6 Switches

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6/3 **5TE8 control switches**

6/9 **5TE4 8 pushbuttons**

6/14 **5TE8 On/Off switches**

6/19 **5TE1 switch disconnectors**

Introduction

Overview

Devices	Application	Standards	Usage		
			Non-res. bldgs.	Res. bldgs.	Industry
 **5TE8 control switches** • 5TE8 changeover switches 20 A • 5TE8 group switches with center position 20 A • 5TE8 control switches 20 A	For the switching of luminaires, motors and other electrical devices For the application of logical links in control cabinets	IEC 60947-3, EN 60947-3 (VDE 0660 Part 107) IEC 60669-1, EN 60669-1 (VDE 0632 Part 1)	• • •	• • •	• • •
 **5TE4 8 pushbuttons** • 5TE4 8 pushbuttons with/without maintained-contact function	To be used as pushbuttons in control systems, e.g. to switch on seal-in circuits or as pushbuttons with latching function for manual use, as control switches or for the switching of loads	IEC 60947-3, EN 60947-3 (VDE 0660 Part 107) IEC 60669-1, EN 60669-1 (VDE 0632 Part 1)	•		•
 **5TE8 On/Off switches** • 5TE8 On/off switches 20 A to 125 A	For the application of logical links in control cabinets	16 A to 25 A and 40 A to 100 A: IEC 60947-3, EN 60947-3 (VDE 0660 Part 107) IEC 60669-1, EN 60669-1 (VDE 0632 Part 1) 32 A and 125 A: IEC 60947-3, EN 60947-3 (VDE 0660 Part 107)	•	•	•
 **5TE1 switch disconnectors** • 5TE1 switch disconnectors 100 A to 200 A	For the switching of system components	IEC 60947-3, EN 60947-3, KEMA certified according to UL 508	•		•

Definitions

I_e = Rated operational current
U_e = Rated operational voltage
I_c = Rated control supply current
U_c = Rated control supply voltage
P_s = Rated operational capacity
1 MW = 18 mm modular width

Overview

Devices for rated operational current 20 and 32 A

Uniform auxiliary switches

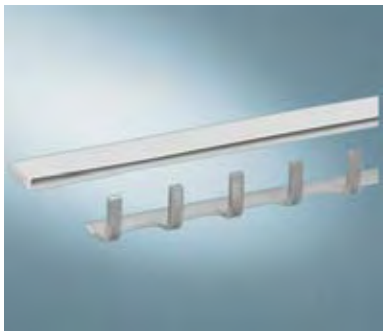
Wtih a few exceptions, the 5TE8 switches (20 A and 32 A) can be retrofitted with auxiliary switches without the use of tools. Some switches (e.g. 4-pole designs, right) that cannot be retrofitted are available in a fully assembled design ex works. The auxiliary switches can be installed as 1 NO + 1 NC, 2 NO or 2 NC. They can also be applied with the 5SY and 5SP4 miniature circuit-breakers. Advantage: easier storage.

Uniform busbar mounting of switches

All 5TE8 switches (20 A and 32 A) can be fed via the single or two-phase 5TE9 busbar. In the same way, 5TE4 8 pushbuttons, 5TE5 8 light indicators and 5TT5 5 remote control switches can be busbar mounted.
Advantage: easier storage.

New infeed for the busbar mounting of switches

The 5TE9 phase bar is fed in at the socket terminal up to 32 A for conductors up to 6 mm^2.



Flexible handling of the busbar mounting

The 5TE9 phase bars can be cut to length, terminal lugs can be cut out if necessary. Perforations have not been used as they would only reduce the cross-section and an inexact perforation detachment would no longer guarantee the required insulation spacing to the terminals which must be infed separately.

One tool for both mounting and connection

All 5TE8 switches (20 A and 32 A) can be connected or removed from the mounting rail using a Pozidrive 1- or 4-mm screwdriver. The same applies for 5TE4 8 pushbuttons, 5TE5 8 light indicators and 5TT5 5 remote control switches.

Safe positioning on the mounting rail

The tried and tested latching slide for all 5TE8 switches (20 A and 32 A) ensures secure and straight fixing on the standard mounting rail. Unpack, hang on and press without the use of tools. Furthermore, the latching slide does not protrude from the device. Thus, it is not concealed by cables. 5TE8 switches (20 and 32 A), 5TE4 8 pushbuttons, 5TE5 8 light indicators, 5TT5 5 remote control switches and 5TT5 7 Insta contactors are also fitted with the latching slide-technology.

5TE8 control switches

Overview

Spacers

Spacers can be used as a balancing element and have a width of 0.5 MW. They come with an integrated conductor canal for the insertion of conductors. Two oppositely installed spacers thus offer space for large conductor cross-sections up to a 15 mm diameter.

Uniform terminal covers and handle locking devices

The handle locking device prevents inadvertent manual on and off switching. It can be sealed. Regardless of that, all 5TE8 switches can also be sealed in the ON and OFF position.

The sealable terminal cover ensures access to the terminal with all switches 32 A to 125 A. With switches 32 A to 63 A, it also prevents the removal of the devices from the mounting rail.

	• Changeover switches • Group switches in center position • Control switches	On/off switches		
	20 A	20 and 32 A	32 to 63 A	80 to 125 A
Separate handle locking device	•	•	•	•
Sealable switch position	•	•	•	•
Mountable auxiliary switch	5TE8 151 5TE8 161	•	•	•
Position indicator red/green	–	–	•	•
Optional: red handle (instead of gray)	–	–	•	•

Technical specifications

Acc. to IEC 60947-3, EN 60947-3 (VDE 0660 Part 107) and IEC 60669-1, EN 60669-1 (VDE 0632 Part 1)			**5TE8 1**
Rated operational current I_e	per current path	A	20
Rated operational voltage U_e	1-pole multipole	V AC V AC	230 400
Rated power dissipation P_v	contact [1] per pole	VA	0.7
Thermal rated current I_{the}		A	20
Rated breaking capacity	at p.f. = 0.65	A	60
Rated making capacity	at p.f. = 0.65	A	60
Short-circuit strength use together with a fuse with the same rated operational current (DIN EN 60269 gL/gG)		kA	10
Rated impulse withstand voltage U_{imp}		kV	> 5
Clearances	open contacts [2] between the poles	mm mm	2 x >2 > 7
Creepage distances		mm	> 7
Mechanical lifetime	switching cycles		25 000
Electrical service life	switching cycles		10 000
Minimum contact load		V; mA	10; 300
Rated short-time currents [3] per current path at p.f. = 0.7	up to 0.2 s up to 0.5 s up to 1 s up to 3 s	A A A A	650 400 290 170
Terminals/max. tightening torque	± screw (Pozidrive); Nm		1; 1.2
Conductor cross-sections	rigid flexible with sleeve	mm^2 min. mm^2	1.5 ... 6 1
Permissible ambient temperature		°C	-5 ... +40
Resistance to climate acc. to DIN 50015 at 95 % relative air humidity		°C	45

1) For rated operational current.
2) For 5TE8 14. switches with center position = 2 x 2.5 mm.
3) The corresponding rated surge current can be established through multiplying by factor 1.5.

5TE8 control switches

Selection and ordering data

	Version	U_e	I_e	Conductor cross-sections MW	Order No.	Weight 1 item	PS*/ P. unit
		V AC	A	up to mm^2		kg	Items
 5TE8 151	**Changeover switches (20 A)**						
	with separate handle locking device, sealable switch position, mountable auxiliary switch						
	1 NO contact, 1 NC contact	400	20	6	**5TE8 151**	0.062	1/12
	2 NO contacts, 2 NC contacts auxiliary switch cannot be mounted	400	20	6	**5TE8 152**	0.081	1/12
	3 NO contacts, 1 NC contact auxiliary switch cannot be mounted	400	20	6	**5TE8 153**	0.082	1/12
 5TE8 162	1 CO contact	230	20	6	**5TE8 161**	0.060	1/12
	2 COs auxiliary switch cannot be mounted	400	20	6	**5TE8 162**	0.076	1/12
 5TE8 141	**Group switches with center position (20 A)**						
	max. mounting depth of 73.5 mm in center position, with separate handle locking device, sealable switch position, auxiliary switch cannot be mounted						
	1 CO contact	230	20	6	**5TE8 141**	0.060	1/12
	2 CO contacts	400	20	6	**5TE8 142**	0.077	1/12
 5TE8 101	**Control switches (20 A)**						
	with fixed mounted 230 V glow lamp or 48 V diode, replaceable, white luminescent cap, separate handle locking device, sealable switch position, auxiliary switch cannot be mounted						
	1 NO contact	230 48	20	6	**5TE8 101** **5TE8 101-3**	0.057 0.057	1/12 1/12
	2 NO contacts	400	20	6	**5TE8 102**	0.066	1/12
	3 NO contacts	400	20	6	**5TE8 103**	0.078	1/12
 5TE8 108	3 NO contacts with mounted auxiliary switch (1 NO contact, 1 NC contact)	400	20	6	**5TE8 108**	0.128	1/8

* You can order this quantity or a multiple thereof.

Accessories

	Version	MW	Order No.	Weight 1 item kg	PS*/ P. unit Items
 5ST3 010	**Auxiliary switches (AS)** for all 5TE8 switches, for right-side retrofitting with factory-fitted brackets, for further technical specifications, see also section, "Miniature circuit-breakers"				
	1 NO contact + 1 NC contact		**5ST3 010**	0.050	1
	2 NO contacts		**5ST3 011**	0.050	1
	2 NC contacts		**5ST3 012**	0.050	1
	**Handle locking device** for all 5TE8 switches, can be sealed against unwanted manual ON/OFF switching, for padlock with max. 3 mm shackle		**5ST3 801**	0.008	1
	**Single-phase busbar** for all 5TE8 switches, 20 A and 32 A,		**5TE9 100**	0.040	1/10
	in the 12 MW design for the cutting of unused terminal lugs to ensure insulation clearances if one device terminal is to be supplied separately despite being mounted on the busbar, modular clearance = 1 MW				
	Infeed of the busbar to the device terminal with a conductor cross-section of 6 mm^2 to 32 A				
	Can be mounted top or bottom in the front or rear terminal area				
	**Two-phase bar** for all 5TE8 switches, 20 and 32 A, in 12 MW design, each with 1 MW division, whereby the two rails are offset by 0.5 MW.		**5TE9 101**	0.060	1/10
	Both copper conductors of the two-phase bar are insulated together				
	Infeed of the busbar at the device terminal with a conductor cross-section of 6 mm^2 to 32 A				
	Can be mounted from top or bottom, or in the front or rear terminal area, thus allowing realization of a 4-conductor connection using two two-phase busbars.				
	**End cap for two-phase bars**			1 set	
	End cap for 5TE9 101 two-phase busbars to keep insulation clearances when the bar is being cut.		**5TE9 102**	0.001	1 set
	1 set = 10 items				
	**5ST3 7 busbar system** for all 5TE8 switches, 32 A to 125 A in 1 MW per pole version, for ordering data, see Chapter "Accessories for 5SJ6, 5SY. and 5SP4 miniature circuit-breakers"				
	**Spacer** Contour for modular devices with a mounting depth of 70 mm; can be snapped onto either side of the busbar, so that two spacers allow for convenient cable routing		**5TG8 240**	0.010	2
	**Plate sets** for manual changing of the luminous plates for 5TE8 10 control switches			1 set	
	Cap set comprising 1 red, green, and yellow cap each		**5TG8 068**	0.006	1 set

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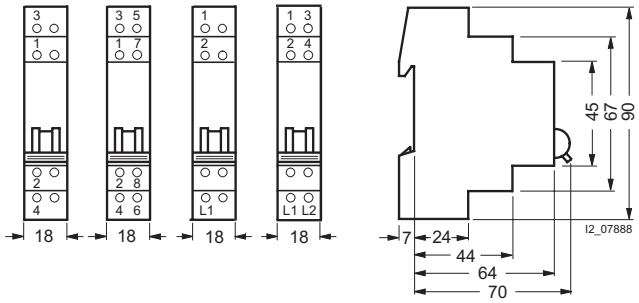
* You can order this quantity or a multiple thereof.

5TE8 control switches

Dimensional drawings

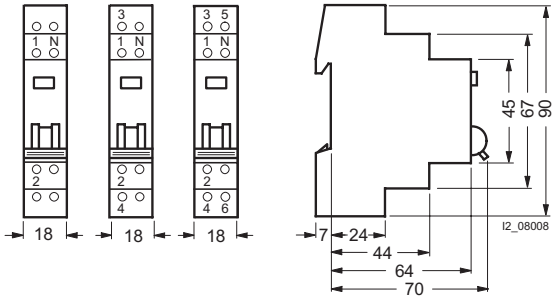
Group switches with intermediate position, 5TE8 changeover switches, 20 A

5TE8 151 5TE8 152 5TE8 141 5TE8 142
5TE8 153 5TE8 161 5TE8 162



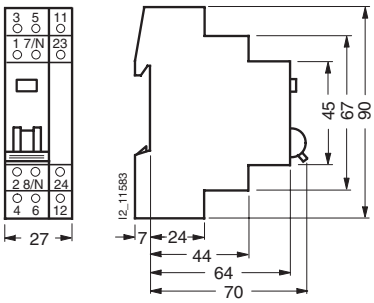
5TE8 control switches, 20 A, with lamp

5TE8 101 5TE8 102 5TE8 103
5TE8 101-3



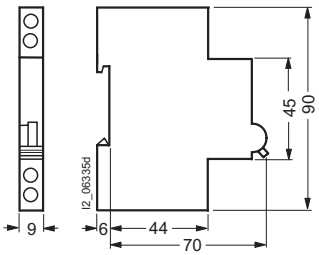
5TE8 control switches, 20 A, with pilot light and auxiliary switch

5TE8 108



5ST3 auxiliary switches

5ST3 010
5ST3 011
5ST3 012



Schematics

5TE8 151

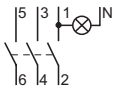
5TE8 152

5TE8 153

5TE8 101
5TE8 101-3

5TE8 102

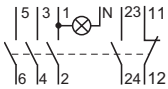
5TE8 103



5TE8 161

5TE8 162

5TE8 108



5TE 8 141

5TE8 142

5ST3 010

5ST3 011

5ST3 012

Overview

Two functions in one device

Pushbuttons with setting function for momentary-contact or maintained-contact operation can be changed over after installation and connection as the setting switch is always accessible.

Pushbuttons and light indicators with separate infeed in one device

Control pushbuttons with pilot light in one modular width in momentary-contact or maintained-contact operation save room. The lights are fed via isolated terminals. Thus, they can also be used for voltages other than the switching voltage.

Double functions, 2 systems in one device

Double pushbuttons and double pushbuttons with pilot lights for separate infeed – even voltages differing from the switching voltage – in one modular width help to save mounting space. Changeover from momentary to maintained-contact operation is done separately for each pushbutton from top to bottom. Thus, two systems have been incorporated in one device.

Changing of pilot lights and caps without the use of tools

Pilot lights and caps can safely be replaced during operation without the use of tools. Transparent caps in different colors allow signaling of system states according to IEC 60073, e.g. red: danger, yellow: warning and green: safety.

Always correctly polarized

The pilot lights, depending on the voltage either glow lamp or diode, are nested in a slotted base. Thus correct polarization is always ensured for DC applications.

Features

- Momentary-contact/maintained-contact changeover after installation and connection in disconnected state
- Double pushbuttons
- Pushbuttons with pilot lights
- Caps and lamps can be changed
- Lamps also available with voltages other than 230 V (standard: 230 V)

5TE4 8 pushbuttons

Technical specifications

Acc. to IEC 60947-3, EN 60947-3 (VDE 0660 Part 107) and IEC 60669-1, EN 60669-1 (VDE 0632 Part 1)			5TE4 8
Rated operational current I_e	per current path	A	20
Rated operational voltage U_e	1-pole multipole	V AC V AC	230 400
Rated power dissipation P_v	per pole	VA	0.6
Thermal rated current I_{the}		A	20
Rated breaking capacity	at p. f. = 0.65	A	60
Rated making capacity	at p. f. = 0.65	A	60
Rated impulse withstand voltage U_{imp}		kV	> 5
Clearances	open contacts between the poles	mm mm	2 × > 2 > 7
Creepage distances		mm	> 7
Mechanical lifetime	switching cycles		25 000
Minimum contact load		V; mA	10; 300
Rated short-time currents [1] per current path at p. f. = 0.7	 up to 0.2 s up to 0.5 s up to 1 s up to 3 s	 A A A A	 650 400 290 170
Terminals/tightening torque	± screw (Pozidrive); Nm		1; 1.2
Conductor cross-sections	rigid flexible with sleeve	mm^2 min. mm^2	1.5 ... 6 1
Permissible ambient temperature		°C	-5 ... +40
Resistance to climate acc. to DIN 50015 at 95 % relative air humidity		°C	45

Power loss of 5TG8 05. lamps		**5TG8 050**	**5TG8 051**	**5TG8 052**	**5TG8 053**	**5TG8 054**	**5TG8 055**
Rated operational voltage U_e	V AC	12	24	48	60	115	230
Rated power dissipation P_v	MW	70	160	350	420	70	170
Rated operational voltage U_e	V DC	12	24	48	60	110	220
Rated power dissipation P_v	MW	85	190	450	550	50	135

	Color coding acc. to IEC 60073		
Color	Safety of people or environment	Process state	System state
Red	Danger	Emergency	Faulty
Yellow	Warning/Caution	Abnormal	
Green	Safety	Normal	
Blue	Stipulation		
White **Gray** **Black**	No special significance assigned		

1) The corresponding rated surge current can be established by multiplying by 1.5.

Selection and ordering data

	Version	U_e	I_e	Conductor cross-sections	MW	Order No.	Weight 1 item	PS*/ P. unit
		V AC	A	up to mm^2			kg	Items
 5TE4 800	**Pushbuttons without maintained-contact function**							
	1 NO contact, 1 NC contact 1 gray pushbutton	230	20	6	1	**5TE4 800**	0.061	1/12
	1 NO contact, 1 NO contact 1 green, 1 blue pushbutton	230	20	6	1	**5TE4 804**	0.053	1/12
	1 NO contact, 1 NC contact 1 red pushbutton	230	20	6	1	**5TE4 805**	0.061	1/12
	1 NO contact, 1 NC contact 1 green pushbutton	230	20	6	1	**5TE4 806**	0.061	1/12
	1 NO contact, 1 NC contact 1 yellow pushbutton	230	20	6	1	**5TE4 807**	0.061	1/12
	1 NO contact, 1 NC contact 1 blue pushbutton	230	20	6	1	**5TE4 808**	0.061	1/12
	Pushbuttons with maintained-contact function							
	1 NO contact, 1 NC contact 1 gray pushbutton	230	20	6	1	**5TE4 810**	0.060	1/12
	2 NO contacts 1 gray pushbutton	400	20	6	1	**5TE4 811**	0.061	1/12
	3 NO contacts + N 1 gray pushbutton	400	20	6	1	**5TE4 812**	0.080	1/12
	4 NC contacts 1 gray pushbutton	400	20	6	1	**5TE4 813**	0.080	1/12
	2 COs 1 gray pushbutton	400	20	6	1	**5TE4 814**	0.075	1/12
 5TE4 820	**Control pushbuttons with maintained-contact function and 230 V pilot light for max. 5 m cable length**							
	1 NO contact, 1 NC contact 1 red pushbutton	400	20	6	1	**5TE4 820**	0.071	1/12
	1 NO contact 1 red pushbutton	230	20	6	1	**5TE4 821**	0.078	1/12
	2 NO contacts 1 red pushbutton	400	20	6	1	**5TE4 823**	0.080	1/12
	2 NC contacts 1 red pushbutton	400	20	6	1	**5TE4 824**	0.080	1/12
	Control pushbuttons with maintained-contact function and 230 V pilot light for max. 150 m cable length							
	1 NO contact 1 red pushbutton	400	20	6	1	**5TE4 822**	0.078	1/12
 5TE4 830	**Double pushbuttons with maintained-contact function**							
	1 NO contact and 1 NC contact 1 red, 1 green pushbutton	400	20	6	1	**5TE4 830**	0.065	1/12
	1 NO contact, 1 NC contact + 1 NO contact, 1 NC contact 1 red, 1 green pushbutton	400	20	6	1	**5TE4 831**	0.084	1/12

* You can order this quantity or a multiple thereof.

5TE4 8 pushbuttons

Selection and ordering data

	Version	U_e	I_e	Conductor cross-sections	MW	Order No.		Weight 1 item	PS*/ P. unit
		V AC	A	up to mm^2				kg	Items
 5TE4 840	**Double pushbuttons with maintained-contact function and two 230 V pilot lights for max. 5 m cable length**								
	1 NO contact and 1 NO contact 1 red pushbutton, 1 green pushbutton	400	20	6	1	**5TE4 840**		0.080	1/12
	1 NO contact and 1 NC contact 1 red pushbutton, 1 green pushbutton	400	20	6	1	**5TE4 841**		0.080	1/12

Accessories

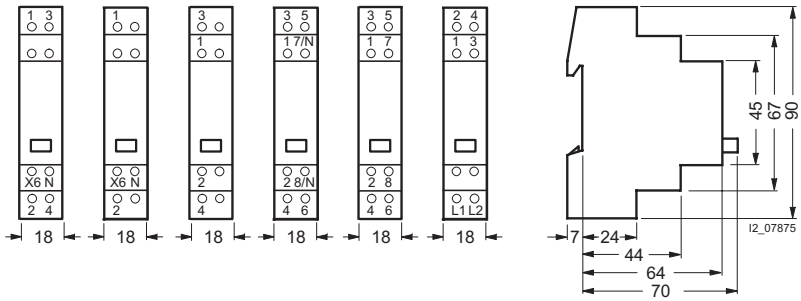
	Version	U_e	Order No.		Weight 1 item	PS*/ P. unit
		V			kg	Items
 5TG8 050	**Lamps, manually removable for voltages other than 230 V or as spare lamps with label**					
	LED	12 AC/DC	**5TG8 050**		0.001	1
	LED	24 AC/DC	**5TG8 051**		0.001	1
	LED	48 AC/DC	**5TG8 052**		0.001	1
	LED	60 AC/DC	**5TG8 053**		0.001	1
	Glow lamp	115 AC 110 DC	**5TG8 054**		0.001	1
	Glow lamp	230 AC 220 DC	**5TG8 055**		0.001	1
 5TG8 060	**Cap sets, manually replaceable with colored caps with or without lamp equipping**				1 set	
	gray, non-transparent (1 set = 5 items)		**5TG8 060**		0.002	1 set
	red, transparent (1 set = 5 items)		**5TG8 061**		0.002	1 set
	green, transparent (1 set = 5 items)		**5TG8 062**		0.002	1 set
	yellow, transparent (1 set = 5 items)		**5TG8 063**		0.002	1 set
	blue, transparent (1 set = 5 items)		**5TG8 064**		0.002	1 set
	black, non-transparent (1 set = 5 items)		**5TG8 065**		0.002	1 set
	white, transparent (1 set = 5 items)		**5TG8 066**		0.002	1 set
	red and green (1 set contains 10 lamps per color), yellow, blue and white (1 set contains 5 lamps per color)		**5TG8 067**		0.012	1 set
 5TG8 061	red, green, yellow (1 set = 3 items)		**5TG8 070**		0.002	1 set

*** You can order this quantity or a multiple thereof.**

Dimensional drawings

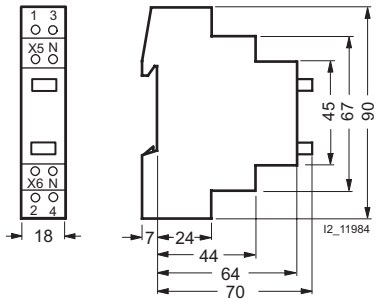
5TE4 8 pushbuttons

5TE4 820 5TE4 821 5TE4 800 5TE4 812 5TE4 813 5TE4 814
5TE4 823 5TE4 822 5TE4 805
5TE4 824 5TE4 806
5TE4 807
5TE4 808
5TE4 810
5TE4 811



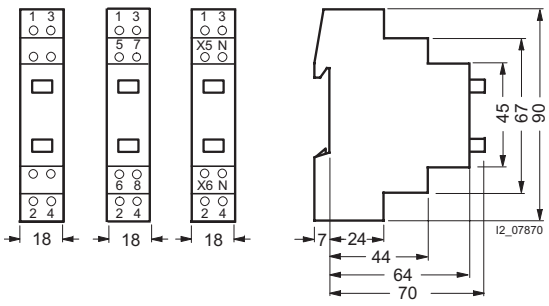
5TE4 804 pushbuttons

5TE4 804



5TE4 8 double pushbuttons with maintained-contact function

5TE4 830 5TE4 831 5TE4 840
5TE4 841

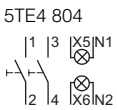


Schematics

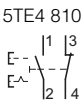
5TE4 8 pushbuttons

5TE4 800
5TE4 805
5TE4 806
5TE4 807
5TE4 808

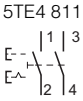
5TE4 804



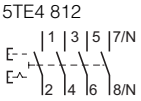
5TE4 810



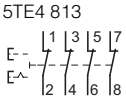
5TE4 811



5TE4 812



5TE4 813



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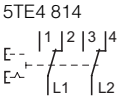
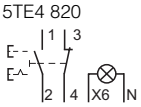


5TE4 820



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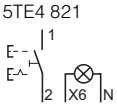

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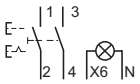

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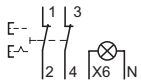
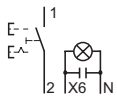
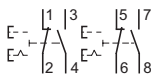


5TE4 822

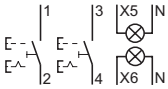


55TE4 830

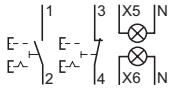
5TE4 831



5TE4 840



5TE4 841



5TE8 On/Off switches

Technical specifications

20 A: acc. to IEC 60947-3, EN 60947-3 (VDE 0660 Part 107) and IEC 60669-1, EN 60669-1 (VDE 0632 Part 1) 32 A: acc. to IEC 60947-3, EN 60947-3 (VDE 0660 Part 107)			5TE8 1	5TE8 2
Rated operational current I_e	per current path	A	20	32
Rated operational voltage U_e	1-pole multipole	V AC V AC	230 400	
Rated power dissipation P_v	per pole, max.	VA	0.7	
Thermal rated current I_{the}		A	20	32
Rated breaking capacity	at p. f. = 0.65	A	60	96
Rated making capacity	at p. f. = 0.65	A	60	96
Short-circuit strength use together with a fuse with the same rated operational current (EN 60269 gL/gG)		kA	10	
Rated impulse withstand voltage U_{imp}		kV	> 5	
Clearances	open contacts [1] between the poles	mm mm	2 x >2 > 7	
Creepage distances		mm	> 7	
Mechanical lifetime	switching cycles		25 000	
Electrical service life	switching cycles		10 000	
Minimum contact load		V; mA	10; 300	
Rated short-time currents [2] per current path at p. f. = 0.7	up to 0.2 s up to 0.5 s up to 1 s up to 3 s	A A A A	650 400 290 170	1 000 630 450 250
Terminals/max. tightening torque	± screw (Pozidrive); Nm		1;1.2	
Conductor cross-sections	rigid flexible with sleeve	mm^2 min. mm^2	1.5 ... 6 1	
Permissible ambient temperature		°C	-5 ... +40	
Resistance to climate acc. to DIN 50015 at 95 % relative air humidity		°C	45	

40 A ... 100 A: acc. to IEC 60947-3, EN 60947-3 (VDE 0660 Part 107) and IEC 60669-1, EN 60669-1 (VDE 0632 Part 1) 32 A and 125 A: acc. to IEC 60947-3, EN 60947-3 (VDE 0660 Part 107)			5TE8 3	5TE8 4	5TE8 5	5TE8 6	5TE8 7	5TE8 8
Rated operational current I_e	per current path	A	32	40	63	80	100	125
Rated operational voltage U_e	1-pole multipole	V AC V AC	230 400					
Rated power dissipation P_v	per pole, max.	VA	0.7	0.9	2.2	3.5	5.5	8.6
Thermal rated current I_{the}		A	32	40	63	80	100	125
Rated breaking capacity	at p. f. = 0.65	A	96	120	196	240	300	375
Rated making capacity	at p. f. = 0.65	A	96	120	196	240	300	375
Short-circuit strength use together with a fuse with the same rated operational current (EN 60269 gL/gG)		kA	10					
Rated impulse withstand voltage U_{imp}		kV	> 5					
Clearances	open contacts between the poles	mm mm	> 7 > 7					
Creepage distances		mm	> 7					
Mechanical lifetime	switching cycles		20 000					
Electrical service life	switching cycles		10 000		5000	1 000		
Minimum contact load		V; mA	24; 300					
Rated power switching of resistive loads including moderate overload AC-21	1-pole 2-pole 3-/4-pole	kW kW kW	5 9 15	6.5 11 15	10 18 30	13 22 39	16 28 48	16 28 48
Rated short-time currents [2] per current path at p. f. = 0.7	up to 0.2 s up to 0.5 s up to 1 s up to 3 s	A A A A	760 500 400 280	950 630 500 350	1500 1 000 800 560	2700 1650 1350 800	3400 2100 1700 1 000	3400 2100 1700 1000
Terminals/max. tightening torque	± screw (Pozidrive); Nm		2; 3.5					
Conductor cross-sections	rigid flexible with sleeve	mm^2 min. mm^2	1 ... 35 1			2.5 ... 50 2.5		
Permissible ambient temperature		°C	-5 ... +40					
Resistance to climate acc. to DIN 50015 at 95 % relative air humidity		°C	45					

1) For 5TE8 14. switches with center position. = 2 x 2.5 mm.
2) The corresponding rated surge current can be established through multiplying by factor 1.5.

Selection and ordering data

	Version	U_e	I_e	Conductor cross-sections	MW	Order No.	Weight 1 item	PS*/ P. unit
		V AC	A	up to mm^2			kg	Items
 5TE8 111	**On/off switches (20 A and 32 A)**							
	with separate handle locking device, sealable switch position, auxiliary switch can be mounted							
	1 NO contact	230	20	6	1	**5TE8 111**	0.053	1/12
			32			**5TE8 211**	0.053	1/12
	2 NO contacts	400	20	6	1	**5TE8 112**	0.062	1/12
			32			**5TE8 212**	0.062	1/12
	3 NO contacts	400	20	6	1	**5TE8 113**	0.072	1/12
			32			**5TE8 213**	0.072	1/12
 5TE8 218	3 NO contacts + N auxiliary switch cannot be mounted	400	20	6	1	**5TE8 114**	0.082	1/12
			32			**5TE8 214**	0.081	1/12
	3 NO contacts + N with mounted auxiliary switch	400	20	6	1.5	**5TE8 118**	0.128	1/8
			32			**5TE8 218**	0.128	1/8
 5TE8 511	**On/Off switches (32 A to 125 A) can be used as switch disconnector according to EN 60947-1**							
	with separate handle locking device, sealable switch position, auxiliary switch, can be mounted, position indication red/green							
	1 NO contact, red handle	230	63	35	1	**5TE8 521**	0.100	1/12
			100	50		**5TE8 721**	0.112	1/12
	1 NO contact		32	35		**5TE8 311**	0.100	1/12
			40			**5TE8 411**	0.100	1/12
			63			**5TE8 511**	0.100	1/12
			80	50		**5TE8 611**	0.112	1/12
			100			**5TE8 711**	0.112	1/12
			125			**5TE8 811**	0.112	1/12
 5TE8 514	2 NO contacts, red handle	400	63	35	2	**5TE8 522**	0.204	1/6
			100	50		**5TE8 722**	0.225	1/6
	2 NO contacts		32	35		**5TE8 312**	0.204	1/6
			40			**5TE8 412**	0.204	1/6
			63			**5TE8 512**	0.204	1/6
			80	50		**5TE8 612**	0.225	1/6
			100			**5TE8 712**	0.225	1/6
			125			**5TE8 812**	0.225	1/6
	3 NO contacts, red handle	400	63	35	3	**5TE8 523**	0.307	1/4
			100	50		**5TE8 723**	0.338	1/4
 5TE8 533	3 NO contacts		32	35		**5TE8 313**	0.307	1/4
			40			**5TE8 413**	0.307	1/4
			63			**5TE8 513**	0.307	1/4
			80	50		**5TE8 613**	0.340	1/4
			100			**5TE8 713**	0.338	1/4
			125			**5TE8 813**	0.338	1/4
	3 NO contacts + N, red handle	400	63	35	4	**5TE8 524**	0.413	1/3
			100	50		**5TE8 724**	0.445	1/3
	3 NO contacts + N		32	35		**5TE8 314**	0.410	1/3
			40			**5TE8 414**	0.410	1/3
			63			**5TE8 514**	0.413	1/3
			80	50		**5TE8 614**	0.455	1/3
			100			**5TE8 714**	0.445	1/3
			125			**5TE8 814**	0.455	1/3
	Terminal access from the bottom and off-position lockable with special key (exclusive power supply company tool). Reduced lower terminal entry for conductors with approx. 7 mm diameter							
	3 NO contacts	400	63	35	3	**5TE8 533**	0.263	1/4

5TE8 On/Off switches

Accessories

	Version	MW	Order No.	Weight 1 item kg	PS*/ P. unit Items
 5ST3 010	**Auxiliary switches (AS)** for all 5TE8 switches, for right-side retrofitting with factory-fitted brackets, for further technical specifications, see also Section, "Miniature circuit-breakers"				
	1 NO contact + 1 NC contact	0.5	**5ST3 010**	0.050	1
	2 NO contacts	0.5	**5ST3 011**	0.050	1
	2 NC contacts	0.5	**5ST3 012**	0.050	1
	**Handle locking device** for all 5TE8 switches, can be sealed against unwanted manual ON/OFF switching, padlock with max. 3 mm shackle		**5ST3 801**	0.008	1
	**Terminal cover** for all 5TE8 5 to 5TE8 8 switches, in 1 MW per pole version, for covering screw openings, sealable		**5ST3 800**	0.001	5/10
	**Spacer** contour for modular devices with a mounting depth of 70 mm; can be snapped onto either side of the busbar, so that two spacers allow for convenient cable routing	0.5	**5TG8 240**	0.010	2
	**Fixpoint terminal** with snap-on mounting for attaching to the standard mounting rail and lateral cable entry, Can also be used as RCCB terminal, with 3 terminals for conductors from 1.5 mm^2 to 10 mm^2 and 1 terminal for conductors from 1.5 mm^2 to 25 mm		**8GB4 576**	0.026	1
	**Snap-on terminal** with snap-on mounting for mounting on the standard mounting rail with terminals for conductors up to 16 mm^2 solid and 10 mm^2 stranded		**5ST2 112**	0.008	1/50

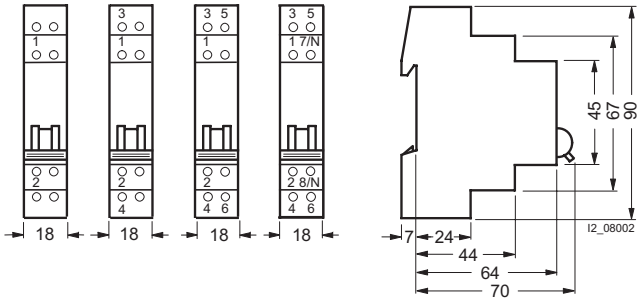
	Version	U_e V AC	I_e A	Conductor cross-sections up to mm^2	MW	Order No.	Weight 1 item kg	PS*/ P. unit Items
	**Phase connector** for easier wiring in various different wiring versions and busbars or as a fixpoint terminal for conductors from 2.5 mm^2 to 50 mm^2							
	1-pole	230	125	50	1	**5TE9 112**	0.111	1/12
	**N conductor connector** for easier wiring in different circuit versions and busbar mountings or as a fixpoint terminal for N conductors from 2.5 mm^2 to 50 mm^2 with blue color marking							
	1-pole	230	125	50	1	**5TE9 113**	0.111	1/12

* You can order this quantity or a multiple thereof.

Dimensional drawings

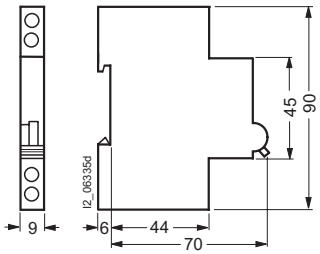
5TE8 On/Off switches, 20 A and 32 A

5TE8 111 5TE8 112 5TE8 113 5TE8 114
5TE8 211 5TE8 212 5TE8 213 5TE8 214



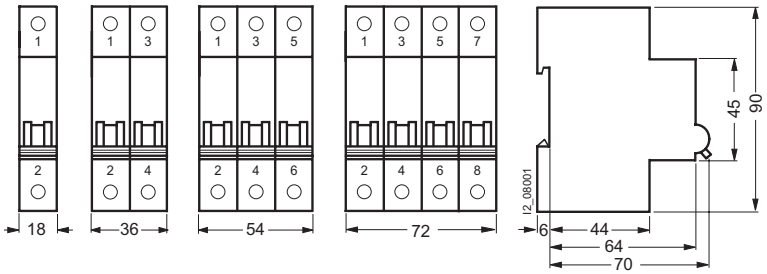
5ST3 auxiliary switches

5ST3 010
5ST3 011
5ST3 012

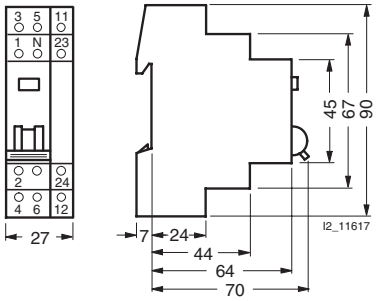


5TE8 On/Off switches , 32 A to 125 A

5TE8 311 5TE8 312 5TE8 313 5TE8 314
5TE8 411 5TE8 412 5TE8 413 5TE8 414
5TE8 511 5TE8 512 5TE8 513 5TE8 514
5TE8 521 5TE8 522 5TE8 523 5TE8 524
5TE8 533
5TE8 611 5TE8 612 5TE8 613 5TE8 614
5TE8 711 5TE8 712 5TE8 713 5TE8 714
5TE8 721 5TE8 722 5TE8 723 5TE8 724
5TE8 811 5TE8 812 5TE8 813 5TE8 814

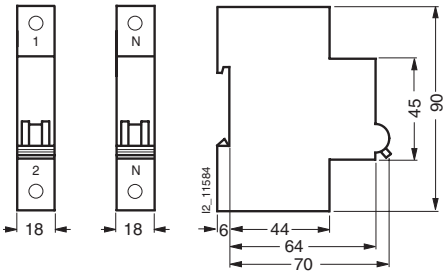


5TE8 118
5TE8 218



Phase connector/N-conductor connector

5TE9 112 5TE9 113



5TE8 On/Off switches

Schematics

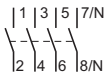
5TE8 On/Off switches

5TE8 111
5TE8 211

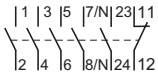
5TE8 112
5TE8 212

5TE8 113
5TE8 213

5TE8 114
5TE8 214



5TE8 118
5TE8 218



5TE8 311
5TE8 411
5TE8 511
5TE8 521
5TE8 611
5TE8 711
5TE8 721
5TE8 811

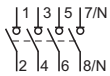
5TE8 312
5TE8 412
5TE8 512
5TE8 522
5TE8 533
5TE8 612
5TE8 712
5TE8 722
5TE8 812

5TE8 313
5TE8 413
5TE8 513
5TE8 523

5TE8 613
5TE8 713
5TE8 723
5TE8 813

5TE8 314
5TE8 414
5TE8 514
5TE8 524

5TE8 614
5TE8 714
5TE8 724
5TE8 814



Auxiliary switches

5ST3 010

5ST3 011

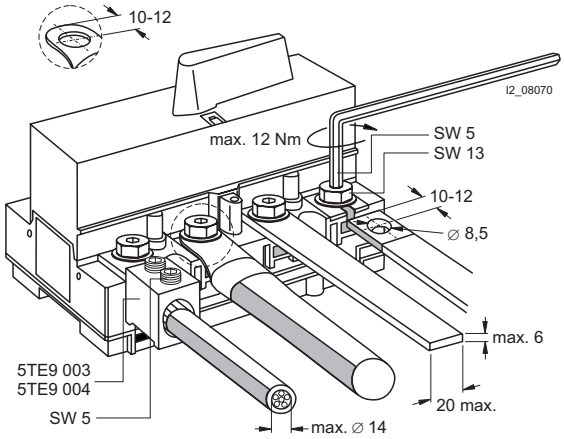
5ST3 012

Overview

- From 160 A: delivery with one terminal cover
- 160 A and 200 A: version for connection with lug
- Installation on standard mounting rail acc. to EN 60715, which is raised at least 5 mm from the base plate
- Screw connection on base plate.

Design

Connection versions of 5TE1 .3 and 5TE1 .4 switches, 160 and 200 A – versions



Technical specifications

Acc. to IEC 60947-3, DIN EN 60947-3 UL 508 KEMA certified					5TE1 .1	5TE1 .2	5TE1 .3	5TE1 .4
Rated operational current I_e with utilization category AC-21A	per current path	at U_e =	400 V	A	100	125	160	200
			415 V	A	100	125	160	200
			500 V	A	100	125	160	200
			690 V	A	100	125	160	200
Rated operational current I_e with utilization category AC-22A	per current path	at U_e =	400 V	A	100	125	160	200
			415 V	A	100	125	160	200
			500 V	A	100	100	160	200
			690 V	A	63		160	200
Rated operational current I_e with utilization category AC-23A	per current path	at U_e =	400 V	A	80		125	160
			415 V	A	80		125	160
			500 V	A	50		125	
			690 V	A	40		63	80
Rated operational current I_e with utilization category DC-23A	2 poles in series		110 V	A	100		160	
	2 poles in series		220 V	A	–		100	
	4 poles in series		220 V	A	100		160	
Rated operational voltage U_e				V AC	690			
Rated insulation voltage U_i				V AC	690			
Rated impulse withstand voltage U_{imp}	2000 m			kV	8			
Impulse test voltage	at sea level			kV	12.3			
Max. rated operating capacity AC-23A		at U_e =	400 V	kW	44		69	88
			415 V	kW	46		72	92
			500 V	kW	35		86	86
			690 V	kW	36		60	76
Thermal rated current I_{the}	at 40 °C, 50 °C and 60 °C			A	100	125	160	200
Rated making capacity	at 415 V AC-23A			A	1875		3200	4000
Rated making capacity	at 415 V AC-23A			A	1 000		1920	2400
Rated ultimate short-circuit breaking capacity I_{cm}	per current path	at U_e =	400 V	kA	10			
			415 V	kA	10			
			500 V	kA	6.7			
			690 V	kA	6.7			
Rated short-time withstand current I_{cw} (peak value)	per current path		0.25 s	kA	5		6	
			1 s	kA	2.5		3	
Rated conditional short-circuit current with back-up protection with back-up fuse with identical rated current		at U_e =	400 V	kA	50			
			415 V	kA	50			
			500 V	kA	50			
			690 V	kA	33	33	20	18
Capacitive load	at 400 V			kvar	50	60	77	97
Number of poles	poles				2/3/4			
Rated power dissipation P_v	per pole			VA	2.9	4.5	6.5	10
Frequency				Hz	50/60			

5TE1 switch disconnectors

Technical specifications

Acc. to IEC 60947-3, EN 60947-3 UL 508 KEMA certified			5TE1 .1	5TE1 .2	5TE1 .3	5TE1 .4
Conductor cross-sections		mm^2	6 ... 50		Cu busbar max. 20 × 6	
Service life (switching cycles)	electrical mechanical		1 500 20 000		1 000 10 000	
Acc. to UL 508 **UL 508 General Use 480 V**	I_n FLA	A A	– –		100 34	125 40
UL 508 Manual motor controller 480 V **UL 508 Short circuit at 480 V**	power output K5 fuses J fuses	HP kA kA	– – –		25 10 50	30

Selection and ordering data

	Version	U_e	I_e	MW	Order No.	Weight 1 item	PS*/ P. unit
		V AC	A			kg	Items
 5TE1 210	**Switch disconnectors, lockable, with gray knob and transparent casing, mounting depth 92 mm**						
	2 NO contacts						
		690	100	5	**5TE1 210**	0.480	1
			125		**5TE1 220**	0.480	1
			160	8	**5TE1 230**	0.620	1
			200		**5TE1 240**	0.620	1
	3 NO contacts						
		690	100	5	**5TE1 310**	0.540	1
			125		**5TE1 320**	0.540	1
			160	8	**5TE1 330**	0.730	1
			200		**5TE1 340**	0.730	1
	4 NO contacts						
		690	100	5	**5TE1 410**	0.590	1
			125		**5TE1 420**	0.590	1
			160	8	**5TE1 430**	0.770	1
			200		**5TE1 440**	0.770	1
	3 NO contacts with N conductor through-type terminal						
		690	100	5	**5TE1 610**	0.590	1
			125		**5TE1 620**	0.590	1
			160	8	**5TE1 630**	0.770	1
			200		**5TE1 640**	0.770	1
 5TE1 315	**Switch disconnectors with red knob and yellow cap, can be used as emergency system interrupter according to IEC 60204-1, EN 60204-1 (VDE 0113 T1) if switch is easily accessible, mounting depth 92 mm**						
	3 NO contacts						
		690	100	5	**5TE1 315**	0.540	1
			125		**5TE1 325**	0.540	1
			160	8	**5TE1 335**	0.730	1
			200		**5TE1 345**	0.730	1
	4 NO contacts						
		690	100	5	**5TE1 415**	0.590	1
			125		**5TE1 425**	0.590	1
			160	8	**5TE1 435**	0.770	1
			200		**5TE1 445**	0.770	1

*** You can order this quantity or a multiple thereof.**

Accessories

	Version	U_e	I_e	Order No.	Weight 1 item	PS*/ P. unit
		V AC	A AC		kg	Items
 5TE9 000	**Terminal covers**					
	for 100 A and 125 A switch disconnectors; sealable			**5TE9 000**	0.060	1
	for 160 A and 200 A switch disconnectors; sealable			**5TE9 001**	0.050	1
 5TE9 001						
 5TE9 003	**Cage clamp terminals**					
	for 160 A and 200 A switch disconnectors terminal diameter 14.5 mm for 92 mm^2 lines Allen screw, 5 mm				1 set	
	Set comprising three cage clamp terminals			**5TE9 003**	0.080	1 set
	Set comprising four cage clamp terminals			**5TE9 004**	1 set 0.080	1 set
 5TE9 005	**Auxiliary switches**					
	Auxiliary switches optionally mountable left or right or both sides (2 items) minimum contact load 24 V, 50 mA					
	1-pole CO contact	230	6	**5TE9 005**	0.080	1
	2-pole CO contact	230	6	**5TE9 006**	0.080	1
	**Locking unit**					
	for up to three padlocks with max. ∅ 8 mm			**5TE9 014**	0.230	1
	**4-pole conversion kit for 100 A and 125 A for the connection of busbars or cables with cable lugs**					
	for busbars max. 15 mm wide including terminal cover			**5TE9 015**	1 set 0.110	1 set
 5TE9 01.	**Rotary actuators with extension axes for mounting on hinged doors or casing lids, lockable, IP65**					
	Black knob					
	Shaft length		200 mm	**5TE9 010**	0.550	1
			400 mm	**5TE9 011**	0.550	1
	Red knob					
	Shaft length		200 mm	**5TE9 012**	0.550	1
			400 mm	**5TE9 013**	0.550	1

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* You can order this quantity or a multiple thereof.

5TE1 switch disconnectors

Dimensional drawings

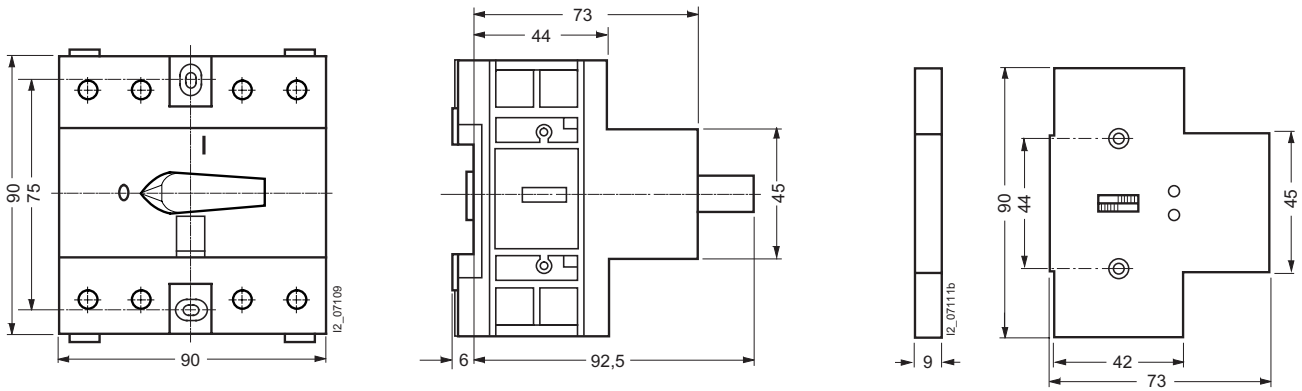
5TE1 switch disconnectors, 100 A and 125 A

5TE1 210
5TE1 220

5TE1 310
5TE1 320
5TE1 315
5TE1 325

5TE1 410
5TE1 420
5TE1 415
5TE1 425

5TE1 610
5TE1 620



5TE9 auxiliary switches

5TE9 005
5TE9 006

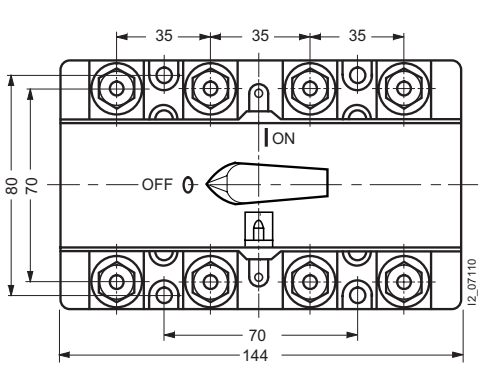
5TE1 switch disconnectors , 160 A and 200 A

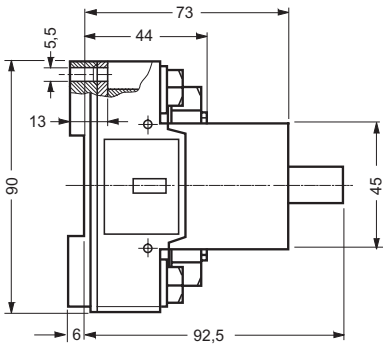
5TE1 230
5TE1 240

5TE1 330
5TE1 335
5TE1 340
5TE1 345

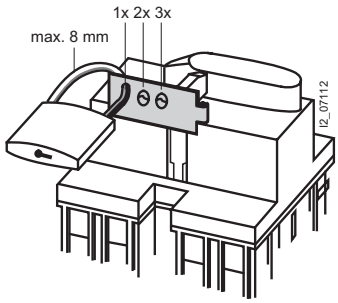
5TE1 430
5TE1 435
5TE1 440
5TE1 445

5TE1 630
5TE1 640



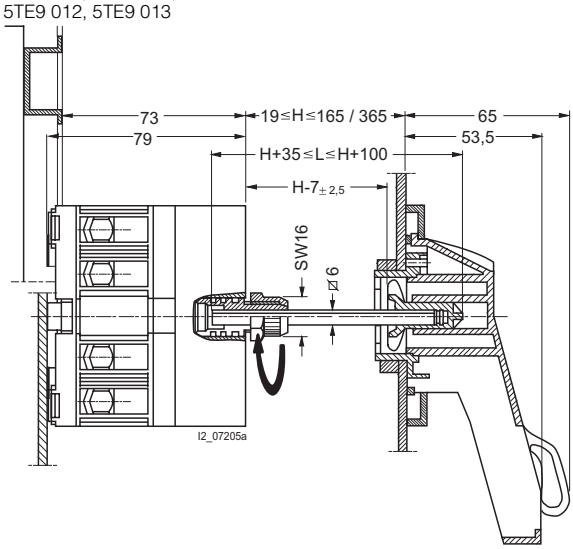


5TE9 004 locking units

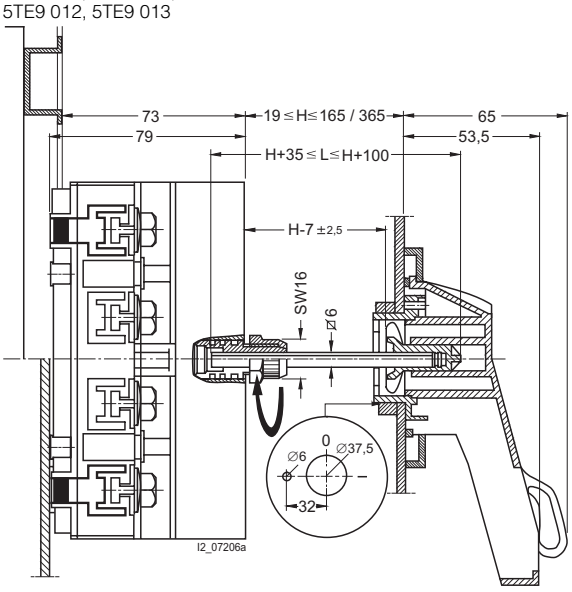


5TE9 rotary actuators with extension axis

with switch disconnectors 100 A and 125 A
5TE9 010, 5TE9 011,
5TE9 012, 5TE9 013



with switch disconnectors 160 A and 200 A
5TE9 010, 5TE9 011,
5TE9 012, 5TE9 013



It is possible to open the door in both a connected and disconnected state.

Schematics

5TE1 switch disconnectors

5TE1 210
5TE1 220
5TE1 230
5TE1 240

5TE1 310
5TE1 320
5TE1 330
5TE1 340

5TE1 410
5TE1 420
5TE1 430
5TE1 440

5TE1 610
5TE1 620
5TE1 630
5TE1 640

5TE1 315
5TE1 325
5TE1 335
5TE1 345

5TE1 415
5TE1 425
5TE1 435
5TE1 445

Auxiliary switches

5TE9 005

5TE9 006

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Notes