

Siemens
EcoTech



circuit breaker 3VA6 UL Frame 250 breaking capacity class M 35 kA @ 480 V 3-pole, line protection ETU560, LSIG, In=100 A overload protection, 100% rated Ir=40 A...100 A short-circuit protection I_{sd}=0.6..10x I_n, I_i=1.5..12x I_n neutral conductor protection optionally with external current transformer, up to 160% ground-fault protection I_g=0.2...1 x I_n, t_g=0.05-0.8s without connection

Model	
product brand name	SENTRON
product designation	Molded-case circuit breaker
product designation / according to UL file	MFAE
design of the product	System protection
design of the load switch / according to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type)	Yes
design of the overcurrent release	ETU560
protection function of the overcurrent release	LSIG
number of poles	3
General technical data	
insulation voltage / rated value	800 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	6.7 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	2.23 W
mechanical service life (operating cycles) / typical	25 000
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	12 000
electrical endurance (operating cycles) / at AC-1 / at 690 V	8 400
electrical endurance (operating cycles) / at 480 V	12 000
electrical endurance (operating cycles) / at 600 V	8 400
product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof	Yes
ground-fault monitoring version	Summation current formation L-conductor
product function	
• communication function	Yes
• other measurement function	No
Net Weight	2.3 kg
Current	
marking / according to UL 489 / 100%-rated breaker	Yes
operational current	
• at 40 °C	100 A
• at 45 °C	100 A
• at 50 °C	100 A
• at 55 °C	100 A
• at 60 °C	100 A
• at 65 °C	100 A

● at 70 °C	100 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	M
maximum short-circuit current breaking capacity (I _{cu})	
● at 240 V	85 kA
● at 415 V	55 kA
● at 690 V	3 kA
operating short-circuit current breaking capacity (I _{cs})	
● at 240 V	85 kA
● at 415 V	55 kA
● at 690 V	3 kA
short-circuit current making capacity (I _{cm})	
● at 240 V	187 kA
● at 415 V	121 kA
● at 690 V	4.5 kA
Switching capacity according to UL 489	
current breaking capacity	
● at 240 V	100 kA
● at 480 V	35 kA
● at 600 V	18 kA
Adjustable parameters	
adjustable response value setting current (I _r) / of the L-trip / with I _{2t} characteristic	
● minimum	40 A
● maximum	100 A
adjustable response value delay time (t _r) / for L-tripping / with I _{2t} characteristic	
● minimum	0.5 s
● maximum	25 s
adjustable response value setting current (I _{sd}) / of S-trip / with I _{0t} characteristic	
● minimum	60 A
● maximum	1 000 A
adjustable response value setting current (I _{sd}) / of S-trip / with I _{2t} characteristic	
● minimum	60 A
● maximum	1 000 A
adjustable response value delay time (t _{sd}) / for S-tripping / with I _{0t} characteristic	
● minimum	0.05 s
● maximum	0.5 s
adjustable response value delay time (t _{sd}) / for S-tripping / with I _{2t} characteristic	
● minimum	0.05 s
● maximum	0.5 s
adjustable response value setting current (I _l) / for I-tripping	
● minimum	150 A
● maximum	1 200 A
adjustable current response value current / for G-tripping / with standard characteristic	
● initial value	20 A
● full-scale value	100 A
adjustable response value delay time (t _g) / for G-tripping / with I _{0t} characteristic	
● minimum	0.05 s
● maximum	0.8 s
adjustable response value setting current (I _g) / for G-tripping / with I _{2t} characteristic	
● minimum	20 A
● maximum	100 A
adjustable response value delay time (t _g) / for G-tripping / with I _{2t} characteristic	

• minimum	0.05 s
• maximum	0.8 s
adjustable setting current (InN) / for N-tripping	
• minimum	0 A
• maximum	0 A
design of the N-conductor protection	adjustable OFF; 20% to 160%
product function / grounding protection	Yes

Mechanical Design

product component	
• undervoltage release	No
• voltage trigger	No
• trip indicator	No
height [in]	7.8 in
height	198 mm
width [in]	4.13 in
width	105 mm
depth [in]	3.39 in
depth	86 mm

Connections

arrangement of electrical connectors / for main current circuit	Without connection
type of electrical connection / for main current circuit	Without

Auxiliary circuit

number of CO contacts / for auxiliary contacts	0
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Accessories

product extension / optional / motor drive	Yes
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Environmental conditions

protection class IP / on the front	IP40
ambient temperature	
• during operation / minimum	-25 °C
• during operation / maximum	70 °C
• during storage / minimum	-40 °C
• during storage / maximum	80 °C

Environmental footprint

Environmental Product Declaration (EPD)	Yes
global warming potential [CO2 eq] / total	61.814 kg
global warming potential [CO2 eq] / during manufacturing	14.6 kg
global warming potential [CO2 eq] / during operation	48.9 kg
global warming potential [CO2 eq] / after end of life	-2.2 kg
Siemens Eco Profile (SEP)	Siemens EcoTech
reference code / according to IEC 81346-2	Q

Approvals / Certificates

General Product Approval



[Miscellaneous](#)

General Product Approval



other

Dangerous goods

Environment

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=3VA6210-5JQ31-2AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA6210-5JQ31-2AA0>

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

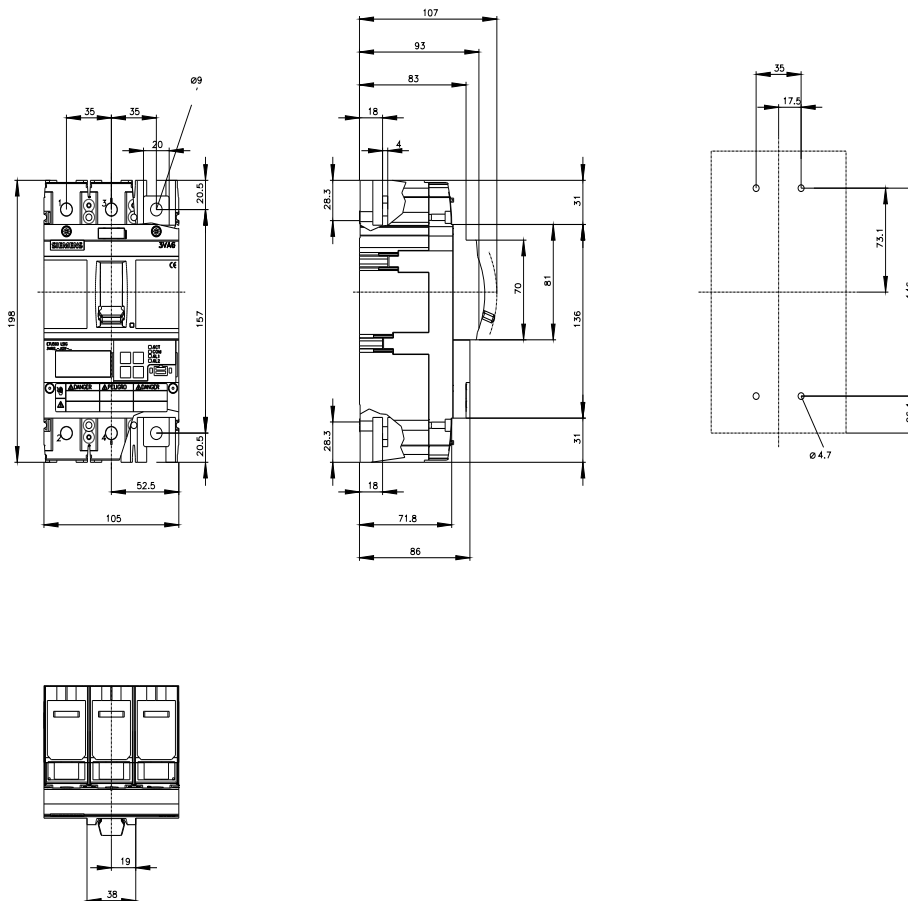
https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6210-5JQ31-2AA0

CAX-Online-Generator

<https://www.siemens.com/cax>

Tender specifications

<https://www.siemens.com/specifications>





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