



circuit breaker 3VA6 UL frame 1600 breaking capacity class H 65kA @ 480 V 3-pole, line protection ETU860, LSIG, In=1600A 100%-rated, overload protection Ir=600A - 1600A short circuit protection Isd=0,6-10x In, li=1,5-7,5x In w/o connection

Model	
product brand name	SENTRON
product designation	Molded-case circuit breaker
product designation / according to UL file	HPAE
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	600 V
power loss [W] / maximum	433 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	433 W
mechanical service life (operating cycles) / typical	3 000
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	1 500
electrical endurance (operating cycles) / at AC-1 / at 690 V	500
electrical endurance (operating cycles) / at 480 V	1 500
electrical endurance (operating cycles) / at 600 V	500
product feature / for neutral conductors / upgradable/retrofitable / short-circuit and overload proof	Yes
ground-fault monitoring version	Summation current formation L + N-conductor
product function	
• communication function	Yes
• other measurement function	Yes
Net Weight	25.705 kg
Current	
marking / according to UL 489 / 100%-rated breaker	Yes
operational current	
• at 40 °C	1 600 A
• at 45 °C	1 600 A
• at 50 °C	1 600 A
• at 55 °C	1 568 A
• at 60 °C	1 536 A
• at 65 °C	1 504 A
• at 70 °C	1 472 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	70 kA
• at 690 V	30 kA
operating short-circuit current breaking capacity (I _{cs})	
• at 240 V	55 kA
• at 415 V	35 kA
• at 690 V	15 kA
short-circuit current making capacity (I _{cm})	
• at 240 V	242 kA
• at 415 V	154 kA
• at 690 V	63 kA
Switching capacity according to UL 489	
current breaking capacity	
• at 240 V	100 kA
• at 480 V	65 kA
• at 600 V	35 kA
Adjustable parameters	
adjustable response value setting current (I _r) / of the L-trip / with I _{2t} characteristic	
• minimum	600 A
• maximum	1 600 A
adjustable response value delay time (t _r) / for L-tripping / with I _{2t} characteristic	
• minimum	2.5 s
• maximum	30 s
adjustable response value setting current (I _{sd}) / of S-trip / with I _{0t} characteristic	
• minimum	960 A
• maximum	12 000 A
adjustable response value setting current (I _{sd}) / of S-trip / with I _{2t} characteristic	
• minimum	960 A
• maximum	12 000 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 _i) / for I-tripping	
• minimum	2 400 A
• maximum	12 000 A
adjustable current response value current / for G-tripping / with standard characteristic	
• initial value	320 A
• full-scale value	1 200 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	320 A
• maximum	1 200 A
adjustable response value delay time (t _g) / for G-tripping / with I _{2t} characteristic	
• minimum	0.05 s
• maximum	0.8 s
design of the N-conductor protection	adjustable OFF; 20% to 160%

product function / grounding protection	Yes
Mechanical Design	
product component	
• undervoltage release	No
• trip indicator	No
height [in]	8.14 in
height	206.9 mm
width [in]	8.99 in
width	228.4 mm
depth [in]	16 in
depth	406.4 mm
Connections	
type of electrical connection / for main current circuit	without terminals
design of the surface / of the connections / on the top of the switch (N, 1, 3, 5)	silver
design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6)	silver
Auxiliary circuit	
number of CO contacts / for auxiliary contacts	0
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
reference code / according to IEC 81346-2	F
Approvals / Certificates	
General Product Approval	



[Miscellaneous](#)



EMV	Test Certificates	Maritime application	other	Dangerous goods	
	Type Test Certificates/Test Report		Confirmation	Miscellaneous	Transport Information

Environment

[Environmental Conformations](#)

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)

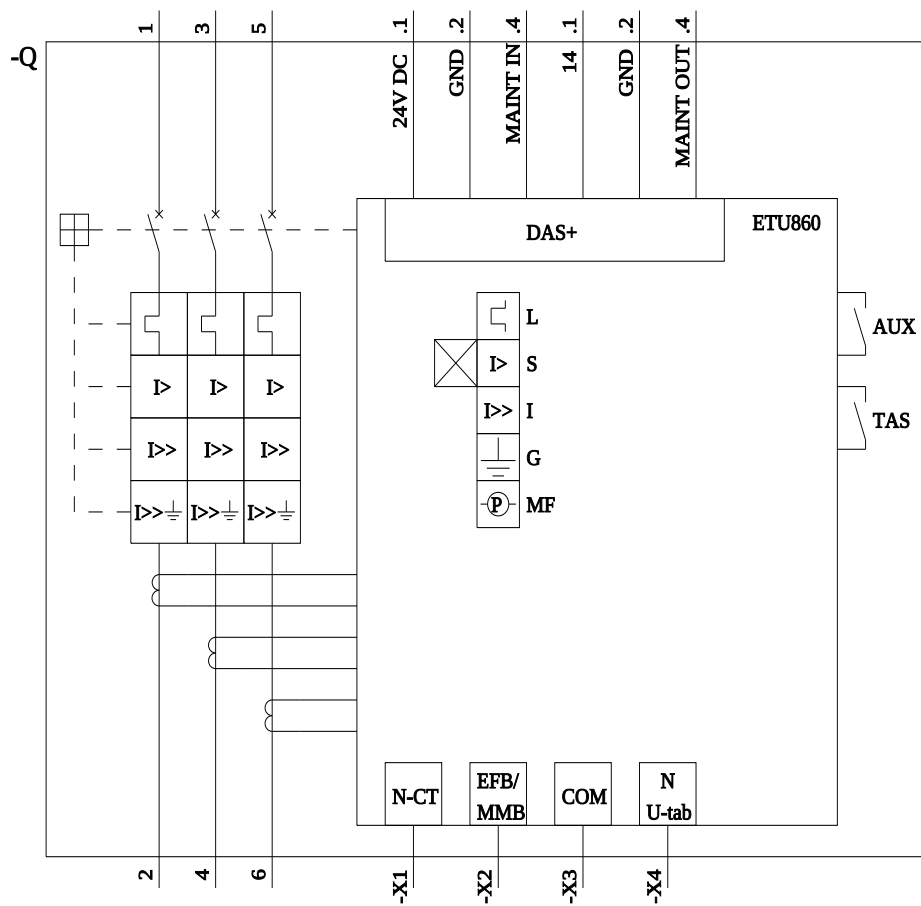
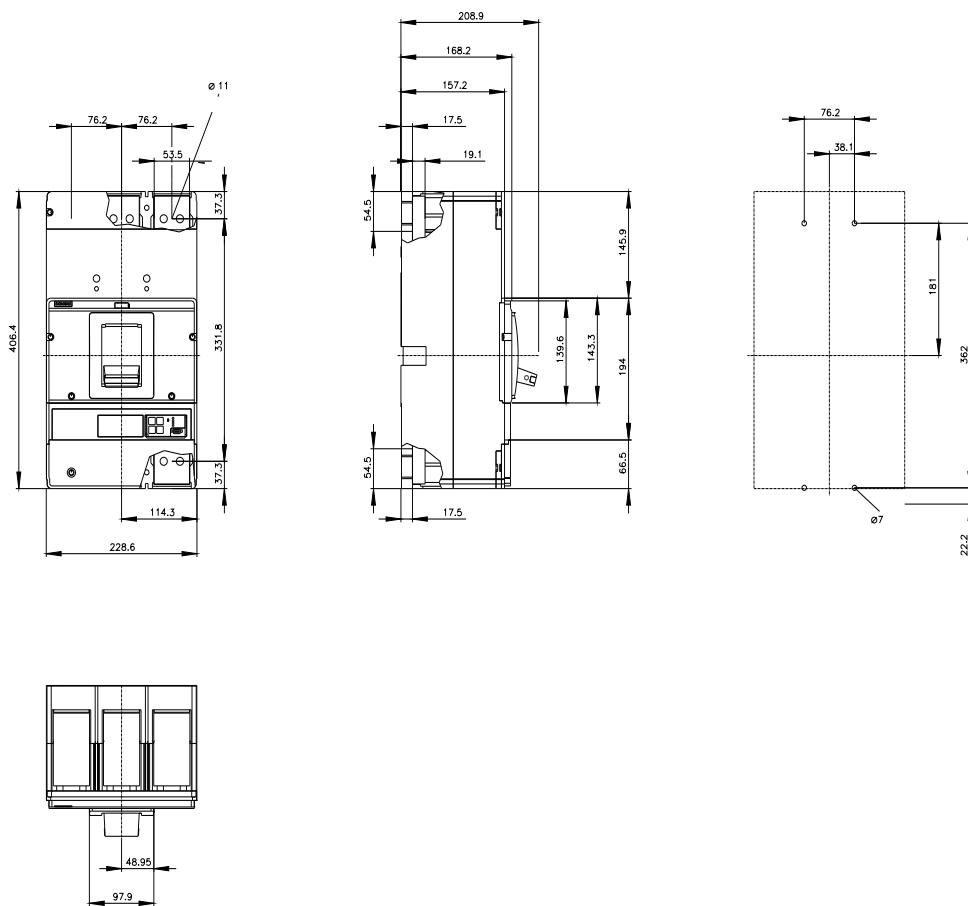
<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VA6816-6KQ31-2AA0>

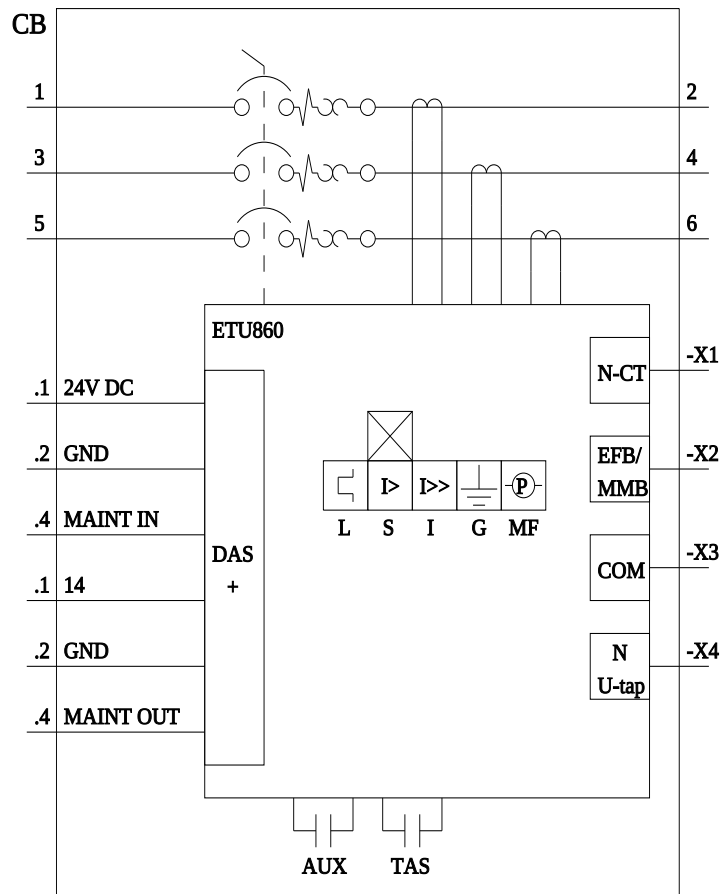
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3VA6816-6KQ31-2AA0>

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

https://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6816-6KQ31-2AA0





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