## SIEMENS

## Data sheet

## US2:22BUC32BH

Reversing motor starter, Size 00, Three phase full voltage, Solid-state overload relay, OLR amp range 3-12A, Non-combination type, Enclosure type 1, Indoor general purpose use, Standard width enclosure



product brand name	Class 22
design of the product	Full-voltage reversing motor starter
special product feature	ESP200 overload relay
General technical data	
weight [lb]	23 lb
Height x Width x Depth [in]	20 × 12 × 8 in
touch protection against electrical shock	NA for enclosed products
installation altitude [ft] at height above sea level maximum	6560 ft
ambient temperature [°F]	
during storage	-22 +149 °F
during operation	-4 +104 °F
ambient temperature	
<ul> <li>during storage</li> </ul>	-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	1.5 hp
• at 220/230 V rated value	1.5 hp
• at 460/480 V rated value	2 hp
• at 575/600 V rated value	0 hp
Contactor	
size of contactor	NEMA controller size 00
number of NO contacts for main contacts	3
operating voltage for main current circuit at AC at 60 Hz maximum	600 V
operational current at AC at 600 V rated value	9 A
mechanical service life (operating cycles) of the main contacts typical	1000000
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	8
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 50 Hz rated value	380 440 V
holding power at AC minimum	8.6 W
apparent pick-up power of magnet coil at AC	218 VA
apparent holding power of magnet coil at AC	25 VA



operating range factor control supply voltage rated value of	0.85 1.1
magnet coil percental drop-out voltage of magnet coil related to the input	50 %
voltage	
ON-delay time	19 29 ms
OFF-delay time Overload relay	10 24 ms
product function <ul> <li>overload protection</li> </ul>	Yes
phase failure detection	Yes
asymmetry detection	Yes
ground fault detection	Yes
test function	Yes
external reset	Yes
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	3 12 A
make time with automatic start after power failure maximum	3 s
relative repeat accuracy	1 %
product feature protective coating on printed-circuit board	Yes
number of NC contacts of auxiliary contacts of overload relay	1
number of NO contacts of auxiliary contacts of overload relay	1
operational current of auxiliary contacts of overload relay	
• at AC at 600 V	5 A
● at DC at 250 V	1 A
contact rating of auxiliary contacts of overload relay according to UL	5A@600VAC (B600), 1A@250VDC (R300)
insulation voltage (Ui)	
<ul> <li>with single-phase operation at AC rated value</li> </ul>	600 V
<ul> <li>with multi-phase operation at AC rated value</li> </ul>	300 V
Enclosure	
degree of protection NEMA rating	1
design of the housing	1 indoors, usable on a general basis
design of the housing Mounting/wiring	indoors, usable on a general basis
design of the housing Mounting/wiring mounting position	indoors, usable on a general basis Vertical
design of the housing Mounting/wiring mounting position fastening method	indoors, usable on a general basis Vertical Surface mounting and installation
design of the housing Mounting/wiring mounting position fastening method type of electrical connection for supply voltage line-side	indoors, usable on a general basis Vertical Surface mounting and installation Screw-type terminals
design of the housing Mounting/wiring mounting position fastening method	indoors, usable on a general basis Vertical Surface mounting and installation
design of the housing Mounting/wiring mounting position fastening method type of electrical connection for supply voltage line-side tightening torque [lbf-in] for supply type of connectable conductor cross-sections at line-side for	indoors, usable on a general basis Vertical Surface mounting and installation Screw-type terminals 20 20 lbf-in
design of the housing Mounting/wiring mounting position fastening method type of electrical connection for supply voltage line-side tightening torque [lbf-in] for supply type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded	indoors, usable on a general basis Vertical Surface mounting and installation Screw-type terminals 20 20 lbf-in 1x (14 2 AWG)
design of the housing         Mounting/wiring         mounting position         fastening method         type of electrical connection for supply voltage line-side         tightening torque [lbf-in] for supply         type of connectable conductor cross-sections at line-side for         AWG cables single or multi-stranded         temperature of the conductor for supply maximum permissible	indoors, usable on a general basis         Vertical         Surface mounting and installation         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C
design of the housing Mounting/wiring mounting position fastening method type of electrical connection for supply voltage line-side tightening torque [lbf-in] for supply type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded temperature of the conductor for supply maximum permissible material of the conductor for supply	indoors, usable on a general basis         Vertical         Surface mounting and installation         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU
design of the housing         Mounting/wiring         mounting position         fastening method         type of electrical connection for supply voltage line-side         tightening torque [lbf-in] for supply         type of connectable conductor cross-sections at line-side for         AWG cables single or multi-stranded         temperature of the conductor for supply maximum permissible         material of the conductor for supply         type of electrical connection for load-side outgoing feeder	indoors, usable on a general basis Vertical Surface mounting and installation Screw-type terminals 20 20 lbf-in 1x (14 2 AWG) 75 °C AL or CU Screw-type terminals
design of the housing         Mounting/wiring         mounting position         fastening method         type of electrical connection for supply voltage line-side         tightening torque [lbf-in] for supply         type of connectable conductor cross-sections at line-side for         AWG cables single or multi-stranded         temperature of the conductor for supply maximum permissible         material of the conductor for supply         type of electrical connection for load-side outgoing feeder         tightening torque [lbf-in] for load-side outgoing feeder         tightening torque [lbf-in] for load-side outgoing feeder         type of connectable conductor cross-sections for AWG cables	indoors, usable on a general basis Vertical Surface mounting and installation Screw-type terminals 20 20 lbf-in 1x (14 2 AWG) 75 °C AL or CU Screw-type terminals 20 20 lbf-in
design of the housing         Mounting/wiring         mounting position         fastening method         type of electrical connection for supply voltage line-side         tightening torque [lbf·in] for supply         type of connectable conductor cross-sections at line-side for         AWG cables single or multi-stranded         temperature of the conductor for supply maximum permissible         material of the conductor for supply         type of electrical connection for load-side outgoing feeder         tightening torque [lbf·in] for load-side outgoing feeder         type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder         type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder         type of connectable conductor for load-side outgoing feeder         type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded         temperature of the conductor for load-side outgoing feeder	indoors, usable on a general basis         Vertical         Surface mounting and installation         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)
design of the housing         Mounting/wiring         mounting position         fastening method         type of electrical connection for supply voltage line-side         tightening torque [lbf-in] for supply         type of connectable conductor cross-sections at line-side for         AWG cables single or multi-stranded         temperature of the conductor for supply maximum permissible         material of the conductor for supply         type of electrical connection for load-side outgoing feeder         tightening torque [lbf-in] for load-side outgoing feeder         type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder         type of connectable conductor for supply         type of connectable conductor for supply         type of electrical connection for load-side outgoing feeder         tightening torque [lbf-in] for load-side outgoing feeder         type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded         temperature of the conductor for load-side outgoing feeder maximum permissible	indoors, usable on a general basis         Vertical         Surface mounting and installation         Screw-type terminals         20 20 lbf in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf in         1x (14 2 AWG)         75 °C
design of the housing         Mounting/wiring         mounting position         fastening method         type of electrical connection for supply voltage line-side         tightening torque [lbf-in] for supply         type of connectable conductor cross-sections at line-side for         AWG cables single or multi-stranded         temperature of the conductor for supply maximum permissible         material of the conductor for supply         type of electrical connection for load-side outgoing feeder         tightening torque [lbf-in] for load-side outgoing feeder         type of connectable conductor cross-sections for AWG cables         for load-side outgoing feeder single or multi-stranded         temperature of the conductor for load-side outgoing feeder         type of connectable conductor for load-side outgoing feeder         type of connectable conductor for load-side outgoing feeder         type of load-side outgoing feeder single or multi-stranded         temperature of the conductor for load-side outgoing feeder         maximum permissible         material of the conductor for load-side outgoing feeder         type of electrical connection of magnet coil         tightening torque [lbf-in] at magnet coil	indoors, usable on a general basis         Vertical         Surface mounting and installation         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         5 12 lbf-in
design of the housing Mounting/wiring mounting position fastening method type of electrical connection for supply voltage line-side tightening torque [lbf-in] for supply type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded temperature of the conductor for supply maximum permissible material of the conductor for supply type of electrical connection for load-side outgoing feeder tightening torque [lbf-in] for load-side outgoing feeder type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded temperature of the conductor for load-side outgoing feeder type of connectable conductor for load-side outgoing feeder maximum permissible material of the conductor for load-side outgoing feeder type of electrical connection of magnet coil tightening torque [lbf-in] at magnet coil type of connectable conductor cross-sections of magnet coil for AWG cables single or multi-stranded	indoors, usable on a general basis         Vertical         Surface mounting and installation         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         5 12 lbf-in         2x (16 12 AWG)
design of the housing         Mounting/wiring         mounting position         fastening method         type of electrical connection for supply voltage line-side         tightening torque [lbf-in] for supply         type of connectable conductor cross-sections at line-side for         AWG cables single or multi-stranded         temperature of the conductor for supply maximum permissible         material of the conductor for supply         type of electrical connection for load-side outgoing feeder         tightening torque [lbf-in] for load-side outgoing feeder         tightening torque [lbf-in] for load-side outgoing feeder         type of connectable conductor for load-side outgoing feeder         type of connectable conductor for load-side outgoing feeder         type of connectable conductor for load-side outgoing feeder         maximum permissible         material of the conductor for load-side outgoing feeder         type of electrical connection of magnet coil         tightening torque [lbf-in] at magnet coil         type of connectable conductor cross-sections of magnet coil for         AWG cables single or multi-stranded         temperature of the conductor at magnet coil maximum         permissible	indoors, usable on a general basis         Vertical         Surface mounting and installation         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         5 12 lbf-in         2x (16 12 AWG)         75 °C
design of the housing         Mounting/wiring         mounting position         fastening method         type of electrical connection for supply voltage line-side         tightening torque [lbf-in] for supply         type of connectable conductor cross-sections at line-side for         AWG cables single or multi-stranded         temperature of the conductor for supply maximum permissible         material of the conductor for supply         type of electrical connection for load-side outgoing feeder         tightening torque [lbf-in] for load-side outgoing feeder         type of connectable conductor cross-sections for AWG cables         for load-side outgoing feeder         type of connectable conductor for load-side outgoing feeder         type of connectable conductor for load-side outgoing feeder         type of connectable conductor for load-side outgoing feeder         maximum permissible         material of the conductor for load-side outgoing feeder         type of electrical connection of magnet coil         tightening torque [lbf-in] at magnet coil         type of cables single or multi-stranded         temperature of the conductor at magnet coil maximum         permissible         material of the conductor at magnet coil	indoors, usable on a general basis         Vertical         Surface mounting and installation         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         5 12 lbf-in         2x (16 12 AWG)         75 °C         CU
design of the housing         Mounting/wiring         mounting position         fastening method         type of electrical connection for supply voltage line-side         tightening torque [lbf-in] for supply         type of connectable conductor cross-sections at line-side for         AWG cables single or multi-stranded         temperature of the conductor for supply maximum permissible         material of the conductor for supply         type of electrical connection for load-side outgoing feeder         tightening torque [lbf-in] for load-side outgoing feeder         type of connectable conductor cross-sections for AWG cables         for load-side outgoing feeder single or multi-stranded         temperature of the conductor for load-side outgoing feeder         type of cload-side outgoing feeder single or multi-stranded         temperature of the conductor for load-side outgoing feeder         maximum permissible         material of the conductor for load-side outgoing feeder         type of electrical connection of magnet coil         tightening torque [lbf-in] at magnet coil         type of 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 <td>indoors, usable on a general basis         Vertical         Surface mounting and installation         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         5 12 lbf-in         2x (16 12 AWG)         75 °C         CU         Screw-type terminals</td>	indoors, usable on a general basis         Vertical         Surface mounting and installation         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         5 12 lbf-in         2x (16 12 AWG)         75 °C         CU         Screw-type terminals
design of the housing         Mounting/wiring         mounting position         fastening method         type of electrical connection for supply voltage line-side         tightening torque [lbf-in] for supply         type of connectable conductor cross-sections at line-side for         AWG cables single or multi-stranded         temperature of the conductor for supply maximum permissible         material of the conductor for supply         type of electrical connection for load-side outgoing feeder         tightening torque [lbf-in] for load-side outgoing feeder         tightening torque [lbf-in] for load-side outgoing feeder         type of connectable conductor ross-sections for AWG cables         for load-side outgoing feeder single or multi-stranded         temperature of the conductor for load-side outgoing feeder         maximum permissible         material of the conductor for load-side outgoing feeder         type of electrical connection of magnet coil         tightening torque [lbf-in] at magnet coil         type of connectable conductor cross-sections of magnet coil for         AWG cables single or multi-stranded         temperature of the conductor at magnet coil         type of cables single or multi-stranded         temperature of the conductor at magnet coil maximum         permissible         material	indoors, usable on a general basis         Vertical         Surface mounting and installation         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         5 12 lbf-in         2x (16 12 AWG)         75 °C         CU         Screw-type terminals         10 15 lbf-in
design of the housing         Mounting/wiring         mounting position         fastening method         type of electrical connection for supply voltage line-side         tightening torque [lbf-in] for supply         type of connectable conductor cross-sections at line-side for         AWG cables single or multi-stranded         temperature of the conductor for supply maximum permissible         material of the conductor for supply         type of electrical connection for load-side outgoing feeder         tightening torque [lbf-in] for load-side outgoing feeder         type of connectable conductor cross-sections for AWG cables         for load-side outgoing feeder single or multi-stranded         temperature of the conductor for load-side outgoing feeder         type of electrical connection of magnet coil         tightening torque [lbf-in] at magnet coil         type of connectable conductor at magnet coil maximum         permissible         material of the conductor at magnet coil         type of electrical connection for auxiliary contacts         tightening torque [lbf-in] at contactor for auxiliary contacts         type of electrical connection for auxiliary contacts	indoors, usable on a general basis         Vertical         Surface mounting and installation         Screw-type terminals         20 20 lbf·in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf·in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf·in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         5 12 lbf·in         2x (16 12 AWG)         75 °C         CU         Screw-type terminals         10 15 lbf·in         1x (12 AWG), 2x (16 14 AWG), 2x (18 16 AWG)
design of the housing         Mounting/wiring         mounting position         fastening method         type of electrical connection for supply voltage line-side         tightening torque [lbf-in] for supply         type of connectable conductor cross-sections at line-side for         AWG cables single or multi-stranded         temperature of the conductor for supply maximum permissible         material of the conductor for supply         type of electrical connection for load-side outgoing feeder         tightening torque [lbf-in] for load-side outgoing feeder         type of connectable conductor cross-sections for AWG cables         for load-side outgoing feeder         type of connectable conductor for load-side outgoing feeder         type of connectable conductor for load-side outgoing feeder         maximum permissible         material of the conductor for load-side outgoing feeder         type of electrical connection of magnet coil         tightening torque [lbf-in] at magnet coil         type of connectable conductor cross-sections of magnet coil for         AWG cables single or multi-stranded         temperature of the conductor at magnet coil maximum         permissible         material of the conductor at magnet coil maximum         permissible         material of the conductor at magnet coil     <	indoors, usable on a general basis         Vertical         Surface mounting and installation         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         20 20 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals         5 12 lbf-in         2x (16 12 AWG)         75 °C         CU         Screw-type terminals         10 15 lbf-in

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 for 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	10kA@600V (Class H or K); 100kA@600V (Class R or J)
circuit required	
design of the short-circuit trip	Thermal magnetic circuit breaker
	Thermal magnetic circuit breaker
design of the short-circuit trip	Thermal magnetic circuit breaker 14 kA
design of the short-circuit trip maximum short-circuit current breaking capacity (Icu)	
design of the short-circuit trip maximum short-circuit current breaking capacity (Icu) • at 240 V	14 kA
design of the short-circuit trip maximum short-circuit current breaking capacity (Icu) • at 240 V • at 480 V	14 kA 10 kA

Further information

Industrial Controls - Product Overview (Catalogs, Brochures,...) www.usa.siemens.com/iccatalog

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/us/Catalog/product?mlfb=US2:22BUC32BH

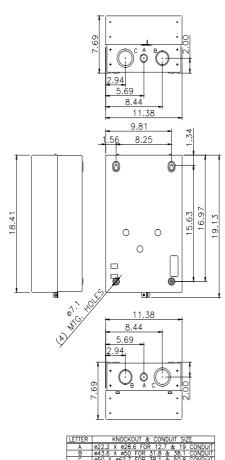
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/US/en/ps/US2:22BUC32BH

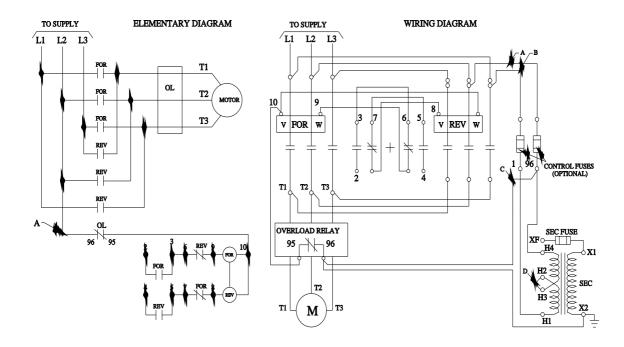
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=US2:22BUC32BH&lang=en

Certificates/approvals

https://support.industry.siemens.com/cs/US/en/ps/US2:22BUC32BH/certificate





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