



circuit breaker 3VA2 IEC frame 160 breaking capacity class M Icu=55kA @ 415V 4-pole, line protection ETU320, LI, In=160A overload protection Ir=63A...160A short-circuit protection Ii=1.5...10 x In N conductor protection adjustable (OFF, 50%, 100%) nut keeper kit

Model	
product brand name	SENTRON
product designation	Molded case circuit breaker
Product version	Line protection
design of the overcurrent release	ETU320
protection function of the overcurrent release	LI
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	25.5 W
Active power loss / for rated value of the current / at AC / in hot operating state / per pole	8.5 W
mechanical service life (switching cycles) / typical	25 000
Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz	14 000
Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz	9 800
Neutral conductors / upgradeable/retrofitable	No
ground-fault monitoring version	Without
product function	
• communication function	No
• other measurement function	No
Net Weight	2.715 kg
Current	
continuous current / rated value / maximum	160 A
Courant permanent assigné Iu	160 A
operational current	
• at 40 °C	160 A
• at 45 °C	160 A
• at 50 °C	160 A
• at 55 °C	160 A
• at 60 °C	160 A
• at 65 °C	160 A
• at 70 °C	160 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	M
breaking capacity maximum short-circuit current (Icu)	
• at 240 V	85 kA
• at 415 V	55 kA
• at 440 V	55 kA
• at 500 V	36 kA

• at 690 V	2.5 kA
breaking capacity operating short-circuit current (Ics)	
• at 240 V	85 kA
• at 415 V	55 kA
• at 440 V	55 kA
• at 500 V	36 kA
• at 690 V	2.5 kA
short-circuit current making capacity (Icm)	
• at 240 V	187 kA
• at 415 V	121 kA
• at 440 V	121 kA
• at 500 V	75.6 kA
• at 690 V	3.7 kA

Adjustable parameters

product feature / for L-tripping / can be switched on/off	No
product feature / for L-tripping / adjustable	Yes
product feature / for L-tripping / selectable characteristic function	No
type of value list setting current (I _r) / for L-tripping / with I _{2t} characteristic	St
reference value setting current (I _r) / for L-tripping / with I _{2t} characteristic	x I _n
set values setting current (I _r) / for L-tripping / with I _{2t} characteristic	0.394;0.5;0.594;0.688;0.781;0.875;0.906;0.938;0.969;1
adjustable response factor setting current (I _r) / for L-tripping / with I _{2t} characteristic / minimum	0.394
adjustable response factor setting current (I _r) / for L-tripping / with I _{2t} characteristic / maximum	1
adjustable response value setting current (I _r) / of the L-trip / with I _{2t} characteristic / minimum	63 A
adjustable response value setting current (I _r) / of the L-trip / with I _{2t} characteristic / maximum	160 A
type of value list delay time (t _r) / for L-tripping / with I _{2t} characteristic	St
reference value delay time (t _r) / for L-tripping / with I _{2t} characteristic	s
set values delay time (t _r) / for L-tripping / with I _{2t} characteristic	0.5;0.75;1;2;3;5;8;10;14;17
adjustable response value delay time (t _r) / for L-tripping / with I _{2t} characteristic / minimum	0.5 s
adjustable response value delay time (t _r) / for L-tripping / with I _{2t} characteristic / maximum	17 s
product feature / for S-tripping / independent of direction / selectable characteristic function	No
product feature / for I-tripping / can be switched on/off	No
design of I-trip / adjustable	Yes
reference value setting current (I _i) / for I-tripping	x I _n
set values setting current (I _i) / for I-tripping	1.5;2;2.5;3;4;5;6;8;9;10
adjustable response factor setting current (I _i) / for I-tripping / minimum	1.5
adjustable response factor setting current (I _i) / for I-tripping / maximum	10
adjustable response value setting current (I _i) / for I-tripping / minimum	240 A
adjustable response value setting current (I _i) / for I-tripping / maximum	1 600 A
product feature / for G-tripping / selectable characteristic function	No
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 _{nN}) / for N-tripping	St
reference value setting current (I _{nN}) / for N-tripping	x I _r
setting values setting current (I _{nN}) / for N-tripping	0.5;1
adjustable response factor setting current (I _{nN}) / for N-tripping / minimum	0.5
adjustable response factor setting current (I _{nN}) / for N-	1

tripping / maximum	80 A
adjustable absolute value setting current (InN) / for N-tripping / minimum	160 A
adjustable absolute value setting current (InN) / for N-tripping / maximum	AK_3VA2_1_160A_ETU320u330_SuMuHuCuL_uT AK_3VA2_1_160A_ETU320u330_SuMuHuCuL_oT
tripping characteristic / of the lower tolerance band	DE_3VA2_1_160A_ETU_line u starter u motor_3u4p_240V
tripping characteristic / of the upper tolerance band	DE_3VA2_1_160A_ETU_line u starter u motor_3u4p_415V
let-through energy characteristic / at 240 V	DE_3VA2_1_160A_ETU_line u starter u motor_3u4p_440V
let-through energy characteristic / at 415 V	DE_3VA2_1_160A_ETU_line u starter u motor_3u4p_500V
let-through energy characteristic / at 440 V	DE_3VA2_1_160A_ETU_line u starter u motor_3u4p_690V
let-through energy characteristic / at 500 V	St
let-through energy characteristic / at 690 V	DS_3VA2_1_160A_ETU_line u starter u motor_3u4p_240V
type of value list setting current (Ii) / for I-tripping	DS_3VA2_1_160A_ETU_line u starter u motor_3u4p_415V
tripping characteristic / of the let-through current characteristic / at 240 V	DS_3VA2_1_160A_ETU_line u starter u motor_3u4p_440V
tripping characteristic / of the let-through current characteristic / at 415 V	DS_3VA2_1_160A_ETU_line u starter u motor_3u4p_500V
tripping characteristic / of the let-through current characteristic / at 440 V	DS_3VA2_1_160A_ETU_line u starter u motor_3u4p_690V
tripping characteristic / of the let-through current characteristic / at 500 V	
tripping characteristic / of the let-through current characteristic / at 690 V	
adjustable current response value current / of instantaneous short-circuit trip unit / minimum	240 A
Adjustable response value current / Ii max.	1 600 A
design of the N-conductor protection	adjustable OFF; 50%; 100%
Ground fault protection / tripping switchable / I2t=ON/OFF	No
Mechanical Design	
product component	
• undervoltage release	No
• voltage trigger	No
• trip indicator	No
height [in]	7.13 in
Height	181 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	Front terminal
type of electrical connection / for main current circuit	on both sides nut keeper kit
Type of connectable conductor cross-section, connection screw, width x thickness , min.	13 x 1 mm
Type of connectable conductor cross-section, connection screw, width x thickness , max.	25 x 8 mm
design of the surface / of the connections / on the top of the switch (N, 1, 3, 5)	tin
design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6)	tin
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
Certificates	
reference code / according to IEC 81346-2	Q

General Product Approval



[Confirmation](#)



[Miscellaneous](#)



EMC

Declaration of Conformity

Test Certificates



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[Miscellaneous](#)

Marine / Shipping

other



[CCS / China Classification Society](#)

[Environmental Conformations](#)

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=3VA2116-5HL42-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA2116-5HL42-0AA0>

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA2116-5HL42-0AA0

CAX-Online-Generator

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

Tender specifications

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

