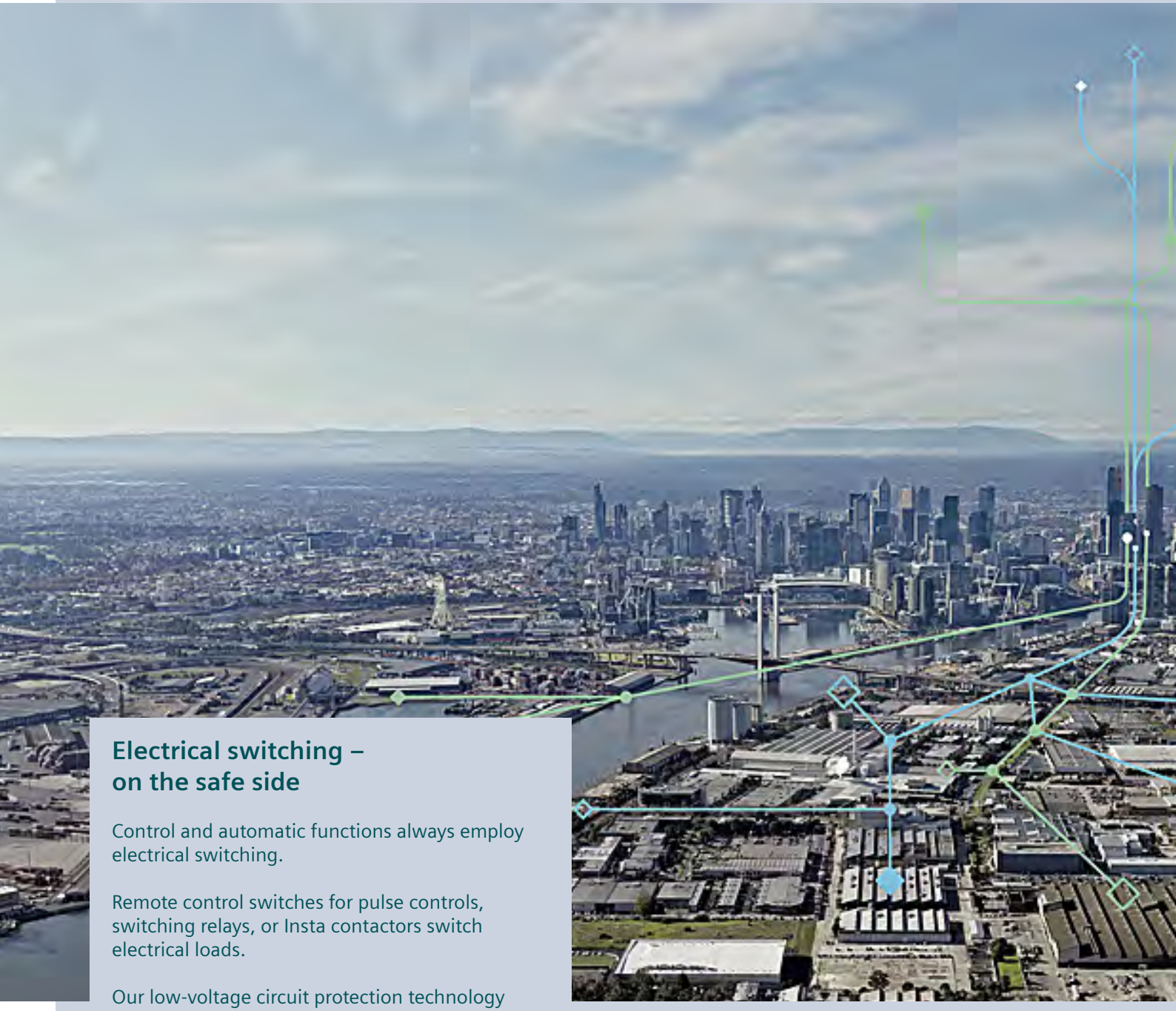


Electrical switching – on the safe side

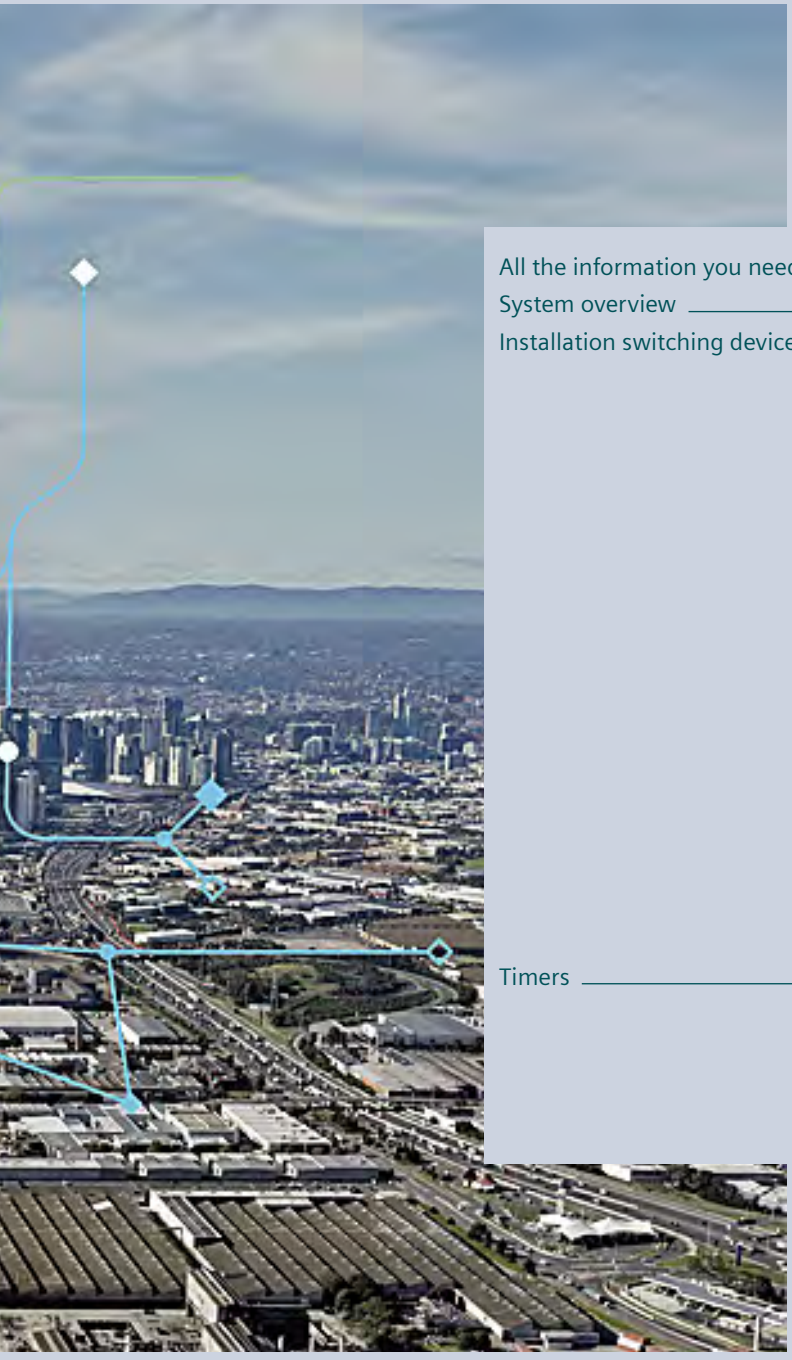
Control and automatic functions always employ electrical switching.

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.

Safety, convenience and energy savings – these characterize automatic switching.

Switching Devices



A multitude of additional information ...

Information + ordering

All the important things at a glance

For information about transfer switching equipment and load transfer switches, please visit our website
www.siemens.com/switching-devices

Your product in detail

The relevant tender specifications can be found at
www.siemens.com/tenderspecifications

Use our conversion tool for quick and easy conversion to Siemens products **www.siemens.com/conversion-tool**

Everything you need for your order

Refer to SiePortal to find an overview of your products (product catalog)

- **sie.ag/2m4eG5M**

Direct forwarding to the individual products in SiePortal by clicking on the article number in the catalog or entering this web address incl. article number
www.siemens.com/product_catalog_SIEP?Article No.

The fast track to the experts

Contact persons in your region

We offer a comprehensive portfolio of services.
You can find your local contacts at
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Competent expert advice on technical questions with a wide range of demand-optimized services for all our products and systems.

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… can be found in our online services

Commissioning + operation

Your product in detail

The SiePortal platform (knowledge base) provides detailed technical information
www.siemens.com/lowvoltage/product-support

- Operating instructions
- Certificates

Online Support app available for download from the **App Store** and **Play Store**
You will find further information at
www.siemens.com/support-app

Provision of 3D data (step and u3d data formats)

- SiePortal (product catalog)
  www.siemens.com/lowvoltage/product-catalog
- Image database
  www.siemens.com/lowvoltage/picturedb

Engineering data for CAD or CAE systems are available in the CAx Download Manager at
www.siemens.com/cax

Manuals

Manuals can be found in SiePortal at
www.siemens.com/lowvoltage/manuals

- Configuration Manual
  – Switching devices **(45315361)**

Face-to-face or online training

Our training courses can be found at
www.siemens.com/sitrain-lowvoltage

- Basic principles of electrical engineering (WT-LVBGET)

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

5TE8
control switches

5TE48
pushbuttons

5TE58
light indicators

5TE81/82, 5TL1
on-off switches

5TE
DC isolators

5TT41, 5TT44
remote control switches

5TT4 COM digital input/output module
new

5TT42
switching relays

5TT50, 5TT58
Insta contactors

5TT3
soft-starting devices

Accessories

Auxiliary switches (AS)

Auxiliary switches 5TT4

Shunt trips (ST)

Undervoltage releases (UR)

Remote control auxiliaries (RCA)

Handle locking devices

LEDs

Caps/covers

Connectors

5TE
busbars

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





Contacts	U_e AC	Mounting width	Auxiliary switches Cannot be retrofitted	Mounted	Auxiliary switches Cannot be retrofitted	Mounted	Auxiliary switches 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 endurance/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 voltage U_{imp}		> 5 kV
Connections		
Terminals	± Screw (Pozidriv)	PZ1
	Max. tightening torque	0.8 … 1.0 Nm
Ambient 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

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
				–		–		–
2 × 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		–		–
2 × (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 voltage U_{imp}		> 5 kV
Connections		
Terminals	± Screw (Pozidriv)	PZ1
	Max. tightening torque	0.8 ... 1.0 Nm
Ambient 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 spare part

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		–

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Further technical specifications

		5TE58
Standards		
Standards		DIN VDE 62094-1/A11
Supply		
Rated power dissipation P_v	LED	0.4 VA
Safety		
Clearances	Between the terminals	> 7 mm
Connections		
Terminals	± Screw (Pozidriv)	PZ1
	Max. tightening torque	0.8 ... 1.0 Nm
Ambient 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

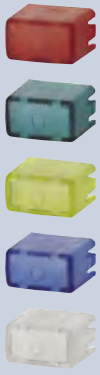
Accessories

LEDs for manual spare part

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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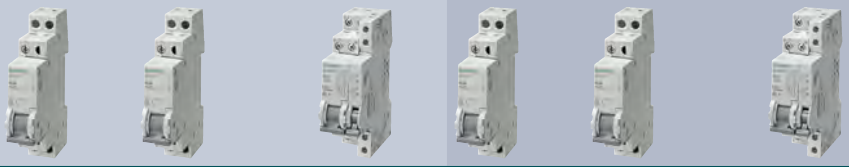
System overview, page 5/4

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 endurance/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 voltage U_{imp}		> 5 kV	
Connections			
Terminals	± Screw (Pozidriv)	PZ1	
	Max. tightening torque	0.8 ... 1.0 Nm	
Ambient 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	Type	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

5

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 endurance/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		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 voltage U_{imp}		6 kV					
Connections							
Terminals	± Screw (Pozidriv)	PZ2					
	Max. tightening torque	3.5 Nm					
Ambient 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	Type	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

Remote control auxiliaries (RCA)

Type	U_e	Article No.
Basic	12 ... 30 V AC, 12 ... 48 V DC	5ST3053
	177 ... 270 V AC	5ST3054
Power	12 ... 30 V AC, 12 ... 48 V DC	5ST3055
	177 ... 270 V AC	5ST3056
Power with ARD	12 ... 30 V AC, 12 ... 48 V DC	5ST3057
	177 ... 270 V AC	5ST3058

Adapters for remote control auxiliaries (RCA)

Mounting width	Article No.
1–2 MW	5ST3820-6
3–4 MW	5ST3820-7

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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System overview, page 5/4

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; 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 endurance/mechanical service life	Actuations	5000/10000
Safety		
Rated short-circuit making capacity I_{cm}	1000 V DC, 4-pole	500 A
Rated impulse 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)	PZ2
	Max. tightening torque	2.5 ... 3 Nm
Ambient conditions		
Permissible ambient temperature		–25 ... +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	Type	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_e	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)

Type	Rated operational voltage U_e	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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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 endurance at I_e/U_e, p.f. = 0.6, incandescent lamp load 600 W	Operating 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 voltage U_{imp}		4 kV		
Function				
Manual operation		Yes		
Switching position indication		Yes		
Connections				
Terminals	± Screw (Pozidriv)	PZ1		
	Max. tightening torque	0.8 ... 1 Nm		
Ambient 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	Type	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		EN 60669-1 (VDE 0632-1)/EN 60669-1/A1/A2 EN 60669-2-2 (VDE 0632-2-2)/EN 60669-2-2	
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 endurance at I_e/U_e, p.f. = 0.6, incandescent lamp load 600 W	Operating 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 voltage U_{imp}		4 kV	
Function			
Manual operation		Yes	
Switching position indication		Yes	–
Connections			
Terminals	± Screw (Pozidriv)	PZ1	
	Max. tightening torque	0.8 ... 1 Nm	
Ambient 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	Type	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			EN 60669-1 (VDE 0632-1)/EN 60669-1/A1/A2 EN 60669-2-2 (VDE 0632-2-2)/EN 60669-2-2	
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 endurance at I_e/U_e, p. f. = 0.6, incandescent lamp load 600 W	Operating 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 voltage U_{imp}		3 kV				
Function						
Manual operation		Yes				
Switching position indication		Yes				
Connections						
Terminals	± Screw (Pozidriv)	Coil: PZ1, contact: PZ2				
	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				
Ambient 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

Central switch, central with diode

- For central function (no auxiliary switch)

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

Central switch, 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	Type	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						
			250 V AC	0.5 MW	–	5TT4931
Auxiliary switches, group with several diodes for group function						
			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 endurance at I_e/U_e, p.f. = 0.6, incandescent lamp load 600 W	Operating cycles	–	100000	–	
Safety					
Clearances	Between magnet coil and contact	> 6 mm	–		
Creepage distances	Between magnet coil and contact	> 6 mm	–		
Rated impulse 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)	PZ1	PZ1		
	Max. tightening torque	0.5 Nm	0.8 Nm		
Ambient 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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5TT4 COM digital input/output module new

With measuring and communication function

	Rated operational current I_e 5 A
Rigid conductor cross-section	0.2 ... 1.5 mm²
Flexible conductor cross-section, with/without end sleeve	0.2 ... 1.5 mm²

Contacts	U_e AC	U_e DC	U_c AC	U_c DC	Mounting width	
2 NO/NC (configurable)	230 V	30 V	–	24 V	1 MW	5TT4322-2MC

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Further technical specifications

		5TT4322-2MC
Standards		
Standards		RED 2014/53/EU, DIN EN IEC 60669-2-1
Approvals		CE
Supply		
Primary operating range		0.8 ... 1.2 × U_c
Rated power dissipation P_v	Magnet coil, only pulse	0.4 W
	Per pole, max.	0.15 W
Inputs		
Number of inputs		2
Input voltage		24 V AC/DC
Maximum signal 0		5 V
Minimal signal 1		12 V
Pulse length		> 150 ms
Outputs		
Number of outputs		2, floating
Output voltage		230 V AC/30 V DC
Breaking capacity		5 A
Relay operating mode		Monostable
Mechanical service life	Actuations	5000000
Electrical endurance at p.f. = 0.6		100000
HMI		
Button		Switching outputs, disconnecting communication
LED		Status display
Communication function		
Connection		Radio communication with Powercenter 1100/2000
Basic function		Adjustable functions of the inputs and outputs, logical operations
Time functions		ON-delay, OFF-delay, time-based switching, holiday mode
Additional functions		Temperature measurement, saving events and alarms, zero crossing circuit (can be deactivated)
Ambient conditions		
Permissible ambient temperature		–25 ... +65 °C
Storage temperature		–40 ... +85 °C
Resistance to climate at 95% relative humidity	Acc. to DIN 50015	65 °C
Degree of protection	Acc. to DIN EN 60529	IP20

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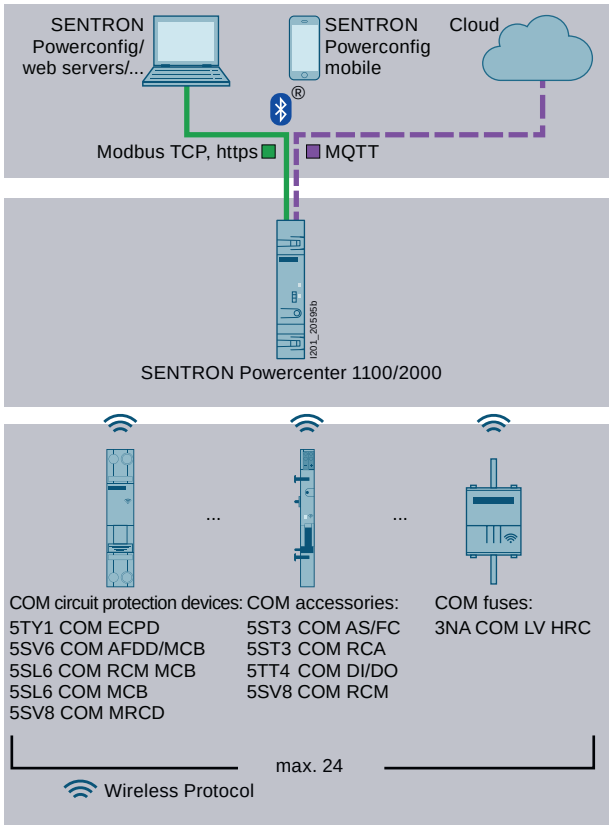
SENTRON Powercenter 1100/2000 data transceiver



- Wireless radio transmission of measured values to the SENTRON Powercenter 1000/1100/2000 data transceiver
- Commissioning, parameter assignment, firmware updates and further processing of the data via the SENTRON Powercenter 1000/1100/2000 data transceiver

SENTRON Powercenter	Article No.
SENTRON Powercenter 1000	7KN1110-0MC00
SENTRON Powercenter 1100	7KN1111-0MC00
SENTRON Powercenter 2000	7KN1210-0MC00

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Weitere Informationen finden Sie unter:
www.siemens.com/lowvoltage/manuals

IInstallation Manual – Circuit protection devices with communication and measuring function **(109791805)**

System Manual – Circuit protection devices with communication and measuring function **(109791806)**

Functions

- Permit access to the installation even if it is remote or in a location that is hard to access
- Remote control via wired contact or communications interface to SENTRON Powercenter 1100/2000
- Simple parameterization of both inputs and both outputs
- Adjustability of operating modes and time functions
- Zero crossing circuit (can be deactivated)
- Status display of inputs and outputs via LEDs
- Logical operation of inputs/outputs and two external signals (data points can be written via Modbus)

System overview, page 5/4

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 endurance at I_e/U_e, p.f. = 0.6, incandescent lamp load 600 W	Operating cycles	50000						
Safety								
Different phases between magnet coil and contact		Permissible						
Safe separation		> 6 mm						
Rated impulse voltage U_{imp}		4 kV						
Function								
Manual operation		Yes						
Connections								
Terminals	± Screw (Pozidriv)	PZ1						
	Max. tightening torque	0.8 ... 1 Nm						
Ambient 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 – hum-free Insta contactors

	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
				

5

Contacts	U_e	U_c AC	U_c DC	Mounting width				
Insta contactors with manual switch								
2 NO	400 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	400 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	400 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	400 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	400 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	–	–

Note:
Provision must be made for spacers to ensure heat dissipation.
See Configuration Manual – Switching devices www.siemens.com/lowvoltage/manuals (45315361).

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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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 endurance at I_e and load	AC-1/AC-7a operating cycles	200000		100000	
	AC-3/AC-7b operating cycles	300000	500000		150000
Mechanical service life	Operating cycles	3 million			
Switching of resistive loads AC-1 for rated operational power P_s	1-phase (NO contacts)	4 kW (230 V)	5.4 kW (400 V)	8.7 kW (400 V)	13.3 kW (400 V)
	3-phase (NO contacts)	–	16 kW (400 V)	26 kW (400 V)	40 kW (400 V)
Switching of three-phase asynchronous motors AC-3 for rated operational power P_s	1-phase (NO contacts)	1.3 kW/0.75 kW	1.3 kW/1.3 kW	3.7 kW/3.7 kW	5/5 kW
	3-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 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)	PZ1/PZ1	PZ1/PZ2		
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.		
Ambient conditions					
Permissible ambient temperature	For operation [1]/For storage	–15 ... +55 °C/–50 ... +80 °C			
Degree of protection	Acc. to EN 60529	IP20, 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 further 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	32 A	40 A	63 A
Main connection conductor cross-section, rigid	1.0 ... 10 mm²	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	1.0 ... 6 mm²	1 ... 16 mm²	1 ... 16 mm²
					

Contacts	U_e	U_c AC		Mounting width					
Insta contactors without manual switch									
2 NO	400 V	230 V		1 MW	5TT5800-0	5TT5810-0	5TT5860-0	–	–
				2 MW	–	–	–	5TT5870-0	–
		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	400 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	400 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	400 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	400 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	–

Note:
Provision must be made for spacers to ensure heat dissipation.
See Configuration Manual – Switching devices www.siemens.com/lowvoltage/manuals (45315361).

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Further technical specifications

		5TT580.	5TT581.	5TT582. 5TT583.	5TT584.	5TT585.	5TT586.	5TT587.
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			2	
Rated operational current I_e		20 A	25 A		40 A	63 A	32 A	40 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	12 VA/10 W	10 VA/5 W	15.4 VA/4.6 W		12 VA/10 W	33 VA/25 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		2.8 VA/1.2 W	5.5 VA/1.6 W
	Per contact AC-1/AC-7a	1.7 VA	2.0 VA	2.2 VA	4 VA	8 VA	2.5 VA	
Contacts								
Contact gap	Minimum	3.6 mm			3.4 mm		3.6 mm	
Minimum switching capacity	(= minimum contact load)	≥ 17 V; 50 mA						
Electrical endurance at I_e and load	AC-1/AC-7a operating cycles	200000			100000		150000	100000
	AC-3/AC-7b operating cycles	300000		500000	150000		300000	150000
Mechanical service life	Operating cycles	3 million						
Switching of resistive loads AC-1/AC-7a for rated operational power P_s	1-phase (230 V) (NO contacts)	4 kW	5.4 kW		8.7 kW	13.3 kW	5.9 kW	3.7 kW
	3-phase (400 V) (NO contacts)	–		16 kW	26 kW	40 kW	–	
Switching of 3-phase asynchronous motors AC-3/AC-7b for rated operational power P_s	1-phase (230 V) (NO contacts)	1.3 kW [1]	1.3 kW		3.7 kW	5 kW	1.3 kW	–
	3-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		440 V	230 V
Rated impulse voltage U_{imp}		4 kV						6 KV
Short-circuit protection, according to coordination type 1	Back-up fuse characteristic gL/gG	20 A	25 A		63 A	80 A	32 A	63 A
Overload withstand capability at 10 s	Per conducting path (NO contacts only)	72 A		68 A	176 A	240 A	72 A	176 A
Function								
Switching times	Closing (NO contacts)	15 ... 25 ms		10 ... 20 ms	15 ... 20 ms		15 ... 25 ms	10 ... 20 ms
	Opening (NO contacts)	20 ms	10 ... 30 ms	20 ms	10 ms		10 ... 30 ms	10 ... 15 ms
	Closing (NC contacts)	20 ... 30 ms	–	20 ... 30 ms	5 ... 10 ms		–	
	Opening (NC contacts)	10 ms	–	10 ms	10 ... 15 ms		–	
Connections								
Coil connection terminals	± Screw (Pozidriv)	PZ1						
Main connection terminals	± Screw (Pozidriv)	PZ1			PZ2		PZ1	
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		1.0 ... 10 mm^2	1.5 ... 25 mm^2
	Flexible, with end sleeve	1.0 ... 6 mm^2			1 ... 16 mm^2		1.0 ... 6 mm^2	1.5 ... 16 mm^2
Tightening torque	Coil connection	0.6 Nm						
	Main connection	1.2 Nm			3.5 Nm		1.2 Nm	2.5 Nm
Ambient conditions								
Permissible ambient temperature	For operation/for storage	–5 ... +55 °C/–30 ... +80 °C						
Degree of protection	Acc. to EN 60529	IP20, with connected conductors						

[1] For NO contacts only.

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5TT58 Insta contactors

AC technology

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

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

For Insta contactor	Mounting width	Article No.
20 A	1 MW	5TG8240

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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

5

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	Operating cycles	3 million
Maximum switching frequency at load		600 h^{-1}
Safety		
Rated insulation voltage U_i		500 V
Rated impulse 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)	PZ1
Conductor cross-section	Rigid	1 ... 2.5 mm²
	Flexible, with end sleeve	1 ... 2.5 mm²
Tightening torque		0.8 Nm
Ambient conditions		
Permissible ambient temperature	For operation/for storage	–5 ... +55 °C/–30 ... +80 °C
Degree of protection	Acc. to EN 60529	IP20, with connected conductors

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5TT3 soft-starting devices

For 2-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	
3-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%	Operating cycles (up to 3 kW)	36 h^{-1}
	Operating 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
Ambient conditions		
Permissible ambient temperature		–20 ... +60 °C
Resistance to climate	Acc. to EN 60068-1	20/60/4

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5TE busbars

For modular installation devices

1-phase busbar

- For all switches 5TT41, 5TT42, 5TT44, 5TE48, 5TT49, 5TE58, 5TE81 and 5TE82
- 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 mm^2 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 1-phase busbars

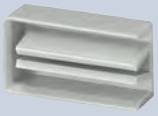
Length	Division	Article No.
210 mm	12 MW version with 1 MW modular clearance	5TE9100

2-phase busbar

- For all switches 5TT41, 5TT42, 5TT44, 5TE48, 5TT49, 5TE58, 5TE81 and 5TE82
- Infeed to unit terminal with conductor cross-section of 6 mm^2 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-wire connection using 2 2-phase busbars
- Both copper conductors of the 2-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 2-phase busbars



- End caps for 5TE9101 2-phase busbars to maintain insulation clearances when the bar is being cut
- 1 set = 10 units

Article No.
5TE9102

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 operating cycles	At p.f. = 1	6000 (20 A)
Mechanical operating 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 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)	PZ1
Conductor cross-sections of main conducting path	Rigid	1.5 ... 4 mm²
	Flexible, with end sleeve	Max. 2.5 mm²
Ambient 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
Protection 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.

System overview, page 5/4

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 operating cycles	At p.f. = 1	100000
Mechanical operating 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 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)	PZ1
Conductor cross-sections of main conducting path	Rigid	1.5 ... 4 mm²
	Flexible, with end sleeve	Max. 2.5 mm²
Ambient 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
Protection 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.

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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 operating cycles	At p.f. = 1	100000
Mechanical operating 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 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)	PZ1
Conductor cross-sections of main conducting path	Rigid	1.5 ... 4 mm²
	Flexible, with end sleeve	Max. 2.5 mm²
Ambient 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
Protection 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 operating cycles	At p.f. = 1	100000
Mechanical operating 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 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)	PZ1
Conductor cross-sections of main conducting path	Rigid	1.5 ... 4 mm²
	Flexible, with end sleeve	Max. 2.5 mm²
Ambient 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
Protection 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.

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7LF4 digital time switches

Accessories

		Mini	Top	Profi	Astro
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.				
	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.				
	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.				
	7LF9006	■	■	■	■

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7LF5 mechanical time switches

Time switches without power reserve

		For DIN 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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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			
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 operating cycles	At p.f. = 1	100000			
Mechanical operating 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 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)	PZ1			
Conductor cross-sections of main conducting path	Rigid	1.5 ... 4 mm²			
	Flexible, with end sleeve	Max. 2.5 mm²			
	Flexible, without end sleeve	Max. 4 mm²			
Ambient 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			
Protection 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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7LF5 mechanical time switches

Time switches with power reserve

	For DIN 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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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 operating cycles	At p.f. = 1	100000					
Mechanical operating 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 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)	PZ1					
Conductor cross-sections of main conducting path	Rigid	1.5 ... 4 mm²					
	Flexible, with end sleeve	Max. 2.5 mm²					
	Flexible, without end sleeve	Max. 4 mm²					
Ambient 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					
Protection 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

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

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 voltage U_{imp}		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]
Ambient 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

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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. 3 VA	Approx. 5 VA
Contacts			
Contact gap		µm contact	
Minimum contact load		10 V/300 mA	
Electrical endurance	Switching cycles	1.5×10^5	–
	At AC-15	–	1.5×10^5
Safety			
Rated impulse 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)	PZ2	
Conductor cross-sections of main conducting path	Rigid	Max. 2 × 2.5 mm²	
	Flexible, with end sleeve	Min. 2 × 1.5 mm²	
Ambient conditions			
Permissible ambient temperature		–40 ... +60 °C	
Resistance to climate	Acc. to EN 60068-1	40/60/4	

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