## SIEMENS

## Data sheet

## US2:22DUE32AA



Reversing motor starter Size 1 Three phase full voltage Solid-state overload relay OLRelay amp range 10-40a 110-120/220-240VAC 60HZ coil Non-combination type Enclosure type (open)

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]	6 lb
Height x Width x Depth [in]	7.69 × 10.5 × 3.92 in
touch protection against electrical shock	Not finger-safe
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	
during storage	-30 +65 °C
during operation	-20 +40 °C
country of origin	Mexico
Horsepower ratings	
yielded mechanical performance [hp] for 3-phase AC motor	
• at 200/208 V rated value	7.5 hp
• at 220/230 V rated value	7.5 hp
• at 460/480 V rated value	0 hp
• at 575/600 V rated value	0 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	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 60 Hz rated value	110 240 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	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	Yes
<ul> <li>overload protection</li> <li>phase failure detection</li> </ul>	Yes
asymmetry detection	Yes
ground fault detection	Yes
test function	Yes
external reset	No
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	10 40 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)	
with single-phase operation at AC rated value	600 V
with multi-phase operation at AC rated value	300 V
Enclosure	
degree of protection NEMA rating	Open device (no enclosure)
design of the housing	Open device (no enclosure) NA
design of the housing Mounting/wiring	NA
design of the housing Mounting/wiring mounting position	NA Vertical
design of the housing Mounting/wiring mounting position fastening method	NA Vertical Surface mounting and installation
design of the housing Mounting/wiring mounting position fastening method type of electrical connection for supply voltage line-side	NA Vertical Surface mounting and installation Screw-type terminals
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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	NA Vertical Surface mounting and installation Screw-type terminals 35 35 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	NA Vertical Surface mounting and installation Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)
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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	NA Vertical Surface mounting and installation Screw-type terminals 35 35 lbf-in 1x (14 2 AWG) 75 °C AL or CU Screw-type terminals 35 35 lbf-in
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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         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	NA         Vertical         Surface mounting and installation         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         35 35 lbf-in         1x (14 2 AWG)         75 °C         AL or CU         Screw-type terminals
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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         tightening torque [lbf-in] at magnet coil         type of connectable conductor cross-sections of magnet coil for         AWG cables single or multi-stranded	NA         Vertical         Surface mounting and installation         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         35 35 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	NA         Vertical         Surface mounting and installation         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         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
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	NA         Vertical         Surface mounting and installation         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         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
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         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 electrical connection for auxiliary contacts	NA         Vertical         Surface mounting and installation         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         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
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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 cross-sections of magnet coil for         AWG cables single or multi-stranded         temperature of the conductor for load-side outgoing feeder         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 electrical connection for auxiliary contacts         type of electrical connection for auxiliary contacts         tightening to	NA Vertical Surface mounting and installation Screw-type terminals $35 \dots 35$ lbf in $1x (14 \dots 2 AWG)$ 75 °C AL or CU Screw-type terminals $35 \dots 35$ lbf in $1x (14 \dots 2 AWG)$ 75 °C AL or CU Screw-type terminals $5 \dots 12$ lbf in $2x (16 \dots 12 AWG)$ 75 °C CU Screw-type terminals $10 \dots 15$ lbf in $1x (12 AWG), 2x (16 \dots 14 AWG), 2x (18 \dots 16 AWG)$
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 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 electrical connection for auxiliary contacts         type of electrical connection for auxiliary contacts         type of electrical connection for auxiliary contacts	NA Vertical Surface mounting and installation 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 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	
	Thermal magnetic circuit breaker
circuit required	-
circuit required design of the short-circuit trip	-
circuit required design of the short-circuit trip maximum short-circuit current breaking capacity (Icu)	Thermal magnetic circuit breaker
circuit required design of the short-circuit trip maximum short-circuit current breaking capacity (Icu) • at 240 V	Thermal magnetic circuit breaker 14 kA
circuit required design of the short-circuit trip maximum short-circuit current breaking capacity (Icu) • at 240 V • at 480 V	Thermal magnetic circuit breaker 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=US2:22DUE32AA

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

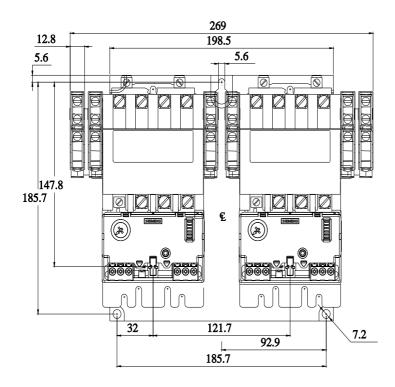
https://support.industry.siemens.com/cs/US/en/ps/US2:22DUE32AA

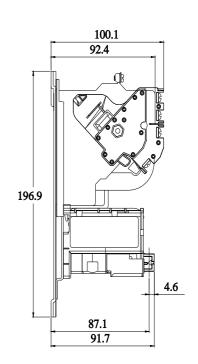
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

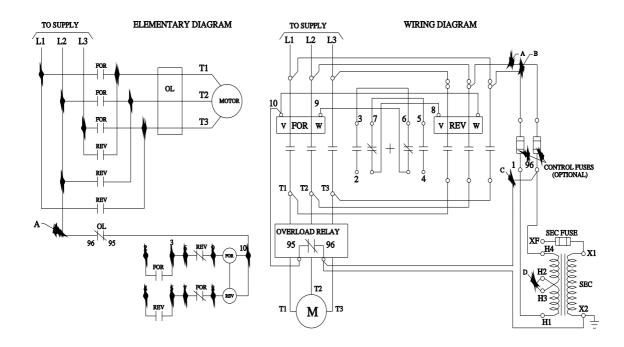
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=US2:22DUE32AA&lang=en

Certificates/approvals

https://support.industry.siemens.com/cs/US/en/ps/US2:22DUE32AA/certificate







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