# SIEMENS

# SENTRON • SIVACON • ALPHA

# Low-Voltage Power Distribution and Electrical Installation Technology

# **Monitoring Devices**

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# Innovative solutions for industrial controls and power distribution

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The products and systems described in this catalog are manufactured/ distributed under application of a certified quality management system in accordance with EN ISO 9001 (for the Certified Registration Nos., see www.siemens.com/system-certificates/ep).

The certificate is recognized by all IQNet countries.

#### 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

Siemens 2024

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### Well-monitored - well-protected

Monitoring devices perform numerous functions to protect people and machinery: At dusk, they switch on automatically, control the temperature or signal the location where a fuse has tripped.

They also ensure reliable switchover to emergency power supply, monitor the emergency lighting, ensure overload-free operation of motors and neutral monitoring for breakage and overvoltages.

Monitoring devices can do even more, e.g., underload monitoring of asynchronous motors in no-load operation.

# **Monitoring Devices**

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# A multitude of additional information ...

# Information + ordering

### *i* All the important things at a glance

For information about monitoring devices, please visit our website www.siemens.com/lowvoltage

### *i* Your product in detail

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

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

### Everything you need for your order

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

Monitoring devices sie.ag/2m3no4A

Direct forwarding to the individual products in SiePortal by clicking on the article number in the catalog or entering this web address incl. article number www.siemens.com/product\_catalog\_SIEP?<u>Article No.</u>

### The fast track to the experts

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

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# ... can be found in our online services

# Commissioning + operation

### 🥡 Your product in detail

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

- Operating instructions
- Characteristic curves
- Certificates

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

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

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

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

### Manuals

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

- Configuration Manual
  - Monitoring devices (45316099)

Technical overview – Monitoring devices



### The fast way to get you to our online services

This page provides you with comprehensive information and links on monitoring devices www.siemens.com/lowvoltage/product-support (109769086)

# System overview

# Monitoring devices for electrical values .... 1111 56 -010ª 60 00 TTTT T 5SV8 residual current monitor 5SV8 modular residual current device 5TT3 and 5TT6 relay 5TT3 monitors Accessories Holders for DIN rails Summation current transformer Magnetic field centering sleeves Monitoring devices for plants and equipment J i i i 775 5TT5 EMERGENCY STOP modules 5TT3 relay 7LQ2 twilight switches Accessories Immersion electrodes

#### Note:

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

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# 5SV8 residual current monitors

# Type A and type AC

				RCM analog	RCM digital	
			Mounting width	2 MW	3 MW	3 MW
				····		
Rated operational	Rated residual	current I <sub>Δn</sub>	Response time ∆t		1 channel	4 channels
voltage U <sub>e</sub>	Туре А	Туре АС				
230 V AC	0.03 5 A	> 3 A	0.02 5 s	5SV8000-6KK	-	-
	0.03 3 A	5 30 A	0.02 10 s, INS, SEL <sup>1)</sup>	-	5SV8001-6KK	5SV8200-6KK

Further technical specifications		5SV8000-6KK	5SV8001-6KK	5SV8200-6KK		
Standards						
Standards		EN 62020, IEC 62020	EN 62020, IEC 62020			
Approvals		-	UL			
Supply						
Rated operational voltage $U_{\rm e}$		230 V AC				
Frequency		50/60 Hz				
Rated residual current $I_{\Delta n}$	Туре А	0.03 3 A				
	Type AC	> 3 A	5 30 A			
Response time $\Delta t$		0.02 5 s	0.02 10 s, INS, SEL 1)			
Relay contacts						
Relay contacts		1 × alarm	1 × pre-alarm, 1 × alarm	1 × pre-alarm, 4 × alarm		
Rated voltage		230 V AC	230 V AC			
Rated current		6 A	6 A			
Summation current transforme	r					
Diameter		20 210 mm	20 210 mm			
Equipment						
Maximum cable length RCM/CT		10 m (shielded cable)	10 m (shielded cable)			
Conductor cross-section		1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>			
Test/reset		Yes/Yes	Yes/Yes			
External tripping operation/external reset		-/Yes	Yes/Yes			
Safety						
Degree of protection	Contacts	IP20				
	Front	IP41				
Ambient conditions						
Operating temperature		−10 +50 °C				
0						

1) INS: Instantaneous, SEL: Selective

#### Accessories

### Summation current transformers

Including holder for DIN rail or wall mounting
Standard ®



Mounting options	Lowest measurable residual current I <sub>∆n min</sub>	Rated current I <sub>n</sub>	Maximum current <sup>2)</sup> I <sub>max</sub>	Internal diameter	Article No.
DIN rail	30 mA	≤ 40 A	240 A	20 mm	5SV8700-0KK
		≤ 63 A	380 A	30 mm	5SV8701-0KK
Wall mounting,	30 mA	≤ 80 A	480 A	35 mm	5SV8702-0KK
DIN rail <sup>1)</sup>		≤ 200 A	1200 A	70 mm	5SV8703-0KK
Wall mounting	100 mA	≤ 250 A	1500 A	105 mm	5SV8704-0KK
	300 mA	≤ 500 A	3000 A	140 mm	5SV8705-0KK
		≤ 600 A	3600 A	210 mm	5SV8706-0KK

### Holders for DIN rails

Suitable for summation current transformers with internal diameter of 20 mm, 30 mm, 35 mm, 70 mm
Cannot be used together with magnetic field centering sleeves

5SV8900-1KK
Article No.
5SV8902-1KK
5SV8903-1KK
5SV8904-1KK
5SV8905-1KK
5SV8906-1KK

<sup>1)</sup> The holder for DIN rails is additionally required for mounting onto the DIN rail.

<sup>2)</sup> Short-time starting current, up to 2 s

Article No.

# 5SV8 modular residual current device

Type A

		Mounting width	MRCD 3 MW
Rated operational voltage U <sub>e</sub>	Rated residual current I <sub>∆n</sub>	Response time ∆t	
	Туре А		
230 V AC	0.03 3 A	0.02 10 s, INS, SEL 1)	5SV8101-6KK

### Further technical specifications

Standards				
Standards		EN 60947-2 (Annex M), IEC 60947-2 (Annex M)		
Approvals		-		
Supply				
Rated operational voltage $U_{\rm e}$		230 V AC from a 1-phase auxiliary voltage source (also externally)		
Frequency		50/60 Hz		
Rated residual current $I_{\Delta n}$	Туре А	0.03 3 A (default setting: 30 mA)		
	Type AC	-		
Response time $\Delta t$	$I_{\Delta n} = 30 \text{ mA}$	INS instantaneous		
	$I_{\Delta n}$ > 30 mA	INS – SEL – 0.06 10 s <sup>1)</sup> (default setting INS)		
Relay contacts				
Relay contacts		1 × alarm, 1 × tripping operation		
Rated voltage		230 V AC		
Rated current		6 A		
Summation current transformer				
Diameter		35 210 mm		
Equipment				
Maximum cable length RCM/CT		10 m (shielded cable)		
Conductor cross-section		0.125 2.08 mm <sup>2</sup>		
Test/reset		Yes/Yes		
External tripping operation/externa	l reset	Yes/Yes		
Safety				
Degree of protection	Contacts	IP20		
	Front	IP41		
Ambient conditions				
Operating temperature		−10 +50 °C		

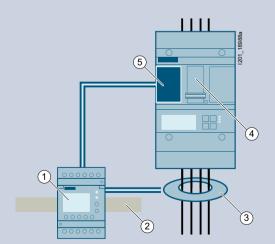
<sup>1)</sup> INS: Instantaneous, SEL: Selective

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### Accessories

Summation current tra	ansformers						
	<ul> <li>Including holder for w</li> <li>Standard <sup>®</sup></li> </ul>	all mounting					
	Mounting options	Lowest measurable residual current I <sub>∆n min</sub>	Rated current I <sub>n</sub>	Maximum current <sup>2)</sup> I <sub>max</sub>	Internal diameter	Article No.	
	Wall mounting,	30 mA	≤ 80 A	480 A	35 mm	5SV8702-0KK	
	DIN rail <sup>1)</sup>	30 mA	≤ 200 A	1200 A	70 mm	55V8703-0KK	
	Wall mounting	100 mA	≤ 250 A	1500 A	105 mm	5SV8704-0KK	
	-	300 mA	≤ 500 A	3000 A	140 mm	5SV8705-0KK	
			≤ 600 A	3600 A	210 mm	5SV8706-0KK	
lolders for DIN rails							
2		<ul> <li>Suitable for summation current transformers with internal diameter of 20 mm, 30 mm, 35 mm, 70 mm</li> <li>Cannot be used together with magnetic field centering sleeves</li> </ul>					
						Article No.	
ł						5SV8900-1KK	
Magnetic field centeri	ng sleeves						
	Internal diameter					Article No.	
	35 mm					5SV8902-1KK	
y _	70 mm					5SV8903-1KK	
	105 mm					5SV8904-1KK	
	140 mm					5SV8905-1KK	
	210 mm					5SV8906-1KK	
<sup>1)</sup> The holder for DIN rails is <sup>2)</sup> Short-time starting curre	s additionally required for mountinent, up to 2 s	ig onto the DIN rail.					

# **Tested combination options**



5SV8101-6k	5SV8101-6KK/- (tested combinations)					
1 Modular r	esidual current device					
5SV8101-6Kk	<					
Ø DIN rail						
EN 60715 – T	H35 – 7.5 35 – 15					
Summatio	n current transformers	Magnetic field centering sleeves				
Ø 35 mm	5SV8702-0KK	5SV8902-1KK				
Ø 70 mm	5SV8703-0KK	5SV8903-1KK				
Ø 105 mm	5SV8704-0KK	5SV8904-1KK				
Ø 140 mm	5SV8705-0KK	5SV8905-1KK				
Ø 210 mm	5SV8706-0KK	5SV8906-1KK				
4 Molded ca	se circuit breakers	🛭 Trip element				
3VL17		3VL9400-1UP00				
3VL27						
3VL37						
3VL47						
3VA10		3VA9908-0BB11				
3VA11		3VA9908-0BB20				
3VA20		3VA9908-0BB24				
3VA21		3VA9908-0BB25				
3VA22						
3VA12		3VA9908-0BB11				
3VA23		3VA9908-0BB20				
3VA24		3VA9908-0BB24				

# 5SV8 modular residual current device

Type B

		Mounting width	MRCD digital 2 MW
Rated operational voltage U <sub>e</sub>	Rated residual current I <sub>∆n</sub> Type B	Response time ∆t	
230 V AC	0.03 1 A	0 10 s	5SV8101-4KK
24 V DC	0.03 1 A	0 10 s	5SV8111-4KK

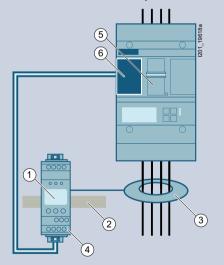
Further technical spe	ecifications	5SV8101-4KK	5SV8111-4KK	
Standards				
Standards		EN 60947-2 (Annex M), IEC 60947-2 (Anne	x M)	
Supply				
Supply voltage U <sub>s</sub>		230 V AC (70 300 V AC)	24 V DC (9.6 94 V DC)	
Frequency		50/60 Hz	_	
Power consumption		< 6.5 VA		
Relay contacts				
Relay contacts		$1 \times alarm$ , $1 \times tripping$ operation		
Rated voltage		250 V AC		
Rated current		5 A		
External summation current	transformer			
Internal diameter		35 210 mm (5SV8701-2KK, 5SV8701-2KP, 5SV8702-2KI	K, 5SV8702-2KP, 5SV8703-2KK, 5SV8704-2KK)	
Rated voltage	(Summation current transformers)	690 V		
Response characteristic	Acc. to IEC 60947-2 (M)	Туре В		
Rated frequency		0 2 kHz		
Response residual current	$I_{\Delta n}$ 1 (AL1 alarm)	50 100% of <i>I</i> <sub>Δn</sub> 2 (factory setting: 50%)		
	$I_{\Delta n}^{2}$ (TP2 tripping)	30 mA 1 A (factory setting: 30 mA)		
Response delay	t <sub>on</sub> 1 (alarm)	0 10 s (factory setting: 1 s)		
	t <sub>on</sub> 2 (tripping)	0 10 s (factory setting: 0 s)		
Equipment				
Maximum cable length MRCD	/converter	10 m (6 × 0.75 mm <sup>2</sup> )		
Password		Off/0 999 (factory setting: 0)		
Safety				
Degree of protection	Components (IEC 60529)	IP30		
	Terminals (IEC 60529)	IP20		
EMC		IEC 60947-2 (M)		
Overvoltage category		III		
Pollution degree		3		
Mechanical data				
Width		36 mm (2 MW)		
Depth		64 mm		
Height		85 mm		
Weight		150 g		
Mounting		DIN rail		
Enclosure material		Polycarbonate		
Electrical connection		Screw terminals		
Conductor cross-section Rigid		0.2 4 mm <sup>2</sup>		
	Flexible, with end sleeve	0.2 2.5 mm <sup>2</sup> (AWG 24 12)		
Stripped length		8 9 mm		
Tightening torque		0.5 0.6 Nm		
Ambient conditions				
Operating temperature		−25 +55 °C		

#### Accessories

Summation current transformers						
	Lowest measurable residual current I <sub>∆n min</sub>	Rated current I <sub>n</sub>	Maximum current <sup>1)</sup> I <sub>max</sub>	Internal diameter	Version	Article No.
	10 mA	≤ 80 A	500 A	35 mm	Standard	5SV8701-2KK
					With shield	5SV8701-2KP
		≤ 160 A	1000 A	60 mm	Standard	5SV8702-2KK
					With shield	5SV8702-2KP
	100 mA	≤ 330 A	2000 A	120 mm	Standard	5SV8703-2KK
	300 mA	≤ 630 A	3800 A	210 mm	Standard	5SV8704-2KK
Holders for DIN rails						
	Suitable for summation	current transform	ners			Article No.
	5SV8701-2KK, 5SV8701-2KP					5SV8900-2KK
	5SV8702-2KK, 5SV8702-2KP					5SV8900-3KK

<sup>1)</sup> Short-time starting current, up to 2 s

### **Tested combination options**



5SV8101-4KK/5SV8111-4KK (tested combin	ations)
Modular residual current device	
5SV8101-4KK/5SV8111-4KK	
❷ DIN rail	
EN 60715 – TH35 – 7,5 35 – 15	
<ul> <li>Summation current transformers</li> </ul>	
Ø 35 mm 55V8701-2KK/5SV8701-2KP	
Ø 60 mm 5SV8702-2KK/5SV8702-2KP	
Ø 120 mm 55V8703-2KK	
Ø 210 mm 55V8704-2KK	
4 Relay contacts	
DC:	AC: max. 230 V, 5A
Molded case circuit breakers	🛛 Trip element
3VA1	3VA9908-0BB11
3VA20	3VA9908-0BB24
3VA21	3VA9908-0BB25
3VA22	
3VA23	3VA9908-0BB11
3VA24	3VA9908-0BB25

# 5TT3 undervoltage relays

# Without response delay

R

Rated operational

			For the monito	ring of	
			1, 2 or 3 phases	s against N	3 phases against N
		Contacts	1 CO	2 CO	2 CO
		Mounting width	1 MW	2 MW	2 MW
					VICE VICE VICE VICE VICE
Rated operational current I <sub>e</sub>	Switching thresholds	Hysteresis			

voltage Ü <sub>e</sub>	current I <sub>e</sub>	thresholds				
Not adjustable						
230 V AC	4 A	0.7 and 0.9 $\times$ U <sub>c</sub>	-	5TT3400	5TT3402	5TT3404
		0.85 and 0.95 $\times$ $U_{c}$	-	5TT3401	-	5TT3405
Adjustable						
230 V AC	4 A	0.7 0.95 × U <sub>c</sub>	5%	-	-	5TT3406
		$0.9 \dots 0.95 \times U_{c}$	-	-	5TT3403	-

		5TT3400		
		5TT3401	5772404	
	_	5TT3402	5TT3404	
Further technical specification	S	5TT3403	5TT3405	5TT3406
Standards				
Standards		IEC 60255, DIN	VDE 0435-110, DIN VE	DE 0435-303
Supply				
Rated control circuit voltage $U_{\rm c}$		230/400 V AC		
Primary operating range (overload capability)	$1.1 \times U_{c}$			
Rated frequency		50/60 Hz		
Contacts				
μ contact	AC-11	4 A		
Response values	ON-switching	$0.9/0.95 \times U_{\rm c}$		4% hysteresis
	OFF-switching	$0.7/0.85 \times U_{c}$		0.7 0.95 × U <sub>c</sub>
Minimum contact load		10 V/100 mA		
Safety				
Rated insulation voltage U <sub>i</sub>	Between coil/contact	4 kV		
Electrical isolation, creepage distances and clearances	Actuator/contact	3 mm	5.5 mm	
Rated impulse withstand voltage U <sub>imp</sub>	Actuator/contact	> 2.5 kV	> 4 kV	
Functions				
Phase asymmetry	Setting accuracy	-	Approx. 5 10 <sup>0</sup>	%
	Repeat accuracy	-	1	
Phase failure detection	At L1 or L2 or L3	100 ms		
Functions	Monitoring of 1/2 phases against N	Yes	-	
	Monitoring of 3 phases against N	Yes		
	Asymmetry (failure) detection	-	Yes	
	Reverse (failure) detection	-	Yes	
	Phase failure detection	Yes		
	N-conductor monitoring	-	Yes	
Connection				
Terminals	± Screw (Pozidriv)	PZ 1		
Conductor cross-sections Rigid		Max. 2 × 2.5 mm <sup>2</sup>		
	Flexible, with end sleeve	Min. 1 × 0.5 mr	n²	
Ambient conditions				
Permissible ambient temperature		−20 +60 °C		
Resistance to climate	Acc. to EN 60068-1	20/60/4		

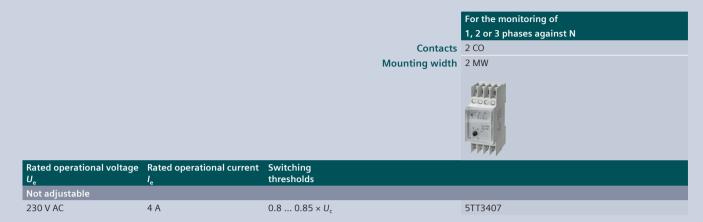
# 5TT3 undervoltage relays

With response delay

					For the monitorin 1, 2 or 3 phases a	
				Contacts		2 CO
				Mounting width	1 MW	1 MW
Rated operational voltage <i>U</i> <sub>e</sub>	Rated operatio	onal current	Switching thresholds	Hysteresis	Standard	With TEST pushbutton
Not adjustable	-e					
230 V AC	4 A		0.85 × U <sub>c</sub>	5%	5TT3414	5TT3415
Further technical sp	pecification	S			5TT3414	5TT3415
Supply						
Rated control circuit voltage	U <sub>c</sub>				230/400 V AC	
Primary operating range (over	erload capability	)			1.15 × U <sub>c</sub>	
Rated frequency					50/60 Hz	
Contacts						
Contacts		AC-15			1 CO	2 CO
Response values		ON-switch	ning		5% hysteresis	
		OFF-swite	hing		$0.85 \times U_{c}$	
Response delay					0.5 s	
Return transfer delay					60 s	
Minimum contact load					10 V/100 mA	
Electrical endurance in opera	ating cycles	AC-15 (1 /	A, 230 V AC)		1 × 10 <sup>5</sup>	
Safety						
Rated insulation voltage U <sub>i</sub>		Between	coil/contact		-	
Rated impulse withstand vol-	tage	Acc. to IEC	2 60664-1		6 kV	
Pollution degree					2	
Functions						
Phase failure detection		At L1 or L	2 or L3		500 ms	
Functions		Monitorin	g of 1 or 2 phases	against N	Yes	
		Monitorin	g of 3 phases aga	inst N	Yes	
		Phase fail	ure detection		Yes	
Connection						
Terminals		– Screw (s	slot)		3.5 mm	
Conductor cross-sections		Rigid			$1 \times 4 \text{ mm}^2$	
		Flexible, v	vith end sleeve		1 × 2.5 mm <sup>2</sup>	
Ambient conditions						
Permissible ambient tempera	ature				−25 +60 °C	
Resistance to climate		Acc. to EN	60068-1		20/060/04	

# 5TT3 short-time voltage relay

# Without response delay



Standards			
Standards			IEC 60255, DIN VDE 0435-303
Supply			
Rated control circuit voltage U <sub>c</sub>			230/400 V AC
Primary operating range (overload capability)			1.1 × U <sub>c</sub>
Rated frequency			50/60 Hz
Rated operational power P <sub>s</sub>	AC operation:	230 V and p.f. = 1	2000 VA
		230 V and p.f. = 0.4	1250 VA
	DC operation:	$U_e = 24$ V and $I_e = 6$ A	Max. 100 W
		$U_{\rm e}$ = 60 V and $I_{\rm e}$ = 1 A	Max. 100 W
		$U_{\rm e} = 110  {\rm V}  {\rm and}  I_{\rm e} = 0.6  {\rm A}$	Max. 100 W
		$U_{\rm e}$ = 220 V and $I_{\rm e}$ = 0.5 A	Max. 100 W
Back-up fuse	Terminals L1/L2/	L3	2 A
Contacts			
μ contact	AC-11		3 A
Response values	ON-switching		$0.85 \times U_{c}$
	OFF-switching		$0.8 \times U_{\rm c}$
Automatic reclosing delay (return transfer delay)			0.2 2 s
Minimum contact load			10 V/100 mA
Safety			
Rated insulation voltage U <sub>i</sub>	Between coil/cor	ntact	4 kV
Electrical isolation, creepage distances and clearances	Actuator/contact	t	4 mm
Rated impulse withstand voltage U <sub>imp</sub>	Actuator/contact	t	> 4 kV
Functions			
Phase failure detection	At L1 or L2 or L3		≥ 20 ms
Phase asymmetry	Setting accuracy		Approx. 5 10%
	Repeat accuracy		1
Functions	Monitoring of 1	or 2 phases against N	Yes
	Monitoring of 3	phases against N	Yes
	Phase failure det	tection	Yes
	N-conductor mo	nitoring	Yes
Connection			
Terminals	± Screw (Pozidriv	v)	PZ 1
Conductor cross-sections	Rigid		Max. 2 × 2.5 mm <sup>2</sup>
	Flexible, with en	d sleeve	Min. 1 $\times$ 0.5 mm <sup>2</sup>
Ambient conditions			
Permissible ambient temperature			−20 +60 °C
Humidity class	Acc. to IEC 6006	8-2-30	F

# 5TT3 undervoltage and overvoltage relays

# With adjustable response delay



Standards		
Standards		IEC 60255, DIN VDE 0435-303
Supply		
Rated control circuit voltage U <sub>c</sub>		230/400 V AC
Primary operating range (overload capability)		1.35 × U <sub>c</sub>
Rated frequency		50/60 Hz
Back-up fuse	Terminals L1/L2/L3	2 A
Contacts		
μ contact	AC-11	1 A
Response values	Overvoltage: ON-switching	4% hysteresis
	OFF-switching	0.9 1.3 × U <sub>c</sub>
	Undervoltage: ON-switching	4% hysteresis
	OFF-switching	g 0.7 1.1 × U <sub>c</sub>
OFF-delay (response delay)		0.1 20 s
Automatic reclosing delay (return transfer delay	)	-
Minimum contact load		10 V/100 mA
Safety		
Rated insulation voltage U <sub>i</sub>	Between coil/contact	4 kV
Electrical isolation, creepage distances and	Contact/contact	4 mm
clearances	Actuator/contact	4 mm
Rated impulse withstand voltage U <sub>imp</sub>	Actuator/contact	> 4 kV
Functions		
Phase failure detection	At L1 or L2 or L3	100 ms
Phase asymmetry	Setting accuracy	Approx. 5 10%
	Repeat accuracy	1
Functions	Monitoring of 1 or 2 phases agai	inst N –
	Monitoring of 3 phases against N	N Yes
	Asymmetry detection	Yes
	Reverse voltage detection	Yes
	Phase failure detection	Yes
	N-conductor monitoring	Yes
Connection		
Terminals	± Screw (Pozidriv)	PZ 1
Conductor cross-sections	Rigid	Max. 2 × 2.5 mm <sup>2</sup>
	Flexible, with end sleeve	Min. 1 $\times$ 0.5 mm <sup>2</sup>
Ambient conditions		
Permissible ambient temperature		−20 +60 °C
Humidity class	Acc. to IEC 60068-2-30	F

# 5TT6 current relays

# For 1-phase loads up to 230 V AC

				Auxiliary voltag	ge and load volta	ge			
				Not isolated Electrically isolated					
			Mounting width	1 MW	1 MW	2 MW	2 MW		2 MW
Rated opera- tional voltage U <sub>e</sub>	Rated operati- onal current I <sub>e</sub>	Contacts	Rated control current I <sub>c</sub>	Monitoring Undercurrent	Overcurrent	Monitoring Undercurrent	Overcurre	ent	Overcurrent/ undercurrent
230 V AC	5 A	1 CO	1 10 A	5TT6111	5TT6112	-	-		-
		2 CO	0.1 1 A, 0.5 5 A, 1 10 A, 1.5 15 A	-	-	5TT6113	5TT6114		5TT6115
Further tec	hnical speci	fications	;			5TT6111 5TT6112		5TT6 <sup>-</sup> 5TT6 <sup>-</sup> 5TT6 <sup>-</sup>	114
Standards									
Standards						IEC 60255		IEC 60 DIN VI	255 DE 0435-303
Supply									
Rated control cu	urrent I <sub>c</sub>					1 10 A			1 A, 0.5 5 A, 0 A, 1.5 15 A
Rated control ci	rcuit voltage $U_{\rm c}$					230 V AC			
Primary operation	ng range					0.9 1.1 × U <sub>c</sub>			
Overload capab	ility		Continuous			15 A 20 A			
			At 50 °C ambie	ent temperature n	1ax. 3 s	20 A –			
			Independent o	of measuring rang	e, max. 3 s	– 30 A			
Rated frequency	/					50/60 Hz			
Contacts	=>								
μ contact (AC-1	5)		NO			3 A		5 A	
Deserver			NC			1 A			
Response values	Response values ON-switching			Infinitely variable					
Switching delay	t <sub>v</sub>		OFF-switching			Permanent, 4% h 0.1 20 s, continuously adj			
Response time Non-adjustable					Current correspo rated operationa the continuous-f	nds to the I power of	Suppo	emens Service and ort Portal, search term e No.", e.g. "5TT6113"	
Minimum conta	ict load					10 V/100 mA			
Safety									

Minimum contact load		10 V/100 mA
Safety		
Rated insulation voltage U <sub>i</sub>	Between coil/contact	2.5 kV
Electrical isolation, creepage distances and clearances	Actuator/contact	3 mm
Rated impulse withstand voltage U <sub>imp</sub>	Actuator/contact	> 4 kV
Connection		
Terminals	± Screw (Pozidriv)	PZ 1
Conductor cross-sections	Rigid	Max. 2 × 2.5 mm <sup>2</sup>
	Flexible, with end sleeve	Min. 1 × 0.5 mm <sup>2</sup>
Ambient conditions		
Permissible ambient temperature		−20 +60 °C
Resistance to climate	Acc. to EN 60068-1	20/60/4

# 5TT3 fuse monitors

# For all low-voltage fuse systems

		Mounting width	2 MW
Rated operational	Rated operational	Rated control circuit	
voltage U <sub>e</sub>	current I <sub>e</sub>	voltage U <sub>c</sub>	
Adjustable			
250 V AC	4 A	380 415 V AC	5TT3170

Standards		
Standards		IEC 60255, DIN VDE 0435-110
Supply		
Rated operational voltage $U_{\rm e}$		250 V AC
Rated operational current I <sub>e</sub>	AC-1	4 A
Rated control circuit voltage U <sub>c</sub>	3 AC	380 415 V
Primary operating range		0.8 1.1 × U <sub>c</sub>
Rated frequency		50 400 Hz
Contacts		
Internal resistance of measuring paths		> 1000 Ω/V
Max. permissible rear feed		90%
Response/release time		< 50 ms
Electrical endurance AC-11	In switching cycles at 1 A	1.5 × 10⁵
Safety		
Rated impulse withstand voltage U <sub>imp</sub>	Input/output	> 4 kV
Application		
Area of application		Asymmetric, systems afflicted with harmonics, regenerative motors
Message		Also for disconnected loads
Connection		
Terminals	± Screw (Pozidriv)	PZ 1
Conductor cross-sections	Rigid	Max. 2 × 2.5 mm <sup>2</sup>
	Flexible, with end sleeve	Min. 1 × 0.5 mm <sup>2</sup>
Ambient conditions		
Permissible ambient temperature		–20 +45 °C
Resistance to climate	Acc. to EN 60068-1	20/45/4

# 5TT3 phase monitors

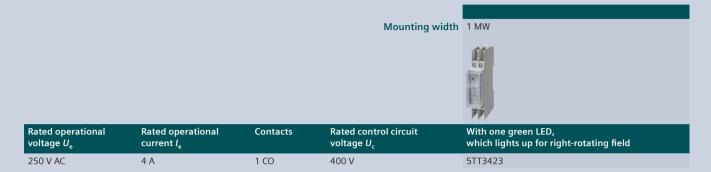
# For monitoring of voltages in a three-phase system

			Mounting width	620
				MA O
Rated operational voltage U <sub>e</sub>	Rated operational current I <sub>e</sub>	Contacts	Rated control circuit voltage U <sub>c</sub>	With 3 green LEDs for 3 phases
250 V AC	4 A	1 CO	230/400 V	5TT3421

Standards		
Standards		IEC 60255, DIN VDE 0435
Supply		
Rated operational voltage $U_{\rm e}$		250 V AC
Rated operational current I <sub>e</sub>		4 A
Rated control circuit voltage U <sub>c</sub>		230/400 V AC
Primary operating range		0.8 1.1 × U <sub>c</sub>
Rated frequency		50/60 Hz
Rated power dissipation $P_v$	Electronics	9 VA
	Contacts	0.2 VA
Contacts		
µ contact	AC-11	3 A
Minimum contact load		10 V/100 mA
Safety		
Rated insulation voltage U <sub>i</sub>	Between coil/contact	4 kV
Electrical isolation, creepage distances and clearances	Actuator/contact	4 mm
Rated impulse withstand voltage U <sub>imp</sub>	Actuator/contact	> 2.5 kV
Degree of protection	Acc. to EN 60529	IP20, with connected conductors
Protection class	Acc. to EN 61140/VDE 0140-1	II
Connection		
Terminals	± Screw (Pozidriv)	PZ 1
Conductor cross-sections	Rigid	Max. $2 \times 2.5 \text{ mm}^2$
	Flexible, with end sleeve	-
Ambient conditions		
Permissible ambient temperature		−20 +60 °C
Resistance to climate	Acc. to EN 60068-1	20/60/4

# 5TT3 phase sequence monitors

# For monitoring of phase sequence in a three-phase system



Standards		
Standards		IEC 60255, DIN VDE 0435
Supply		
Rated operational voltage U <sub>e</sub>		250 V AC
Rated operational current I <sub>e</sub>		4 A
Rated control circuit voltage $U_{\rm c}$		400 V AC
Primary operating range		0.8 1.1 × U <sub>c</sub>
Rated frequency		50/60 Hz
Rated power dissipation $P_v$	Electronics	9 VA
	Contacts	0.2 VA
Contacts		
μ contact	AC-11	3 A
Minimum contact load		10 V/100 mA
Safety		
Rated insulation voltage U <sub>i</sub>	Between coil/contact	4 kV
Electrical isolation, creepage distances and clearances	Actuator/contact	4 mm
Rated impulse withstand voltage U <sub>imp</sub>	Actuator/contact	> 2.5 kV
Degree of protection	Acc. to EN 60529	IP20, with connected conductors
Protection class	Acc. to EN 61140/VDE 0140-1	II
Connection		
Terminals	± Screw (Pozidriv)	PZ 1
Conductor cross-sections	Rigid	Max. $2 \times 2.5 \text{ mm}^2$
	Flexible, with end sleeve	-
Ambient conditions		
Permissible ambient temperature		−20 +60 °C
Resistance to climate	Acc. to EN 60068-1	20/60/4

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Are used for protection of persons and against fire in non-grounded systems (IT systems)

				Mounting width	2 MW	
Measurement voltage range U <sub>meas</sub>	Measuring range	Contacts	Rated con voltage U			
0 500 V AC	5 100 kΩ	2 CO	230 V AC		5TT3470	
12 280 V DC	5 200 kΩ	2 CO	-		5TT3471	
Further technical s	specification	s		5TT3470		5TT3471
Supply	speemeation		_	5115170	_	5115171
Rated operational voltage	11			230 V AC		12 280 V DC
Rated operational current	c	Thermal current I <sub>th</sub>		4 A		12 200 V DC
	s	DC-13 at 24 V DC		-		2 A
		DC-13 at 250 V DC		_		0.2 A
		AC-15		_		3 A
		AC-15 NO		5 A		-
		AC-15 NC		2 A		_
Supply voltage U <sub>c</sub>		For AC supply		220 240 V AC		_
Primary operating range		For AC supply		0.8 1.1 × U <sub>c</sub>		_
Frequency range for $U_c$		i oi ne supply		45 400 Hz		
Rated power dissipation $P_v$		For AC supply		Approx. 2 VA		-
		For DC supply		-		Approx. 1 W
Contacts						
µ contact				2 CO		
Switching hysteresis		At R <sub>meas</sub> 50 kΩ		15%		10 15%
Measuring circuit		meas				
Measuring circuit				For 3-phase and AC sys	stems	For direct voltage systems
Measurement voltage rang	ge Umeas			0 500 V AC		12 280 V DC
Measurement voltage Ume	eas	Internal		Approx. 15 V DC		-
Primary operating range				0 1.1 × Umeas		0.9 1.1 × Umeas
Frequency range for Umed	IS			10 10000 Hz		-
Alarm values		Measuring shunt R <sub>AL</sub>		5 100 kΩ		5 200 kΩ
Setting of alarm value		On absolute scale		Infinitely variable		Infinitely variable
Alternating current interna	al resistance	Internal testing resistan	ce	> 250 kΩ		-
Direct current internal resig	stance	Internal testing resistan	ce	> 250 kΩ		-
		L+ and L- to PE		-		75 kΩ each
Max. measurement curren	t I <sub>meas</sub>	Short circuit		< 0.1 mA		0.2 4 mA, depending on the voltage
Direct interference voltage	2	Max. permissible		500 V DC		-
Response delay		$\infty$ to 0.9 × $R_{\rm meas}$		< 1.3 s		0.8 s
at $R_{\rm AL}$ 50 k $\Omega$ and 1 $\mu$ F		$R_{\rm meas}$ from $\infty$ to 0 $\Omega$	_	< 0.7 s		0.4 s
Safety						
Rated impulse withstand v	oltage U <sub>imp</sub>	Terminals A1 to A2		< 4 kV		
		Terminals L to PE		< 4 kV		
		Terminals A1, A2 to L, P		< 4 kV		< 3 kV
		Terminals against conta	cts	< 6 kV		

	Terminals against contacts	< 6 kV
Degree of protection	Terminals (according to EN 60529)	IP20
	Enclosure (according to EN 60529)	IP40
Connection		
Terminals	± Screw (Pozidriv)	PZ 2
Conductor cross-sections	Rigid	Max. 2 × 2.5 mm <sup>2</sup>
	Flexible, with end sleeve	Min. 1 × 0.50 mm <sup>2</sup>
Ambient conditions		
Permissible ambient temperature		−20 +60 °C
Resistance to climate	Acc. to EN 60068-1	20/060/04

# **5TT5 EMERGENCY STOP modules**

# Efficient personal and machine protection in small units

		Mounting width	4 MW
Rated operational voltage U <sub>e</sub>	Rated operational current I <sub>e</sub>	Rated control circuit voltage U <sub>c</sub>	
400 V AC	5 A	230 V AC	5TT5200

raraner teenmear speemearions		
Standards		
Standards		ISO 13849-1: 2015; EN 62061: 2005 + AC: 2010 + A1: 2013 + A2: 2015; ISO 13850: 2015; EN 60204-1: 2006 + A1: 2009 + AC: 2010 (in extracts); EN 60947-5: 2004 + A1: 2009; EN 50178: 1997; EN 61508 Parts 1-7: 2010; EN 50156-1: 2005 (in extracts)
Certification		German Technical Inspectorate Rheinland
Supply		
Primary operating range		0.8 1.1 × U <sub>c</sub>
Rated frequency f <sub>n</sub>		50 Hz
Rated power dissipation $P_v$	Coil/drive	3.5 VA
	Contact per pole	0.8 VA
Control voltage	Terminal Y1	24 V AC/DC
Control current	Terminal Y1	45 mA
Contacts		
Contacts	NO AC-15	3 A
	NC AC-15	2 A
	NO/NC AC-1	5 A
Contact gap		> 1 mm
Electrical endurance	AC-15 (2 A, 230 V AC)	10 <sup>5</sup> operating cycles
Reliable switching frequency		600 operating cycles/h
Recovery time		500 ms
Safety		
Rated impulse withstand voltage U <sub>imp</sub>	Actuator/contact	> 4 kV
Electrical isolation, creepage distances and clearances	Actuator/contact	3 mm
Vibration resistance	Amplitude acc. to EN 60068-2-610 (up to 55 Hz)	0.35 mm
Connection		
Terminals	± Screw (Pozidriv)	PZ 1
Conductor cross-sections of main current paths	Rigid	Max. 2 × 2.5 mm <sup>2</sup>
	Flexible, with end sleeve	Min. 1 × 0.50 mm <sup>2</sup>
Ambient conditions		
Permissible ambient temperature		0 +50 °C
Resistance to climate	Acc. to EN 60068-1	0/55/04

# 5TT3 level relays



		mounting mut	
Rated operational voltage <i>U</i> e	Rated operational current I <sub>e</sub>	Rated control circuit voltage U <sub>c</sub>	
250 V AC	5 A	230 V AC	5TT3435

### Further technical specifications

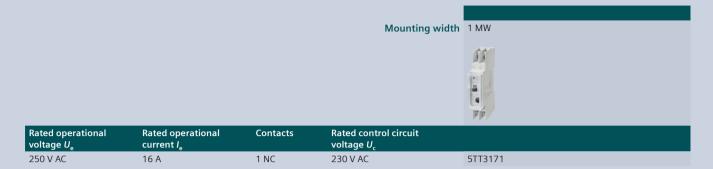
Standards		
Standards		IEC 60255; DIN VDE 0435-110
Supply		
Rated operational voltage U <sub>e</sub>		250 V AC
Rated operational current I <sub>e</sub>		5 A
Rated control circuit voltage $U_{\rm c}$		230 V AC
Primary operating range		0.8 1.1 × U <sub>c</sub>
Rated frequency f <sub>n</sub>		50/60 Hz
Measuring circuit		
Setting range of the liquid level		2 450 kΩ
Switching point hysteresis of setting value	At 450 kΩ	3%
	At 2 kΩ	6%
Electrode voltage		Max. approx. 10 V AC
Electrode current		Max. approx. 1.5 mA AC
Response delay	Adjustable	0.2 20 s
OFF-delay	Adjustable	0.2 20 s
Test voltage	Input/auxiliary circuit	4 kV
	Input/output circuit	4 kV
	Auxiliary/output circuit	4 kV
Voltage temperature influence	From setting value	< 2%
Max. cable length to the electrodes at 100 $\mu\text{F/km}$	Setting value 450 k $\Omega$	50 m
	Setting value 100 k $\Omega$	200 m
	Setting value 35 k $\Omega$	500 m
	Setting value 10 k $\Omega$	1500 m
	Setting value 5 k $\Omega$	3000 m
Connection		
Terminals	± Screw (Pozidriv)	PZ 2
Conductor cross-sections	Rigid, max.	Max. $2 \times 2.5 \text{ mm}^2$
	Flexible, with end sleeve	Min. 1 × 0.50 mm <sup>2</sup>
Ambient conditions		
Permissible ambient temperature		−20 +60 °C
Resistance to climate	Acc. to EN 60068-1	20/60/4

### Accessories

Immersion electrodes			
	<ul> <li>Made of stainless steel, with</li> <li>Suitable for pure water in op</li> </ul>		
	Temperature range	Connection	Article No.
Frank	0 60 °C	Terminal connection	5TG8223

# 5TT3 line circuit relays

# To interrupt circuits where there are no active loads



### Further technical specifications

Standards		
Standards		IEC 60255; DIN VDE 0435-110
Supply		
Rated operational voltage $U_{\rm e}$		250 V AC
Rated operational current I <sub>e</sub>	AC-1	16 A
Rated control circuit voltage $U_{\rm c}$		230 V AC
Primary operating range		0.85 1.15 × U <sub>c</sub>
Rated frequency		50/60 Hz
Rated power dissipation $P_v$	Electronics	5 VA
	Contacts	2.6 VA
Contacts		
Response value	Adjustable	2 20 VA
Release value	% of the response value	70%
Electrical endurance	In switching cycles at 3 A (AC-11)	5 × 10⁵
Safety		
Rated impulse withstand voltage U <sub>imp</sub>	Input/output	> 4 V
Degree of protection	Acc. to IEC/EN 60529	IP20, with connected conductors
Protection class	Acc. to EN 61140/VDE 0140-1	II
Monitoring voltage		3 V
Connection		
Terminals	± Screw (Pozidriv)	PZ 1
Conductor cross-sections	Rigid	Max. 2 × 2.5 mm <sup>2</sup>
	Flexible, with end sleeve	Min. 1 × 0.50 mm <sup>2</sup>
Ambient conditions		
Permissible ambient temperature		−20 +45 °C
Humidity class	Acc. to IEC 60068-2-30	F

#### **Accessories**

Base load resistors for electronic devices				
	With 15 cm connection wires, end sleeves and shrink sleeving			
		Article No.		
		5TG8222		

# 7LQ2 twilight switches

# For lighting system monitoring and control

			Mounting width	1 MW
Rated operational voltage <i>U</i> <sub>e</sub>	Rated operational current I <sub>e</sub>	Contacts	Rated control circuit voltage U <sub>c</sub>	
230 V AC	16 A	1 NO	250 V AC	7LQ2300

### **Further technical specifications**

Standards		
Standards		EN 60669-1
Supply		
Rated operational voltage U <sub>e</sub>		230 V AC
Rated frequency f <sub>n</sub>		50/60 Hz
Safety		
Degree of protection		IP30
Contacts		
Incandescent lamp/halogen lamp load		2000 W
Energy-saving lamp load		1000 W
Fluorescent lamp load	Series corrected	2000 W
	Parallel corrected (at max. 70 µF)	1000 W
LV halogen lamp load ECG		2000 W
Luminosity setting		1 100000 Lux
Measuring circuit		
ON/OFF-delay		Approx. 90 s
Connection		
Terminals	± Screw (Pozidriv)	PZ1
Conductor cross-sections	Rigid	Max. 2 × 1.5 mm <sup>2</sup>
Mechanical data		
Width		17.5 mm (1 MW)
Mounting		DIN rail
Ambient conditions		
Permissible ambient temperature		−20 +55 °C

### Spare part Light sensor

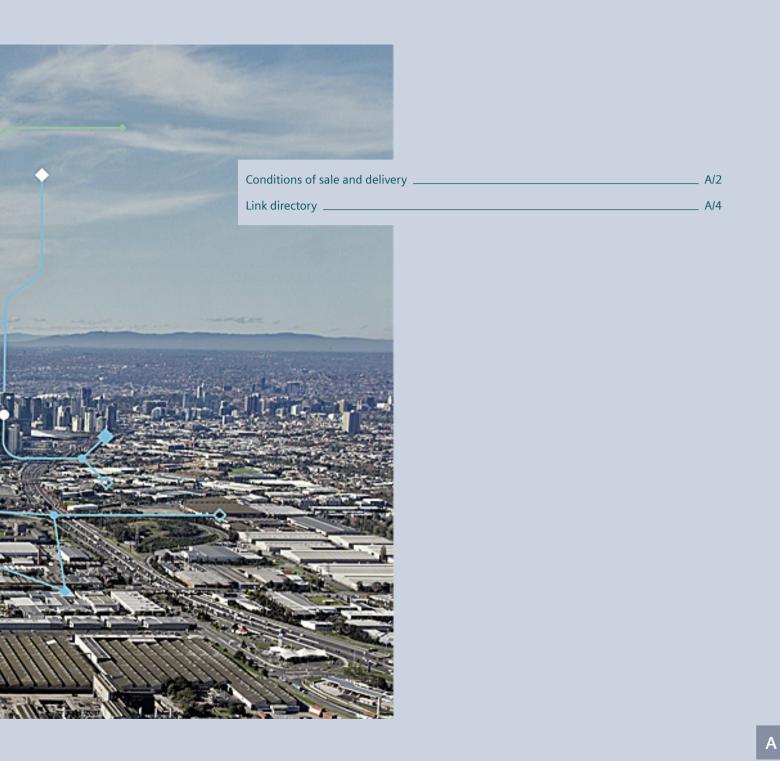
14			
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1	£.		
		3	
312	87	87	

	<ul> <li>Included in the 7LQ2300 package</li> <li>Degree of protection IP65</li> </ul>		
Temperature range	Mounting		Article No.
−20 +70 °C	Surface mounting		7LQ2920

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# Appendix



# Conditions of sale and delivery

### **1. General Provisions**

By using this catalog you can purchase hard- and software products as well as services (together hereinafter referred to as "products") described therein from Siemens Aktiengesellschaft subject to the following Terms and Conditions of Sale and Delivery (hereinafter referred to as "T&C"). Note, for products purchased from any Siemens entity having a registered office outside of Germany, the respective terms and conditions of sale and delivery of the respective Siemens entity apply exclusively. The following T&C apply exclusively for orders placed with Siemens Aktiengesellschaft, Germany.

# 1.1 For customers with a seat or registered office in European Union

For customers with a seat or registered office in European Union, the following terms and conditions apply subordinate to T&C:

- for products, which include specific terms and conditions in the text of the product description, these specific terms and conditions shall apply and subordinate thereto,
- for stand-alone software products and software products forming a part of a product or project, the "General Conditions for Software Products for Infrastructure & Industry Business (German law)"<sup>1</sup> and/or
- for consulting services the "Allgemeine Geschäftsbedingungen für Beratungsleistungen für Infrastructure & Industry Geschäft (Deutsches Recht)"<sup>1)</sup> (available only in German) and/or
- for other services, the "Supplementary Terms and Conditions for Services for Infrastructure & Industry Business (German Law) ("BL")<sup>"1)</sup> and/or
- for other products the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"<sup>1</sup>).

In case such products should contain Open Source Software, the conditions of which shall prevail over the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"<sup>1</sup>), the Product will be given a note as to which special conditions apply to this open source software. This shall apply mutatis mutandis for notices referring to other third-party software components.

# 1.2 For customers with a seat or registered office outside European Union

For customers with a seat or registered office outside European Union, the following terms and conditions apply subordinate to T&C:

- for products, which include specific terms and conditions in the description text, these specific terms and conditions shall apply and subordinate thereto,
- for consulting services the "Standard Terms and Conditions for Consulting Services for Infrastructure & Industry Business (Swiss Law)"<sup>1)</sup> and/or
- for other services the "International Terms & Conditions for Services"<sup>1)</sup> supplemented by "Software Licensing Conditions"<sup>1)</sup> and/or
- for other products the "International Terms & Conditions for Products<sup>"1)</sup> supplemented by "Software Licensing Conditions<sup>"1)</sup>

#### 1.3 For customers with master or framework agreement

To the extent products offered are covered by an existing master or framework agreement, the terms and conditions of that agreement shall apply instead of T&C.

### 2. Additional Terms and Conditions

The dimensions are in mm. In Germany, according to the German law on units in measuring technology, data in inches apply only to devices for export.

Illustrations are not binding.

Insofar as there are no remarks on the individual pages of this catalog – especially with regard to data, dimensions and weights given – these are subject to change without prior notice.

<sup>&</sup>lt;sup>1)</sup> The text of the Terms and Conditions of Siemens AG can be downloaded at https://mall.industry.siemens.com/legal/ww/en/terms\_of\_trade\_en.pdf

### 3. Export Control and Sanctions Compliance

#### 3.1 General

Customer shall comply with all applicable sanctions, embargoes and (re-)export control laws and regulations, and, in any event, with those of the European Union, the United States of America and any locally applicable jurisdiction (collectively "Export Regulations").

#### **3.2 Checks for Products**

Prior to any transaction by customer concerning products (including hardware, documentation and technology) delivered by Siemens, or products (including maintenance and technical support) performed by Siemens with a third party, customer shall check and certify by appropriate measures that

- (i) the customer's use, transfer, or distribution of such products, the brokering of contracts or the provision of other economic resources in connection with products will not be in violation of any Export Regulations, also taking into account any prohibitions to circumvent these (e.g., by undue diversion)
- (ii) the products are not intended or provided for prohibited or unauthorized non-civilian purposes (e.g. armaments, nuclear technology, weapons, or any other usage in the field of defense and military);
- (iii) customer has screened all direct and indirect parties involved in the receipt, use, transfer, or distribution of the products against all applicable restricted party lists of the Export Regulations concerning trading with entities, persons and organizations listed therein and
- (iv) products within the scope of items-related restrictions, as specified in the respective annexes to the Export Regulations, will not, unless permitted by the Export Regulations, be
   (a) exported, directly or indirectly (e.g., via Eurasian Economic Union (EAEU) countries), to Russia or Belarus, or
   (b) resold to any third party business partner that does not take a prior commitment not to export such products to Russia or Belarus.

#### 3.3 Non-Acceptable Use of Software and Cloud Services

Customer shall not, unless permitted by the Export Regulations or respective governmental licenses or approvals,

- (i) download, install, access or use the products from or in any location prohibited by or subject to comprehensive sanctions or subject or to license requirements according to the Export Regulations;
- (ii) grant access to, transfer, (re-)export (including any "deemed (re-)exports"), or otherwise make available the products to any entity, person, or organization identified on a restricted party list of the Export Regulations;
- (iii) use the products for any purpose prohibited by the Export Regulations (e.g. use in connection with armaments, nuclear technology or weapons);

- (iv) upload to a products platform any customer content unless it is non-controlled (e.g. in the EU: AL = N; in the U.S.: ECCN = N or EAR99);
- (v) facilitate any of the afore mentioned activities by any user. Customer shall provide all users with all information necessary to ensure compliance with the Export Regulations.

#### **3.4 Semiconductor Development**

Customer will not, without advance written authorization from Siemens, use offerings for the development or production of integrated circuits at any semiconductor fabrication facility located in China meeting the criteria specified in the U.S. Export Administration Regulations, 15 C.F.R. 744.23.

#### **3.5 Information**

Upon request by Siemens, customer shall promptly provide Siemens with all information pertaining to users, the intended use and the location of use or the final destination (in the case of hardware, documentation and technology) of the products. Customer will notify Siemens prior to customer disclosing any information to Siemens that is defense-related or requires controlled or special data handling pursuant to applicable government regulations, and will use the disclosure tools and methods specified by Siemens.

#### **3.6 Reservation**

Siemens shall not be obligated to fulfill this agreement if such fulfillment is prevented by any impediments arising out of national or international foreign trade or customs requirements or any embargoes or other sanctions. Customer acknowledges that Siemens may be obliged under the Export Regulations to limit or suspend access by customer and/or users to products.

#### 4. Miscellaneous

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# Catalog LV 10

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# Catalogs and further information



LV 10 Low-Voltage Power Distribution and Electrical Installation Technology SENTRON • SIVACON • ALPHA

PDF (E86060-K8280-A101-B9-7600)



ET D1 Switches and Socket Outlets DELTA

PDF (SIEP-C10409-00-7600)



LV 13 3WA Air Circuit Breakers SENTRON

PDF (E86060-K8280-B101-A4-7600)



SiePortal Information and Ordering Platform on the Internet:

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LV 18 Air Circuit Breakers and Molded Case Circuit Breakers with UL Certification SENTRON

PDF (E86060-K8280-E347-B2-7600)



SITRAIN Digital Industry Academy www.siemens.com/sitrain



IC 10 Industrial Controls SIRIUS PDF (E86060-K1010-A101-B7-7600)



Siemens TIA Selection Tool for the selection, configuration and ordering of TIA products and devices

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The catalogs listed above and additional catalogs are available in PDF format at www.siemens.com/lowvoltage/catalogs Further information on low-voltage power distribution and electrical installation technology is available on the Internet at www.siemens.com/lowvoltage

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