



Duplex starter w/ alternator, Size 1 3/4, Three phase full voltage, Solid-state overload relay, OLR amp range 10-40A, 110V 50Hz / 120V 60Hz coil, Non-combination type, Enclosure NEMA type 12, Dust/drip proof for indoors

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| product brand name | Class 83 |
| design of the product | Duplex controller with alternator |
| special product feature | Half-size controller; ESP200 overload relay |
| General technical data | |
| weight [lb] | 40 lb |
| Height x Width x Depth [in] | 20 × 16 × 6 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 | 10 hp |
| • at 220/230 V rated value | 10 hp |
| • at 460/480 V rated value | 15 hp |
| • at 575/600 V rated value | 15 hp |
| Contactor | |
| size of contactor | Controller half size 1 3/4 |
| 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 | 40 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 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

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| product function | |
| <ul style="list-style-type: none"> • overload protection • phase failure detection • asymmetry detection • ground fault detection • test function • external reset | <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> |
| reset function | Manual, automatic and remote |
| adjustable current response value current of the current-dependent overload release | 10 ... 40 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 | |
| <ul style="list-style-type: none"> • at AC at 600 V • at DC at 250 V | <p>5 A</p> <p>1 A</p> |
| contact rating of auxiliary contacts of overload relay according to UL | 5A@600VAC (B600), 1A@250VDC (R300) |
| insulation voltage (Ui) | |
| <ul style="list-style-type: none"> • with single-phase operation at AC rated value • with multi-phase operation at AC rated value | <p>600 V</p> <p>300 V</p> |

Enclosure

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| degree of protection NEMA rating of the enclosure | NEMA 12 enclosure |
| design of the housing | dustproof and drip-proof for indoor use |

Mounting/wiring

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| 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 | 45 ... 45 lbf-in |
| type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded | 1x (14 ... 2 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 | Screw-type terminals |
| 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 |
| 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 |

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|---|----------------------|
| 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 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 |
| maximum short-circuit current breaking capacity (I _{cu}) | <ul style="list-style-type: none"> • 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

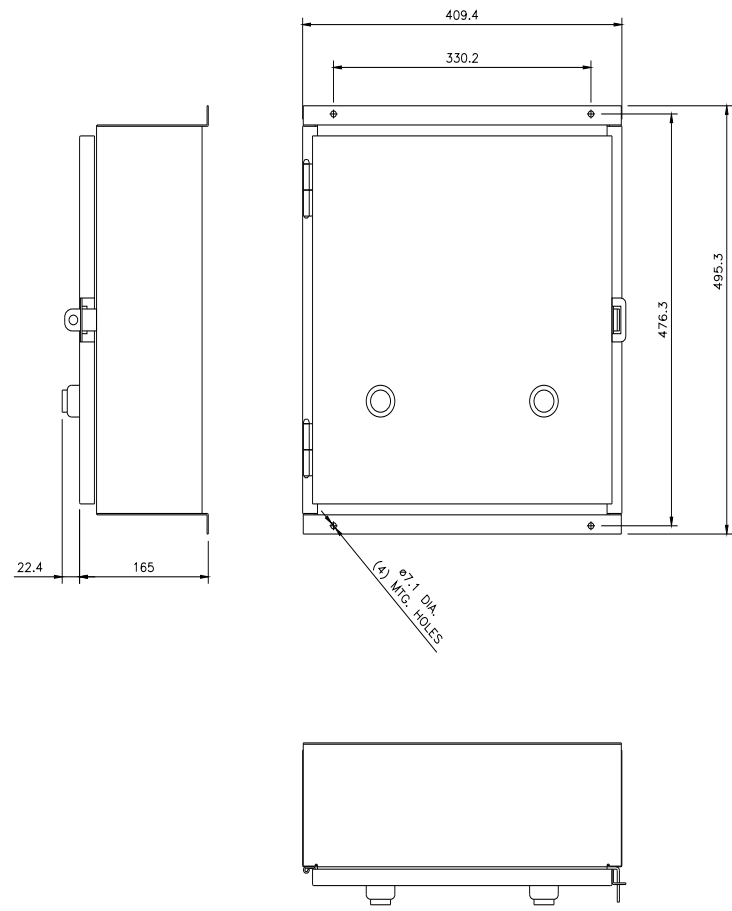
Industrial Controls - Product Overview (Catalogs, Brochures,...)
www.usa.siemens.com/iccatalog

Industry Mall (Online ordering system)
<https://mall.industry.siemens.com/mall/en/us/Catalog/product?mlfb=US2:83EUE920F>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
<https://support.industry.siemens.com/cs/US/en/ps/US2:83EUE920F>

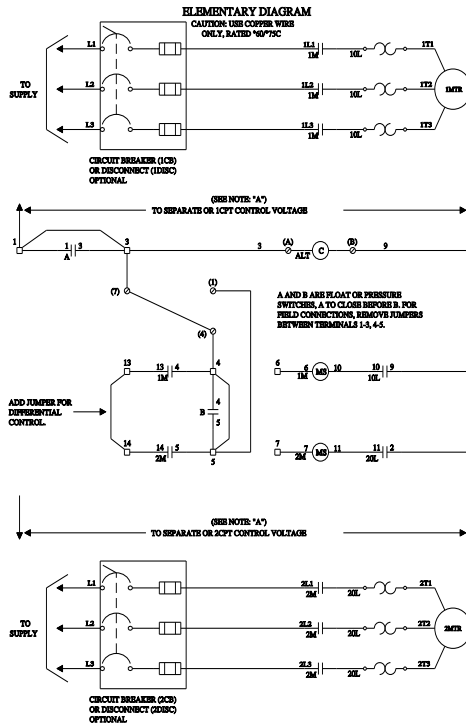
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=US2:83EUE920F&lang=en

Certificates/approvals
<https://support.industry.siemens.com/cs/US/en/ps/US2:83EUE920F/certificate>



SCHEMATIC DIAGRAM

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



- NOTES:**
- A. FOR SEPARATE OR CFT CONTROL VOLTAGE SOURCES, CONSULT THE DOTTED LINES OR TO 1 AND 3 CFT PRIMARIES THE FACTORY OR FIELD MODIFICATIONS.
 - B. FOR PROTECTION OF INTERNAL CONTROL CIRCUIT CONDUCTORS WITH THE N.E.C., USE FUSE KIT 496A/FM.
 - C. TO USE THIS CONTROLLER TWO SELECTOR SWITCHES, JUMPER BETWEEN THE FOLLOWING PAIRS OF TERMINALS 4-4, 5-7, AND 5-2.
 - D. FOR TWO POSITION SELECTOR SWITCHES, WIRE AS SHOWN ALSO ADD JUMPER BETWEEN TERMINALS 9-2.
 - E. SEPARATE SOURCE CONNECTIONS TO TERMINALS 8 AND 12 ARE REQUIRED ONLY WHEN THESE POSITION SELECTOR SWITCH IS BUILT IN.

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