## **SIEMENS**

Data sheet 5SY4120-6



Miniature circuit breaker 230/400 V 10kA, 1-pole, B, 20 A, D=70 mm

product brand name product designation Miniature circuit breaker  General technical data  number of poles	Model	
Ceneral technical data	product brand name	SENTRON
number of poles design of pole tripping characteristic class mechanical service life (operating cycles) typical overvoltage category life (operating voltage) degree of pollution  Voltago  type of voltage of the operating voltage insulation voltage (UII) • with single-phase operation at AC rated value value range with single-phase operation at AC rated value supply voltage with single-phase operation at AC rated value value range of the supply voltage with single-phase operation at AC rated value value value supply voltage  • at AC rated value • at AC rated value • at C rated value • at C rated value • at C rated value  value range of the supply voltage frequency operating voltage at DC rated value maximum  72 V  Protection class protection class IP  Switching capacity switching capacity current • at DC according to IEC 60947-2 rated value • according to IEC 60947-2 rated value  power loss [W] for rated value of the current at AC in hot operating state per pole suitability for operation  power loss [W] for rated value of the current at AC in hot operating state per pole suitability for operation  Product details  product component • combined terminal bot • combined terminal bottom  Yes	product designation	Miniature circuit breaker
design of pole tripping characteristic class B B B B B B B B B B B B B B B B B B	General technical data	
tripping characteristic class mechanical service life (operating cycles) typical 10 000 overvoltage category IIII overvoltage category IIII overvoltage of pollution 3  Voltage  type of voltage of the operating voltage insulation voltage (UI)  • with single-phase operation at AC rated value • with multi-phase operation at AC rated value supply voltage 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 440 V  • supply voltage  • at AC rated value 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 IP  protection class IP  Switching capacity current  • at DC according to IEC 60947-2 rated value 15 kA  • according to IEC 60947-2 rated value 20 kA  • according to IEC 60947-2 rated value 20 kA  • according to IEC 60947-2 rated value 20 kA  • according to IEC 60947-2 rated value 20 kA  • according to IEC 60947-2 rated value 20 kA  • according to IEC 60947-2 rated value 30 kA  • according to IEC 60947-2 rated value 40 kA  • according to IEC 60947-2 rated value 50 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 60947-2 rated value 60 kA  • according to IEC 6094	number of poles	1
mechanical service life (operating cycles) typical overvoltage category dill degree of pollution 3  Voltage  type of voltage of the operating voltage insulation voltage (Ui)  • with single-phase operation at AC rated value • with multi-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 supply voltage with single-phase operation at AC rated value supply voltage  supply voltage  supply voltage  • at AC rated value • at DC rated value maximum  72 V  Protection class  protection class IP  IP20, with connected conductors  Switching capacity  switching capacity current • at DC according to IEC 60947-2 rated value • according to IEC	design of pole	1P
overvoltage category degree of pollution  Voltage  type of voltage of the operating voltage insulation voltage (Ui)  • with single-phase operation at AC rated value • with multi-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 supply voltage  • at AC rated value • at DC rated value  • at DC rated value • at DC rated value • at DC rated value • at DC rated value • at DC rated value • at DC rated value • at DC rated value • according to IEC 60947-2 rated value • at DC according to IEC 60947-2 rated value • acc	tripping characteristic class	В
Voltage   Volt	mechanical service life (operating cycles) typical	10 000
type of voltage of the operating voltage insulation voltage (Ui)  • with single-phase operation at AC rated value • with multi-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  • at AC rated value • at AC rated value • at DC rated value • at DC rated value  • at DC rated value  • at DC rated value  • at DC rated value  • at DC rated value  • at DC rated value  • at DC rated value  • at DC rated value maximum  72 V   Protection class  protection class IP  Switching capacity  switching capacity current • at DC according to IEC 60947-2 rated value • according to IEC 6094		III
type of voltage of the operating voltage insulation voltage (UI)  • with single-phase operation at AC rated value • with multi-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 supply voltage  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  IP20, with connected conductors  Switching capacity switching capacity current • at DC according to IEC 60947-2 rated value • at DC according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA • according to IEC 60947-2 rated value • 20 kA	degree of pollution	3
insulation voltage (Ui)  • with single-phase operation at AC rated value  • with multi-phase operation at AC rated value  supply voltage with single-phase operation at AC rated value  supply voltage  supply voltage  supply voltage  • at AC rated value  • at DC rated value maximum  72 V  Protection class  protection class IP  Switching capacity  switching capacity current  • at DC according to IEC 60947-2 rated value  • according to EN 60896 rated value  • according to IEC 60947-2 rated value  • acc	Voltage	
with single-phase operation at AC rated value     with multi-phase operation at AC rated value     supply voltage with single-phase operation at AC rated value     supply voltage  supply voltage  supply voltage      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  Switching capacity  switching capacity current     at DC according to IEC 60947-2 rated value     according to IEC 60947-2 rated	type of voltage of the operating voltage	AC
with multi-phase operation at AC rated value supply voltage with single-phase operation at AC rated value  Supply voltage  supply voltage      • at AC rated value	insulation voltage (Ui)	
supply voltage  Supply voltage  supply voltage  at AC rated value 400 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 IP20, with connected conductors  Switching capacity  switching capacity current  at DC according to IEC 60947-2 rated value 15 kA  according to EN 60898 rated value 10 kA  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 suitability for operation Mechanical engineering / industry  Product details  product component  combined terminal top Yes  combined terminal bottom Yes	<ul> <li>with single-phase operation at AC rated value</li> </ul>	440 V
supply voltage supply voltage • 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    P20, with connected conductors		440 V
supply voltage  • 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  Switching 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		230 V
at AC rated value at DC rated value but DC rated value cape of the supply voltage frequency operating voltage at DC rated value maximum coperating capacity  Switching capacity  Switching capacity current at DC according to IEC 60947-2 rated value capacity of EN 60898 rated value capacity of EN 60947-2 rated value capacity of EN 60898 rated value capacity of EN 60898 rated value capacity of EN 60947-2 rated value capacity	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 IP20, with connected conductors  Switching capacity  switching capacity current  at DC 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 suitability for operation  Product details  product component combined terminal top Yes combined terminal bottom  Yes	supply voltage	
value range of the supply voltage frequency operating voltage at DC rated value maximum  Protection class  protection class IP  IP20, with connected conductors  Switching 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  power loss [W] for rated value of the current at AC in hot operating state per pole suitability for operation  Product details  product component • combined terminal top • combined terminal bottom  **Yes**  **Yes**  **Jokical Responding to EN 50/60 Hz  **Jokical Responding to EN 2 V  **Jokical	<ul> <li>at AC rated value</li> </ul>	400 V
protection class protection class IP IP20, with connected conductors  Switching 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  power loss [W] for rated value of the current at AC in hot operating state per pole suitability for operation  Product details  product component • combined terminal top • combined terminal bottom  Product details  Yes  Yes	<ul> <li>at DC rated value</li> </ul>	60 V
Protection class protection class IP IP20, with connected conductors  Switching 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 3  Dissipation  power loss [W] for rated value of the current at AC in hot operating state per pole suitability for operation  Mechanical engineering / industry  Product details  product component • combined terminal top • combined terminal bottom  Yes  Yes	value range of the supply voltage frequency	50/60 Hz
protection class IP IP20, with connected conductors  Switching 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 suitability for operation  Product details  product component • combined terminal top • combined terminal bottom  Yes	operating voltage at DC rated value maximum	72 V
Switching 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 energy limitation class  Dissipation  power loss [W] for rated value of the current at AC in hot operating state per pole suitability for operation  Product details  product component • combined terminal top • combined terminal bottom  Yes  Yes	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  energy limitation class  20 kA  energy limitation class  3  Dissipation  power loss [W] for rated value of the current at AC in hot operating state per pole suitability for operation  Mechanical engineering / industry  Product details  product component  • combined terminal top  • combined terminal bottom  Yes	protection class IP	IP20, with connected conductors
<ul> <li>at DC according to IEC 60947-2 rated value</li> <li>according to EN 60898 rated value</li> <li>according to IEC 60947-2 rated value</li> <li>according to IEC 60947-2 rated value</li> <li>back according to IEC 60947-2 rated value</li> <li>back according</li></ul>	Switching capacity	
<ul> <li>according to EN 60898 rated value</li> <li>according to IEC 60947-2 rated value</li> <li>energy limitation class</li> <li>Dissipation</li> <li>power loss [W] for rated value of the current at AC in hot operating state per pole suitability for operation</li> <li>Mechanical engineering / industry</li> <li>Product details</li> <li>product component</li> <li>combined terminal top</li> <li>combined terminal bottom</li> <li>Yes</li> </ul>	0 1 3	
<ul> <li>according to IEC 60947-2 rated value energy limitation class</li> <li>Dissipation</li> <li>power loss [W] for rated value of the current at AC in hot operating state per pole suitability for operation</li> <li>Product details</li> <li>product component</li> <li>combined terminal top</li> <li>combined terminal bottom</li> <li>20 kA</li> <li>Mechanical engineering / industry</li> <li>Yes</li> </ul>		15 kA
energy limitation class  Dissipation  power loss [W] for rated value of the current at AC in hot operating state per pole suitability for operation  Product details  product component  • combined terminal top • combined terminal bottom  3  Mechanical engineering / industry  Yes	_	10 kA
Dissipation  power loss [W] for rated value of the current at AC in hot operating state per pole suitability for operation  Product details  product component  • combined terminal top • combined terminal bottom  • combined terminal bottom  • combined terminal bottom		
power loss [W] for rated value of the current at AC in hot operating state per pole suitability for operation  Product details  product component  • combined terminal top • combined terminal bottom  2.2 W  Mechanical engineering / industry  Yes		3
operating state per pole suitability for operation  Mechanical engineering / industry  Product details  product component  • combined terminal top • combined terminal bottom  Yes		
Product details  product component  • combined terminal top  • combined terminal bottom  Yes		2.2 W
product component	suitability for operation	Mechanical engineering / industry
<ul> <li>combined terminal top</li> <li>combined terminal bottom</li> <li>Yes</li> </ul>	Product details	
• combined terminal bottom Yes	product component	
	<ul> <li>combined terminal top</li> </ul>	Yes
neutral conductor switching     No	<ul> <li>combined terminal bottom</li> </ul>	Yes
	<ul> <li>neutral conductor switching</li> </ul>	No

product feature • properties for main switches in accordance with EN Yes 60204-1 Yes • halogen-free • sealable Yes • silicon-free Yes product extension installable supplementary devices Yes Short circuit short-circuit current breaking capacity (Icn) 5 kA • at AC according to UL 1077 and CSA C22.2 No.235 connectable conductor cross-section solid 0.75 mm<sup>2</sup> • minimum maximum 35 mm<sup>2</sup> connectable conductor cross-section stranded 0.75 mm<sup>2</sup> • minimum 35 mm<sup>2</sup> connectable conductor cross-section finely stranded with core end processing 0.75 mm<sup>2</sup> minimum • maximum 25 mm<sup>2</sup> AWG number as coded connectable conductor cross section 18 • minimum • 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 90 mm height 18 mm width depth 76 mm installation depth 70 mm number of modular width units fastening method Quick assembly system mounting position any net weight 165 g **Environmental conditions** influence of the surrounding temperature max. 95% to 55°C, max. 55% to 70°C, max. 35% to 75°C IEC / EN 60898-1, IEC / EN 60947-2 / UL1077 standard vibration resistance according to IEC 60068-2-6 ±1mm at 5 to 25Hz; 50m/s2 at 25 to 150Hz ambient temperature during operation -40 °C • minimum 70 °C maximum ambient temperature during storage -40 °C • minimum maximum 75 °C number of test cycles for environmental testing according to IEC 60068-2-30 **General Product Approval** 



Confirmation







**Miscellaneous** 

General Product Approval	EMC	<b>Declaration of Conformity</b>	Test Certificates
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**Miscellaneous** 







Special Test Certificate

**Test Certificates** 

Marine / Shipping

**Miscellaneous** 











other		Railway		Environment
<u>Confirmation</u>	Miscellaneous	Vibration and Shock	Confirmation	Environmental Con- firmations

## **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=5SY4120-6

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

https://support.industry.siemens.com/cs/ww/en/ps/5SY4120-6

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

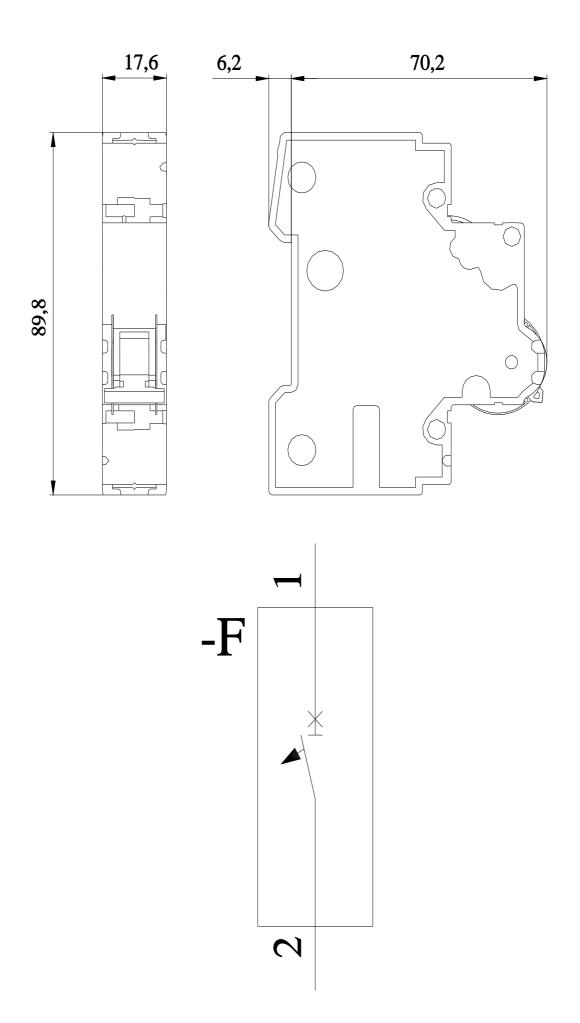
http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=5SY4120-6

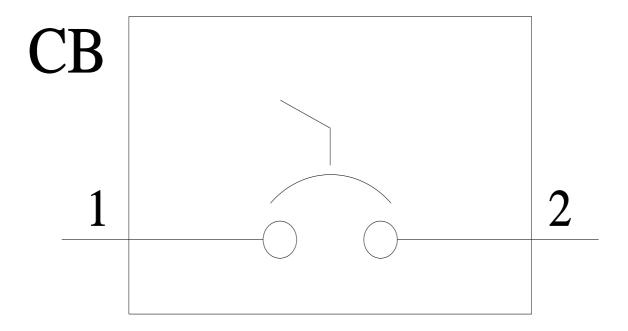
**CAx-Online-Generator** 

http://www.siemens.com/cax

**Tender specifications** 

http://www.siemens.com/specifications





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