



circuit breaker 3VA1 IEC frame 160 breaking capacity class N $I_{cu}=25\text{kA}$ @ 240V 1-pole, line protection TM210, FTFM, $I_n=40\text{A}$ overload protection $I_r=40\text{A}$ fixed short-circuit protection $I_i=10 \times I_n$ clamp connection

Model	
product brand name	SENTRON
product designation	Molded case circuit breaker
Product version	Line protection
design of the overcurrent release	TM210
protection function of the overcurrent release	LI
number of poles	1
General technical data	
insulation voltage / rated value	500 V
Max. rated operational voltage U_e with DC	125 V
operating voltage / at AC / rated value	415 V
power loss [W] / maximum	3.6 W
mechanical service life (switching cycles) / typical	20 000
Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz	9 000
Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz	6 300
Neutral conductors / upgradeable/retrofitable	No
ground-fault monitoring version	Without
product function	
• communication function	No
• other measurement function	No
Net Weight	406 g
Current	
operational current	
• at 40 °C	40 A
• at 45 °C	40 A
• at 50 °C	40 A
• at 55 °C	39 A
• at 60 °C	39 A
• at 65 °C	38 A
• at 70 °C	37 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	N
breaking capacity maximum short-circuit current (I_{cu})	
• at 240 V	25 kA
• at 415 V	5 kA
breaking capacity operating short-circuit current (I_{cs})	
• at 240 V	25 kA
• at 415 V	5 kA
short-circuit current making capacity (I_{cm})	
• at 240 V	52.5 kA

- at 415 V

design of short-circuit protection

7.5 kA

For switching power values in DC networks, see the 3VA molded case circuit breaker device manual; link to be found under Service & Support in the last chapter

Adjustable parameters

product feature / for L-tripping / can be switched on/off	No
product feature / for L-tripping / selectable characteristic function	No
type of value list setting current (I _r) / for L-tripping / with I _{2t} characteristic	Fest
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	1
adjustable response factor setting current (I _r) / for L-tripping / with I _{2t} characteristic / minimum	1
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	40 A
adjustable response value setting current (I _r) / of the L-trip / with I _{2t} characteristic / maximum	40 A
type of value list delay time (t _r) / for L-tripping / with I _{2t} characteristic	Fest
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	1
adjustable response value delay time (t _r) / for L-tripping / with I _{2t} characteristic / minimum	1 s
adjustable response value delay time (t _r) / for L-tripping / with I _{2t} characteristic / maximum	1 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	No
reference value setting current (I _i) / for I-tripping	x I _n
set values setting current (I _i) / for I-tripping	10
adjustable response factor setting current (I _i) / for I-tripping / minimum	10
adjustable response factor setting current (I _i) / for I-tripping / maximum	10
adjustable response value setting current (I _i) / for I-tripping / minimum	400 A
adjustable response value setting current (I _i) / for I-tripping / maximum	400 A
product feature / for G-tripping / selectable characteristic function	No
product feature / with neutral conductor protection / can be switched on/off	No
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 _n
adjustable response factor setting current (I _{nN}) / for N-tripping / minimum	0
adjustable response factor setting current (I _{nN}) / for N-tripping / maximum	0
adjustable absolute value setting current (I _{nN}) / for N-tripping / minimum	0 A
adjustable absolute value setting current (I _{nN}) / for N-tripping / maximum	0 A
tripping characteristic / of the lower tolerance band	AK_3VA1_0u1_40A_TM2_BuNuSuMuH_uT
tripping characteristic / of the upper tolerance band	AK_3VA1_0u1_40A_TM2_BuNuSuMuH_oT
let-through energy characteristic / at 240 V	DE_3VA1_1_40A_TM2_line_1p_240V
let-through energy characteristic / at 415 V	DE_3VA1_1_40A_TM2_line_1p_415V
type of value list setting current (I _i) / for I-tripping	Fest
tripping characteristic / of the let-through current characteristic / at 240 V	DS_3VA1_1_40A_TM2_line_1p_240V

tripping characteristic / of the let-through current characteristic / at 415 V	DS_3VA1_1_40A_TM2_line_1p_415V
Ground fault protection / tripping switchable / I2t=ON/OFF	No
Mechanical Design	
product component	
• undervoltage release	No
• voltage trigger	No
• trip indicator	No
height [in]	5.12 in
Height	130 mm
width [in]	1 in
Type of connectable conductor cross-section, round conductor terminal, stranded	1 x (1,5 - 70 mm²)
Width	25.4 mm
depth [in]	2.76 in
depth	70 mm
Connections	
arrangement of electrical connectors / for main current circuit	Front terminal
type of electrical connection / for main current circuit	box terminal on both sides
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)	Tin
Auxiliary circuit	
number of CO contacts / for auxiliary contacts	0
Accessories	
product extension / optional / motor drive	No
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	
EMC	



[Confirmation](#)



[Miscellaneous](#)



Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[CCS / China Classification Society](#)

[Environmental Conformations](#)

[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=3VA1140-3ED16-0AA0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3VA1140-3ED16-0AA0>

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

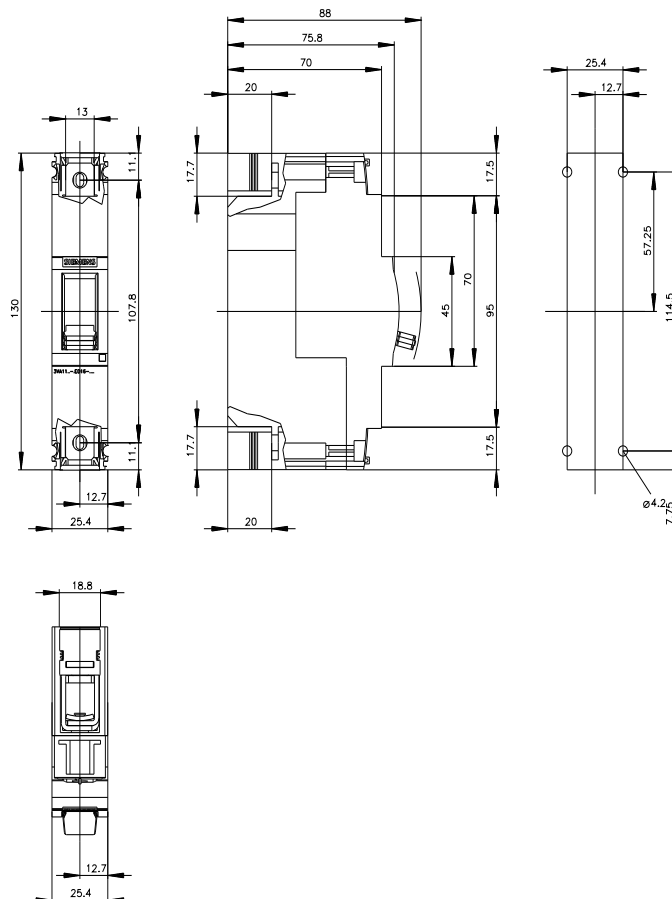
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1140-3ED16-0AA0

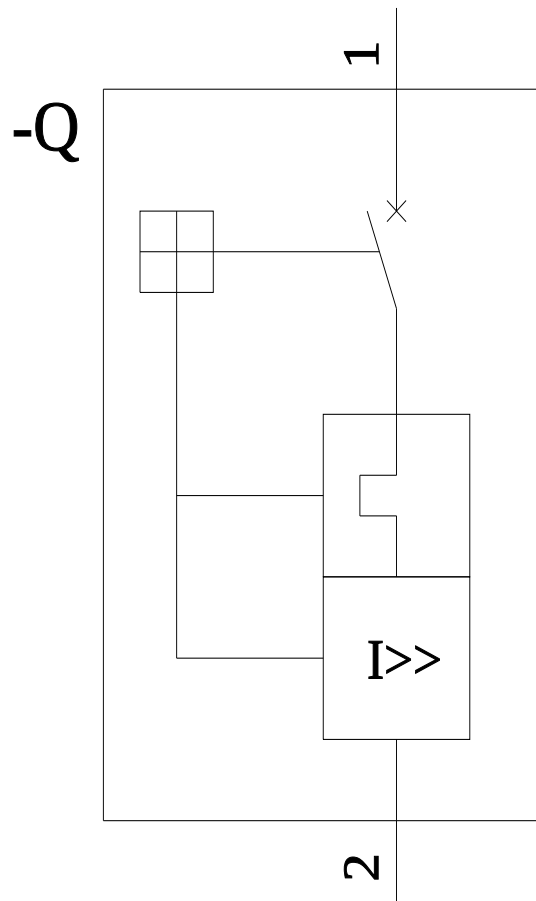
CAX-Online-Generator

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

Tender specifications

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





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