SIEMENS

Data sheet 5SY4180-7



Miniature circuit breaker 230/400 V 10kA, 1-pole, C, 80 A, D=70 mm

Model	
product brand name	SENTRON
product designation	Miniature circuit breaker
General technical data	
number of poles	1
design of pole	1P
tripping characteristic class	С
mechanical service life (operating cycles) typical	10 000
overvoltage category	III
degree of pollution	3
Voltage	
type of voltage of the operating voltage	AC
insulation voltage (Ui)	
 with single-phase operation at AC rated value 	440 V
 with multi-phase operation at AC rated value 	440 V
supply voltage with single-phase operation at AC rated value	230 V
operational current	
 at 40 °C rated value 	76.16 A
 at 50 °C rated value 	72.16 A
 at 55 °C rated value 	70 A
 at 60 °C rated value 	67.84 A
 at AC rated value 	80 A
Supply voltage	
supply voltage	
• at AC	400 V
at DC rated value	60 V
value range of the supply voltage frequency	50/60 Hz
operating voltage at DC rated value maximum	72 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
Dissipation	
power loss [W] for rated value of the current at AC in hot operating state per pole	6.7 W
suitability for operation	Infrastructure / Industry
Product details	
product component	

a combined terminal term	Voc
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
halogen-free	Yes
• sealable	Yes
• silicon-free	Yes
product extension installable supplementary devices	Yes
Short circuit	
short-circuit current breaking capacity (Icn)	
 at AC according to UL 1077 and CSA C22.2 No.235 	5 kA
Connections	
connectable conductor cross-section solid	
• minimum	0.75 mm²
• maximum	35 mm²
connectable conductor cross-section stranded	33 11111
minimum	0.75 mm²
maximum	35 mm ²
	00 Hilli
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	-
	22 lbf·in
• minimum	
• maximum	31 lbf-in
tightening torque with screw-type terminals	0.5.11
• minimum	2.5 N·m
minimum maximum	3.5 N·m
minimum maximum position of power supply cord	
minimum maximum position of power supply cord Mechanical Design	3.5 N·m Any
minimum maximum position of power supply cord Mechanical Design height	3.5 N·m Any
minimum maximum position of power supply cord Mechanical Design height width	3.5 N·m Any 90 mm 18 mm
minimum maximum position of power supply cord Mechanical Design height width depth	3.5 N·m Any
minimum maximum position of power supply cord Mechanical Design height width depth installation depth	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm
minimum maximum position of power supply cord Mechanical Design height width depth installation depth number of modular width units	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm
minimum maximum position of power supply cord Mechanical Design height width depth installation depth number of modular width units fastening method	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm
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minimum maximum position of power supply cord Mechanical Design height width depth installation depth number of modular width units fastening method	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm 1
minimum maximum position of power supply cord Mechanical Design height width depth installation depth number of modular width units fastening method mounting position	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm 1 Quick assembly system any
minimum maximum position of power supply cord Mechanical Design height width depth installation depth number of modular width units fastening method mounting position net weight	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm 1 Quick assembly system any
minimum maximum position of power supply cord Mechanical Design height width depth installation depth number of modular width units fastening method mounting position net weight Environmental conditions	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm 1 Quick assembly system any 172 g
minimum maximum position of power supply cord Mechanical Design height width depth installation depth number of modular width units fastening method mounting position net weight Environmental conditions influence of the surrounding temperature	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm 1 Quick assembly system any 172 g max. 95% to 55°C, max. 55% to 70°C, max. 35% to 75°C
minimum maximum position of power supply cord Mechanical Design height width depth installation depth number of modular width units fastening method mounting position net weight Environmental conditions influence of the surrounding temperature standard	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm 1 Quick assembly system any 172 g max. 95% to 55°C, max. 55% to 70°C, max. 35% to 75°C IEC / EN 60898-1, IEC / EN 60947-2
minimum maximum position of power supply cord Mechanical Design height width depth installation depth number of modular width units fastening method mounting position net weight Environmental conditions influence of the surrounding temperature standard vibration resistance according to IEC 60068-2-6	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm 1 Quick assembly system any 172 g max. 95% to 55°C, max. 55% to 70°C, max. 35% to 75°C IEC / EN 60898-1, IEC / EN 60947-2
minimum maximum position of power supply cord Mechanical Design height width depth installation depth number of modular width units fastening method mounting position net weight Environmental conditions influence of the surrounding temperature standard vibration resistance according to IEC 60068-2-6 ambient temperature during operation	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm 1 Quick assembly system any 172 g max. 95% to 55°C, max. 55% to 70°C, max. 35% to 75°C IEC / EN 60898-1, IEC / EN 60947-2 ±1mm at 5 to 25Hz; 50m/s² at 25 to 150Hz
minimum maximum position of power supply cord Mechanical Design height width depth installation depth number of modular width units fastening method mounting position net weight Environmental conditions influence of the surrounding temperature standard vibration resistance according to IEC 60068-2-6 ambient temperature during operation minimum maximum	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm 1 Quick assembly system any 172 g max. 95% to 55°C, max. 55% to 70°C, max. 35% to 75°C IEC / EN 60898-1, IEC / EN 60947-2 ±1mm at 5 to 25Hz; 50m/s² at 25 to 150Hz -25 °C
minimum maximum position of power supply cord Mechanical Design height width depth installation depth number of modular width units fastening method mounting position net weight Environmental conditions influence of the surrounding temperature standard vibration resistance according to IEC 60068-2-6 ambient temperature during operation maximum maximum ambient temperature during storage	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm 1 Quick assembly system any 172 g max. 95% to 55°C, max. 55% to 70°C, max. 35% to 75°C IEC / EN 60898-1, IEC / EN 60947-2 ±1mm at 5 to 25Hz; 50m/s² at 25 to 150Hz -25 °C 55 °C
minimum maximum position of power supply cord Mechanical Design height width depth installation depth number of modular width units fastening method mounting position net weight Environmental conditions influence of the surrounding temperature standard vibration resistance according to IEC 60068-2-6 ambient temperature during operation maximum maximum ambient temperature during storage minimum minimum minimum	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm 1 Quick assembly system any 172 g max. 95% to 55°C, max. 55% to 70°C, max. 35% to 75°C IEC / EN 60898-1, IEC / EN 60947-2 ±1mm at 5 to 25Hz; 50m/s² at 25 to 150Hz -25 °C 55 °C -40 °C
minimum maximum position of power supply cord Mechanical Design height width depth installation depth number of modular width units fastening method mounting position net weight Environmental conditions influence of the surrounding temperature standard vibration resistance according to IEC 60068-2-6 ambient temperature during operation maximum maximum maximum maximum maximum number of test cycles for environmental testing according to IEC	3.5 N·m Any 90 mm 18 mm 76 mm 70 mm 1 Quick assembly system any 172 g max. 95% to 55°C, max. 55% to 70°C, max. 35% to 75°C IEC / EN 60898-1, IEC / EN 60947-2 ±1mm at 5 to 25Hz; 50m/s² at 25 to 150Hz -25 °C 55 °C
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Approvals Certificates

General Product Approval Test Certificates





<u>Confirmation</u> <u>Miscellaneous</u>



Special Test Certificate

Test Certificates other Railway Environment

<u>Miscellaneous</u> <u>Miscellaneous</u> <u>Confirmation</u> <u>Special Test Certificate</u> <u>Confirmation</u> ate



Environment

Environmental Confirmations Environmental Confirmations

Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

Information- and Downloadcenter (Catalogs, Brochures,...)

http://www.siemens.com/lowvoltage/catalogs

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=5SY4180-7

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

https://support.industry.siemens.com/cs/ww/en/ps/5SY4180-7

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)

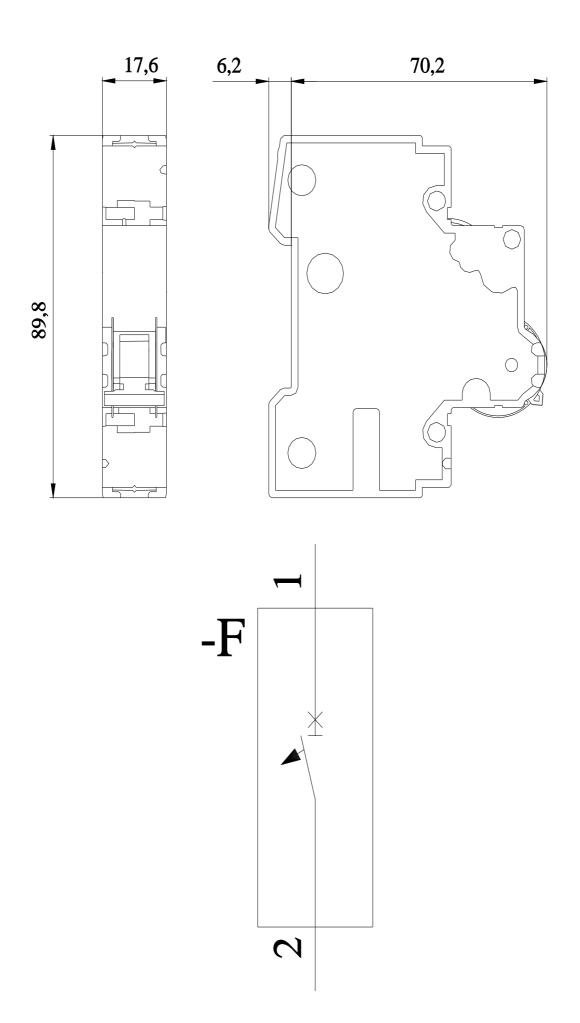
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=5SY4180-7

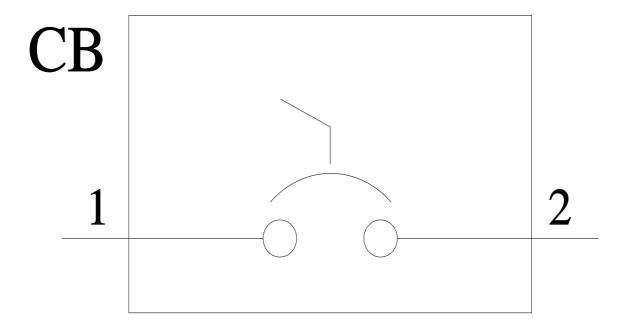
CAx-Online-Generator

http://www.siemens.com/cax

Tender specifications

http://www.siemens.com/specifications





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