3VM1220-5EE32-0AA0

## **Data sheet**



circuit breaker 3VM1 IEC frame 250 breaking capacity class M Icu=55kA @ 415V 3-pole, line protection TM220, ATFM, In=200A overload protection Ir=140A...200A short-circuit protection Ii=10 x In 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	3
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	42 W
power loss [W] / for rated value of the current / at AC / in hot operating state / per pole	14 W
mechanical service life (operating cycles) / typical	15 000
electrical endurance (operating cycles) / at AC-1 / at 380/415 V	6 000
product feature / for neutral conductors / upgradable/retrofittable / short-circuit and overload proof	No
ground-fault monitoring version	Without
product function	
<ul> <li>communication function</li> </ul>	No
other measurement function	No
Net Weight	1.591 kg
Current	
operational current	
• at 40 °C	200 A
• at 45 °C	200 A
● at 50 °C	200 A
• at 55 °C	194 A
• at 60 °C	188 A
• at 65 °C	182 A
• at 70 °C	176 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	M
maximum short-circuit current breaking capacity (Icu)	
• at 240 V	85 kA
● at 415 V	55 kA
• at 440 V	36 kA
● at 500 V	15 kA
operating short-circuit current breaking capacity (lcs)	

• at 240 V	63 kA
• at 415 V	41 kA
• at 440 V	27 kA
● at 500 V	10 kA
short-circuit current making capacity (Icm)	
• at 240 V	187 kA
● at 415 V	121 kA
● at 440 V	76 kA
• at 500 V	30 kA
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	
product feature / for L-tripping / can be switched on/off	No
adjustable response value setting current (Ir) / of the L-trip / with l2t characteristic	
• minimum	140 A
• maximum	200 A
adjustable response value delay time (tr) / for L-tripping / with I2t characteristic	
• minimum	1 s
• maximum	1 s
adjustable response value setting current (li) / for I-tripping	
• minimum	2 000 A
• maximum	2 000 A
adjustable setting current (InN) / for N-tripping	
• minimum	0 A
• maximum	0 A
adjustable current response value current / of instantaneous short-circuit trip unit	
maximum	2 000 A
product function / grounding protection	No
Mechanical Design	
Mechanical Design product component	
	No
product component	No No
product component  • undervoltage release	
product component  • undervoltage release  • voltage trigger	No
product component  • undervoltage release  • voltage trigger  • trip indicator	No No
product component	No No 6.22 in
product component  • undervoltage release  • voltage trigger  • trip indicator  height [in]  height	No No 6.22 in 158 mm
product component	No No 6.22 in 158 mm 4.13 in
product component	No No 6.22 in 158 mm 4.13 in 105 mm
product component	No No 6.22 in 158 mm 4.13 in 105 mm 2.76 in
product component  • undervoltage release  • voltage trigger  • trip indicator  height [in]  height  width [in]  width  depth [in]	No No 6.22 in 158 mm 4.13 in 105 mm 2.76 in
product component  • undervoltage release  • voltage trigger  • trip indicator  height [in]  height  width [in]  width  depth [in]  depth	No No 6.22 in 158 mm 4.13 in 105 mm 2.76 in 70 mm
product component  • undervoltage release  • voltage trigger  • trip indicator  height [in]  height  width [in]  width  depth [in]  depth  Connections  arrangement of electrical connectors / for main current circuit	No No 6.22 in 158 mm 4.13 in 105 mm 2.76 in 70 mm
product component  • undervoltage release  • voltage trigger  • trip indicator  height [in]  height  width [in]  width  depth [in]  depth  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	No No 6.22 in 158 mm 4.13 in 105 mm 2.76 in 70 mm  Front connection nut keeper kit on both ends
product component  • undervoltage release  • voltage trigger  • trip indicator  height [in]  height  width [in]  width  depth [in]  depth  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 connectable conductor cross-sections / for flat-bar	No No 6.22 in 158 mm 4.13 in 105 mm 2.76 in 70 mm  Front connection nut keeper kit on both ends 13 x 1 mm
product component  • undervoltage release  • voltage trigger  • trip indicator  height [in]  height  width [in]  width  depth [in]  depth  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)	No No 6.22 in 158 mm 4.13 in 105 mm 2.76 in 70 mm  Front connection nut keeper kit on both ends 13 x 1 mm 25 x 8 mm
product component  • undervoltage release  • voltage trigger  • trip indicator  height [in]  height  width [in]  width  depth [in]  depth  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	No No 6.22 in 158 mm 4.13 in 105 mm 2.76 in 70 mm  Front connection nut keeper kit on both ends 13 x 1 mm 25 x 8 mm Silver
product component  • undervoltage release  • voltage trigger  • trip indicator  height [in]  height  width [in]  width  depth [in]  depth  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)	No No 6.22 in 158 mm 4.13 in 105 mm 2.76 in 70 mm  Front connection nut keeper kit on both ends 13 x 1 mm 25 x 8 mm Silver
product component  • undervoltage release  • voltage trigger  • trip indicator  height [in]  height  width [in]  width  depth [in]  depth  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	No No 6.22 in 158 mm 4.13 in 105 mm 2.76 in 70 mm  Front connection nut keeper kit on both ends 13 x 1 mm 25 x 8 mm  Silver  Silver
product component  • undervoltage release  • voltage trigger  • trip indicator  height [in]  height  width [in]  width  depth [in]  depth  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	No No 6.22 in 158 mm 4.13 in 105 mm 2.76 in 70 mm  Front connection nut keeper kit on both ends 13 x 1 mm 25 x 8 mm  Silver  Silver
product component  • undervoltage release  • voltage trigger  • trip indicator  height [in]  height  width [in]  depth  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  Accessories	No No 6.22 in 158 mm 4.13 in 105 mm 2.76 in 70 mm  Front connection nut keeper kit on both ends 13 x 1 mm 25 x 8 mm  Silver  Silver
product component  • undervoltage release  • voltage trigger  • trip indicator  height [in]  height  width [in]  depth  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  Accessories  product extension / optional / motor drive	No No 6.22 in 158 mm 4.13 in 105 mm 2.76 in 70 mm  Front connection nut keeper kit on both ends 13 x 1 mm 25 x 8 mm  Silver  Silver
product component  undervoltage release voltage trigger trip indicator height [in] height width [in] width depth [in] depth  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  Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front	No
product component  undervoltage release voltage trigger trip indicator height [in] height width [in] width depth [in] depth  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  Accessories product extension / optional / motor drive  Environmental conditions protection class IP / on the front ambient temperature	No
product component  undervoltage release voltage trigger trip indicator height [in] height width [in] width depth [in] depth  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  Accessories product extension / optional / motor drive Environmental conditions protection class IP / on the front	No

during storage / minimumduring storage / maximum

-40 °C 80 °C

## Approvals / Certificates

## General Product Approval







Confirmation





**General Product Approval** 

**Test Certificates** 

Marine / Shipping

**Miscellaneous** 



**Miscellaneous** 







Marine / Shipping

other

Environment





Confirmation

**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=3VM1220-5EE32-0AA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3VM1220-5EE32-0AA0

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

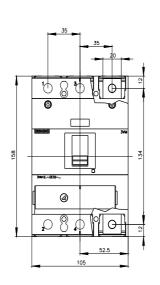
http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VM1220-5EE32-0AA0

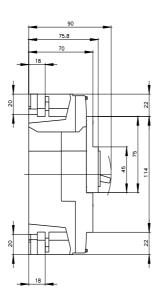
**CAx-Online-Generator** 

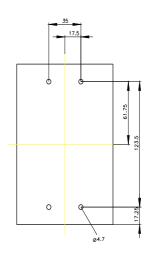
http://www.siemens.com/cax

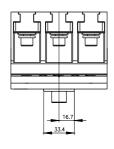
Tender specifications

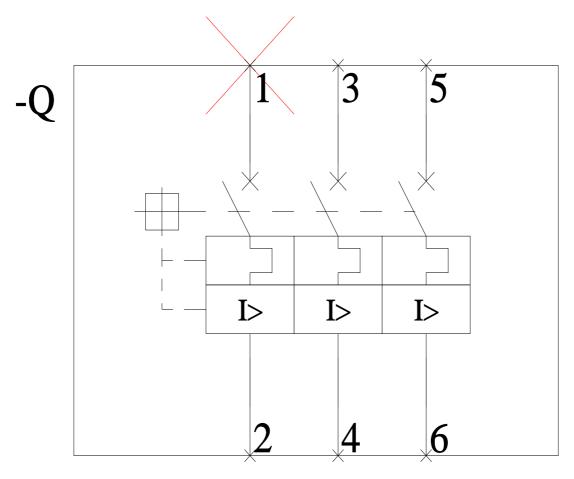
http://www.siemens.com/specifications











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