SIEMENS

Data sheet 5SY4520-7



Miniature circuit breaker 230 V 10kA, 1+N-pole, C, 20 A, D=70 mm

product brand name SENTRON Miniature circuit breaker General technical data number of poles 2 design of pole 1P+N tripping characteristic class C C mechanical service life (operating cycles) typical 10 000 overvoltage category III degree of pollution 3 votage of the operating voltage AC insulation voltage (1I) which is miniately possible of the operating voltage of the operating voltage AC insulation voltage (II) which is miniately possible of the operating voltage with single-phase operation at AC rated value 250 V supply voltage with single-phase operation at AC rated value 230 V operational current 4 at 40 °C rated value 17.48 A at 50 °C rated value 17.48 A at 50 °C rated value 16.88 A at 50 °C rated value 16.88 A at 60 °C rated value 20 A Supply voltage supply voltage of the supply voltage frequency 50/60 Hz operating voltage 4 at AC rated value 60 V voltage 10 C rated value 60 V voltage 11 C rated value 60 V voltage 12 C rated value 60 V voltage 14 C rated value 60 V voltage 15 C rated value 60 V voltage 16 C rated value 60 V voltage 17 C rated value 60 V voltage 18 C rated value 60 V voltage 19 C rated value 60 V voltage 1		
product designation Miniature circuit breaker Ceneral technical data number of poles design of pole tripping characteristic class	Model	
Ceneral technical data number of poles design of pole tripping characteristic class C mechanical service life (operating cycles) typical tripping characteristic class C mechanical service life (operating cycles) typical overvoltage category lift degree of pollution 3 Voltage type of voltage of the operating voltage swith single-phase operation at AC rated value supply voltage with single-phase operation at AC rated value supply voltage with single-phase operation at AC rated value operational current • at 40 °C rated value • at 50 °C rated value • at 65 °C rated value • at 65 °C rated value • at 66 °C rated value • at 60 °C rated value • at 60 °C rated value • at 60 °C rated value • at AC rated value • at Cared value • at AC rated value • at Cared value • at		
rumber of poles design of pole tripping characteristic class mechanical service life (operating cycles) typical overvoltage category lill degree of pollution 3 Voltage type of voltage of the operating voltage insulation voltage (UI) • with single-phase operation at AC rated value supply voltage with single-phase operation at AC rated value operational current • at 40 °C rated value • at 60 °C rated value • at 60 °C rated value • at 60 °C rated value • at AC rated value • at DC r		Miniature circuit breaker
design of pole tripping characteristic class C mechanical service life (operating cycles) typical overvoltage earbegory life degree of pollution 3 Voltage type of voltage of the operating voltage type of voltage of the operating voltage AC insulation voltage (UI) • with single-phase operation at AC rated value supply voltage with single-phase operation at AC rated value operational current • at 40 °C rated value • at 50 °C rated value • at 65 °C rated value • at 65 °C rated value • at 60 °C rated value • at 60 °C rated value • at AC rated value • at BC rated value • at Crated value • at DC rated value value range of the supply voltage frequency operating voltage at DC rated value maximum 72 V Protection class protection class IP IP20, with connected conductors	General technical data	
Irripping characteristic class C 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 250 V supply voltage with single-phase operation at AC rated value operational current * a rt 40 °C rated value 18.78 A * a t 55 °C rated value 16.88 A * a t 55 °C rated value 16.88 A * a t 60 °C rated value 16.88 A * a t 60 °C rated value 20 A Supply voltage supply voltage supply voltage * a t AC rated value 20 A Supply voltage * a t AC 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 IP Breaking Capacity switching capacity current * a t CD according to EC 60947-2 rated value 10 KA * a cacording to EC 60947-2 rated value 20 KA energy limitation class Dissipation power loss [W] for rated value of the current at AC in hot operating state per pole Product dotalis	number of poles	2
mechanical service life (operating cycles) typical overvoltage category degree of pollution 3 Voltage type of voltage of the operating voltage type of voltage of the operating voltage with single-phase operation at AC rated value 250 V supply voltage with single-phase operation at AC rated value operational current • at 40 °C rated value • at 50 °C rated value • at 65 °C rated value • at 60 °C rated value • at 60 °C rated value • at 60 °C rated value • at AC rated value • at C rated value •	design of pole	1P+N
overvoltage category degree of pollution 3 Voltage type of voltage of the operating voltage insulation voltage (Ui) • with single-phase operation at AC rated value supply voltage with single-phase operation at AC rated value operational current • at 40 °C rated value • at 50 °C rated value • at 50 °C rated value • at 60 °C rated value • at 60 °C rated value • at 60 °C rated value • at AC rated value • at AC rated value • at AC rated value • at AC rated value • at AC rated value • at C rated v	tripping characteristic class	С
degree of poliution 3 Voltage Type of voltage of the operating voltage Type of voltage (U) • with single-phase operation at AC rated value supply voltage with single-phase operation at AC rated value 250 V supply voltage with single-phase operation at AC rated value operational current • at 40 °C rated value • at 50 °C rated value • at 55 °C rated value • at 60 °C rated value • at 60 °C rated value • at AC rated value • at DC rated value value range of the supply voltage frequency operating voltage at DC rated value maximum 72 V Protection class protection class IP Ereaking Capacity switching capacity current • at DC according to IEC 60947-2 rated value • according to EN 60988 rated value • according to EN 60988 rated value • according to EN 60988 rated value • according to IEC 60947-2 rated value	mechanical service life (operating cycles) typical	10 000
type of voltage of the operating voltage type of voltage of the operating voltage insulation voltage (Ui) • with single-phase operation at AC rated value supply voltage with single-phase operation at AC rated value operational current • at 40 °C rated value • at 50 °C rated value • at 50 °C rated value • at 60 °C rated value • at 60 °C rated value • at 60 °C rated value • at AC rated value • at C rated value • at C rated value • at C rated value • at DC rated value of the supply voltage frequency operating voltage at DC rated value maximum 72 V Protection class protection class IP Breaking Capacity switching capacity current • at DC according to IEC 60947-2 rated value • according to IEC 60947-2 rated value	overvoltage category	III
type of voltage of the operating voltage insulation voltage (UI) • with single-phase operation at AC rated value supply voltage with single-phase operation at AC rated value coperational current • at 40 °C rated value • at 50 °C rated value • at 55 °C rated value • at 60 °C rated value • at AC rated value • at CD rated value • at CD rated value • at DC rated value of the supply voltage frequency coperating voltage at DC rated value maximum 72 V Protection class protection class IP Breaking Capacity switching capacity current • at DC according to IEC 60947-2 rated value • according to IEC 60947-2 rated value	degree of pollution	3
insulation voltage (UI) • with single-phase operation at AC rated value supply voltage with single-phase operation at AC rated value operational current • at 40 °C rated value • at 50 °C rated value • at 55 °C rated value • at 60 °C rated value • at 60 °C rated value • at AC rated value • at C rated value • at D rated value • at DC rated value value range of the supply voltage frequency operating voltage at DC rated value maximum 72 V Protection class protection class IP Breaking Capacity switching capacity current • at DC according to IEC 60947-2 rated value • according to IEC 60947-2 rated value	Voltage	
with single-phase operation at AC rated value supply voltage with single-phase operation at AC rated value operational current	type of voltage of the operating voltage	AC
supply voltage with single-phase operation at AC rated value operational current • at 40 °C rated value • at 55 °C rated value • at 55 °C rated value • at 60 °C rated value • at 60 °C rated value • at 60 °C rated value • at AC rated value • at AC rated value • at AC rated value • at DC rated value • at DC rated value • at DC rated value value range of the supply voltage frequency operating voltage at DC rated value maximum 72 V Protection class protection class IP Breaking Capacity switching capacity current • at DC according to IEC 60947-2 rated value • according to IEC 60947-2 rated value	insulation voltage (Ui)	
operational current • at 40 °C rated value • at 50 °C rated value • at 50 °C rated value • at 56 °C rated value • at 60 °C rated value • at 60 °C rated value • at AC rated value • at AC rated value • at AC rated value Supply voltage supply voltage • at AC rated value • at C rated value • at DC rated value poperating voltage at DC rated value maximum 72 V Protection class protection class IP Breaking Capacity switching capacity current • at DC according to IEC 60947-2 rated value • according to IEC 60947-2 rated value	 with single-phase operation at AC rated value 	250 V
at 40 °C rated value at 50 °C rated value 17.48 A at 50 °C rated value 16.8 A at 60 °C rated value 16.08 A at 60 °C rated value 20 A Supply voltage supply voltage at AC rated value 230 V at AC rated value 230 V at DC rated value 250/60 Hz operating voltage at DC rated value maximum 72 V Protection class IP Breaking Capacity switching capacity current at DC according to IEC 60947-2 rated value 15 kA according to IEC 60947-2 rated value 20 kA energy limitation class 3 Dissipation power loss [W] for rated value of the current at AC in hot operating state per pole Product details	supply voltage with single-phase operation at AC rated value	230 V
at 50 °C rated value at 55 °C rated value 16.8 A at 60 °C rated value 16.08 A at AC rated value 20 A Supply voltage supply voltage at AC rated value 230 V at AC rated value 60 V value range of the supply voltage frequency operating voltage at DC rated value maximum 72 V Protection class IP Breaking Capacity switching capacity current at AC coording to IEC 60947-2 rated value 10 kA according to IEC 60947-2 rated value 20 kA energy limitation class prower loss [W] for rated value of the current at AC in hot operating state per pole Product details	operational current	
at 55 °C rated value at 60 °C rated value 16.08 A at AC rated value 20 A Supply voltage supply voltage at AC rated value 230 V at DC rated value 60 V value range of the supply voltage frequency operating voltage at DC rated value maximum 72 V Protection class protection class IP Breaking Capacity switching capacity current at DC according to EC 60947-2 rated value according to EC 60947-2 rated value 10 kA according to IEC 60947-2 rated value 20 kA energy limitation class power loss [W] for rated value of the current at AC in hot operating state per pole Product details	 at 40 °C rated value 	18.78 A
at AC rated value at AC rated value 20 A Supply voltage supply voltage at AC rated value 230 V at AC rated value 300 V at DC rated value 300 V value range of the supply voltage frequency soperating voltage at DC rated value maximum 72 V Protection class protection class IP Breaking Capacity switching capacity current at AC according to IEC 60947-2 rated value according to EN 60898 rated value according to IEC 60947-2 rated value 30 kA according to IEC 60947-2 rated value 40 kA 40 caccording to IEC 60947-2 rated value 41 to KA 42 caccording to IEC 60947-2 rated value 43 caccording to IEC 60947-2 rated value 44 caccording to IEC 60947-2 rated value 45 to KA 46 caccording to IEC 60947-2 rated value 47 to KA 48 caccording to IEC 60947-2 rated value 49 to KA 40 caccording to IEC 60947-2 rated value 40 to KA 40 caccording to IEC 60947-2 rated value 40 to KA 41 to KA 42 to KA 43 to KA 44 to KA 45 to KA 46 to KA 47 to KA 47 to KA 48 to KA 4	 at 50 °C rated value 	17.48 A
a the AC rated value Supply voltage supply voltage at AC rated value at AC in hot operating state per pole at AC rated value at AC in hot operating state per pole at AC rated value at AC in hot operating state per pole	 at 55 °C rated value 	16.8 A
supply voltage • at AC rated value • at DC rated value • at DC rated value value range of the supply voltage frequency operating voltage at DC rated value maximum 72 V Protection class protection class IP Breaking Capacity switching capacity current • at DC according to IEC 60947-2 rated value • according to EN 60898 rated value • according to IEC 60947-2 rated value • according to IEC 60947-2 rated value • according to IEC 60947-2 rated value • according to IEC 60947-2 rated value 10 kA • according to IEC 60947-2 rated value 20 kA energy limitation class 3 Dissipation power loss [W] for rated value of the current at AC in hot operating state per pole Product details	 at 60 °C rated value 	16.08 A
supply voltage • at AC rated value • at DC rated value • at DC rated value value range of the supply voltage frequency operating voltage at DC rated value maximum 72 V Protection class protection class IP Breaking Capacity switching capacity current • at DC according to IEC 60947-2 rated value • according to EN 60898 rated value • according to IEC 60947-2 rated value	 at AC rated value 	20 A
at AC rated value at DC rated value 60 V value range of the supply voltage frequency operating voltage at DC rated value maximum 72 V Protection class protection class IP Breaking Capacity switching capacity current at DC according to IEC 60947-2 rated value according to EN 60898 rated value according to IEC 60947-2 rated	Supply voltage	
at DC rated value value range of the supply voltage frequency operating voltage at DC rated value maximum 72 V Protection class protection class IP Breaking Capacity switching capacity current • at DC according to IEC 60947-2 rated value • according to EN 60898 rated value • according to IEC 60947-2 rated value •	supply voltage	
value range of the supply voltage frequency 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 • according to EN 60898 rated value • according to IEC 60947-2 rated value 20 kA energy limitation class 3 Dissipation power loss [W] for rated value of the current at AC in hot operating state per pole Product details	 at AC rated value 	230 V
operating voltage at DC rated value maximum Protection class protection class IP IP20, with connected conductors Breaking Capacity switching capacity current • at DC according to IEC 60947-2 rated value • according to EN 60898 rated value • according to IEC 60947-2 rated value • according to IEC 60947-2 rated value • according to IEC 60947-2 rated value 20 kA energy limitation class Dissipation power loss [W] for rated value of the current at AC in hot operating state per pole Product details	at DC rated value	60 V
protection class IP IP20, with connected conductors Breaking Capacity switching capacity current • at DC according to IEC 60947-2 rated value • according to EN 60898 rated value • according to IEC 60947-2 rated value • according to IEC 60947-2 rated value 20 kA energy limitation class Dissipation power loss [W] for rated value of the current at AC in hot operating state per pole Product details	value range of the supply voltage frequency	50/60 Hz
protection class IP Breaking Capacity switching capacity current • at DC according to IEC 60947-2 rated value • according to EN 60898 rated value • according to IEC 60947-2 rated value • according to IEC 60947-2 rated value 20 kA energy limitation class Dissipation power loss [W] for rated value of the current at AC in hot operating state per pole Product details	operating voltage at DC rated value maximum	72 V
Switching capacity current • at DC according to IEC 60947-2 rated value • according to EN 60898 rated value • according to IEC 60947-2 rated value • according to IEC 60947-2 rated value • according to IEC 60947-2 rated value 20 kA energy limitation class 3 Dissipation power loss [W] for rated value of the current at AC in hot operating state per pole Product details	Protection class	
switching capacity current • at DC according to IEC 60947-2 rated value • according to EN 60898 rated value • according to IEC 60947-2 rated value • according to IEC 60947-2 rated value • according to IEC 60947-2 rated value 20 kA energy limitation class 3 Dissipation power loss [W] for rated value of the current at AC in hot operating state per pole Product details	protection class IP	IP20, with connected conductors
at DC according to IEC 60947-2 rated value according to EN 60898 rated value according to IEC 60947-2 rated value according to IEC 60947-2 rated value be according to IEC 60947-2 rated value consider the control of the control of the current at AC in hot operating state per pole according to IEC 60947-2 rated value according t	Breaking Capacity	
according to EN 60898 rated value according to IEC 60947-2 rated value energy limitation class Dissipation power loss [W] for rated value of the current at AC in hot operating state per pole Product details 10 kA 20 kA 1.7 W	switching capacity current	
according to IEC 60947-2 rated value 20 kA energy limitation class 3 Dissipation power loss [W] for rated value of the current at AC in hot operating state per pole Product details 1.7 W 1.7 W	• at DC according to IEC 60947-2 rated value	15 kA
energy limitation class Dissipation power loss [W] for rated value of the current at AC in hot operating state per pole Product details	 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 Product details	according to IEC 60947-2 rated value	20 kA
power loss [W] for rated value of the current at AC in hot operating state per pole Product details 1.7 W 1.7 W	energy limitation class	3
operating state per pole Product details	Dissipation	
		1.7 W
product component	Product details	
	product component	

 combined terminal top 	Yes
 combined terminal bottom 	Yes
neutral conductor switching	Yes
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
Product function	
set values setting current (li) for I-tripping	7,5
reference value setting current (li) for I-tripping	x In
Short circuit	
short-circuit current breaking capacity (Icn)	
at AC according to UL 1077 and CSA C22.2 No.235	5 kA
Connections	J M
connectable conductor cross-section solid	0.75 mm²
• minimum	
• maximum	35 mm²
connectable conductor cross-section stranded	0.75
• minimum	0.75 mm ²
• maximum	35 mm²
connectable conductor cross-section finely stranded with core end processing	
• minimum	0.75 mm²
maximum	25 mm ²
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	Any
Mechanical Design	
height	90 mm
width	36 mm
depth	76 mm
installation depth	70 mm
number of modular width units	2
fastening method	Quick assembly system
mounting position	any
net weight	314 g
Environmental conditions	
influence of the surrounding temperature	max. 95% to 55°C, max. 55% to 70°C, max. 35% to 75°C
standard	IEC / EN 60898-1, IEC / EN 60947-2 / 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	6
60068-2-30	
Approvals Certificates	
General Product Approval	







Confirmation





General Product Approval

EMV

Test Certificates



Miscellaneous





Special Test Certificate

Miscellaneous

Marine / Shipping









Confirmation

other

other

Railway

Environment

Miscellaneous

Confirmation

Environmental Confirmations

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=5SY4520-7

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

https://support.industry.siemens.com/cs/ww/en/ps/5SY4520-7

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

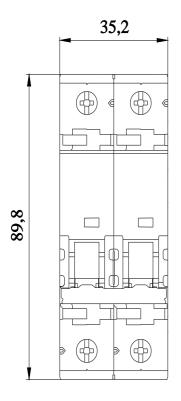
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=5SY4520-7

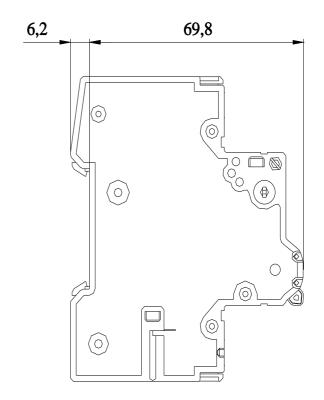
CAx-Online-Generator

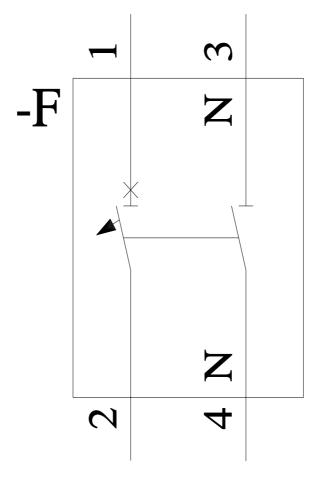
http://www.siemens.com/cax

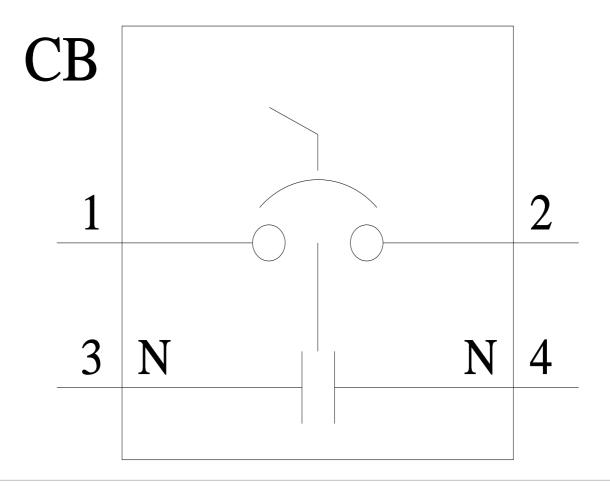
Tender specifications

http://www.siemens.com/specifications









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