



Duplex starter w/o alternator, Size 2 1/2, Three phase full voltage, Solid-state overload relay, OLR amp range 25-100A, 110V 50Hz / 120V 60Hz coil, Combination type, Two 100A circuit breakers, Enclosure NEMA type 12, Dust/drip proof for indoors

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| product brand name | Class 84 |
| design of the product | Duplex controller with two MCPs without alternator |
| special product feature | ESP200 overload relay; Half-size controller |
| General technical data | |
| weight [lb] | 70 lb |
| Height x Width x Depth [in] | 56 × 29 × 10 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 | |
| • 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 | 15 hp |
| • at 220/230 V rated value | 20 hp |
| • at 460/480 V rated value | 30 hp |
| • at 575/600 V rated value | 30 hp |
| Contactors | |
| size of contactor | Controller half size 2 1/2 |
| 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 | 60 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 | 7 |
| 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 DC rated value | 0 ... 0 V |
| • at AC at 50 Hz rated value | 110 ... 110 V |
| • at AC at 60 Hz rated value | 120 ... 120 V |
| holding power at AC minimum | 8.6 W |

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| 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 |
| percentual 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 | 25 ... 100 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 | |
| type of the motor protection | Motor circuit protector (magnetic trip only) |
| operational current of motor circuit breaker rated value | 100 A |
| adjustable current response value current of instantaneous short-circuit trip unit | 315 ... 1000 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 for 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 for 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 coil for 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 |

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| 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 for 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 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

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| design of the short-circuit trip | Instantaneous trip circuit breaker |
| maximum short-circuit current breaking capacity (I _{cu}) | |
| • 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=US2:84GUG950MF>

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

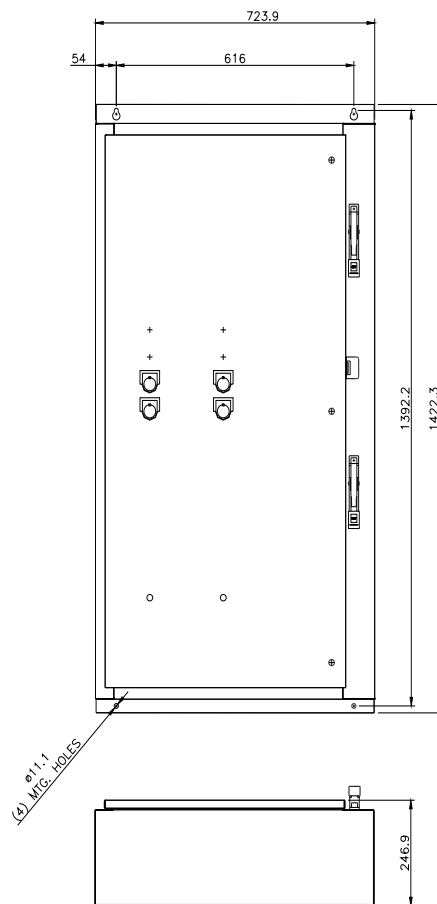
<https://support.industry.siemens.com/cs/US/en/ps/US2:84GUG950MF>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=US2:84GUG950MF&lang=en

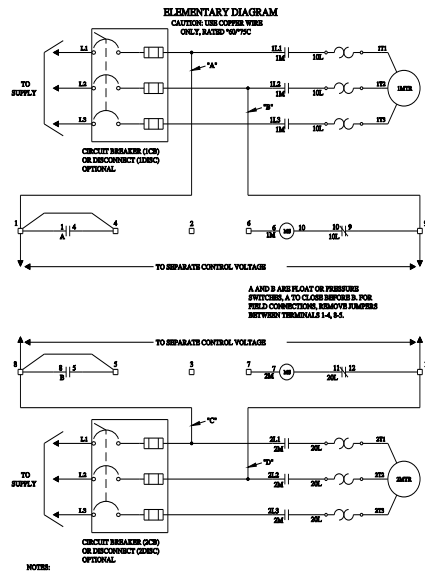
Certificates/approvals

<https://support.industry.siemens.com/cs/US/en/ps/US2:84GUG950MF/certificate>



SCHEMATIC DIAGRAM

Class 83 & 84 Duplex W/Manual Alternation Size 0-4



NOTE:
 A. FOR SEPARATE OR CPE CONTROL VOLTAGE SOURCE, REMOVE RAMPERS "A", "B", "C", AND "T" AND CONNECT THE DOTTED LINES OR TO 1 AND 2 CFF TERMINALS FOR FACTORY OR FIELD MODIFICATIONS.
 B. FOR PROTECTION OF INTERNAL CONTROL CIRCUIT CONDUCTORS IN ACCORDANCE WITH THE N.E.C., USE FUSE SET 08A084.
 C. TO USE THE CONTROLLER IN TWO REACTOR SWITCHING, RAMPERS BETWEEN THE FOLLOWING PAIRS OF TERMINALS 4-4, 5-5.

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last modified:

1/25/2022