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Data sheet 5SY5450-7



Circuit breaker Universal current 880 V DC 400 V AC 10kA, 4-pole, C, 50 A max. 1000 V DC

Model	
product brand name	SENTRON
product designation	Miniature circuit breaker
General technical data	
number of poles	4
design of pole	4P
tripping characteristic class	C
mechanical service life (operating cycles) typical	5 000
overvoltage category	2
degree of pollution	2
Voltage	
type of voltage of the operating voltage	AC/DC
insulation voltage (Ui)	
• at DC rated value	250 V
• with single-phase operation at AC rated value	440 V
• with multi-phase operation at AC rated value	440 V
• operational current	
— at 40 °C rated value	48 A
— at 50 °C rated value	45.95 A
— at 55 °C rated value	44.9 A
— at 60 °C rated value	43.8 A
• operational current at AC rated value	50 A
Supply voltage	
supply voltage	
• at AC	400 V
• at DC rated value	880 V
value range of the supply voltage frequency	50/60 Hz
operating voltage at DC rated value maximum	1 000 V
Protection class	
protection class IP	IP20, with connected conductors
Breaking Capacity	
switching capacity current	
• at DC according to IEC 60947-2 rated value	15 kA
• according to EN 60898 rated value	10 kA
energy limitation class	3
Dissipation	
power loss [W] for rated value of the current at AC in hot operating state per pole	3.8 W

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suitability for operation	Infrastructure / Industry / Mobility
Product details	
product feature touch protection	Yes
product component	
● combined terminal top	Yes
● combined terminal bottom	Yes
● neutral conductor switching	No
product feature properties for main switches in accordance with EN 60204-1	Yes
product feature halogen-free	Yes
product feature sealable	Yes
product feature silicon-free	Yes
product extension installable supplementary devices	Yes
Short circuit	
short-circuit current breaking capacity (Icn)	
● at DC according to EN 60898-2	10 kA
Connections	
connectable conductor cross-section solid	
● minimum	0.75 mm²
● maximum	35 mm²
connectable conductor cross-section stranded	
● minimum	0.75 mm²
● maximum	35 mm²
connectable conductor cross-section finely stranded with core end processing	
● minimum	0.75 mm²
● maximum	25 mm²
AWG number as coded connectable conductor cross section	
● minimum	18
● maximum	4
tightening torque [lbf·in] with screw-type terminals	
● minimum	22 lbf·in
● maximum	31 lbf·in
tightening torque with screw-type terminals	
● minimum	2.5 N·m
● maximum	3.5 N·m
position of power supply cord	AC as required, observe DC polarity
Mechanical Design	
height	90 mm
width	72 mm
depth	76 mm
installation depth	70 mm
number of modular width units	4
fastening method	DIN rail
mounting position	any
Net Weight	651 g
Environmental conditions	
influence of the surrounding temperature	max. 95% RH up to 55°C, max. 55% RH up to 70°C, max. 35% RH up to 75°C
standard	IEC / EN 60898-2, UL1077
vibration resistance according to IEC 60068-2-6	±1mm at 5 to 25Hz; 50m/s² at 25 to 150Hz
ambient temperature during operation	
● minimum	-40 °C
● maximum	70 °C
ambient temperature during storage	
● minimum	-40 °C
● maximum	75 °C
number of test cycles for environmental testing according to IEC 60068-2-30	6
Approvals Certificates	

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Environment			General Product Approval		
Environmental Confirmations	Environmental Confirmations			Miscellaneous	

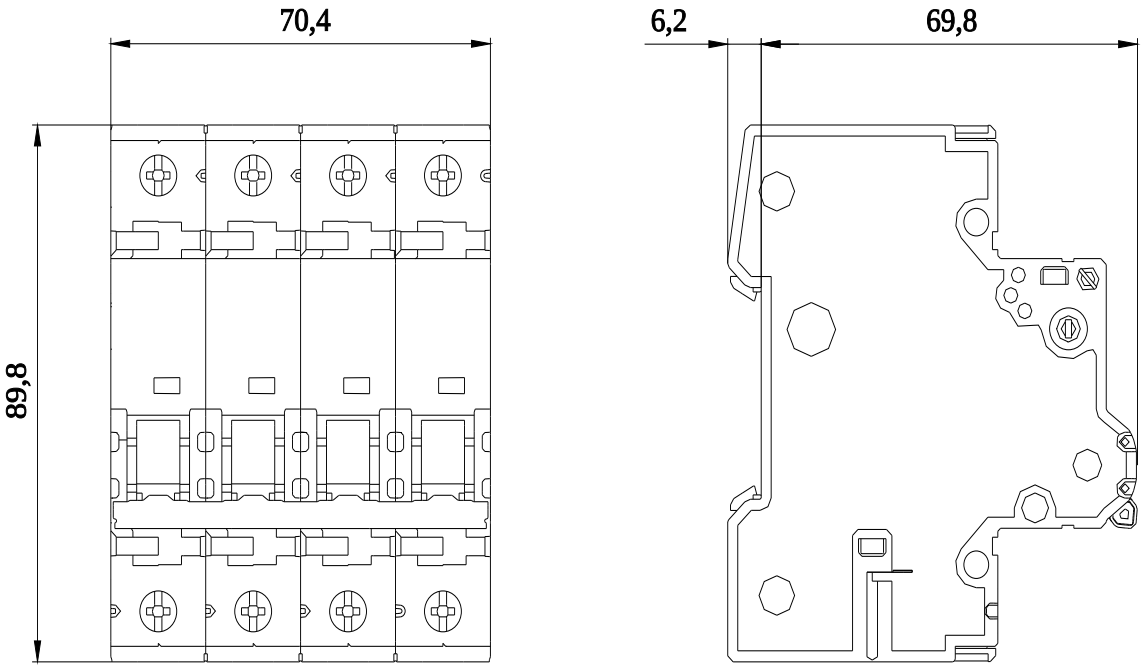
General Product Approval			Test Certificates	other
	Confirmation		Special Test Certificate	

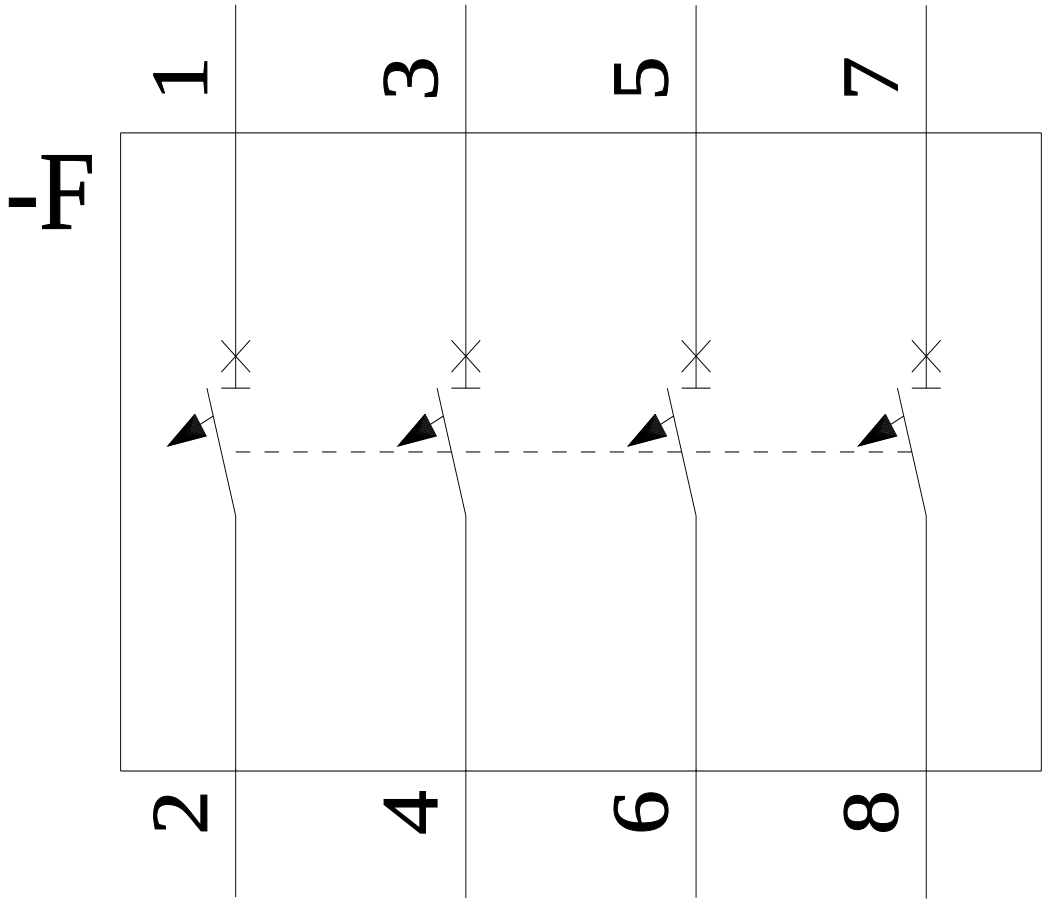
other	Railway		Dangerous goods
Confirmation	Special Test Certificate	Confirmation	Transport Information

Further information

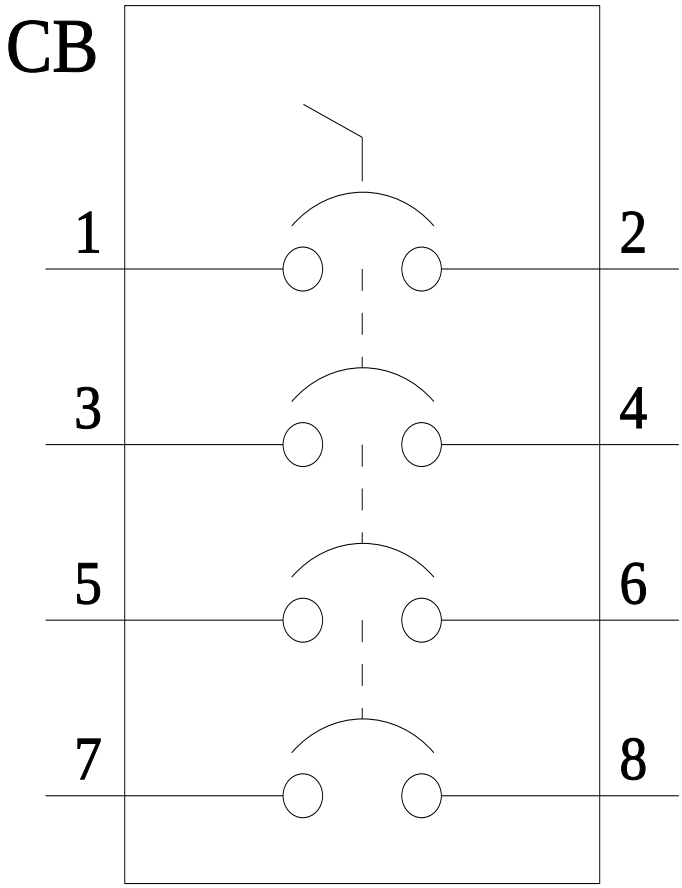
Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
Information for data generation and storage
https://support.industry.siemens.com/cs/ww/en/view/109995012
Information- and Downloadcenter (Catalogs, Brochures,…)
https://www.siemens.com/lowvoltage/catalogs
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=5SY5450-7
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/5SY5450-7
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=5SY5450-7
CAx-Online-Generator
https://www.siemens.com/cax
Tender specifications
https://www.siemens.com/specifications
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