SIEMENS

Data sheet



circuit breaker 3VM1 IEC frame 250 breaking capacity class M Icu=55kA @ 415V 4-pole, line protection TM220, ATFM, In=200A overload protection Ir=140A...200A short-circuit protection Ii=10 x In N 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	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	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	
 communication function 	No
other measurement function	No
Net Weight	2.067 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	Chapter
product feature / for L-tripping / can be switched on/off	No
adjustable response value setting current (Ir) / of the L-trip / with	INO
I2t characteristic	
• minimum	140 A
• maximum	200 A
adjustable response value delay time (tr) / for L-tripping / with I2t characteristic	
• minimum	1 s
• maximum	1s
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	200 A
• maximum	200 A
adjustable current response value current / of instantaneous short-circuit trip unit	
• maximum	2 000 A
design of the N-conductor protection	100%
product function / grounding protection	No
Mechanical Design	
product component	
undervoltage release	No
undervoltage releasevoltage trigger	No No
· ·	
voltage trigger	No
voltage triggertrip indicator	No No
voltage trigger trip indicator height [in]	No No 6.22 in
voltage triggertrip indicatorheight [in]height	No No 6.22 in 158 mm
 voltage trigger trip indicator height [in] height [in] width [in] 	No No 6.22 in 158 mm 5.51 in
 voltage trigger trip indicator height [in] height width [in] 	No No 6.22 in 158 mm 5.51 in 140 mm
voltage trigger trip indicator height [in] height width [in] width depth [in]	No No 6.22 in 158 mm 5.51 in 140 mm 2.76 in
voltage trigger trip indicator height [in] height width [in] width depth [in] depth Connections	No No 6.22 in 158 mm 5.51 in 140 mm 2.76 in
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 5.51 in 140 mm 2.76 in 70 mm
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 5.51 in 140 mm 2.76 in 70 mm
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	No No 6.22 in 158 mm 5.51 in 140 mm 2.76 in 70 mm Front connection nut keeper kit on both ends
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	No No 6.22 in 158 mm 5.51 in 140 mm 2.76 in 70 mm Front connection nut keeper kit on both ends 13 x 1 mm
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 5.51 in 140 mm 2.76 in 70 mm Front connection nut keeper kit on both ends 13 x 1 mm 25 x 8 mm
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)	No No 6.22 in 158 mm 5.51 in 140 mm 2.76 in 70 mm Front connection nut keeper kit on both ends 13 x 1 mm 25 x 8 mm Silver
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 5.51 in 140 mm 2.76 in 70 mm Front connection nut keeper kit on both ends 13 x 1 mm 25 x 8 mm Silver
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 5.51 in 140 mm 2.76 in 70 mm Front connection nut keeper kit on both ends 13 x 1 mm 25 x 8 mm Silver Silver
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 5.51 in 140 mm 2.76 in 70 mm Front connection nut keeper kit on both ends 13 x 1 mm 25 x 8 mm Silver Silver
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	No No 6.22 in 158 mm 5.51 in 140 mm 2.76 in 70 mm Front connection nut keeper kit on both ends 13 x 1 mm 25 x 8 mm Silver Silver
 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 	No No 6.22 in 158 mm 5.51 in 140 mm 2.76 in 70 mm Front connection nut keeper kit on both ends 13 x 1 mm 25 x 8 mm Silver Silver
 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
 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	No

- during operation / maximum
- during storage / minimum
- during storage / maximum

70 °C -40 °C 80 °C

Approvals / Certificates

General Product Approval







Confirmation





General Product Approval

Marine / Shipping

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=3VM1220-5GE42-0AA0

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

https://support.industry.siemens.com/cs/ww/en/ps/3VM1220-5GE42-0AA0

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

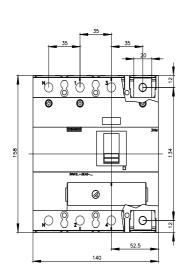
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VM1220-5GE42-0AA0

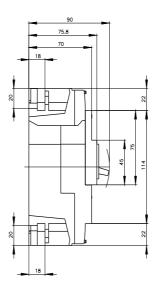
CAx-Online-Generator

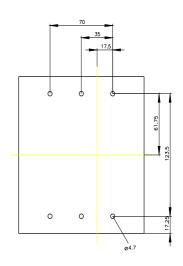
http://www.siemens.com/cax

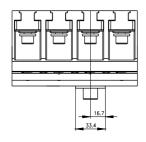
Tender specifications

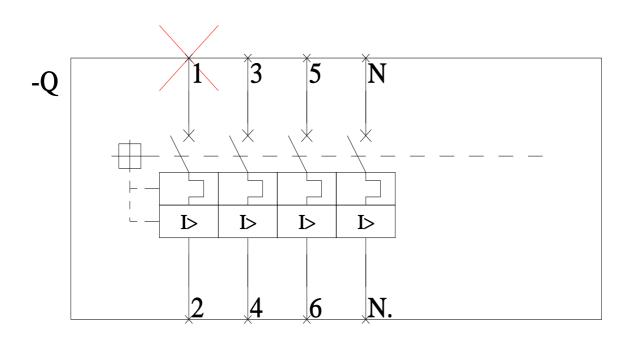
http://www.siemens.com/specifications











last modified: 11/29/2023 🖸

