SIEMENS

Data sheet 5SY4220-8

Miniature circuit breaker 400 V 10kA, 2-pole, D, 20 A, D=70 mm

Model	
product brand name	SENTRON
product designation	Miniature circuit breaker
General technical data	
number of poles	2
design of pole	2P
tripping characteristic class	D
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	18.78 A
● at 50 °C rated value	17.48 A
● 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	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
● according to IEC 60947-2 rated value	20 kA
Dissipation	
power loss [W] for rated value of the current at AC in hot operating state per pole	1.6 W
suitability for operation	Infrastructure / Industry

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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
● halogen-free	Yes
● sealable	Yes
● silicon-free	Yes
product extension installable supplementary devices	Yes
Product function	
set values setting current (Ii) for I-tripping	14
reference value setting current (Ii) 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	
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	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	322 g
Environmental conditions	
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 60068-2-30	6

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Environmental footprint

Environmental Product Declaration(EPD)	Yes
global warming potential [CO2 eq] total	16.8 kg
global warming potential [CO2 eq] during manufacturing	1.13 kg
global warming potential [CO2 eq] during operation	15.7 kg
global warming potential [CO2 eq] after end of life	-0.00046 kg

Approvals Certificates

General Product Approval

CCC | EG-Konf. | UKCA | Confirmation | IMQ | UR

General Product Approval | EMV | Test Certificates

VDE | Miscellaneous | EAC | Miscellaneous | RCM | Special Test Certificate

Test Certificates | Marine / Shipping

Miscellaneous | ABS | Bureau Veritas | DNV | LRS | RINA

other | Railway | Environment

Miscellaneous | Confirmation | Special Test Certificate | Confirmation | EPD | Environmental Confirmations

Environment

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=5SY4220-8
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/5SY4220-8
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=5SY4220-8
CAx-Online-Generator
http://www.siemens.com/cax
Tender specifications
http://www.siemens.com/specifications

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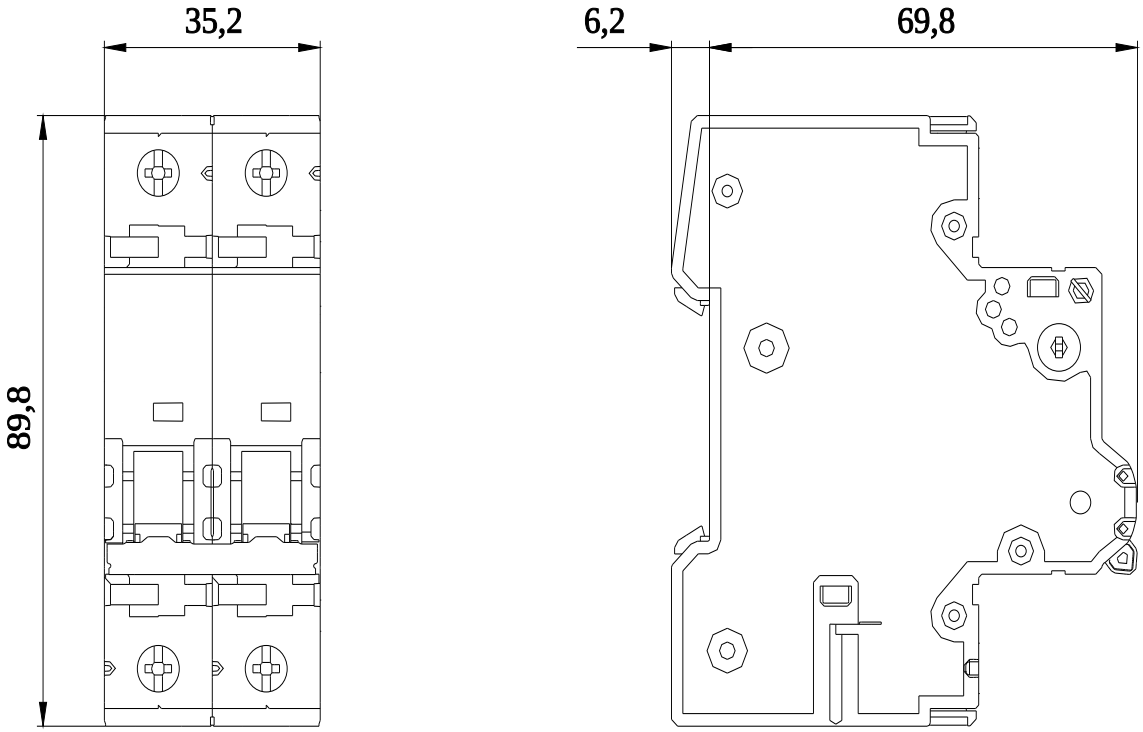

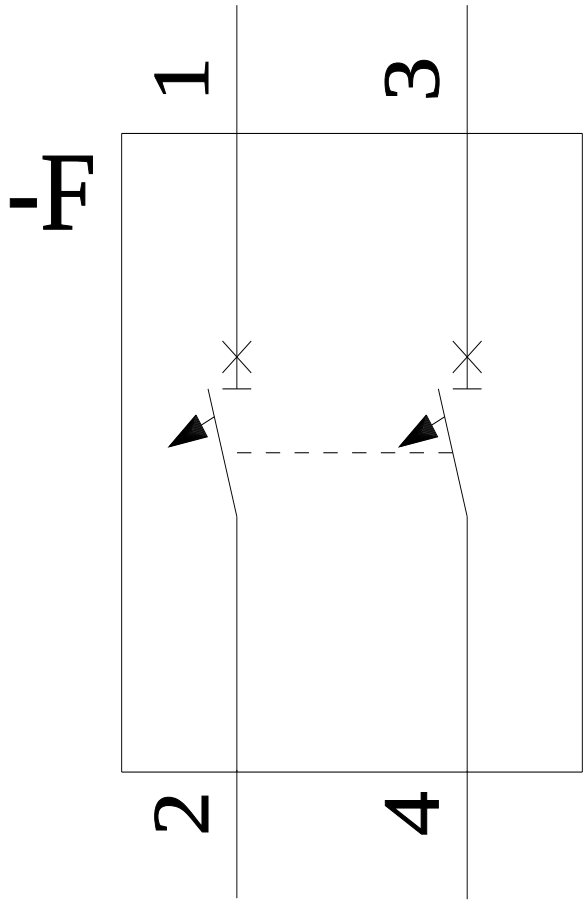

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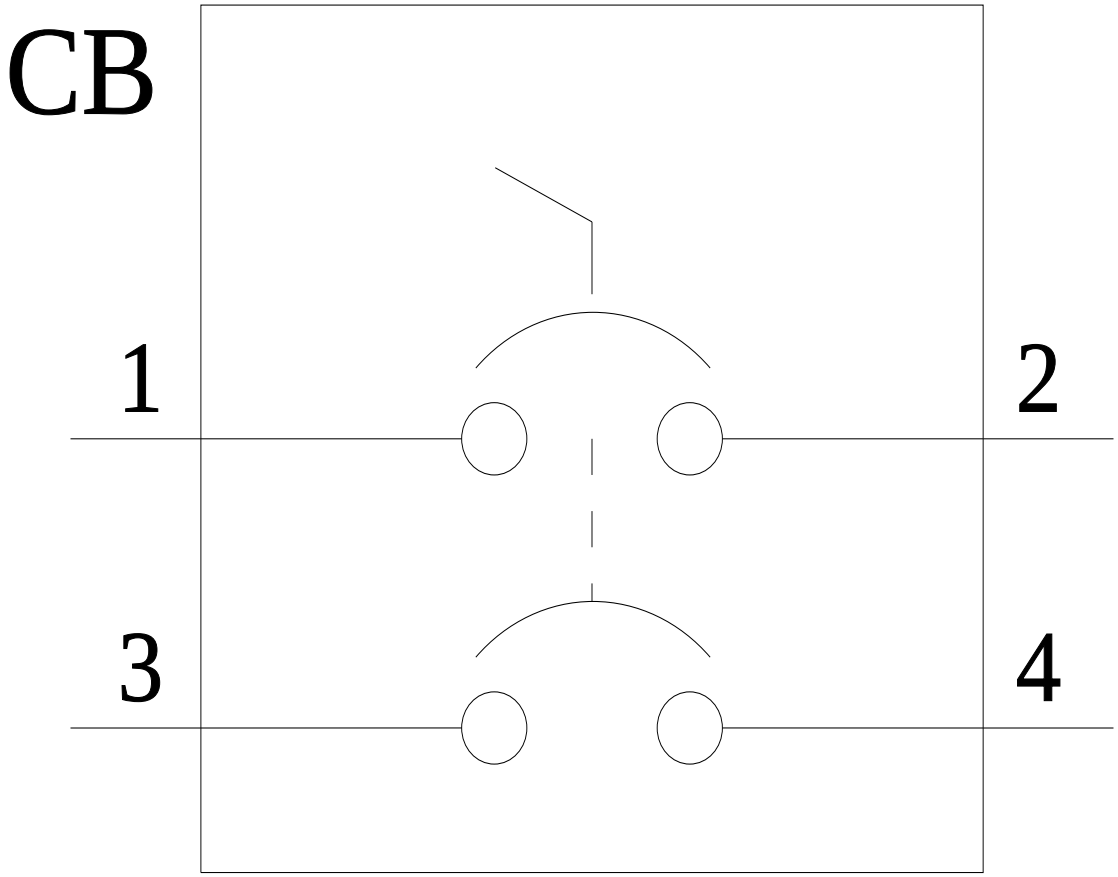

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