



Figure similar

Duplex starter w/o alternator, Size 2, Three phase full voltage, Solid-state overload relay, OLR amp range 13-52A, 190-220/220-240V 50/60Hz coil, Combination type, Two 50A circuit breakers, Enclosure NEMA type 1, Indoor general purpose use

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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                              |
| <b>General technical data</b>   |  |
| 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  |
| <b>Horsepower ratings</b>   |  |
| yielded mechanical performance [hp] for 3-phase AC motor                |  |
| • at 200/208 V rated value  | 10 hp  |
| • at 220/230 V rated value  | 15 hp  |
| • at 460/480 V rated value  | 25 hp  |
| • at 575/600 V rated value  | 25 hp  |
| <b>Contactors</b>   |  |
| size of contactor   | NEMA controller size 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                          | 45 A   |
| mechanical service life (switching cycles) of the main contacts typical | 10000000   |
| <b>Auxiliary contact</b>  |  |
| 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)                |
| <b>Coil</b>   |  |
| type of voltage of the control supply voltage                           | AC   |
| control supply voltage  |  |

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| <ul style="list-style-type: none"> <li>• at DC rated value</li> </ul>   | 0 ... 0 V                                    |
| <ul style="list-style-type: none"> <li>• at AC at 50 Hz rated value</li> </ul>                                    | 190 ... 220 V                                |
| <ul style="list-style-type: none"> <li>• at AC at 60 Hz rated value</li> </ul>                                    | 220 ... 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 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                                 |
| <b>Overload relay</b>   |  |
| product function  |  |
| <ul style="list-style-type: none"> <li>• overload protection</li> </ul>   | Yes  |
| <ul style="list-style-type: none"> <li>• phase failure detection</li> </ul>                                       | Yes  |
| <ul style="list-style-type: none"> <li>• asymmetry detection</li> </ul>   | Yes  |
| <ul style="list-style-type: none"> <li>• ground fault detection</li> </ul>  | Yes  |
| <ul style="list-style-type: none"> <li>• test function</li> </ul>   | Yes  |
| <ul style="list-style-type: none"> <li>• external reset</li> </ul>  | 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   |  |
| <ul style="list-style-type: none"> <li>• at AC at 600 V</li> </ul>  | 5 A  |
| <ul style="list-style-type: none"> <li>• at DC at 250 V</li> </ul>  | 1 A  |
| 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"> <li>• with single-phase operation at AC rated value</li> </ul>                 | 600 V  |
| <ul style="list-style-type: none"> <li>• with multi-phase operation at AC rated value</li> </ul>                  | 300 V  |
| <b>Enclosure</b>  |  |
| degree of protection NEMA rating of the enclosure   | NEMA Type 1                                  |
| design of the housing   | indoors, usable on a general basis           |
| <b>Circuit Breaker</b>  |  |
| type of the motor protection  | Motor circuit protector (magnetic trip only) |
| operational current of motor circuit breaker rated value  | 50 A   |
| adjustable current response value current of instantaneous short-circuit trip unit                                | 180 ... 600 A                                |
| <b>Mounting/wiring</b>  |  |
| 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 cables for load-side outgoing feeder single or multi-stranded | 1x (14 ... 2 AWG)                            |
| temperature of the conductor for load-side outgoing feeder  | 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)  |                                     |
| <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 480 V</li> <li>• at 600 V</li> </ul> | 100 kA<br>100 kA<br>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](http://www.usa.siemens.com/iccatalog)

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/us/Catalog/product?mlfb=US2:84FUF95BMG>

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

<https://support.industry.siemens.com/cs/US/en/ps/US2:84FUF95BMG>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=US2:84FUF95BMG&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=US2:84FUF95BMG&lang=en)

**Certificates/approvals**

<https://support.industry.siemens.com/cs/US/en/ps/US2:84FUF95BMG/certificate>

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