## **SIEMENS**

Data sheet US2:84DUD95WDF

|  | Duplex starter w/o alternator Size 1 Three phase full voltage Solid-state overload relay OLR amp range 5.5-22A 110VAC 50Hz / 120VAC 60Hz Coil Combination type Two 30A disconnect switches Encl NEMA type 4X 304 S. Steel Water/dust tight non-corrosive |
|--|--|
| product brand name   | Class 84   |
| design of the product  | Duplex controller with two non-fusible disconnect switches without alternator  |
| special product feature  | ESP200 overload relay  |
| General technical data   |  |
| weight [lb]  | 70 lb  |
| Height x Width x Depth [in]  | 34 × 25 × 8 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   | 3 hp   |
| • at 220/230 V rated value   | 3 hp   |
| at 460/480 V rated value   | 10 hp  |
| at 575/600 V rated value   | 10 hp  |
| Contactor  |  |
| 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 maximum        | 600 V  |
| operational current at AC at 600 V rated value                           | 27 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  |
| 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-<br>dependent overload release   | 5.5 22 A   |
| tripping time at phase-loss maximum   | 3 s  |
| relative repeat accuracy  | 1 %  |
| 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)   |  |
| <ul> <li>with single-phase operation at AC rated value</li> </ul>   | 600 V  |
| <ul> <li>with multi-phase operation at AC rated value</li> </ul>  | 300 V  |
| Disconnect Switch   |  |
| response value of switch disconnector   | 30A / 600V   |
| design of fuse holder   | non-fusible  |
| operating class of the fuse link  | non-fusible  |
| Enclosure   |  |
| degree of protection NEMA rating of the enclosure   | NEMA 4x 304 stainless steel enclosure  |
| 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  | Box lug  |
| type of electrical connection for supply voltage line-side tightening torque [lbf-in] for supply  | Box lug<br>35 35 lbf-in  |
| ***   |  |
| tightening torque [lbf·in] for supply type of connectable conductor cross-sections at line-side for   | 35 35 lbf·in   |
| tightening torque [lbf-in] for supply type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded   | 35 35 lbf-in<br>1x (14 2 AWG)  |
| tightening torque [lbf·in] for supply type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded temperature of the conductor for supply maximum permissible   | 35 35 lbf-in<br>1x (14 2 AWG)<br>75 °C   |
| tightening torque [lbf-in] for supply type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded temperature of the conductor for supply maximum permissible material of the conductor for supply  | 35 35 lbf·in<br>1x (14 2 AWG)<br>75 °C<br>AL or CU   |
| tightening torque [lbf-in] for supply type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded temperature of the conductor for supply maximum permissible material of the conductor for supply type of electrical connection for load-side outgoing feeder  | 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals  |
| tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible material of the conductor for supply  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections for AWG cables  | 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in   |
| tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible material of the conductor for supply  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder   | 35 35 lbf·in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf·in 1x (14 2 AWG)   |
| tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible material of the conductor for supply  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder maximum permissible   | 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)   |
| tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible material of the conductor for supply  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder maximum permissible  material of the conductor for load-side outgoing feeder  | 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C  AL or CU  |
| tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible material of the conductor for supply  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder maximum permissible  material of the conductor for load-side outgoing feeder type of electrical connection of magnet coil   | 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C  AL or CU Screw-type terminals   |
| tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible material of the conductor for supply  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder maximum permissible  material of the conductor for load-side outgoing feeder type of electrical connection of magnet coil  tightening torque [lbf-in] at magnet coil  type of connectable conductor cross-sections of magnet coil for   | 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C  AL or CU Screw-type terminals 5 2 lbf-in  |
| tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible material of the conductor for supply  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder maximum permissible  material of the conductor for load-side outgoing feeder type of electrical connection of magnet coil  tightening torque [lbf-in] at magnet coil  type of connectable conductor cross-sections of magnet coil for AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum  | 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C  AL or CU Screw-type terminals 2 °C  AL or CU Screw-type terminals 5 12 lbf-in 2x (16 12 AWG)  |
| tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible material of the conductor for supply  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder maximum permissible  material of the conductor for load-side outgoing feeder  type of electrical connection of magnet coil  tightening torque [lbf-in] at magnet coil  type of connectable conductor cross-sections of magnet coil for AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible   | 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C  AL or CU Screw-type terminals 5 12 lbf-in 2x (16 12 AWG)  |
| tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible material of the conductor for supply  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder maximum permissible  material of the conductor for load-side outgoing feeder  type of electrical connection of magnet coil  tightening torque [lbf-in] at magnet coil  type of connectable conductor cross-sections of magnet coil for AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible  material of the conductor at magnet coil   | 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C  AL or CU Screw-type terminals 5 12 lbf-in 2x (16 12 AWG)  75 °C  CU   |
| tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible material of the conductor for supply  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder maximum permissible  material of the conductor for load-side outgoing feeder type of electrical connection of magnet coil  tightening torque [lbf-in] at magnet coil  type of connectable conductor cross-sections of magnet coil for AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible  material of the conductor at magnet coil maximum permissible  | 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C  AL or CU Screw-type terminals 5 12 lbf-in 2x (16 12 AWG)  75 °C  CU Screw-type terminals  |
| tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible material of the conductor for supply  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder maximum permissible  material of the conductor for load-side outgoing feeder  type of electrical connection of magnet coil  tightening torque [lbf-in] at magnet coil  type of connectable conductor cross-sections of magnet coil for AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible  material of the conductor at magnet coil maximum permissible  material of the conductor at magnet coil type of electrical connection at contactor for auxiliary contacts  tightening torque [lbf-in] at contactor for auxiliary contacts  type of connectable conductor cross-sections at contactor for  | 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C  AL or CU Screw-type terminals 5 12 lbf-in 2x (16 12 AWG)  75 °C  CU Screw-type terminals 10 15 lbf-in   |
| tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible material of the conductor for supply  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder maximum permissible  material of the conductor for load-side outgoing feeder type of electrical connection of magnet coil  tightening torque [lbf-in] at magnet coil  type of connectable conductor cross-sections of magnet coil for AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible  material of the conductor at contactor for auxiliary contacts  tightening torque [lbf-in] at contactor for auxiliary contacts  type of connectable conductor cross-sections at contactor for AWG cables for auxiliary contacts to type of connectable conductor cross-sections at contactor for AWG cables for auxiliary contacts single or multi-stranded  temperature of the conductor at contactor for auxiliary contacts  | 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 5 12 lbf-in 2x (16 12 AWG)  75 °C  CU Screw-type terminals 10 15 lbf-in 1x (12 AWG), 2x (16 14 AWG), 2x (18 16 AWG)                        |
| tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible material of the conductor for supply  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder maximum permissible  material of the conductor for load-side outgoing feeder type of electrical connection of magnet coil  tightening torque [lbf-in] at magnet coil  type of connectable conductor cross-sections of magnet coil for AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible  material of the conductor at magnet coil  type of electrical connection at contactor for auxiliary contacts  tightening torque [lbf-in] at contactor for auxiliary contacts  type of connectable conductor cross-sections at contactor for AWG cables for auxiliary contacts to type of connectable conductor cross-sections at contactor for AWG cables for auxiliary contacts to type of connectable conductor cross-sections at contactor for AWG cables for auxiliary contacts single or multi-stranded  temperature of the conductor at contactor for auxiliary contacts maximum permissible   | 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 5 12 lbf-in 2x (16 12 AWG)  75 °C  CU Screw-type terminals 10 15 lbf-in 1x (12 AWG), 2x (16 14 AWG), 2x (18 16 AWG)  75 °C                 |
| tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible material of the conductor for supply  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections for AWG cables for load-side outgoing feeder single or multi-stranded  temperature of the conductor for load-side outgoing feeder maximum permissible  material of the conductor for load-side outgoing feeder  type of electrical connection of magnet coil  tightening torque [lbf-in] at magnet coil  type of connectable conductor cross-sections of magnet coil for AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible  material of the conductor at contactor for auxiliary contacts  tightening torque [lbf-in] at contactor for auxiliary contacts  type of electrical connection at contactor for auxiliary contacts  type of connectable conductor cross-sections at contactor for AWG cables for auxiliary contacts single or multi-stranded  temperature of the conductor at contactor for auxiliary contacts  type of connectable conductor at contactor for auxiliary contacts  maximum permissible  material of the conductor at contactor for auxiliary contacts  maximum permissible  material of the conductor at contactor for auxiliary contacts  maximum permissible | 35 35 lbf-in  1x (14 2 AWG)  75 °C  AL or CU  Screw-type terminals  35 35 lbf-in  1x (14 2 AWG)  75 °C  AL or CU  Screw-type terminals  5 12 lbf-in  2x (16 12 AWG)  75 °C  CU  Screw-type terminals  10 15 lbf-in  1x (12 AWG), 2x (16 14 AWG), 2x (18 16 AWG)  75 °C  CU |

| for AWG cables for auxiliary contacts single or multi-stranded                            |   |
|---|---|
| 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) |
| certificate of suitability  | NEMA ICS 2; UL 508; CSA 22.2, No.14                 |
| F   |   |

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=US2:84DUD95WDF

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/US/en/ps/US2:84DUD95WDF

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

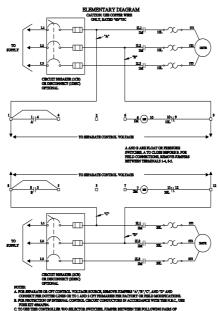
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=US2:84DUD95WDF&lang=en

Certificates/approvals

https://support.industry.siemens.com/cs/US/en/ps/US2:84DUD95WDF/certificate

## SCHEMATIC DIAGRAM

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



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last modified: 1/25/2022 🖸