SIEMENS

Data sheet

3VM1450-4EE42-0AA0



circuit breaker 3VM1 IEC frame 630 breaking capacity class N Icu=36kA @ 415V 4-pole, line protection TM220, ATFM, In=500A overload protection Ir=350A...500A short-circuit protection Ii=10 x In N conductor unprotected nut keeper kit

Model		
product brand name	SENTRON	
product designation	Molded case circuit breaker	
design of the product	Line protection	
design of the overcurrent release	TM220	
protection function of the overcurrent release	LI	
number of poles	4	
General technical data		
insulation voltage / rated value	800 V	
operating voltage / at AC / at 50/60 Hz / rated value	500 V	
operating voltage / at DC / rated value	500 V	
operating voltage / at AC / rated value	690 V	
power loss [W] / maximum	123 W	
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	40.9 W	
mechanical service life (operating cycles) / typical	15 000	
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	4 000	
product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof	No	
ground-fault monitoring version	Without	
product function		
 communication function 	No	
 other measurement function 	No	
Net Weight	6.812 kg	
Current		
operational current		
● at 40 °C	500 A	
● at 45 °C	500 A	
● at 50 °C	500 A	
• at 55 °C	488 A	
• at 60 °C	476 A	
• at 65 °C	464 A	
• at 70 °C	452 A	
Switching capacity according to IEC 60947		
switching capacity class of the circuit breaker	S	
maximum short-circuit current breaking capacity (Icu)		
• at 240 V	55 kA	
• at 415 V	36 kA	
● at 440 V	36 kA	
● at 500 V	25 kA	
	20101	

and 415 V behalf circuit current making capacity (tcm) and 415 V				
at 440 V at 500 V short-circuit current making capacity (lcm) at 240 V at 415 V at 415 V at 440 V at 450 V design of short-circuit protection Berinder Case Circuit Breaker Manual; link available under Service & Support in the lest chapter Adjustable current response value current / of instantaneous short-circuit fly pint amaximum 5 000 A design of the N-conductor protection Without product function / grounding protection Without product function / grounding protection No wortage trigger No voltage trigger No	• at 240 V	41 kA		
* at \$50 V	● at 415 V	27 kA		
short-circuit current making capacity (tem) at 240 V at 415 V at 440 V 5 kA at 440 V 6 st 500 V design of short-circuit protection For switching capacity values in DC power systems, see the 3VA Molded Case Circuit Breaker Manual: link available under Service & Support in the last chapter Adjustable parameters adjustable current response value current / of instantaneous short-circuit trip unit: maximum 6 son 0 A design of the N-conductor protection product hondon' grounding protection Without product component - undervoltage release - voltage trigger - undervoltage release - vicip indicator No - voltage trigger - vicip indicator	● at 440 V	27 kA		
e at 240 V 76 kA 1415 V 76 kA 1	● at 500 V	18 kA		
* at 415 V	short-circuit current making capacity (lcm)			
at 440 V at 500 V design of short-circuit protection For switching capacity values in DC power systems, see the 3VA Molded Case Circuit Breaker Manual; link available under Service & Support in the last chapter Adjustable parameters adjustable current response value current / of instantaneous short-circuit trip unit — maximum design of the N-conductor protection product function / grounding protection Mechanical Design Product component — undervoltage release — voltage trigger — No — voltage tr	● at 240 V	121 kA		
e at 500 V design of short-circuit protection Adjustable parameters adjustable current response value current / of instantaneous short-circuit fruint • maximum • maximum • maximum • maximum • cundervoltage release • voltage rigger • volt	● at 415 V	76 kA		
design of short-circuit protection For switching capacity values in DC, power systems, see the 3VA	● at 440 V	76 kA		
Moided Case Circuit Breaker Manual; link available under Service & Support in the last chapter adjustable parameters adjustable current response value current? of instantaneous short-circuit trip unit • maximum • maximum 5 000 A design of the N-conductor protection Without product function / grounding protection No Mechanical Design product component • undervoltage release • voltage trigger • trip indicator No No height 248 mm with [in] 9,76 in height 248 mm with [in] 4,33 in depth 110 mm Connections arrangement of electrical connectors / for main current circuit type of connectable conductor cross-sections / for flat-bar current of conductor cross-sections / for flat-bar current of the switch (N, 2, 4, 6) design of the surface / of the connections / on the top of the switch (N, 2, 4, 6) Availary circuit rumber of CO contacts / for availiary contacts • during operation / minimum • during storage / minimum • during operation / minimum • during operation / minimum • during storage / minimum • during operation / minimum • during storage / maximum	● at 500 V	53 kA		
Moided Case Circuit Breaker Manual; link available under Service & Support in the last chapter adjustable parameters adjustable current response value current? of instantaneous short-circuit trip unit • maximum • maximum 5 000 A design of the N-conductor protection Without product function / grounding protection No Mechanical Design product component • undervoltage release • voltage trigger • trip indicator No No height 248 mm with [in] 9,76 in height 248 mm with [in] 4,33 in depth 110 mm Connections arrangement of electrical connectors / for main current circuit type of connectable conductor cross-sections / for flat-bar current of conductor cross-sections / for flat-bar current of the switch (N, 2, 4, 6) design of the surface / of the connections / on the top of the switch (N, 2, 4, 6) Availary circuit rumber of CO contacts / for availiary contacts • during operation / minimum • during storage / minimum • during operation / minimum • during operation / minimum • during storage / minimum • during operation / minimum • during storage / maximum	design of short-circuit protection	For switching capacity values in DC power systems	, see the 3VA	
adjustable current response value current / of instantaneous short-circuit trip unit maximum design of the N-conductor protection product function / grounding protection No Mochanical Dosign product component undervoltage release voltage trigger No trip indicator height [in] 9.76 in height 248 mm width [in] 7.24 in width 184 mm depth [in] 4.33 in depth [in] 5 onections arrangement of electrical connectors / for main current irrcuit type of electrical connection / for main current circuit type of electrical connection / for main current torrent irrush connectable conductor cross-sections / for flat-bar terminal connectable conductor cross-sections / for flat-bar terminal connector / maximum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive e during operation / minimum protection class IP / on the front ambient temperature during storage / minimum - 25 °C during operation / maximum during storage / minimum - 26 °C General Extract A proxisil Declaration of		Molded Case Circuit Breaker Manual; link available	under Service &	
adjustable current response value current / of instantaneous short-circuit trip unit maximum design of the N-conductor protection product function / grounding protection No Mochanical Dosign product component undervoltage release voltage trigger No trip indicator height [in] 9.76 in height 248 mm width [in] 7.24 in width 184 mm depth [in] 4.33 in depth [in] 5 onections arrangement of electrical connectors / for main current irrcuit type of electrical connection / for main current circuit type of electrical connection / for main current torrent irrush connectable conductor cross-sections / for flat-bar terminal connectable conductor cross-sections / for flat-bar terminal connector / maximum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive e during operation / minimum protection class IP / on the front ambient temperature during storage / minimum - 25 °C during operation / maximum during storage / minimum - 26 °C General Extract A proxisil Declaration of	Adjustable parameters			
instantaneous short-circuit trip unit				
design of the N-conductor protection product function / grounding protection No Mochanical Dosign product component • undervoltage release • voltage trigger • trip indicator height [in] height [in] depth [in] depth [in] connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit type of connectable conductor cross-sections / for flat-bar terminal connection / maximum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Accessories product extension / optional / motor drive Professories product extension / optional / motor drive e during operation / maximum • during storage / minimum • during storage / maximum • Declaration of				
product function / grounding protection Mechanical Design product component • undervoltage release • voltage trigger	maximum	5 000 A		
Mechanical Design	design of the N-conductor protection	Without		
product component • undervoltage release • voltage trigger • 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 type of connectable conductor cross-sections / for flat-bar terminal connection / minimum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom off the switch (N, 2, 4, 6) Auxillary circuit number of CO contacts / for auxillary contacts product extension / optional / motor drive • during operation / maximum • during operation / maximum • during operation / minimum - 25 °C - during operation / maximum - during storage / minimum - 40 °C - during storage / maximum - 40 °C - deneral Product Approval	product function / grounding protection	No		
product component • undervoltage release • voltage trigger • 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 type of connectable conductor cross-sections / for flat-bar terminal connection / minimum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom off the switch (N, 2, 4, 6) Auxillary circuit number of CO contacts / for auxillary contacts product extension / optional / motor drive • during operation / maximum • during operation / maximum • during operation / minimum - 25 °C - during operation / maximum - during storage / minimum - 40 °C - during storage / maximum - 40 °C - deneral Product Approval	Mechanical Design			
• undervoltage release • voltage trigger • trip indicator height [in] height [in] height 248 mm width [in] vidth [in] videpth [in]				
voltage trigger trip indicator No height [in] height [in] height [in] row identify [in] height [in] height [in] height [in] height [in] depth	·	No		
• trip indicator height [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 type of electrical connection / for main current circuit type of connectable conductor cross-sections / for flat-bar terminal connection / minimum type of connectable conductor cross-sections / for flat-bar terminal connection / minimum type of connectable conductor cross-sections / for flat-bar terminal connection / minimum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxillary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front enduring operation / minimum - during operation / minimum - during operation / minimum - during storage / maximum Declaration of Declaration of				
height [in] height [in] height [in] width [in] width [in] width 184 mm depth 110 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit type of electrical connection / for main current circuit type of connectable conductor cross-sections / for flat-bar terminal connection / minimum type of connectable conductor cross-sections / for flat-bar terminal connection / minimum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Protection class IP / on the front elurion class IP / elurion				
height width [in] 7.24 in width 184 mm 4.33 in 184 mm 4.33 in 194 mm 5.24 in 194 mm 5.24 in 7.24 in 7.	•			
width [in] width				
width depth [in] 4.33 in depth 110 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit type of connectable conductor cross-sections / for flat-bar terminal connection / minimum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts product extension / optional / motor drive Environmental conditions protection class IP / on the front 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 Qeneral Product Approval		= 1 * 11111		
depth [in] depth 110 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit nut keeper kit on both ends 20 x 1 mm type of connectable conductor cross-sections / for flat-bar terminal connection / maximum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive No Environmental conditions protection class IP / on the front ambient temperature • during operation / maximum - 2.5 °C • during operation / maximum - 4.0 °C • during storage / minimum - 40 °C • during storage / maximum - 80 °C Certificates reference code / according to IEC 81346-2 Q Cenaral Product Approval				
depth 110 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit type of electrical connection / for main current circuit type of connectable conductor cross-sections / for flat-bar terminal connection / minimum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum design of the surface / of the connections / on the top of the swiftch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the swiftch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive No Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum - 25 °C • during operation / maximum 70 °C • during storage / minimum 80 °C Cortificates reference code / according to IEC 81346-2 Q General Product Approval		10.1		
arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit type of connectable conductor cross-sections / for flat-bar terminal connection / minimum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature • during operation / maximum • during operation / maximum • during storage / minimum • during storage / maximum • during torage / maximum • during				
arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit type of connectable conductor cross-sections / for flat-bar terminal connection / minimum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive No Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum -25 °C • during storage / minimum -40 °C • during storage / maximum -40 °C • during storage / maximum -60 CC Certificates reference code / according to IEC 81346-2 Q Declaration of	·	110 111111		
circuit type of electrical connection / for main current circuit type of connectable conductor cross-sections / for flat-bar terminal connection / minimum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature		- · · · · ·		
type of connectable conductor cross-sections / for flat-bar terminal connection / minimum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum • during operation / minimum • during storage / minimum • during storage / minimum • during storage / maximum • during storage / maximum • Cocrtificates reference code / according to IEC 81346-2 Q Declaration of	•	Front connection		
terminal connection / minimum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum • during operation / maximum • during storage / minimum • during storage / minimum • during storage / maximum	type of electrical connection / for main current circuit	nut keeper kit on both ends		
terminal connection / maximum design of the surface / of the connections / on the top of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front 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 Declaration of		20 x 1 mm		
the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts product extension / optional / motor drive Environmental conditions protection class IP / on the front ambient temperature • during operation / minimum -25 °C • during operation / maximum -40 °C • during storage / minimum -40 °C • during storage / maximum -40 °C Certificates reference code / according to IEC 81346-2 Q Declaration of		35 x 10 mm		
design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Declaration of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) Accessories product extension / optional / motor drive No Environmental conditions protection class IP / on the front 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		Silver		
number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive No Environmental conditions protection class IP / on the front 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 Declaration of	design of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6)	Silver		
number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive No Environmental conditions protection class IP / on the front 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 Declaration of	Auxiliary circuit			
product extension / optional / motor drive Environmental conditions protection class IP / on the front 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 Declaration of	number of CO contacts / for auxiliary contacts	0		
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 Declaration of				
protection class IP / on the front 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 Declaration of		No		
ambient temperature • during operation / minimum • during operation / maximum • during storage / minimum • during storage / maximum • during storage / maximum 80 °C Certificates reference code / according to IEC 81346-2 Q Declaration of	Environmental conditions			
during operation / minimum during operation / maximum during storage / minimum during storage / maximum during storage / maximum 80 °C Certificates reference code / according to IEC 81346-2 Q Declaration of	protection class IP / on the front	IP40		
during operation / maximum during storage / minimum during storage / maximum during storage / maximum 80 °C Certificates reference code / according to IEC 81346-2 Q Declaration of	•	35 °C		
during storage / minimum during storage / maximum 80 °C Certificates reference code / according to IEC 81346-2 Q Declaration of				
during storage / maximum 80 °C Certificates reference code / according to IEC 81346-2 Q Declaration of				
Certificates reference code / according to IEC 81346-2 Q Declaration of				
reference code / according to IEC 81346-2 Q General Product Approval Declaration of				
General Product Approval		0		
Conformity		· ·		
	.,		Contormity	



Confirmation



Miscellaneous





Declaration of Conformity

Test Certificates

Marine / Shipping

other



Type Test Certificates/Test Report







Confirmation

other Environment

<u>Miscellaneous</u> <u>Environmental Confirmations</u>

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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=3VM1450-4EE42-0AA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3VM1450-4EE42-0AA0

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

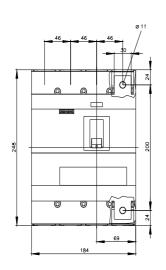
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VM1450-4EE42-0AA0

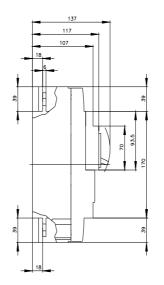
CAx-Online-Generator

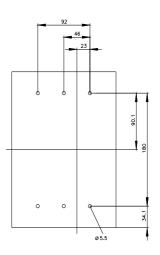
http://www.siemens.com/cax

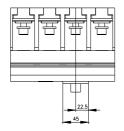
Tender specifications

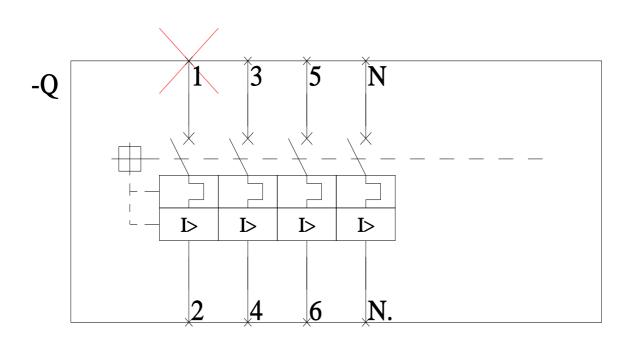
http://www.siemens.com/specifications











last modified: 8/1/2022 🖸