



circuit breaker 3VA6 UL Frame 600 breaking capacity class H 65 kA @ 480 V 3-pole, line protection ETU860, LSIG, $I_n=400$ A overload protection $I_r=160$ A ...400 A short-circuit protection $I_{sd}=0.6..10 \times I_n$, $I_i=1.5..12 \times I_n$ neutral conductor protection optionally with ext. CT; up to 160% ground-fault protection $I_G=0.2... 1 \times I_n$, $t_g=0.05-0.8$ s nut keeper kit on two sides

Model	
product brand name	SENTRON
product designation	Molded-case circuit breaker
product designation / according to UL file	HLAE
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	ETU860
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	70 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	23.33 W
mechanical service life (operating cycles) / typical	20 000
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	4 000
electrical endurance (operating cycles) / at AC-1 / at 690 V	3 500
electrical endurance (operating cycles) / at 480 V	4 000
electrical endurance (operating cycles) / at 600 V	3 500
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	Yes
Net Weight	5.596 kg
Current	
marking / according to UL 489 / 100%-rated breaker	No
operational current	
• at 40 °C	400 A
• at 45 °C	400 A
• at 50 °C	400 A
• at 55 °C	400 A
• at 60 °C	400 A
• at 65 °C	400 A

• at 70 °C	400 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	6 kA
operating short-circuit current breaking capacity (I _{cs})	
• at 240 V	110 kA
• at 415 V	85 kA
• at 690 V	6 kA
short-circuit current making capacity (I _{cm})	
• at 240 V	242 kA
• at 415 V	187 kA
• at 690 V	9 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	150 A
• maximum	400 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	240 A
• maximum	4 000 A
adjustable response value setting current (I _{sd}) / of S-trip / with I _{2t} characteristic	
• minimum	240 A
• maximum	4 000 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	600 A
• maximum	4 800 A
adjustable current response value current / for G-tripping / with standard characteristic	
• initial value	80 A
• full-scale value	400 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	80 A
• maximum	400 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 (I _N) / for N-tripping	
• minimum	0.2 A
• maximum	1.6 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]	9.76 in
height	248 mm
width [in]	5.43 in
width	138 mm
depth [in]	4.33 in
depth	110 mm

Connections

arrangement of electrical connectors / for main current circuit	Front connection
type of electrical connection / for main current circuit	nut keeper kit on both ends
type of connectable conductor cross-sections / for flat-bar terminal connection / minimum	20 x 1 mm
type of connectable conductor cross-sections / for flat-bar terminal connection / maximum	35 x 10 mm

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 [CO ₂ eq] / total	495 kg
global warming potential [CO ₂ eq] / during manufacturing	28.7 kg
global warming potential [CO ₂ eq] / during operation	470 kg
global warming potential [CO ₂ eq] / after end of life	-4.07 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	other
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[Miscellaneous](#)



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