

**Siemens
EcoTech**



circuit breaker 3VA6 UL Frame 250 breaking capacity class H 65 kA @ 480 V 4-pole, line protection ETU560, LSIG, $I_n=100$ A overload protection $I_r=40$ A...100 A short-circuit protection $I_{sd}=0.6..10 \times I_n$, $I_i=1.5..12 \times I_n$ neutral conductor protection adjustable (OFF, up to 160%) ground-fault protection $I_g=0.2...1 \times I_n$ $t_g=0.05-0.8$ s without connection



Model	
product brand name	SETRON
product designation	Molded-case circuit breaker
product designation / according to UL file	HFAE
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	4
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	No
ground-fault monitoring version	Summation current formation L + N-conductor
product function	
• communication function	Yes
• other measurement function	No
Net Weight	3.2 kg
Current	
marking / according to UL 489 / 100%-rated breaker	No
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	H
maximum short-circuit current breaking capacity (I _{cu})	
• at 240 V	110 kA
• at 415 V	85 kA
• at 690 V	3 kA
operating short-circuit current breaking capacity (I _{cs})	
• at 240 V	110 kA
• at 415 V	85 kA
• at 690 V	3 kA
short-circuit current making capacity (I _{cm})	
• at 240 V	242 kA
• at 415 V	187 kA
• at 690 V	4.5 kA
Switching capacity according to UL 489	
current breaking capacity	
• at 240 V	100 kA
• at 480 V	65 kA
• at 600 V	22 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	20 A
• maximum	160 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]	5.51 in
width	140 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
--	---

Accessories

product extension / optional / motor drive	Yes
--	-----

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



[Confirmation](#)



General Product Approval

EMV

Test Certificates



[Miscellaneous](#)



[Type Test Certificates/Test Report](#)

Maritime application

other



[Confirmation](#)

other	Dangerous goods	Environment
-------	-----------------	-------------

[Miscellaneous](#)

[Transport Information](#)



Siemens
EcoTech



[Environmental Con-
firmations](#)

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=3VA6210-6JQ41-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA6210-6JQ41-0AA0>

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

https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6210-6JQ41-0AA0

CAX-Online-Generator

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

Tender specifications

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





