SIEMENS

Data sheet

US2:22DUD32FF



Reversing motor starter, Size 1, Three phase full voltage, Solid-state overload relay, OLR amp range 5.5-22A, 110V 50Hz / 120V 60Hz coil, Non-combination type, Enclosure type 4X fiberglass, Water/dust tight noncorrosive, Standard width enclosure

product brand name Class 22 design of the product feature ESP200 overload relay General technical data ESP200 overload relay General technical data ESP200 overload relay General technical data Installation altitude [II] at height above sea level maximum Installation altitude [II] at height above sea level maximum 6800 ft armbient temperature [IF] -22 +149 "F • during storage -22 +149 "F • during storage -30 +65 °C • during operation -20 +40 "C country of origin USA Horsepower ratings -30 +65 °C • during vorage -30 +65 °C • at 200/208 V rated value 3 hp • at 575/600 V rated value 10 hp • size of contactor number of NO contacts for main contacts		
special product feature ESP200 overload relay General technical data	product brand name	Class 22
General technical data 17 lb Weight [b] 17 lb Height x Width x Depth [in] 24 × 15 × 7 in Start Sta	design of the product	Full-voltage reversing motor starter
weight [lb] 17 lb Height x Widh x Depth [in] 24 × 15 × 7 in touch protection against electrical shock NA for enclosed products installation altitude [lt] at height above sea level maximum 6660 ft ambient temperature ['F] - 4 +104 °F • during storage -22 +149 °F • during operation -4 +104 °F ambient temperature - 30 +65 °C • during operation -20 +40 °C country of origin USA Hosepower ratings yielded mechanical performance [hp] for 3-phase AC motor - at 200/208 V rated value 3 hp • at 220/208 V rated value 3 hp • at 200/208 V rated value 10 hp • at 460/480 V rated value 10 hp • at 575/600 V rated value 10 hp size of contactor NEMA controller size 1 number of NC contacts for main current circuit at AC at 60 Hz 600 V maximum -gerating voltage for main current at AC at 60 Hz 600 V maximum 27 A 10000000 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary con	special product feature	ESP200 overload relay
Height X Width x Depth [in] 24 × 15 × 7 in touch protection against electrical shock NA for enclosed products installation altitude [ft] at height above sea level maximum 6660 ft ambient temperature [°F] - • during operation -4+104 °F ambient temperature -22+49 °F • during operation -4+00 °C country of origin USA Horsepower ratings -20+40 °C yielded mechanical performance [hp] for 3-phase AC -20+40 °C motor • at 2200/208 V rated value 3 hp • at 2200/208 V rated value 3 hp • at 240/480 V rated value 10 hp • at 460/480 V rated value 10 hp • at 460/480 V rated value 3 • at 460/480 V rated value 10 hp • at 575/600 V rated value 10 hp contactor 10 hp eitar for main contracts 3 operating voltage for main current circuit at AC at 60 Hz maximum 600 V operating voltage for main current circuit at AC at 60 Hz maximum 1 operational current at AC at 600 V rated value	General technical data	
Used protection against electrical shock NA for enclosed products installation altitude [ft] at height above sea level maximum 6560 ft ambient temperature ['F]	weight [lb]	17 lb
installation altitude [ft] at height above sea level maximum 6560 ft ambient temperature ['F] -22 +149 °F • during operation -4 +104 °F ambient temperature -30 +65 °C • during operation -20 +40 °C country of origin USA Horsepower ratings yielded mechanical performance [hp] for 3-phase AC motor • at 220/230 V rated value 3 hp • at 220/230 V rated value 3 hp • at 457/600 V rated value 10 hp • at 457/600 V rated value 10 hp • at 575/600 V rated value 3 operational current at AC at 600 Hz 3 operational current at AC at 600 V rated value 27 A mechanical service life (switching cycles) of the main contacts to for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of total auxiliary contacts of contactor according to U. 10A@	Height x Width x Depth [in]	24 × 15 × 7 in
ambient temperature ['F] -22 +149 °F • during storage -22 +149 °F • during storage -30 +65 °C • during operation -20 +40 °F ambient temperature -20 +40 °C • during operation -20 +40 °C country of origin USA Horsepower ratings -yielded mechanical performance [hp] for 3-phase AC wolor • at 200/208 V rated value 3 hp • at 200/208 V rated value 3 hp • at 400/480 V rated value 10 hp • at 4575/600 V rated value 10 hp • at 575/600 V rated value 10 hp • contactor 0 contacts for main contacts 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 number of NC contacts at contactor for auxiliary contacts 0 number of NC contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary con	touch protection against electrical shock	NA for enclosed products
	installation altitude [ft] at height above sea level maximum	6560 ft
• during operation -4 +104 °F ambient temperature -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 220/208 V rated value 3 hp • at 460/480 V rated value 10 hp • at 55/600 V rated value 10 hp • at 55/600 V rated value 3 operating voltage for main contacts 3 operating voltage for main contacts 3 operating voltage for main current circuit at AC at 60 Hz maximum 10000000 operational current at AC at 600 V rated value 27 A mechanical service life (switching cycles) of the main contacts typical 0 Auxiliary contacts 0 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts<	ambient temperature [°F]	
ambient temperature	 during storage 	-22 +149 °F
• 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 4575/600 V rated value 10 hp 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 (switching cycles) of the main contacts typical 10000000 Auxiliary contact 0 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary	during operation	-4 +104 °F
• 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 220/230 V rated value 10 hp • at 460/480 V rated value 10 hp • at 575/600 V rated value 10 hp • at 575/600 V rated value 10 hp 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 (switching cycles) of the main contacts typical 10000000 Auxiliary contact 0 number of NC contacts at contactor for auxiliary contacts 0 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 <t< td=""><td>ambient temperature</td><td></td></t<>	ambient temperature	
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 220/230 V rated value 10 hp • at 460/480 V rated value 10 hp • at 575/600 V rated value 10 hp contactor NEMA controller size 1 number of NO contacts for main contacts 3 operating voltage for main current circuit at AC at 60 Hz 600 V maximum 27 A operational current at AC at 600 V rated value 27 A mechanical service life (switching cycles) of the main contacts 10000000 Auxiliary contact 0 number of NC contacts at contactor for auxiliary contacts 0 number of NC contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1	 during storage 	-30 +65 °C
Horsepower ratings yleided 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 450/00 V rated value 10 hp • at 450/00 V rated value 10 hp • at 55/600 V rated value 10 hp 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 (switching cycles) of the main contacts typical 10000000 Auxiliary contact 0 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of total auxiliary contacts of contactor according to UL 20 contact rating of auxiliary contacts of contactor according to UL 8 contact rating of auxiliary contacts of contactor according to UL 10A@600VAC (A600), 5A@600VDC	during operation	-20 +40 °C
yielded mechanical performance [hp] for 3-phase AC motor at 200/208 V rated value 3 hp • 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 55/600 V rated value 10 hp 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 (switching cycles) of the main contacts typical 10000000 Auxiliary contact 0 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of total auxiliary contacts of contactor according to UL 10A@600VAC (A600), 5A@600VDC (P600) Coil toU 10A@600VAC (A600), 5A@600VDC (P600)	country of origin	USA
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 460/480 V rated value 10 hp • at 575/600 V rated value 10 hp contactor NEMA controller size 1 number of NO contacts for main contacts 3 operating voltage for main current circuit at AC at 60 Hz 600 V maximum 600 V operational current at AC at 600 V rated value 27 A mechanical service life (switching cycles) of the main contacts typical 10000000 Auxiliary contact 0 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of total auxiliary contacts of contactor according to UL 8 contact rating of auxiliary contacts of contactor according to UL 10A@600VAC (A600), 5A@600VDC (P600) coil	Horsepower ratings	
• at 220/230 V rated value 3 hp • at 460/480 V rated value 10 hp • at 575/600 V rated value 10 hp • at 575/600 V rated value 10 hp Contactor NEMA controller size 1 number of NO contacts for main contacts 3 operating voltage for main current circuit at AC at 60 Hz 600 V maximum 600 V operational current at AC at 600 V rated value 27 A mechanical service life (switching cycles) of the main contacts typical 10000000 Auxiliary contacts 0 number of NC contacts at contactor for auxiliary contacts 0 number of NC contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of total auxiliary contacts of contactor according to UL 10A@600VAC (A600), 5A@600VDC (P600) Coil AC		
• at 460/480 V rated value 10 hp • at 575/600 V rated value 10 hp Contactor 10 hp 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 600 V maximum 27 A operational current at AC at 600 V rated value 27 A mechanical service life (switching cycles) of the main contacts typical 10000000 Auxiliary contact 0 number of NO contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 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 AC	• at 200/208 V rated value	3 hp
• at 575/600 V rated value 10 hp Contactor size of contactor number of NO contacts for main contacts 3 operating voltage for main current circuit at AC at 60 Hz 600 V maximum 600 V operational current at AC at 600 V rated value 27 A mechanical service life (switching cycles) of the main contacts typical 10000000 Auxiliary contact 0 number of NC contacts at contactor for auxiliary contacts 0 number of NC contacts at contactor for auxiliary contacts 1 number of NC contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of total auxiliary contacts of contactor according to UL 10A@600VAC (A600), 5A@600VDC (P600) Coil type of voltage of the control supply voltage AC	• at 220/230 V rated value	3 hp
Contactor NEMA controller size 1 number of NO contacts for main contacts 3 operating voltage for main current circuit at AC at 60 Hz 600 V maximum 600 V operational current at AC at 600 V rated value 27 A mechanical service life (switching cycles) of the main contacts typical 10000000 Auxiliary contact 0 number of NC contacts at contactor for auxiliary contacts 0 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 number of total auxiliary contacts of contactor according to UL 10A@600VAC (A600), 5A@600VDC (P600) Coil 4XC	• at 460/480 V rated value	10 hp
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 600 V maximum 0 operational current at AC at 600 V rated value 27 A mechanical service life (switching cycles) of the main contacts typical 10000000 Auxiliary contact 0 number of NC contacts at contactor for auxiliary contacts 0 number of NO contacts at contactor for auxiliary contacts 1 number of NO contacts at contactor for auxiliary contacts 1 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 Kpe of voltage of the control supply voltage AC	 at 575/600 V rated value 	10 hp
number of NO contacts for main contacts 3 operating voltage for main current circuit at AC at 60 Hz 600 V maximum 600 V operational current at AC at 600 V rated value 27 A mechanical service life (switching cycles) of the main contacts typical 10000000 Auxiliary contact 0 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 AC	Contactor	
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 (switching cycles) of the main contacts typical 10000000 Auxiliary contact 0 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 AC	size of contactor	NEMA controller size 1
maximum operational current at AC at 600 V rated value 27 A mechanical service life (switching cycles) of the main contacts typical 10000000 Auxiliary contact 10000000 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 4C	number of NO contacts for main contacts	3
operation of the original service life (switching cycles) of the main contacts typical 10000000 Auxiliary contact 10000000 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 4 type of voltage of the control supply voltage AC		600 V
contacts typical 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 4C	operational current at AC at 600 V rated value	27 A
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 4 type of voltage of the control supply voltage AC		1000000
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	Auxiliary contact	
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	number of NC contacts at contactor for auxiliary contacts	0
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	number of NO contacts at contactor for auxiliary contacts	1
to UL Coil type of voltage of the control supply voltage AC	number of total auxiliary contacts maximum	8
type of voltage of the control supply voltage AC		10A@600VAC (A600), 5A@600VDC (P600)
	Coil	
control supply voltage	type of voltage of the control supply voltage	AC
	control supply voltage	

• at AC at 50 Hz rated value	110 V
at AC at 60 Hz rated value	120 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	CLASS 5 / 10 / 20 (factory set) / 30
adjustable current response value current of the current-	5.5 22 A
dependent overload release	
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	4X, fiber glass
design of the housing	dustproof, waterproof & resistant to corrosion
Mounting/wiring	
mounting position	Vertical
fastening method	Surface mounting and installation
type of electrical connection for supply voltage line-side	Screw-type terminals
tightening torque [lbf·in] for supply	35 35 lbf·in
type of connectable conductor cross-sections at line-side	1x (14 2 AWG)
at AWG cables single or multi-stranded temperature of the conductor for supply maximum	75 °C
permissible	
material of the conductor for supply	AL or CU
type of electrical connection for load-side outgoing feeder	Screw-type terminals
tightening torque [lbf-in] for load-side outgoing feeder	35 35 lbf in
type of connectable conductor cross-sections at AWG cables for load-side outgoing feeder single or multi- stranded	1x (14 2 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	2x (16 12 AWG)

coil at AWG cables single or multi-stranded		
temperature of the conductor at magnet coil maximum permissible	75 °C	
material of the conductor at magnet coil	CU	
type of electrical connection for auxiliary contacts	Screw-type terminals	
tightening torque [lbf·in] at contactor for auxiliary contacts	10 15 lbf·in	
type of connectable conductor cross-sections at contactor at AWG cables for auxiliary contacts single or multi- stranded	1x (12 AWG), 2x (16 14 AWG), 2x (18 16 AWG)	
temperature of the conductor at contactor for auxiliary contacts maximum permissible	75 °C	
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	10kA@600V (Class H or K); 100kA@600V (Class R or J)	
design of the short-circuit trip	Thermal magnetic circuit breaker	
breaking capacity maximum short-circuit current (Icu)		
• at 240 V	14 kA	
● at 480 V	10 kA	
• at 600 V	10 kA	
certificate of suitability	NEMA ICS 2; UL 508; CSA 22.2, No.14	
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=US2:22DUD32FF		
Service&Support (Manuals, Certificates, Characteristics,		
https://support.industry.siemens.com/cs/US/en/ps/US2:22DL		
Image database (product images, 2D dimension drawing http://www.automation.siemens.com/bilddb/cax_de.aspx?mlf	is, 3D models, device circuit diagrams, EPLAN macros,) fb=US2:22DUD32FF⟨=en	
Certificates/approvals https://support.industry.siemens.com/cs/US/en/ps/US2:22DL	ID32EE/cortificate	
1111/93/190/100111100911/1919101110100/11/1/9/092.2200032FF/Cettinicate		

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