## **SIEMENS**

Data sheet US2:22HUG32HC



Reversing motor starter, Size 3, Three phase full voltage, Solid-state overload relay, OLR amp range 25-100A, Non-combination type, Enclosure type 7/9/3/4, Hazardous locations, Standard width enclosure

Figure similar

product brand name	Class 22
design of the product	Full-voltage reversing motor starter
special product feature	ESP200 overload relay
General technical data	25. 250 5.0
weight [lb]	149 lb
Height x Width x Depth [in]	32.25 × 18.25 × 11.5 in
touch protection against electrical shock	NA for enclosed products
installation altitude [ft] at height above sea level maximum	6560 ft
ambient temperature [°F]	0000 H
during storage	-22 +149 °F
during operation	-4 +104 °F
ambient temperature	1
during storage	-30 +65 °C
during operation	-20 +40 °C
country of origin	USA
Horsepower ratings	
yielded mechanical performance [hp] for 3-phase AC motor	
• at 200/208 V rated value	25 hp
at 220/230 V rated value	30 hp
• at 460/480 V rated value	50 hp
• at 575/600 V rated value	50 hp
Contactor	30 116
size of contactor	NEMA controller size 3
number of NO contacts for main contacts	3
operating voltage for main current circuit at AC at 60 Hz	600 V
maximum	
operational current at AC at 600 V rated value	90 A
mechanical service life (operating cycles) of the main contacts typical	5000000
Auxiliary contact	
number of NC contacts at contactor for auxiliary contacts	0
number of NO contacts at contactor for auxiliary contacts	1
number of total auxiliary contacts maximum	7
contact rating of auxiliary contacts of contactor according to UL	10A@600VAC (A600), 5A@600VDC (P600)
Coil	
type of voltage of the control supply voltage	AC
control supply voltage	
at AC at 60 Hz rated value	220 480 V
holding power at AC minimum	14 W
apparent pick-up power of magnet coil at AC	310 VA

apparent holding power of magnet coil at AC operating range factor control supply voltage rated value of magnet coil percental drop-out voltage of magnet coil related to the input voltage ON-delay time OFF-delay time OFF-delay time 14 19 ms  Verload rolay product function  • overload protection • phase failure detection • saymmetry detection • lest function • external reset reset function  • external reset reset function  trip class adjustable current response value current of the current- dependent overload release make time with automatic start after power failure maximum relative repeat accuracy product feature protective coating on printed-circuit board number of NC contacts of auxiliary contacts of overload relay • at AC at 600 V • at DC at 250 V • at DC at 250 V contacts rating of auxiliary contacts of overload relay • with single-phase operation at AC rated value • with multi-phase operation at
magnet Coll percental drop-out voltage of magnet coil related to the input voltage ON-delay time OFF-delay time OPF-delay time 14 19 ms  Verload relay  product function • overload protection • phase failure detection • pround fault detection • saymmetry detection • external reset reset function  * external reset  * yes  • external reset  * yes  * adjustable current response value current of the current-dependent overload release  make time with automatic start after power failure maximum  relative repeat accuracy  product feature protective coating on printed-circuit board  number of NC contacts of auxiliary contacts of overload relay  • at AC at 600 V • at DC at 250 V • at DC at 250 V • at DC at 250 V • with single-phase operation at AC rated value • with multi-phase operation at AC rated value  * external reset  **Test **
Voltage ON-delay time 26 41 ms OFF-delay time 14 19 ms  Overload relay  product function  • overload protection Yes • phase failure detection Yes • asymmetry detection Yes • test function Yes • external reset Yes  reset function Manual, automatic and remote  trip class adjustable current response value current of the current-dependent overload release make time with automatic start after power failure maximum relative repeat accuracy product feature protective coating on printed-circuit board number of NC contacts of auxiliary contacts of overload relay number of NO contacts of auxiliary contacts of overload relay • at AC at 600 V • at DC at 250 V  contact rating of auxiliary contacts of overload relay over the contact rating of auxiliary contacts of overload relay • with multi-phase operation at AC rated value • with multi-phase operation at AC rated
OFF-delay time Overload relay  product function
product function
product function  • overload protection • phase failure detection • phase failure detection • ground fault detection • ground fault detection • test function • external reset  reset function  • preset function  trip class  class 5 / 10 / 20 (factory set) / 30  adjustable current response value current of the current- dependent overload release  make time with automatic start after power failure maximum  relative repeat accuracy  product feature protective coating on printed-circuit board number of NC contacts of auxiliary contacts of overload relay  operational current of auxiliary contacts of overload relay  at AC at 600 V  at AC at 600 V  at AC at 550 V  at DC at 250 V  contact rating of auxiliary contacts of overload relay to contact rating of auxiliary contacts of overload relay  with single-phase operation at AC rated value  with single-phase operation at AC rated value  with multi-phase operation at AC rated value  with mu
overload protection     phase failure detection     asymmetry detection     ground fault detection     yes     test function     external reset     reset function     trip class     cLASS 5 / 10 / 20 (factory set) / 30  adjustable current response value current of the current-dependent overload release make time with automatic start after power failure maximum relative repeat accuracy product feature protective coating on printed-circuit board number of NC contacts of auxiliary contacts of overload relay number of NO contacts of auxiliary contacts of overload relay operational current of auxiliary contacts of overload relay     at DC at 250 V     at DC at 250 V     ontact rating of auxiliary contacts of overload relay according to UL  insulation voltage (Ui)     with single-phase operation at AC rated value     with multi-phase operation at AC rated val
phase failure detection asymmetry detection ground fault detection yes esternal reset reset function Yes reset function  trip class adjustable current response value current of the current-dependent overload release make time with automatic start after power failure maximum relative repeat accuracy product feature protective coating on printed-circuit board number of NC contacts of auxiliary contacts of overload relay number of NO contacts of auxiliary contacts of overload relay operational current of auxiliary contacts of overload relay at AC at 600 V at Contact rating of auxiliary contacts of overload relay according to UL  insulation voltage (Ui) with single-phase operation at AC rated value with multi-phase operation at AC rated value ewith multi-phase operation at AC rated value degree of protection NEMA rating design of the housing  vestreme conditions indoor & outdoor Class I Div. 1&2 Groups C&D, C
asymmetry detection ground fault detection test function external reset reset function Manual, automatic and remote trip class cLASS 5 / 10 / 20 (factory set) / 30 adjustable current response value current of the current-dependent overload release make time with automatic start after power failure maximum relative repeat accuracy product feature protective coating on printed-circuit board number of NC contacts of auxiliary contacts of overload relay number of NC contacts of auxiliary contacts of overload relay eat AC at 600 V at DC at 250 V at DC at 250 V at DC at 250 V the with single-phase operation at AC rated value with multi-phase operation at AC rated value with multi-phase operation at AC rated value with multi-phase operation at AC rated value egree of protection NEMA rating design of the housing  yes  Manual, automatic and remote Yes LASS 5 / 10 / 20 (factory set) / 30  Z 100 A  ### Anumber ### Auxiliary contacts ### Auxiliary contacts of verload relay 1
ground fault detection     test function     external reset  reset function      itrip class     adjustable current response value current of the current-dependent overload release     make time with automatic start after power failure maximum     relative repeat accuracy     product feature protective coating on printed-circuit board     number of NC contacts of auxiliary contacts of overload relay     operational current of auxiliary contacts of overload relay     eat DC at 250 V     at DC at 250 V     at DC at 250 V     evith single-phase operation at AC rated value     with multi-phase operation at AC rated value     with multi-phase operation at AC rated value     degree of protection NEMA rating     design of the housing      vesternal reset     Yes     Ananual, automatic and remote     CLASS 5 / 10 / 20 (factory set) / 30     25 100 A     25 100 A     25 100 A     25 100 A     3 s     4    5 100 A     3 s     4    5 100 A     4    5 100 A     4    5 100 A     4    5 100 A      5 1
<ul> <li>test function</li> <li>external reset</li> <li>reset function</li> <li>Manual, automatic and remote</li> <li>trip class</li> <li>CLASS 5 / 10 / 20 (factory set) / 30</li> <li>adjustable current response value current of the current-dependent overload release</li> <li>make time with automatic start after power failure maximum</li> <li>relative repeat accuracy</li> <li>product feature protective coating on printed-circuit board</li> <li>number of NC contacts of auxiliary contacts of overload relay</li> <li>number of NO contacts of auxiliary contacts of overload relay</li> <li>operational current of auxiliary contacts of overload relay</li> <li>at AC at 600 V</li> <li>at DC at 250 V</li> <li>at DC at 250 V</li> <li>contact rating of auxiliary contacts of overload relay according to UL</li> <li>insulation voltage (Ui)</li> <li>with single-phase operation at AC rated value</li> <li>with multi-phase operation at AC rated value</li> <li>with multi-phase operation at AC rated value</li> <li>degree of protection NEMA rating</li> <li>design of the housing</li> <li>Yes</li> <li>1 %</li> <li>Yes</li> <li>1 %</li> <li>Yes</li> <li>1 %</li> <li>Poly A</li> <li>Poly B</li> <li>Poly B<!--</td--></li></ul>
external reset  reset function  Manual, automatic and remote  trip class  CLASS 5 / 10 / 20 (factory set) / 30  adjustable current response value current of the current- dependent overload release  make time with automatic start after power failure maximum  relative repeat accuracy  product feature protective coating on printed-circuit board  number of NC contacts of auxiliary contacts of overload relay  number of NO contacts of auxiliary contacts of overload relay  operational current of auxiliary contacts of overload relay  • at AC at 600 V  • at DC at 250 V  contact rating of auxiliary contacts of overload relay according to  UL  insulation voltage (Ui)  • with single-phase operation at AC rated value  • with multi-phase operation at AC rated value  • with multi-phase operation at AC rated value  degree of protection NEMA rating  design of the housing  Yes  1 %  Power and New Yes  1 A  5 A  600 V  300 V  Enclosure  degree of protection NEMA rating  3, 4, 7, 9  design of the housing
reset function  trip class  adjustable current response value current of the current- dependent overload release  make time with automatic start after power failure maximum  relative repeat accuracy  product feature protective coating on printed-circuit board  number of NC contacts of auxiliary contacts of overload relay  number of NO contacts of auxiliary contacts of overload relay  operational current of auxiliary contacts of overload relay  • at AC at 600 V  • at DC at 250 V  contact rating of auxiliary contacts of overload relay according to  UL  insulation voltage (Ui)  • with single-phase operation at AC rated value  • with multi-phase operation at AC rated value  degree of protection NEMA rating  design of the housing  Manual, automatic and remote  CLASS 5 / 10 / 20 (factory set) / 30  25 100 A  26 100 A  27 100 A  28 100 A  29 100 A  20 100
trip class  adjustable current response value current of the current- dependent overload release  make time with automatic start after power failure maximum  relative repeat accuracy  product feature protective coating on printed-circuit board  number of NC contacts of auxiliary contacts of overload relay  number of NO contacts of auxiliary contacts of overload relay  operational current of auxiliary contacts of overload relay  • at AC at 600 V  • at DC at 250 V  contact rating of auxiliary contacts of overload relay according to  UL  insulation voltage (Ui)  • with single-phase operation at AC rated value  • with multi-phase operation at AC rated value  • with substance of the current-  25 100 A  26 100 A  26 100 A  26 100 A  26 100 A  27 100 A  28 100 A  29
adjustable current response value current of the current-dependent overload release  make time with automatic start after power failure maximum  relative repeat accuracy  product feature protective coating on printed-circuit board  number of NC contacts of auxiliary contacts of overload relay  number of NO contacts of auxiliary contacts of overload relay  operational current of auxiliary contacts of overload relay  • at AC at 600 V  • at DC at 250 V  contact rating of auxiliary contacts of overload relay according to UL  insulation voltage (Ui)  • with single-phase operation at AC rated value  • with multi-phase operation at AC rated value  • with multi-phase operation at AC rated value  • with multi-phase operation at AC rated value  degree of protection NEMA rating  design of the housing  25 100 A  25 100 A  25 100 A  25 100 A  26 100 A
dependent overload release  make time with automatic start after power failure maximum  relative repeat accuracy  product feature protective coating on printed-circuit board  number of NC contacts of auxiliary contacts of overload relay  number of NO contacts of auxiliary contacts of overload relay  operational current of auxiliary contacts of overload relay  • at AC at 600 V  • at DC at 250 V  contact rating of auxiliary contacts of overload relay according to UL  insulation voltage (Ui)  • with single-phase operation at AC rated value  • with multi-phase operation at AC rated value  • with multi-phase operation at AC rated value  degree of protection NEMA rating  design of the housing  3 s  1 %  9 contact relative repeat accuracy  1 %  9 contact relative repeat accuracy  1 %  5 A  5 A  5 A  5 A  5 A  600 V A  5 A  600 V A  5 A  600 V  9 with multi-phase operation at AC rated value  9 contact rating of auxiliary contacts of overload relay according to UL  1 so A  600 V  9 with multi-phase operation at AC rated value  9 contact rating of auxiliary contacts of overload relay according to UL  1 so A  600 V  9 with multi-phase operation at AC rated value  9 contact rating of auxiliary contacts of overload relay according to UL  1 so A  600 V  9 with multi-phase operation at AC rated value  9 contact rating of auxiliary contacts of overload relay according to UL  1 according to W  1 so A  1 contact rating of auxiliary contacts of overload relay  1 according to W  1 ac
relative repeat accuracy  product feature protective coating on printed-circuit board  number of NC contacts of auxiliary contacts of overload relay  number of NO contacts of auxiliary contacts of overload relay  operational current of auxiliary contacts of overload relay  • at AC at 600 V  • at DC at 250 V  contact rating of auxiliary contacts of overload relay according to UL  insulation voltage (Ui)  • with single-phase operation at AC rated value  • with multi-phase operation at AC rated value  • with multi-phase operation at AC rated value  according to the housing  1 %  Yes  1 A  5 A  5 A  5 A  600 V (B600), 1A@250VDC (R300)
product feature protective coating on printed-circuit board  number of NC contacts of auxiliary contacts of overload relay number of NO contacts of auxiliary contacts of overload relay operational current of auxiliary contacts of overload relay  • at AC at 600 V • at DC at 250 V  contact rating of auxiliary contacts of overload relay according to UL  insulation voltage (Ui) • with single-phase operation at AC rated value • with multi-phase operation at AC rated value  • with multi-phase operation at AC rated value  • with multi-phase operation at AC rated value  according to UC
number of NC contacts of auxiliary contacts of overload relay  number of NO contacts of auxiliary contacts of overload relay  operational current of auxiliary contacts of overload relay  • at AC at 600 V  • at DC at 250 V  contact rating of auxiliary contacts of overload relay according to UL  insulation voltage (Ui)  • with single-phase operation at AC rated value  • with multi-phase operation at AC rated value  for a value  operation of auxiliary contacts of overload relay according to UL  insulation voltage (Ui)  • with single-phase operation at AC rated value  operation of auxiliary contacts of overload relay according to 1 AC acc
number of NO contacts of auxiliary contacts of overload relay  operational current of auxiliary contacts of overload relay  • at AC at 600 V  • at DC at 250 V  contact rating of auxiliary contacts of overload relay according to UL  insulation voltage (Ui)  • with single-phase operation at AC rated value  • with multi-phase operation at AC rated value  • with multi-phase operation at AC rated value  substituting the phase operation at AC rated value  operational relay according to the phase operation at AC rated value  and the phase ope
operational current of auxiliary contacts of overload relay  • at AC at 600 V  • at DC at 250 V  to contact rating of auxiliary contacts of overload relay according to UL  insulation voltage (Ui)  • with single-phase operation at AC rated value  • with multi-phase operation at AC rated value  • with multi-phase operation at AC rated value  • with multi-phase operation at AC rated value  and to AC rated value  600 V  500 V  500 V  500 V  500 V  500 V  600 V  60
<ul> <li>at AC at 600 V</li> <li>at DC at 250 V</li> <li>contact rating of auxiliary contacts of overload relay according to UL</li> <li>insulation voltage (Ui)</li> <li>with single-phase operation at AC rated value</li> <li>with multi-phase operation at AC rated value</li> <li>with multi-phase operation at AC rated value</li> <li>300 V</li> <li>Enclosure</li> <li>degree of protection NEMA rating</li> <li>3, 4, 7, 9</li> <li>design of the housing</li> <li>extreme conditions indoor &amp; outdoor Class I Div. 1&amp;2 Groups C&amp;D, C</li> </ul>
<ul> <li>at DC at 250 V</li> <li>contact rating of auxiliary contacts of overload relay according to UL</li> <li>insulation voltage (Ui)</li> <li>with single-phase operation at AC rated value</li> <li>with multi-phase operation at AC rated value</li> <li>with multi-phase operation at AC rated value</li> <li>300 V</li> <li>Enclosure</li> <li>degree of protection NEMA rating</li> <li>3, 4, 7, 9</li> <li>design of the housing</li> <li>extreme conditions indoor &amp; outdoor Class I Div. 1&amp;2 Groups C&amp;D, C</li> </ul>
contact rating of auxiliary contacts of overload relay according to UL  insulation voltage (Ui)  • with single-phase operation at AC rated value  • with multi-phase operation at AC rated value  100 V  Enclosure  degree of protection NEMA rating  3, 4, 7, 9  design of the housing  5A@600VAC (B600), 1A@250VDC (R300)  600 V  300 V  Enclosure  2, 4, 7, 9  extreme conditions indoor & outdoor Class I Div. 1&2 Groups C&D, C
UL  insulation voltage (Ui)  • with single-phase operation at AC rated value  • with multi-phase operation at AC rated value  300 V  Enclosure  degree of protection NEMA rating  3, 4, 7, 9  design of the housing  axis AC rated value  solve AC rated value  solve AC rated value  axis AC rated value  solve AC rate
<ul> <li>with single-phase operation at AC rated value</li> <li>with multi-phase operation at AC rated value</li> <li>300 V</li> <li>Enclosure</li> <li>degree of protection NEMA rating</li> <li>design of the housing</li> <li>3, 4, 7, 9</li> <li>extreme conditions indoor &amp; outdoor Class I Div. 1&amp;2 Groups C&amp;D, C</li> </ul>
<ul> <li>with multi-phase operation at AC rated value</li> <li>Enclosure</li> <li>degree of protection NEMA rating</li> <li>design of the housing</li> <li>3, 4, 7, 9</li> <li>extreme conditions indoor &amp; outdoor Class I Div. 1&amp;2 Groups C&amp;D, C</li> </ul>
Enclosure       degree of protection NEMA rating     3, 4, 7, 9       design of the housing     extreme conditions indoor & outdoor Class I Div. 1&2 Groups C&D, C
degree of protection NEMA rating  3, 4, 7, 9  design of the housing  3, 4, 7, 9  extreme conditions indoor & outdoor Class I Div. 1&2 Groups C&D, Cl
design of the housing extreme conditions indoor & outdoor Class I Div. 1&2 Groups C&D, C
Croung F. E&C. Close III
Mounting/wiring
mounting position Vertical
fastening method  Surface mounting and installation
type of electrical connection for supply voltage line-side  Box lug
tightening torque [lbf-in] for supply  120 120 lbf-in
type of connectable conductor cross-sections at line-side at 1x (14 2/0 AWG)
AWG cables single or multi-stranded
temperature of the conductor for supply maximum permissible 75 °C
material of the conductor for supply AL or CU
type of electrical connection for load-side outgoing feeder Box lug
tightening torque [lbf-in] for load-side outgoing feeder 120 120 lbf-in
type of connectable conductor cross-sections at AWG cables for load-side outgoing feeder single or multi-stranded  1x (14 2/0 AWG)
temperature of the conductor for load-side outgoing feeder maximum permissible 75 °C
material of the conductor for load-side outgoing feeder AL or CU
type of electrical connection of magnet coil  Screw-type terminals
tightening torque [lbf-in] at magnet coil 5 12 lbf-in
type of connectable conductor cross-sections of magnet coil at 2x (16 12 AWG)
type of connectable conductor cross-sections of magnet coil at AWG cables single or multi-stranded 2x (16 12 AWG)
AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum  75 °C
AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible  75 °C
AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible  material of the conductor at magnet coil  CU
AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible  material of the conductor at magnet coil  type of electrical connection for auxiliary contacts  Screw-type terminals

maximum permissible	
material of the conductor at contactor for auxiliary contacts	CU
type of electrical connection at overload relay for auxiliary contacts	Screw-type terminals
tightening torque [lbf·in] at overload relay for auxiliary contacts	7 10 lbf·in
type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts single or multi-stranded	2x (20 14 AWG)
temperature of the conductor at overload relay for auxiliary contacts maximum permissible	75 °C
material of the conductor at overload relay for auxiliary contacts	CU
Short-circuit current rating	
design of the fuse link for short-circuit protection of the main circuit required	none
design of the short-circuit trip	none
maximum short-circuit current breaking capacity (Icu)	
• at 240 V	0 kA
• at 480 V	0 kA
• at 600 V	0 kA
certificate of suitability	NEMA ICS 2; UL 508; CSA 22.2, No.14
Further information	

Industrial Controls - Product Overview (Catalogs, Brochures,...)

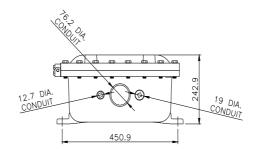
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/us/Catalog/product?mlfb=US2:22HUG32HC

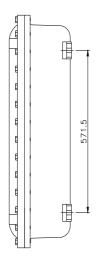
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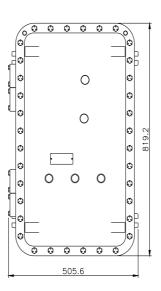
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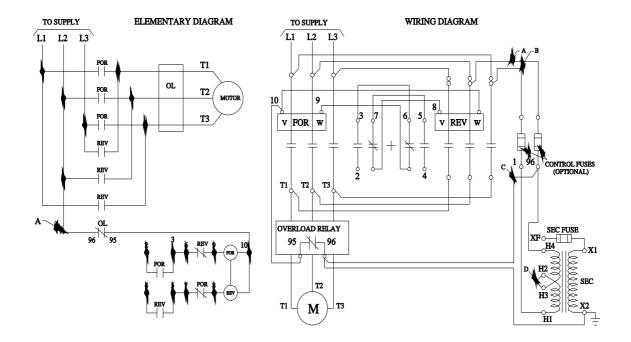
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=US2:22HUG32HC&lang=en">http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=US2:22HUG32HC&lang=en</a>

Certificates/approvals
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