3VA1225-6GE42-0AA0

Data sheet



circuit breaker 3VA1 IEC Frame 250 breaking capacity class H Icu=70 kA @ 415 V 4-pole, line protection TM220, ATFM, In=250 A overload protection Ir=175 A...250 A short-circuit protection Ii=10 x In neutral conductor protection 100% 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	Ш
number of poles	4
General technical data	
insulation voltage / rated value	800 V
operating voltage / at DC / rated value	600 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	57 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	19 W
mechanical service life (operating cycles) / typical	20 000
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	8 000
electrical endurance (operating cycles) / at AC-1 / at 690 V	5 400
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	2.1 kg
Current	
operational current	
• at 40 °C	250 A
• at 45 °C	250 A
• at 50 °C	250 A
• at 55 °C	243 A
• at 60 °C	237 A
• at 65 °C	230 A
• at 70 °C	223 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	н
maximum short-circuit current breaking capacity (Icu)	
• at 240 V	100 kA
• at 415 V	70 kA
• at 440 V	36 kA
● at 500 V	15 kA
• at 690 V	10 kA

operating short-crount current breaking capacity (ice)		
* at 415 V		
# 441 V		
* at 850 V		
short-circuit current making capacity (fcm) * al 20 V * al 415 V * al 416 V * al 416 V * al 416 V * al 500 V * al 500 V * al 600 V *		
short-focus current making capachy (lcm) • at 240 V • at 45 V • at 440 V • at 460 V • at 690 V •		
and 415 V and 445 V and 446 V and 4		5 kA
e at 415 V e at 440 V e at 500 V e at 600 V		000 l.A
e at 440 V e at 500 V e at 500 V for a 500		
e at 690 V design of short-circuit protection For switching power values in DC networks, see the 3VA molded case circuit breaker device manual, limit to be found under Service & Support in the last characteristic Adjustable parameters product feature / for L-tripping / can be switched ontoff Adjustable parameters product feature / for L-tripping / can be switched ontoff **namimum** **2 500 A **namimum** **namimum** **2 500 A **namimum** **namimum** **2 500 A **namimum** **namimum** **namimum** **namimum** **2 500 A **namimum** **2 500 A **namimum**		
e at 890 V design of short-circuit protection design of short-circuit protection Adjustable parameters product feature / for 1-tripping / can be switched on/off adjustable response value setting current (tr) / of the 1-trip / with 12t characteristic niminum maximum maximum maximum maximum maximum maximum maximum maximum maximum design of the N-conductor protection modulatable response value setting current (ti) / for 1-tripping / with 12t characteristic minimum maximum maximum maximum design of the N-conductor protection minimum maximum design of the N-conductor protection minimum maximum design of the N-conductor protection minimum minimum maximum design of the N-conductor protection Mochanical Design product component minimum minim		
design of short-circuit protection For switching power values in DC networks, see the 3VA moded case circuit breaker device manual; link to be found under Service & Support in the last chapter product feature / for L-tripping / can be switched on/off adjustable response value setting current (ii / of the L-trip / with IZt charistectristic minimum maximum 15		
Adjustable parameters product feature / for L-thipping / can be switched on/off adjustable response value setting current (tr) / of the L-trip / with 12t characteristic maximum maxim		
product feature / for L-tripping / can be switched on/off adjustable response value setting current (ir) / of the L-trip / with IZt characteristic	design of short should protestion	breaker device manual; link to be found under Service & Support in the last
adjustable response value setting current (ir) / of the L-trip / with 250 A 250 A	Adjustable parameters	
Izi characteristic minimum maximum ma	product feature / for L-tripping / can be switched on/off	No
adjustable response value delay time (tr) / for L-tripping / with 12t characteristic minimum maximum 1s adjustable response value setting current (ii) / for I-tripping minimum 2 500 A 3 500		
adjustable response value delay time (tr) / for L-tripping / with 12t characteristic	• minimum	175 A
characteristic minimum maximum adjustable response value setting current (ii) / for I-tripping minimum commaximum 2 500 A adjustable setting current (inN) / for N-tripping minimum commaximum commaximu	• maximum	250 A
e maximum adjustable response value setting current (ii) / for I-tripping e minimum 2 500 A adjustable setting current (inN) / for N-tripping e minimum 2 500 A adjustable setting current (inN) / for N-tripping e minimum 2 500 A design of the N-conductor protection 100% product function / grounding protection No Mechanical Design product component e undervoltage release voltage frieger e trip indicator No height [in] 6,22 in height 158 mm width [in] 40 mm depth [in] 2,76 in depth (in) 40 mm depth [in] 2,76 in depth (in) 40 mm Connections arrangement of electrical connectors / for main current circuit Type of connectable conductor cross-sections / for flat-bar terminal connection / maximum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum type of connectable conductor cross-sections / for flat-bar terminal connection / maximum type of connectable conductor cross-sections / for the bottom of the switch (N, 1, 3, 5) design of the surface / of the connections / on the top of the switch (N, 2, 4, 6) Accessories product extension / optional / motor drive Yes Environmental conditions protection class IP / on the front IP40		
adjustable response value setting current (iii) / for I-tripping • minimum 2 500 A adjustable setting current (inN) / for N-tripping • minimum 2 50 A design of the N-conductor protection maximum 2 50 A design of the N-conductor protection product function / grounding protection No Mechanical Dosign product component • undervoltage release • voltage trigger • trip indicator No height [in] 5 51 in width [in] 5 51 in width [in] 4 276 in depth [in] 2 76 in depth [in] Connectable conductor cross-sections / for fial-bar terminal 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 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 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 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 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 Type of connectable conductor cross-sections / for flat-bar terminal connection / minimum Type of connectable conducto	• minimum	1 s
• minimum 2 500 A 2 500 A 3 50	• maximum	1s
maximum adjustable setting current (InN) / for N-tripping minimum 250 A maximum 250 A design of the N-conductor protection 100% product function / grounding protection No Mechanical Design product component • undervoltage release • voltage trigger • trip indicator No height [in] indicator indicato	adjustable response value setting current (li) / for I-tripping	
adjustable setting current (inN) / for N-tripping	• minimum	2 500 A
• minimum 250 A • maximum 250 A design of the N-conductor protection 100% product function / grounding protection No Mechanical Design product component • undervoltage release • voltage trigger • trip indicator No height [in] 6.22 in height width [in] 5.51 in width 140 mm depth [in] 4.76 in depth 170 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, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 1, 3, 5) design of the surface / of the connections / on the bottom of the switch (N, 1, 3, 5) flexible of the surface / of the connections / on the bottom of the switch (N, 1, 3, 5) flexible of the surface / of the connections / on the bottom of the switch (N, 1, 3, 5) flexible of the surface / of the connections / on the bottom of the switch (N, 1, 3, 5) flexible of the surface / of the connections / on the bottom of the switch (N, 1, 3, 5) flexible of the surface / of the connections / on the bottom of the switch (N, 1, 3, 5) flexible of the surface / of the connections / on the bottom of the switch (N, 1, 3, 5) flexible of the surface / of the connections / on the bottom of the switch (N, 1, 3, 5) flexible of the surface / of the connections / on the bottom of the switch (N, 2, 4, 6) flexible of the connection / on the bottom of the switch (N, 2, 4, 6) flexible of the connection / on the fortice of the connection / on the fortice of	• maximum	2 500 A
maximum 250 A design of the N-conductor protection 100% product function / grounding protection No Mechanical Design product component	adjustable setting current (InN) / for N-tripping	
design of the N-conductor protection 100% product function / grounding protection No Mechanical Design product component • undervoltage release No • voltage trigger No height [in] 6.22 in height 158 mm width [in] 5.51 in width 140 mm depth [in] 2.76 in depth 70 mm Connections arrangement of electrical connectors / for main current circuit 1ype of electrical connection / for main current circuit 1ype 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, 1, 3, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts Protection class IP / on the front IP40	• minimum	
product function / grounding protection No Mechanical Design product component • undervoltage release No • voltage trigger No height [in] 6.22 in height 158 mm width [in] 5.51 in width 140 mm depth 70 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit nut keeper kit on both ends type of connectable conductor cross-sections / for flat-bar terminal connection / maximum design of the surface / of the connections / on the bottom 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 Yes Environmental conditions protection class IP / on the front IP40		
Mechanical Design		
product component • undervoltage release • voltage trigger • trip indicator No height [in] height 158 mm width [in] 158 mm width [in] 2.76 in depth 70 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connector / 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 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 type of connectable conductor cross-sections / for flat-bar terminal connection / minimum type of connectable conductor cross-sections / for flat-bar terminal connection / minimum Silver switch (N, 1, 3, 5) design of the surface / of the connections / on the top of the switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts O Accessories product extension / optional / motor drive Yes Environmental conditions protection class IP / on the front IP40		No
• undervoltage release • voltage trigger • voltage trigger • voltage trigger • No • trip indicator No height [in] 6.22 in height 158 mm width [in] 5.51 in width 140 mm depth [in] 2.76 in depth 70 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit 1ype of electrical connection / for main current circuit 1ype of connectable conductor cross-sections / for flat-bar terminal connection / minimum 1ype 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 0 Accessories product extension / optional / motor drive Yes Environmental conditions protection class IP / on the front IP40	•	
voltage trigger v		No
trip indicator height [in] 6.22 in height [in] 6.22 in height [in] 6.22 in height [in] 6.22 in height [in] 6.25 in width [in] 5.51 in width [in] 6.276 in depth [in] 6.276 in depth [in] 70 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit nut keeper kit on both ends 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 Yes Environmental conditions protection class IP / on the front IP40	-	
height [in] 6.22 in height 158 mm width [in] 5.51 in width 140 mm depth [in] 2.76 in depth 70 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit 100 multiple of connectable conductor cross-sections / for flat-bar terminal connection / minimum 100 minimum		
height 158 mm width [in] 5.51 in width 140 mm depth [in] 2.76 in depth 70 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit nut keeper kit on both ends 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 0 Accessories product extension / optional / motor drive Yes Environmental conditions protection class IP / on the front 158 mm 140 mm 140 mm 158 mm 160 mm 158 mm 160 mm 160 mm 170 mm	·	
width [in] 5.51 in width 140 mm depth [in] 2.76 in depth 70 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit nut keeper kit on both ends 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 P48 Environmental conditions protection class IP / on the front IP40		
width 140 mm depth [in] 2.76 in depth 70 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit nut keeper kit on both ends 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 0 Accessories product extension / optional / motor drive Yes Environmental conditions protection class IP / on the front IP40		
depth [in] 2.76 in depth 70 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit nut keeper kit on both ends 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 IP40		
depth 70 mm Connections arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit nut keeper kit on both ends 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 0 Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front IP40		
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 / 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 O Accessories product extension / optional / motor drive Yes Environmental conditions protection class IP / on the front IP40		
arrangement of electrical connectors / for main current circuit type of electrical connection / for main current circuit nut keeper kit on both ends 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 IP40	·	
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 13 x 1 mm 25 x 8 mm Silver Silver Silver Silver Silver Silver IP40	arrangement of electrical connectors / for main current circuit	Front terminal
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 125 x 8 mm Silver Silver Silver Yes Environmental conditions IP40		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 product extension / optional / motor drive Environmental conditions protection class IP / on the front Silver Silver Silver Silver Silver Silver Silver Pives Fiver Silver Fiver Pes Fiver F		13 x 1 mm
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 IP40		25 x 8 mm
switch (N, 2, 4, 6) Auxiliary circuit number of CO contacts / for auxiliary contacts 0 Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front IP40		Silver
number of CO contacts / for auxiliary contacts Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front IP40		Silver
Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front IP40	Auxiliary circuit	
product extension / optional / motor drive Environmental conditions protection class IP / on the front IP40	number of CO contacts / for auxiliary contacts	
Environmental conditions protection class IP / on the front IP40	Accessories	0
protection class IP / on the front IP40	product extension / entional / motor drive	0
· · · · · · · · · · · · · · · · · · ·	product extension / optional / motor drive	
ambient temperature		
	Environmental conditions	Yes
◆ during operation / minimum	Environmental conditions protection class IP / on the front ambient temperature	Yes IP40

during operation / maximum	70 °C	
during storage / minimum	-40 °C	
 during storage / maximum 	80 °C	
Environmental footprint		
Global Warming Potential [CO2 eq] / total	285.47 kg	
Global Warming Potential [CO2 eq] / during manufacturing	6.87 kg	
Global Warming Potential [CO2 eq] / during operation	279 kg	
Global Warming Potential [CO2 eq] / after end of life	-0.78 kg	
reference code / according to IEC 81346-2	Q	

Approvals / Certificates

General Product Approval



Confirmation







Miscellaneous

General Product Approval

EMV

Test Certificates

Marine / Shipping





Miscellaneous

Special Test Certificate





other Environment

Confirmation

Miscellaneous

Miscellaneous



Environmental Confirmations Environmental Confirmations

Further information

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=3VA1225-6GE42-0AA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3VA1225-6GE42-0AA0

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

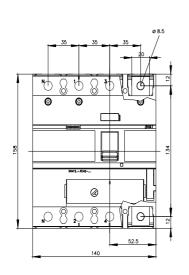
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA1225-6GE42-0AA0

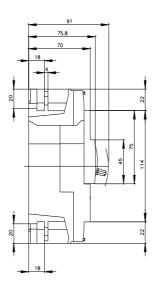
CAx-Online-Generator

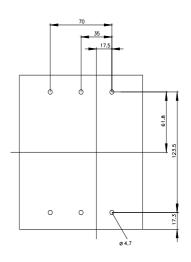
http://www.siemens.com/cax

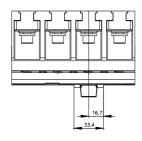
Tender specifications

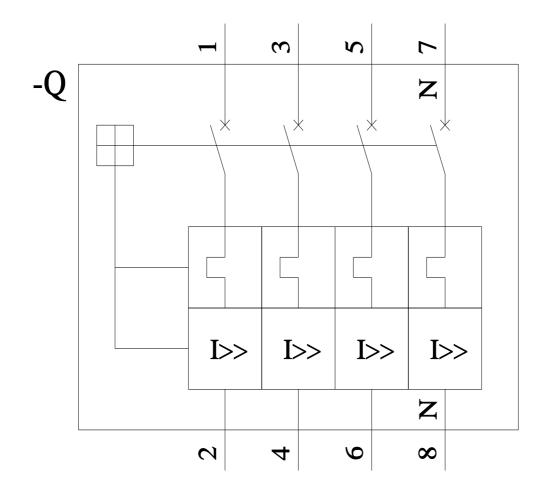
http://www.siemens.com/specifications











last modified: 10/24/2024 🖸

