SIEMENS

Data sheet US2:84FUF950MF



Duplex starter w/o alternator, Size 2, Three phase full voltage, Solid-state overload relay, OLR amp range 13-52A, 110V 50Hz / 120V 60Hz coil, Combination type, Two 50A circuit breakers, Enclosure NEMA type 12, Dust/drip proof for indoors

Figure similar

design of the product special product deature ESP200 overload relay Seperal technical data Weight [Ib]	product brand name	Class 84
weight [Ib] 70 lb Height x Width x Depth [in] 56 x 29 x 10 in touch protection against electrical shock NA for enclosed products installation altitude [ft] at height above sea level maximum ambient temperature ["F] during storage -22 +149 "F	design of the product	Duplex controller with two MCPs without alternator
weight [ib] 70 lb Helght x Width x Depth [in] 56 x 29 x 10 in touch protection against electrical shock Installation altitude [ft] at height above sea level maximum ambient temperature ["F] • during storage - 22 +149 "F ambient temperature • during operation - 4 +104 "F ambient temperature • during operation - 20 +65 "C country of origin USA Horsepower ratings yielded mechanical performance [hp] for 3-phase AC motor • at 200/208 V rated value 10 hp • at 220/230 V rated value 25 hp • at 460/480 V rated value 25 hp • at 575/600 V rated value 25 hp Size of contactor number of NC contacts for main contacts operation contacts by pical operational current at AC at 600 V rated value 45 A mechanical service life (switching cycles) of the main contacts stryloid number of NC contacts at contactor for auxiliary contacts number of NC contacts at contacts for auxiliary contacts number of NC contacts at contacts for auxiliary contacts number of NC contacts at contacts for auxiliary contacts number of NO contacts at contact for auxiliary contacts number of NC contacts at contact for auxiliary contacts number of NC contacts at contact for auxiliary contacts number of NC contacts at contact for auxiliary contacts number of NC contacts at contacts of contacts number of NC contacts at contact of or auxiliary contacts number of NC contacts number of NC contacts number of NC contacts num	special product feature	ESP200 overload relay
Height x Width x Depth [in] touch protection against electrical shock installation altitude [ft] at height above sea level maximum ambient temperature [Ft] • during storage • during operation ambient temperature • during operation • during storage • during operation • during operation country of origin Horsepower ratings yielded mechanical performance [hp] for 3-phase AC motor • at 200/208 V rated value • at 420/208 V rated value • at 460/480 V rated value • at 575/600 V	General technical data	
touch protection against electrical shock installation altitude [ft] at height above sea level maximum ambient temperature [°F] • during storage • during operation abient temperature • during storage • during operation abient temperature • during storage • during operation - 20 +40 °C country of origin Horsopower ratings yielded mechanical performance [hp] for 3-phase AC motor • at 200/208 V rated value • at 220/230 V rated value • at 220/230 V rated value • at 460/480 V rated value • at 460/480 V rated value • at 575/600 V rated value • at 575/600 V rated value • at 576/600 V rated value Operating voltage for main current circuit at AC at 60 Hz maximum	weight [lb]	70 lb
Installation altitude [ft] at height above sea level maximum ambient temperature [°F] • during storage • during operation -4+104 °F ambient temperature • during storage • during operation -20+65 °C -20+40 °C country of origin Horsepower ratings yielded mechanical performance [hp] for 3-phase AC motor • at 200/208 V rated value • at 220/230 V rated value • at 450/480 V rated value • at 450/480 V rated value • at 575/600 V rated value 25 hp Contactor size of contactor number of NO contacts for main contacts operating voltage for main current circuit at AC at 60 Hz maximum operational current at AC at 600 V rated value nechanical service life (switching cycles) of the main contacts typical Auxiliary contact number of NC contacts at contactor for auxiliary contacts number of NC contacts at contactor f	Height x Width x Depth [in]	56 × 29 × 10 in
ambient temperature [*F] • during storage • during operation ambient temperature • during storage • during operation • during storage • during operation • 20 +65 °C • 20 +40 °C Country of origin Horsepower ratings yielded mechanical performance [hp] for 3-phase AC motor • at 200/208 V rated value • at 220/230 V rated value • at 460/480 V rated value • at 575/600 V rated value • be at 575/600 V rated value • at 600 V Size of contactor number of NO contacts for main contacts operating voltage for main current circuit at AC at 60 Hz maximum operational current at AC at 600 V rated value mechanical service life (switching cycles) of the main contacts typical Auxiliary contact number of NO contacts at contactor for auxiliary contacts number of NO contacts at contactor for auxiliary contacts number of NO contacts at contactor for auxiliary contacts number of NO contacts at contactor for auxiliary contacts number of NO contacts at contactor for auxiliary contacts number of NO contacts at contactor for auxiliary contacts number of NO contacts at contactor for auxiliary contacts number of No contacts at contactor for auxiliary contacts number of voltage of the control supply voltage AC	touch protection against electrical shock	NA for enclosed products
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during operation ambient temperature during storage during operation country of origin USA Horsepower ratings yielded mechanical performance [hp] for 3-phase AC motor at 220/208 V rated value at 220/230 V rated value at 460/480 V rated value at 460/480 V rated value at 575/600 V rated value at 575/600 V rated value at 575/600 V rated value size of contactor number of NO contacts for main contacts operating voltage for main current circuit at AC at 60 Hz maximum operational current at AC at 600 V rated value ap	ambient temperature [°F]	
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yielded mechanical performance [hp] for 3-phase AC motor • at 200/208 V rated value • at 220/230 V rated value • at 480/480 V rated value • at 575/600 V rated value 25 hp • at 4575/600 V rated value 25 hp Contactor size of contactor number of NO contacts for main contacts operating voltage for main current circuit at AC at 60 Hz maximum operational current at AC at 600 V rated value mechanical service life (switching cycles) of the main contacts typical Auxiliary contact number of NO contacts at contactor for auxiliary contacts number of NO contacts at contactor for auxiliary contacts number of total auxiliary contacts maximum 7 contact rating of auxiliary contacts of contactor according to UL Coil type of voltage of the control supply voltage AC	during operation	-20 +40 °C
yielded mechanical performance [hp] for 3-phase AC motor • at 200/208 V rated value • at 220/230 V rated value • at 460/480 V rated value • at 460/480 V rated value • at 575/600 V rated value • 25 hp • at 575/600 V rated value Contactor size of contactor number of NO contacts for main contacts operating voltage for main current circuit at AC at 60 Hz maximum operational current at AC at 600 V rated value ### ### ### ### ### ### ### ### ### #	country of origin	USA
motor • at 200/208 V rated value • at 220/230 V rated value • at 460/480 V rated value • at 460/480 V rated value • at 460/480 V rated value 25 hp • at 575/600 V rated value 25 hp Contactor size of contactor number of NO contacts for main contacts operating voltage for main current circuit at AC at 60 Hz maximum operational current at AC at 600 V rated value mechanical service life (switching cycles) of the main contacts typical Auxiliary contact number of NC contacts at contactor for auxiliary contacts number of NC contacts at contactor for auxiliary contacts number of total auxiliary contacts maximum contact trating of auxiliary contacts of contactor according to UL Coil type of voltage of the control supply voltage AC	Horsepower ratings	
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• at 575/600 V rated value Contactor size of contactor number of NO contacts for main contacts operating voltage for main current circuit at AC at 60 Hz maximum operational current at AC at 600 V rated value mechanical service life (switching cycles) of the main contacts typical Auxiliary contact number of NC contacts at contactor for auxiliary contacts number of total auxiliary contacts at contactor for auxiliary contacts number of total auxiliary contacts of contactor according to UL Coil type of voltage of the control supply voltage NEMA controller size 2 3 600 V 10000000 45 A 100000000 10000000 100000000 1000000	• at 220/230 V rated value	15 hp
size of contactor size of contactor number of NO contacts for main contacts operating voltage for main current circuit at AC at 60 Hz maximum operational current at AC at 600 V rated value mechanical service life (switching cycles) of the main contacts typical Auxiliary contact number of NC contacts at contactor for auxiliary contacts number of NO contacts at contactor for auxiliary contacts number of total auxiliary contacts maximum contact rating of auxiliary contacts of contactor according to UL Coil type of voltage of the control supply voltage NEMA controller size 2 NEMA controller size 2 1000 V 1000 V 1000 V 10000000 100000000 10000000000	• at 460/480 V rated value	25 hp
size of contactor number of NO contacts for main contacts operating voltage for main current circuit at AC at 60 Hz maximum operational current at AC at 600 V rated value mechanical service life (switching cycles) of the main contacts typical Auxiliary contact number of NC contacts at contactor for auxiliary contacts number of NO contacts at contactor for auxiliary contacts number of total auxiliary contacts maximum contact rating of auxiliary contacts of contactor according to UL Coil type of voltage of the control supply voltage NEMA controller size 2 3 600 V 6000 V 100000000 100000000 100000000 1000000	at 575/600 V rated value	25 hp
number of NO contacts for main contacts operating voltage for main current circuit at AC at 60 Hz maximum operational current at AC at 600 V rated value operational service life (switching cycles) of the main contacts typical Auxiliary contact number of NC contacts at contactor for auxiliary contacts number of NO contacts at contactor for auxiliary contacts number of total auxiliary contacts maximum contact rating of auxiliary contacts of contactor according to UL Coil type of voltage of the control supply voltage 3 600 V 600	Contactor	
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maximum operational current at AC at 600 V rated value mechanical service life (switching cycles) of the main contacts typical Auxiliary contact number of NC contacts at contactor for auxiliary contacts number of NO contacts at contactor for auxiliary contacts number of total auxiliary contacts maximum 7 contact rating of auxiliary contacts of contactor according to UL Coil type of voltage of the control supply voltage 45 A 10000000 10000000 100000000 1000000000	number of NO contacts for main contacts	3
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contacts typical Auxiliary contact number of NC contacts at contactor for auxiliary contacts number of NO contacts at contactor for auxiliary contacts number of total auxiliary contacts maximum contact rating of auxiliary contacts of contactor according to UL Coil type of voltage of the control supply voltage AC	operational current at AC at 600 V rated value	45 A
number of NC contacts at contactor for auxiliary contacts number of NO contacts at contactor for auxiliary contacts number of total auxiliary contacts maximum contact rating of auxiliary contacts of contactor according to UL Coil type of voltage of the control supply voltage 0 10 10 10 10 10 10 10 10 10 10 10 10	, , ,	10000000
number of NO contacts at contactor for auxiliary contacts number of total auxiliary contacts maximum contact rating of auxiliary contacts of contactor according to UL Coil type of voltage of the control supply voltage 1 10A@600VAC (A600), 5A@600VDC (P600) AC	Auxiliary contact	
number of total auxiliary contacts maximum contact rating of auxiliary contacts of contactor according to UL Coil type of voltage of the control supply voltage 7 10A@600VAC (A600), 5A@600VDC (P600) AC	number of NC contacts at contactor for auxiliary contacts	0
contact rating of auxiliary contacts of contactor according to UL Coil type of voltage of the control supply voltage 10A@600VAC (A600), 5A@600VDC (P600) 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	7
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	

a at DC retail value	0 0 0
at DC rated value at AC at 50 Hz rated value	0 0 V
at AC at 50 Hz rated value at AC at 60 Hz rated value	110 110 V
at AC at 60 Hz rated value land la	120 120 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- dependent overload release	13 52 A
tripping time at phase-loss 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 of the enclosure	NEMA Type 12
design of the housing	dustproof and drip-proof for indoor use
Circuit Breaker	dastproof and any proof for indoor asc
	Motor circuit protector (magnetic trip only)
type of the motor protection	Motor circuit protector (magnetic trip only) 50 A
operational current of motor circuit breaker rated value	
adjustable current response value current of instantaneous short-circuit trip unit	180 600 A
Mounting/wiring	
mounting position	Vertical
fastening method	Surface mounting and installation
type of electrical connection for supply voltage line-side	Box lug
type of connectable conductor cross-sections at line-side at AWG cables single or multi-stranded	1x (10 AWG 1/0 AWG)
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	45 45 lbf·in
type of connectable conductor cross-sections at AWG	1x (14 2 AWG)
cables for load-side outgoing feeder single or multi- stranded	(
cables for load-side outgoing feeder single or multi-	75 °C

maximum permissible	
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 AWG cables single or multi-stranded	2x (16 12 AWG)
temperature of the conductor at magnet coil maximum permissible	75 °C
material of the conductor at magnet coil	CU
type of electrical connection at contactor 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 short-circuit trip	Instantaneous trip circuit breaker
breaking capacity maximum short-circuit current (Icu)	
• at 240 V	100 kA
• at 480 V	100 kA
• at 600 V	25 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=US2:84FUF950MF

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

https://support.industry.siemens.com/cs/US/en/ps/US2:84FUF950MF

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=US2:84FUF950MF&lang=en

Certificates/approvals

https://support.industry.siemens.com/cs/US/en/ps/US2:84FUF950MF/certificate

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