

The background of the entire page is a photograph of industrial electrical equipment, specifically Siemens switchgear. The equipment consists of several horizontal metal cabinets with multiple circuit breakers and terminal blocks. Numerous blue and black cables are connected to the equipment. Overlaid on the right side of the image is a semi-transparent digital interface showing various graphs, gauges, and data points, suggesting a smart or digitalized electrical system. The Siemens logo is prominently displayed in the top left corner.

**SIEMENS**

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# Low-Voltage Power Distribution and Electrical Installation Technology

Switching Devices

Catalog  
Extract  
LV 10

Edition  
10/2021

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### Technical specifications

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.

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# Low-Voltage Power Distribution and Electrical Installation Technology

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## 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



|   |      |
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# A multitude of additional information ...

## Information + ordering

### All the important things at a glance

For information about switching devices, please visit our website [www.siemens.com/switching-devices](http://www.siemens.com/switching-devices)

### Your product in detail

The relevant tender specifications can be found at [www.siemens.com/lowvoltage/tenderspecifications](http://www.siemens.com/lowvoltage/tenderspecifications)

Use our conversion tool for quick and easy conversion to Siemens products [www.siemens.com/conversion-tool](http://www.siemens.com/conversion-tool)

### Everything you need for your order

Refer to the Industry Mall for an overview of your products

- Switching devices [sie.ag/2m4eG5M](http://sie.ag/2m4eG5M)

Direct forwarding to the individual products in the Industry Mall by clicking on the article number in the catalog or by entering this web address incl. article number [www.siemens.com/product?Article No.](http://www.siemens.com/product?Article No.)



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You can find further information on services at [www.siemens.com/service-catalog](http://www.siemens.com/service-catalog)

Competent expert advice on technical questions with a wide range of demand-optimized services for all our products and systems.

Assistance with technical queries is provided at [www.siemens.com/support-request](http://www.siemens.com/support-request)



# ... can be found in our online services

## Commissioning + operation

### Your product in detail

The Siemens Industry Online Support (SIOS) provides comprehensive information

[www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support)

- Operating instructions
- Certificates

Comprehensive mobile support via the Siemens Industry Online Support app available for download from the [App Store](#) and [Play Store](#)

You will find further information under:  
[www.siemens.com/support-app](http://www.siemens.com/support-app)

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

- Siemens Industry Mall  
[www.siemens.com/lowvoltage/mall](http://www.siemens.com/lowvoltage/mall)
- Image database  
[www.siemens.com/lowvoltage/picturedb](http://www.siemens.com/lowvoltage/picturedb)

Engineering data for CAD or CAE systems are available in the CAX Download Manager at  
[www.siemens.com/cax](http://www.siemens.com/cax)

### Manuals

Manuals are available for downloading in Siemens Industry Online Support at

[www.siemens.com/lowvoltage/manuals](http://www.siemens.com/lowvoltage/manuals)

- Configuration manual – Switching devices ([45315361](#))

### Classroom or online training

Our training courses can be found at

[www.siemens.com/sitrain-lowvoltage](http://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](http://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



5TE  
busbars



5TT41, 5TT44  
remote control  
switches



5TT4, 5TT5  
auxiliary switches



5TT42  
switching relays



5TT50, 5TT58  
Insta contactors



5TT3  
soft-starting devices

### Accessories



Auxiliary switches  
(AS)



Shunt trips  
(ST)



Undervoltage  
releases (UR)



Remote controlled  
mechanisms  
(RC mech.)



Handle locking  
devices



LEDs



Caps/covers



Connectors

### 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 mm <sup>2</sup>   | 1 ... 6 mm <sup>2</sup>   | 1 ... 6 mm <sup>2</sup>   |
| Flexible conductor cross-section, with end sleeve   | 1 ... 6 mm <sup>2</sup>   | 1 ... 6 mm <sup>2</sup>   | 1 ... 6 mm <sup>2</sup>   |
|   |  |  |  |

| 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

|   |                        |  |
|---|------------------------|--|
| <b>Standards</b>  |                        |  |
| 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          |
| <b>Supply</b>   |                        |  |
| Rated power dissipation $P_v$   | Per pole               | 0.7 VA   |
| <b>Contacts</b>   |                        |  |
| 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  |
| <b>Safety</b>   |                        |  |
| 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  |
| <b>Connections</b>  |                        |  |
| Terminals   | ± Screw (Pozidriv)     | PZ 1   |
|   | Max. tightening torque | 0.8 ... 1.0 Nm   |
| <b>Environmental conditions</b>   |                        |  |
| Permissible ambient temperature   |                        | −5 ... +40 °C  |
| Resistance to climate at 95% relative humidity                                | Acc. to DIN 50015      | 45 °C  |

## 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



# 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 mm <sup>2</sup>   | 1 ... 6 mm <sup>2</sup>  | 1 ... 6 mm <sup>2</sup>   |
| 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  |
| 1 NO + 1 NC      | 400 V    | 1 MW           | –                 | –         | 5TE4810 | –         | 5TE4823 |
|                  |          |                | 1× gray           | 5TE4800   | 1× gray | –         | –       |
|                  |          |                | 1× red            | 5TE4805   | –       | –         | 1× red  |
|                  |          |                | 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  |
| 4 NC             | 400 V    | 1 MW           | –                 | –         | 1× gray | 5TE4813   | –       |
| 2 CO             | 400 V    | 1 MW           | –                 | –         | 1× gray | 5TE4814   | –       |

## Further technical specifications

### 5TE48

|   |                        |  |
|---|------------------------|--|
| <b>Standards</b>  |                        |  |
| Standards   |                        | IEC/EN 60947-3 (VDE 0660-107), IEC/EN 60669-1 (VDE 0632-1) |
| Approvals   |                        | IEC/EN 60947-3 (VDE 0660-107)                              |
| <b>Supply</b>   |                        |  |
| Rated power dissipation $P_v$   | Per pole               | 0.6 VA   |
| <b>Contacts</b>   |                        |  |
| 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  |
| <b>Safety</b>   |                        |  |
| Clearances  | Open contacts          | 2× >2 mm   |
|   | Between the poles      | >7 mm  |
| Creepage distances  |                        | >7 mm  |
| Rated impulse withstand voltage $U_{imp}$                                     |                        | >5 kV  |
| <b>Connections</b>  |                        |  |
| Terminals   | ± Screw (Pozidriv)     | PZ 1   |
|   | Max. tightening torque | 0.8 ... 1.0 Nm   |
| <b>Environmental conditions</b>   |                        |  |
| Permissible ambient temperature   |                        | –5 ... +40 °C  |
| Resistance to climate at 95% relative humidity                                | Acc. to DIN 50015      | 45 °C  |

## 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 mm <sup>2</sup>  |           | 1 ... 6 mm <sup>2</sup>   |         | 1 ... 6 mm <sup>2</sup>   |         |
| 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 |               |              |

# 5TE58 light indicators

With LED

## 5TE58 light indicators

|   |                           |                           |
|---|---------------------------|---------------------------|
| Rigid conductor cross-section                     | 1.5 ... 6 mm <sup>2</sup> | 1.5 ... 6 mm <sup>2</sup> |
| Flexible conductor cross-section, with end sleeve | 1 ... 6 mm <sup>2</sup>   | 1 ... 6 mm <sup>2</sup>   |
| Max. cable length                                 | Standard                  | 250 m                     |



| U <sub>e</sub> 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 <sub>v</sub> | 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         |



## 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 +<br>5× each of yellow/blue/white | 5TG8067     |
|  1× each of red/green/yellow                             | 5TG8070     |

### Color coding according to IEC 60073

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

# 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 mm <sup>2</sup>   | 1.5 ... 6 mm <sup>2</sup>   |
| Flexible conductor cross-section, with end sleeve   | 1 ... 6 mm <sup>2</sup>   | 1 ... 6 mm <sup>2</sup>   |
|   |  |  |

| 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                         |
|---|------------------------|--|-------------------------------|
| <b>Standards</b>  |                        |  |                               |
| Standards   |                        | IEC/EN 60947-3 (VDE 0660-107),<br>IEC/EN 60669-1 | IEC/EN 60947-3 (VDE 0660-107) |
| Approvals   |                        | IEC/EN 60947-3 (VDE 0660-107)                    |                               |
| <b>Supply</b>   |                        |  |                               |
| Rated power dissipation $P_v$   | Per pole               | 0.7 VA   |                               |
| <b>Contacts</b>   |                        |  |                               |
| 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                                      |                               |
| <b>Safety</b>   |                        |  |                               |
| 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  |                               |
| <b>Connections</b>  |                        |  |                               |
| Terminals   | ± Screw (Pozidriv)     | PZ 1   |                               |
|   | Max. tightening torque | 1.2 Nm   |                               |
| <b>Environmental conditions</b>   |                        |  |                               |
| Permissible ambient temperature   |                        | –5 ... +40 °C                                    |                               |
| Resistance to climate at 95% relative humidity                                | Acc. to DIN 50015      | 45 °C  |                               |

## 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     |



# 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 mm <sup>2</sup>                            | 1 ... 35 mm <sup>2</sup> | 1 ... 35 mm <sup>2</sup> | 2.5 ... 50 mm <sup>2</sup> | 2.5 ... 50 mm <sup>2</sup> |
| Flexible conductor cross-section, with end sleeve | 1 ... 25 mm <sup>2</sup>                            | 1 ... 25 mm <sup>2</sup> | 1 ... 25 mm <sup>2</sup> | 2.5 ... 50 mm <sup>2</sup> | 2.5 ... 50 mm <sup>2</sup> |



| 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     |
|---|------------------------|-------------------------------|-------------|-------------|-------------|-------------|-------------|
| <b>Standards</b>  |                        |                               |             |             |             |             |             |
| Standards   |                        | IEC/EN 60947-3 (VDE 0660-107) |             |             |             |             |             |
| Approvals   |                        | IEC/EN 60947-3 (VDE 0660-107) |             |             |             |             |             |
| <b>Supply</b>   |                        |                               |             |             |             |             |             |
| 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      |
| <b>Contacts</b>   |                        |                               |             |             |             |             |             |
| 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 <sup>1)</sup>                                 | 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       |             |
| <b>Safety</b>   |                        |                               |             |             |             |             |             |
| 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 gLgG) |                        | 10 kA                         |             |             |             |             |             |
| Rated impulse withstand voltage $U_{imp}$   |                        | 6 kV                          |             |             |             |             |             |
| <b>Connections</b>  |                        |                               |             |             |             |             |             |
| Terminals   | ± Screw (Pozidriv)     | PZ 2                          |             |             |             |             |             |
|   | Max. tightening torque | 3.5 Nm                        |             |             |             |             |             |
| <b>Environmental conditions</b>   |                        |                               |             |             |             |             |             |
| Permissible ambient temperature   |                        | –5 ... +40 °C                 |             |             |             |             |             |
| Resistance to climate at 95% relative humidity  | Acc. to DIN 50015      | 45 °C                         |             |             |             |             |             |

| 125 A  |   |
|--|---|
|  | 2.5 ... 50 mm <sup>2</sup>  |
|  | 2.5 ... 50 mm <sup>2</sup>  |
|  |  |
| 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 controlled mechanisms (RC mech.)



| Type           | U <sub>e</sub>                 | 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 controlled mechanisms (RC mech.)



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

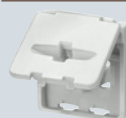
### Handle locking device



- 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 mm<sup>2</sup>

| Number of poles | I <sub>e</sub> | U <sub>e</sub> 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 mm<sup>2</sup> with blue color marking

| Number of poles | I <sub>e</sub> | U <sub>e</sub> AC | Mounting width | Article No. |
|-----------------|----------------|-------------------|----------------|-------------|
| 1-pole          | 125 A          | 230 V             | 1 MW           | 5TL1192-3   |

# 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  
Flexible conductor cross-section, with end sleeve

0.75 ... 35 mm<sup>2</sup>

0.75 ... 25 mm<sup>2</sup>



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

## 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 endurance/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  |

## 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)

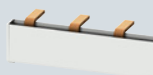


| Type                                | Rated operational voltage $U_e$ | Article No. |
|-------------------------------------|---------------------------------|-------------|
| With integrated auxiliary switch    | 230 V AC                        | 5ST3040     |
|                                     | 110 V DC                        | 5ST3041     |
|                                     | 24 V DC                         | 5ST3042     |
| Without integrated auxiliary switch | 230 V AC                        | 5ST3043     |
|                                     | 110 V DC                        | 5ST3044     |
|                                     | 24 V DC                         | 5ST3045     |

# 5TE busbars

## For modular installation devices

### 1-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 mm<sup>2</sup> 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     |

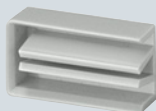
### 2-phase busbar



- For all 5TE8 switches, 20 A and 32 A
- Infeed to unit terminal with conductor cross-section of 6 mm<sup>2</sup> 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     |





# 5TT41 remote control switches

Rated current 16 A

Rated operational current  $I_e$

16 A

Rigid conductor cross-section

1 ... 6 mm<sup>2</sup>

Flexible conductor cross-section, with end sleeve

1 ... 6 mm<sup>2</sup>





| Contacts    | $U_e$ | $U_c$ AC | $U_c$ DC | Mounting width |      | Auxiliary switches can be retrofitted |
|-------------|-------|----------|----------|----------------|------|---------------------------------------|
|             |       |          |          | 1 MW           | 2 MW |                                       |
| 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                             |

## Further technical specifications

|   |  |   |                                 |                               |
|---|--|---|---------------------------------|-------------------------------|
|   |  | 5TT4101<br>5TT4102<br>5TT4105   | 5TT4111<br>5TT4112<br>5TT4115   | 5TT4103<br>5TT4104<br>5TT4114 |
| Further technical specifications  |  |   |                                 |                               |
| 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   |  |   | $0.8 \dots 1.1 \times U_c$      |                               |
| 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 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

|   |   |                       |                         |                         |                       |
|---|---|-----------------------|-------------------------|-------------------------|-----------------------|
| <b>Auxiliary switches</b>   |   |                       |                         |                         |                       |
|  | • One device per remote control switch can be retrofitted |                       |                         |                         |                       |
|   | <b>Contacts</b>   | <b>Type</b>           | <b><math>I_e</math></b> | <b><math>U_e</math></b> | <b>Mounting width</b> |
|   | 1 CO  | Standard              | 5 A                     | 250 V AC                | 0.5 MW                |
|   |   | For low power         | 0.1 A                   | 30 V AC/DC              | 0.5 MW                |
| <b>Compensator</b>  |   |                       |                         |                         |                       |
|  | • For increasing the glow lamp load by 20 mA              |                       |                         |                         |                       |
|   | <b><math>U_e</math></b>                                   | <b>Mounting width</b> | <b>Article No.</b>      |                         |                       |
|   | 250 V AC  | 1 MW                  | 5TT4920                 |                         |                       |

# 5TT41 remote control switches

For special applications, rated current 16 A

Rigid conductor cross-section  
Flexible conductor cross-section, with end sleeve

Remote control switches  
with central On/Off switching

1 ... 6 mm<sup>2</sup>  
1 ... 6 mm<sup>2</sup>



Remote control switches  
with central and group On/Off switching

1 ... 6 mm<sup>2</sup>  
1 ... 6 mm<sup>2</sup>



| Contacts    | U <sub>e</sub> | U <sub>c</sub> 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                                | –  |

Rigid conductor cross-section  
Flexible conductor cross-section, with end sleeve

Series remote control switch  
contact sequence 1 – 2 – 1+2 – 0

1 ... 6 mm<sup>2</sup>  
1 ... 6 mm<sup>2</sup>



Shutter/blind remote control switch  
contact sequence 1 – 0 – 2 – 0

1 ... 6 mm<sup>2</sup>  
1 ... 6 mm<sup>2</sup>



| Contacts | U <sub>e</sub> | U <sub>c</sub> 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                                |

## Further technical specifications

| Further technical specifications  |                                 | 5TT412<br>5TT415  | 5TT413<br>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 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 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 | 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     |



# 5TT44 remote control switches

Rated current 20 A – 63 A




| Rigid conductor cross-section<br>Flexible conductor cross-section,<br>with end sleeve | Rated operational current $I_e$   |   |  |   |   |
|---|---|---|--|---|---|
|   | 20 A  | 25 A  | 32 A   | 40 A  | 63 A  |
|   | 1 ... 10 mm <sup>2</sup><br>1 ... 10 mm <sup>2</sup>                              | 1 ... 10 mm <sup>2</sup><br>1 ... 10 mm <sup>2</sup>                              | 1 ... 10 mm <sup>2</sup><br>1 ... 10 mm <sup>2</sup>                               | 2.5 ... 25 mm <sup>2</sup><br>2.5 ... 25 mm <sup>2</sup>                            | 2.5 ... 25 mm <sup>2</sup><br>2.5 ... 25 mm <sup>2</sup>                            |
|   |  |  |  |  |  |

| 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 | –         | –         |

## Further technical specifications

| 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 endurance at $I_e/U_e$ ,<br>p. f. = 0.6,<br>incandescent lamp load 600 W       | Operating cycles             | 50000                         |                     |        |                             |         |
| Incandescent lamp load<br>(switching of incandescent lamps<br>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 <sup>-1</sup>           | 450 h <sup>-1</sup> |        | 360 h <sup>-1</sup>         |         |
| 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 <sup>2</sup>       |                     |        |                             |         |
| 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     |

# 5TT4 auxiliary switches

## For 5TT4 remote control switches

|   | Auxiliary switches for 5TT41  | Auxiliary switches for 5TT44  |
|---|---|---|
| Rigid conductor cross-section                     | 0.5 ... 2.5 mm <sup>2</sup>   | 1 ... 4 mm <sup>2</sup>   |
| Flexible conductor cross-section, with end sleeve | 0.5 ... 2.5 mm <sup>2</sup>   | 1 ... 4 mm <sup>2</sup>   |
|   |  |  |

| Contacts  | Type          | $I_e$ | $U_e$      | Mounting width |         |         |
|---|---------------|-------|------------|----------------|---------|---------|
| <b>Auxiliary switches</b>   |               |       |            |                |         |         |
| 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 | –       |
| <b>Auxiliary switches, central with diode for central function (no auxiliary switch)</b>      |               |       |            |                |         |         |
|   |               |       | 250 V AC   | 0.5 MW         | –       | 5TT4931 |
| <b>Auxiliary switches, group with several diodes for group function (no auxiliary switch)</b> |               |       |            |                |         |         |
|   |               |       | 250 V AC   | 0.5 MW         | –       | 5TT4932 |

| Further technical specifications  |                                 |  | Auxiliary switches for 5TT41<br>5TT4900<br>5TT4901                 | Auxiliary switches for 5TT44<br>5TT4930<br>5TT4931<br>5TT4932 |
|---|---------------------------------|--|--|---|
| <b>Standards</b>  |                                 |  |  |   |
| Standards   |                                 |  | EN 60947-1 (VDE 0660 Part 100)<br>EN 60947-5-1 (VDE 0660 Part 200) | IEC/EN 60947-5-1  |
| Approvals   |                                 |  | –  | CE, EAC   |
| <b>Supply</b>   |                                 |  |  |   |
| 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   |
| <b>Contacts</b>   |                                 |  |  |   |
| Contact gap   |                                 |  | <1.2 mm  | >3 mm   |
| Minimum contact load  |                                 |  | 5 V; 1 mA  | 12 V; 5 mA  |
| Electrical endurance at $I_e/U_e$ ,<br>p.f. = 0.6,<br>incandescent lamp load 600 W    | Operating cycles                |  | –  | 100000  |
| <b>Safety</b>   |                                 |  |  |   |
| 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<br>protected against continuous<br>voltage, safe due to design |                                 |  | Yes  | –   |
| <b>Function</b>   |                                 |  |  |   |
| Manual operation  |                                 |  | –  | No  |
| Switching position indication   |                                 |  | –  | No  |
| <b>Connections</b>  |                                 |  |  |   |
| Terminals   | ± Screw (Pozidriv)              |  | PZ 1   | PZ 1  |
|   | Max. tightening torque          |  | 0.5 Nm   | 0.8 Nm  |
| <b>Environmental conditions</b>   |                                 |  |  |   |
| Permissible ambient temperature   | For operation/for storage       |  | –10 ... +40 °C/–10 ... +40 °C                                      | –25 ... +70 °C/–30 ... +80 °C                                 |
| Resistance to climate at 95%<br>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)   |

## Accessories

### Compensator



- For increasing the glow lamp load by 20 mA

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

# 5TT42 switching relays

Rated current 16 A

Rated operational current  $I_e$   
16 A

Rigid conductor cross-section  
Flexible conductor cross-section, with end sleeve

1 ... 6 mm<sup>2</sup>

1 ... 6 mm<sup>2</sup>



| 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 |
|             |       | –        | –        | –              | –         |



| 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  |                        | $0.8 \dots 1.1 \times U_c$      |           |                 |           |                 |           |                 |
| Rated frequency $f_c$  |                        | 50 Hz                           |           |                 |           |                 |           |                 |
| Rated power dissipation $P_v$  | Magnet coil            | 2.4 W<br>3.0 VA                 |           | 4.8 W<br>6.0 VA |           | 2.4 W<br>3.0 VA |           | 1.7 W<br>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 $I_e/U_e$ ,<br>p.f. = 0.6,<br>incandescent lamp load 600 W | Operating 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

# 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 mm <sup>2</sup>      | 1.5 ... 25 mm <sup>2</sup> | 1.5 ... 25 mm <sup>2</sup> | 1.5 ... 25 mm <sup>2</sup> |
| Main connection conductor cross-section, stranded with end sleeve                  | 1.0 ... 6 mm <sup>2</sup>       | 1.5 ... 16 mm <sup>2</sup> | 1.5 ... 16 mm <sup>2</sup> | 1.5 ... 16 mm <sup>2</sup> |
| Main connection conductor cross-section, AWG                                       | 16 ... 8                        | 16 ... 4                   | 16 ... 4                   | 16 ... 4                   |
|  |                                 |                            |                            |                            |

| Contacts                            | U <sub>e</sub> | U <sub>c</sub> AC | U <sub>c</sub> 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//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 | –         | –         |

### Note:

Provision must be made for spacers to ensure heat dissipation.

See Configuration manual – Switching devices ([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


## Further technical specifications


| 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 at 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 3-phase asynchronous motors AC-3 at 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 <sup>-1</sup>                  |                            |                |                 |
| 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 <sup>2</sup>          |                            |                |                 |
|  | Stranded, with end sleeve   | 1.0 ... 2.5 mm <sup>2</sup>          |                            |                |                 |
|  | AWG cables  | 16 ... 10                            |                            |                |                 |
| Main connection conductor cross-section  | Solid   | 1.0 ... 10 mm <sup>2</sup>           | 1.5 ... 25 mm <sup>2</sup> |                |                 |
|  | Stranded, with end sleeve   | 1.0 ... 6 mm <sup>2</sup>            | 1.5 ... 16 mm <sup>2</sup> |                |                 |
|  | 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 <sup>1)</sup> /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            |

<sup>1)</sup> 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  |   |                |             |
|---|---|----------------|-------------|
|  | <ul style="list-style-type: none"> <li>For right-hand-side retrofitting</li> <li>Max. one auxiliary switch per Insta contactor</li> </ul> |                |             |
|   | 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   |

# 5TT58 Insta contactors

## AC technology

Main connection conductor cross-section, rigid

Main connection conductor cross-section,  
flexible with end sleeve

| Rated operational current $I_e$ |                            |                          |                          |
|---------------------------------|----------------------------|--------------------------|--------------------------|
| 20 A                            | 25 A                       | 40 A                     | 63 A                     |
| 1.0 ... 10 mm <sup>2</sup>      | 1.0 ... 10 mm <sup>2</sup> | 1 ... 25 mm <sup>2</sup> | 1 ... 25 mm <sup>2</sup> |
| 1.0 ... 6 mm <sup>2</sup>       | 1.0 ... 6 mm <sup>2</sup>  | 1 ... 16 mm <sup>2</sup> | 1 ... 16 mm <sup>2</sup> |



| 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 | –         |

### Note:

Provision must be made for spacers to ensure heat dissipation.



See Configuration manual – Switching devices ([45315361](#)).


## Further technical specifications

| Further technical specifications  |  | 5TT580.   | 5TT582.<br>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 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/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 |
|   | 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 <sup>1)</sup>  | 1.3 kW             | 3.7 kW                   | 5 kW    |
|   | 3-phase (400 V) (NO contacts)  | –   | 4 kW               | 11 kW                    | 15 kW   |
| Maximum switching frequency at load   |  | 600 h <sup>-1</sup>   |                    |                          |         |
| 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 <sup>2</sup>   |                    |                          |         |
|   | Flexible, with end sleeve  | 1.0 ... 2.5 mm <sup>2</sup>   |                    |                          |         |
| Main connection conductor cross-section   | Rigid  | 1.0 ... 10 mm <sup>2</sup>  |                    | 1 ... 25 mm <sup>2</sup> |         |
|   | Flexible, with end sleeve  | 1.0 ... 6 mm <sup>2</sup>   |                    | 1 ... 16 mm <sup>2</sup> |         |
| 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   | IP20. with connected conductors   |                    |                          |         |

<sup>1)</sup> For NO contacts only.

## Accessories

| Auxiliary switches  |  |                |             |
|---|--|----------------|-------------|
|  | <ul style="list-style-type: none"><li>For right-hand-side retrofitting</li><li>Max. one auxiliary switch per Insta contactor</li></ul> |                |             |
|   | 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  |   |
|---|---|
|  | <ul style="list-style-type: none"> <li>Contour for modular devices with a mounting depth of 70 mm</li> <li>Can be snapped onto either side of the busbar for convenient cable routing</li> <li>Spacer is recommended for better heat dissipation</li> </ul> |
|   |   |
|   | <b>Article No.</b>  |
| 5TG8240   |   |



# 5TT5 auxiliary switches

For 5TT5 Insta contactor

Rigid conductor cross-section 1 ... 2.5 mm<sup>2</sup>  
Flexible conductor cross-section, with end sleeve 1 ... 2.5 mm<sup>2</sup>



| Contacts    | U <sub>e</sub> 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 |

## Further technical specifications

5TT5910

|  |                                   |  |                                 |
|--|-----------------------------------|--|---------------------------------|
| <b>Standards</b>   |                                   |  |                                 |
| Standards  |                                   |  | IEC 60947-5-1                   |
| Approvals  |                                   |  | CCC                             |
| <b>Supply</b>  |                                   |  |                                 |
| Number of poles  |                                   |  | 2                               |
| Rated operational current I <sub>e</sub>                   | 230 V                             |  | 6 A                             |
|  | 400 V                             |  | 4 A                             |
| Rated frequency f <sub>c</sub> at AC                       |                                   |  | 50/60 Hz                        |
| <b>Contacts</b>  |                                   |  |                                 |
| 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 <sup>-1</sup>             |
| <b>Safety</b>  |                                   |  |                                 |
| Rated insulation voltage U <sub>i</sub>                    |                                   |  | 500 V                           |
| Rated impulse withstand voltage U <sub>imp</sub>           |                                   |  | 4 kV                            |
| Short-circuit protection, according to coordination type 1 | Back-up fuse characteristic gL/gG |  | 6 A                             |
| <b>Connections</b>   |                                   |  |                                 |
| Terminals  | ± Screw (Pozidriv)                |  | PZ 1                            |
| Conductor cross-section                                    | Rigid                             |  | 1 ... 2.5 mm <sup>2</sup>       |
|  | Flexible, with end sleeve         |  | 1 ... 2.5 mm <sup>2</sup>       |
| Tightening torque  |                                   |  | 0.8 Nm                          |
| <b>Environmental conditions</b>                            |                                   |  |                                 |
| Permissible ambient temperature                            | For operation/for storage         |  | -5 ... +55 °C/-30 ... +80 °C    |
| Degree of protection                                       | Acc. to EN 60529                  |  | IP20, with connected conductors |

# 5TT3 soft-starting devices

For 2-phase motor control

Rigid conductor cross-section  
Flexible conductor cross-section, with end sleeve

Max.  $2 \times 2.5 \text{ mm}^2$

Min.  $1 \times 0.5 \text{ mm}^2$



| Version | $U_e$ AC | Mounting width |         |
|---------|----------|----------------|---------|
| 3-phase | 400 V    | 6 MW           | 5TT3440 |

## Further technical specifications

5TT3440

|   |                                      |  |                                  |
|---|--------------------------------------|--|----------------------------------|
| <b>Standards</b>  |                                      |  |                                  |
| Standards   |                                      |  | EN 60947-4-2 (VDE 0660-117)      |
| <b>Supply</b>   |                                      |  |                                  |
| Line/motor voltage  |                                      |  | 400 V AC                         |
| Primary operating range   |                                      |  | $0.8 \dots 1.1 \times U_c$       |
| 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                     |
| <b>Safety</b>   |                                      |  |                                  |
| Quick-acting semiconductor fuse   |                                      |  | 35 A                             |
| <b>Function</b>   |                                      |  |                                  |
| Switching frequency $3 \times I_N$ , $T_{AN} = 10 \text{ s}$ , $v_u = 20\%$ | Operating cycles (up to 3 kW)        |  | 36 h <sup>-1</sup>               |
|   | Operating cycles (from 3 ... 5.5 kW) |  | 20 h <sup>-1</sup>               |
| Recovery time   |                                      |  | 100 ms                           |
| <b>Connections</b>  |                                      |  |                                  |
| Conductor cross-section   | Rigid                                |  | Max. $2 \times 2.5 \text{ mm}^2$ |
|   | Flexible, with end sleeve            |  | Min. $1 \times 0.5 \text{ mm}^2$ |
| <b>Environmental conditions</b>   |                                      |  |                                  |
| Permissible ambient temperature   |                                      |  | -20 ... +60 °C                   |
| Resistance to climate   | Acc. to EN 60068-1                   |  | 20/60/4                          |

# 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

|  |  |                                       |
|--|--|---------------------------------------|
| <b>Standards</b>   |  |                                       |
| Standards  |  | EN 60730-1, -2-7;<br>VDE 0631-1, -2-7 |
| <b>Supply</b>  |  |                                       |
| Primary operating range                                  |  | 0.85 ... $1.1 \times U_c$             |
| Frequency range  |  | 50/60 Hz                              |
| Rated power dissipation $P_v$                            |  | 0.9 VA                                |
| <b>Channels</b>  |  |                                       |
| 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                                  |
| <b>Contacts</b>  |  |                                       |
| 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<br>70 $\mu$ F | 60 VA                                 |
|  | Uncorrected                            | 2500 VA                               |
| <b>Safety</b>  |  |                                       |
| 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                                   |
| <b>Function</b>  |  |                                       |
| Clock errors per day                                     | Typical                                | $\pm 1$ s/day                         |
| Power reserve storage                                    | Battery                                | 3 years                               |
| Make and break cycles                                    |  | 1 min                                 |
| Minimum switching sequences                              |  | 1 min                                 |
| Control input  | Terminal S                             | –                                     |
| Programs <sup>1)</sup>                                   |  | 28                                    |
| Battery type   |  | Li primary cell                       |
| <b>Connections</b>                                       |  |                                       |
| Terminals  | $\pm$ Screw (Pozidriv)                 | PZ 1                                  |
| Conductor cross-sections of main current path            | Rigid                                  | 1.5 ... 4 mm <sup>2</sup>             |
|  | Flexible, with end sleeve              | Max. 2.5 mm <sup>2</sup>              |
| <b>Environmental conditions</b>                          |  |                                       |
| Permissible ambient temperature                          | For operation/<br>for storage          | –10 ... +55 °C/<br>–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                                    |

<sup>1)</sup> A program consists of an ON time, an OFF time and assigned ON and OFF days or day blocks.

## 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;<br>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 <sup>2)</sup>             |
| 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 <sup>1)</sup>                                   |                                | 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 mm <sup>2</sup>             |
|  | Flexible, with end sleeve      | Max. 2.5 mm <sup>2</sup>              |
| Environmental conditions                                 |                                |                                       |
| Permissible ambient temperature                          | For operation/<br>for storage  | –20 ... +55 °C/<br>–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                                    |

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<sup>1)</sup> A program consists of an ON time, an OFF time and assigned ON and OFF days or day blocks.

<sup>2)</sup> 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.

# 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 ... $1.1 \times U_c$          |
|  | $U_c$ 24 V                          | 0.9 ... $1.1 \times U_c$           |
| 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 $\mu$ F | 600 VA                             |
|  | Uncorrected                         | 2000 VA                            |
| Safety   |                                     |                                    |
| Different phases between operating mechanism and contact |                                     | Permissible <sup>2)</sup>          |
| 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                             | $\pm 0.1$ 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 <sup>1)</sup>                                   |                                     | 28                                 |
| Program memory   | Captive                             | Yes                                |
| Battery type   |                                     | Li primary cell                    |
| Connections  |                                     |                                    |
| Terminals  | $\pm$ Screw (Pozidriv)              | PZ 1                               |
| Conductor cross-sections of main current path            | Rigid                               | 1.5 ... 4 mm <sup>2</sup>          |
|  | Flexible, with end sleeve           | Max. 2.5 mm <sup>2</sup>           |
| Environmental conditions                                 |                                     |                                    |
| Permissible ambient temperature                          | For operation/for storage           | -20 ... +55 °C/<br>-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                                 |

<sup>1)</sup> A program consists of an ON time, an OFF time and assigned ON and OFF days or day blocks.

<sup>2)</sup> 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.

## 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                              |
|--|-------------------------------------|------------------------------------|
| <b>Standards</b>   |                                     |                                    |
| Standards  |                                     | EN 60730-1, -2-7; VDE 0631-1, -2-7 |
| Approvals  |                                     | UL File No. E301698                |
| <b>Supply</b>  |                                     |                                    |
| Primary operating range                                  |                                     | 0.85 ... $1.1 \times U_c$          |
| Frequency range  |                                     | 50/60 Hz                           |
| Rated power dissipation $P_v$                            |                                     | 2 VA                               |
| <b>Channels</b>  |                                     |                                    |
| 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                               |
| <b>Contacts</b>  |                                     |                                    |
| 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 $\mu$ F | 600 VA                             |
|  | Uncorrected                         | 2000 VA                            |
| <b>Safety</b>  |                                     |                                    |
| Different phases between operating mechanism and contact |                                     | Permissible <sup>2)</sup>          |
| 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                                |
| <b>Function</b>  |                                     |                                    |
| Clock errors per day                                     | Typical                             | $\pm 0.1$ 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 <sup>1)</sup>                                   |                                     | 56 (2 $\times$ 28)                 |
| Program memory   | Captive                             | Yes                                |
| Battery type   |                                     | Li primary cell                    |
| <b>Connections</b>                                       |                                     |                                    |
| Terminals  | $\pm$ Screw (Pozidriv)              | PZ 1                               |
| Conductor cross-sections of main current path            | Rigid                               | 1.5 ... 4 mm <sup>2</sup>          |
|  | Flexible, with end sleeve           | Max. 2.5 mm <sup>2</sup>           |
| <b>Environmental conditions</b>                          |                                     |                                    |
| Permissible ambient temperature                          | For operation/<br>for storage       | -20 ... +55 °C/<br>-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                                 |

<sup>1)</sup> A program consists of an ON time, an OFF time and assigned ON and OFF days or day blocks.

<sup>2)</sup> 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.

# 7LF4 digital time switches

## Accessories

|  |                    | Mini | Top | Profi | Astro |
|--|--------------------|------|-----|-------|-------|
| <b>Data keys</b>   |                    |      |     |       |       |
|  <ul style="list-style-type: none"> <li>For Profi and Astro digital time switches</li> <li>Programming at the PC (7LF4941-0 USB adapter and software required)</li> <li>Read-in of programs to the time switch</li> <li>Writing of programs from the time switch</li> <li>Transfer of programs               <ul style="list-style-type: none"> <li>From PC to time switch and vice versa</li> <li>From time switch to time switch</li> </ul> </li> </ul>   |                    |      |     |       |       |
|  | <b>Article No.</b> |      |     |       |       |
|  | 7LF4941-1          | –    | –   | ■     | ■     |
| <b>USB adapter and software</b>  |                    |      |     |       |       |
|  <ul style="list-style-type: none"> <li>For Profi and Astro digital time switches</li> <li>For the reading and writing of data keys at the PC</li> <li>Including programming software</li> <li>Including 7LF4941-1 data key for Profi and Astro</li> <li>Compatible with 7LF4940-1 data key (predecessor model) and 7LF4940-2 data key</li> <li>Can be connected via USB interface</li> <li>System requirements:               <ul style="list-style-type: none"> <li>Windows 7, Windows Vista, Windows 2000, Windows ME, Windows XP or Windows 98 Second Edition</li> <li>USB connection</li> <li>40 MB free disk space</li> </ul> </li> </ul> |                    |      |     |       |       |
|  | <b>Article No.</b> |      |     |       |       |
|  | 7LF4941-0          | –    | –   | ■     | ■     |
| <b>Holders for front panel installation</b>  |                    |      |     |       |       |
|  <ul style="list-style-type: none"> <li>Universal application for devices from 1 MW ... 6 MW</li> <li>Cutout dimensions:               <ul style="list-style-type: none"> <li>Height 45<sup>+0.5</sup> mm</li> <li>Width 23 mm, 41 mm, 59 mm, 77 mm, 95 mm or 113 mm</li> </ul> </li> </ul>  |                    |      |     |       |       |
|  | <b>Article No.</b> |      |     |       |       |
|  | 7LF9006            | ■    | ■   | ■     | ■     |





# 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 | –         |

## Further technical specifications

| 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 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 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<sup>+0.5</sup> mm
  - Width 23 mm, 41 mm, 59 mm, 77 mm, 95 mm or 113 mm

Article No.

7LF9006

# 7LF5 mechanical time switches

Time switches with power reserve

|  | For standard mounting rail  |   |   | For wall mounting<br>(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 | –         |

| 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 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<sup>+0.5</sup> mm
  - Width 23 mm, 41 mm, 59 mm, 77 mm, 95 mm or 113 mm

Article No.

7LF9006

# 7LF6 timers for buildings

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



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

## Further technical specifications

|                                    |                                   | 7LF6310        | 7LF6311           |
|------------------------------------|-----------------------------------|----------------|-------------------|
| <b>Supply</b>                      |                                   |                |                   |
| 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           |                   |
| <b>Contacts</b>                    |                                   |                |                   |
| 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        |                   |
| <b>Function</b>                    |                                   |                |                   |
| Setting range                      |                                   | 0.5 ... 10 min | 0.5 ... 12 min    |
| Manual switches                    |                                   | Yes            |                   |
| Programs                           |                                   | –              | 7 <sup>1)</sup>   |
| <b>Environmental conditions</b>    |                                   |                |                   |
| Permissible ambient temperature    | For operation                     | –20 ... +55 °C |                   |
|                                    | For storage                       | –20 ... +60 °C |                   |
| Degree of protection               | Installed                         | IP30           |                   |
| Pollution degree                   |                                   | 2              |                   |

<sup>1)</sup> 7 functions, can be selected using selector switch on the device

# 5TT3 timers for industrial applications

| Programmable for: | Multifunction timers  | Delay timers  |
|-------------------|---|---|
|                   | <ul style="list-style-type: none"> <li>• Response delay</li> <li>• Passing make contact function</li> <li>• Pulse generator, delayed</li> <li>• Clock generator, starting with impulse</li> <li>• OFF-delay</li> <li>• Pulse converter</li> <li>• Passing break contact function</li> <li>• Response delay/OFF-delay</li> </ul> | –   |
|                   |    |  |
| 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 service life                       | Switching cycles          | 1.5 × 10 <sup>5</sup>       | –                     |
|   | At AC-15                  | –                           | 1.5 × 10 <sup>5</sup> |
| 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 mm <sup>2</sup> |                       |
|   | Flexible, with end sleeve | Min. 2× 1.5 mm <sup>2</sup> |                       |
| Environmental conditions                      |                           |                             |                       |
| Permissible ambient temperature               |                           | –40 ... +60 °C              |                       |
| Resistance to climate                         | Acc. to EN 60068-1        | 40/60/4                     |                       |







# Appendix



Conditions of sale and delivery \_\_\_\_\_ A/2

Link directory \_\_\_\_\_ A/4

# Conditions of sale and delivery

## 1. General Provisions

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- for other services, the „Supplementary Terms and Conditions for Services (‘BL’)<sup>1)</sup> and/or
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# Link directory

## Catalog LV 10

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PDF (E86060-K8280-A101-B4-7600)



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[www.siemens.com/sitrain](http://www.siemens.com/sitrain)

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Further information on low-voltage power distribution  
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