## **SIEMENS**

Data sheet US2:22DUD320G



Reversing motor starter, Size 1, Three phase full voltage, Solid-state overload relay, OLR amp range 5.5-22A, Non-combination type, Enclosure type 12, Dust/drip proof for indoors, 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	
weight [lb]	17 lb
Height x Width x Depth [in]	13 × 13 × 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]	
<ul> <li>during storage</li> </ul>	-22 +149 °F
during operation	-4 +104 °F
ambient temperature	
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	3 hp
• at 220/230 V rated value	3 hp
• at 460/480 V rated value	10 hp
• at 575/600 V rated value	10 hp
Contactor	
size of contactor	NEMA controller size 1
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	27 A
mechanical service life (operating cycles) of the main contacts typical	10000000
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	190 220 V
• at AC at 60 Hz rated value	220 240 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 magnet coil	0.85 1.1
percental drop-out voltage of magnet coil related to the input voltage	50 %
ON-delay time	19 29 ms
OFF-delay time	10 24 ms
Overload relay	
product function	
overload protection	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	
adjustable current response value current of the current-	CLASS 5 / 10 / 20 (factory set) / 30 5.5 22 A
dependent overload release	
make time with automatic start after power failure maximum	3 \$
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	12
design of the housing	dustproof and drip-proof for indoor use
Mounting/wiring	
mounting position	Vertical
fastening method	
	Surface mounting and installation
type of electrical connection for supply voltage line-side	Surface mounting and installation Screw-type terminals
type of electrical connection for supply voltage line-side tightening torque [lbf-in] for supply	0
,	Screw-type terminals
tightening torque [lbf·in] for supply type of connectable conductor cross-sections at line-side at	Screw-type terminals 35 35 lbf·in
tightening torque [lbf-in] for supply type of connectable conductor cross-sections at line-side at AWG cables single or multi-stranded	Screw-type terminals 35 35 lbf·in 1x (14 2 AWG)
tightening torque [lbf-in] for supply type of connectable conductor cross-sections at line-side at AWG cables single or multi-stranded temperature of the conductor for supply maximum permissible	Screw-type terminals 35 35 lbf·in 1x (14 2 AWG) 75 °C
tightening torque [lbf-in] for supply type of connectable conductor cross-sections at line-side at AWG cables single or multi-stranded temperature of the conductor for supply maximum permissible material of the conductor for supply	Screw-type terminals 35 35 lbf·in 1x (14 2 AWG) 75 °C AL or CU
tightening torque [lbf-in] for supply type of connectable conductor cross-sections at line-side at 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	Screw-type terminals 35 35 lbf·in 1x (14 2 AWG) 75 °C AL or CU Screw-type terminals
tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side at 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 at AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder	Screw-type terminals 35 35 lbf-in 1x (14 2 AWG) 75 °C AL or CU Screw-type terminals 35 35 lbf-in
tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side at 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 at AWG cables for load-side outgoing feeder single or multi-stranded	Screw-type terminals 35 35 lbf·in 1x (14 2 AWG) 75 °C AL or CU Screw-type terminals 35 35 lbf·in 1x (14 2 AWG)
tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side at 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 at AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder maximum permissible	Screw-type terminals 35 35 lbf·in 1x (14 2 AWG) 75 °C AL or CU Screw-type terminals 35 35 lbf·in 1x (14 2 AWG) 75 °C
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tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side at 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 at 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 at AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum	Screw-type terminals 35 35 lbf·in 1x (14 2 AWG) 75 °C AL or CU Screw-type terminals 35 35 lbf·in 1x (14 2 AWG) 75 °C AL or CU Screw-type terminals 5 2 lbf·in
tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side at 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 at 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 at AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible	Screw-type terminals 35 35 lbf·in 1x (14 2 AWG) 75 °C AL or CU Screw-type terminals 35 35 lbf·in 1x (14 2 AWG) 75 °C AL or CU Screw-type terminals 5 12 lbf·in 2x (16 12 AWG)
tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side at 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 at 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 at AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible  material of the conductor at magnet coil	Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C  AL or CU Screw-type terminals 5 12 lbf-in 2x (16 12 AWG)
tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side at 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 at 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 at AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible  material of the conductor at magnet coil	Screw-type terminals 35 35 lbf-in 1x (14 2 AWG) 75 °C AL or CU Screw-type terminals 35 35 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
tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side at 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 at 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 at AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible  material of the conductor at magnet coil	Screw-type terminals 35 35 lbf-in 1x (14 2 AWG) 75 °C AL or CU Screw-type terminals 35 35 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

maximum permissible material of the conductor at contactor for auxiliary contacts  type of electrical connection at overload relay for auxiliary contacts  tightening torque [lbf-in] at overload relay for auxiliary contacts  type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts single or multi-stranded  temperature of the conductor at overload relay for auxiliary contacts maximum permissible  material of the conductor at overload relay for auxiliary contacts  Short-circuit current rating  design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit turrent breaking capacity (Icu)  • at 240 V  • at 480 V  • at 600 V		
type of electrical connection at overload relay for auxiliary contacts  tightening torque [lbf-in] at overload relay for auxiliary contacts  type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts single or multi-stranded  temperature of the conductor at overload relay for auxiliary contacts maximum permissible  material of the conductor at overload relay for auxiliary contacts  Short-circuit current rating  design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit trip  maximum short-circuit current breaking capacity (lcu)  • at 240 V  • at 480 V  Screw-type terminals  7 10 lbf-in  2x (20 14 AWG)  75 °C  CU  CU  Thermal magnetic circuit breaker	maximum permissible	
tightening torque [lbf-in] at overload relay for auxiliary contacts  type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts single or multi-stranded  temperature of the conductor at overload relay for auxiliary contacts maximum permissible  material of the conductor at overload relay for auxiliary contacts  Short-circuit current rating  design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit trip  maximum short-circuit current breaking capacity (Icu)  • at 240 V  • at 480 V  10 kA	material of the conductor at contactor for auxiliary contacts	CU
type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts single or multi-stranded  temperature of the conductor at overload relay for auxiliary contacts maximum permissible  material of the conductor at overload relay for auxiliary contacts  Short-circuit current rating  design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit trip  maximum short-circuit current breaking capacity (Icu)  • at 240 V  • at 480 V  10 kA	· ·	Screw-type terminals
at AWG cables for auxiliary contacts single or multi-stranded  temperature of the conductor at overload relay for auxiliary contacts maximum permissible  material of the conductor at overload relay for auxiliary contacts  Short-circuit current rating  design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit trip  Thermal magnetic circuit breaker  maximum short-circuit current breaking capacity (Icu)  • at 240 V  • at 480 V  10 kA	tightening torque [lbf·in] at overload relay for auxiliary contacts	7 10 lbf-in
contacts maximum permissible 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  design of the short-circuit trip  Thermal magnetic circuit breaker  maximum short-circuit current breaking capacity (Icu)  • at 240 V  • at 480 V  10 kA		2x (20 14 AWG)
Short-circuit current rating  design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit trip  maximum short-circuit current breaking capacity (Icu)  • at 240 V  • at 480 V  10 kA		75 °C
design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit trip  maximum short-circuit current breaking capacity (Icu)  • at 240 V  • at 480 V  10 kA	material of the conductor at overload relay for auxiliary contacts	CU
circuit required  design of the short-circuit trip  maximum short-circuit current breaking capacity (Icu)  • at 240 V  • at 480 V  10 kA	Short-circuit current rating	
maximum short-circuit current breaking capacity (Icu)  • at 240 V  • at 480 V  10 kA	· ·	10kA@600V (Class H or K); 100kA@600V (Class R or J)
● at 240 V 14 kA ● at 480 V 10 kA	design of the short-circuit trip	Thermal magnetic circuit breaker
• at 480 V 10 kA	maximum short-circuit current breaking capacity (Icu)	
	• at 240 V	14 kA
• at 600 V	• at 480 V	10 kA
	• at 600 V	10 kA
certificate of suitability NEMA ICS 2; UL 508; CSA 22.2, No.14	certificate of suitability	NEMA ICS 2; UL 508; CSA 22.2, No.14
Further information	Further information	

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

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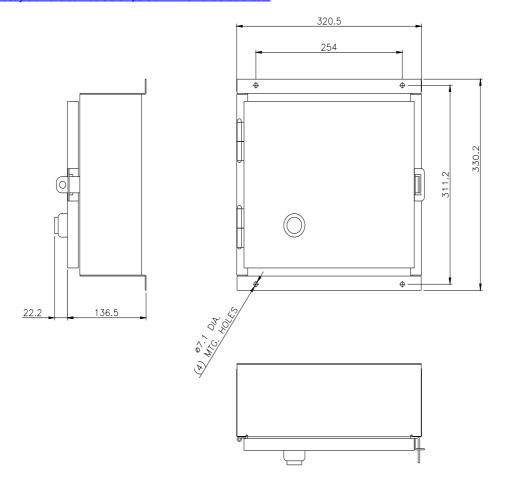
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/us/Catalog/product?mlfb=US2:22DUD320G

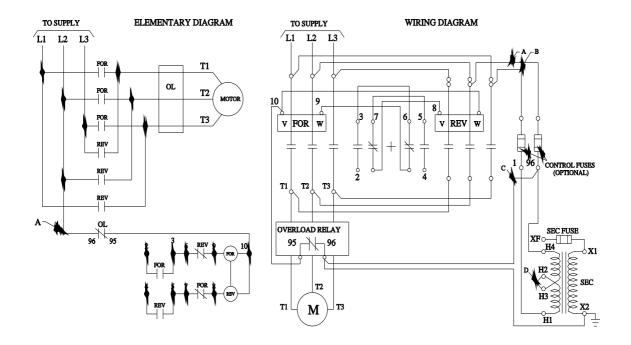
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

https://support.industry.siemens.com/cs/US/en/ps/US2:22DUD3200

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Certificates/approvals
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