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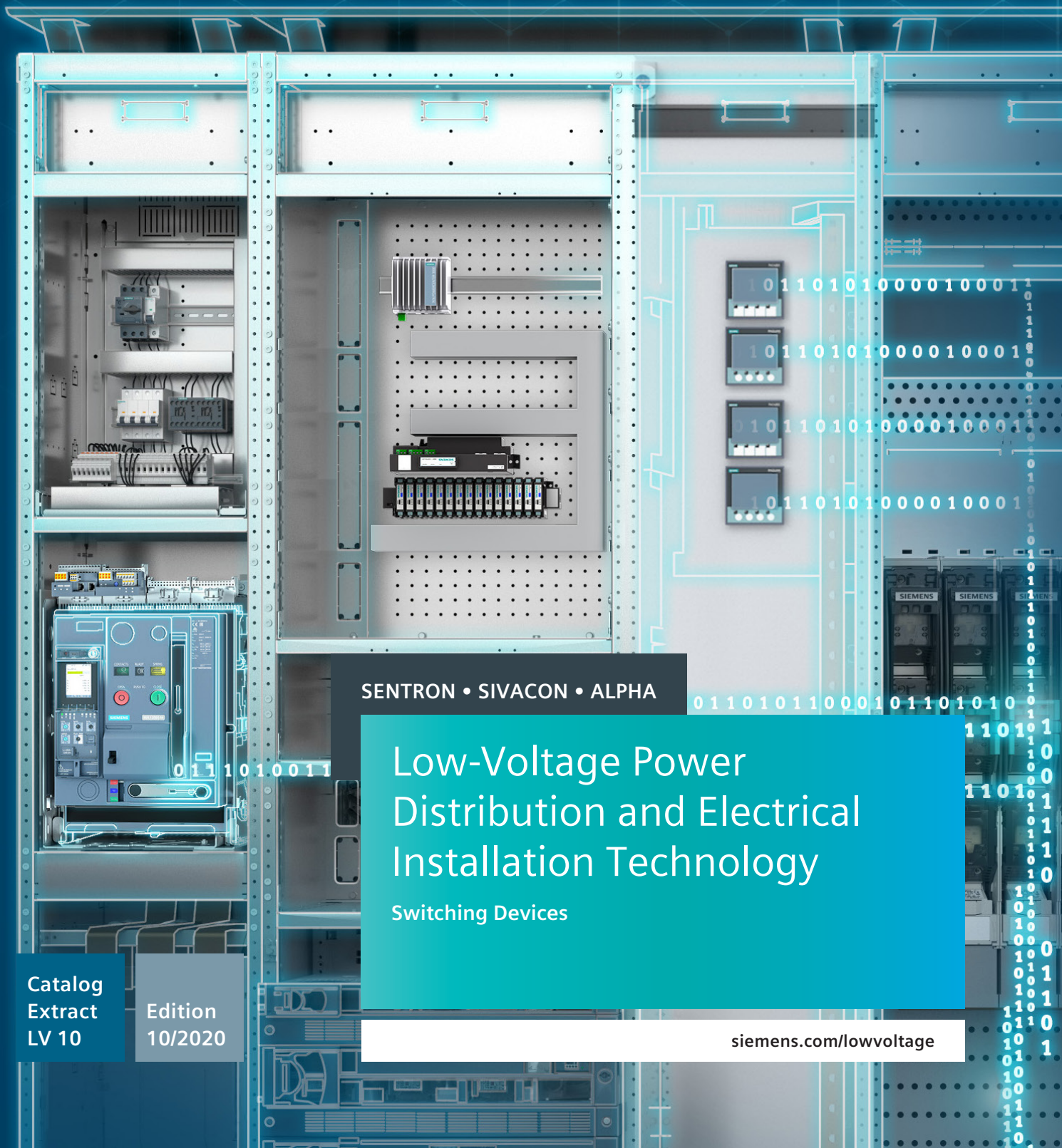

SENTRON • SIVACON • ALPHA

Low-Voltage Power Distribution and Electrical Installation Technology

Switching Devices

Catalog Extract LV 10

Edition 10/2020

siemens.com/lowvoltage

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Consistent, safe and intelligent low-voltage power distribution and electrical installation technology

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Catalog LV 10 · 10/2020

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Technical data
The technical specifications are for general information purposes only. Always heed the operating instructions and notices on individual products during assembly, operation and maintenance.

All illustrations are not binding.

Low-Voltage Power Distribution and Electrical Installation Technology

Electrical switching – on the safe side

Control and automatic functions always employ electrical switching.

Remote control switches for pulse controls, switching relays, or Insta contactors switch electrical loads.

Our low-voltage circuit protection technology offers a wide variety of contact versions and rated currents for the different requirements of these devices.

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Switching Devices

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- Switching devices sie.ag/2m4eG5M

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Commissioning + operation

Your product in detail

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- Certificates

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- Configuration manual – Switching devices (45315361)

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Technical overview – Switching devices

The fast way to get you to our online services

This page provides you with comprehensive information and links on switching devices
www.siemens.com/lowvoltage/product-support (109769083)

System overview

Basic units and accessories

Installation switching devices

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control switches

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pushbuttons

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light indicators

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On/Off switches, 5TE2

5TE
DC isolators

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busbars

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Accessories

Auxiliary switches (AS)

Shunt trips (ST)

Undervoltage releases (UR)

Handle locking devices

LEDs

Caps/covers

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Timers

7LF4 digital time switches

7LF5 mechanical time switches

7LF6 timers for buildings

5TT3 timers for industrial applications

Accessories

Holders

Note:
You will find a detailed range of accessories with the basic units.

5TE8 control switches

	Control switches		Two-way switches		Group switches with center position
Rated operational current I_e per conducting path	20 A		20 A		20 A
Rigid conductor cross-section	1 ... 6 mm²		1 ... 6 mm²		1 ... 6 mm²
Flexible conductor cross-section, with end sleeve	1 ... 6 mm²		1 ... 6 mm²		1 ... 6 mm²
					

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Contacts	U_e AC	Mounting width	Auxiliary switches		Auxiliary switches		Auxiliary switches
			Cannot be retrofitted	Mounted	Cannot be retrofitted	Mounted	Cannot be retrofitted
1 NO	48 V	1 MW	5TE8101-3	–	–	–	–
	230 V	1 MW	5TE8101	–	–	–	–
2 NO	400 V	1 MW	5TE8102	–	–	–	–
3 NO	400 V	1 MW	5TE8103	–	–	–	–
		1.5 MW	–	5TE8108	–	–	–
1 NO + 1 NC	400 V	1 MW	–	–	–	5TE8151	–
2 NO + 2 NC	400 V	1 MW	–	–	5TE8152	–	–
3 NO + 1 NC	400 V	1 MW	–	–	5TE8153	–	–
1 CO	230 V	1 MW	–	–	5TE8161	–	–
2 CO	400 V	1 MW	–	–	5TE8162	–	–
1 toggle switch	230 V	1 MW	–	–	–	–	5TE8141
2 toggle switches	400 V	1 MW	–	–	–	–	5TE8142

Further technical specifications

		5TE8
Standards		
Standards		IEC/EN 60947-3 (VDE 0660-107), IEC/EN 60669-1 (VDE 0632-1)
Approvals		IEC/EN 60947-3 (VDE 0660-107), GB14048.3-2008 CCC
Supply		
Rated power dissipation P_v	Per pole	0.7 VA
Contacts		
Minimum contact load		10 V; 300 mA
Rated making/rated breaking capacity	At p.f. = 0.65	60 A / 60 A
Rated short-time withstand current I_{cw} per conducting path at p.f. = 0.7	Up to 0.2 s	650 A
	Up to 0.5 s	400 A
	Up to 1 s	290 A
	Up to 3 s	170 A
Thermal rated current I_{th}		20 A
Electrical/mechanical service life	Actuations	10000 / 25000
Safety		
Clearances	Open contacts	2× >2 mm
	Between the poles	>7 mm
Creepage distances		>7 mm
Sealable switch position		Yes
Separate handle locking device		Yes
Rated short-circuit making capacity I_{cm}		10 kA
Rated impulse withstand voltage U_{imp}		>5 kV
Connections		
Terminals	± Screw (Pozidriv)	PZ 1
	Max. tightening torque	0.8 ... 1.0 Nm
Environmental conditions		
Permissible ambient temperature		–5 ... +40 °C
Resistance to climate at 95% relative humidity	Acc. to DIN 50015	45 °C

System overview, page 5/4

Accessories

Auxiliary switches (AS)

- For right-hand-side retrofitting with factory-fitted brackets

Contacts	Version	Article No.
1 NO + 1 NC	Standard	5ST3010
	For low power	5ST3013
	For low power (with diode)	5ST3013-0XX01
2 NO	Standard	5ST3011
	For low power	5ST3014
2 NC	Standard	5ST3012
	For low power	5ST3015
1 CO	Standard	5ST3016

Handle locking device

- To prevent undesired mechanical On/Off switching
- Sealable
- For padlock with max. 3 mm shackle

Article No.
5ST3801

Spacer

- Contour for modular devices with a mounting depth of 70 mm
- Can be snapped onto either side of the busbar for convenient cable routing
- Spacer is recommended for better heat dissipation

Article No.
5TG8240

Set of mixed caps

- For manual changing of the luminous plates for the control switches

Article No.
5TG8068

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System overview, page 5/4

5TE48 pushbuttons

With/without LED

	Pushbuttons without maintained-contact function		Pushbuttons with maintained-contact function		Control pushbuttons with maintained-contact function or momentary-contact function	
	Without LED		Without LED		With LED	
Rated operational current I_e per conducting path	20 A		20 A		20 A	
Rigid/flexible conductor cross-section	1 ... 6 mm²		1 ... 6 mm²		1 ... 6 mm²	
Max. cable length	Standard		Standard		Standard	
						
Contacts	**U_e AC**	**Mounting width**				
1 NO	230 V	1 MW		–		–	1× red	5TE4821
				–		–		–
2x 1 NO	400 V	1 MW	1× green, 1× blue	5TE4804		–		–
2 NO	400 V	1 MW		–	1× gray	5TE4811	1× red	5TE4823
1 NO + 1 NC	400 V	1 MW	1× gray	5TE4800	1× gray	5TE4810		–
			1× red	5TE4805		–	1× red	5TE4820
			1× green	5TE4806		–		–
			1× yellow	5TE4807		–		–
			1× blue	5TE4808		–		–
2x (1 NO + 1 NC)	400 V	1 MW		–		–		–
2 NO + 2 NC	400 V	1 MW	1× gray	5TE4801-2	1× gray	5TE4811-2		–
3 NO + 1 NC	400 V	1 MW	1× gray	5TE4802	1× gray	5TE4812-1		–
3 NO + N	400 V	1 MW		–	1× gray	5TE4812		–
2 NC	400 V	1 MW		–		–	1× red	5TE4824
4 NC	400 V	1 MW		–	1× gray	5TE4813		–
2 CO	400 V	1 MW		–	1× gray	5TE4814		–

Further technical specifications

		5TE48
Standards		
Standards		IEC/EN 60947-3 (VDE 0660-107), IEC/EN 60669-1 (VDE 0632-1)
Approvals		IEC/EN 60947-3 (VDE 0660-107)
Supply		
Rated power dissipation P_v	Per pole	0.6 VA
Contacts		
Minimum contact load		10 V; 300 mA
Rated making/rated breaking capacity	At p.f. = 0.65	60 A / 60 A
Rated short-time withstand current I_{cw} per conducting path at p.f. = 0.7	Up to 0.2 s	650 A
	Up to 0.5 s	400 A
	Up to 1 s	290 A
	Up to 3 s	170 A
Thermal rated current I_{th}		20 A
Mechanical service life	Actuations	25000
Safety		
Clearances	Open contacts	2× >2 mm
	Between the poles	>7 mm
Creepage distances		>7 mm
Rated impulse withstand voltage U_{imp}		>5 kV
Connections		
Terminals	± Screw (Pozidriv)	PZ 1
	Max. tightening torque	0.8 ... 1.0 Nm
Environmental conditions		
Permissible ambient temperature		–5 ... +40 °C
Resistance to climate at 95% relative humidity	Acc. to DIN 50015	45 °C

System overview, page 5/4

		Double pushbuttons with maintained-contact function and/or momentary-contact function			
With LED		**Without LED**		**With LED**	
20 A		20 A		20 A	
1 ... 6 mm²		1 ... 6 mm²		1 ... 6 mm²	
150 m		Standard		Standard	
					
1× red	5TE4822	–		–	
1× blue	5TE4822-1	–		–	
–		–		1× green, 1× red	5TE4840
–		–		–	
–		–		–	
–		–		–	
–		1× green, 1× red	5TE4830	1× green, 1× red	5TE4841
–		–		–	
–		–		–	
–		1× green, 1× red	5TE4831	–	
–		–		–	
–		–		–	
–		–		–	
–		–		–	
–		–		–	
–		–		–	

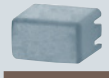
Accessories

LEDs for manual replacement

I_e	U_e	Color	Article No.
0.4 A	12 ... 60 V AC/DC	White	5TG8056-0
		Red	5TG8056-1
		Yellow	5TG8056-2
		Green	5TG8056-3
		Blue	5TG8056-4
	115 V AC/DC	White	5TG8057-0
		Red	5TG8057-1
		Yellow	5TG8057-2
		Green	5TG8057-3
		Blue	5TG8057-4
	230 V AC	White	5TG8058-0
		Red	5TG8058-1
		Yellow	5TG8058-2
		Green	5TG8058-3
		Blue	5TG8058-4

Cap sets

- For manual changing of colored caps with or without lamps
- 1 set = 5 units

	Color	Article No.
	Red, transparent	5TG8061
	Green, transparent	5TG8062
	Yellow, transparent	5TG8063
	Blue, transparent	5TG8064
	Black, non-transparent	5TG8065
	White, transparent	5TG8066
	Gray, non-transparent	5TG8060

Sets of mixed caps

- For manual changing of colored caps with or without lamps

Color	Article No.
10× each of red/green + 5× each of yellow/blue/white	5TG8067
1× each of red/green/yellow	5TG8070

Color coding according to IEC 60073

Color	Safety of people/ environment	Process state	System state
Red	Danger	Emergency	Faulty
Green	Safety	Normal	Normal
Yellow	Warning/Caution	Abnormal	Abnormal
Blue	Stipulation		
Black, white, gray	No special significance assigned		

System overview, page 5/4

5TE58 light indicators

With LED

		5TE58 light indicators			
Rigid conductor cross-section		1.5 ... 6 mm²		1.5 ... 6 mm²	
Flexible conductor cross-section, with end sleeve		1 ... 6 mm²		1 ... 6 mm²	
Max. cable length		Standard		250 m	
					
U_e AC	**Mounting width**				
230 V	1 MW	1× red	5TE5800	1× red	5TE5804
		1× green, 1× red	5TE5801		–
		3× green	5TE5802		–
		1× red, 1× yellow, 1× green	5TE5803		–
12 ... 60 V	1 MW	1× red	5TE5810		–
		1× green	5TE5810-1		–
		1× green, 1× red	5TE5811		–
		3× green	5TE5812		–
		1× red, 1× yellow, 1× green	5TE5812-1		–

Further technical specifications

		5TE58
Standards		
Standards		DIN VDE 0710-1-11
Supply		
Rated power dissipation P_v	LED	0.4 VA
Safety		
Clearances	Between the terminals	>7 mm
Connections		
Terminals	± Screw (Pozidriv)	PZ 1
	Max. tightening torque	1.2 Nm
Environmental conditions		
Permissible ambient temperature		–5 ... +40 °C
Resistance to climate at 95% relative humidity	Acc. to DIN 50015	45 °C

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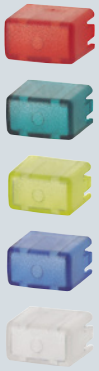
Accessories

LEDs for manual replacement

I_e	U_e	Color	Article No.
0.4 A	12 ... 60 V AC/DC	White	5TG8056-0
		Red	5TG8056-1
		Yellow	5TG8056-2
		Green	5TG8056-3
		Blue	5TG8056-4
	115 V AC/DC	White	5TG8057-0
		Red	5TG8057-1
		Yellow	5TG8057-2
		Green	5TG8057-3
		Blue	5TG8057-4
	230 V AC	White	5TG8058-0
		Red	5TG8058-1
		Yellow	5TG8058-2
		Green	5TG8058-3
		Blue	5TG8058-4

Cap sets



- For manual changing of colored caps
- 1 set = 5 units

Color	Article No.
Red, transparent	5TG8061
Green, transparent	5TG8062
Yellow, transparent	5TG8063
Blue, transparent	5TG8064
White, transparent	5TG8066

Sets of mixed caps

- For manual changing of colored caps

Color	Article No.
10× each of red/green + 5× each of yellow/blue/white	5TG8067
1× each of red/green/yellow	5TG8070

Color coding according to IEC 60073

Color	Safety of people/ environment	Process state	System state
Red	Danger	Emergency	Faulty
Green	Safety	Normal	Normal
Yellow	Warning/Caution	Abnormal	Abnormal
Blue	Stipulation		
Black, white, gray	No special significance assigned		

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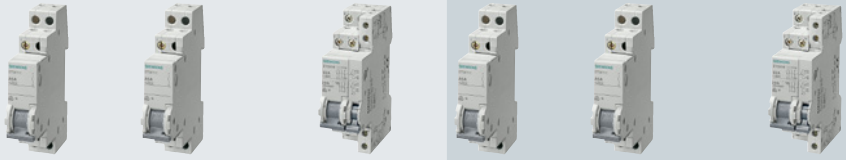
5TE81/82 On/Off switches

	5TE81 On/Off switches	5TE82 On/Off switches
Rated operational current I_e per conducting path	20 A	32 A
Rigid conductor cross-section	1.5 ... 6 mm²	1.5 ... 6 mm²
Flexible conductor cross-section, with end sleeve	1 ... 6 mm²	1 ... 6 mm²



Contacts	U_e AC	Mounting width	Auxiliary switches			Auxiliary switches		
			Can be retrofitted	Cannot be retrofitted	Mounted	Can be retrofitted	Cannot be retrofitted	Mounted
1 NO	230 V	1 MW	5TE8111	–	–	5TE8211	–	–
2 NO	400 V	1 MW	5TE8112	–	–	5TE8212	–	–
3 NO	400 V	1 MW	5TE8113	–	–	5TE8213	–	–
3 NO + N	400 V	1 MW	–	5TE8114	–	–	5TE8214	–
		1.5 MW	–	–	5TE8118	–	–	5TE8218

Further technical specifications

		5TE81	5TE82
Standards			
Standards		IEC/EN 60947-3 (VDE 0660-107), IEC/EN 60669-1	IEC/EN 60947-3 (VDE 0660-107)
Approvals		IEC/EN 60947-3 (VDE 0660-107)	
Supply			
Rated power dissipation P_v	Per pole	0.7 VA	
Contacts			
Minimum contact load		10 V; 300 mA	
Rated making/rated breaking capacity	At p.f. = 0.65	60 A / 60 A	96 A / 96 A
Rated short-time withstand current I_{cw} per conducting path at p.f. = 0.7	Up to 0.2 s	650 A	1000 A
	Up to 0.5 s	400 A	630 A
	Up to 1 s	290 A	450 A
	Up to 3 s	170 A	250 A
Thermal rated current I_{th}		20 A	32 A
Electrical/mechanical service life	Actuations	10000 / 25000	
Safety			
Clearances	Open contacts	2× >2 mm	
	Between the poles	>7 mm	
Creepage distances		>7 mm	
Rated short-circuit making capacity I_{cm}		10 kA	
Rated impulse withstand voltage U_{imp}		>5 kV	
Connections			
Terminals	± Screw (Pozidriv)	PZ 1	
	Max. tightening torque	1.2 Nm	
Environmental conditions			
Permissible ambient temperature		–5 ... +40 °C	
Resistance to climate at 95% relative humidity	Acc. to DIN 50015	45 °C	

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Accessories

Auxiliary switches (AS)

- For right-hand-side retrofitting with factory-fitted brackets

Contacts	Version	Article No.
1 NO + 1 NC	Standard	5ST3010
	For low power	5ST3013
	For low power (with diode)	5ST3013-0XX01
2 NO	Standard	5ST3011
	For low power	5ST3014
2 NC	Standard	5ST3012
	For low power	5ST3015
1 CO	Standard	5ST3016

Handle locking device

- To prevent undesired mechanical On/Off switching
- Sealable
- For padlock with max. 3 mm shackle

Article No.
5ST3801

Terminal cover

- For covering screw openings
- Sealable

Article No.
5ST3800

Spacer

- Contour for modular devices with a mounting depth of 70 mm
- Can be snapped onto either side of the busbar for convenient cable routing
- Spacer is recommended for better heat dissipation

Article No.
5TG8240

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System overview, page 5/4

5TL1 On/Off switches

	Rated operational current I_e per conducting path					
	32 A	40 A	63 A		80 A	100 A
Rigid conductor cross-section	1 ... 35 mm²	1 ... 35 mm²	1 ... 35 mm²		2.5 ... 50 mm²	2.5 ... 50 mm²
Flexible conductor cross-section, with end sleeve	1 ... 25 mm²	1 ... 25 mm²	1 ... 25 mm²		2.5 ... 50 mm²	2.5 ... 50 mm²
						
Contacts	**Rated operational voltage U_e AC**	**Mounting width**	**Gray handle**	**Gray handle**	**Gray handle**	**Red handle**	**Gray handle**	**Gray handle**
1 NO	230 V	1 MW	5TL1132-0	5TL1140-0	5TL1163-0	5TL1163-1	5TL1180-0	5TL1191-0
2 NO	400 V	2 MW	5TL1232-0	5TL1240-0	5TL1263-0	5TL1263-1	5TL1280-0	5TL1291-0
3 NO	400 V	3 MW	5TL1332-0	5TL1340-0	5TL1363-0	5TL1363-1	5TL1380-0	5TL1391-0
4 NO	400 V	4 MW	5TL1432-0	5TL1440-0	5TL1463-0	–	5TL1480-0	5TL1491-0
3 NO + N	400 V	4 MW	5TL1632-0	5TL1640-0	5TL1663-0	5TL1663-1	5TL1680-0	5TL1691-0

Further technical specifications

		5TL1.32	5TL1.40	5TL1.63	5TL1.80	5TL1.91	5TL1.92
Standards							
Standards		IEC/EN 60947-3 (VDE 0660-107)					
Approvals		IEC/EN 60947-3 (VDE 0660-107)					
Supply							
Rated power dissipation P_v	Per pole, max.	0.7 VA	0.9 VA	2.2 VA	3.5 VA	5.5 VA	8.6 VA
Contacts							
Minimum contact load		24 V; 300 mA					
Rated making/rated breaking capacity AC-22A	At p.f. = 0.65	96 A / 96 A	120 A / 120 A	196 A / 196 A	240 A / 240 A	300 A / 300 A	375 A / 375 A
Rated short-time withstand current I_{cw} per conducting path at p.f. = 0.7 [1]	Up to 0.2 s	760 A	950 A	1500 A	2700 A	3400 A	
	Up to 0.5 s	500 A	630 A	1000 A	1650 A	2100 A	
	Up to 1 s	400 A	500 A	800 A	1350 A	1700 A	
	Up to 3 s	280 A	350 A	560 A	800 A	1000 A	
Thermal rated current I_{th}		32 A	40 A	63 A	80 A	100 A	125 A
Electrical/mechanical service life	Switching cycles	10000 / 20000	10000	5000	2000		
Rated power for the switching of resistive load including moderate overload AC-21	1-pole	5 kW	6.5 kW	10 kW	13 kW	16 kW	
	2-pole	9 kW	11 kW	18 kW	22 kW	28 kW	
	3-/4-pole	15 kW	15 kW	30 kW	39 kW	48 kW	
Safety							
Creepage distances		>7 mm					
Clearances	Open contacts	>7 mm					
	Between the poles	>7 mm					
Rated short-circuit making capacity I_{cm} (in conjunction with fuse of the same rated operational current EN 60269 gL/gG)		10 kA					
Rated impulse withstand voltage U_{imp}		6 kV					
Connections							
Terminals	± Screw (Pozidriv)	PZ 2					
	Max. tightening torque	3.5 Nm					
Environmental conditions							
Permissible ambient temperature		–5 ... +40 °C					
Resistance to climate at 95% relative humidity	Acc. to DIN 50015	45 °C					

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	125 A	
	2.5 ... 50 mm²	
	2.5 ... 50 mm²	
		
	Red handle	**Gray handle**
	5TL1191-1	5TL1192-0
	5TL1291-1	5TL1292-0
	5TL1391-1	5TL1392-0
	–	5TL1492-0
	5TL1691-1	5TL1692-0

Accessories

Auxiliary switches (AS)

- For right-hand-side retrofitting with factory-fitted brackets

Contacts	Version	Article No.
1 NO + 1 NC	Standard	5ST3010
	For low power	5ST3013
	For low power (with diode)	5ST3013-0XX01
2 NO	Standard	5ST3011
	For low power	5ST3014
2 NC	Standard	5ST3012
	For low power	5ST3015
1 CO	Standard	5ST3016

Handle locking device

- To prevent undesired mechanical On/Off switching
- Sealable
- For padlock with max. 3 mm shackle

Article No.
5ST3806

Terminal cover

- For covering screw openings
- Sealable

Article No.
5ST3800

Spacer

- Contour for modular devices with a mounting depth of 70 mm
- Can be snapped onto either side of the busbar for convenient cable routing
- Spacer is recommended for better heat dissipation

Article No.
5TG8240

Phase connectors

- For easy wiring in various circuit versions and bus mountings
- As a support terminal for conductors from 2.5 to 50 mm²

Number of poles	I_e	U_e AC	Mounting width	Article No.
1-pole	125 A	230 V	1 MW	5TL1192-4

N conductor connectors

- For easy wiring in various circuit versions and bus mountings
- As a support terminal for N conductors from 2.5 to 50 mm² with blue color marking

Number of poles	I_e	U_e AC	Mounting width	Article No.
1-pole	125 A	230 V	1 MW	5TL1192-3

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5TE DC isolator

Can be used as switch disconnectors according to EN 60947-3

	Rated operational current I_e 63 A
Rigid conductor cross-section	0.75 ... 35 mm²
Flexible conductor cross-section, with end sleeve	0.75 ... 25 mm²

Contacts	Max. operational voltage U_{max} DC	Mounting width	Auxiliary switches can be retrofitted
4 NO	1000 V	4 MW	5TE2515-1

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Further technical specifications

Standards		
Standards		IEC/EN 60947-3; IEC/EN 60669-1; GB14048.3-2008 CCC
Supply		
Rated operational voltage U_e	For 4 poles in series	880 V DC
Rated power dissipation P_v	Per pole, max.	4.4 W
Contacts		
Minimum contact load		24 V; 300 mA
Rated short-time withstand current I_{cw}	1000 V DC, 4-pole	760 A
Electrical/mechanical service life	Actuations	5000 / 10000
Safety		
Rated short-circuit making capacity I_{cm}	1000 V DC, 4-pole	500 A
Rated impulse withstand voltage U_{imp}		>5 kV
Overvoltage category	At U = 440 ... 880 V	II
	At U = 1000 V	I
Utilization category		DC-21B
Connections		
Terminals	± Screw (Pozidriv)	PZ 2
	Max. tightening torque	2.5 ... 3 Nm
Environmental conditions		
Permissible ambient temperature		–25 ... +40 °C
Resistance to climate at 95% relative humidity	Acc. to DIN 50015	45 °C

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Accessories

Auxiliary switches (AS)

- For right-hand-side retrofitting with factory-fitted brackets

Contacts	Version	Article No.
1 NO + 1 NC	Standard	5ST3010
	For low power	5ST3013
	For low power (with diode)	5ST3013-0XX01
2 NO	Standard	5ST3011
	For low power	5ST3014
2 NC	Standard	5ST3012
	For low power	5ST3015
1 CO	Standard	5ST3016

Shunt trips (ST)

Rated operational voltage U_n	Article No.
110 ... 415 V AC, 110 ... 220 V DC	5ST3030
24 ... 48 V AC/DC	5ST3031
12 V AC/DC	5ST3031-0XX01

Undervoltage releases (UR)

Version	Rated operational voltage U_n	Article No.
With integrated auxiliary switch	230 V AC	5ST3040
	110 V DC	5ST3041
	24 V DC	5ST3042
Without integrated auxiliary switch	230 V AC	5ST3043
	110 V DC	5ST3044
	24 V DC	5ST3045

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5TE busbars

For modular installation devices

Single-phase busbar

- For all 5TE8 switches, 20 A and 32 A
- For the cutting of unused terminal lugs and to ensure insulation clearances if one device terminal is to be supplied separately despite being mounted on the bus
- Infeed to unit terminal with conductor cross-section of 6 mm² up to 32 A
- Can be mounted from either top or bottom, in the front or rear terminal area
- An end cap is not required on single-phase busbars

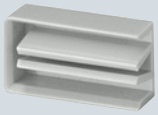
Length	Division	Article No.
210 mm	12 MW version with 1 MW modular clearance	5TE9100

Two-phase busbar

- For all 5TE8 switches, 20 A and 32 A
- Infeed to unit terminal with conductor cross-section of 6 mm² Up to 32 A
- Can be mounted from either top or bottom, in the front and/or rear terminal area, thus allowing realization of a 4-conductor connection using 2 two-phase busbars
- Both copper conductors of the two-phase busbar are insulated together

Length	Division	Article No.
220 mm	12 MW version each with 1 MW modular clearance, phases offset by 0.5 MW	5TE9101

End caps for two-phase busbars



- End caps for 5TE9101 two-phase busbars to maintain insulation clearances when the bar is being cut
- 1 set = 10 units

Article No.
5TE9102

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5TT41 remote control switches

Rated current 16 A

	Rated operational current I_e 16 A
Rigid conductor cross-section	1 ... 6 mm²
Flexible conductor cross-section, with end sleeve	1 ... 6 mm²

Contacts	U_e	U_c AC	U_c DC	Mounting width 1 MW	Mounting width 2 MW	Auxiliary switches can be retrofitted
1 NO	250 V	230 V	–	■	–	5TT4101-0
		115 V	–	■	–	5TT4101-1
		24 V	–	■	–	5TT4101-2
		12 V	–	■	–	5TT4101-3
		8 V	–	■	–	5TT4101-4
		–	110 V	■	–	5TT4111-1
			24 V	■	–	5TT4111-2
			12 V	■	–	5TT4111-3
1 NO + 1 NC	250 V	230 V	–	■	–	5TT4105-0
		115 V	–	■	–	5TT4105-1
		24 V	–	■	–	5TT4105-2
		12 V	–	■	–	5TT4105-3
		8 V	–	■	–	5TT4105-4
		–	110 V	■	–	5TT4115-1
			24 V	■	–	5TT4115-2
			12 V	■	–	5TT4115-3
2 NO	400 V	230 V	–	■	–	5TT4102-0
		115 V	–	■	–	5TT4102-1
		24 V	–	■	–	5TT4102-2
		12 V	–	■	–	5TT4102-3
		8 V	–	■	–	5TT4102-4
		–	110 V	■	–	5TT4112-1
			24 V	■	–	5TT4112-2
			12 V	■	–	5TT4112-3
3 NO	400 V	230 V	–	–	■	5TT4103-0
		24 V	–	–	■	5TT4103-2
4 NO	400 V	230 V	–	–	■	5TT4104-0
		24 V	–	–	■	5TT4104-2
		–	110 V	–	■	5TT4114-1
			24 V	–	■	5TT4114-2

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Further technical specifications

		5TT4101 5TT4102 5TT4105	5TT4111 5TT4112 5TT4115	5TT4103 5TT4104 5TT4114
Standards				
Standards		IEC 60669-1, IEC 60669-2, IEC 60669-3, EN 60669 (VDE 0632), EN 60669-2-2, EN 60669-2-2/A1		
Approvals		VDE		
Supply				
Rated operational current I_e	At p.f. = 0.6 ... 1 (AC-15)	16 A		
Primary operating range		0.8 ... 1.1 × U_c		
Rated frequency f_c		50 Hz		
Rated power dissipation P_v	Magnet coil, only pulse	4.5 W / 7 VA		9 W / 13 VA
	Per pole, max.	1.2 W		
Contacts				
Contact gap		>1.2 mm		
Minimum contact load		10 V; 100 mA		
Electrical service life at I_e/U_e, p.f. = 0.6, incandescent lamp load 600 W	Switching cycles	50000		
Incandescent lamp load (switching of incandescent lamps for 15000 switching cycles)	At AC-5b (230 V)	1200 W		
Glow lamp load at 230 V		5 mA		
	With 1 5TT4920 compensator	25 mA		
	With 2 5TT4920 compensators	45 mA		
Minimum pulse duration		50 ms		
Safety				
Different phases between magnet coil and contact		Permissible		
Clearances	Between magnet coil and contact	>6 mm		
Creepage distances	Between magnet coil and contact	>6 mm		
Rated impulse withstand voltage U_{imp}		4 kV		
Function				
Manual operation		Yes		
Switching position indication		Yes		
Connections				
Terminals	± Screw (Pozidriv)	PZ 1		
	Max. tightening torque	0.8 ... 1 Nm		
Environmental conditions				
Permissible ambient temperature		–10 ... +40 °C		
Resistance to climate at 95% relative humidity	Acc. to DIN 50015	35 °C		
Degree of protection	Acc. to EN 60529	IP20, with connected conductors		

Accessories

Auxiliary switches

- One device per remote control switch can be retrofitted

Contacts	Version	I_e	U_e	Mounting width	Article No.
1 CO	Standard	5 A	250 V AC	0.5 MW	5TT4900
	For low power	0.1 A	30 V AC/DC	0.5 MW	5TT4901

Compensator

- For increasing the glow lamp load by 20 mA

U_e	Mounting width	Article No.
250 V AC	1 MW	5TT4920

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5TT41 remote control switches

For special applications, rated current 16 A

				Remote control switches with central On/Off switching	Remote control switches with central and group On/Off switching
			Rigid conductor cross-section	1 ... 6 mm²	1 ... 6 mm²
			Flexible conductor cross-section, with end sleeve	1 ... 6 mm²	1 ... 6 mm²
					
Contacts	**U_e**	**U_c AC**	**Mounting width**	**Auxiliary switches cannot be retrofitted**	**Auxiliary switches cannot be retrofitted**
1 NO	250 V	230 V	1.5 MW	5TT4121-0	5TT4151-0
		24 V	1.5 MW	5TT4121-2	5TT4151-2
2 NO	400 V	230 V	1.5 MW	5TT4122-0	5TT4152-0
		24 V	1.5 MW	5TT4122-2	5TT4152-2
3 NO	400 V	230 V	2.5 MW	5TT4123-0	–
1 NO + 1 NC	250 V	115 V	1.5 MW	5TT4125-0	–

				Series remote control switch contact sequence 1 – 2 – 1+2 – 0	Shutter/blind remote control switch contact sequence 1 – 0 – 2 – 0
			Rigid conductor cross-section	1 ... 6 mm²	1 ... 6 mm²
			Flexible conductor cross-section, with end sleeve	1 ... 6 mm²	1 ... 6 mm²
					
Contacts	**U_e**	**U_c AC**	**Mounting width**	**Auxiliary switches cannot be retrofitted**	**Auxiliary switches cannot be retrofitted**
2 NO	250 V	230 V	1 MW	5TT4132-0	5TT4142-0
		24 V	1 MW	–	5TT4142-2
		12 V	1 MW	5TT4132-3	5TT4142-3

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Further technical specifications

		5TT412 5TT415	5TT413 5TT414
Standards			
Standards		IEC 60669-1, IEC 60669-2, IEC 60669-3, EN 60669 (VDE 0632), EN 60669-2-2, EN 60669-2-2/A1	
Approvals		VDE	
Supply			
Rated operational current I_e	At p.f. = 0.6 ... 1 (AC-15)	16 A	
Primary operating range		0.8 ... 1.1 × U_c	
Rated frequency f_c		50 Hz	
Rated power dissipation P_v	Magnet coil, only pulse	4.5 W / 7 VA	
	Per pole, max.	1.2 W	
Contacts			
Contact gap		>1.2 mm	
Minimum contact load		10 V; 100 mA	
Electrical service life at I_e/U_e, p.f. = 0.6, incandescent lamp load 600 W	Switching cycles	50000	
Incandescent lamp load (switching of incandescent lamps for 15000 switching cycles)	At AC-5b (230 V)	1200 W	
Glow lamp load at 230 V		5 mA	
	With 1 5TT4920 compensator	25 mA	
	With 2 5TT4920 compensators	45 mA	
Minimum pulse duration		50 ms	
Safety			
Different phases between magnet coil and contact		Permissible	
Clearances	Between magnet coil and contact	>6 mm	
Creepage distances	Between magnet coil and contact	>6 mm	
Rated impulse withstand voltage U_{imp}		4 kV	
Function			
Manual operation		Yes	
Switching position indication		Yes	–
Connections			
Terminals	± Screw (Pozidriv)	PZ 1	
	Max. tightening torque	0.8 ... 1 Nm	
Environmental conditions			
Permissible ambient temperature		–10 ... +40 °C	
Resistance to climate at 95% relative humidity	Acc. to DIN 50015	35 °C	
Degree of protection	Acc. to EN 60529	IP20, with connected conductors	

Accessories

Auxiliary switches

- One device per remote control switch can be retrofitted

Contacts	Version	I_e	U_e	Mounting width	Article No.
1 CO	Standard	5 A	250 V AC	0.5 MW	5TT4900
	For low power	0.1 A	30 V AC/DC	0.5 MW	5TT4901

Compensator

- For increasing the glow lamp load by 20 mA

U_e	Mounting width	Article No.
250 V AC	1 MW	5TT4920

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5TT44 remote control switches

Rated current 20 A – 63 A

	Rated operational current I_e				
	20 A	**25 A**	**32 A**	**40 A**	**63 A**
Rigid conductor cross-section	1 ... 10 mm²	1 ... 10 mm²	1 ... 10 mm²	2.5 ... 25 mm²	2.5 ... 25 mm²
Flexible conductor cross-section, with end sleeve	1 ... 10 mm²	1 ... 10 mm²	1 ... 10 mm²	2.5 ... 25 mm²	2.5 ... 25 mm²
					

Contacts	U_e	U_c AC	U_c DC	Mounting width					
For AC applications – auxiliary switches can be retrofitted									
1 NO + 1 NC	440 V	230 V	–	1 MW	5TT4405-0	5TT4425-0	5TT4455-0	–	–
				2 MW	–	–	–	5TT4465-0	5TT4475-0
		24 V	–	1 MW	5TT4405-2	5TT4425-2	5TT4455-2	–	–
				2 MW	–	–	–	5TT4465-2	5TT4475-2
1 CO	250 V	230 V	–	1 MW	5TT4407-0	–	–	–	–
		24 V	–	1 MW	5TT4407-2	–	–	–	–
2 NO	440 V	230 V	–	1 MW	5TT4402-0	5TT4422-0	5TT4452-0	–	–
				2 MW	–	–	–	5TT4462-0	5TT4472-0
		24 V	–	1 MW	5TT4402-2	5TT4422-2	5TT4452-2	–	–
				2 MW	–	–	–	5TT4462-2	5TT4472-2
2 CO	440 V	230 V	–	2 MW	–	5TT4428-0	5TT4458-0	5TT4468-0	5TT4478-0
		24 V	–	2 MW	–	5TT4428-2	5TT4458-2	5TT4468-2	5TT4478-2
4 NO	440 V	230 V	–	2 MW	–	5TT4424-0	5TT4454-0	–	–
				4 MW	–	–	–	5TT4464-0	5TT4474-0
		24 V	–	2 MW	–	5TT4424-2	5TT4454-2	–	–
				4 MW	–	–	–	5TT4464-2	5TT4474-2
2 NO + 2 NC	440 V	230 V	–	2 MW	–	5TT4426-0	5TT4456-0	–	–
				4 MW	–	–	–	5TT4466-0	5TT4476-0
		24 V	–	2 MW	–	5TT4426-2	5TT4456-2	–	–
				4 MW	–	–	–	5TT4466-2	5TT4476-2
For DC applications									
1 NO	250 V	–	24 V	1 MW	5TT4411-5	5TT4431-5	5TT4451-5	–	–
2 NO	440 V	–	24 V	1 MW	5TT4412-5	5TT4432-5	5TT4452-5	–	–
1 NO + 1 NC	440 V	–	24 V	1 MW	5TT4415-5	5TT4435-5	5TT4455-5	–	–
1 CO	250 V	–	24 V	1 MW	5TT4417-5	5TT4437-5	5TT4457-5	–	–

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Further technical specifications

		5TT440	5TT442	5TT445	5TT446	5TT447
Standards						
Standards		IEC 60669-2-2			IEC/EN 60947-4-1	
Approvals		CE				
Supply						
Rated operational current I_e	At p.f. = 0.6 ... 1 (AC-15)	20 A	25 A	32 A	40 A	63 A
Rated frequency f_c		50/60 Hz				
Rated power dissipation P_v	Magnet coil, "On" pulse	13 W / 18 VA			12 W / 26 VA	
	Per pole, max.	1.5 W	2 W	3 W		3.5 W
Rated operational power (AC-3)	1-phase, at 230 V	0.5 kW	0.75 kW	1.1 kW	2.2 kW	4 kW
	3-phase, at 230 V	1.5 kW	2.2 kW	3 kW	5.5 kW	11 kW
	3-phase, at 400 V	3 kW	4 kW	5.5 kW	11 kW	18.5 kW
Contacts						
Contact gap		>3 mm				
Minimum contact load AC		10 V; 100 mA				
Electrical service life at I_e/U_e, p. f. = 0.6, incandescent lamp load 600 W	Switching cycles	50000				
Incandescent lamp load (switching of incandescent lamps for 15000 switching cycles)	At AC-5b (230 V)	4400 W	5500 W	7000 W	8800 W	13800 W
Max. switching speed	In switching cycles per hour	600 h^{-1}	450 h^{-1}		360 h^{-1}	
Safety						
Different phases between magnet coil and contact		Permissible				
Rated impulse withstand voltage U_{imp}		3 kV				
Function						
Manual operation		Yes				
Switching position indication		Yes				
Connections						
Terminals	± Screw (Pozidriv)	Coil: PZ 1, contact: PZ 2				
	Max. tightening torque	Coil: 0.6 Nm, contact: 1.2 Nm			Coil: 0.6 Nm, contact: 2 Nm	
Coil conductor cross-sections		1 ... 4 mm^2				
Environmental conditions						
Permissible ambient temperature	For operation/for storage	–25 ... +55 °C / –30 ... +80 °C				
Resistance to climate at 95% relative humidity	Acc. to DIN 50015	55 °C				
Degree of protection	Acc. to EN 60529	IP20				
Mounting position		Any (not upside down)				

Accessories

Auxiliary switch

Contacts	U_e	I_e	Mounting width	Article No.
1 NO + 1 NC	250 V AC	16 A	0.5 MW	5TT4930

Auxiliary switches, central with diode

- For central function (no auxiliary switch)

U_e	Mounting width	Article No.
250 V AC	0.5 MW	5TT4931

Auxiliary switches, group with several diodes

- For group function (no auxiliary switch)

U_e	Mounting width	Article No.
250 V AC	0.5 MW	5TT4932

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5TT4 auxiliary switches

For 5TT4 remote control switches

	Auxiliary switches for 5TT41	Auxiliary switches for 5TT44
Rigid conductor cross-section	0.5 ... 2.5 mm²	1 ... 4 mm²
Flexible conductor cross-section, with end sleeve	0.5 ... 2.5 mm²	1 ... 4 mm²
		

Contacts	Version	I_e	U_e	Mounting width		
Auxiliary switches						
1 NO + 1 NC	Standard	16 A	250 V AC	0.5 MW	–	5TT4930
1 CO	Standard	5 A	250 V AC	0.5 MW	5TT4900	–
	For low power	0.1 A	30 V AC/DC	0.5 MW	5TT4901	–
Auxiliary switches, central with diode for central function (no auxiliary switch)						
			250 V AC	0.5 MW	–	5TT4931
Auxiliary switches, group with several diodes for group function (no auxiliary switch)						
			250 V AC	0.5 MW	–	5TT4932

Further technical specifications

		Auxiliary switches for 5TT41	Auxiliary switches for 5TT44		
		5TT4900 5TT4901	5TT4930	5TT4931	5TT4932
Standards					
Standards		EN 60947-1 (VDE 0660 Part 100) EN 60947-5-1 (VDE 0660 Part 200)	IEC/EN 60947-5-1		
Approvals		–	CE, EAC		
Supply					
Rated operational current I_e	At p.f. = 0.6 ... 1 (AC-15)	16 A	4 A	–	
Rated frequency f_c		–	50/60 Hz		
Rated power dissipation P_v	Per pole, max.	–	0.3 W		
Contacts					
Contact gap		<1.2 mm	>3 mm		
Minimum contact load		5 V; 1 mA	12 V; 5 mA		
Electrical service life at I_e/U_e, p.f. = 0.6, incandescent lamp load 600 W	Switching cycles	–	100000	–	
Safety					
Clearances	Between magnet coil and contact	>6 mm	–		
Creepage distances	Between magnet coil and contact	>6 mm	–		
Rated impulse withstand voltage U_{imp}		1 kV	1 kV		
Pushbutton malfunction protected against continuous voltage, safe due to design		Yes	–		
Function					
Manual operation		–	No		
Switching position indication		–	No		
Connections					
Terminals	± Screw (Pozidriv)	PZ 1	PZ 1		
	Max. tightening torque	0.5 Nm	0.8 Nm		
Environmental conditions					
Permissible ambient temperature	For operation/for storage	–10 ... +40 °C / –10 ... +40 °C	–25 ... +70 °C / –30 ... +80 °C		
Resistance to climate at 95% relative humidity	Acc. to DIN 50015	35 °C	55 °C		
Degree of protection	Acc. to EN 60529	IP20, with connected conductors	IP20		
Mounting position		Any	Any (not upside down)		

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Accessories

Compensator

- For increasing the glow lamp load by 20 mA

U_e	Mounting width	Article No.
250 V AC	1 MW	5TT4920

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5TT42 switching relays

Rated current 16 A

	Rated operational current I_e 16 A
Rigid conductor cross-section	1 ... 6 mm²
Flexible conductor cross-section, with end sleeve	1 ... 6 mm²

Contacts	U_e	U_c AC	U_c DC	Mounting width	
1 NO	250 V	230 V	–	1 MW	5TT4201-0
		115 V	–	1 MW	5TT4201-1
		24 V	–	1 MW	5TT4201-2
		12 V	–	1 MW	5TT4201-3
		8 V	–	1 MW	5TT4201-4
2 NO	400 V	230 V	–	1 MW	5TT4202-0
		115 V	–	1 MW	5TT4202-1
		24 V	–	1 MW	5TT4202-2
		12 V	–	1 MW	5TT4202-3
		8 V	–	1 MW	5TT4202-4
4 NO	400 V	230 V	–	1 MW	5TT4204-0
		115 V	–	1 MW	5TT4204-1
		24 V	–	1 MW	5TT4204-2
		12 V	–	1 MW	5TT4204-3
		8 V	–	1 MW	5TT4204-4
1 NO + 1 NC	400 V	230 V	–	1 MW	5TT4205-0
		115 V	–	1 MW	5TT4205-1
		24 V	–	1 MW	5TT4205-2
		12 V	–	1 MW	5TT4205-3
		8 V	–	1 MW	5TT4205-4
1 CO	250 V	230 V	–	1 MW	5TT4206-0
		115 V	–	1 MW	5TT4206-1
		24 V	–	1 MW	5TT4206-2
		12 V	–	1 MW	5TT4206-3
		8 V	–	1 MW	5TT4206-4
2 CO	400 V	230 V	–	1 MW	5TT4207-0
		115 V	–	1 MW	5TT4207-1
		24 V	–	1 MW	5TT4207-2
		12 V	–	1 MW	5TT4207-3
		8 V	–	1 MW	5TT4207-4
		–	110 V	1 MW	5TT4217-1
			30 V	1 MW	5TT4217-6
			24 V	1 MW	5TT4217-2
			12 V	1 MW	5TT4217-3

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Further technical specifications

		5TT4201-.	5TT4202-.	5TT4204-.	5TT4205-.	5TT4206-.	5TT4207-.	5TT4217-.
Standards								
Standards		EN 60947-5-1, EN 60669-2-2						
Approvals		VDE, CCC						
Supply								
Rated operational current I_e	At p.f. = 0.6 ... 1	16 A						
Primary operating range		0.8...1.1×U_c						
Rated frequency f_c		50 Hz						
Rated power dissipation P_v	Magnet coil	2.4 W 3.0 VA		4.8 W 6.0 VA	2.4 W 3.0 VA			1.7 W 1.7 VA
	Per pole, max.	1.0 W						
Contacts								
Contact gap		>1.2 mm						
Minimum contact load		10 V AC; 100 mA						
Electrical service life at I_e/U_e, p.f. = 0.6, incandescent lamp load 600 W	Switching cycles	50000						
Safety								
Different phases between magnet coil and contact		Permissible						
Safe separation		>6 mm						
Rated impulse withstand voltage U_{imp}		4 kV						
Function								
Manual operation		Yes						
Connections								
Terminals	± Screw (Pozidriv)	PZ 1						
	Max. tightening torque	0.8 ... 1 Nm						
Environmental conditions								
Permissible ambient temperature		–10 ... +40 °C						
Resistance to climate at 95% relative humidity	Acc. to DIN 50015	35 °C						
Degree of protection	Acc. to EN 60529	IP20, with connected conductors						

Accessories

Spacer

- Contour for modular devices with a mounting depth of 70 mm
- Can be snapped onto either side of the busbar for convenient cable routing
- Spacer is recommended for better heat dissipation

Article No.
5TG8240

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5TT50 Insta contactors

AC/DC technology

	Rated operational current I_e			
	20 A	25 A	40 A	63 A
Main connection conductor cross-section, solid	1.0 ... 10 mm²	1.5 ... 25 mm²	1.5 ... 25 mm²	1.5 ... 25 mm²
Main connection conductor cross-section, stranded with end sleeve	1.0 ... 6 mm²	1.5 ... 16 mm²	1.5 ... 16 mm²	1.5 ... 16 mm²
Main connection conductor cross-section, AWG	16 ... 8	16 ... 4	16 ... 4	16 ... 4
				

Contacts	U_e	U_c AC	U_c DC	Mounting width				
Insta contactors with manual switch								
2 NO	230 V	230 V	220 V	1 MW	5TT5000-0	–	–	–
		24 V	24 V	1 MW	5TT5000-2	–	–	–
4 NO	400 V	230 V	220 V	2 MW	–	5TT5030-0	–	–
				3 MW	–	–	5TT5040-0	5TT5050-0
		115 V	110 V	2 MW	–	5TT5030-1	–	–
		24 V	24 V	2 MW	–	5TT5030-2	–	–
				3 MW	–	–	5TT5040-2	5TT5050-2
2 NC	230 V	230 V	220 V	1 MW	5TT5002-0	–	–	–
		24 V	24 V	1 MW	5TT5002-2	–	–	–
4 NC	400 V	230 V	220 V	2 MW	–	5TT5033-0	–	–
				3 MW	–	–	5TT5043-0	–
		24 V	24 V	2 MW	–	5TT5033-2	–	–
				3 MW	–	–	5TT5043-2	–
1 NO + 1 NC	230 V	230 V	220 V	1 MW	5TT5001-0	–	–	–
		24 V	24 V	1 MW	5TT5001-2	–	–	–
2 NO + 2 NC	400 V	230 V	220 V	2 MW	–	5TT5032-0	–	–
				3 MW	–	–	5TT5042-0	5TT5052-0
		24 V	24 V	2 MW	–	5TT5032-2	–	–
				3 MW	–	–	5TT5042-2	5TT5052-2
3 NO + 1 NC	400 V	230 V	220 V	2 MW	–	5TT5031-0	–	–
				3 MW	–	–	5TT5041-0	5TT5051-0
		24 V	24 V	2 MW	–	5TT5031-2	–	–
				3 MW	–	–	5TT5041-2	5TT5051-2
Insta contactors with O/I/Automatic								
2 NO	230 V	230 V	220 V	1 MW	5TT5000-6	–	–	–
		24 V	24 V	1 MW	5TT5000-8	–	–	–
4 NO	400 V	230 V	220 V	2 MW	–	5TT5030-6	–	–
		24 V	24 V	2 MW	–	5TT5030-8	–	–
1 NO + 1 NC	230 V	230 V	220 V	1 MW	5TT5001-6	–	–	–
		24 V	24 V	1 MW	5TT5001-8	–	–	–
3 NO + 1 NC	400 V	230 V	220 V	2 MW	–	5TT5031-6	–	–
		24 V	24 V	2 MW	–	5TT5031-8	–	–

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Further technical specifications

		5TT500	5TT503	5TT504	5TT505
Standards					
Standards		EN 60947-4-1; EN 60947-5-1; EN 61095			
Approvals		UL 508; UL File No. E303328			
Supply					
Rated operational current I_e	AC-1/AC-7a, NO contacts / NC contacts	20 A / 20 A	25 A / 25 A	40 A / 40 A	63 A / 63 A
	AC-3/AC-7b, NO contacts / NC contacts	9 A / 6 A	8.5 A / 8.5 A	22 A / 22 A	30 A / 30 A
Primary operating range		0.85 ... 1.1 × U_c			
Rated frequency f_c at AC		50/60 Hz			
Rated power dissipation P_v	Pick-up power (without manual switch or with manual switch in "I" position)	2.1 VA / 2.1 W	2.6 VA / 2.6 W	5 VA / 5 W	
	Pick-up power (with manual switch in "AUTO" position)	2.1 VA / 4.1 W	2.6 VA / 2.6 W	5 VA / 5 W	
	Holding power	2.1 VA / 2.1 W	2.6 VA / 2.6 W	5 VA / 5 W	
	Per contact AC-1/AC-7a	1.7 VA	2.2 VA	4 VA	8 VA
Contacts					
Contact gap (NO contacts)	Min.	3.6 mm			
Minimum switching capacity	(= minimum contact load)	≥17 V; 50 mA			
Electrical service life at I_e and load	AC-1/AC-7a switching cycles	200000		100000	
	AC-3/AC-7b switching cycles	300000	500000		150000
Mechanical service life	Switching cycles	3 million			
Switching of resistive loads AC-1 at rated operational power P_s	Single-phase (NO contacts)	4 kW (230 V)	5.4 kW (400 V)	8.7 kW (400 V)	13.3 kW (400 V)
	Three-phase (NO contacts)	–	16 kW (400 V)	26 kW (400 V)	40 kW (400 V)
Switching of three-phase asynchronous motors AC-3 at rated operational power P_s	Single-phase (NO contacts)	1.3 kW / 0.75 kW	1.3 kW / 1.3 kW	3.7 kW / 3.7 kW	5/5 kW
	Three-phase (NO contacts)	–	4 kW	11 kW	15 kW
Maximum switching frequency at load	AC-1/AC-7a / AC-3/AC-7b	600 h^{-1}			
Safety					
Rated impulse withstand voltage U_{imp}		≤4 kV			
Short-circuit protection, according to coordination type 1	Back-up fuse characteristic gL/gG	20 A	25 A	63 A	80 A
Overload withstand capability at 10 s	Per conducting path (NO contacts only)	72 A	68 A	176 A	240 A
Function					
Switching times	Closing (NO contacts)	15 ... 45 ms		15 ... 20 ms	
	Opening (NO contacts)	20 ... 50 ms	20 ... 70 ms	35 ... 45 ms	
Connections					
Coil/main connection terminals	± Screw (Pozidriv)	PZ 1 / PZ 1	PZ 1 / PZ 2		
Coil connection conductor cross-section	Solid	1.0 ... 2.5 mm^2			
	Stranded, with end sleeve	1.0 ... 2.5 mm^2			
	AWG cables	16 ... 10			
Main connection conductor cross-section	Solid	1.0 ... 10 mm^2	1.5 ... 25 mm^2		
	Stranded, with end sleeve	1.0 ... 6 mm^2	1.5 ... 16 mm^2		
	AWG cables	16 ... 8	16 ... 4		
Tightening torque	Coil connection	0.6 Nm / 8 lbs/in.			
	Main connection	1.2 Nm / 9 lbs/in.	3.5 Nm / 20 lbs/in.		
Environmental conditions					
Permissible ambient temperature	For operation [1] / For storage	–15 ... +55 °C / –50 ... +80 °C			
Degree of protection	Acc. to EN 60529	IP 20, with connected conductors			
Characteristics according to UL 508					
Rated operational current I_n		20 A	25 A	40 A	63 A
UL 508 General Use 240 V/480 V	FLA	20 A	25 A	40 A	63 A
UL 508 AC discharge lamps		20 A	25 A	30 A	40 A
UL 508 motor load	Power 240 V / 480 V	1 hp / –	3 hp / 5 hp	7.5 hp / 15 hp	10 hp / 20 hp
UL 508 short-circuit at 480 V	K5 fuses	20 A	25 A	60 A	70 A

[1] Contactors can be operated at ambient temperatures of between -25 °C and +70 °C, but only under special conditions.
For more information, please contact Siemens Support. For questions concerning heat dissipation, please refer to the instructions in the Configuration Manual "Switching Devices".

Accessories

Auxiliary switches

- For right-hand-side retrofitting
- Max. one auxiliary switch per Insta contactor

Contacts	Mounting width	Article No.
2 NO	0.5 MW	5TT5910-0
1 NO + 1 NC	0.5 MW	5TT5910-1

Sealable terminal covers

For Insta contactor	Mounting width	Article No.
20 A	1 MW	5TT5910-5
25 A	2 MW	5TT5910-6
40 A and 63 A	3 MW	5TT5910-7

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5TT58 Insta contactors

AC technology

	Rated operational current I_e			
	20 A	25 A	40 A	63 A
Main connection conductor cross-section, rigid	1.0 ... 10 mm²	1.0 ... 10 mm²	1 ... 25 mm²	1 ... 25 mm²
Main connection conductor cross-section, flexible with end sleeve	1.0 ... 6 mm²	1.0 ... 6 mm²	1 ... 16 mm²	1 ... 16 mm²
				

Contacts	U_e	U_c AC		Mounting width				
Insta contactors without manual switch								
2 NO	230 V	230 V		1 MW	5TT5800-0	–	–	–
		24 V		1 MW	5TT5800-2	–	–	–
4 NO	400 V	230 V	Standard	2 MW	–	5TT5830-0	–	–
				3 MW	–	–	5TT5840-0	5TT5850-0
			Capacitive loads up to 150 µF	2 MW	–	5TT5820-0	–	–
		115 V		2 MW	–	5TT5830-1	–	–
		24 V		2 MW	–	5TT5830-2	–	–
				3 MW	–	–	5TT5840-2	5TT5850-2
2 NC	230 V	230 V		1 MW	5TT5802-0	–	–	–
		24 V		1 MW	5TT5802-2	–	–	–
4 NC	400 V	230 V		2 MW	–	5TT5833-0	–	–
				3 MW	–	–	5TT5843-0	5TT5853-0
		24 V		2 MW	–	5TT5833-2	–	–
				3 MW	–	–	5TT5843-2	5TT5853-2
1 NO + 1 NC	230 V	230 V		1 MW	5TT5801-0	–	–	–
		24 V		1 MW	5TT5801-2	–	–	–
2 NO + 2 NC	400 V	230 V		2 MW	–	5TT5832-0	–	–
				3 MW	–	–	5TT5842-0	5TT5852-0
		24 V		2 MW	–	5TT5832-2	–	–
				3 MW	–	–	5TT5842-2	5TT5852-2
3 NO + 1 NC	400 V	230 V		2 MW	–	5TT5831-0	–	–
				3 MW	–	–	5TT5841-0	5TT5851-0
		115 V		2 MW	–	5TT5831-1	–	–
		24 V		2 MW	–	5TT5831-2	–	–
				3 MW	–	–	5TT5841-2	5TT5851-2
Insta contactors with manual switch O/I/Automatic								
2 NO	230 V	230 V		1 MW	5TT5800-6	–	–	–
		24 V		1 MW	5TT5800-8	–	–	–
4 NO	400 V	230 V		2 MW	–	5TT5830-6	–	–
				3 MW	–	–	5TT5840-6	5TT5850-6
		24 V		2 MW	–	5TT5830-8	–	–
				3 MW	–	–	5TT5840-8	–
1 NO + 1 NC	230 V	230 V		1 MW	5TT5801-6	–	–	–
		24 V		1 MW	5TT5801-8	–	–	–
3 NO + 1 NC	400 V	230 V		2 MW	–	5TT5831-6	–	–
				3 MW	–	–	5TT5841-6	–
		24 V		2 MW	–	5TT5831-8	–	–
				3 MW	–	–	5TT5841-8	–

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Further technical specifications

		5TT580.	5TT582. 5TT583.	5TT584.	5TT585.
Standards					
Standards		IEC 60947-4-1, IEC 60947-5-1, IEC 61095; EN 60947-4-1, EN 60947-5-1, EN 61095, VDE 0660			
Supply					
Number of poles		2	4		
Rated operational current I_e		20 A	25 A	40 A	63 A
Primary operating range		0.85 ... 1.1 × U_c			
Rated frequency f_c at AC		50/60 Hz			
Rated power dissipation P_v	Pick-up power (without manual switch or manual switch in "I" position)	6 VA / 3.8 W	10 VA / 5 W	15.4 VA / 4.6 W	
	Pick-up power (with manual switch in "AUTO" position)	12 VA / 10 W	33 VA / 25 W	62 VA / 50 W	
	Holding power	2.8 VA / 1.2 W	5.5 VA / 1.6 W	7.7 VA / 3 W	
	Per contact AC-1/AC-7a	1.7 VA	2.2 VA	4 VA	8 VA
Contacts					
Contact gap	Minimum	3.6 mm		3.4 mm	
Minimum switching capacity	(= minimum contact load)	≥17 V; 50 mA			
Electrical service life at I_e and load	AC-1/AC-7a switching cycles	200000		100000	
	AC-3/AC-7b switching cycles	300000	500000	150000	
Mechanical service life	Switching cycles	3 million			
Switching of resistive loads AC-1/AC-7a for rated operational power P_s	Single-phase (230 V) (NO contacts)	4 kW	5.4 kW	8.7 kW	13.3 kW
	Three-phase (400 V) (NO contacts)	–	16 kW	26 kW	40 kW
Switching of three-phase asynchronous motors AC-3/AC-7b for rated operational power P_s	Single-phase (230 V) (NO contacts)	1.3 kW [1]	1.3 kW	3.7 kW	5 kW
	Three-phase (400 V) (NO contacts)	–	4 kW	11 kW	15 kW
Maximum switching frequency at load		600 h^{-1}			
Safety					
Rated insulation voltage U_i		440 V		500 V	
Rated impulse withstand voltage U_{imp}		4 kV			
Short-circuit protection, according to coordination type 1	Back-up fuse characteristic gL/gG	20 A	25 A	63 A	80 A
Overload withstand capability at 10 s	Per conducting path (NO contacts only)	72 A	68 A	176 A	240 A
Function					
Switching times	Closing (NO contacts)	15 ... 25 ms	10 ... 20 ms	15 ... 20 ms	
	Opening (NO contacts)	20 ms		10 ms	
	Closing (NC contacts)	20 ... 30 ms		5 ... 10 ms	
	Opening (NC contacts)	10 ms		10 ... 15 ms	
Connections					
Coil connection terminals	± Screw (Pozidriv)	PZ 1			
Main connection terminals	± Screw (Pozidriv)	PZ 1		PZ 2	
Coil connection conductor cross-section	Rigid	1.0 ... 2.5 mm^2			
	Flexible, with end sleeve	1.0 ... 2.5 mm^2			
Main connection conductor cross-section	Rigid	1.0 ... 10 mm^2		1 ... 25 mm^2	
	Flexible, with end sleeve	1.0 ... 6 mm^2		1 ... 16 mm^2	
Tightening torque	Coil connection	0.6 Nm			
	Main connection	1.2 Nm		3.5 Nm	
Environmental conditions					
Permissible ambient temperature	For operation/for storage	–5 ... +55 °C / –30 ... +80 °C			
Degree of protection	Acc. to EN 60529	IP 20, with connected conductors			

[1] For NO contacts only.

Accessories

Auxiliary switches

- For right-hand-side retrofitting
- Max. one auxiliary switch per Insta contactor

Contacts	Mounting width	Article No.
2 NO	0.5 MW	5TT5910-0
1 NO + 1 NC	0.5 MW	5TT5910-1

Sealable terminal covers

For Insta contactor	Mounting width	Article No.
20 A	1 MW	5TT5910-5
25 A	2 MW	5TT5910-6
40 A and 63 A	3 MW	5TT5910-7

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5TT5 auxiliary switches

For 5TT5 Insta contactor

Rigid conductor cross-section	1 ... 2.5 mm²
Flexible conductor cross-section, with end sleeve	1 ... 2.5 mm²

Contacts	U_e AC	Mounting width	
2 NO	230 V / 400 V	0.5 MW	5TT5910-0
1 NO + 1 NC	230 V / 400 V	0.5 MW	5TT5910-1

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Further technical specifications

		5TT5910
Standards		
Standards		IEC 60947-5-1
Approvals		CCC
Supply		
Number of poles		2
Rated operational current I_e	230 V	6 A
	400 V	4 A
Rated frequency f_c at AC		50/60 Hz
Contacts		
Contact gap	Minimum	4 mm
Minimum switching capacity	(= minimum contact load)	≥12 V; 5 mA
Mechanical service life	Switching cycles	3 million
Maximum switching frequency at load		600 h^{-1}
Safety		
Rated insulation voltage U_i		500 V
Rated impulse withstand voltage U_{imp}		4 kV
Short-circuit protection, according to coordination type 1	Back-up fuse characteristic gL/gG	6 A
Connections		
Terminals	± Screw (Pozidriv)	PZ 1
Conductor cross-section	Rigid	1 ... 2.5 mm²
	Flexible, with end sleeve	1 ... 2.5 mm²
Tightening torque		0.8 Nm
Environmental conditions		
Permissible ambient temperature	For operation/for storage	–5 ... +55 °C / –30 ... +80 °C
Degree of protection	Acc. to EN 60529	IP 20, with connected conductors

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5TT3 soft-starting devices

For two-phase motor control

Rigid conductor cross-section	Max. 2× 2.5 mm²
Flexible conductor cross-section, with end sleeve	Min. 1× 0.5 mm²

Version	U_e AC	Mounting width	
Three-phase	400 V	6 MW	5TT3440

Further technical specifications

		5TT3440
Standards		
Standards		EN 60947-4-2 (VDE 0660-117)
Supply		
Line/motor voltage		400 V AC
Primary operating range		0.8 ... 1.1 × U_c
Rated frequency f_c at AC		50/60 Hz
Rated power		3.5 VA
Rated power dissipation P_v at rated operational current	Coil/drive	3.5 VA
	Per contact	4.6 VA
Rated output of motor at 400 V	Max.	5500 VA
	Min.	300 VA
Startup voltage		30 ... 70%
Starting ramp		0.1 ... 10 s
Safety		
Quick-acting semiconductor fuse		35 A
Function		
Switching frequency 3× I_N, T_{AN} = 10 s, v_u = 20%	Switching cycles (up to 3 kW)	36 h^{-1}
	Switching cycles (from 3 ... 5.5 kW)	20 h^{-1}
Recovery time		100 ms
Connections		
Conductor cross-section	Rigid	Max. 2× 2.5 mm²
	Flexible, with end sleeve	Min. 1× 0.5 mm²
Environmental conditions		
Permissible ambient temperature		–20 ... +60 °C
Resistance to climate	Acc. to EN 60068-1	20/60/4

System overview, page 5/4

7LF4 digital time switches

Mini

- Weekly program
- 28 programs
- Automatic daylight-saving adjustment

Contacts	U_c	Channels	Mounting width	
1 NO	230 V AC	1	1 MW	7LF4501-5

Further technical specifications

		Mini
Standards		
Standards		EN 60730-1, -2-7; VDE 0631-1, -2-7
Supply		
Primary operating range		0.85 ... 1.1 × U_c
Frequency range		50/60 Hz
Rated power dissipation P_v		0.9 VA
Channels		
Rated operational voltage U_e		250 V AC
Rated operational current I_e	At p.f. = 1	16 A
	At p.f. = 0.6	10 A
Contacts		
Minimum contact load		12 V / 100 mA
Electrical switching cycles	At p.f. = 1	6000 (20 A)
Mechanical switching cycles		>5 million
Incandescent lamp load		5 A
Energy-saving lamp load		300 W
Fluorescent lamp load	Parallel p.f. correction 70 µF	60 VA
	Uncorrected	2500 VA
Safety		
Different phases between operating mechanism and contact		Permissible
Rated impulse withstand voltage U_{imp}		4 kV
Electrostatic discharge	Acc. to IEC 61000-4-2	>8.0 kV
EMC: Burst	Acc. to IEC 61000-4-4	>4.4 kV
EMC: Surge	Acc. to IEC 61000-4-5	>2.0 kV
Overvoltage category	Acc. to EN 61010-1	III
Function		
Clock errors per day	Typical	±1 s/day
Power reserve storage	Battery	3 years
Make and break cycles		1 min
Minimum switching sequences		1 min
Control input	Terminal S	–
Programs [1]		28
Battery type		Li primary cell
Connections		
Terminals	± Screw (Pozidriv)	PZ 1
Conductor cross-sections of main current path	Rigid	1.5 ... 4 mm²
	Flexible, with end sleeve	Max. 2.5 mm²
Environmental conditions		
Permissible ambient temperature	For operation/ for storage	–10 ... +55 °C / –20 ... +60 °C
Resistance to climate	Acc. to EN 60068-1	10/055/21
Degree of protection	Acc. to EN 60529	IP20, with connected conductors
Safety class	Acc. to EN 61140	II

[1] A program consists of an ON time, an OFF time and assigned ON and OFF days or day blocks.

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Top

- Weekly program
- 28 programs
- Text-assisted programming concept
  - Language: English
- Manual daylight-saving adjustment

Contacts	U_c	Channels	Mounting width	
1 CO	230 V AC	1	2 MW	7LF4511-0
2 CO	230 V AC	2	2 MW	7LF4512-0

Further technical specifications

		Top
Standards		
Standards		EN 60730-1, -2-7; VDE 0631-1, -2-7
Supply		
Primary operating range		0.85 ... 1.1 × U_c
Frequency range		50/60 Hz
Rated power dissipation P_v		2 VA
Channels		
Rated operational voltage U_e		250 V AC
Rated operational current I_e	At p.f. = 1	16 A
	At p.f. = 0.6	10 A
Contacts		
Minimum contact load		12 V / 100 mA
Electrical switching cycles	At p.f. = 1	100000
Mechanical switching cycles		10 million
Incandescent lamp load		8 A
Energy-saving lamp load		60 VA
Fluorescent lamp load	Parallel p.f. correction 70 µF	60 VA
	Uncorrected	2300 VA
Safety		
Different phases between operating mechanism and contact		Permissible [2]
Rated impulse withstand voltage U_{imp}		4 kV
Electrostatic discharge	Acc. to IEC 61000-4-2	>8.0 kV
EMC: Burst	Acc. to IEC 61000-4-4	>4.4 kV
EMC: Surge	Acc. to IEC 61000-4-5	>2.0 kV
Overvoltage category	Acc. to EN 61010-1	III
Function		
Clock errors per day	Typical	±1.5 s/day
Power reserve storage	Battery	3 years
Make and break cycles		1 min
Minimum switching sequences		1 min
Control input	Terminal S	No
Programs [1]		28 (14 per channel)
Program memory	Captive	No
Battery type		Li primary cell
Connections		
Terminals	± Screw (Pozidriv)	PZ 1
Conductor cross-sections of main current path	Rigid	1.5 ... 4 mm²
	Flexible, with end sleeve	Max. 2.5 mm²
Environmental conditions		
Permissible ambient temperature	For operation/ for storage	–20 ... +55 °C / –20 ... +60 °C
Resistance to climate	Acc. to EN 60068-1	20/055/21
Degree of protection	Acc. to EN 60529	IP20, with connected conductors
Safety class	Acc. to EN 61140	II

[1] A program consists of an ON time, an OFF time and assigned ON and OFF days or day blocks.
[2] The combination of line voltage (230 V) and SELV is not permissible in conjunction with a 2-channel time switch. This requirement is, however, admissible in the case of 1-channel time switch.

System overview, page 5/4

7LF4 digital time switches

Profi

- Weekly program
- Vacation program
- Random program
- Expert mode
- Cycle function
- Text-assisted programming concept
  – 15 languages
- Simple program creation on a PC
  using the supplied software, with 7LF4941-0 USB adapter
- Automatic daylight-saving adjustment
- Operating hours counter, counting range: 65535 h
- Accurate to the second hh:mm:ss
- Synchronization 50/60 Hz

Contacts	U_c	Channels	Mounting width	
1 CO	230 V AC	1	2 MW	7LF4521-0
	24 V AC/DC	1	2 MW	7LF4521-2
2 CO	230 V AC	2	2 MW	7LF4522-0
	24 V AC/DC	2	2 MW	7LF4522-2

Further technical specifications

		Profi
Standards		
Standards		EN 60730-1, -2-7; VDE 0631-1, -2-7
Approvals		UL File No. E301698
Supply		
Primary operating range	U_c 230 V	0.85 ... 1.1 × U_c
	U_c 24 V	0.9 ... 1.1 × U_c
Frequency range	U_c 230 V	50/60 Hz
	U_c 24 V	50/60 Hz
Rated power dissipation P_v	U_c 230 V	2 VA
	U_c 24 V	2 VA
Channels		
Rated operational voltage U_e		250 V AC
Rated operational current I_e	At p.f. = 1	16 A
	At p.f. = 0.6	10 A
Contacts		
Minimum contact load		12 V / 100 mA
Electrical switching cycles	At p.f. = 1	100000
Mechanical switching cycles		10 million
Incandescent lamp load		8 A
Energy-saving lamp load		1000 W
Fluorescent lamp load	Parallel p.f. correction 70 µF	600 VA
	Uncorrected	2000 VA
Safety		
Different phases between operating mechanism and contact		Permissible [2]
Rated impulse withstand voltage U_{imp}		4 kV
Electrostatic discharge	Acc. to IEC 61000-4-2	>8.0 kV
EMC: Burst	Acc. to IEC 61000-4-4	>4.4 kV
EMC: Surge	Acc. to IEC 61000-4-5	>2.0 kV
Overvoltage category	Acc. to EN 61010-1	III
Function		
Clock errors per day	Typical	±0.1 s/day
Power reserve storage	Battery	5 years
Make and break cycles		1 s
Minimum switching sequences		1 s
Control input	Terminal S	No
Programs [1]		28
Program memory	Captive	Yes
Battery type		Li primary cell
Connections		
Terminals	± Screw (Pozidriv)	PZ 1
Conductor cross-sections of main current path	Rigid	1.5 ... 4 mm²
	Flexible, with end sleeve	Max. 2.5 mm²
Environmental conditions		
Permissible ambient temperature	For operation/for storage	–20 ... +55 °C / –20 ... +60 °C
Resistance to climate	Acc. to EN 60068-1	20/055/21
Degree of protection	Acc. to EN 60529	IP20, with connected conductors
Safety class	Acc. to EN 61140	II

[1] A program consists of an ON time, an OFF time and assigned ON and OFF days or day blocks.
[2] The combination of line voltage (230 V) and SELV is not permissible in conjunction with a 2-channel time switch. This requirement is, however, admissible in the case of 1-channel time switch.

System overview, page 5/4

Astro

- Weekly program
- Vacation program
- Random program
- Expert mode
- Astro function
- Text-assisted programming concept
  – 15 languages
- Simple program creation on a PC using the supplied software, with 7LF4941-0 USB adapter
- Automatic daylight-saving adjustment
- Operating hours counter, counting range: 65535 h
- Accurate to the second hh:mm:ss
- Synchronization 50/60 Hz
- Input disable via PIN code
- Daylight-saving correction
- 1 h test

Contacts	U_c	Channels	Mounting width	
1 CO	230 V AC	1	2 MW	7LF4531-0
2 CO	230 V AC	2	2 MW	7LF4532-0

Further technical specifications

		Astro
Standards		
Standards		EN 60730-1, -2-7; VDE 0631-1, -2-7
Approvals		UL File No. E301698
Supply		
Primary operating range		0.85 ... 1.1 × U_c
Frequency range		50/60 Hz
Rated power dissipation P_v		2 VA
Channels		
Rated operational voltage U_e		250 V AC
Rated operational current I_e	At p.f. = 1	16 A
	At p.f. = 0.6	10 A
Contacts		
Minimum contact load		12 V / 100 mA
Electrical switching cycles	At p.f. = 1	100000
Mechanical switching cycles		10 million
Incandescent lamp load		8 A
Energy-saving lamp load		1000 W
Fluorescent lamp load	Parallel p.f. correction 70 µF	600 VA
	Uncorrected	2000 VA
Safety		
Different phases between operating mechanism and contact		Permissible [2]
Rated impulse withstand voltage U_{imp}		4 kV
Electrostatic discharge	Acc. to IEC 61000-4-2	>8.0 kV
EMC: Burst	Acc. to IEC 61000-4-4	>4.4 kV
EMC: Surge	Acc. to IEC 61000-4-5	>2.0 kV
Overvoltage category	Acc. to EN 61010-1	III
Function		
Clock errors per day	Typical	±0.1 s/day
Power reserve storage	Battery	5 years
Make and break cycles		1 s
Minimum switching sequences		1 s
Control input	Terminal S	Yes (with 1K clock)
Programs [1]		56 (2 × 28)
Program memory	Captive	Yes
Battery type		Li primary cell
Connections		
Terminals	± Screw (Pozidriv)	PZ 1
Conductor cross-sections of main current path	Rigid	1.5 ... 4 mm²
	Flexible, with end sleeve	Max. 2.5 mm²
Environmental conditions		
Permissible ambient temperature	For operation/ for storage	–20 ... +55 °C / –20 ... +60 °C
Resistance to climate	Acc. to EN 60068-1	20/055/21
Degree of protection	Acc. to EN 60529	IP20, with connected conductors
Safety class	Acc. to EN 61140	II

[1] A program consists of an ON time, an OFF time and assigned ON and OFF days or day blocks.
[2] The combination of line voltage (230 V) and SELV is not permissible in conjunction with a 2-channel time switch. This requirement is, however, admissible in the case of 1-channel time switch.

System overview, page 5/4

7LF4 digital time switches

Accessories

Data keys

- For Profi and Astro digital time switches
- Programming at the PC (7LF4941-0 USB adapter and software required)
- Read-in of programs to the time switch
- Writing of programs from the time switch
- Transfer of programs
  - From PC to time switch and vice versa
  - From time switch to time switch

Article No.	Mini	Top	Profi	Astro
7LF4941-1	–	–	■	■

USB adapter and software

- For Profi and Astro digital time switches
- For the reading and writing of data keys at the PC
- Including programming software
- Including 7LF4941-1 data key for Profi and Astro
- Compatible with 7LF4940-1 data key (predecessor model) and 7LF4940-2 data key
- Can be connected via USB interface
- System requirements:
  - Windows 7, Windows Vista, Windows 2000, Windows ME, Windows XP or Windows 98 Second Edition
  - USB connection
  - 40 MB free disk space

Article No.	Mini	Top	Profi	Astro
7LF4941-0	–	–	■	■

Holders for front panel installation

- Universal application for devices from 1 MW ... 6 MW
- Cutout dimensions:
  - Height $45^{+0.5}$ mm
  - Width 23 mm, 41 mm, 59 mm, 77 mm, 95 mm or 113 mm

Article No.	Mini	Top	Profi	Astro
7LF9006	■	■	■	■

System overview, page 5/4

System overview, page 5/4

7LF5 mechanical time switches

Time switches without power reserve

		For standard mounting rail		For wall mounting (surface mounting)
				
Contacts	**Mounting width**			
With day disk				
1 NO	1 MW	7LF5300-1	–	–
1 CO	3 MW	–	7LF5300-5	–
	–	–	–	7LF5301-0
With week disk				
1 CO	3 MW	–	7LF5300-6	–

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System overview, page 5/4

Further technical specifications

		7LF5300-1	7LF5300-5	7LF5300-6	7LF5301-0
Standards					
Standards		EN 60730-1, -2-7, UL 917, UL 917, CSA C22.2 No. 14 and 177			
Approvals		VDE, UL file: E301698			
Supply					
Rated control supply voltage U_c		230 V AC			
Primary operating range	U_c 230 V AC	0.85 ... 1.1 × U_c			
Rated frequency		50 Hz			
Frequency range		50 Hz			
Rated power dissipation P_v		1 VA			
Channels					
Rated operational voltage U_e		250 V AC			
Rated operational current I_e	At p.f. = 1	16 A			
	At p.f. = 0.6	4 A			
Contacts					
Minimum contact load		4 V / 1 mA			
Electrical switching cycles	At p.f. = 1	100000			
Mechanical switching cycles		20 million			
Incandescent lamp load		5 A			
Fluorescent lamp load	Parallel p.f. correction 70 µF	60 VA			
	Uncorrected	1400 VA			
Safety					
Different phases between operating mechanism and contact		Permissible			
Electrical isolation, creepage distances and clearances	Operating mechanism	8 mm			
	Contact	6 mm			
Rated impulse withstand voltage U_{imp}		4 kV			
Electrostatic discharge	Acc. to IEC 61000-4-2	>8.0 kV			
EMC: Burst	Acc. to IEC 61000-4-4	>4.4 kV			
EMC: Surge	Acc. to IEC 61000-4-5	>2.0 kV			
Overvoltage category	Acc. to EN 61010-1	III			
Function					
Switching accuracy		±5 min		±30 min	±5 min
Clock errors		System-synchronized			
Make and break cycles		15 min		120 min	10 min
Minimum switching sequences		30 min		240 min	30 min
Connections					
Terminals	± Screw (Pozidriv)	PZ 1			
Conductor cross-sections of main current path	Rigid	1.5 ... 4 mm²			
	Flexible, with end sleeve	Max. 2.5 mm²			
	Flexible, without end sleeve	Max. 4 mm²			
Environmental conditions					
Permissible ambient temperature	For operation/for storage	–10 ... +55 °C / –10 ... +60 °C			
Resistance to climate	Acc. to EN 60068-1	10/055/21			
Degree of protection	Acc. to EN 60529	IP20, with connected conductors			
Safety class	Acc. to EN 61140	II			

Accessories

Holders for front panel installation

- Universal application for devices from 1 MW ... 6 MW
- Cutout dimensions:
  - Height $45^{+0.5}$ mm
  - Width 23 mm, 41 mm, 59 mm, 77 mm, 95 mm or 113 mm

Article No.
7LF9006

System overview, page 5/4

7LF5 mechanical time switches

Time switches with power reserve

	For standard mounting rail			For wall mounting (surface mounting)
Time buffering in the event of a power failure	–	–	■	–
Automatic daylight-saving adjustment	–	–	■	–
Automatic time setting for Central European time zone during commissioning	–	–	■	–
				

Contacts	Mounting width				
With day disk					
1 NO	1 MW	7LF5301-1	–	–	–
1 CO	3 MW	–	7LF5301-6	7LF5301-4	–
	–	–	–	–	7LF5305-0
With week disk					
1 CO	3 MW	–	7LF5301-7	7LF5301-5	–

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System overview, page 5/4

Further technical specifications

		7LF5301-1	7LF5301-4	7LF5301-5	7LF5301-6	7LF5301-7	7LF5305-0
Standards							
Standards		EN 60730-1, -2-7, UL 917, UL 917, CSA C22.2 No. 14 and 177					
Approvals		VDE, UL file: E301698					
Supply							
Rated control supply voltage U_c		230 V AC					
Primary operating range		0.85 ... 1.1 × U_c					
Rated frequency		50 Hz					
Frequency range		50/60 Hz					
Rated power dissipation P_v		1 VA	0.2 VA		1 VA		
Channels							
Rated operational voltage U_e		250 V AC					
Rated operational current I_e	At p.f. = 1	16 A					
	At p.f. = 0.6	4 A					
Contacts							
Minimum contact load		4 V / 1 mA					
Electrical switching cycles	At p.f. = 1	100000					
Mechanical switching cycles		20 million					
Incandescent lamp load		5 A					
Fluorescent lamp load	Parallel p.f. correction 70 µF	60 VA					
	Uncorrected	1400 VA					
Safety							
Different phases between operating mechanism and contact		Permissible					
Electrical isolation, creepage distances and clearances	Operating mechanism	8 mm					
	Contact	6 mm					
Rated impulse withstand voltage U_{imp}		4 kV					
Electrostatic discharge	Acc. to IEC 61000-4-2	>8.0 kV					
EMC: Burst	Acc. to IEC 61000-4-4	>4.4 kV					
EMC: Surge	Acc. to IEC 61000-4-5	>2.0 kV					
Overvoltage category	Acc. to EN 61010-1	III					
Function							
Switching accuracy		±5 min		±30 min	±5 min	±30 min	±5 min
Clock errors		±2.5 s/day	±0.2 s/day	±60 s/day	±2.5 s/day		
Power reserve storage		100 h	6 years		100 h		
Make and break cycles		15 min		120 min	15 min	120 min	15 min
Minimum switching sequences		30 min		240 min	30 min	240 min	30 min
Battery type		NiMH cell	Li primary cell		NiMH cell		
Minimum loading time		48 h	–		48 h		
Service life of battery	At 20 °C	6 years	10 years		6 years		
	At 40 °C	5 years					
Connections							
Terminals	± Screw (Pozidriv)	PZ 1					
Conductor cross-sections of main current path	Rigid	1.5 ... 4 mm²					
	Flexible, with end sleeve	Max. 2.5 mm²					
	Flexible, without end sleeve	Max. 4 mm²					
Environmental conditions							
Permissible ambient temperature	Storage/operation	–10 ... +60 °C / –10 ... +55 °C					
Resistance to climate	Acc. to EN 60068-1	10/055/21					
Degree of protection	Acc. to EN 60529	IP20, with connected conductors					
Safety class	Acc. to EN 61140	II					

Accessories

Holders for front panel installation

- Universal application for devices from 1 MW ... 6 MW
- Cutout dimensions:
  - Height $45^{+0.5}$ mm
  - Width 23 mm, 41 mm, 59 mm, 77 mm, 95 mm or 113 mm

Article No.
7LF9006

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7LF6 timers for buildings

	Standard stairwell lighting timers	Multi stairwell lighting timers
3-wire circuit	■	■
4-wire circuit	■	■
Zero crossing circuit	■	■
Operation	Resettable	Resettable
		

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Contacts	Warning of impending switch-off	Mounting width		
1 NO	–	1 MW	7LF6310	–
	Flickering	1 MW	–	7LF6311

Further technical specifications

		7LF6310	7LF6311
Supply			
Rated operational current I_e	At p.f. = 1	16 A	
Rated operational voltage U_e		250 V AC	
Rated control supply voltage U_c		230 V AC	
Frequency range		50/60 Hz	
Rated power dissipation P_v		1 W	
Rated impulse withstand voltage		4 kV	
Contacts			
Channels		1	
Max. glow lamp load		25 mA	50 mA
Separate multi-voltage input		–	8 ... 230 V AC/DC
Switching capacity	Inductive p.f. = 0.6	2000 VA	
Incandescent lamp load	Max.	3680 W	
Fluorescent lamp load	Series p.f. correction	2000 VA	
	Parallel p.f. correction at 70 µF	1000 W	
Compact fluorescent lamp load		1000 W	
LED		1000 W	
Electronic transformers		2000 VA	
Conventional transformers		2000 VA	
Function			
Setting range		0.5 ... 10 min	0.5 ... 12 min
Manual switches		Yes	
Programs		–	7 [1]
Environmental conditions			
Permissible ambient temperature	For operation	–20 ... +55 °C	
	For storage	–20 ... +60 °C	
Degree of protection	Installed	IP30	
Pollution degree		2	

[1] 7 functions, can be selected using selector switch on the device

System overview, page 5/4

5TT3 timers for industrial applications

	Multifunction timers	Delay timers
Programmable for:	• Response delay • Passing make contact function • Pulse generator, delayed • Clock generator, starting with impulse • OFF-delay • Pulse converter • Passing break contact function • Response delay/OFF-delay	–
		

Contacts	Mounting width		
1 CO	1 MW	5TT3185	5TT3181

Further technical specifications

		5TT3185	5TT3181
Standards			
Standards		EN 60255; DIN VDE 0435-110	
Supply			
Rated operational current I_e		4 A	8 A
Rated operational voltage U_e		250 V AC	
Rated control supply voltage U_c		12 ... 240 V AC	220 ... 240 V AC
		12 ... 240 V DC	–
Primary operating range	U_c 230 V AC, 50/60 Hz	0.8 ... 1.1 × U_c	
Rated frequency f_n		45 ... 400 Hz	50/60 Hz
Rated power dissipation P_v		Approx. 1.5 VA	Approx. 5 VA
Contacts			
Contact gap		µm contact	
Minimum contact load		10 V / 300 mA	
Electrical service life	Switching cycles	1.5×10^5	–
	At AC-15	–	1.5×10^5
Safety			
Rated impulse withstand voltage U_{imp}	Input / output	>4 kV	
Function			
Setting range		1 s ... 300 h	
Recovery time		15 ... 80 ms	Approx. 40 ms
Connections			
Terminals	± Screw (Pozidriv)	PZ 2	
Conductor cross-sections of main current path	Rigid	Max. 2× 2.5 mm²	
	Flexible, with end sleeve	Min. 2× 1.5 mm²	
Environmental conditions			
Permissible ambient temperature		–40 ... +60 °C	
Resistance to climate	Acc. to EN 60068-1	40/60/4	

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Published by
Siemens AG

Smart Infrastructure
Electrical Products
Siemensstraße 10
93055 Regensburg, Germany

For the U.S. published by
Siemens Industry Inc.

100 Technology Drive
Alpharetta, GA 30005
United States

PDF (Extract from E86060-K8280-A101-B2-7600)
KG 1220 52 En
Produced in Germany

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