off

 Rotary Switches
Switch-Disconnectors

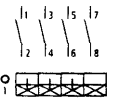
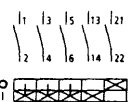
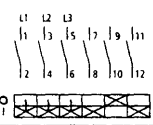
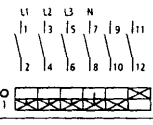
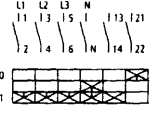
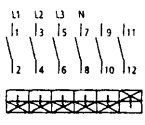
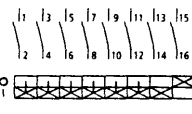
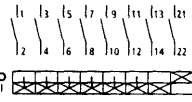
T Rotary Switches, P Switch-Disconnectors

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)	Rated uninterupted current I_u	For use as -> Flush mounting Front IP 65
		No. of poles		50 – 60 Hz		
				AC-3 220 V 380 V 660 V 230 V 400 V 690 V 240 V 440 V		
	FS 908	M	M B	kW kW kW	A	Basic type For ... insert mounting form
						Mounting form Article no.
						Price See Price List

Main switches with auxiliary contacts

	3	1 0	3 4 4	20	T0-2-15679/...	EA/SVB 081588
	3	1 1	5.5 7.5 7.5 7.5 13 15 15 30 30 22 37 37	25 32 63 100	P1-25/... P1-32/... P3-63/... P3-100/...	EA/SVB/HI11 091080 EA/SVB/HI11 072567 EA/SVB/HI11 019891 EA/SVB/HI11 029383
	3	2 1	3 4 4 6.5 12 15	20 32	T0-3-15683/... T3-3-15683/...	EA/SVB 015571 EA/SVB 040478
	3+N	1 1	3 4 4 6.5 12 15	20 32	T0-3-15680/... T3-3-15680/...	EA/SVB 038875 EA/SVB 012002
	3+N	1 1	5.5 7.5 7.5 7.5 11 15 15 30 30 22 37 37	25 32 63 100	P1-25/... P1-32/... P3-63/... P3-100/...	EA/SVB/N/HI11 048367 EA/SVB/N/HI11 057859 EA/SVB/N/HI11 067351 EA/SVB/N/HI11 076843
	3+N	1 1	3 4 4 6.5 12 15 15 22 22 18.5 30 30	20 32 63 100	T0-3-15681/... T3-3-15681/... T5B-3-8901/... T5-3-8901/...	EA/SVB 086335 EA/SVB 026240 EA/SVB 207420 EA/SVB 207408
	6	1 1	3 4 4 6.5 12 15 15 22 22 18.5 30 30	20 32 63 100	T0-4-15682/... T3-4-15682/... T5B-4-15682/... T5-4-15682/...	EA/SVB 019892 EA/SVB 054716 EA/SVB 207425 EA/SVB 207413
	6	1 1	22 37 37 37 55 37	160 315 ³⁾	T6-160-6/... T8-3-8342/...	- -

Standard pack: 1 off

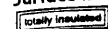
Notes

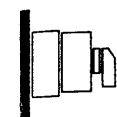
- 1) To IEC/EN 60 204 Part 1; with red rotary handle and yellow locking collar, lockable in 0 (Off) position
- 2) With black rotary handle and locking collar, lockable in 0 (Off) position
- 3) Enclosed version, up to 275 A
- 4) Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches, P Switch-Disconnectors

Main Switches, Maintenance Switches

Emergency-Stop device¹⁾Surface mounting⁴⁾

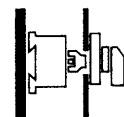
 Totally insulated
IP 65



Mounting
form
Article no.

Price
See Price
List

Rear
mounting
Front IP 65



Mounting
form
Article no.

Price
See Price
List

Without Emergency-Stop function²⁾

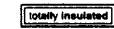
Flush
mounting
Front IP 65

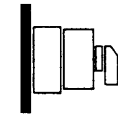


Mounting form
Article no.

Price
See Price
List

Surface mounting⁴⁾

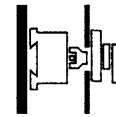
 Totally insulated
IP 65



Mounting form
Article no.

Price
See Price
List

Rear mounting
Front IP 65



Mounting form
Article no.

Price
See Price
List

11/SVB 207149	V/SVB 086334	EA/SVB-SW 083961	11/SVB-SW 207150	V/SVB-SW 088707
12/SVB/HI11 207297	V/SVB/HI11 095826	EA/SVB-SW/HI11 070194	12/SVB-SW/HI11 207295	V/SVB-SW/HI11 098199
12/SVB/HI11 207318	V/SVB/HI11 015145	EA/SVB-SW/HI11 012772	12/SVB-SW/HI11 207316	V/SVB-SW/HI11 017518
14/SVB/HI11 207348	V/SVB/HI11 024637	EA/SVB-SW/HI11 022264	14/SVB-SW/HI11 207345	V/SVB-SW/HI11 027010
15/SVB/HI11 207378	V/SVB/HI11 034129	EA/SVB-SW/HI11 031756	15/SVB-SW/HI11 207375	V/SVB-SW/HI11 036502
11/SVB 207157	V/SVB 015634	EA/SVB-SW 015600	11/SVB-SW 207158	V/SVB-SW 015664
12/SVB 207206	V/SVB 045224	EA/SVB-SW 042851	12/SVB-SW 207207	V/SVB-SW 047597
11/SVB 207153	V/SVB 043621	EA/SVB-SW 041248	11/SVB-SW 207154	V/SVB-SW 045994
12/SVB 207202	V/SVB 016748	EA/SVB-SW 014375	12/SVB-SW 207203	V/SVB-SW 019121
-	V/SVB/N/HI11 053113	EA/SVB-SW/N/HI11 050740	-	V/SVB-SW/N/HI11 055486
-	V/SVB/N/HI11 062605	EA/SVB-SW/N/HI11 060232	-	V/SVB-SW/N/HI11 064978
14/SVB/N/HI11 207350	V/SVB/N/HI11 072097	EA/SVB-SW/N/HI11 069724	14/SVB-SW/N/HI11 207347	V/SVB-SW/N/HI11 074470
15/SVB/N/HI11 207380	V/SVB/N/HI11 081589	EA/SVB-SW/N/HI11 079216	15/SVB-SW/N/HI11 207377	V/SVB-SW/N/HI11 083962
11/SVB 207155	V/SVB 091081	EA/SVB-SW 088708	11/SVB-SW 207156	V/SVB-SW 093454
12/SVB 207204	V/SVB 030986	EA/SVB-SW 028613	12/SVB-SW 207205	V/SVB-SW 033359
14/SVB 207244	V/SVB 207422	EA/SVB-SW 207421	14/SVB-SW 207245	V/SVB-SW 207423
15/SVB 207277	V/SVB 207410	EA/SVB-SW 207409	15/SVB-SW 207278	V/SVB-SW 207411
11/SVB 207161	V/SVB 024638	EA/SVB-SW 022265	11/SVB-SW 207162	V/SVB-SW 027011
12/SVB 207210	V/SVB 059462	EA/SVB-SW 057089	12/SVB-SW 207211	V/SVB-SW 061835
14/SVB 207246	V/SVB 207427	EA/SVB-SW 207426	14/SVB-SW 207247	V/SVB-SW 207428
15/SVB 207281	V/SVB 207415	EA/SVB-SW 207414	15/SVB-SW 207282	V/SVB-SW 207416
145/SVB/HI11 ⁵⁾ 201448	V/SVB/HI11 200619	-	145/SVB-SW/HI11 ⁵⁾ 201447	V/SVB-SW/HI11 200127
148/SVB/HI11 201450	V/SVB/HI11 200620	-	148/SVB-SW/HI11 201449	V/SVB-SW/HI11 200128

Standard pack: 1 off

T Rotary Switches, P Switch-Disconnectors On-Off Switches

Circuit diagram

Front
plate
noMain
contactsAuxiliary
contactsMax. three-phase
motor rating (per set of
3 contacts)
50 – 60 HzRated
unin-
ter-
rupted
current
 I_n Flush
mounting
Front IP 65No of
poles
 AC-3
 220 V 380 V 660 V
 230 V 400 V 690 V
 240 V 440 V


FS 908

M

M

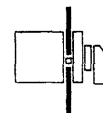
B

kW

kW

kW

A

Basic type
For ... insert
mounting
formMounting
form
Article noPrice
See Price
ListOn-Off switches¹⁾

1

0 0

1

1.3

–

20

T0-1-8200/...

E
067352

1.8

3.6

–

32

T3-1-8200/...

E
064208

5

7.3

–

63

T5B-1-8200/...

E
094281

7.3

12.3

–

100

T5-1-8200/...

E
097226

2

0 0

2.2

2.2

–

20

T0-1-102/...

E
088709

3

5.5

–

32

T3-1-102/...

E
076073

7.5

11

–

63

T5B-1-102/...

E
094471

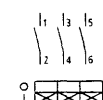
11

18.5

–

100

T5-1-102/...

E
098810

3

0 0

3

4

4

20

T0-2-1/...

E
024639

5.5

7.5

7.5

25

P1-25/...

E
038724

7.5

13

15

32

P1-32/...

E
079065

15

30

30

63

P3-63/...

E
026861

22

37

37

100

P3-100/...

E
067201

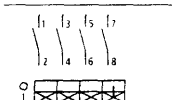
22

37

22

125

T6-2/...

E
098106

3+N

0 0

3

4

4

20

T0-2-8900/...

E
207398

5.5

7.5

7.5

25

P1-25/...

E/N
076845

7.5

13

15

32

P1-32/...

E/N
093456

15

30

30

63

P3-63/...

E/N
019894

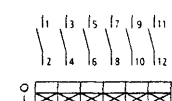
22

37

37

100

P3-100/...

E/N
031759

6

0 0

3

4

4

20

T0-3-8342/...

E
043624

6.5

12

15

32

T3-3-8342/...

E
045225

15

22

22

63

T5B-3-8342/...

E
092310

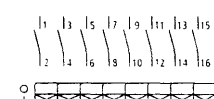
18.5

30

30

100

T5-3-8342/...

E
096385

8

0 0

3

4

4

20

T0-4-8344/...

E
014000

6.5

12

–

32

T3-4-8344/...

E
020593

15

22

22

63

T5B-4-8344/...

E
092064

22

30

30

100

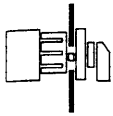
T5-4-8344/...

E
095963

T Rotary Switches, P Switch-Disconnectors

On-Off Switches

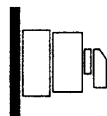
Centre mounting
Front IP 65



Mounting form
Article no.

Price
See Price
List

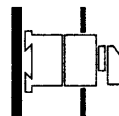
Surface mounting²⁾ 
IP 65



Mounting form
Article no.

Price
See Price
List

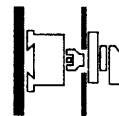
Service distribution board
mounting
Front IP 30



Mounting form
Article no.

Price
See Price
List

Rear mounting
Front IP 65



Mounting form
Article no.

Price
See Price
List

EZ 069725		I1 207074		IVS 074471		Z 076844	
EZ 066581		I2 207167		-		Z 071327	
-		I4 207218		-		Z 094270	
-		I5 207264		-		Z 097219	
EZ 091082		I1 207061		IVS 015147		Z 095828	
EZ 078446		I2 207165		-		Z 083192	
-		I4 207215		-		Z 094460	
-		I5 207262		-		Z 098803	
EZ 027012		I1 207081		IVS 031758		Z 036504	
EZ 041250		I2 207299		IVS 052962		Z 057708	
EZ 048369		I2 207320		IVS 093303		Z 098049	
-		I4 207356		IVS 041099		Z 050591	
-		I5 207381		IVS 081439		Z 090931	
-		-		-		-	
EZ 207402		I1 207109		IVS 207403		Z 207407	
EZ/N 079218		I2/N 207303		IVS/N 083964		Z/N 088710	
EZ/N 095829		I2/N 207324		IVS/N 010402		Z/N 015148	
-		I4/N 207360		IVS/N 022267		Z/N 027013	
-		I5/N 207385		IVS/N 034132		Z/N 038878	
EZ 045997		I1 207131		IVS 050743		Z 055489	
EZ 047598		I2 207187		-		Z 052344	
-		I4 207226		-		Z 092297	
-		I5 207267		-		Z 096378	
EZ 014002		I1 207139		IVS 014006		Z 014009	
EZ 020595		I2 207194		-		Z 020600	
-		I4 207233		-		Z 092053	
-		I5 207272		-		Z 095656	

Standard pack: 1 off

T Rotary Switches, P Switch-Disconnectors On-Off Switches

 Rotary Switches
Switch-Disconnectors

Circuit diagram

Front
plate
no.Main
contactsAuxiliary
contactsMax. three-phase
motor rating (per set of
3 contacts)Rated
unin-
ter-
rupted
current
 I_u Flush
mounting
Front IP 65No. of
poles

50 – 60 Hz

 AC-3
 220 V 380 V 660 V
 230 V 400 V 690 V
 240 V 440 V


FS 908

M

M

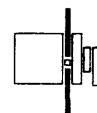
B

kW

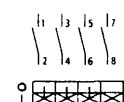
kW

kW

A

Basic type
For ... insert
mounting formMounting
form
Article no.Price
See Price
List

On-Off switches with auxiliary contacts¹⁾



3

1

0

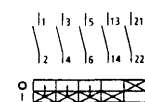
3

4

4

20

T0-2-15679/...

E
029387

3

1

1

5.5

7.5

7.5

25

P1-25/...

E/H111
045998

7.5

13

15

32

P1-32/...

E/H111
062609

15

30

30

63

P3-63/...

E/H111
079220

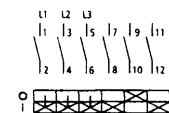
22

37

37

100

P3-100/...

E/H111
069574

3

2

1

3

4

4

20

T0-3-15683/...

E
016619

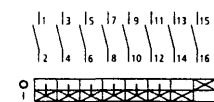
6.5

12

15

32

T3-3-15683/...

E
014377

6

1

1

3

4

4

20

T0-4-15682/...

E
010405

6.5

12

15

32

T3-4-15682/...

E
023869

15

22

22

63

T5B-4-15682/...

E
207424

18.5

30

30

100

T5-4-15682/...

E
207412

Standard pack: 1 off

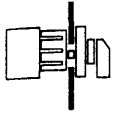
Notes

¹⁾ With black thumb-grip and silver-coloured front plate²⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches, P Switch-Disconnectors

On-Off Switches

Centre mounting
Front IP 65



Mounting form
Article no.

Price
See Price
List

Surface mounting²⁾

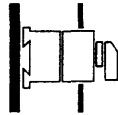
IP 65



Mounting form
Article no.

Price
See Price
List

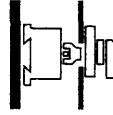
Service distribution
board mounting
Front IP 30



Mounting form
Article no.

Price
See Price
List

Rear mounting
Front IP 65



Mounting form
Article no.

Price
See Price
List

EZ
031760

I1
207094

IVS
036506

Z
041252

EZ/HI11
048371

I2/HI11
207302

IVS/HI11
053117

Z/HI11
057863

EZ/HI11
064982

I2/HI11
207323

IVS/HI11
069728

Z/HI11
074474

-

I4/HI11
207359

IVS/HI11
081593

Z/HI11
086339

-

I5/HI11
207384

IVS/HI11
091085

Z/HI11
093304

EZ
016658

I1
207118

IVS
016722

Z
016843

EZ
040480

I2
207182

-

Z
019123

EZ
012778

I1
207135

IVS
017524

Z
022270

EZ
026242

I2
207190

-

Z
030988

-

I4
207229

-

Z
207429

-

I5
207269

-

Z
207417

Standard pack: 1 off

T Rotary Switches, P Switch-Disconnectors

On-Off Switches

 Rotary Switches
Switch-Disconnectors

Circuit diagram

Front
plate
no.Main
contactsAuxiliary
contactsMax. three-phase
motor rating (per set of
3 contacts)
50 – 60 HzRated
unin-
ter-
rupted
current
 I_u Flush
mounting
Front IP 65No. of
poles
 AC-3
 220 V 380 V 660 V
 230 V 400 V 690 V
 240 V 440 V


FS 908 GE

M

M

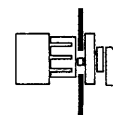
B

kW

kW

kW

A

Basic type
For ... insert
mounting
formMounting
form
Article no.Price
See Price
List

On-Off switches for use as Emergency-Stop devices¹⁾



1

0 0

1

13

–

20

T0-1-8200/...

E-RT
009474

18

36

–

32

T3-1-8200/...

E-RT
017025

5

73

–

63

T5B-1-8200/...

E-RT
094280

7.3

12.3

–

100

T5-1-8200/...

E-RT
097225

2

0 0

2.2

22

–

20

T0-1-102/...

E-RT
009046

3

55

–

32

T3-1-102/...

E-RT
016318

7.5

11

–

63

T5B-1-102/...

E-RT
094470

11

18.5

–

100

T5-1-102/...

E-RT
098809

3

0 0

3

4

4

20

T0-2-1/...

E-RT
011082

5.5

7.5

7.5

25

P1-25/...

E-RT
002388

7.5

13

15

32

P1-32/...

E-RT
003197

15

22

30

63

P3-63/...

E-RT
005743

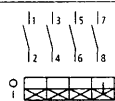
22

37

37

100

P3-100/...

E-RT
007189

3+N

0 0

3

4

4

20

T0-2-8900...

E-RT
207399

5.5

7.5

7.5

25

P1-25/...

E-RT/N
002425

7.5

13

15

32

P1-32/...

E-RT/N
004555

15

22

30

63

P3-63/...

E-RT/N
007136

22

37

37

100

P3-100/...

E-RT/N
007280

Standard pack: 1 off

Notes

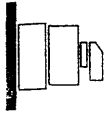
¹⁾ To IEC/EN 60 204 Part 1; with red thumb-grip and yellow front ring²⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches, P Switch-Disconnectors

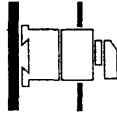
On-Off Switches

Surface mounting²⁾ 
IP 65

Service distribution board mounting
Front IP 30



Mounting form
Article no.



Mounting form
Article no.

Price
See Price
List

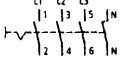
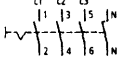
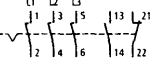
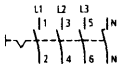
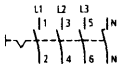
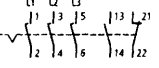
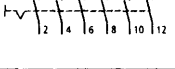
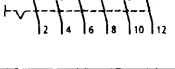
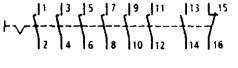
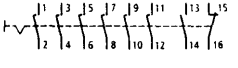
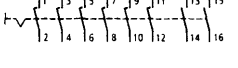
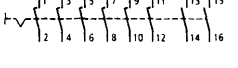
Price
See Price
List

I1-RT 207075		IVS-RT 081956	
I2-RT 207168		-	
I4-RT 207219		-	
I5-RT 207265		-	
I1-RT 207062		IVS-RT 079583	
I2-RT 207166		-	
I4-RT 207216		-	
I5-RT 207263		-	
I1-RT 207082		IVS-RT 084329	
I2-RT 207300		IVS-RT 013140	
I2-RT 207321		IVS-RT 022632	
I4-RT 207357		IVS-RT 045845	
I5-RT 207382		IVS-RT 086185	
I1-RT 207110		IVS-RT 207404	
I2-RT/N 207301		IVS-RT/N 017886	
I2-RT/N 207322		IVS-RT/N 027378	
I4-RT/N 207358		IVS-RT/N 041616	
I5-RT/N 207383		IVS-RT/N 034497	

Standard pack: 1 off

T Rotary Switches, P Switch-Disconnectors Safety 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 uninterrupted current I_u	Type Article no.	Price See Price List
				AC-3 220 V 230 V 240 V	380 V 400 V 440 V	660 V 690 V			
		No. of poles							
									
	FS 908	M	M B	kW	kW	kW	A		
For use as -> Emergency-Stop device ¹⁾ Surface mounting  IP 65 									
Safety switches									
		3	0 0	5.5	7.5	7.5	25	P1-25/I2-SI 207308	
				7.5	13	15	32	P1-32/I2-SI 207329	
		3+N	0 0	5.5	7.5	7.5	25	P1-25/I2-SI/N 207312	
				7.5	13	15	32	P1-32/I2-SI/N 207333	
With auxiliary contacts		3	1 1	5.5	7.5	7.5	25	P1-25/I2-SI/HI11 207310	
			1 1	7.5	13	15	32	P1-32/I2-SI/HI11 207331	
		3	0 0	15	30	30	63	P3-63/I4-SI 207361	
				15	30	30	100	P3-100/I5-SI 207386	
		3+N	0 0	15	30	30	63	P3-63/I4-SI/N 207365	
				15	30	30	100	P3-100/I5-SI/SIH/N 207390	
With auxiliary contacts		3	1 1	15	30	30	63	P3-63/I4-SI/HI11 207363	
			1 1	15	30	30	100	P3-100/I5-SI/HI11 207388	
		6	0 0	11	15	11	63	T5B-3-8342/I4-SI 207250	
				15	22	22	100	T5-3-8342/I5-SI 207447	
		6	1 1	11	15	11	63	T5B-4-15682/I4-SI 207254	
				15	22	22	100	T5-4-15682/I5-SI 207285	
		6	2 0	11	15	11	63	T5B-4-8903/I4-SI 207258	
				15	22	22	100	T5-4-8903/I5-SI 207289	

Standard pack: 1 off

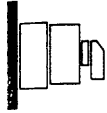
Notes

- ¹⁾ To IEC/EN 60 204 Part 1; with red rotary handle and yellow locking collar, lockable in 0 (Off) position with cover interlock
- ²⁾ With black rotary handle and locking collar, lockable in 0 (Off) position with cover interlock
- ³⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches, P Switch-Disconnectors Safety Switches

Without Emergency-Stop function²⁾

Surface mounting³⁾ 
IP 65



Type	Price
Article no.	See Price List

P1-25/I2-SI-SW 207309	Padlocking facility with captive cover fixing
P1-32/I2-SI-SW 207330	With "Safety Switch" warning plate (other languages on request) neutral conductor or HI11 auxiliary contact can also be retrofitted to P1 and P3 safety switches → Page 07/063
P1-25/I2-SI/N-SW 207313	
P1-32/I2-SI/N-SW 207334	
P1-25/I2-SI/HI11-SW 207311	
P1-32/I2-SI/HI11-SW 207332	
P3-63/I4-SI-SW 207362	
P3-100/I5-SI-SW 207387	
P3-63/I4-SI/N-SW 207366	
P3-100/I5-SI/N-SW 207391	
P3-63/I4-SI/HI11-SW 207364	
P3-100/I5-SI/HI11-SW 207389	
T5B-3-8342/I4-SI-SW 207251	No contacts can be retrofitted to T... rotary switches
T5-3-8342/I5-SI/SH-SW 207448	
T5B-4-15682/I4-SI-SW 207255	
T5-4-15682/I5-SI-SW 207286	
T5B-4-8903/I4-SI-SW 207259	
T5-4-8903/I5-SI-SW 207290	

Standard pack: 1 off

Notes

For general information on safety switches see
→ Page 07/111
Switches to the Swiss Accident Insurance Institute
Directive on request from Klockner-Moeller,
Switzerland

T Rotary Switches

Control Switches: Changeover Switches

Rotary Switches
Switch-Disconnectors

Circuit diagram	Front plate no.	No. of poles	Max. three-phase motor rating (per set of 3 contacts) 50 – 60 Hz			Rated uninterrupted current I_u	Flush mounting Front IP 65	Basic type For ... insert mounting form	Mounting form Article no.	Price See Price List
		M	kW	kW	kW	A				
Changeover switches with 0 position¹⁾										
Group switches, mains transfer switches										
		1	1	1.3	–	20		T0-1-8210/...	E 012742	
			1.8	3.6	–	32		T3-1-8210/...	E 054718	
			5	7.3	–	63		T5B-1-8210/...	E 094261	
		2	2.2	2.2	–	20		T0-2-8211/...	E 022234	
			3	5.5	–	32		T3-2-8211/...	E 061837	
			7.5	11	–	63		T5B-2-8211/...	E 093094	
		3	3	4	4	20		T0-3-8212/...	E 029353	
			6.5	12	15	32		T3-3-8212/...	E 068956	
			15	22	22	63		T5B-3-8212/...	E 092386	
		3	18.5	30	30	100		T5-3-8212/...	E 096466	
			22	37	22	125		T6-3-8212/...	E 017425	
			37	55	37	315		T8-3-8212/...	E 019798	
		4	3	4	4	20		T0-4-8213/...	E 031726	
			6.5	12	15	32		T3-4-8213/...	E 076075	
			15	22	22	63		T5B-4-8213/...	E 092112	
		4	18.5	30	30	100		T5-4-8213/...	E 096014	
			3	4	4	20		T0-4-8294/...	E 010371	
			6.5	12	15	32		T3-4-8294/...	E 002513	
		3+N	15	22	22	63		T5B-4-8294/...	E 092084	
			18.5	30	22	100		T5-4-8294	E 095986	
			15	22	22	63		T5B-4-8902/...	E 207430	
		3+N	18.5	30	22	100		T5-4-8902/...	E 207418	

Standard pack: 1 off

Notes

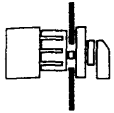
¹⁾ With black thumb-grip and silver-coloured front plate

²⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches

Control Switches: Changeover Switches

Centre mounting
Front IP 65

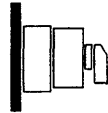


Mounting form
Article no.

Price
See Price
List

Surface mounting²⁾

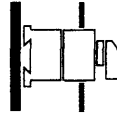
IP 65



Mounting form
Article no.

Price
See Price
List

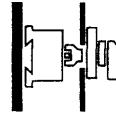
Service distribution
board mounting
Front IP 30



Mounting form
Article no.

Price
See Price
List

Rear mounting
Front IP 65



Mounting form
Article no.

Price
See Price
List

EZ 048337		I1 207076		IVS 074440		Z 019862	
EZ 003072		I2 207169		-		Z 057091	
-		I4 207432		-		Z 094258	
EZ 053083		I1 207102		IVS 076813		Z 029354	
EZ 003075		I2 207178		-		Z 064210	
-		I4 207220		-		Z 093082	
EZ 057829		I1 207123		IVS 079186		Z 036473	
EZ 003080		I2 207183		-		Z 071329	
-		I4 207223		-		Z 092383	
-		I5 207266		-		Z 096464	
-		-		-		-	
-		-		-		-	
EZ 062575		I1 207136		IVS 081559		Z 043592	
EZ 003079		I2 207191		-		Z 078448	
-		I4 207230		-		Z 092109	
-		I5 207270		-		Z 096012	
EZ 072069		I1 207138		IVS 043594		Z 048347	
EZ 001014		I2 207193		-		Z 004886	
-		I4 207232		-		Z 092081	
-		I5 207433		-		Z 095984	
-		I4 207237		-		Z 207431	
-		I5 207214		-		Z 207419	

Standard pack: 1 off

T Rotary Switches

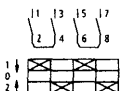
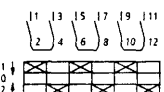
Control Switches: Changeover Switches

 Rotary Switches
Switch-Disconnectors

Circuit diagram	Front plate no.	No. of poles	Max. three-phase motor rating (per set of 3 contacts) 50 – 60 Hz			Rated uninterrupted current I_n	Flush mounting Front IP 65
			AC-3				
			220 V	380 V	660 V		
			230 V	400 V	690 V		
			240 V	440 V			
	FS 4011	M	kW	kW	kW	A	
							Basic type For ... insert mounting form
							Mounting form Article no.
							Price See Price List

Changeover switches with 0 position¹⁾

With spring-return from both directions to 0

	1	1	1.3	–	20	T0-1-8214/...	E 019863	
		1.8	3.6	–	32	T3-1-8214/...	E 009632	
	2	2.2	2.2	–	20	T0-2-8215/...	E 022236	
		3	5.5	–	32	T3-2-8215/...	E 016751	
	3	3	4	4	20	T0-3-8216/...	E 024609	
		6.5	12	15	32	T3-3-8216/...	E 023870	

Standard pack: 1 off

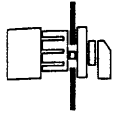
Notes

- ¹⁾ With black thumb-grip and silver-coloured front plate
- ²⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches

Control Switches: Changeover Switches

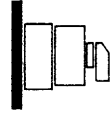
Centre mounting
Front IP 65



Mounting form
Article no.

Price
See Price
List

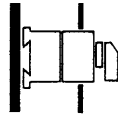
Surface mounting²⁾
 IP 65



Mounting form
Article no.

Price
See Price
List

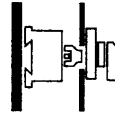
Service distribution
board mounting
Front IP 30



Mounting form
Article no.

Price
See Price
List

Rear mounting
Front IP 65



Mounting form
Article no.

Price
See Price
List

Rotary Switches
Switch-Disconnectors

EZ 076815		I1 207077		IVS 045967		Z 050720	
EZ 001073		I2 207170		—		Z 012005	
EZ 081561		I1 207103		IVS 048340		Z 053093	
EZ 001074		I2 207179		—		Z 019124	
EZ 086307		I1 207434		IVS 050713		Z 055466	
EZ 001077		I2 207184		—		Z 026243	

Standard pack: 1 off

T Rotary Switches

Control Switches: Changeover Switches

Circuit diagram

Front plate no.

No. of poles

Max. three-phase motor rating (per set of 3 contacts)
50 – 60 HzRated uninter-
rupted current
 I_n Flush mounting
Front IP 65

FS 943

M

kW

kW

kW

A

Basic type
For ... insert
mounting formMounting form
Article no.Price
See Price
ListChangeover switches without 0 position¹⁾

Two-way switches

	1	1.1	1.3	–	20	T0-1-8220/...	E 031728	
		1.8	3.6	–	32	T3-1-8220/...	E 038108	
	2	2.2	2.2	–	20	T0-2-8221/...	E 038847	
		3	5.5	–	32	T3-2-8221/...	E 045227	
		7.5	11	–	63	T5B-2-8221/...	E 093047	
	3	3	4	4	20	T0-3-8222/...	E 048339	
		6.5	12	15	32	T3-3-8222/...	E 052346	
		15	22	22	63	T5B-3-8222/...	E 092378	
	4	3	4	4	20	T0-4-8223/...	E 050712	
		6.5	12	15	32	T3-4-8223/...	E 059465	
		15	22	22	63	T5B-4-8223/...	E 092108	
		18.5	30	30	100	T5-4-8223/...	E 096010	
	5	3	4	4	20	T0-5-8369/...	E 060204	
		6.5	12	15	32	T3-5-8369/...	E 066584	
	6	3	4	4	20	T0-6-8370/...	E 062577	
		6.5	12	15	32	T3-6-8370/...	E 073703	
	8	3	4	4	20	T0-8-8372/...	E 064950	
		6.5	12	15	32	T3-8-8372/...	E 080822	

Standard pack: 1 off

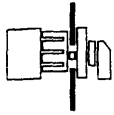
Notes

¹⁾ With black thumb-grip and silver-coloured front plate²⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches

Control Switches: Changeover Switches

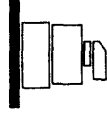
Centre mounting
Front IP 65



Mounting form
Article no.

Price
See Price
List

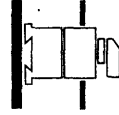
Surface mounting²⁾
totally insulated
IP 65



Mounting form
Article no.

Price
See Price
List

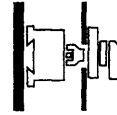
Service distribution
board mounting
Front IP 30



Mounting form
Article no.

Price
See Price
List

Rear mounting
Front IP 65



Mounting form
Article no.

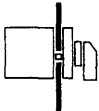
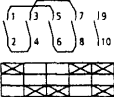
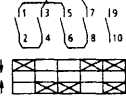
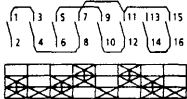
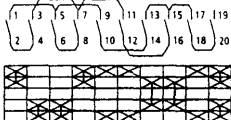
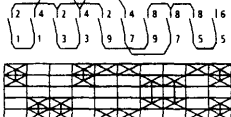
Price
See Price
List

EZ 095799		I1 207078		IVS 055459		Z 086312	
EZ 001018		I2 207171		-		Z 040481	
EZ 010372		I1 207104		IVS 057832		Z 074450	
EZ 001025		I2 207180		-		Z 047600	
-		I4 207221		-		Z 093044	
EZ 015118		I1 207124		IVS 060205		Z 088686	
EZ 001069		I2 207185		-		Z 057092	
-		I4 207224		-		Z 092375	
EZ 019864		I1 207137		IVS 062578		Z 086315	
EZ 001070		I2 207192		-		Z 061838	
-		I4 207231		-		Z 092105	
-		I5 207271		-		Z 096008	
EZ 024610		-		IVS 064951		Z 098180	
EZ 004503		I2 207536		-		Z 068957	
EZ 029356		-		IVS 067324		Z 010380	
EZ 004506		-		-		Z 078449	
EZ 034102		-		IVS 069697		Z 012753	
EZ 004508		-		-		Z 083195	

Standard pack: 1 off

T Rotary Switches

Control Switches: Reversing Switches, Star-Delta Switches

Circuit diagram	Front plate no.	No. of poles	Max. three-phase motor rating (per set of 3 contacts)			Rated uninter- rupted current I_u	Basic type For ... insert mounting form	Flush mounting Front IP 65	Mounting form Article no.	Price See Price List
			50 – 60 Hz							
			AC-3							
			220 V	380 V	660 V					
			230 V	400 V	690 V					
			240 V	440 V						
			M	kW	kW	kW	A			
Reversing switches with 0 position¹⁾										
	 FS 684	2	2.2	2.2	–	20	T0-2-8400/...	E 053079		
			3	5.5	–	32	T3-2-8400/...	E 073695		
			7.5	11	–	63	T5B-2-8400/...	E 092918		
	 FS 684	3	3	4	4	20	T0-3-8401/...	E 091047		
			6.5	12	15	32	T3-3-8401/...	E 030992		
			15	22	22	63	T5B-3-8401/...	E 092296		
			18.5	30	30	100	T5-3-8401/...	E 096376		
			With spring-return from both directions to 0							
	 FS 4011	3	3	4	4	20	T0-3-8228/...	E 015112		
			6.5	12	15	32	T3-3-8228/...	E 002538		
			15	22	22	63	T5B-3-8228/...	E 092374		
Star-delta switches¹⁾										
	 FS 635	3	4	5.5	5.5	20	T0-4-8410/...	E 024604		
			7.5	18.5	22	32	T3-4-8410/...	E 009657		
			22	37	37	63	T5B-4-8410/...	E 092052		
Reversing star-delta switches¹⁾										
	 FS 638	3	4	5.5	5.5	20	T0-5-15876/...	E 000893		
			7.5	18.5	22	32	T3-5-15876/...	E 016776		
			22	30	37	63	T5B-5-15896/...	E 091953		
	 FS 4017	3								

Standard pack: 1 off

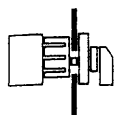
Notes

¹⁾ With black thumb-grip and silver-coloured front plate²⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches

Control Switches: Reversing Switches, Star-Delta Switches

Centre mounting Front IP 65



Mounting form
Article no.

Price
See Price
List

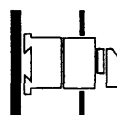
Surface mounting²⁾ IP 65



Mounting form
Article no.

Price
See Price
List

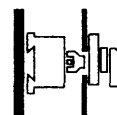
Service distribution board mounting Front IP 30



Mounting form
Article no.

Price
See Price
List

Rear mounting Front IP 65



Mounting form
Article no.

Price
See Price
List

EZ 055452		I1 207111		IVS 060198		Z 062571	
EZ 000687		I2 207181		-		Z 095060	
-		I4 207222		-		Z 092915	
EZ 093420		I1 207132		IVS 098166		Z 010366	
EZ 000694		I2 207188		-		Z 035739	
-		I4 207227		-		Z 092293	
-		I5 207268		-		Z 096374	
EZ 048334		I1 207125		IVS 062572		Z 074437	
EZ 000695		I2 207186		-		Z 004911	
-		I4 207225		-		Z 092371	
EZ 053080		I1 207140		IVS 064945		Z 083929	
EZ 000721		I2 207195		-		Z 012030	
-		I4 207234		-		Z 092049	
EZ 000900		-		IVS 000902		Z 000942	
EZ 000797		I2 207537		-		Z 019149	
-		-		-		Z 091951	

Standard pack: 1 off

T Rotary Switches

Control Switches: Multi-Speed Switches, Reversing Multi-Speed Switches

Rotary Switches
Switch-Disconnectors

Circuit diagram	Front plate no.	no. of poles	Max. three-phase motor rating (per set of 3 contacts) 50 – 60 Hz			Rated uninterrupted current I_u	Basic type For ... insert mounting form	Flush mounting Front IP 65	Mounting form Article no.	Price See Price List
			AC-3	220 V	380 V	660 V				
			230 V	400 V	690 V					
			240 V	440 V						
			M	kW	kW	kW	A			
Multi-speed switches¹⁾										
Two-speed, non reversing For separate windings										
	FS 644	3	3	4	4	20	T0-3-8451/...	E 038849		
			6.5	12	15	32	T3-3-8451/...	E 028641		
			15	22	22	63	T5B-3-8451/...	E 092288		
For one tapped winding										
	FS 644	3	3	4	4	20	T0-4-8440/...	E 041222		
			6.5	12	15	32	T3-4-8440/...	E 035760		
			15	22	22	63	T5B-4-8440/...	E 092032		
	FS 684	3	3	4	4	20	T0-4-8441/...	E 043595		
			6.5	12	15	32	T3-4-8441/...	E 042879		
			15	22	22	63	T5B-4-8441/...	E 092028		
Reversing multi-speed switches¹⁾										
Two-speed For one tapped winding										
	FS 629	3	3	4	4	20	T0-6-15866/...	E 055460		
			6.5	12	15	32	T3-6-15866/...	E 054744		
	FS 441	3	15	22	22	63	T5B-7-66/...	E 091539		

Standard pack: 1 off

Notes

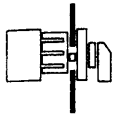
¹⁾ With black thumb-grip and silver-coloured front plate

²⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches

Control Switches: Multi-Speed Switches, Reversing Multi-Speed Switches

Centre mounting
Front IP 65

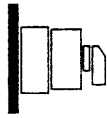


Mounting form
Article no.

Price
See Price
List

Surface mounting²⁾

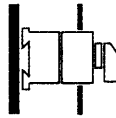
IP 65



Mounting form
Article no.

Price
See Price
List

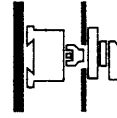
Service distribution
board mounting
Front IP 30



Mounting form
Article no.

Price
See Price
List

Rear mounting
Front IP 65



Mounting form
Article no.

Price
See Price
List

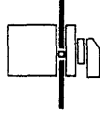
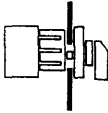
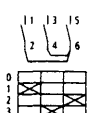
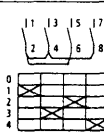
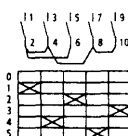
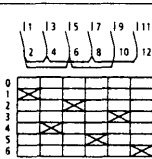
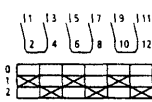
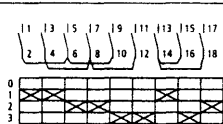
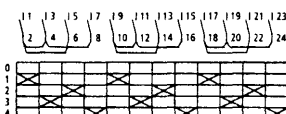
EZ 083936		I1 207133		IVS 026985		Z 043596	
EZ 000956		I2 207189		-		Z 031014	
-		I4 207228		-		Z 092285	
EZ 088682		I1 207141		IVS 029358		Z 048342	
EZ 000959		I2 207196		-		Z 038133	
-		I4 207235		-		Z 092029	
EZ 093428		I1 207142		IVS 031731		Z 053088	
EZ 000960		I2 207197		-		Z 045252	
-		I4 207236		-		Z 092025	
EZ 012747		-		IVS 036477		Z 067326	
EZ 000964		-		-		Z 057117	
-		-		-		Z 091501	

Standard pack: 1 off

T Rotary Switches

Control Switches: Step Switches

 Rotary Switches
Switch-Disconnectors

Circuit diagram	Front plate no.	no. of poles	Steps	Basic type For ... insert mounting form	Flush mounting Front IP 65 	Price See Price List	Centre mounting Front IP 65 	Price See Price List
Step switches¹⁾								
One contact closed per step (without overlap) With additional 0 position								
	 FS 418	1	2	T0-1-8240/...	E 034105		EZ 043597	
	 FS 420	1	3	T0-2-8241/...	E 050716		EZ 053089	
	 FS 422	1	4	T0-2-8242/...	E 067327		EZ 069700	
	 FS 424	1	5	T0-3-8243/...	E 081565		EZ 083938	
	 FS 426	1	6	T0-3-8244/...	E 095803		EZ 098176	
	 FS 418	3	2	T0-3-8280/...	E 034106		EZ 036479	
	 FS 420	3	3	T0-5-8281/...	E 048344		EZ 050717	
	 FS 422	3	4	T0-6-8282/...	E 062582		EZ 064955	

Standard pack: 1 off

Notes

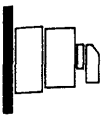
- ¹⁾ With black thumb-grip and silver-coloured front plate
²⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches

Control Switches: Step Switches

Surface mounting²⁾

totally insulated
Front IP 65

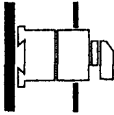


Mounting form
Article no.

Price
See Price List

Service distribution board mounting

Front IP 30

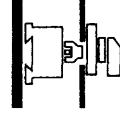


Mounting form
Article no.

Price
See Price List

Rear mounting

Front IP 65



Mounting form
Article no.

Price
See Price List

Notes

Suitable for actuating electronic devices (PLCs)

Rated uninterrupted current I_u 20 A

Rated operational current I_e

AC-15

220 – 240 V 6 A

380 – 415 V 4 A

AC-21 A 12 A

DC-13 32 V per contact 10 A

Further technical data → Page 07/088

I1
207079

IVS
027076

Z
060208

I1
207107

IVS
057835

Z
062581

I1
207108

IVS
074446

Z
076819

I1
207128

IVS
088684

Z
091057

I1
207129

IVS
012749

Z
015122

I1
207130

IVS
041225

Z
043598

–

IVS
055463

Z
057836

–

IVS
069701

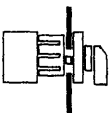
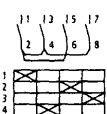
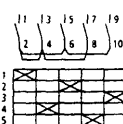
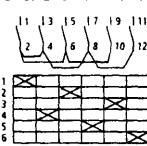
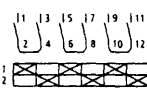
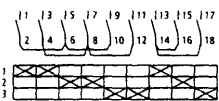
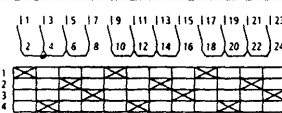
Z
072074

Standard pack: 1 off

Rotary Switches
Switch-Disconnector

T Rotary Switches

Control Switches: Step Switches

Circuit diagram	Front plate no.	no. of poles	Steps	Basic type For ... insert mounting form	Flush mounting Front IP 65 	Price See Price List	Centre mounting Front IP 65 	Price See Price List
Step switches¹⁾ One contact closed per step (without overlap) Without 0 position								
	 FS 943	1	2	T0-1-8220/...	E 031728		EZ 095799	
	 FS 404	1	3	T0-2-8230/...	E 088685		EZ 091058	
	 FS 606	1	4	T0-2-8231/...	E 012750		EZ 015123	
	 FS 408	1	5	T0-3-8232/...	E 026988		EZ 029361	
	 FS 410	1	6	T0-3-8233/...	E 041226		EZ 043599	
	 FS 943	3	2	T0-3-8222/...	E 048339		EZ 015118	
	 FS 404	3	3	T0-5-8270/...	E 091059		EZ 093432	
	 FS 406	3	4	T0-6-8271/...	E 015124		EZ 017497	

Standard pack: 1 off

Notes

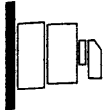
- ¹⁾ With black thumb-grip and silver-coloured front plate
²⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches

Control Switches: Step Switches

Surface mounting²⁾

totally insulated
IP 65

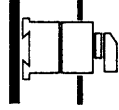


**Mounting
form**
Article no.

Price
See Price
List

Service distribution board

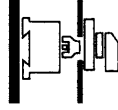
mounting
Front IP 30



**Mounting
form**
Article no.

Price
See Price
List

**Rear
mounting**
Front IP 65



**Mounting
form**
Article no.

Price
See Price
List

Notes

Suitable for actuating electronic devices (PLCs)

Rated uninterrupted current I_u 20 A

Rated operational current I_e

AC-15

220 – 240 V 6 A

380 – 415 V 4 A

AC-21 A 12 A

DC-13 32 V per contact 10 A

Further technical data → Page 07/088

I1
207078

IVS
055459

Z
086312

I1
207105

IVS
095804

Z
098177

I1
207106

IVS
019869

Z
022242

I1
207126

IVS
034107

Z
036480

I1
207127

IVS
048345

Z
050718

I1
207124

IVS
060205

Z
088686

–

IVS
098178

Z
010378

–

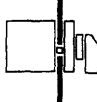
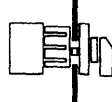
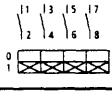
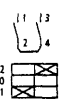
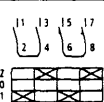
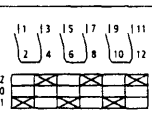
IVS
022243

Z
024616

Standard pack: 1 off

T Rotary Switches

Control Switches: On-Off Switches, Changeover Switches

Circuit diagram	Front plate no.	no. of poles	Basic type For ... insert mounting form	Flush mounting Front IP 65 	Price See Price List	Centre mounting Front IP 65 	Price See Price List
On-Off switches¹⁾							
	 FS 415	1	T0-1-15401/...	E 038854		EZ 041227	
	 FS 415	2	T0-1-15402/...	E 053092		EZ 055465	
	 FS 415	3	T0-2-15403/...	E 067330		EZ 069703	
	 FS 415	4	T0-2-15404/...	E 081568		EZ 083941	
Changeover switches¹⁾							
	 FS 429	1	T0-1-15421/...	E 095806		EZ 098179	
	 FS 429	2	T0-2-15422/...	E 019871		EZ 022244	
	 FS 429	3	T0-3-15423/...	E 034109		EZ 036482	

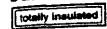
Standard pack: 1 off

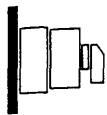
Notes¹⁾ With black thumb-grip and silver-coloured front plate²⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches

Control Switches: On-Off Switches, Changeover Switches

Surface mounting²⁾

 IP 65

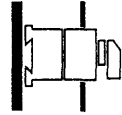


Mounting
form
Article no.

Price
See Price
List

Service distribution board

mounting
Front IP 30

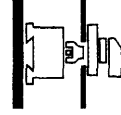


Mounting
form
Article no.

Price
See Price
List

Rear

mounting
Front IP 65



Mounting
form
Article no.

Price
See Price
List

Notes

Suitable for actuating electronic devices (PLCs)

Rated uninterrupted current I_u 20 A

Rated operational current I_e

AC-15

220 – 240 V 6 A

380 – 415 V 4 A

AC-21 A 12 A

DC-13 32 V per contact 10 A

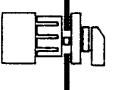
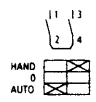
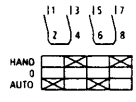
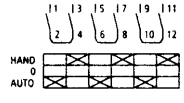
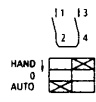
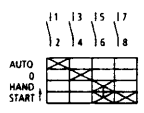
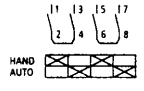
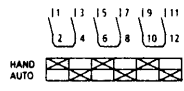
Further technical data → Page 07/088

I1 207067		IVS 045973		Z 048346	
I1 207068		IVS 060211		Z 062584	
I1 207088		IVS 074449		Z 076822	
I1 207089		IVS 088687		Z 091060	
I1 207069		IVS 012752		Z 015125	
I1 207090		IVS 026990		Z 029363	
I1 207114		IVS 041228		Z 043601	

Standard pack: 1 off

T Rotary Switches

Control Switches: Hand/Auto Switches

Circuit diagram	Front plate no.	no. of poles	Basic type For ... insert mounting form	Flush mounting Front IP 65 	Price See Price List	Centre mounting Front IP 65 	Price See Price List
				Mounting form Article no.		Mounting form Article no.	
Hand/Auto switches¹⁾							
Hand/Auto switches with locking arrangement → Page 07/050							
With 0 position							
	 FS 1401	1	T0-1-15431/...	E 019872		EZ 022245	
	 FS 1401	2	T0-2-15432/...	E 034110		EZ 036483	
	 FS 1401	3	T0-3-15433/...	E 048348		EZ 050721	
With spring-return from HAND							
	 FS 1414000	1	T0-1-15434/...	E 062586		EZ 018053	
With spring-return from START							
	 FS 1413890	1	T0-2-15907/...	E 066931		EZ 069304	
Without 0 position							
	 FS 19334	1	T0-1-15451/...	E 076824		EZ 079197	
	 FS 19334	2	T0-2-15452/...	E 091062		EZ 093435	
	 FS 19334	3	T0-3-15453/...	E 015127		EZ 017500	

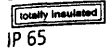
Standard pack: 1 off

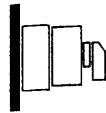
Notes¹⁾ With black thumb-grip and silver-coloured front plate²⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches

Control Switches: Hand/Auto Switches

Surface mounting²⁾

 IP 65

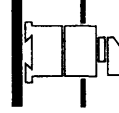


Mounting
form
Article no.

Price
See Price
List

Service distribution board

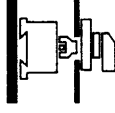
mounting
Front IP 30



Mounting
form
Article no.

Price
See Price
List

Rear
mounting
Front IP 65



Mounting
form
Article no.

Price
See Price
List

Notes

Suitable for actuating electronic devices (PLCs)

Rated uninterrupted current I_u 20 A

Rated operational current I_e

AC-15

220 – 240 V 6 A

380 – 415 V 4 A

AC-21 A 12 A

DC-13 32 V per contact 10 A

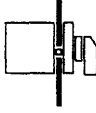
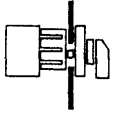
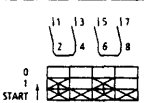
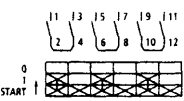
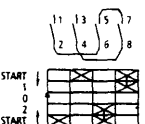
Further technical data → Page 07/088

I1 207070		IVS 026991		Z 029364	
I1 207091		IVS 041229		Z 043602	
I1 207115		IVS 055467		Z 057840	
I1 207071		IVS 069705		Z 072078	
I1 207095		IVS 076423		Z 078796	
I1 207072		IVS 083943		Z 086316	
I1 207092		IVS 098181		Z 010381	
I1 207116		IVS 022246		Z 024619	

Standard pack: 1 off

T Rotary Switches

Control Switches: Spring-Return Switches

Circuit diagram	Front plate no.	no. of poles	Basic type For ... insert mounting form	Flush mounting Front IP 65 	Price See Price List	Centre mounting Front IP 65 	Price See Price List
On switches (make contacts)¹⁾							
Spring-return from position 1							
	 FS 4721	1	T0-1-15321/...	E 086317		EZ 088690	
	 FS 4721	2	T0-1-15322/...	E 010382		EZ 012755	
	 FS 4721	3	T0-2-15323/...	E 024620		EZ 026993	
On-Off spring-return switches¹⁾							
Spring-return from positions 0 and 1							
	 FS 456	To control 1 contactor	T0-1-15366/...	E 081572		EZ 083945	
On-Off spring-return switches¹⁾							
Spring-return from START							
	 FS 147767	1	T0-1-15511/...	E 019875		EZ 022248	
	 FS 147767	2	T0-2-15512/...	E 034113		EZ 036486	
	 FS 147767	3	T0-3-15513/...	E 048351		EZ 050724	
	 FS 140660	To control 1 reversing contactor	T0-2-8177/...	E 015130		EZ 017503	

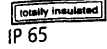
Standard pack: 1 off

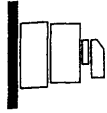
Notes¹⁾ With black thumb-grip and silver-coloured front plate²⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches

Control Switches: Spring-Return Switches

Surface mounting²⁾

 Totally insulated
IP 65

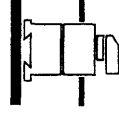


**Mounting
form**
Article no.

Price
See Price
List

Service distribution board

mounting
Front IP 30

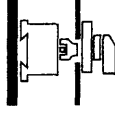


**Mounting
form**
Article no.

Price
See Price
List

Rear

mounting
Front IP 65



**Mounting
form**
Article no.

Price
See Price
List

Notes

Suitable for actuating electronic devices (PLCs)

Rated uninterrupted current I_u 20 A

Rated operational current I_e

AC-15

220 – 240 V 6 A

380 – 415 V 4 A

AC-21 A 12 A

DC-13 32 V per contact 10 A

Further technical data → Page 07/088

I1
207064

IVS
093436

Z
095809

I1
207065

IVS
017501

Z
019874

I1
207087

IVS
031739

Z
034112

I1
207066

IVS
088691

Z
091064

I1
207073

IVS
026994

Z
029367

I1
207093

IVS
041232

Z
043605

I1
207117

IVS
055470

Z
057843

I1
207107

IVS
022249

Z
024622

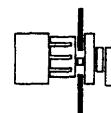
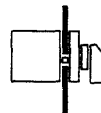
Standard pack: 1 off

T Rotary Switches

Control Switches: Universal Control Switches, Coding Switches, Series Switches

Rotary Switches
Switch-Disconnectors

Circuit diagram

Front
plate
no.no. of
polesFlush
mounting
Front IP 65Centre mounting
Front IP 65Basic type
For ... insert
mounting
formMounting
form
Article no.Price
See Price
ListMounting
form
Article no.Price
See Price
List**Universal control switches¹⁾**

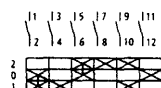
Stay-put switches with 3 positions

1 contact closed in each position; in addition,

1 contact closed in positions 0 and 1

1 contact closed in positions 0 and 2

1 contact closed in positions 1 and 2



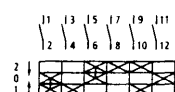
FS 429

—

T0-3-15391/...

E
029365EZ
031738

As above, but with spring-return from positions 1 and 2



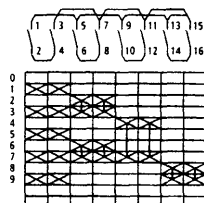
FS 458

—

T0-3-15394/...

E
072079EZ
074452**Coding switches¹⁾**

With complete rotation in both directions



FS 312

Dual
BCD
CODE

T0-4-15602/...

E
029368EZ
031741**Series switches¹⁾**

With 0 position

(Heater switches)



FS 614

1

T0-1-91/...

E
072082EZ
074455

Standard pack: 1 off

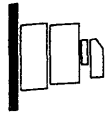
Notes¹⁾ With black thumb-grip and silver-coloured front plate²⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches

Control Switches: Universal Control Switches, Coding Switches, Series Switches

Surface mounting²⁾

Locally insulated
IP 65

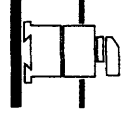


Mounting
form
Article no.

Price
See Price
List

Service distribution board

mounting
Front IP 30

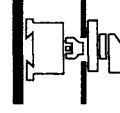


Mounting
form
Article no.

Price
See Price
List

Rear

mounting
Front IP 65



Mounting
form
Article no.

Price
See Price
List

Notes

Suitable for actuating electronic devices (PLCs)

Rated uninterrupted current I_u 20 A

Rated operational current I_e

AC-15

220 – 240 V 6 A

380 – 415 V 4 A

AC-21 A 12 A

DC-13 32 V per contact 10 A

Further technical data → Page 07/088

I1
207112

IVS
036484

Z
038857

I1
207113

IVS
079198

Z
081571

I1
207134

IVS
036487

Z
038860

I1
207080

IVS
079201

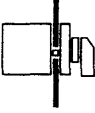
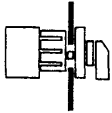
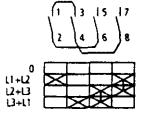
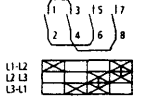
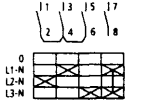
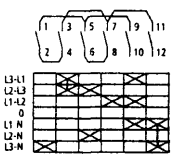
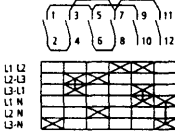
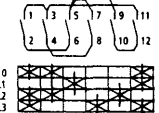
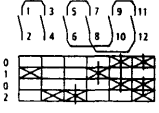
Z
081574

Standard pack: 1 off

T Rotary Switches

Control Switches: Instrument Selector Switches

 Rotary Switches
Switch-Disconnectors

Circuit diagram	Front plate no.	no. of poles		Flush mounting Front IP 65		Centre mounting Front IP 65		
								
			Basic type For ... insert mounting form	Mounting form Article no.	Price See Price List	Mounting form Article no.	Price See Price List	
Instrument selector switches¹⁾								
Voltmeter								
	 FS 1410755	3 × phase to phase With 0 position	T0-2-15920/...	E 038861		EZ 041234		
	 FS 164854	3 × phase to phase Without 0 position	T0-2-15922/...	E 053099		EZ 055472		
	 FS 1410757	3 × phase to N With 0 position	T0-2-15921/...	E 067337		EZ 069710		
	 FS 1410759	3 × phase to phase + 3 × phase to N With 0 position	T0-3-8007/...	E 095813		EZ 098186		
	 FS 164721	3 × phase to phase + 3 × phase to N Without 0 position With complete rotation in both directions	T0-3-15924/...	E 019878		EZ 022251		
Ammeter								
With complete rotation in both directions								
Measurement via current transformers								
	 FS 9440	With 0 position	T0-3-8048/...	E 034116		EZ 036489		
Voltmeter and ammeter								
With complete rotation in both directions								
Measurement via current transformers (For other circuits, see catalogue K 115)								
	 FS 928	With 0 position	T0-3-8030/...	E 013401		EZ 013402		

Standard pack: 1 off

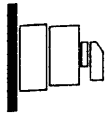
Notes¹⁾ With black thumb-grip and silver-coloured front plate²⁾ Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

T Rotary Switches

Control Switches: Instrument Selector Switches

Surface mounting²⁾

Locally insulated
IP 65

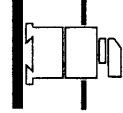


**Mounting
form**
Article no.

Price
See Price
List

Service distribution board

mounting
Front IP 30

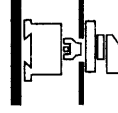


**Mounting
form**
Article no.

Price
See Price
List

Rear

mounting
Front IP 65



**Mounting
form**
Article no.

Price
See Price
List

Notes

Suitable for actuating electronic devices (PLCs)

Rated uninterrupted current I_u 20 A

Rated operational current I_e

AC-15

220 – 240 V 6 A

380 – 415 V 4 A

AC-21 A 12 A

DC-13 32 V per contact 10 A

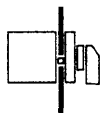
Further technical data → Page 07/088

I1 207098		IVS 029452		Z 048353	
I1 207100		IVS 060218		Z 062591	
I1 207099		IVS 074456		Z 076829	
I1 207120		IVS 012759		Z 015132	
I1 207119		IVS 026997		Z 029370	
I1 207122		IVS 041235		Z 043608	
I1 207121		IVS 013404		Z 013406	

Standard pack: 1 off

T Rotary Switches, P Switch-Disconnectors

Switches with Locking Arrangements

Circuit diagram	Front plate no.	no. of poles	Max. three-phase motor rating (per set of 3 contacts) 50 – 60 Hz	Rated uninterrupted current	Flush mounting Front IP 65	Mounting form Article no.	Price See Price List
			AC-3 220 V 380 V 660 V 230 V 400 V 690 V 240 V 440 V	I_u			
				A			
			kW	kW	kW		

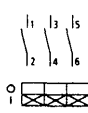
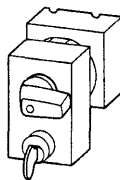
Switches with locking arrangements, KMS 1 lock mechanism

Panic switches without Emergency-Stop function¹⁾

With SVA cylinder lock

Key withdrawable in positions 0 and I

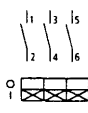
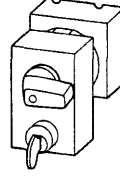
When the key is withdrawn in position I, the switch can still be switched Off, but cannot be switched back On again without the key

	 FS 908	3	3	4	4	20		T0-2-1/E/SVA(S) 050977
			4	5.5	7.5	25		P1-25/E/SVA(S) 050966
			5.5	11	15	32		P1-32/E/SVA(S) 044977
			5.5	11	15	32		T3-2-1/E/SVA(S) 050983

On-Off switches without Emergency-Stop function¹⁾

With SVA cylinder lock

Key withdrawable in position 0 only (code letter A)

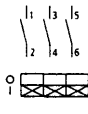
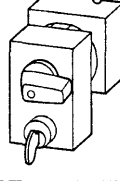
	 FS 908	3	3	4	4	20		T0-2-1/E/SVA(A) 050976
			4	5.5	7.5	25		P1-25/E/SVA(A) 050965
			5.5	11	15	32		P1-32/E/SVA(A) 050970
			5.5	11	15	32		T3-2-1/E/SVA(A) 050982

Panic switches with Emergency-Stop function²⁾

With SVA cylinder lock

Key can be withdrawn in positions 0 and I

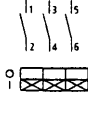
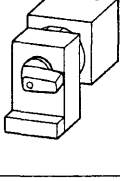
When the key is withdrawn in position I, the switch can still be switched Off, but cannot be switched back On again without the key

	 FS 908 GE	3	3	4	4	20		T0-2-1/E/SVA(S)-RT 044971
			4	5.5	7.5	25		P1-25/E/SVA(S)-RT 050967
			5.5	11	15	32		P1-32/E/SVA(S)-RT 050971
			5.5	11	15	32		T3-2-1/E/SVA(S)-RT 044972

Panic switches with Emergency-Stop function²⁾

With SVC padlocking feature

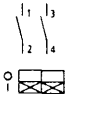
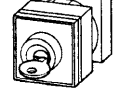
Locking slide can be padlocked in positions 0 and 1. When the locking slide is padlocked in position 1, the switch can still be switched Off, but cannot be switched back On again without first removing the padlock. Lockable with up to 3 padlocks.

	 FS 908 GE	3	3	4	4	20		T0-2-1/E/SVC(S)-RT 044973
			4	5.5	7.5	25		P1-25/E/SVC(S)-RT 044974
			5.5	11	15	32		P1-32/E/SVC(S)-RT 044975
			5.5	11	15	32		T3-2-1/E/SVC(S)-RT 044976

On-Off switches without Emergency-Stop function³⁾

With S-T0 key operations

Key withdrawable in position 0 only (code letter A)

	 FS 908	2	2.2	2.2	~	20		T0-1-102/EZ/S 014933
---	---	---	-----	-----	---	----	---	-------------------------

T Rotary Switches, P Switch-Disconnectors

Switches with Locking Arrangements

Surface mounting⁴⁾

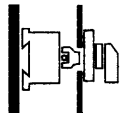
Front IP 65



Mounting form
Article no.

Price
See Price
List

Rear mounting Front IP 65

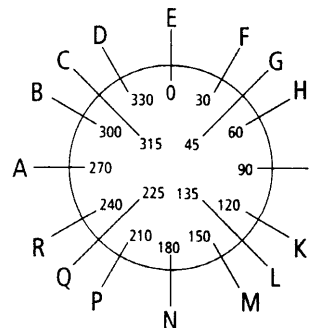


Mounting form
Article no.

Price
See Price
List

Std.
pack

Notes



Code letters for the lockable switch
positions
Letter S for panic lock with FS 908 GE

T0-2-1/I1/SVA(S)
207084
P1-25/I2/SVA(S)
207305
P1-32/I2/SVA(S)
207326
T3-2-1/I2/SVA(S)
207173

-

1 off

T0-2-1/I1/SVA(A)
207083
P1-25/I2/SVA(A)
207304
P1-32/I2/SVA(A)
207325
T3-2-1/I2/SVA(A)
207172

T0-2-1/Z/SVA(A)
050978
P1-25/Z/SVA(A)
050969
P1-32/Z/SVA(A)
050973
T3-2-1/Z/SVA(A)
050984

T0-2-1/I1/SVA(S)-RT
207085
P1-25/I2/SVA(S)-RT
207306
P1-32/I2/SVA(S)-RT
207327
T3-2-1/I2/SVA(S)-RT
207174

-

-

-

-

T0-2-1/I1/SVC(S)-RT
207086
P1-25/I2/SVC(S)-RT
207307
P1-32/I2/SVC(S)-RT
207328
T3-2-1/I2/SVC(S)-RT
207175

-

-

-

-

T0-1-102/I1/S
207063



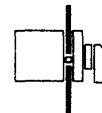
T0-1-102/Z/S
014971



T Rotary Switches

Switches with Locking Arrangements

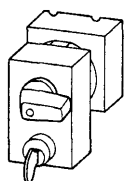
Circuit diagram

Front
plate
no.Rated
uninter-
rupted
current I_u Flush mounting
Front IP 65Mounting form
Article no.Price
See Price
List

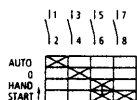
A

Switches with locking arrangements, KMS 1 lock mechanism

Hand/Auto switches with SVA cylinder lock



Key withdrawable in all positions
When the key is withdrawn in the HAND position, then START
can be actuated without the key, but not position 0
(only permissible with separate Off switch)



FS 1413890

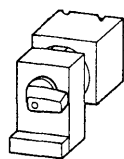
20

T0-2-15907/E/SVA(C,E,G-J)
050979

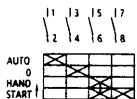
32

T3-2-15907/E/SVA(C,E,G-J)
050985

Hand/Auto switches With SVC padlocking feature



Locking slide can be padlocked in all positions
When the locking slide is padlocked in the HAND position,
then START can be actuated without first removing the padlock,
but not position 0
(only permissible with separate Off switch).



FS 1413890

20

T0-2-15907/E/SVC(C,E,G-J)
044996

32

T3-2-15907/E/SVC(C,E,G-J)
044997

Notes

1) Enclosure designed for metric cable glands to EN 50 262, cable glands → Page 07/068

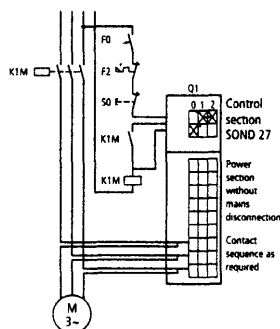
Contactor interlocking circuits

Control section for standard contactor interlocking circuits
If a standard switch is intended to contain one
of the contactor interlocking circuits as well,
it can be ordered using another circuit number from
Catalogue K 115 (please enquire), or as a non-standard
switch.

The electrical interlocking of a rotary switch
and contactor makes possible a wide range of control
functions.

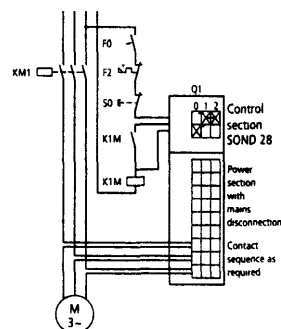
For example: remote disconnection via a stop switch, over-
load protection via overload relays, protection against
automatic restarting after a power failure or overload, and
Off position interlocking, etc.

SOND 27



Mains disconnection only by contactor
Restarting possible only with the rotary switch
in the 0 position
Application: primarily for star-delta circuits
(only at 60° or 90° switching angles)

SOND 28

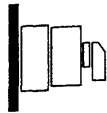


Mains disconnection by contactor and
rotary switch together
Restarting: as SOND 27
Application: primarily for star-delta and
changeover circuits (only at 60° or 90°
switching angles)

T Rotary Switches

Switches with Locking Arrangements

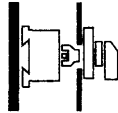
Surface mounting¹⁾ totally insulated
IP 65



Mounting form
Article no.

Price
See Price
List

Rear mounting
Front IP 65



Mounting form
Article no.

Price
See Price
List

Std.
pack

Notes

Suitable for actuating electronic devices (PLCs)

Rated uninterrupted current I_u 20 A

Rated operational current I_e

AC-15

220 – 240 V

6 A

380 – 415 V

4 A

AC-21 A

12 A

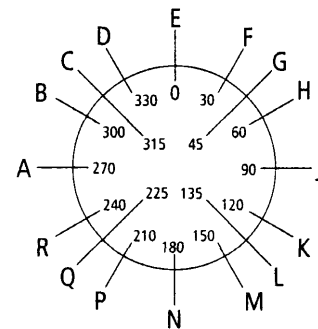
DC-13 32 V per contact

10 A

Further technical data → Page 07/088

Rotary switches with an SVA locking arrangement can also be used as Operating Mode Selector Switches for the purposes of EU Machine Directive 89/392 (Min. switching angle: 60°)

Code letters for lockable switch positions



T0-2-15907/I1/SVA(C,E,G-J)
207096

T3-2-15907/I2/SVA(C,E,G-J)
207176

1 off

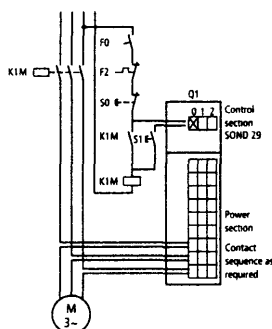
T0-2-15907/I1/SVC(C,E,G-J)
207097

T3-2-15907/I2/SVC(C,E,G-J)
207177

T0-2-15907/Z/SVC(C,E,G-J)
050980

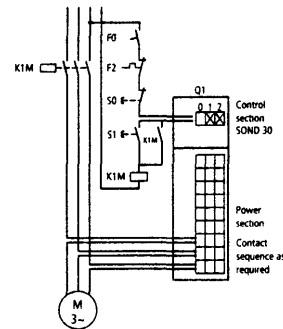
T3-2-15907/Z/SVC(C,E,G-J)
050986

SOND 29



Mains connection by contactor **only** with the rotary switch in the 0 position (Off position interlock)
Application: star-delta, changeover and multi-speed circuits

SOND 30



Mains connection by contactor **only** with the rotary switch in a run position
Each change in switch position causes the contactor to drop out.
Application: changeover and multi-speed circuits

Rotary Switches
Switch-Disconnectors

T Rotary Switches, P Switch-Disconnectors Front Plates

Switch size	Dimensions	Standard front plates	Emergency-Stop front plates	Blank plates
			Yellow	Can be engraved on rear
		Type Article no. State front plate no. required	Type Article no. Price See Price List	Type Article no. Price See Price List
	mm			
Standard front plates				
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

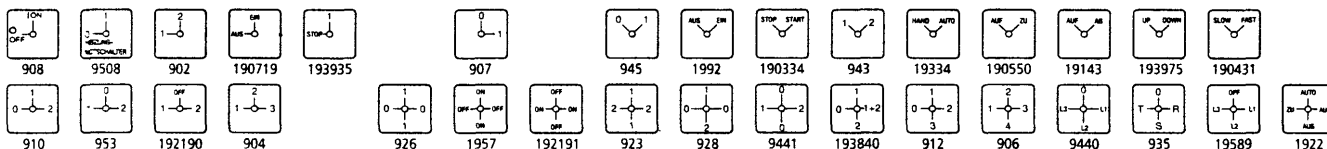
Standard front plates Silver-coloured with black lettering

Standard pack: 1 off

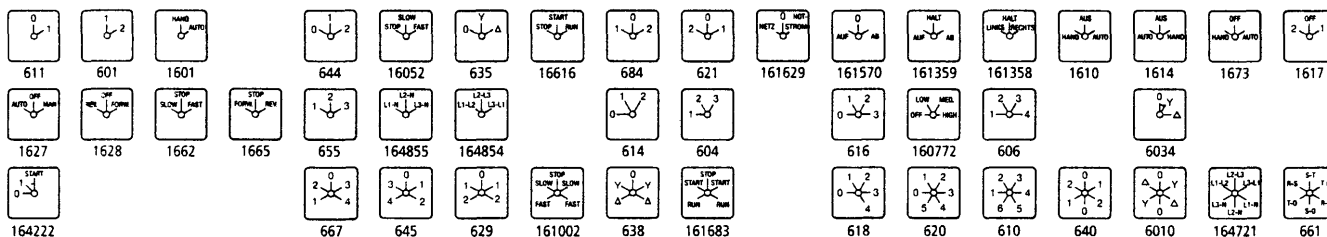
The standard front plates illustrated should be used for non-standard switches where possible. Standard catalogue front plates for standard switches can be exchanged on request with order, for those illustrated here, at no extra charge (not applicable to T6, T8 and TM), provided the switching angles,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

Example: T0-1-8210/E+FS161570

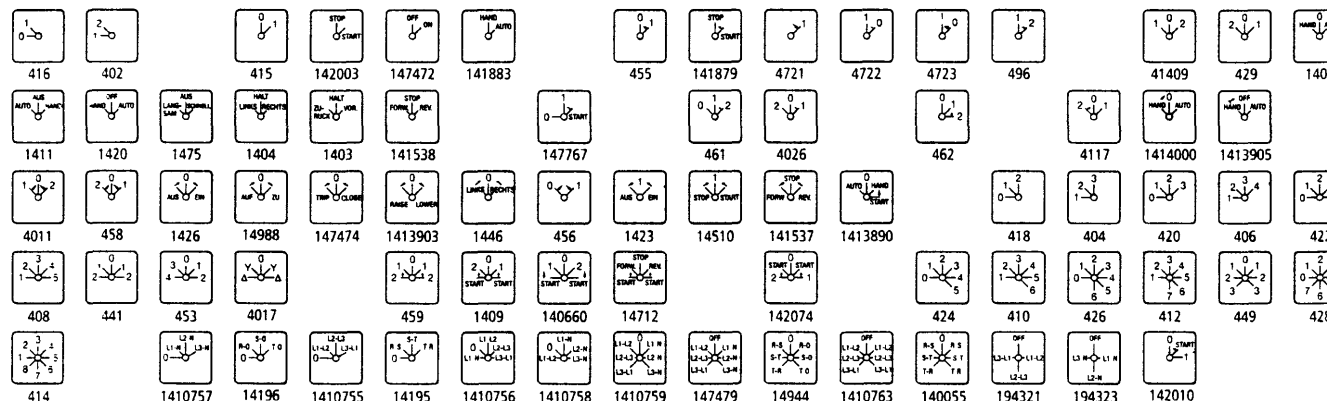
Switching angle 90°



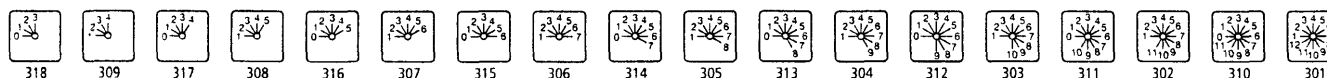
Switching angle 60°



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	Price	Type suffix
≤ 2 characters	Article no.	See Price List	Article no.
mm	mm		Price
			See Price List
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.

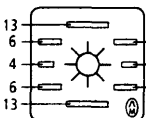
For non-standard T0, T3 and T5(B) switches, the front plate is included in the price.

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

Switching angle

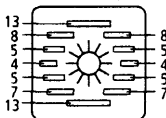
90°/45°

Max. number of characters



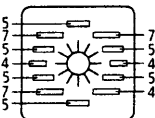
60°/30°

FS-SOND-T0 (T3, T5)



60°/30°

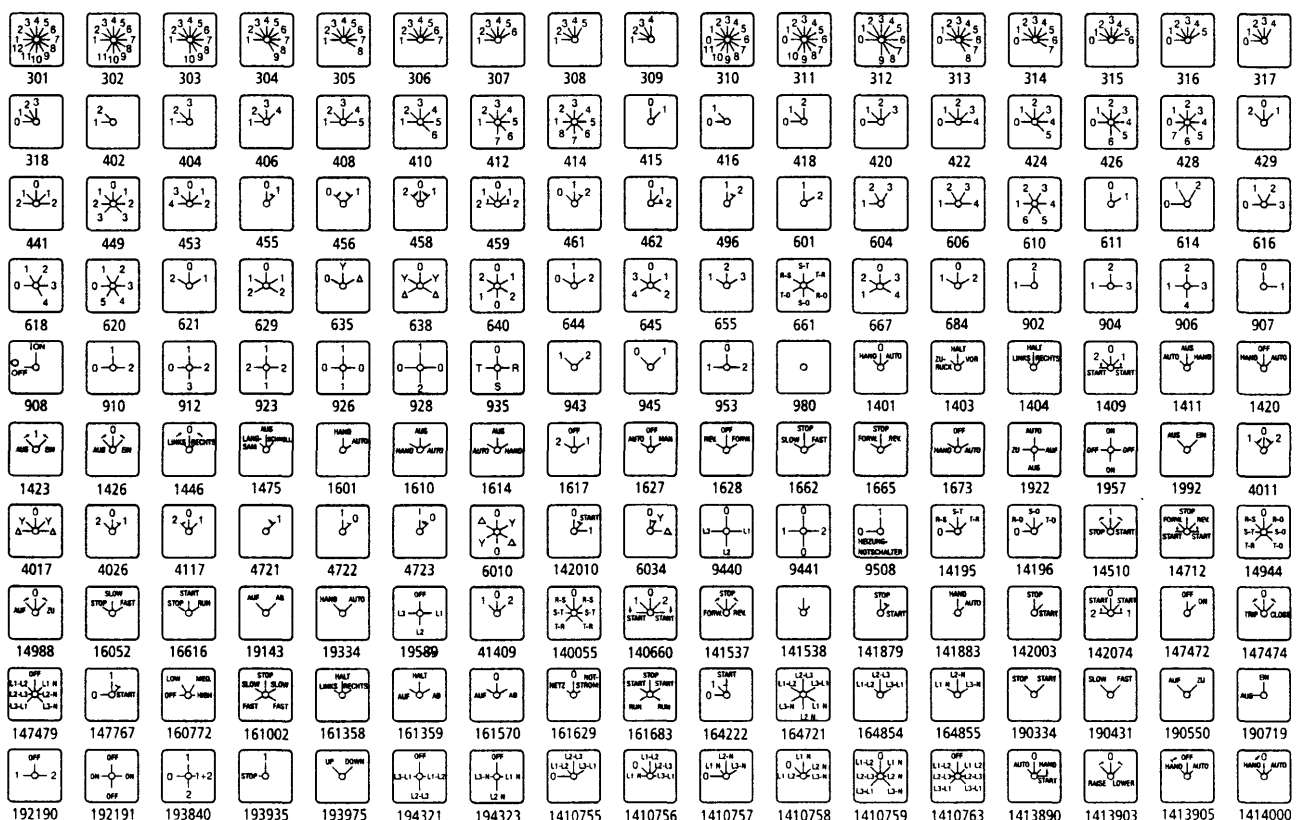
FS-SOND-TM-E (EZ)



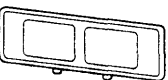
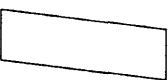
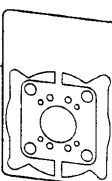
FS-SOND-T0 (T3, T5, P1, P3)

Standard front plates

arranged in their numerical sequence:



T Rotary Switches, P Switch-Disconnectors Accessories

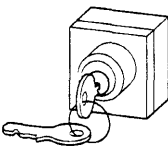
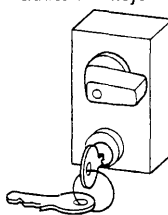
	For use with	Type suffix Article no. When ordered with basic unit	Price See Price List
Add-on front plates, clip-on			
			
For use with front plates and for padlocking features. They comprise a black label mount and an aluminium-coloured insert plate.			
Blank, can be engraved	T.../I2/SVB(-SW) and P.../I2/SVB(-SW) except ...I1, 2.../IVS T..., P... except /I1, 2, 3.../IVS	- -	
With inscription: "Main Switch – Open only in the Off position"	T.../E, T.../Z, P.../E, P.../Z 61/62 = German/English, 63 = French	+ZFS 61/62-T0 065740 +ZFS 63-T0 065741 +ZFS 61/62-P3 065742 +ZFS 63-P3 065743	
Label mounts, black			
			
	T.../I2/SVB(-SW) and P.../I2/SVB(-SW) except ...I1, 2.../IVS T..., P... except /I1, 2, 3.../IVS	- -	
Insert labels, aluminium-coloured			
			
Blank, can be engraved	ZFSX-T0	-	
With inscription as specified Black lettering		-	
Blank, can be engraved	ZFSX-P3	-	
With inscription as specified Black lettering		-	
Legend plates, aluminium-coloured			
			
Blank, can be engraved	T0-.../E, .../EZ, .../Z T3-.../E, .../EZ, .../Z P1-.../E, .../EZ, .../Z	- -	
With inscription as specified Narrow script to DIN 30 640, black		-	
			
Blank, can be engraved	T5(B)-.../E, T5(B).../Z P3-.../E, .../Z T6-2/.../SVB(SW)	- -	
With inscription as specified Narrow script to DIN 30 640, black		-	

T Rotary Switches, P Switch-Disconnectors Accessories

Type	Price		
Article no.	See Price	Std.	
When ordered separately	List	pack	
ZFS 60-T0 019924		25 off	ZFS...-T0 and ZFS...-P3 can be used for any T... and P... switches, as required, and also for PKZ 2. Dimensions with frame W × H = 48 × 17 mm Dimensions with frame W × H = 88 × 27 mm Included as standard with: T.../EA/SVB, P.../EA/SVB T.../V/SVB, P.../V/SVB For ZFS in other languages → Page 07/086
ZFS 60-P3 022297		25 off	
ZFS 61/62-T0 030170		25 off	
ZFS 63-T0 047424			
ZFS 61/62-P3 065739			
ZFS 63-P3 047423			
ZFSX-T0 024670		25 off	ZFSX...-T0 and ZFSX...-P3 can be used for any T... and P... switches, as required Dimensions with frame W × H = 48 × 17 mm Dimensions with frame W × H = 88 × 27 mm
ZFSX-P3 027043		25 off	
BS 45×14-T0 029416		25 off	Letter height (mm) 3.5 5 7 10 Number of lines 2 2 1 1 Letters per line 20 14 11 9
BS 45×14-SOND-T0 034162		1 off	
BS 84×24-P3 031789		25 off	
BS 84×24-SOND-P3 036535		1 off	Letter height (mm) 3.5 5 7 10 Number of lines 4 3 2 2 Letters per line 39 26 20 25
ZS 60-T0 003201		1 off	Letter height (mm) 3.5 5 7 Number of lines 2(3) ¹⁾ 1 1 Letters per line 23 16 11
ZS-SOND-T0 003203		1 off	
ZS 60-P3 003202		1 off	Letter height (mm) 3.5 5 7 Number of lines 6 4 2 Letters per line 41 27 15
ZS-SOND-P3 003205		1 off	

T Rotary Switches, P Switch-Disconnectors Accessories

 Rotary Switches
Switch-Disconnectors

	For use with	Key withdrawal	Type suffix Article no. When ordered with basic unit	Price See Price List
S-T0 key operated lock mechanism, Front IP 53 Includes two keys 				
KMS 1 lock mechanism Individual lock mechanism, not suitable for master key systems	T0-.../E, .../EZ, .../I1, .../Z Up to 6 contact units T3-.../E, .../I2, .../Z Up to 5 contact units P1-.../E, .../I2, .../Z	Key withdrawal positions are programmed ex-works to match the switch	+S-T0 001753 +S-SOND(KMS...)-T0 903210 +S-SOND(SAE)-T0 003212 +S-SOND(SA...)-T0 914737	
KMS 2-10 ¹⁾ lock mechanism KMS 201-400 ¹⁾ lock mechanism Individual lock mechanisms, not suitable for master key systems There is no master key for KMS... lock mechanisms				
(SAE) = Individual lock mechanism supplied with a security certificate (SA...) = Master key system (with master key) supplied with a security certificate. See also note below.				
SVA-T3 cylinder lock, Front IP 65 Includes two keys 				
Key can be withdrawn in all positions KMS 1 lock mechanism Individual lock mechanism, not suitable for master key systems	T0-.../E, .../I1, .../Z T3-.../E, .../I2, .../Z P1-.../E, .../I2, .../Z	Key withdrawal positions are programmed ex-works to match the switch	+SVA-T3 050962 +SVA-SOND-KMS...-T3 907739 +SVA-SOND-KM...-T3 907738	
KMS 2-10 ¹⁾ lock mechanisms KMS 201-400 ¹⁾ lock mechanism Individual lock mechanisms, not suitable for master key systems KM... lock mechanisms				
Key withdrawable in positions as specified				
KMS 1 lock mechanism Switches with FS 908 suitable for use as main switches: T0-1-... to T0-4-.../I1, .../E T3-1-... to T3-5-.../I2 T3-1-... to T3-6-.../E P1-.../I2, .../E	T0-.../E, .../I1, .../Z T3-.../E, .../I2, .../Z P1-.../E, .../I2, .../Z	Withdrawal po- sitions are pro- grammed ex- works as or- dered	+SVA(...)-T3 907737 +SVA(...)-SOND-KMS...-T3 907734 +SVA(...)-SOND-SAE-T3 907736 +SVA(...)-SOND-(SA...)-T3 914735	
KMS 2-10 ¹⁾ lock mechanisms KMS 201-400 ¹⁾ lock mechanisms Individual lock mechanisms, not suitable for master key systems (SAE) = Individual lock mechanism supplied with a security certificate (SA...) = Master key system (with master key) supplied with a security certificate. Order must include a lock plan (FO 276) showing the full con- figuration of the envisaged lock system. For subsequent part orders, sim- ply state the item number within the lock plan, e.g. (X4711, item 7).				

Notes

- ¹⁾ KMS 1: can be supplied ex-stock; KMS 2 – 9, 201 – 400
and master key systems: delivery time >6 weeks

T Rotary Switches, P Switch-Disconnectors Accessories

Key with- drawal	Type	Price	Std.
Article no.	See Price	pack	
When ordered separately	List		
Key with- drawal positions can be programmed by user	S-T0 086709		1 off
	S-SOND(KMS...)-T0 903207		
	S-SOND(SAE)-T0 003209		
	S-SOND(SA...)-T0 991023		
Key with- drawal positions can be programmed by user	SVA-T3 050974		1 off
	SVA-SOND-KMS...-T3 907747		
	SVA-SOND-KM...-T3 907746		
Key with- drawal positions are programmed ex-works as ordered	SVA(...)-T3 907745		
	SVA(...)-SOND-KMS...-T3 907742		
	SVA(...)-SOND-SAE-T3 907744		
	SVA(...)-SOND(SA...)-T3 914736		

Notes

S-T0 can be used for P1-..., T0-1... to T0-6... and T3-1... to T3-5... switches.

The key replaces the thumb-grip. Switching is not possible without the key. The switch position indicator is on the lock. In standard applications, the key can be withdrawn in any position, on switches with FS 908, only in the 0 position. New positions for key withdrawal can be selected (even retrospectively) by fitting VR-T0 locking cams.

The switching angle is determined by the switch.

When retrofitting the S-T0, use the front plate supplied with the switch.

Lock mechanism: standard KMS 1 (CES lock)

If required, other lock mechanisms or master key systems are available.

SVA-T3 can be fitted to T0, T3 and P1 switches.

Switching is carried out using the thumb-grip. The switch is locked by turning the key; the key is withdrawable. In standard applications, all positions are lockable. When retrofitting the SVA-T3, use the front plate supplied with the switch.

Lock mechanism: standard KMS 1 (CES lock). If required, other lock mechanisms can be used, and if planned in advance, even master key systems. Individual positions or ranges can be locked (also with VR-T3 fitted by the user). The key cannot be withdrawn from positions which are not lockable. Where ranges are locked, switching without the key is possible only within a locked range.

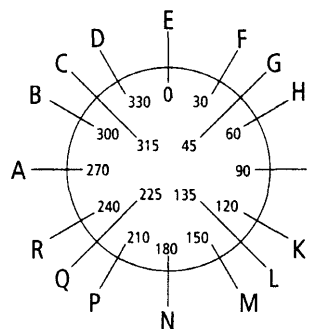
The lockable positions or ranges are shown below; use the code letters to state selection on order.

Example 1: SVA(A)-T3 = Only position A lockable

Example 2: SVA(A, E)-T3 = Positions A and E lockable

Example 3: SVA(A-J)-T3 = Range A to J lockable

Example 4: SVA(S)-T3 = Panic lock for Emergency-Stop and main switches, lockable in positions A and E; switching is still possible from E to A, but not from A to E.

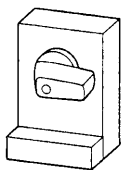
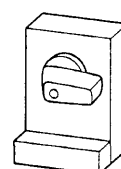


Letter S for panic lock with FS 908

Ordering example:

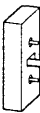
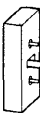
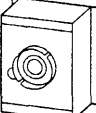
SVA(A-G)-SOND(SAA 6294-1/2)

T Rotary Switches, P Switch-Disconnectors Accessories

	For use with	Locking facility	Type suffix Article no. When ordered with basic unit	Price See Price List
SVC-T3 padlocking feature , Front IP 65				
In the depressed position, the locking slide is lockable with up to 3 padlocks				
				
All positions or ranges are lockable	T0-.../E, .../I1, .../Z T3-.../E, .../I2, .../Z P1-.../E, .../I2, .../Z	Lockable positions are programmed ex-works to match the switch	+SVC-T3 050963	
Specified positions or ranges are lockable Switches (on the right) with FS 908 may be used as main switches.	T0-1-... to T0-4-.../I1, .../E T3-1-... to T3-5-.../I2 T3-1-... to T3-6-.../E P1-.../I2, .../E	Lockable positions are programmed ex-works to order	+SVC(...)-T3 907740	
DTV-T3 push-button interlock, padlockable, Front IP 65				
As SVC-T3, but with the following added function: With a padlock in place, it is possible to switch from an unlocked position or range into a locked position or range, but not the reverse.				
				
	T0-.../E, .../I1, .../Z T3-.../E, .../I2, .../Z P1-.../E, .../I2, .../Z Lockable with up to 2 padlocks	Lockable positions are programmed ex-works to match the switch	+DTV-T3 050961	
Specified positions locked Release mechanism can be locked with up to 2 padlocks	—	Lockable positions are programmed ex-works to order	+DTV(...)-T3 907733	
Locking cams (2 cams per set)				
User can select indexing position in which key can be withdrawn	S-T0 for all switching angles	—		
				
Changing the locked positions/ranges	SVA-T3 and SVC-T3 for all switching angles For DTV-T3: order 2 x VR-T3	—		
				
Keys				
				
For KMS 1 individual lock mechanism	S-T0, SVA-T3	—		
For KMS 2 – 10 or KMS 201 – 400 individual lock mechanisms	S-T0, SVA-T3	—		
For master key systems and individual lock mechanisms: state lock plan number and lock	S-T0, SVA-T3	—		

T Rotary Switches, P Switch-Disconnectors

Accessories

	For use with	Type suffix Article no. When ordered with basic unit	Price See Price List
Neutral poles			
Early-make, late-break			
			
Can be fitted to left and/or right of 3-pole P switch-disconnectors	P1-.../E, .../EA, .../EZ	-	
N-P1Z or HI11-P1/P3Z can be fitted to left only of P1-.../I2 switch-disconnectors	P1-.../Z, .../N, .../I2, .../IVS	+N-P1Z 000416	
	P3-.../E, .../EA	-	
	P3-.../Z, .../N, .../IVS P3-63/E, .../Z, .../I4 P3-100/E, .../Z, .../I5	+N-P3Z 009036	
Auxiliary contacts			
One make contact, one break contact			
			
Can be fitted to left and/or right of 3-pole P switch-disconnectors	P1-.../E, .../EA..., .../EZ P3-.../E, .../EA	+HI11-P1/P3E 064100	
N-P1Z or HI11-P1/P3Z can be fitted to left only of P1-.../I2 switch-disconnectors	P1-.../Z, .../N, .../I2, .../IVS P3-63/Z, .../N, .../I4, .../IVS P3-100/Z, .../N, .../I5, .../IVS	+HI11-P1/P3Z 064526	
Centre mounting accessories			
For single-hole fitting Mounting diameter 22.3 mm			
			
With front plate	T0-.../E, T3-.../E	+EZ-T0 001750	
Without front plate For engraved front plate	T0-.../E, T3-.../E	+EZ/OFS-T0 001751	
Mounting diameters 22.3 mm and 30.5 mm	T0-.../E, T3-.../E, P1-.../E	+EZ-P1 026222	
			
Service distribution board mounting accessories			
Including push-fit shaft			
			
For retrofitting of T0-.../XZ basic switches as T0-.../IVS into service distribution boards	T0-.../XZ	+IVS-T0 045472	

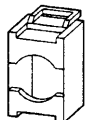
T Rotary Switches, P Switch-Disconnectors

Accessories

Type	Price		
Article no.	See Price List	Std. pack	
When ordered separately			
N-P1E 000651		5 off	The neutral contact is always early-make and late-break
N-P1Z 000652			Switching capacity of N-P1... equivalent to P1-32... contacts
N-P3E 062432			The neutral contact is always early-make and late-break
N-P3Z 064805			Switching capacity N-P3... equivalent to P3-100... contacts
HI11-P1/P3E 061813		5 off	The make contact is always connected as a load-shedding contact, i.e. late-make, early-break.
HI11-P1/P3Z 062031		5 off	
EZ-T0 081622		1 off	Rapid snap-fitting in panel sides, plates and doors Legend plates from the RMQ range of control circuit devices can be used
EZ/OFS-T0 001869		1 off	
EZ-P1 091455		5 off	Screw-fixing enables one person to fit it into panel sides, plates and doors Legend plates from the RMQ range of control circuit devices can be used
IVS-T0 091114		1 off	Use the front plate of the basic switch

T Rotary Switches, P Switch-Disconnectors

Accessories

	For use with	Type suffix Article no. When ordered with basic unit	Price See Price List
Coupling drive			
Including push-fit shaft			
			
For fitting T0(T3)-.../XZ basic switch as a rear mounting switch Spare part for T0(T3)/(P1)-.../Z		—	
For conversion of T5 (B)-.../E flush mounting switch into a rear mounting switch Spare part for T5(B)/(P3)-.../Z		—	
Interlock sections			
			
With N- and PE conductor connection	T0-.../E, .../EZ T3-.../E, .../EZ P1-.../E, .../EZ	+UV-T0 038519	
	T5(B)-.../E P3-.../E	+UV-P3 030402	
	T0-.../Z T3-.../Z P1-.../Z	+UV-T0 038519	
For cover and door interlock With N- and PE conductor connection	T5(B)-.../Z P3-.../Z	+UV-P3 030402	
Interlock extensions			
Up to four off, 25 mm each, can be plugged onto interlock section (An equal number of shaft extensions is required for this purpose)	UV-T0	+ZVV-T0¹⁾ 024662	
	UV-P3	+ZVV-P3²⁾ 024379	
			
Shaft extensions			
Up to four off, 25 mm each, can be plugged onto switch shaft	T0-.../Z T3-.../Z P1-.../Z	+ZAV-T0 023736	
	T5(B)-.../Z P3-.../Z	+ZAV-P3 026623	
			
Notes			
¹⁾ For use only with T0/T3-.../Z and P1-.../Z ²⁾ For use only with T5(B)-.../Z and P3-.../Z			

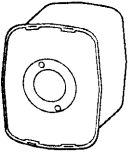
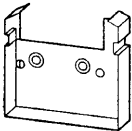
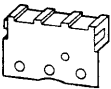
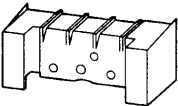
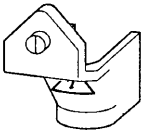
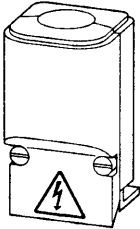
T Rotary Switches, P Switch-Disconnectors

Accessories

Type	Price		
Article no.	See Price List	Std. pack	
When ordered separately			
DE-T0 093487		1 off	
DE-P3 093972		3 off	
UV-T0 019925		1 off	Fits on the reverse of the flush mounting switch
UV-P3 048289			
UV-T0 019925			With interlocking function for rear mounting switches
UV-P3 048289			
ZVV-T0 022298		10 off	Notes relating to installation in enclosures → Page 07/107
ZVV-P3 024671		10 off	
ZAV-T0 027044		10 off	Notes relating to installation in enclosures → Page 07/107
ZAV-P3 029417		10 off	

T Rotary Switches, P Switch-Disconnectors

Accessories

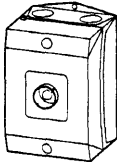
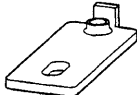
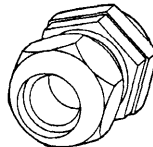
	For use with	Type suffix Article no. When ordered with basic unit	Price See Price List
Sleeves/covers			
For flush mounting switches with up to four contact units	T0-.../E T3-.../E P1-.../E	—	
			
Cover for protection of terminals			
For up to 2 contact units	T5(B)-.../E, .../Z	—	
			
Extension of H1-T5 cover To protect 3 to 8 contact units	H1-T5	—	
To cover terminals on 3-pole switch-disconnectors	P1-.../E, .../EZ, .../Z, .../EA, .../V P1-...N, ...HI11, ...N...HI11	—	
			
To cover terminals on 3-pole open switch-disconnectors with N neutral conductor and/or HI11 auxiliary contact modules fitted	P3-.../E, .../Z, .../EA, .../V P3-...N, ...HI11, ...N...HI11	—	
			
Cover assembly to protect the 6 terminals on	T6-160-6/...	—	
			
Cover assembly to protect the 6 terminals on	T8-3-8342/...	—	
			

T Rotary Switches, P Switch-Disconnectors

Accessories

Type	Price		
Article no.	See Price List	Std. pack	
When ordered separately			
H3-T0 093828		1 off	Cable entries Quantity: 2 × Ø 20 mm + 2 × Ø 15 mm Cross-section: 5 × 6 mm ² 5 × 2.5 mm ²
H1-T5 045062		1 off	Can be used for input and/or output wiring
HZ-T5 045063		10 off	1 × HZ-T5 required per contact unit
H-P1 017253		5 off	Can be used for input and/or output wiring
H-P14 019626		5 off	
H-P3 021999		5 off	The shroud is designed for fitting onto both sides of the switch-disconnector. Parts which are not required can be broken off.
H-T6-160 200183		1 off	
H-T8 200184		1 off	

T Rotary Switches, P Switch-Disconnectors Accessories

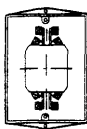
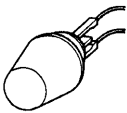
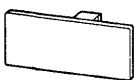
	For use with	Type Article no.	Price See Price List	Std. pack										
Insulated enclosures ¹⁾ IP 65 ²⁾ totally insulated														
														
1 – 2 contact units	T0-.../XZ	CI-K1-T0-2 207435		1 off	Cable sizes which may be pushed through the membrane <table><tr><th>Type</th><th colspan="2">Main/control current</th></tr><tr><td>CI-K1-T0-...</td><td>12 mm</td><td>–</td></tr><tr><td>CI-K2-T3-...</td><td>16 mm</td><td>8 mm</td></tr></table>	Type	Main/control current		CI-K1-T0-...	12 mm	–	CI-K2-T3-...	16 mm	8 mm
Type	Main/control current													
CI-K1-T0-...	12 mm	–												
CI-K2-T3-...	16 mm	8 mm												
3 – 4 contact units	T0-.../XZ	CI-K1-T0-4 207436												
1 – 2 contact units	T3-.../XZ P1-...	CI-K2-T3-2 207437												
3 – 5 contact units	T3-.../Z	CI-K2-T3-5 207438												
1 – 2 contact units	T5B-.../E P3-63/...	CI-K4-T5B-2 207439			Converts T5-.../Z into T5-.../I5 and T5B-.../E into T5B-.../I4: Order AW-T5-... extension terminals in addition → Page 07/069									
3 – 4 contact units	T5B-.../Z	CI-K4-T5B-4 207440												
1 – 2 contact units	T5-.../Z P3-100/...	CI-K5-T5-2 207441												
3 – 4 contact units	T5-.../Z	CI-K5-T5-4 207442												
Neutral terminal														
For connection of 5th conductor														
														
	T0-.../I1, CI-K1-T0-... T3-.../I2, CI-K2-T3-... P1-.../I2	K-CI-K1/2 207451		1 off										
	T5B-.../I4, CI-K4-T5B-..., P3-.../I4	K-CI-K4 206916		1 off										
Set of external fixing brackets														
														
	T5B-.../I4, T5-.../I5, P3-63/I4, P3-100/I5,	AB-CI-K4/5 206914		1 off										
Metric cable glands to EN 50 262														
														
	Thread size			1 off										
	M20	V-M20 206910												
	M25	V-M25 206911												
	M32	V-M32 206912												
	M50	V-M50 206913												
Metric cable grommets to EN 50 262														
	For M20	KT-M20 207602		100 off										
	For M25	KT-M25 207603												
	For M32	KT-M32 207604												

Notes

¹⁾ Enclosures designed for metric cable glands to EN 50 262²⁾ Max. degree of protection with cable passing through membrane: IP 54

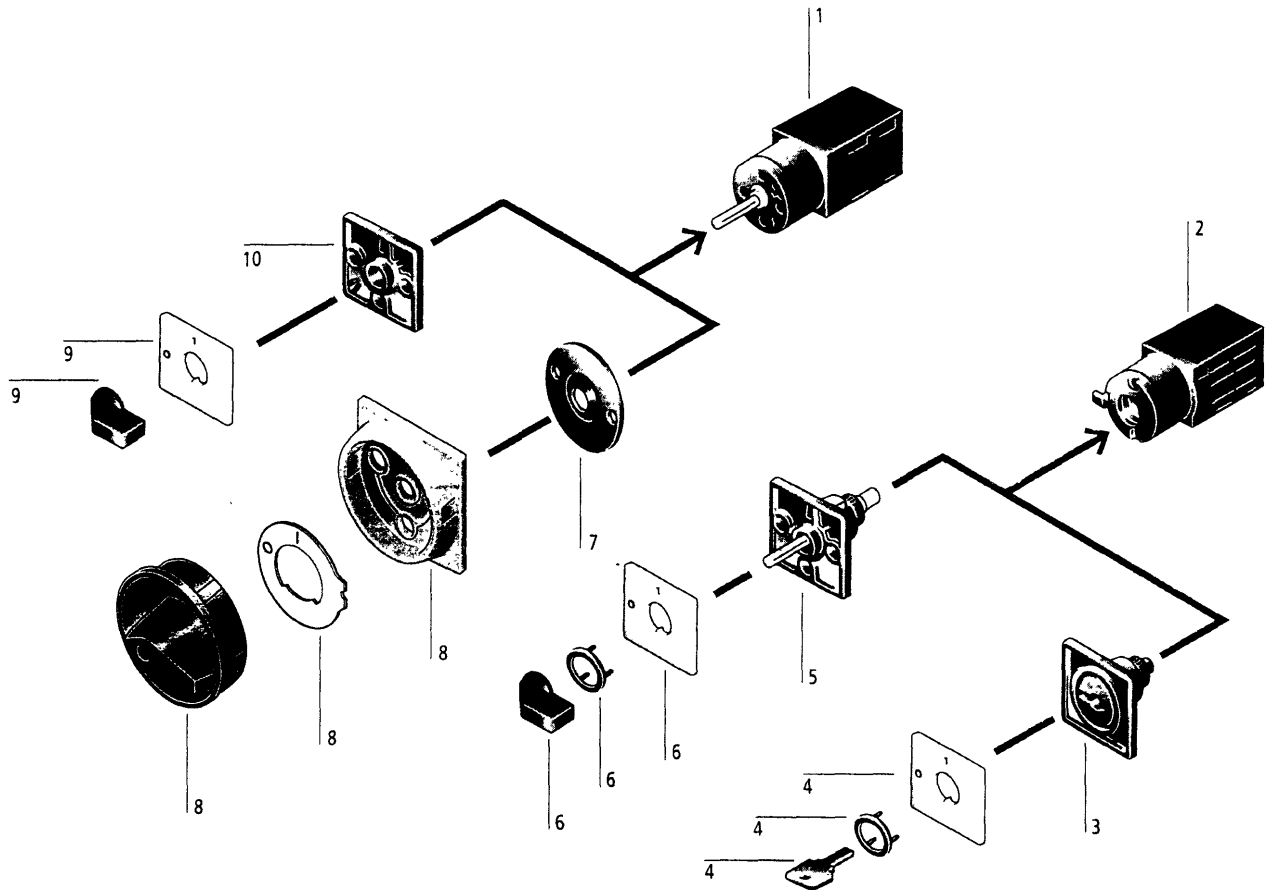
T Rotary Switches, P Switch-Disconnectors

Accessories

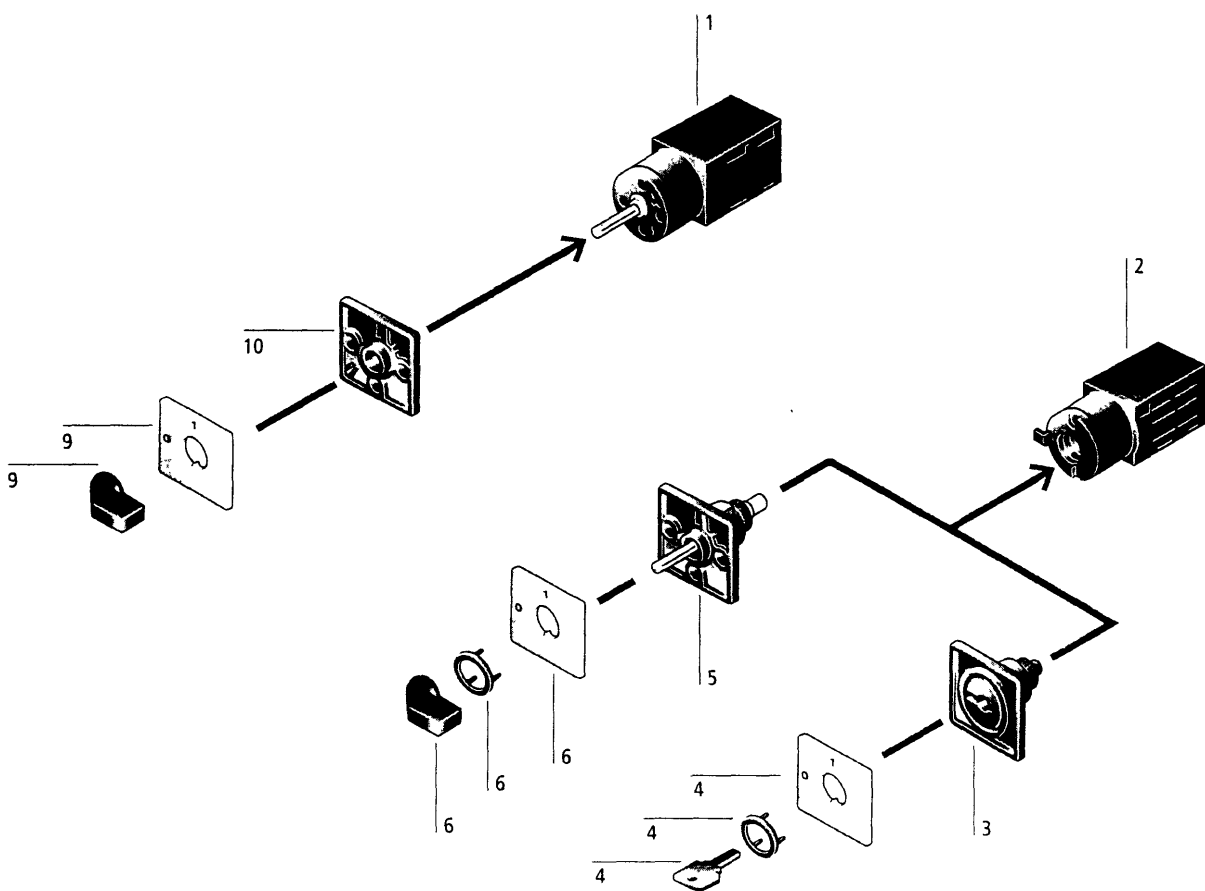
	For use with	Type Article no.	Price See Price List	Std. pack	
Set of extension terminals					
For cable connection in the enclosure					
					
For the lowest contact unit	T5B-.../I4 T5-.../I5	AW-T5-1/2 032601		1 off	Included with T5B-.../I4 and T5-.../I5 as standard Fit T5(B) with extension terminals to install it as T5(B)-.../E in an insulated enclosure
For the second contact unit from the bottom	T5-.../I5	AW-T5-3/4 032602		1 off	
Indicator lights with neon bulb					
For mounting in enclosure covers					
					
Colour: white Voltage range: 230–400 V	P1-.../I2, P3-.../I..., T-.../I...	L-PKZ 0 (400 V) 082152		10 off	Other voltages → Page 08/019
Colour: green Voltage range: 230–400 V		L-PKZ 0 -GN (400 V) 082155		5 off	
Colour: red Voltage range: 230–400 V		L-PKZ 0-RT (400 V) 082158		5 off	
Indicator lights, conical, without neon bulb					
For mounting in cable entries					
					
Colour: red	P1-.../I2, P3-.../I..., T-.../I...	L-CIK-R 207033		10 off	For neon bulbs and BA 9s filament bulbs up to 2.4 W
Colour: white		L-CIK-W 207034			
Colour: green		L-CIK-G 207035			
Colour: yellow		L-CIK-Y 207036			
XGKS component labelling system					
→ Page 15/090					
Label plate with fixing stud					
					
18 × 17.5 mm	T0-... T3-... T5B-... P1-... P3-...	XGKS-Z 207508		500 off	

TM Mini Rotary Switches System Overview

TM On-Off switches



TM control switches



TM Mini Rotary Switches System Overview

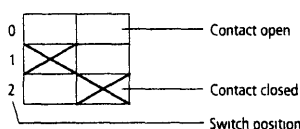
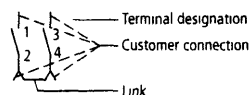
Flush mounting (.../E) 1 Front IP 65 Fitting from the rear in panel sides, plates or doors Terminal: Pozidriv screw Finger-proof → Page 07/072	Centre mounting (.../EZ) 2 Front IP 65 Mounting in a standard 16.2 mm aperture, or in 22.3 mm to IEC/EN 60 947-5-1 following removal of supplied adapter MBS... legend plates from the control circuit device range can be used (see Page 03/074) → Page 07/072	Centre mounting switches, standard 5,6 With black thumb-grip and silver-coloured front plate → Page 07/072
Flush mounting control circuit isolators (.../E/SVB) 1 Front IP 65 To IEC/EN 60 947-5 Lockable in the Off position using 2 padlocks (4 mm Ø) or 1 padlock (6 mm Ø) Can be used at up to 250 V AC per contact Up to 6 contacts admissible → Page 07/072	Centre mounting, key operated 3,4 Two keys supplied Option for key withdrawal at 90° using KABA Micro cylinder lock Option for key withdrawal at 60° using RONIS cylinder lock The position in which the key is to be withdrawable must be stated → Page 07/081	Control circuit isolators 7,8 With red rotary handle and yellow locking collar Lockable in the 0 (Off) position → Page 07/072 Flush mounting switches, standard 9,10 With black thumb-grip and silver-coloured front plate → Page 07/072

Product attributes

Contact chamber

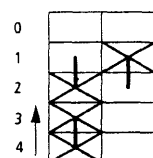
- Rated uninterrupted current 10 A
- Gold-plated contacts for safe switching of extra low voltages and currents even in corrosive atmospheres
- Positively opening contacts
- 1 – 2 contacts per contact chamber, up to 16 contacts per switch
- Switching of differing potentials
- Control circuit reliability

Circuit diagrams (examples)



Switch position 1:
Contact 1 – 2 open,
Contact 3 – 4 closed.

Switching from 1 to 2:
Contact 1 – 2 early-make
Contact 3 – 4 late-break

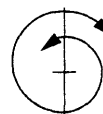


Switching from 2 to 3:
Contact 1 – 2 opens briefly.

Switching from 3 to 4:
Contact 1 – 2 remains closed

Switch position

- Reliable switching due to indexing mechanism
- Switching angles 30°, 45°, 60°, 90°
- Spring-return
- Complete rotation
- Switching angle of 360° allows complete rotation in both directions



Rotary Switches Switch-Disconnectors

Circuit diagram	Front plate no.	no. of poles	Flush mounting Front IP 65	Centre mounting Front IP 65
			Type Article no.	Price See Price List
Control circuit isolators, 90°				
With padlocking facility, lockable in the Off position Up to 250 V AC for each contact				
		1	TM-1-8290/E/SVB 045477	—
		2	TM-1-8291/E/SVB 045478	—
		3	TM-2-8292/E/SVB 045484	—
		3+N	TM-2-8293/E/SVB 045485	—
		6	TM-3-8326/E/SVB 045498	—
On-Off switches, 90°				
		1	TM-1-8290/E 070131	TM-1-8290/EZ 000693
		2	TM-1-8291/E 072504	TM-1-8291/EZ 015073
		3	TM-2-8292/E 074877	TM-2-8292/EZ 015096
		3+N	TM-2-8293/E 077250	TM-2-8293/EZ 045486
		6	TM-3-8326/E 079623	TM-3-8326/EZ 045499

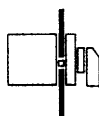
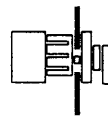
Standard pack: 1 off

TM Mini Rotary Switches

Control Switches: Changeover Switches

Circuit diagram

Front plate no.

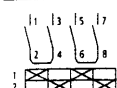
no. of
polesFlush mounting
Front IP 65Type
Article no.Price
See Price
ListCentre mounting
Front IP 65Type
Article no.Price
See Price
List

Changeover switches without 0 position, 60°



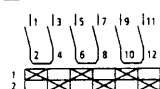
F 072

1

TM-1-8220/E
081996TM-1-8220/EZ
000692

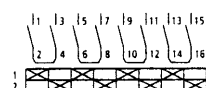
F 072

2

TM-2-8221/E
084369TM-2-8221/EZ
015197

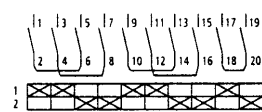
F 072

3

TM-3-8222/E
086742TM-3-8222/EZ
045493

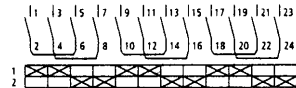
F 072

4

TM-4-8223/E
089115TM-4-8223/EZ
046119

F 072

5

TM-5-8369/E
091488TM-5-8369/EZ
046126

F 072

6

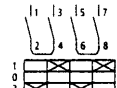
TM-6-8370/E
093861TM-6-8370/EZ
046130

Changeover switches with 0 (Off) position, 60°



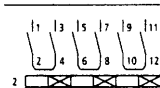
F 071

1

TM-1-8210/E
096234TM-1-8210/EZ
015137

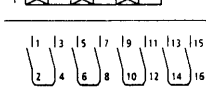
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2

TM-2-8211/E
098607TM-2-8211/EZ
015166

F 249

3

TM-3-8212/E
010807TM-3-8212/EZ
045491

F 249

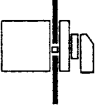
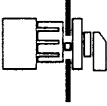
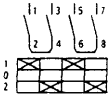
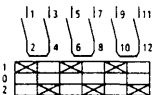
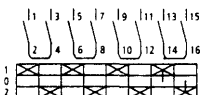
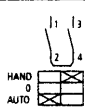
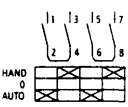
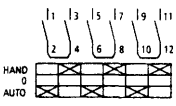
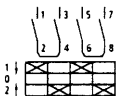
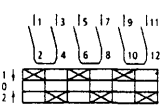
4

TM-4-8213/E
013180TM-4-8213/EZ
045847

Standard pack: 1 off

TM Mini Rotary Switches

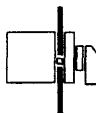
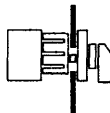
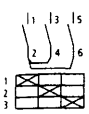
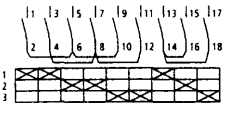
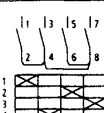
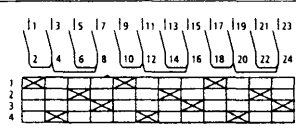
Control Switches: Changeover Switches, Hand/Auto Switches

Circuit diagram	Front plate no.	no. of poles	Flush mounting Front IP 65	Centre mounting Front IP 65	Type	Price	Type	Price
					Article no.	See Price List	Article no.	See Price List
Changeover switches with 0 (Off) position, 90°								
	 F 057	1	TM-1-8218/E 015553				TM-1-8218/EZ 045476	
	 F 057	2	TM-2-8219/E 017926				TM-2-8219/EZ 045482	
	 F 057	3	TM-3-8299/E 020299				TM-3-8299/EZ 045497	
	 F 057	3+N	TM-4-8294/E 022672				TM-4-8294/EZ 046121	
Hand/Auto switches, 60°								
	 F 288	1	—				TM-1-8220 F288/EZ 016925	
	 F 085	1	TM-1-15431/E 025045				TM-1-15431/EZ 000691	
	 F 085	2	TM-2-15432/E 027418				TM-2-15432/EZ 016878	
	 F 085	3	TM-3-15433/E 029791				TM-3-15433/EZ 045490	
Changeover switches with spring-return from both directions, 30°								
	 F 025	1	TM-1-8214/E 032164				TM-1-8214/EZ 016673	
	 F 025	2	TM-2-8215/E 034537				TM-2-8215/EZ 045481	
	 F 025	3	TM-3-8216/E 036910				TM-3-8216/EZ 045492	

Standard pack: 1 off

TM Mini Rotary Switches

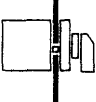
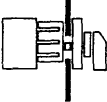
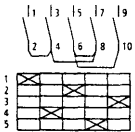
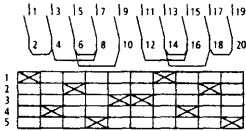
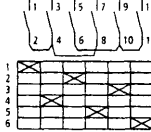
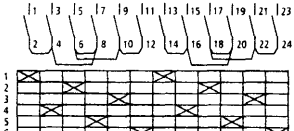
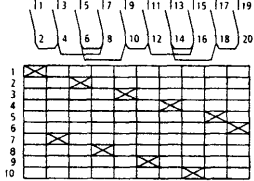
Control Switches: Step Switches

Circuit diagram	Front plate no.	no. of poles	Flush mounting Front IP 65	Centre mounting Front IP 65	
					
			Type Article no.	Price See Price List	
				Type Article no.	Price See Price List
Step switches without 0 position, 60°					
3 steps					
	 F 076	1	TM-2-8230/E 039283	TM-2-8230/EZ 000701	
	 F 076	3	TM-5-8270/E 041656	TM-5-8270/EZ 046124	
4 steps					
	 F 077	1	TM-2-8231/E 044029	TM-2-8231/EZ 000700	
	 F 077	3	TM-6-8271/E 046402	TM-6-8271/EZ 046128	
Standard pack: 1 off					

TM Mini Rotary Switches

Control Switches: Step Switches

Rotary Switches
Switch-Disconnectors

Circuit diagram	Front plate no.	no. of poles	Flush mounting Front IP 65	Centre mounting Front IP 65
				
			Type Article no.	Price See Price List Type Article no. Price See Price List
Step switches without 0 position				
5 steps, 60°				
		1	TM-3-8232/E 039298	TM-3-8232/EZ 015592
	F 078			
		2	TM-5-8252/E 041671	TM-5-8232/EZ 046123
	F 078			
6 steps, 60°				
Without complete rotation				
		1	TM-3-8233/E 053521	TM-3-8233/EZ 015630
	F 079			
		2	TM-6-8253/E 055894	TM-6-8253/EZ 046127
	F 079			
10 steps, 30°				
		1	TM-5-8237/E 069150	TM-5-8237/EZ 015661
	F 011			

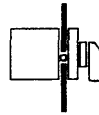
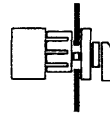
Standard pack. 1 off

TM Mini Rotary Switches

Control Switches: Step Switches

Circuit diagram

Front plate no.

no. of
polesFlush mounting
Front IP 65Type
Article no.Price
See Price
ListCentre mounting
Front IP 65Type
Article no.Price
See Price
List

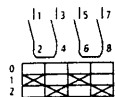
Step switches with additional 0 position

2 steps, 60°



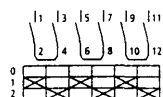
F 075

1

TM-1-8240/E
058267TM-1-8240/EZ
015226

F 075

2

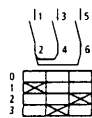
TM-2-8260/E
060640TM-2-8260/EZ
045483

F 075

3

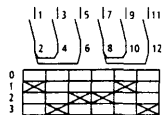
TM-3-8280/E
063013TM-3-8280/EZ
045496

3 steps, 45°



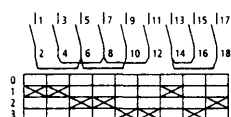
F 109

1

TM-2-8241/E
065386TM-2-8241/EZ
015256

F 109

2

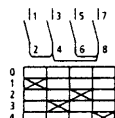
TM-3-8261/E
067759TM-3-8261/EZ
000698

F 109

3

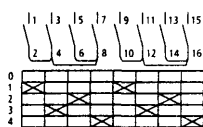
TM-5-8281/E
070132TM-5-8281/EZ
046125

4 steps, 30°



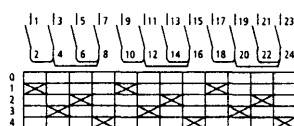
F 002

1

TM-2-8242/E
072505TM-2-8242/EZ
015506

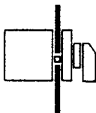
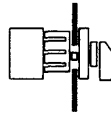
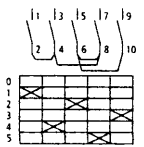
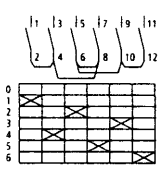
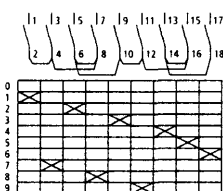
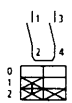
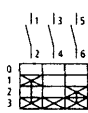
F 002

2

TM-4-8262/E
074878TM-4-8262/EZ
046120

TM Mini Rotary Switches

Control Switches: Step Switches, Group Switches

Circuit diagram	Front plate no.	no. of poles	Flush mounting Front IP 65	Centre mounting Front IP 65
				
			Type Article no.	Price See Price List Type Article no. Price See Price List
Step switches with additional 0 position, 30°				
5 steps				
	 F 003	1	TM-3-8243/E 079624	TM-3-8243/EZ 015537
6 steps				
	 F 004	1	TM-3-8244/E 081997	TM-3-8244/EZ 045495
9 steps				
	 F 007	1	TM-5-8247/E 009741	TM-5-8247/EZ 015565
Group switches				
2 groups, 60°				
	 F 075	1	TM-1-8310/E 084370	TM-1-8310/EZ 045479
3 groups, 30°				
	 F 001	1	TM-2-8311/E 086743	TM-2-8311/EZ 045487

Standard pack: 1 off

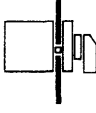
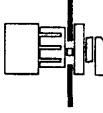
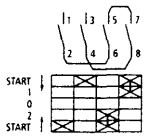
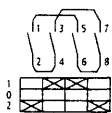
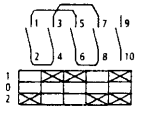
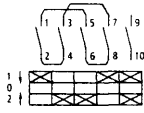
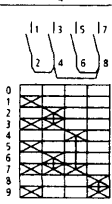
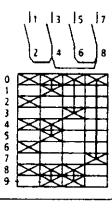
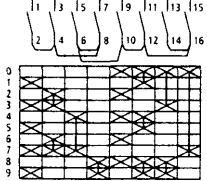
TM Mini Rotary Switches

Control Switches: On/Off Switches, Spring-Return

Circuit diagram	Front plate no.	no. of poles	Flush mounting Front IP 65	Centre mounting Front IP 65		
			Type Article no.	Price See Price List	Type Article no.	Price See Price List
On-Off spring-return switches, 30°						
Off spring-return switches						
	 F 022	1	TM-1-8174/E 089116		TM-1-8174/EZ 016646	
On spring-return switches						
	 F 023	1	TM-1-8175/E 091489		TM-1-8175/EZ 015690	
On-Off spring-return switches						
	 F 024	1	TM-1-8176/E 093862		TM-1-8176/EZ 016714	
	 F 024	2	TM-2-8183/E 096235		TM-2-8183/EZ 045480	
On-Off spring-return switches, 90°/30°						
With spring-return from START to 1						
	 F 119	1	TM-1-8178/E 098608		TM-1-8178/EZ 016786	

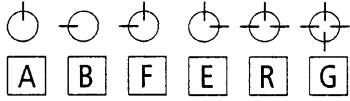
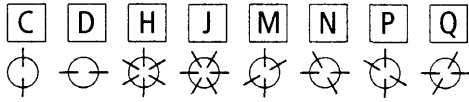
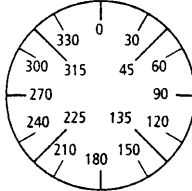
Standard pack: 1 off

TM Mini Rotary Switches Control Switches: Reversing Switches, Coding Switches

Circuit diagram	Front plate no.	no. of poles	Flush mounting Front IP 65	Centre mounting Front IP 65
				
			Type Article no.	Price See Price List Type Article no. Price See Price List
Reversing switches				
With spring-return from START to 1 or 2, 60°/30°				
	 F 121	1	TM-2-8177/E 010808	TM-2-8177/EZ 016838
Reversing switches, 60°				
	 F 071	2	TM-2-8400/E 013181	TM-2-8400/EZ 045488
	 F 071	3	TM-3-8401/E 015554	TM-3-8401/EZ 045500
Reversing switches with spring-return to 0, 30°				
	 F 025	3	TM-3-8228/E 017927	TM-3-8228/EZ 045494
Coding switches BCD Code 0 – 9, 30°				
	 F 007	1	TM-2-8550/E 020300	TM-2-8550/EZ 000699
Complementary BCD Code 0 – 9, 30°				
	 F 007	1	TM-2-8551/E 022673	TM-2-8551/EZ 045489
BCD Code 0 – 9 + complement, 30°				
	 F 007	1	TM-4-8552/E 025046	TM-4-8552/EZ 046122

TM Mini Rotary Switches

Accessories

	Type Article no.	Price See Price List
TM non-standard front plates		
Volume price structure applies when ordered with switch		
Quantity of switches:		
1 – 4	+FS-SOND-TM 020953	
5 – 9	+FS-SOND-TM>4 000543	
10 – 19	+FS-SOND-TM>9 000547	
20 – 49	+FS-SOND-TM>19 000542	
50 – 99	+FS-SOND-TM>49 000546	
> 99	+FS-SOND-TM>99 000548	
Silver-coloured front plate with black lettering, inscribed on the reverse. It is not necessary to state .../E or .../EZ in the type suffix. Individual front plates → Page 07/053		
Lock mechanism, key operated		
Includes two keys		
KABA lock for 90° switching angle		
Degree of protection IP 65		
Key withdrawable at:		
0°	+EZ/S-A 045458	
270°	+EZ/S-B 045459	
270 + 0°	+EZ/S-F 045463	
0 + 90°	+EZ/S-E 045462	
270 + 0 + 90°	+EZ/S-R 045471	
270 + 0 + 90 + 180°	+EZ/S-G 045464	
The key can be withdrawn only in certain positions, see diagram below. However, the KABA lock mechanism for 90° can also be used for other switching angles provided the positions for key withdrawal correspond with those specified for the type of switch. Example: +EZ/S-B can be used on a step switch having a switching angle of 30° provided the key is to be withdrawn only in the Off position at 9 o'clock. The key is not withdrawable in positions which exceed the total switching angle of the switch.		
Options for key withdrawal		
		
		
For example of position marking see → Page 07/109		
		
RONIS lock for 60° switching angle		
Degree of protection IP 55		
Key withdrawable at:		
0 + 180°	+EZ/S-C 045460	
270 + 90°	+EZ/S-D 045461	
300 + 0 + 60 + 120 + 180 + 240°	+EZ/S-H 045465	
270 + 330 + 30 + 90 + 150 + 210°	+EZ/S-J 045466	
0 + 60 + 180 + 240°	+EZ/S-M 045467	
270 + 330 + 90 + 150°	+EZ/S-N 045468	
300 + 0 + 120 + 180°	+EZ/S-P 045469	
270 + 30 + 90 + 210°	+EZ/S-Q 045470	

Standard pack: 1 off

T Rotary Switches

T0, T3 Non-Standard Switches

 Rotary Switches
Switch-Disconnectors

Type	Price See Price List	Std. pack	Type	Price See Price List	Std. pack
T0 rotary switches		1 off	T0 rotary switches		1 off
T0-1-SOND.../E			T0-5-SOND.../E		
T0-1-SOND.../EA/SVB			T0-5-SOND.../EZ		
T0-1-SOND.../EA/SVB-SW			T0-5-SOND.../EZ/OFS		
T0-1-SOND.../EZ			T0-5-SOND.../IVS		
T0-1-SOND.../EZ/OFS			T0-5-SOND.../XZ		
T0-1-SOND.../I1			T0-5-SOND.../Z		
T0-1-SOND.../I1/SVB					
T0-1-SOND.../I1/SVB-SW			T0-6-SOND.../E		
T0-1-SOND.../IVS			T0-6-SOND.../EZ		
T0-1-SOND.../IV/SVB			T0-6-SOND.../EZ/OFS		
T0-1-SOND.../IV/SVB-SW			T0-6-SOND.../IVS		
T0-1-SOND.../XZ			T0-6-SOND.../XZ		
T0-1-SOND.../Z			T0-6-SOND.../Z		
T0-2-SOND.../E			T0-7-SOND.../E		
T0-2-SOND.../EA/SVB			T0-7-SOND.../EZ		
T0-2-SOND.../EA/SVB-SW			T0-7-SOND.../EZ/OFS		
T0-2-SOND.../EZ			T0-7-SOND.../IVS		
T0-2-SOND.../EZ/OFS			T0-7-SOND.../XZ		
T0-2-SOND.../I1			T0-7-SOND.../Z		
T0-2-SOND.../I1/SVB					
T0-2-SOND.../I1/SVB-SW			T0-8-SOND.../E		
T0-2-SOND.../IVS			T0-8-SOND.../EZ		
T0-2-SOND.../IV/SVB			T0-8-SOND.../EZ/OFS		
T0-2-SOND.../IV/SVB-SW			T0-8-SOND.../IVS		
T0-2-SOND.../XZ			T0-8-SOND.../XZ		
T0-2-SOND.../Z			T0-8-SOND.../Z		
T0-3-SOND.../E			T0-9-SOND.../E		
T0-3-SOND.../EA/SVB			T0-9-SOND.../EZ		
T0-3-SOND.../EA/SVB-SW			T0-9-SOND.../EZ/OFS		
T0-3-SOND.../EZ			T0-9-SOND.../IVS		
T0-3-SOND.../EZ/OFS			T0-9-SOND.../XZ		
T0-3-SOND.../I1			T0-9-SOND.../Z		
T0-3-SOND.../I1/SVB					
T0-3-SOND.../I1/SVB-SW			T0-10-SOND.../E		
T0-3-SOND.../IVS			T0-10-SOND.../EZ		
T0-3-SOND.../IV/SVB			T0-10-SOND.../EZ/OFS		
T0-3-SOND.../IV/SVB-SW			T0-10-SOND.../IVS		
T0-3-SOND.../XZ			T0-10-SOND.../XZ		
T0-3-SOND.../Z			T0-10-SOND.../Z		
T0-4-SOND.../E			T0-11-SOND.../E		
T0-4-SOND.../EA/SVB			T0-11-SOND.../EZ		
T0-4-SOND.../EA/SVB-SW			T0-11-SOND.../EZ/OFS		
T0-4-SOND.../EZ			T0-11-SOND.../IVS		
T0-4-SOND.../EZ/OFS			T0-11-SOND.../XZ		
T0-4-SOND.../I1			T0-11-SOND.../Z		
T0-4-SOND.../I1/SVB					
T0-4-SOND.../I1/SVB-SW					
T0-4-SOND.../IVS					
T0-4-SOND.../IV/SVB					
T0-4-SOND.../IV/SVB-SW					
T0-4-SOND.../XZ					
T0-4-SOND.../Z					

Notes

These pages show T rotary switches with non-standard contact sequences (-SOND...)

For subsequent orders, state contact sequence number together with

The contact numbers for non-standard contact sequences are: >200 <8000 or >9000

T Rotary Switches

T0, T3 Non-Standard Switches

Type	Price See Price List	Std. pack	Type	Price See Price List	Std. pack
T3 rotary switches		1 off	T3 rotary switches		1 off
T3-1-SOND.../E			T3-5-SOND.../E		
T3-1-SOND.../EA/SVB			T3-5-SOND.../EA/SVB		
T3-1-SOND.../EA/SVB-SW			T3-5-SOND.../EA/SVB-SW		
T3-1-SOND.../EZ			T3-5-SOND.../EZ		
T3-1-SOND.../EZ/OFS			T3-5-SOND.../EZ/OFS		
T3-1-SOND.../I2			T3-5-SOND.../I2		
T3-1-SOND.../I2/SVB			T3-5-SOND.../I2/SVB		
T3-1-SOND.../I2/SVB-SW			T3-5-SOND.../I2/SVB-SW		
T3-1-SOND.../V/SVB			T3-5-SOND.../V/SVB		
T3-1-SOND.../V/SVB-SW			T3-5-SOND.../V/SVB-SW		
T3-1-SOND.../XZ			T3-5-SOND.../XZ		
T3-1-SOND.../Z			T3-5-SOND.../Z		
T3-2-SOND.../E			T3-6-SOND.../E		
T3-2-SOND.../EA/SVB			T3-6-SOND.../EA/SVB		
T3-2-SOND.../EA/SVB-SW			T3-6-SOND.../EA/SVB-SW		
T3-2-SOND.../EZ			T3-6-SOND.../EZ		
T3-2-SOND.../EZ/OFS			T3-6-SOND.../EZ/OFS		
T3-2-SOND.../I2			T3-6-SOND.../V/SVB		
T3-2-SOND.../I2/SVB			T3-6-SOND.../V/SVB-SW		
T3-2-SOND.../I2/SVB-SW			T3-6-SOND.../XZ		
T3-2-SOND.../V/SVB			T3-6-SOND.../Z		
T3-2-SOND.../V/SVB-SW					
T3-2-SOND.../XZ			T3-7-SOND.../E		
T3-2-SOND.../Z			T3-7-SOND.../EZ		
			T3-7-SOND.../EZ/OFS		
T3-3-SOND.../E			T3-7-SOND.../XZ		
T3-3-SOND.../EA/SVB			T3-7-SOND.../Z		
T3-3-SOND.../EA/SVB-SW					
T3-3-SOND.../EZ			T3-8-SOND.../E		
T3-3-SOND.../EZ/OFS			T3-8-SOND.../EZ		
T3-3-SOND.../I2			T3-8-SOND.../EZ/OFS		
T3-3-SOND.../I2/SVB			T3-8-SOND.../XZ		
T3-3-SOND.../I2/SVB-SW			T3-8-SOND.../Z		
T3-3-SOND.../V/SVB					
T3-3-SOND.../V/SVB-SW			T3-9-SOND.../E		
T3-3-SOND.../XZ			T3-9-SOND.../EZ		
T3-3-SOND.../Z			T3-9-SOND.../EZ/OFS		
			T3-9-SOND.../XZ		
T3-4-SOND.../E			T3-9-SOND.../Z		
T3-4-SOND.../EA/SVB					
T3-4-SOND.../EA/SVB-SW			T3-10-SOND.../E		
T3-4-SOND.../EZ			T3-10-SOND.../EZ		
T3-4-SOND.../EZ/OFS			T3-10-SOND.../EZ/OFS		
T3-4-SOND.../I2			T3-10-SOND.../XZ		
T3-4-SOND.../I2/SVB			T3-10-SOND.../Z		
T3-4-SOND.../I2/SVB-SW					
T3-4-SOND.../V/SVB			T3-11-SOND.../E		
T3-4-SOND.../V/SVB-SW			T3-11-SOND.../EZ		
T3-4-SOND.../XZ			T3-11-SOND.../EZ/OFS		
T3-4-SOND.../Z			T3-11-SOND.../XZ		
			T3-11-SOND.../Z		

T Rotary Switches

T5B, T5, TM Non-Standard Switches

 Rotary Switches
Switch-Disconnectors

Type	Price See Price List	Std. pack	Type	Price See Price List	Std. pack
T5B rotary switches		1 off	T5B rotary switches		1 off
T5B-1-SOND.../E			T5B-5-SOND.../E		
T5B-1-SOND.../EA/SVB			T5B-5-SOND.../EA/SVB		
T5B-1-SOND.../EA/SVB-SW			T5B-5-SOND.../EA/SVB-SW		
T5B-1-SOND.../I4			T5B-5-SOND.../V/SVB		
T5B-1-SOND.../I4/SVB			T5B-5-SOND.../V/SVB-SW		
T5B-1-SOND.../I4/SVB-SW			T5B-5-SOND.../X		
T5B-1-SOND.../V/SVB			T5B-5-SOND.../Z		
T5B-1-SOND.../V/SVB-SW					
T5B-1-SOND.../X			T5B-6-SOND.../E		
T5B-1-SOND.../Z			T5B-6-SOND.../EA/SVB		
			T5B-6-SOND.../EA/SVB-SW		
T5B-2-SOND.../E			T5B-6-SOND.../V/SVB		
T5B-2-SOND.../EA/SVB			T5B-6-SOND.../V/SVB-SW		
T5B-2-SOND.../EA/SVB-SW			T5B-6-SOND.../X		
T5B-2-SOND.../I4			T5B-6-SOND.../Z		
T5B-2-SOND.../I4/SVB					
T5B-2-SOND.../I4/SVB-SW			T5B-7-SOND.../E		
T5B-2-SOND.../V/SVB			T5B-7-SOND.../EA/SVB		
T5B-2-SOND.../V/SVB-SW			T5B-7-SOND.../EA/SVB-SW		
T5B-2-SOND.../X			T5B-7-SOND.../V/SVB		
T5B-2-SOND.../Z			T5B-7-SOND.../V/SVB-SW		
			T5B-7-SOND.../X		
T5B-3-SOND.../E			T5B-7-SOND.../Z		
T5B-3-SOND.../EA/SVB					
T5B-3-SOND.../EA/SVB-SW			T5B-8-SOND.../E		
T5B-3-SOND.../I4			T5B-8-SOND.../EA/SVB		
T5B-3-SOND.../I4/SVB			T5B-8-SOND.../EA/SVB-SW		
T5B-3-SOND.../I4/SVB-SW			T5B-8-SOND.../V/SVB		
T5B-3-SOND.../V/SVB			T5B-8-SOND.../V/SVB-SW		
T5B-3-SOND.../V/SVB-SW			T5B-8-SOND.../X		
T5B-3-SOND.../X			T5B-8-SOND.../Z		
T5B-3-SOND.../Z					
			T5B-9-SOND.../E		
T5B-4-SOND.../E			T5B-9-SOND.../X		
T5B-4-SOND.../EA/SVB			T5B-9-SOND.../Z		
T5B-4-SOND.../EA/SVB-SW					
T5B-4-SOND.../I4			T5B-10-SOND.../E		
T5B-4-SOND.../I4/SVB			T5B-10-SOND.../X		
T5B-4-SOND.../I4/SVB-SW			T5B-10-SOND.../Z		
T5B-4-SOND.../V/SVB					
T5B-4-SOND.../V/SVB-SW					
T5B-4-SOND.../X					
T5B-4-SOND.../Z					

Notes

These pages show T rotary switches with non-standard contact sequences (-SOND...) and are priced accordingly. Use the Initial Order form on → Page 07/110 for any T rotary switch combination.

For subsequent orders, state contact sequence number together with country identifier (e.g. 4711GB).

The contact numbers for non-standard contact sequences are: >200 <8000 or >9000 <15000 or >16000.

T Rotary Switches, P Switch-Disconnectors Accessories

	Language	Language code no.	Type suffix When ordered with basic unit +ZFS...-T0 Article no. ¹⁾ See Price List	Type suffix When ordered with basic unit +ZFS...-P3 Article no. ¹⁾ See Price List	Type When ordered separately ZFS...-T0 Article no. ¹⁾ See Price List	Type When ordered separately ZFS...-P3 Article no. ¹⁾ See Price List
Add-on front plates, clip-on						
 For use with front plates and for padlocking features They comprise a black label mount and an aluminium-coloured insert plate. Inscription: "Main Switch – Open only in the Off position"	German	61	205499	205516	205533	205550
	English	62	205500	205517	205534	205551
	Bulgarian	64	205501	205518	205535	205552
	Danish	65	205502	205519	205536	205553
	Finnish	66	205503	205520	205537	205554
	Dutch	67	065744	065747	065750	065753
	Italian	68	065745	065748	065751	065754
	Greek	69	205504	205521	205538	205555
	Norwegian	70	205505	205522	205539	205556
	Polish	71	205506	205523	205540	205557
	Portuguese	72	205507	205524	205541	205558
	Romanian	73	205508	205525	205542	205559
	Russian	74	205509	205526	205543	205560
	Swedish	75	205510	205527	205544	205561
	Serbo-Croat	76	205511	205528	205545	205562
	Spanish	77	065746	065749	065752	047422
	Czech	78	205512	205529	205546	205563
	Turkish	79	205513	205530	205547	205564
	Hungarian	80	205514	205531	065748	205565
	Afrikaans	81	205515	205532	205549	205566

Notes

¹⁾ For ordering purposes, insert the language code number into the type reference/type suffix

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	
				P3-100/.../HI11	
	T0-1-102/...			T0-3-15683/...	
	T3-1-102/...			T3-3-15683/...	
	T5B-1-102/...			P1-25/.../N/HI11	
	T5-1-102/...			P1-32/.../N/HI11	
				P3-63/.../N/HI11	
	T0-2-1/...			P3-100/.../N/HI11	
	P1-25/...			T0-3-15681/...	
	P1-32/...			T3-3-15681/...	
	P3-63/...			T5B-3-8901/...	
	P3-100/...			T8-3-8901/...	
	T6-2/...			T0-4-15682/...	
	T0-2-8900/...			T3-4-15682/...	
	P1-25/.../N			T5B-4-15682/...	
	P1-32/.../N			T5-4-15682/...	
	P3-63/.../N			T6-160-6/...	
	P3-100/.../N			T8-3-8342/...	
	T0-3-8342/...			T5B-4-8903/...	
	T3-3-8342/...			T5-4-8903/...	
	T5B-3-8342/...				
	T5-3-8342/...				
	T0-4-8344/...				
	T3-4-8344/...				
	T5B-4-8344/...				
	T5-4-8344/...				

T Rotary Switches

Technical Data

				T0-...	T3-...	T5B-...	T5-...	T6-...(T6-160)	T8-...		
General											
Standards				IEC/EN 60 947, IEC/EN 60 204, CSA, UL Switch-disconnectors to IEC/EN 60 947 Part 3 Load-break switches to IEC/EN 60 947 Part 3 Shipping classifications → Page 17/008							
Lifespan, mechanical		Operations	Ops./h	> 10 ⁶	5 × 10 ⁵	5 × 10 ⁵	5 × 10 ⁵	> 10 ⁵	> 10 ⁵		
Max. operating frequency				3000	3000	3000	3000	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	-25/+50	-25/+50		
	Enclosed	Min./Max.	°C	-25/+40	-25/+40	-25/+40	-25/+40	-25/+40	-25/+40		
Mounting position				As required							
Dimensions				→ Page 07/095		→ Page 07/100		→ Page 07/102			
Weights				→ Page 18/025							
Mechanical shock resistance (shock duration 20 ms)				g	> 15	> 15	> 15	> 15	-		
Contacts											
Rated operational voltage U _e		V AC		690	690	690	690	690	690		
Rated impulse withstand voltage U _{imp}		V		6000	6000	6000	6000	6000 (8000) ²⁾	8000		
Overvoltage category/pollution degree				III/3	III/3	III/3	III/3	III/3	III/3		
Rated uninterrupted current I _u open/I _{the} enclosed (with max. cable connected)		A		22/20	35/32	72/63	100/85	125 (160) ²⁾	315/275		
Load-carrying capacity in intermittent operation, Class 12, AB 60/40/25		% DF		1.3/1.6/2 × I _e							
Short-circuit rating max. fuse		A gL		20	25	80	100	200 (160) ²⁾	315		
Rated short-time withstand current (1 s current) I _{cw}		A _{rms}		320	650	1300	1850	2000 (3000) ²⁾	4200		
Safe isolation to VDE 0106 Part 101 and Part 101 A1 between the contacts		V AC		440	440	440	440	-	-		
Protection against direct contact				Finger- and back-of-hand proof to IEC 536				-	-		
Switching angles				90°/60°/45°/30°				90°/60°	60° (90°) ³⁾		
Contact units		Max.		11	11	10	10	3	3		
Double-break contacts		Max.		22	22	20	20	6	6		
Current heat loss per contact at I _e		W		0,6	1,1	4,5	7,5	11	11		
Terminal capacity											
Solid or stranded ¹⁾		mm ²		1 × (1 - 2.5)	1 × (1 - 6)	1 × (2.5 - 35)	1 × (2.5 - 35)	1 × 70 (95) ²⁾	150		
		mm ²		2 × (1 - 2.5)	2 × (1 - 6)	2 × (2.5 - 16)	2 × (2.5 - 16)	2 × 25	-		
Flexible including ferrule ¹⁾ (ferrule to DIN 46 228)		mm ²		1 × (0.75 - 1.5)	1 × (0.75 - 4)	1 × (1.5 - 25)	1 × (1.5 - 25)	1 × 50 (50) ²⁾	120		
		mm ²		2 × (0.75 - 1.5)	2 × (0.75 - 4)	2 × (1.5 - 10)	2 × (1.5 - 10)	2 × 16	-		
Flat strip connection		mm ²		-	-	-	-	-	1 strip 25 × 5 ³⁾ 2 strips 20 × 3 ³⁾		
Terminal screw				M3,5	M4	M6		M6	M12		
				T0-1- to T0-4-	T3-1- to T3-6-	T5B-...	T5-...	T6-... (T6-160-6)	T8-3-8342		
Switch-disconnectors 											
(Main switches)											
Switching angles				90°	90°	90°	90°	90°	90°		
Max. number of switch positions				2	2	2					

T Rotary Switches

Technical Data

			T0-...	T3-...	T5B-...	T5-...	T6-...(T6-160)	T8-...	
Switching capacity									
AC									
	Rated making capacity	$\cos \varphi = 0.35$	A	130	320	800	950	1600	2390
	Rated breaking capacity	230 V AC, $\cos \varphi = 0.35$	A	100	260	520	760	1280	1910
	Motor load switches	400 V AC, $\cos \varphi = 0.35$	A	110	260	600	740	900	1800
		500 V AC, $\cos \varphi = 0.35$	A	80	240	480	590	880	1200
		690 V AC, $\cos \varphi = 0.35$	A	60	170	340	420	340	420
AC-21A	Load-break switches	Rated operational current I_e 380 – 440 V, 3 ~	A	12	25	63	80	125 (160)	315
AC-3	Motor load switches, for operational switching Star-delta values $Y \Delta$: for star-delta switches without spring-return	220 – 240 V, 3 ~	kW	3	6.5	15	18.5	22	37
		220 – 240 V, $Y \Delta$	kW	4	11	22	30	–	–
		380 – 440 V, 3 ~	kW	4	12	22	30	37 (45)	55
		380 – 440 V, $Y \Delta$	kW	5.5	18.5	37	45	–	–
		500 V, 3 ~	kW	5.5	15	22	37	37	37
		500 V, $Y \Delta$	kW	7.5	22	37	55	–	–
		660/690 V, 3 ~	kW	4	15	22	30	22	37
		660/690 V, $Y \Delta$	kW	5.5	22	37	45	–	–
AC-23A	Motor load switches (Main switches, maintenance switches)	220 – 240 V, 3 ~	kW	3.5	7.5	18.5	18.5	37	75
		380 – 440 V, 3 ~	kW	6.5	13	22	30	45 (55)	132
		500 V, 3 ~	kW	7.5	15	22	37	55	75
		660/690 V, 3 ~	kW	–	–	22	30	30	37
AC-15	Control switches	Rated operational current I_e 220 – 240/380 – 415/500 V	A	6/4/2	10/6/4	16/6/4	16/6/4	–	–
DC									
DC-1	Load-break switches L/R = 1 ms	Rated operational current I_e	A	10	25	63	80	125	315
		Voltage per contact pair in series	V	60	60	60	60	42	42
DC-21A		240 V	A	1 (1)	1 (1)	–	–	–	–
DC-23A	Motor load switches L/R = 15 ms	24 V	A	10 (1)	25 (1)	50 (1)	–	125 (1)	250 (1)
		48 V	A	10 (2)	25 (2)	50 (2)	–	125 (2)	250 (2)
		60 V	A	10 (3)	25 (3)	50 (3)	–	125 (3)	125 (3)
		120 V	A	5 (3)	12 (3)	25 (3)	–	50 (3)	50 (3)
		240 V	A	5 (5)	10 (5)	20 (6)	–	–	–
DC-13	Control switches L/R = 50 ms	Rated operational current I_e	A	10	20	25	–	125	250
		Voltage per contact pair in series	V	32	32	24	–	24	–
Control circuit reliability 24 V DC, 10 mA		Fault probability	H _F	< 10 ⁻⁵ , < 1 fault in 100 000 operations					

T6 – 160 – 6/...
T8 – 3 – 8342/...

Auxiliary contacts

Standards

Control circuit isolators to IEC/EN 60 947 Part 5 ☉

P Switch-Disconnectors

Technical Data

				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

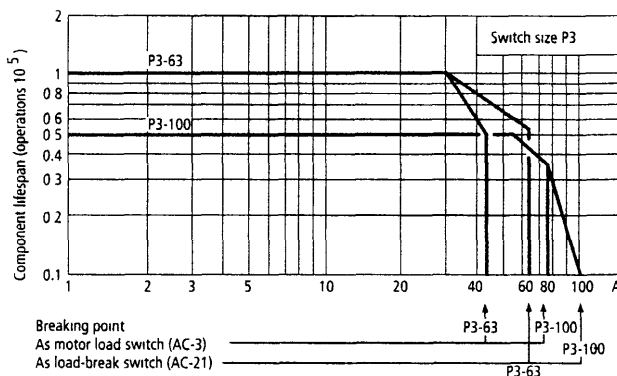
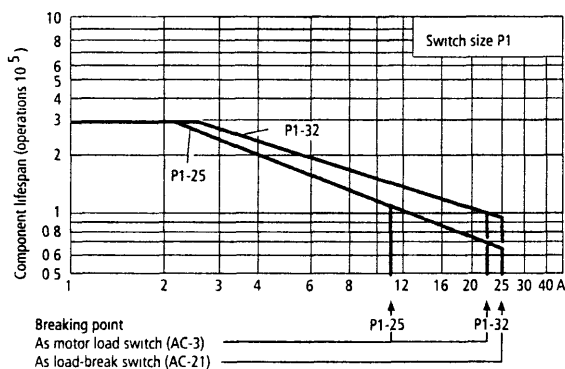
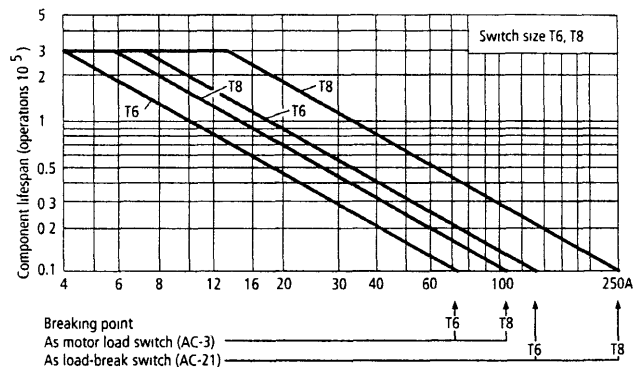
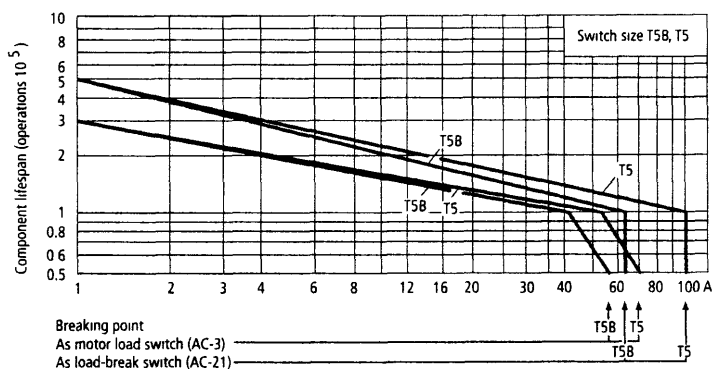
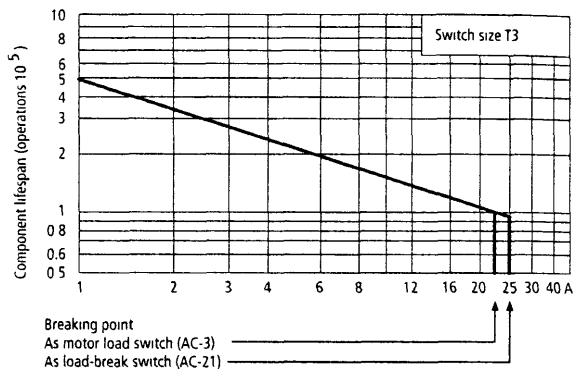
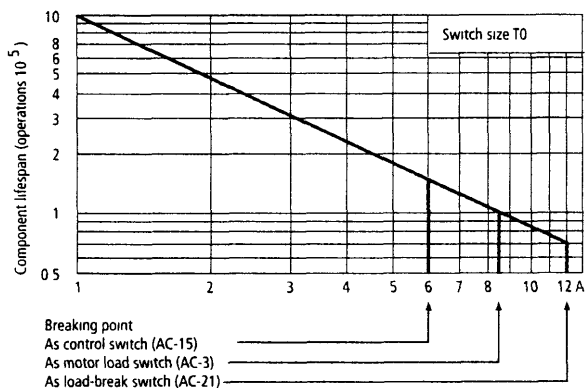
				P1-25	P1-32	P3-63	P3-100	
Switching capacity								
AC								
	Rated making capacity	$\cos \varphi = 0.35$	A	240	320	800	950	
	Rated breaking capacity	230 V AC, $\cos \varphi = 0.35$	A	190	260	640	760	
	Motor load switches	400 V AC, $\cos \varphi = 0.35$	A	150	300	600	740	
		500 V AC, $\cos \varphi = 0.35$	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 = solid		Min. s/f	mm ²	0.75/0.5				
f = 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				



T Rotary Switches, P Switch-Disconnectors Selection Guidelines

Component lifespan in relation to breaking current and utilization category

In order to achieve a reasonable lifespan in utilization category AC-4 (severe duty: 100 % inching, reversing or plugging), the stalled motor current should not exceed the rated current of the switch at AC-21.



TM Mini Rotary Switches

Technical Data

General

Contacts

Mechanical values

Contacts	Max.	16
Contact units	Max.	8
Switching angle		90°/60°/45°/30°
Min. switching angle for On-Off-On		60°
Switch positions	Max.	12
Thickness of gold coating	µm	35

Electrical values

Rated operational voltage U _e	V AC	500
Rated impulse withstand voltage U _{imp} applicable to system with earthed star point		4 kV
Overvoltage category/pollution degree		III/3
Rated insulation voltage U _i	V AC	500 (UL/CSA 300 V AC)
Rated uninterrupted current I _u (with max. cable connected)	A	10

Switching capacity

AC-23A Motor load switches	220 – 240 V, 3~	kW	1.8
	380 – 440 V, 3~	kW	3
	500 V, 3~	kW	3.7
	220 – 240 V, 1~	kW	0.75
	380 – 440 V, 1~	kW	1.1
AC-15 Control switches	220 – 240 V, 1~	A	2.5
	380 – 415 V, 1~	A	1.5
	440 V, 1~	A	1
DC-1 Load-break switches	1 – 24 V DC	A	10
	110 – 240 V DC	A	0.7 – 0.3
DC-13 Control switches	L/R = 50 ms	A	3
	max. 32 V DC per contact		
Switching capacity for North America			
	240 V, 3~	HP	1
	277 V, 1~	HP	¾
	300 V AC	A	10 Heavy duty

Short-circuit protective device

Maximum fuse	A gL	10
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Control circuit reliability

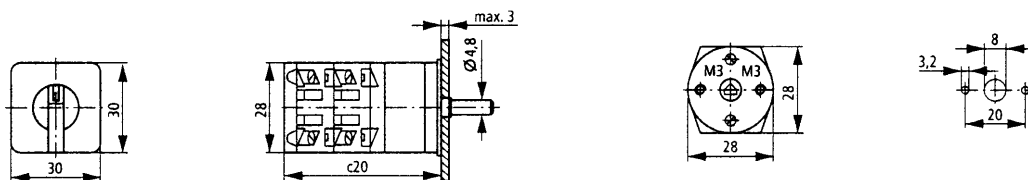
24 V DC, 10 mA	Fault probability	H _F	< 10 ⁻⁵ , < 1 fault in 100 000 operations
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TM Mini Rotary Switches Dimensions

Flush mounting

TM.../E

Drilling dimensions

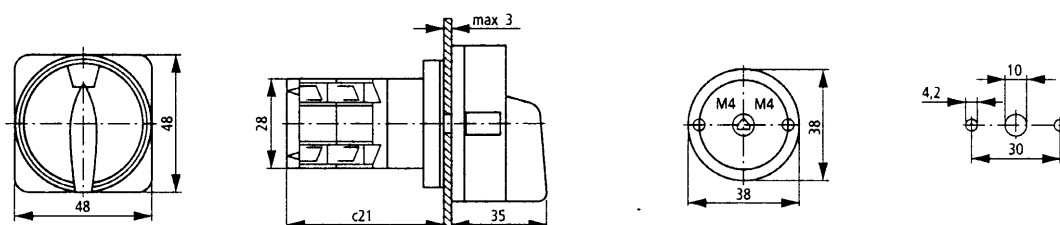


Control circuit isolators

For 2 padlocks with 4 mm or 1 padlock with 6 mm hasp thickness

TM-.../E/SVB

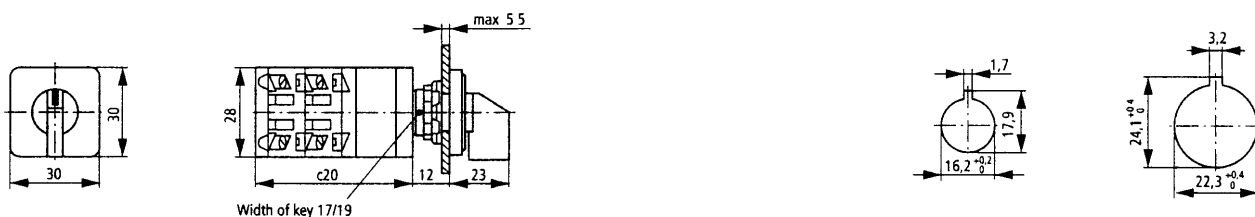
Drilling dimensions



Centre mounting

TM-.../EZ

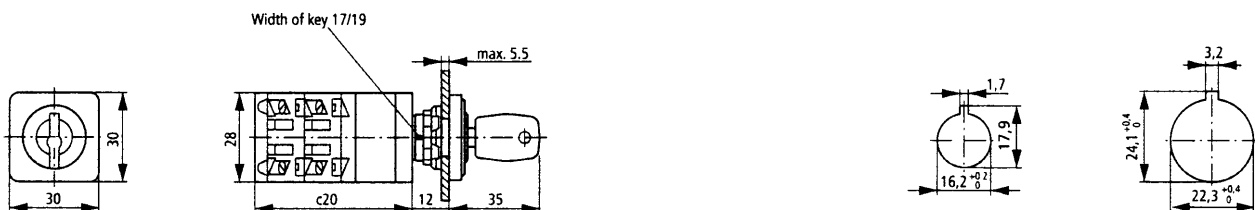
Drilling dimensions¹⁾



Centre mounting, key operated

TM-...+EZ/S-

Drilling dimensions¹⁾



Type	c20	c21
TM-1...	39	42
TM-2...	51	54
TM-3...	63	66
TM-4...	75	
TM-5...	87	
TM-6...	99	
TM-7...	111	
TM-8...	123	

Depth of one contact unit: 12 mm

Notes

- ¹⁾ Drilling dimension options:
16.2 mm (as RMQ 16) - use without adapter
22.3 mm (as RMQ 22) - adapter required

T0, T3 Rotary Switches

Dimensions

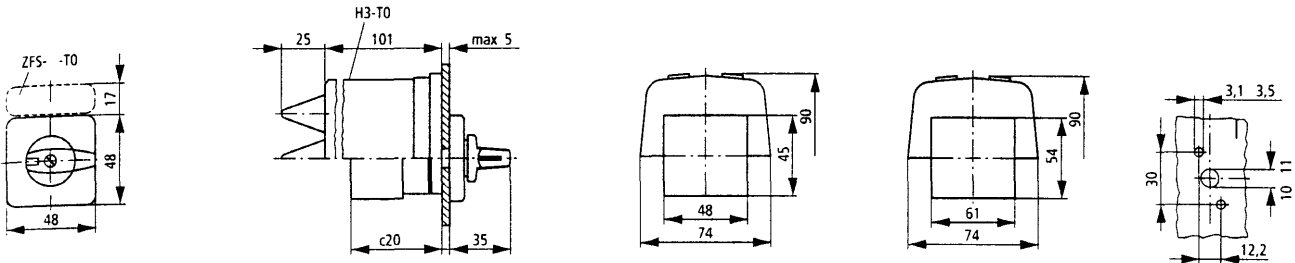
Flush mounting

T0.../E (+ H3-T0)
T3.../E (+ H3-T0)

T0.../E + H3-T0

T3.../E + H3-T0

Drilling dimensions



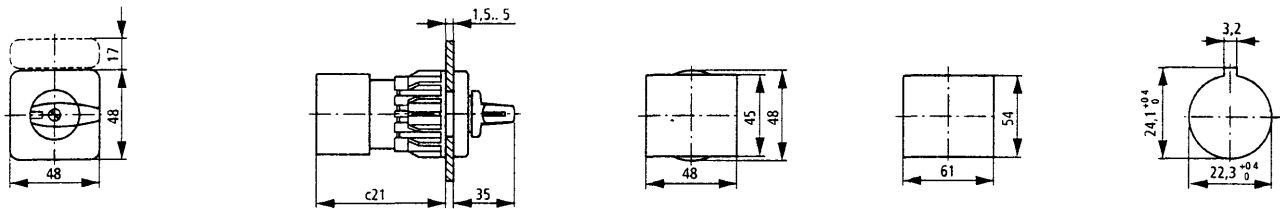
Centre mounting

T0.../EZ (/OFS)
T3.../EZ (/OFS)

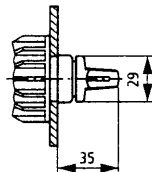
T0

T3

Drilling dimensions



T.../EZ/OFS



Type	c20	c21
T0-1...	41	61
T0-2...	50	70
T0-3...	60	80
T0-4...	69	89
T0-5...	79	99
T0-6...	88	108
T0-7...	98	118
T0-8...	107	127
T0-9...	117	137
T0-10...	126	146
T0-11...	136	156

Depth of one contact unit:
9.5 mm

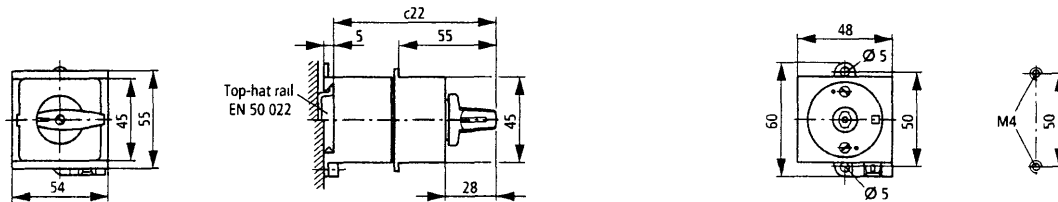
Type	c20	c21
T3-1...	44	64
T3-2...	56	76
T3-3...	67	87
T3-4...	79	99
T3-5...	90	110
T3-6...	102	122
T3-7...	113	133
T3-8...	125	145
T3-9...	136	156
T3-10...	148	168
T3-11...	159	179

Depth of one contact unit:
11.5 mm

T0, T3 Rotary Switches Dimensions

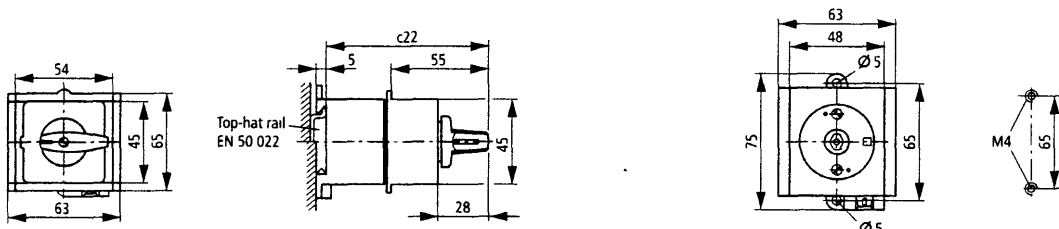
(Service) distribution board mounting

T0.../IVS

Drilling
dimensions
Base

Distribution board mounting

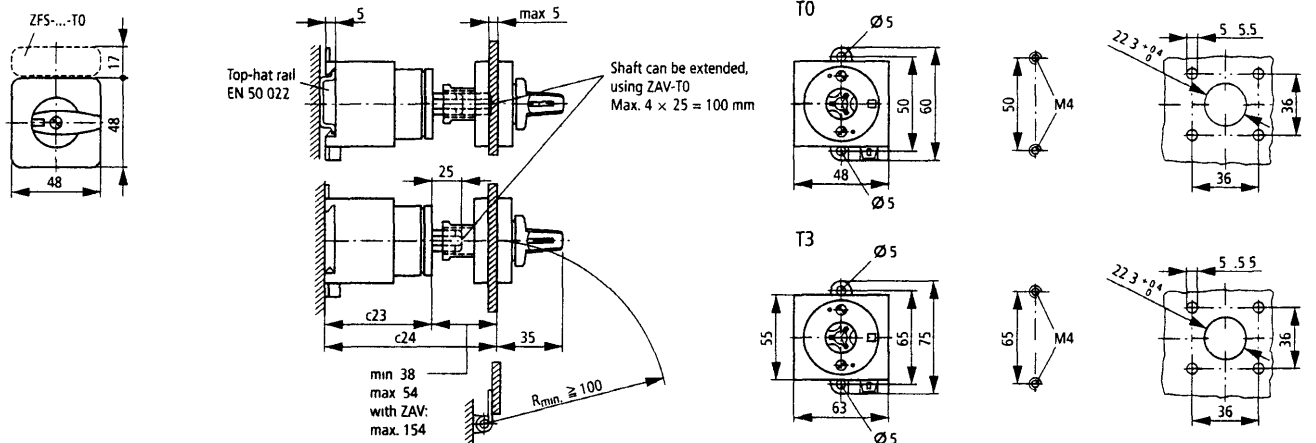
T3.../XZ + IVS-T0

Drilling
dimensions
Base

Rear mounting

T0.../Z

T3.../Z

Drilling
dimensions
BaseDrilling dimensions
Door

Type	c20	c21	c22	c23	c24 Min./Max.	c24 with up to 4 ZAV	c25
T0-1...	41	61	77	48	86 - 102	202	72
T0-2...	50	70	87	57	96 - 112	212	72
T0-3...	60	80	96	67	105 - 121	221	91
T0-4...	69	89	106	76	115 - 131	231	91
T0-5...	79	99	115	86	124 - 140	240	-
T0-6...	88	108	125	95	134 - 150	250	-
T0-7...	98	118	134	105	143 - 159	259	-
T0-8...	107	127	144	114	153 - 169	269	-
T0-9...	117	137	154	124	162 - 178	278	-
T0-10...	126	146	163	133	172 - 188	288	-
T0-11...	136	156	173	143	181 - 197	297	-

Depth of one contact unit: 9.5 mm

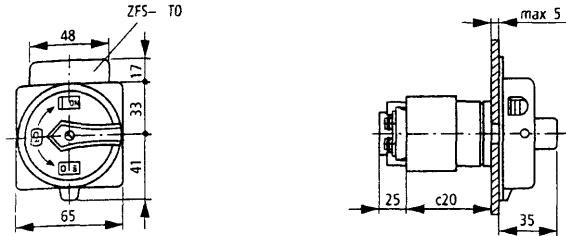
Type	c20	c21	c22	c23	c24 Min./Max.	c24 with up to 4 ZAV	c25
T3-1...	44	64	80	51	86 - 105	205	79
T3-2...	56	76	92	63	101 - 115	216	79
T3-3...	67	87	103	74	112 - 128	228	101
T3-4...	79	99	115	86	124 - 139	239	101
T3-5...	90	110	126	97	135 - 151	251	-
T3-6...	102	122	138	109	147 - 162	262	-
T3-7...	113	133	149	120	158 - 174	274	-
T3-8...	125	145	161	132	170 - 185	285	-
T3-9...	136	156	172	143	181 - 196	296	-
T3-10...	148	168	184	155	193 - 208	308	-
T3-11...	159	179	195	166	204 - 219	319	-

Depth of one contact unit: 11.5 mm

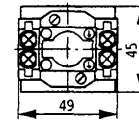
T0, T3 Rotary Switches Dimensions

Flush mounting main switches

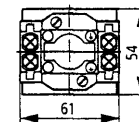
T0.../EA/SVB
T3.../EA/SVB



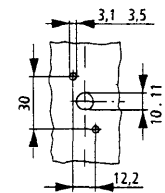
T0



T3

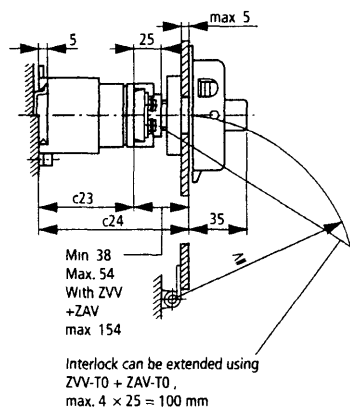
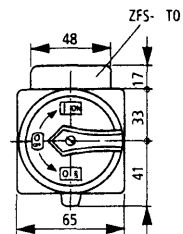


Drilling dimensions
Door

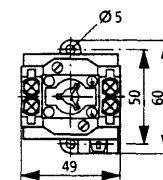


Rear mounting main switches

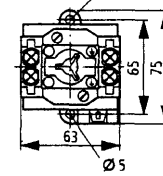
T0.../V/SVB
T3.../V/SVB



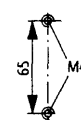
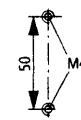
T0



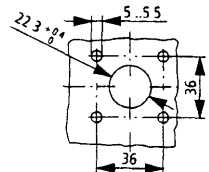
T3



Drilling dimensions
Base



Drilling dimensions
Door

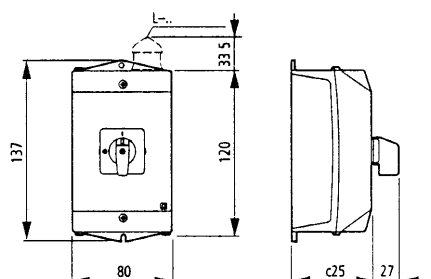
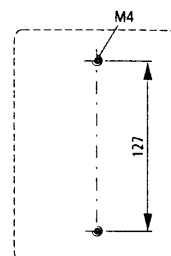


Rotary Switches
Switch-Disconnectors

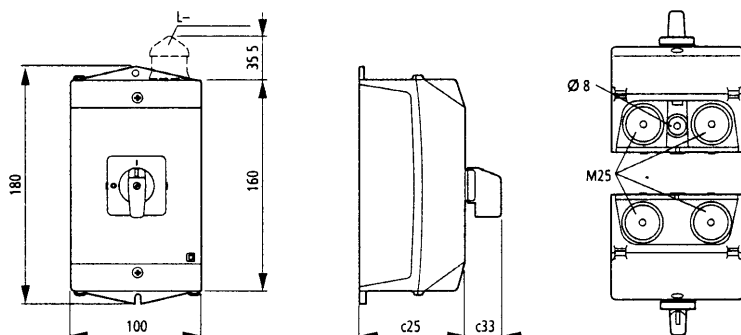
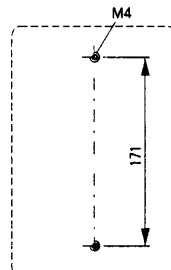
T0, T3 Rotary Switches Dimensions

Surface mounting

T0.../I1

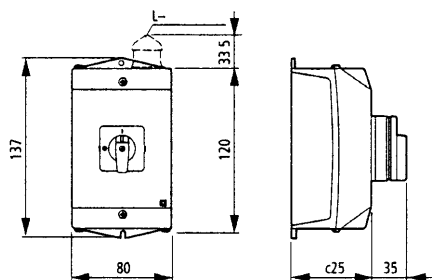
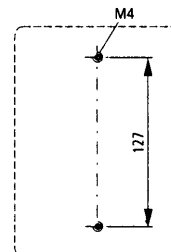
Drilling dimensions
Base

T3.../I2

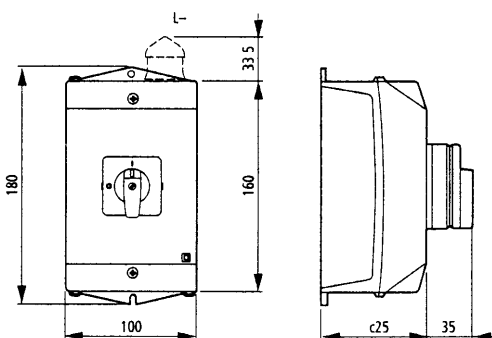
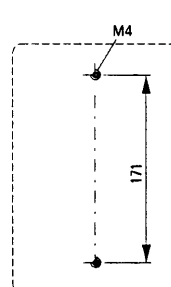
Drilling dimensions
Base

Surface mounting main switches

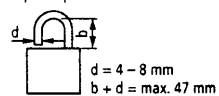
T0.../I1/SVB

Drilling dimensions
Base

T3.../I2/SVB

Drilling dimensions
Base

Up to 3 padlocks can be fitted


 $d = 4 - 8 \text{ mm}$
 $b + d = \text{max. } 47 \text{ mm}$

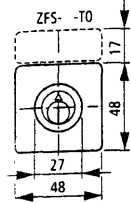
Type	c25	Type	c25	c33
T0-1...	75	T3-1...	80	27
T0-2...	75	T3-2...	80	27
T0-3...	95	T3-3...	145	35
T0-4...	95	T3-4...	145	35
		T3-5...	145	35

T0, T3 Rotary Switches, Accessories

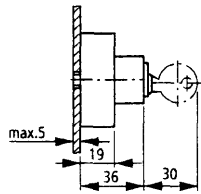
Dimensions

Key operation

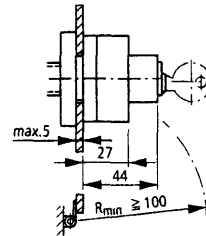
S-T0
S-SOND...-T0



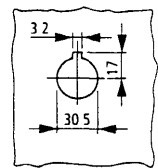
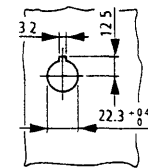
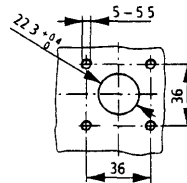
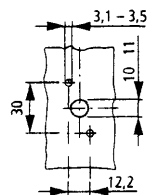
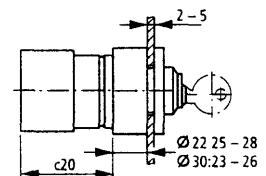
T0.../E(I1) + S-(SOND-)T0
T3.../E(I2) + S-(SOND-)T0



T0.../Z + S-(SOND-)T0
T3.../Z + S-(SOND-)T0

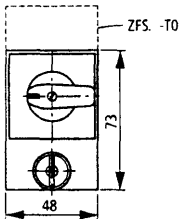


T0.../EZ $\triangleq$ T0 /E + EZ-T0 + S-(SOND-)T0
T3.../EZ $\triangleq$ T3.../E + EZ-T0 + S-(SOND-)T0

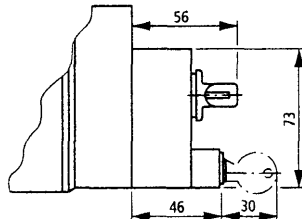


Cylinder lock

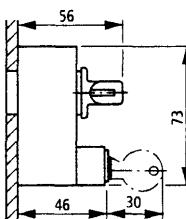
SVA-T3



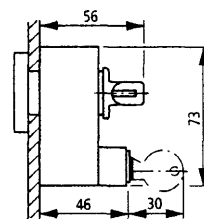
T0.../I1/SVA
T3.../I2/SVA



T0.../E/SVA...
T3.../E/SVA...



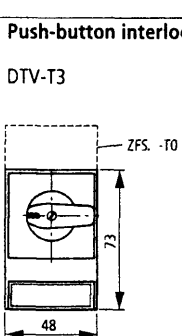
T0.../Z/SVA...
T3.../Z/SVA...



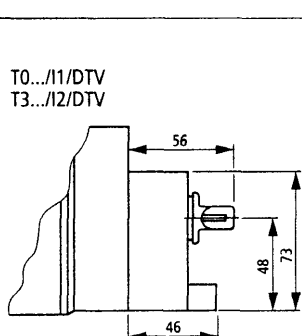
Padlocking feature

Dimensions as DTV-T3

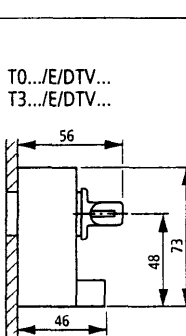
SVC-T3



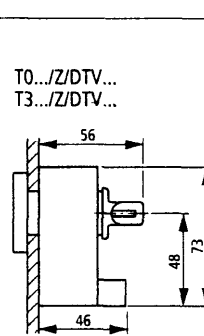
T0.../I1/SVC
T3.../I2/SVC



T0.../E/SVC...
T3.../E/SVC...

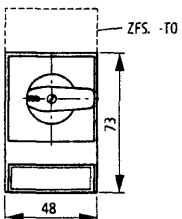


T0.../Z/SVC...
T3.../Z/SVC...

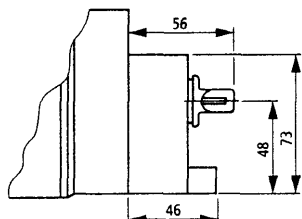


Push-button interlock

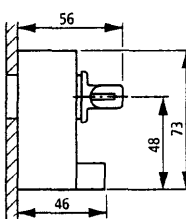
DTV-T3



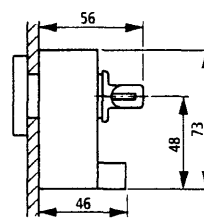
T0.../I1/DTV
T3.../I2/DTV



T0.../E/DTV...
T3.../E/DTV...

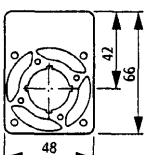


T0.../Z/DTV...
T3.../Z/DTV...

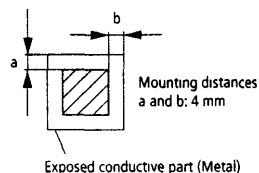


Legend plate

ZS...-T0



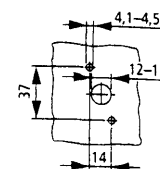
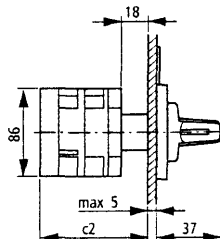
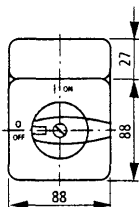
Mounting clearance



T5B, T5 Rotary Switches Dimensions

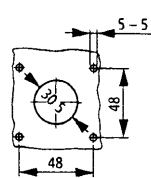
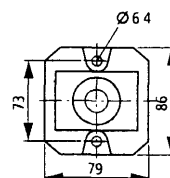
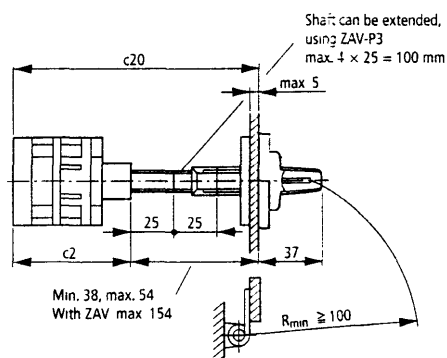
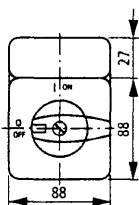
Flush mounting

T5(B).../E

Drilling dimensions
Door

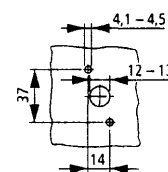
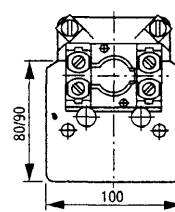
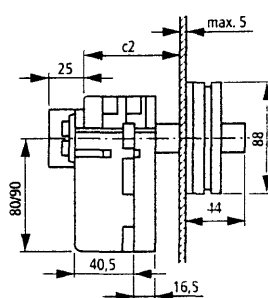
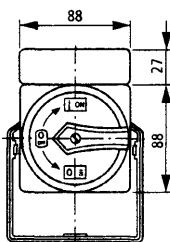
Rear mounting

T5(B).../Z

Drilling dimensions
BaseDrilling dimensions
Door

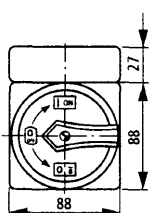
Flush mounting main switches

T5(B).../EA/SVB

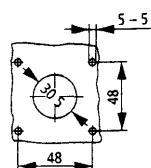
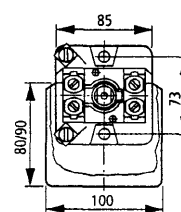
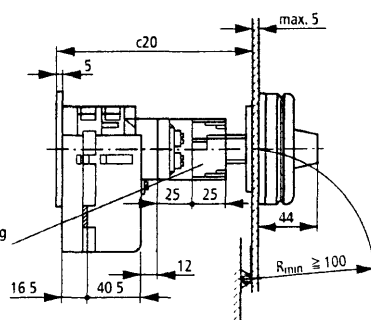
Drilling dimensions
Door

Rear mounting main switches

T5(B).../V/SVB

Drilling dimensions
BaseDrilling dimensions
Door

Interlock can be extended using
ZVV-P3 + ZAV-P3,
max. 4 x 25 = 100 mm

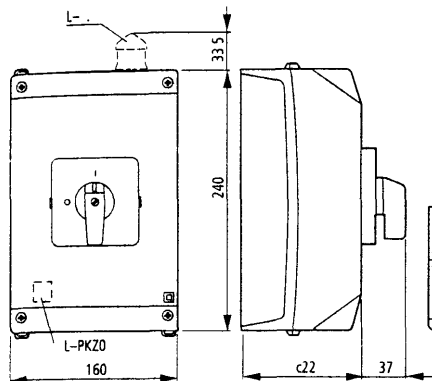


T5B, T5 Rotary Switches

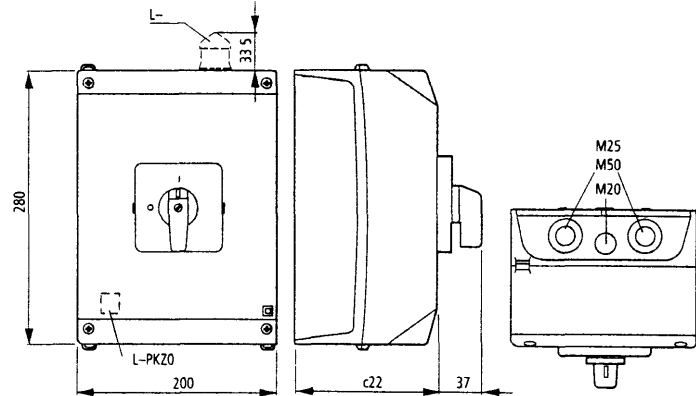
Dimensions

Surface mounting

T5(B) .../14



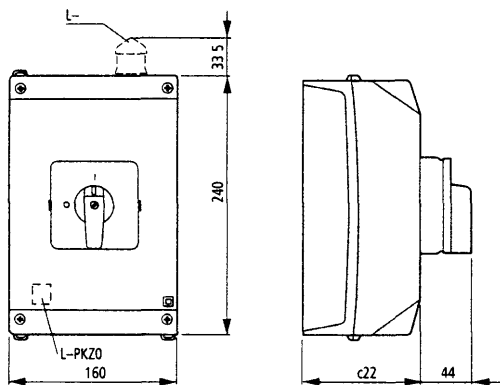
T5.../15



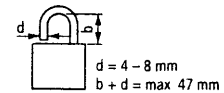
Surface mounting main switches

T5(B).../14/SVB¹⁾

Drilling dimensions

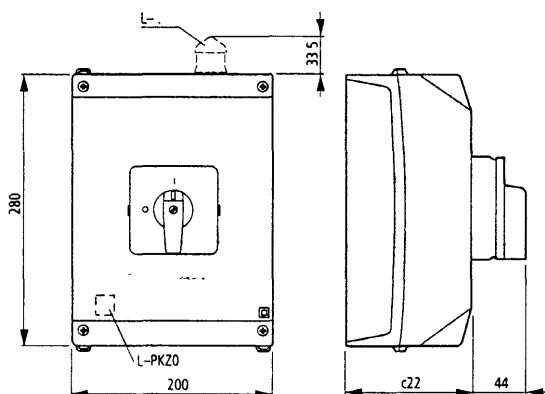


Up to 3 padlocks can be fitted

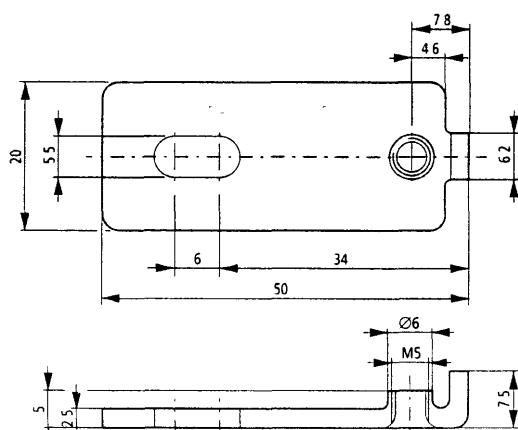


T5.../15/SVB

Drilling dimensions



External fixing bracket



Type	c2	c20 Min./Max.	c20 with up to 4 ZAV	c21	c22
T5(B)-1...	54	92 - 107	207	90	125 (95)
T5(B)-2...	71	109 - 124	224	90	125 (95)
T5(B)-3...	87	125 - 140	240	123	160 (160)
T5(B)-4...	104	142 - 157	257	123	160 (160)
T5(B)-5...	120	158 - 173	273	-	-
T5(B)-6...	137	175 - 190	290	-	-
T5(B)-7...	153	191 - 206	306	-	-
T5(B)-8...	170	208 - 223	323	-	-
T5(B)-9...	186	224 - 239	339	-	-
T5(B)-10...	203	240 - 356	356	-	-

Depth of one contact unit: 16.5 mm

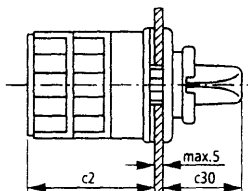
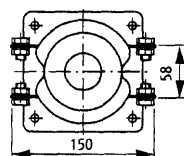
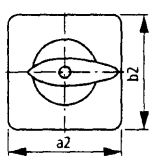
T5B and T5 rotary switches are identical in construction and differentiated only by their contacts.

 Rotary Switch
Switch-Disconnector

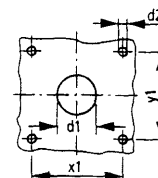
T6, T8 Rotary Switches Dimensions

Flush mounting

T6.../E
T8.../E



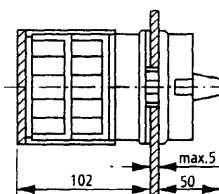
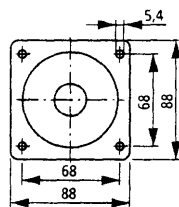
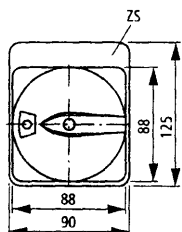
Drilling dimensions



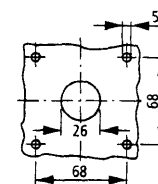
T6: 4 M5 x 20
T8: 4 M6 x 20

Flush mounting main switches

T6-2/EA/SVB

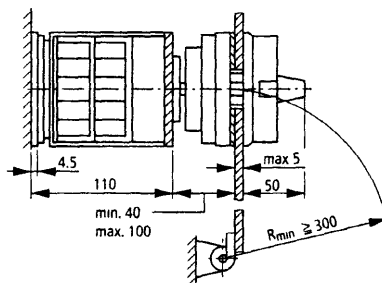
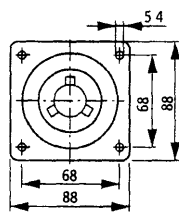
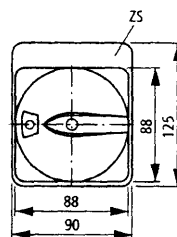


Drilling dimensions

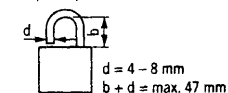


Rear mounting main switches

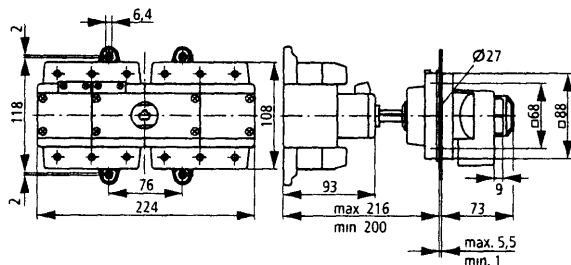
T6-2/V/SVB



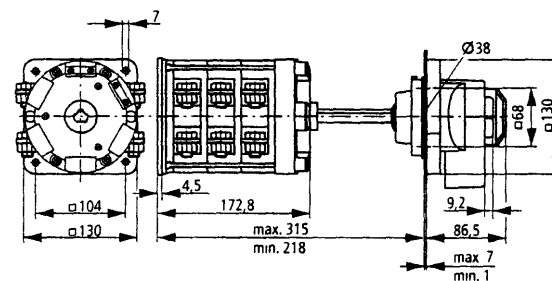
Up to 3 padlocks can be fitted



T6-160-6/V/SVB-SW/HI11

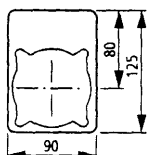


T8-3-8342/V/SVB-SW/HI11



Legend plate

ZS...-P3 for T6...

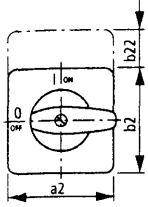


BE = Number of contact units

T6, T8 Rotary Switches Dimensions

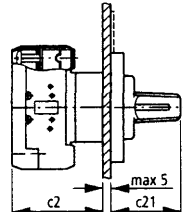
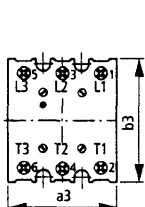
Flush mounting

P.../E



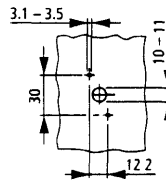
Centre mounting

P1.../EZ

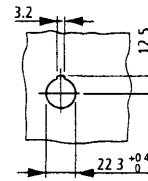


P1 /EZ = c2 + 5 mm

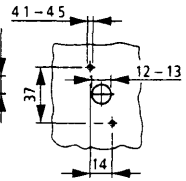
Drilling dimensions

Door
P1-.../E

P1-.../EZ

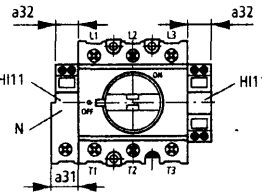
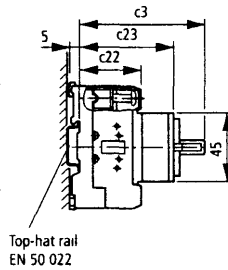
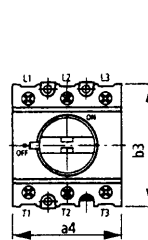


P3-.../E

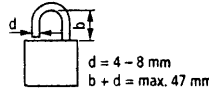


Service distribution board mounting

P.../IVS (-...)

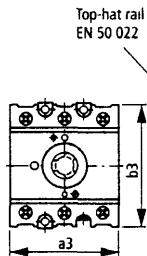
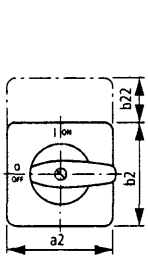
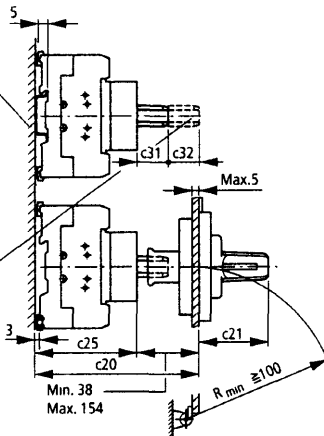


Up to 3 padlocks can be fitted

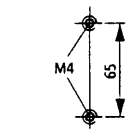


Rear mounting

P.../Z

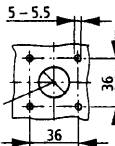
Shaft can be extended, using ZAV-
Max 4 x 25 = 100 mm

Drilling dimensions

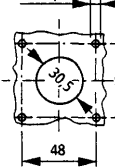
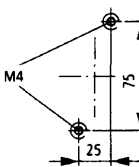
Base
P1.../Z

Drilling dimensions

Door



P3.../Z



Type	a2	a3	a4	a21	a22	a23	a31	a32	a33	b2	b3	b21	b22	b23	b24	b31
P1	48	49	53,5	65	48	87	15	15	83	48	70	65	17	125	32	49
P3	87	72	71,5	87	87	125	18	15	114	87	83	87	27	175	-	60

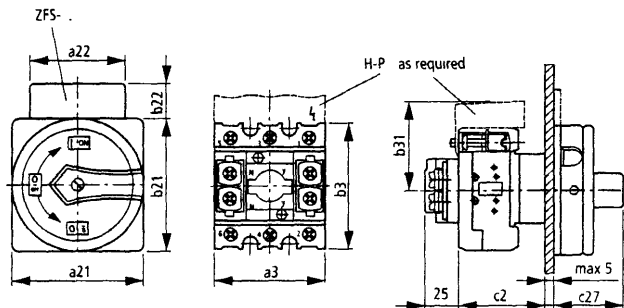
Type	c2	c3	c20 Min./Max.	c20 with up to 4 ZAV/ZVV	c21	c22	c23	c24	c25	c27	c28	c31	c32	c33
P1	59	86	96 - 112	212	35	32	65	68	58	35	77	25	25	27
P3	59	82	103 - 118	218	37	41	63	81	65	44	90	25	25	29

P Switch-Disconnectors

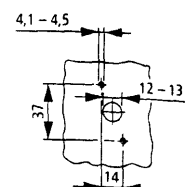
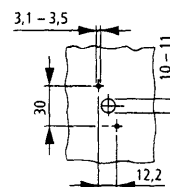
Dimensions

Flush mounting main switches

P.../EA/SVB

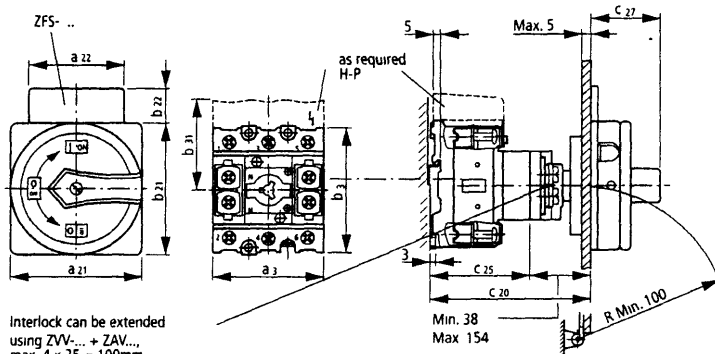
Drilling
dimensions
Door
P1...

P3...



Rear mounting main switches

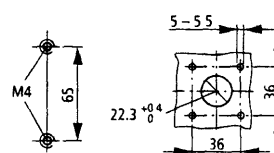
P.../V/SVB



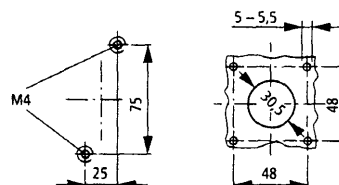
Interlock can be extended
using ZVV... + ZAV...
max. $4 \times 25 = 100\text{mm}$

Drilling dimensions
Base

P1.../V/SVB

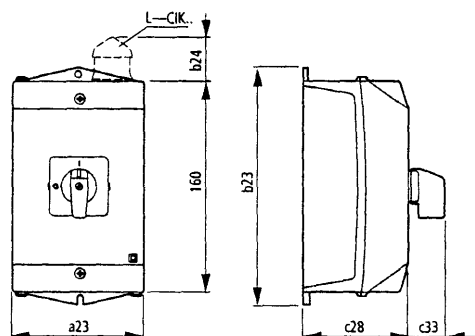


P3.../V/SVB



Surface mounting

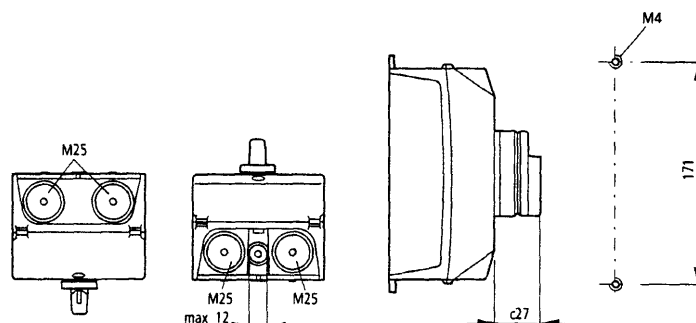
P1.../I2



Surface mounting main switches/safety switches

P1.../I2/SVB
P1.../I2/SI

Drilling dimensions



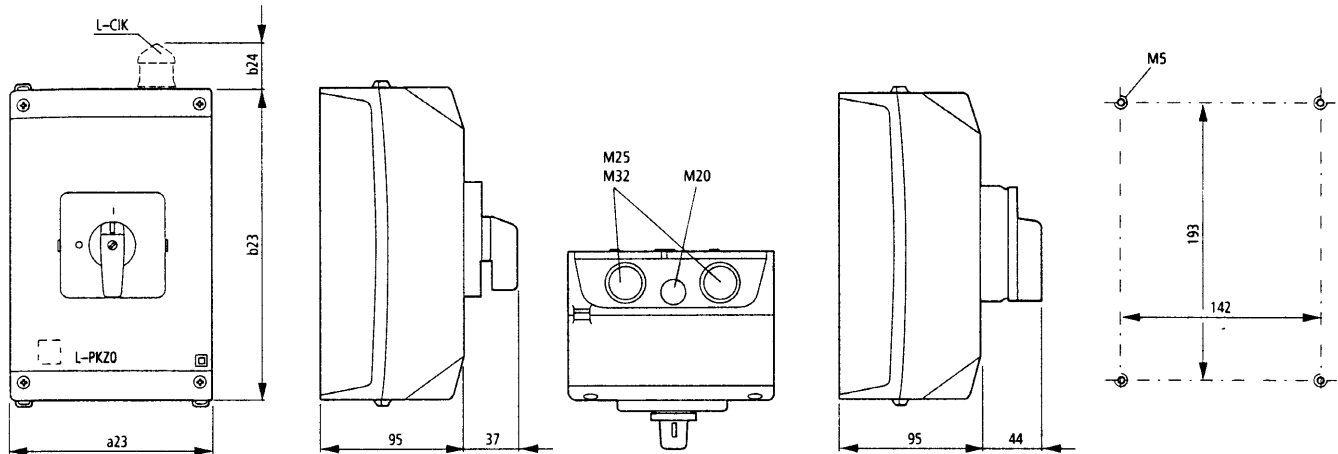
p Switch-Disconnectors

Dimensions

Surface mounting
P3-63/I4

Surface mounting main switches/safety
switches
P3-63/I4/SVB
P3-63/I4/SI
T5B-.../I4/SI

Drilling dimensions

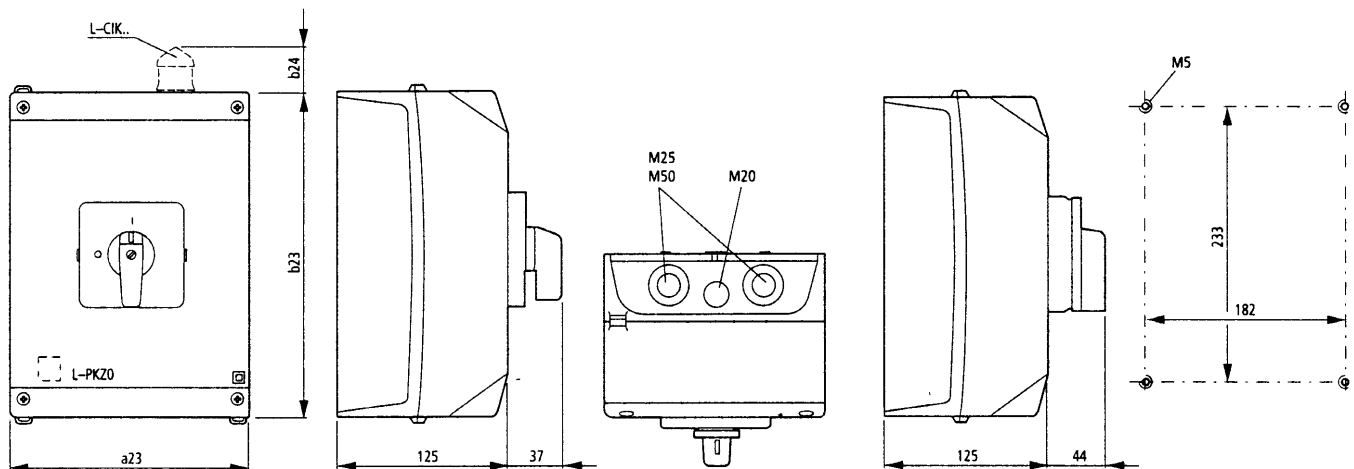


Surface mounting

P3-100/I5

Surface mounting main switches/safety
switches
P3-100/I5/SVB
P3-100/I5/SI
T5-.../I5/SI

Drilling dimensions



Type	a2	a3	a4	a21	a22	a23	a31	a32	a33	b2	b3	b21	b22	b23	b24	b31
P1.../I2	48	49	53.5	65	48	100	15	15	83	48	70	65	17	180	35.5	49
P3-63/I4	87	72	71.5	87	87	160	18	15	114	87	83	87	27	240	35.5	60
P3-100/I5	87	72	71.5	87	87	200	18	15	114	87	83	87	27	280	35.5	60

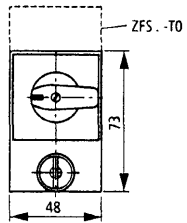
Type	c2	c3	c20 min./max.	c20 with up to 4 ZAV/ZVV	c21	c22	c23	c24	c25	c27	c28	c31	c32	c33
P1.../I2	59	86	96 – 112	212	35	32	65	68	58	35	80	25	25	27
P3-63/I5	59	82	103 – 118	218	37	41	63	81	65	44	125	25	25	37
P3-100-I5	59	82	103 – 118	218	37	41	63	81	65	44	125	25	25	37

P Switch-Disconnectors, Accessories

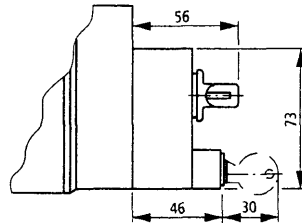
Dimensions

Cylinder lock

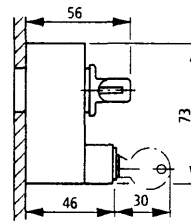
SVA-T3



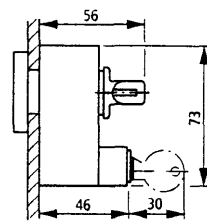
P1.../I2/SVA



P1.../E/SVA

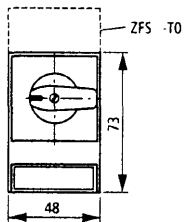


P1.../Z/SVA

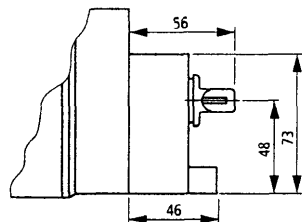


Padlocking feature

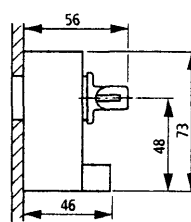
SVC-T3



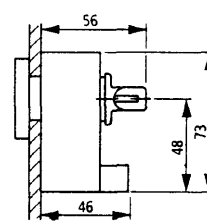
P1.../I2/SVC



P1.../E/SVC

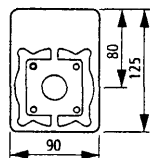


P1.../Z/SVC



Legend plate

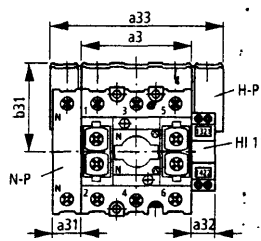
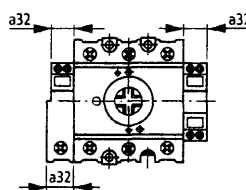
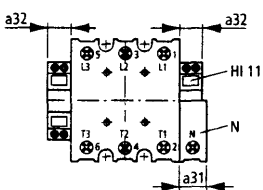
ZS...P3



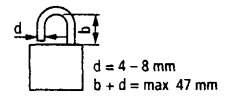
Modules

Switched neutral

Auxiliary contacts HI 11-P1/P3



Up to 3 padlocks can be fitted



T Rotary Switches

Fitting Rotary Switches with Coupling (T.../Z or T.../V/SVB) into Enclosures

Notes

CI-K... insulated enclosures are enclosures specifically designed for the installation of rotary switches, such as T0, T5B and T5 with up to 4 contact units = 8 contacts, T3 with up to 5 contact units = 10 contacts. They have a high degree of protection and up to 5 cable entries. If more than 5 cables or large cross-section cables are to be connected, then we recommend the use of insulated enclosures from the CI System.

- 1) Select required switch and determine cables to be connected.
- 2) Select an enclosure (from Section 14) according to the minimum mounting depth of the switch. This depth dimension has to be less than or equal to the internal mounting depth of the enclosure. In addition, the number and size of the cable entries must be taken into account.

Use the tables below to determine whether, and if so how many, ZAV-... shaft extensions are required and, for .../SVB switches, the identical number of ZVV-... interlock extensions.

Example:

Switch:

T3-6-.../V/SVB

Min. mounting depth:

T...-6/Z = 147 mm

Extensions:

No extension is required for an enclosure having a mounting depth of 150 mm. Two ZAV-T0 shaft extensions and two ZVV-T0 interlock extensions are required for an enclosure having a mounting depth of 200 mm.

Dimensions in mm

With extension

Quantity

Switch type

T...-1-.../Z (V/SVB)

T...-2-.../Z (V/SVB)

T...-3-.../Z (V/SVB)

T...-4-.../Z (V/SVB)

T...-5-.../Z (V/SVB)

T...-6-.../Z (V/SVB)

T...-7-.../Z (V/SVB)

T...-8-.../Z (V/SVB)

T...-9-.../Z (V/SVB)

T...-10-.../Z (V/SVB)

T...-11-.../Z (V/SVB)

T0-... Mounting depths						
Without/		With ZAV-T0				
from	to	+1 to	+2 to	+3 to	+4 to	
86	102	127	152	177	202	
96	112	137	162	187	212	
105	121	146	171	196	221	
115	131	156	181	206	231	
124	140	165	190	215	240	
134	150	175	200	225	250	
143	159	184	209	234	259	
153	169	194	219	244	269	
162	178	203	228	253	278	
172	188	213	238	263	288	
181	197	222	247	272	279	

T3-... Mounting depths						
Without/		With ZAV-T0				
from	to	+1 to	+2 to	+3 to	+4 to	
89	105	130	155	180	205	
101	116	141	166	191	216	
112	128	153	178	203	228	
124	139	164	189	214	239	
135	151	176	201	226	251	
147	162	187	212	237	262	
158	174	199	224	249	274	
170	185	210	235	260	285	
181	197	222	247	272	297	
193	208	233	258	283	308	
204	220	245	270	295	320	

T5(B)-... Mounting depths						
Without/		With ZAV-P3				
from	to	+1 to	+2 to	+3 to	+4 to	
92	107	132	157	182	207	
109	124	149	174	199	224	

T Rotary Switches, TM Mini Rotary Switches Ordering of Non-Standard Contact Sequences

Key to type references

↑ Switch size	↑ Number of contact units (2 contacts per unit)	↑ Contact sequence number	↑ Mounting form	↑ Accessories
	Max. units	With manufacturing country identifier. For initial order specify SOND-FO2 and enclose completed form (see next page). Contact sequence number is issued by factory. For subsequent orders, type suffix is sufficient.	• Mounting form /E • Centre mounting /EZ (for T0, T3) • Surface mounting /I...¹⁾ • Service distribution board mounting / IVS (for T0) • Rear mounting /Z • Flush mounting main switch /EA/SVB²⁾ • Surface mounting main switch /I.../SVB • Rear mounting main switch /V/SVB²⁾ • Mounting forms for TM: /E or /EZ	→ Pages 07/054 – 069 State in full with every order. For TM.../EZ only +EZ/S... is possible → Page 07/081
T0	11	22		
T3	11	22		
T5B	10	20		
T5	10	20		
TM	8	16		

Design notes for non-standard contact sequences

Contact sequence

The form FO 2 makes it easy to determine the contact sequence. Form FO 2 can be sent by telefax.
Master copy → Page 07/110

Switching angles

30, 45, 60, 90°

Preferred angle: 60°

For On-Off switches: 90°

For main switches: 90° as FS 908 Page (07/052)

Interruption of contact between two switch positions (On-Off-On) not admissible on T0; or T3 and TM at switching angles of 30°, 45°, or T5(T5B) at a switching angle of 30°.

Spring-return

Switching movement is limited by a stop. The switch returns under spring pressure to the last indexed position. Where a switch has spring-return from both directions, a maximum of three positions can be traversed.

The return angle is < 1/2 switching angle. A maximum of 6 contacts can be returned at the same time.

Fleeting contacts

Duration of contact depends primarily on the speed of actuation. If a contactor is to be actuated by means of fleeting contact, the switching angle must not be less than 60°, or the switching pulse may be too short. Fleeting contacts always act in **both** directions.

Complete rotation

Possible only with a total switching angle of 360°. Unrestricted rotation in either direction. The number of switch positions multiplied by the switching angle must equal 360°. TM with 12 positions every 30° is possible only with complete rotation, not with stop.

Number of contact units

Number of contacts = Round up to nearest whole
2

Each contact chamber = contact unit has 1 or 2 contacts, each operated by a cam.

On T5(B) switches one cam operates both contacts, consequently:

Where the total switching angle is **less than 180°**, each contact can be operated **independently**. At switching angles of 180° or above, two contacts per chamber are possible only if their switching sequences are the same, but offset by 180° (e.g. T5B -4-8235 step switch).

Standard features

As for rotary switches with standard contact sequences → Page 07/006, 070

Notes	Page
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Notes

The sequence of the contacts may be changed if technical reasons so dictate. For non-standard switches, it is preferable to arrange the links so that the terminals which have a difference of four are linked with one another, e.g. terminals 1-5-9; 2-6-10; 3-7-11- or 4-8-12-. Such links can be removed (also applies for standard switches),

whereas links 1-3, 2-4, 5-7, 6-8 cannot be removed because they are situated within the switch. Links between an even number and an odd number (e.g. 2-3) must be supplied by the user.

¹⁾ T0-.../I1: up to 4 contact units

T3-.../I2 up to 5 contact units

²⁾ T0 up to 8 contacts = 4 contact units
T3 up to 12 contacts = 6 contact units

P..., T5..., N Safety Switches Design Information

Maintenance switches and safety switches have the same electrical function, which is to safely isolate an electrical installation (load) from the mains while maintenance work or repairs are being carried out, thereby ensuring that no danger is caused to personnel, machinery or product.

The safety switch is an additional enclosed main switch = isolator for an individual electrical load, which can be fitted directly next to the motor or the electrical load, ensuring that work can be carried out safely on those items provided the safety rules are observed. This is of special importance if there is any possibility whatsoever of confusion regarding the main switch.

Application

The fitter/electrician can protect himself against the possibility of any other person switching on the machine without authority by securing the switch in the Off position with his own padlock (up to three can be fitted).

Maintenance switches are merely additional, enclosed main switches with a padlocking facility. Such switches can be found on pages 07/012-015 or 07/022-023 of this catalogue.

Features

Safety switches are housed in insulated enclosures as standard and have the inscription "Safety switch" on a bright orange label. Labels in other languages are available.

If the switch is to be used as an Emergency-Stop switch, it has a special red handle and a yellow locking collar. In accordance with STOP category O to IEC/EN 60204.

If the switch can not be used as an Emergency-Stop switch, both parts are grey for N switch-disconnectors (type suffix „-GR“) or black for T and P switches (type suffix „-SW“).

The cover and handle are interlocked when a padlock is in place.

Selection

Selection of the switches is to be made according to the following rating data:

- 1) According to the motor rating (switching capacity), if the switch is fitted in such a way that the operator is able to switch On and Off under operational conditions.
- 2) The motor rating given is always for three-phase applications. Where 6 current paths are involved, such as a motor with star-delta starting, a 6-pole switch can switch 1.73 times the rated value.
- 3) A switch can be selected according to the uninterrupted current provided that the switch has a load-shedding and indicating contact (LA). The load-shedding and indicating contact is an auxiliary contact which is closed in the On position and breaks early when switching Off, so that a contactor accepts the switching capacity in the circuit and the maintenance/safety switch operates as a no-load switch. When switching On, the LA closes later than or simultaneously with the main contacts. This is the auxiliary make contact in the case of T and P switches, and in the case of N switches it is the series connection of an early-make auxiliary contact (VHI) and a standard auxiliary contact (NHI).

- 4) A switch can also be selected according to the uninterrupted current, provided it is ensured that the switch is only operated without a load. For example, the switch can be adapted to padlocking in the On position.

This is not possible for switches with a red/yellow handle.

Replacement of earlier types:

Old type	New type
P3-63/I-SI(-SW)(+HI..)	P3-63/I4-SI(-SW)(+HI..)
P3-63/I-SI(-SW)+N-P3	P3-63/I4-SI(-SW)+N-P3
P3-63/I-SI(-SW)+N+HI11	P3-63/I4-SI(-SW)+N+HI11
T5B-3-8342/I-SI(-SW)	T5B-3-8342/I4-SI(-SW)
T5B-4-.../I4-SI(-SW)	T5B-4-.../I4-SI(-SW)
P3-63/I-SI(-SW)(+HI..)	P3-63/I4-SI(-SW)(+HI..)
P3-63/I-SI(-SW)+N-P3	P3-63/I4-SI(-SW)+N-P3
T5-.../CI19/SIH	T5-.../I5-SI
T5-3-8342/CI19/SIH	T5-3-8342/I5-SI
T5-.../CI19/SIH	T5-.../I5-SI

Technical data for P switch-disconnectors → Page 07/090

Technical data for T5(B) switch-disconnectors → Page 07/088

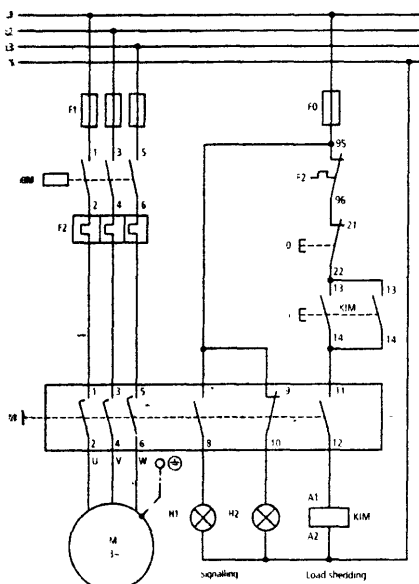
Technical data for N switch-disconnectors → Page 10/166

Dimensions for P → Page 07/103

Dimensions for T5(B) → Page 07/100

Dimensions for N → Page 10/176

Safety switch with load shedding and signalling
T5(B) rotary switch or P switch-disconnector (example)



Safety switch with load shedding and signalling
N switch-disconnector (example)

