



circuit breaker 3VA6 UL frame 600 breaking capacity class L 150kA @ 480V 4-pole, line protection ETU330, LIG, In=600A overload protection Ir=240A...600A short-circuit protection Ii=1.5...9 x In N conductor protection adjustable (OFF, 50%, 100%) ground-fault protection Ig=0.2...1 x In= tg=0.1/0.3s without connection

Model

product brand name	SENTRON
product designation	Molded-case circuit breaker
product designation / according to UL file	LLAE
Product version	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	ETU330
protection function of the overcurrent release	LIG
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	151 W
Active power loss / for rated value of the current / at AC / in hot operating state / per pole	50.33 W
mechanical service life (switching cycles) / typical	20 000
Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz	4 000
Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz	3 500
electrical endurance (switching cycles) / at 480 V	4 000
electrical endurance (switching cycles) / at 600 V	3 500
Neutral conductors / upgradeable/retrofitable	No
ground-fault monitoring version	Summation current formation L + N-conductor
product function	
• communication function	No
• other measurement function	No
Net Weight	6.9 kg

Current

marking / according to UL 489 / 100%-rated breaker	No
operational current	
• at 40 °C	600 A
• at 45 °C	600 A
• at 50 °C	593 A
• at 55 °C	575 A
• at 60 °C	557 A
• at 65 °C	538 A
• at 70 °C	520 A

Switching capacity according to IEC 60947

switching capacity class of the circuit breaker	L
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breaking capacity maximum short-circuit current (Icu)	
• at 240 V	200 kA
• at 415 V	150 kA
• at 690 V	6 kA
breaking capacity operating short-circuit current (Ics)	
• at 240 V	200 kA
• at 415 V	150 kA
• at 690 V	6 kA
short-circuit current making capacity (Icm)	
• at 240 V	440 kA
• at 415 V	330 kA
• at 690 V	9 kA
Switching capacity according to UL 489	
breaking capacity current	
• at 240 V	200 kA
• at 480 V	150 kA
• at 600 V	50 kA
Adjustable parameters	
product feature / for L-tripping / adjustable	Yes
product feature / for L-tripping / selectable characteristic function	No
type of value list setting current (Ir) / for L-tripping / with I2t characteristic	St
reference value setting current (Ir) / for L-tripping / with I2t characteristic	x In
set values setting current (Ir) / for L-tripping / with I2t characteristic	0.417;0.5;0.583;0.667;0.75;0.833;0.875;0.917;0.958;1
adjustable response factor setting current (Ir) / for L-tripping / with I2t characteristic / minimum	0.417
adjustable response factor setting current (Ir) / for L-tripping / with I2t characteristic / maximum	1
adjustable response value setting current (Ir) / of the L-trip / with I2t characteristic / minimum	250 A
adjustable response value setting current (Ir) / of the L-trip / with I2t characteristic / maximum	600 A
type of value list delay time (tr) / for L-tripping / with I2t characteristic	St
reference value delay time (tr) / for L-tripping / with I2t characteristic	s
set values delay time (tr) / for L-tripping / with I2t characteristic	0.5;0.75;1;2;3;5;8;10;14;17
adjustable response value delay time (tr) / for L-tripping / with I2t characteristic / minimum	0.5 s
adjustable response value delay time (tr) / for L-tripping / with I2t characteristic / maximum	17 s
product feature / for S-tripping / independent of direction / selectable characteristic function	No
set values delay time (tsd) / for S-tripping / with I0t characteristic	0
product feature / for I-tripping / can be switched on/off	No
design of I-trip / adjustable	Yes
reference value setting current (Ii) / for I-tripping	x In
set values setting current (Ii) / for I-tripping	1.5;2;2.5;3;4;5;6;8;8.5;9
adjustable response factor setting current (Ii) / for I-tripping / minimum	1.5
adjustable response factor setting current (Ii) / for I-tripping / maximum	9
adjustable response value setting current (Ii) / for I-tripping / minimum	900 A
adjustable response value setting current (Ii) / for I-tripping / maximum	5 400 A
product feature / for G-tripping / can be switched on/off	No
product feature / for G-tripping / adjustable	Yes
product feature / for G-tripping / selectable characteristic function	No
type of value list setting current (Ig) / for G-tripping / with I0t characteristic	St

reference value setting current (I _g) / for G-tripping / with I0t characteristic	x I _n
set values setting current (I _g) / for G-tripping / with I0t characteristic	0.2;0.4;0.6;0.8;1
adjustable response factor setting current (I _g) / for G-tripping / with I0t characteristic / minimum	0.2
adjustable response factor setting current (I _g) / for G-tripping / with I0t characteristic / maximum	1
Adjustable response value current / I _g min.	120 A
Adjustable response value current / I _g max.	600 A
type of value list delay time (t _g) / for G-tripping / with I0t characteristic	St
reference value delay time (t _g) / for G-tripping / with I0t characteristic	s
set values delay time (t _g) / for G-tripping / with I0t characteristic	0.1;0.3
adjustable response value delay time (t _g) / for G-tripping / with I0t characteristic / minimum	0.1 s
adjustable response value delay time (t _g) / for G-tripping / with I0t characteristic / maximum	0.3 s
set values setting current (I _g) / for G-tripping / with I2t characteristic	0
adjustable response factor setting current (I _g) / for G-tripping / with I2t characteristic / minimum	0
adjustable response factor setting current (I _g) / for G-tripping / with I2t characteristic / maximum	0
type of value list delay time (t _g) / for G-tripping / with I2t characteristic	0
set values delay time (t _g) / for G-tripping / with I2t characteristic	0
product feature / with neutral conductor protection / can be switched on/off	Yes
product feature / with neutral conductor protection / adjustable	Yes
type of value list setting current (I _N) / for N-tripping	St
reference value setting current (I _N) / for N-tripping	x I _r
setting values setting current (I _N) / for N-tripping	0.5;1
adjustable response factor setting current (I _N) / for N-tripping / minimum	0.5
adjustable response factor setting current (I _N) / for N-tripping / maximum	1
adjustable absolute value setting current (I _N) / for N-tripping / minimum	300 A
adjustable absolute value setting current (I _N) / for N-tripping / maximum	600 A
tripping characteristic / of the lower tolerance band	AK_3VA6_4_600A_ETU320u330_MuHuCuLuE_uT
tripping characteristic / of the upper tolerance band	AK_3VA6_4_600A_ETU320u330_MuHuCuLuE_oT
let-through energy characteristic / at 240 V	DE_3VA6_3u4_600A_ETUuMCS110_line u starter_3u4p_240V
let-through energy characteristic / at 415 V	DE_3VA6_3u4_600A_ETUuMCS110_line u starter_3u4p_415V
let-through energy characteristic / at 690 V	DE_3VA6_3u4_600A_ETUuMCS110_line u starter_3u4p_690V
type of value list setting current (I _i) / for I-tripping	St
tripping characteristic / of the let-through current characteristic / at 240 V	DS_3VA6_3u4_600A_ETUuMCS110_line u starter_3u4p_240V
tripping characteristic / of the let-through current characteristic / at 415 V	DS_3VA6_3u4_600A_ETUuMCS110_line u starter_3u4p_415V
tripping characteristic / of the let-through current characteristic / at 690 V	DS_3VA6_3u4_600A_ETUuMCS110_line u starter_3u4p_690V
adjustable current response value current / of instantaneous short-circuit trip unit / minimum	900 A
Adjustable response value current / I _i max.	5 400 A
design of the N-conductor protection	adjustable OFF; 50%; 100%
Ground fault protection / tripping switchable / I2t=ON/OFF	Yes
Adjustable response value current / t _g min.	0.1 s
Adjustable response value current / I _g min.	0.3 s
Mechanical Design	
product component	
• undervoltage release	No
• voltage trigger	No

• trip indicator	No
height [in]	9.76 in
Height	248 mm
width [in]	7.24 in
Width	184 mm
depth [in]	4.33 in
depth	110 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

Certificates

reference code / according to IEC 81346-2	Q
certificate of suitability / as approval for NAVAL (no combat vessels) / supplement SB	Yes

General Product Approval



[Confirmation](#)



General Product Approval

EMC

Declaration of Conformity

Marine / Shipping

[Miscellaneous](#)



Marine / Shipping

other



[Miscellaneous](#)

[Miscellaneous](#)

Further information

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=3VA6460-8HM41-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA6460-8HM41-0AA0>

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

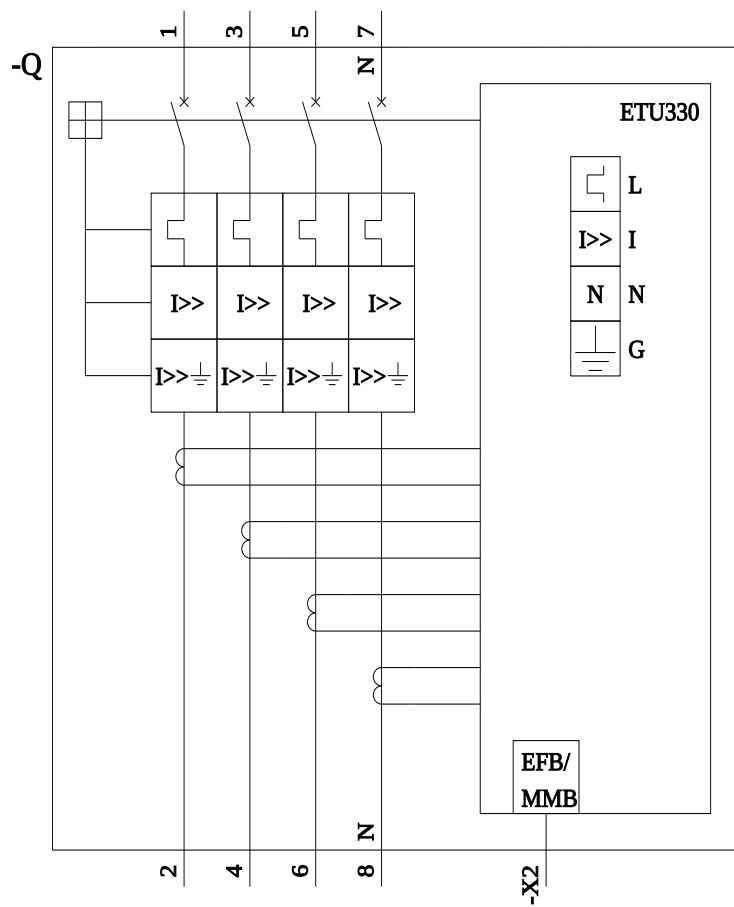
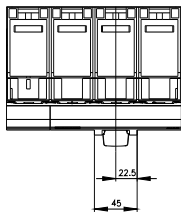
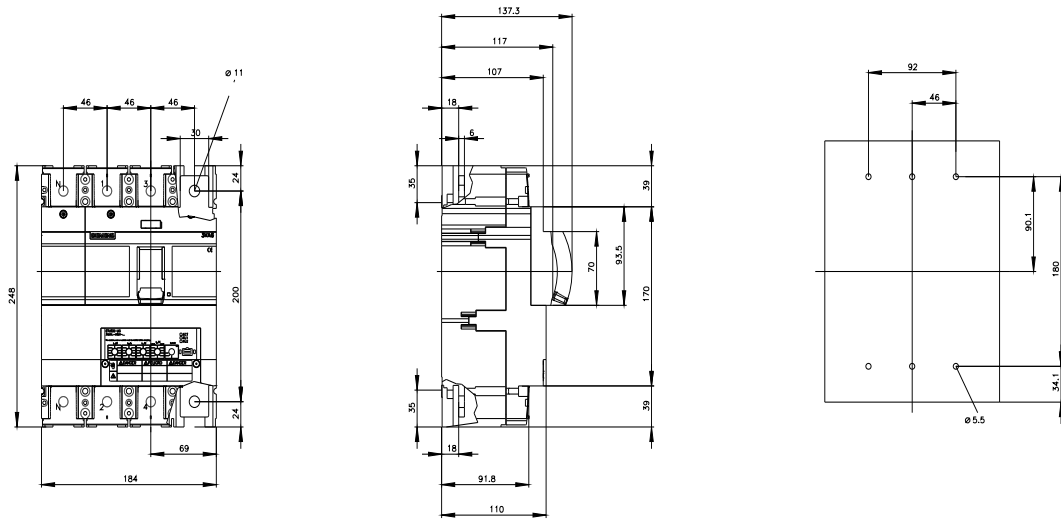
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6460-8HM41-0AA0

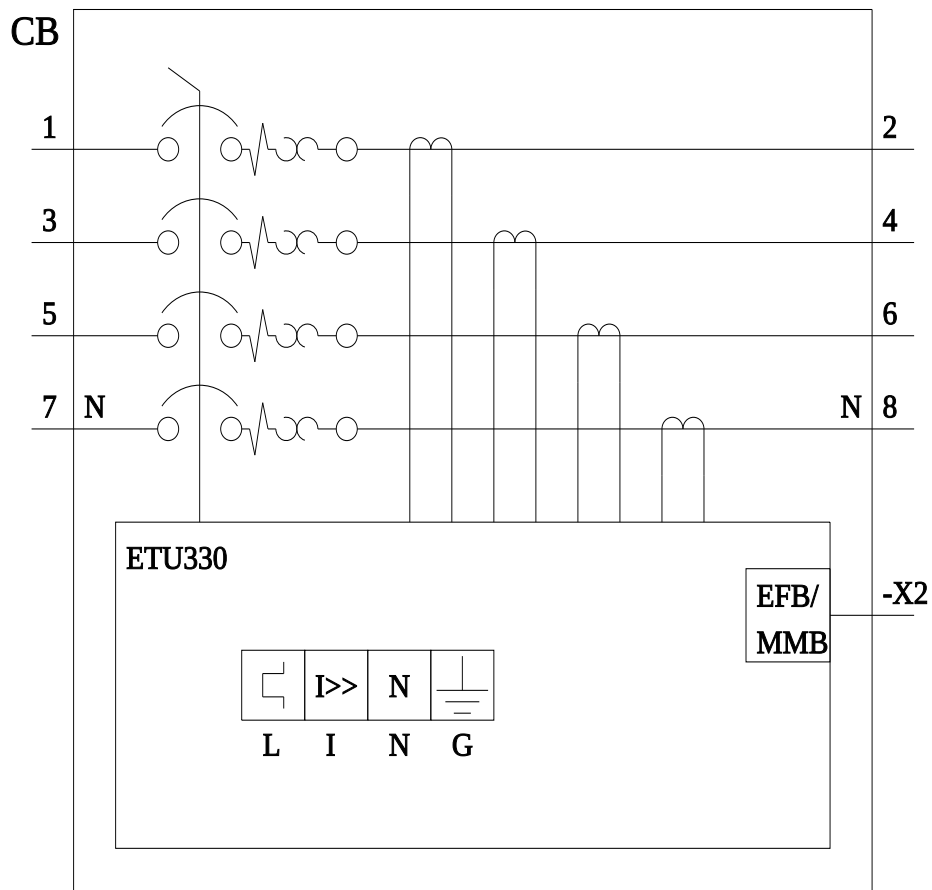
CAX-Online-Generator

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

Tender specifications

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





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