



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY
CLASS H ICU=70KA @ 415 V 4-POLE, LINE PROTECTION
TM220, ATFM, IN=20A OVERLOAD PROTECTION IR=14A ...20A
SHORT CIRCUIT PROTECTION II=16 X IN NEUTRAL
UNPROTECTED BUSBAR CONNECTION

Model	
product brandname	SETRON
Product designation	Molded case circuit breaker
Design of the product	Line protection
Type of load switch / according to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type)	Yes
Design of the overcurrent release	TM220
Protective function of the overcurrent release	LI
Number of poles	4

General technical data	
Tension assignée d'isolement Ui	800 V
Max. rated operational voltage Ue with AC 50/60Hz	690 V
Max. rated operational voltage Ue with DC	600 V
Active power loss / for rated value of the current / at AC / in hot operating state / per device	12 W
Active power loss / for rated value of the current / at AC / in hot operating state / per pole	4 W
Mechanical service life (switching cycles) / typical	15 000

Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz	8 000
Neutral conductors / upgradeable/retrofitable	No
Ground fault monitoring version	Without
Product function	
• communication function	No
• other measurement function	No
Net weight	1.2 kg

Electricity

Marking / according to UL 489 / 100%-rated breaker	No
Max. rated operational voltage of the size of the circuit-breaker	160 A
Courant permanent assigné Iu	20 A
Operating current	
• at 40 °C	20 A
• at 45 °C	20 A
• at 50 °C	20 A
• at 55 °C	20 A
• at 60 °C	19 A
• at 65 °C	19 A
• at 70 °C	19 A

Switching capacity according to IEC 60947

Switching capacity class of the circuit breaker	H
Maximum short-circuit current breaking capacity (Icu)	
• at 240 V	100 kA
• at 415 V	70 kA
• at 440 V	55 kA
• at 500 V	20 kA
• at 690 V	10 kA
Operational short-circuit current breaking capacity (Ics)	
• at 240 V	100 kA
• at 415 V	70 kA
• at 440 V	40 kA
• at 500 V	15 kA
• at 690 V	5 kA
Short-circuit current making capacity (Icm)	
• at 240 V	220 kA
• at 415 V	154 kA
• at 440 V	121 kA
• at 500 V	40 kA
• at 690 V	17 kA

Adjustable parameters	
Adjustable response value current / I _g min.	14 A
Adjustable response value current / I _g min.	20 A
Adjustable response value current / I _g min.	1
Adjustable response value current / I _g min.	1
Short-term delayed / tripping switchable / I _{2t} =ON/OFF	No
Adjustable response value current / I _i min.	320 A
Adjustable response value current / I _i max.	320 A
Design of the N-conductor protection	Without
Ground fault protection / tripping switchable / I _{2t} =ON/OFF	No

Mechanical Design	
Height [in]	5.1 in
Height	130 mm
Width [in]	4 in
Width	101.6 mm
Depth [in]	2.8 in
Depth	70 mm

Connections	
Arrangement of electrical connectors / for main current circuit	Front terminal
Type of electrical connection / for main current circuit	lug terminal

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	
Equipment marking / acc. to DIN EN 81346-2	Q
Certificate of suitability / as approval for NAVAL (no combat vessels) / Supplement SB	No

General Product Approval			EMC	Declaration of Conformity	
 CCC	 VDE	 EAC	sonstig	 RCM	 EG-Konf.

Test Certificates	Shipping Approval				
Typprüfbescheinigung/Werkszeugnis	sonstig	 ABS	 BUREAU VERITAS	 GL	 LRS

Shipping Approval	other				
 RMRS	sonstig				

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/lowvoltage/catalogs>

Industry Mall (Online ordering system)

<https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/3VA1120-6EE42-0AA0>

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

<http://support.automation.siemens.com/WW/view/en/3VA1120-6EE42-0AA0/all>

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1120-6EE42-0AA0

CAX-Online-Generator

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

Tender specifications

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

last modified:

10/24/2016