## **SIEMENS**

Data sheet US2:83DUC92EF



Duplex starter w/ alternator, Size 1, Three phase full voltage, Solid-state overload relay, OLR amp range 3-12A, 110V 50Hz / 120V 60Hz coil, Non-combination type, Enc NEMA type 4 painted steel, Water/dust tight for outdoors

| product brand name  | Class 83                            |
|---|-------------------------------------|
| design of the product   | Duplex controller with alternator   |
| special product feature   | 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  | 2 hp                                |
| • at 220/230 V rated value  | 2 hp                                |
| • at 460/480 V rated value  | 5 hp                                |
| • at 575/600 V rated value  | 5 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 recent call at AC  | 240 VA   |
|--|--|
| apparent holding power of magnet coil at AC  | 218 VA<br>25 VA  |
| apparent holding power of magnet coil at AC operating range factor control supply voltage rated value of   | 0.85 1.1   |
| magnet coil percental drop-out voltage of magnet coil related to the input   | 50 %   |
| voltage  | 40.00  |
| ON-delay time  | 19 29 ms   |
| OFF-delay time   | 10 24 ms   |
| Overload relay   |  |
| product function   | Voo  |
| overload protection     phase failure detection  | Yes<br>Yes   |
| phase failure detection     asymmetry detection  | Yes  |
| <ul><li>asymmetry detection</li><li>ground fault detection</li></ul>   | Yes  |
| • test function  | Yes  |
| external reset   | Yes  |
| reset function   | Manual, automatic and remote   |
| adjustable current response value current of the current-<br>dependent overload release  | 3 12 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)  |  |
| <ul> <li>with single-phase operation at AC rated value</li> </ul>  | 600 V  |
| man single phase operation at the rated value  |  |
| with multi-phase operation at AC rated value   | 300 V  |
| with multi-phase operation at AC rated value     Enclosure   | 300 V  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure   | NEMA 4 enclosure   |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure  design of the housing  | 300 V  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure  design of the housing  Mounting/wiring   | NEMA 4 enclosure dustproof, waterproof & weatherproof  |
| with multi-phase operation at AC rated value     Enclosure     degree of protection NEMA rating of the enclosure     design of the housing     Mounting/wiring     mounting position   | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure design of the housing  Mounting/wiring mounting position fastening method   | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure design of the housing  Mounting/wiring mounting position fastening method type of electrical connection for supply voltage line-side  | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals   |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure design of the housing  Mounting/wiring mounting position fastening method type of electrical connection for supply voltage line-side tightening torque [lbf-in] for supply type of connectable conductor cross-sections at line-side for  | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure  design of the housing  Mounting/wiring  mounting position  fastening method  type of electrical connection for supply voltage line-side  tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure  design of the housing  Mounting/wiring  mounting position  fastening method  type of electrical connection for supply voltage line-side  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   | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 35 35 lbf-in  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure  design of the housing  Mounting/wiring  mounting position  fastening method  type of electrical connection for supply voltage line-side  tightening torque [lbf-in] for supply  type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded  | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 35 35 lbf·in 1x (14 2 AWG)  75 °C AL or CU  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure design of the housing  Mounting/wiring mounting position fastening method type of electrical connection for supply voltage line-side 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   | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C   |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure design of the housing  Mounting/wiring  mounting position fastening method type of electrical connection for supply voltage line-side 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  | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals   |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure design of the housing  Mounting/wiring  mounting position fastening method type of electrical connection for supply voltage line-side 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   | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure design of the housing  Mounting/wiring  mounting position fastening method type of electrical connection for supply voltage line-side 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   | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure  design of the housing  Mounting/wiring  mounting position  fastening method  type of electrical connection for supply voltage line-side  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   | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  75 °C AL or CU Screw-type terminals 35 35 lbf-in 1x (14 2 AWG)  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure  design of the housing  Mounting/wiring  mounting position  fastening method  type of electrical connection for supply voltage line-side  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   | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 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 35 35 lbf-in 1x (14 2 AWG)  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure  design of the housing  Mounting/wiring  mounting position  fastening method  type of electrical connection for supply voltage line-side  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  | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 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 35 35 lbf·in 1x (14 2 AWG)  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure  design of the housing  Mounting/wiring  mounting position  fastening method  type of electrical connection for supply voltage line-side  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  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   | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 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 35 lbf-in 1x (14 2 AWG)   |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure design of the housing  Mounting/wiring  mounting position fastening method type of electrical connection for supply voltage line-side 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 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  | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 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 35 35 lbf-in 2x (16 12 AWG)   |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure  design of the housing  Mounting/wiring  mounting position  fastening method  type of electrical connection for supply voltage line-side  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 maximum permissible  material of the conductor at magnet coil   | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 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 32 lbf-in 2x (16 12 AWG)  75 °C  CU Screw-type terminals  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure design of the housing  Mounting/wiring  mounting position fastening method type of electrical connection for supply voltage line-side 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 | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 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  |
| with multi-phase operation at AC rated value  Enclosure  degree of protection NEMA rating of the enclosure  design of the housing  Mounting/wiring  mounting position  fastening method  type of electrical connection for supply voltage line-side  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 maximum permissible  material of the conductor at magnet coil   | NEMA 4 enclosure dustproof, waterproof & weatherproof  Vertical Surface mounting and installation Screw-type terminals 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 35 32 lbf-in 2x (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 |

| 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  |   |
|   |   |
| 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)                                   |
|   | 10kA@600V (Class H or K); 100kA@600V (Class R or J)  Thermal magnetic circuit breaker |
| circuit required  |   |
| circuit required design of the short-circuit trip   |   |
| circuit required  design of the short-circuit trip  maximum short-circuit current breaking capacity (Icu)                         | Thermal magnetic circuit breaker  |
| circuit required design of the short-circuit trip maximum short-circuit current breaking capacity (Icu) • at 240 V                | Thermal magnetic circuit breaker  14 kA   |
| circuit required  design of the short-circuit trip  maximum short-circuit current breaking capacity (Icu)  • at 240 V  • at 480 V | Thermal magnetic circuit breaker  14 kA 10 kA   |

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=US2:83DUC92EF

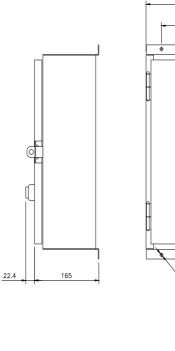
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

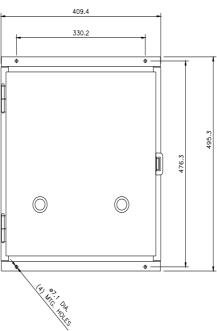
https://support.industry.siemens.com/cs/US/en/ps/US2:83DUC92EF

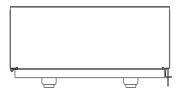
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=US2:83DUC92EF&lang=en">http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=US2:83DUC92EF&lang=en</a>

Certificates/approvals

https://support.industry.siemens.com/cs/US/en/ps/US2:83DUC92EF/certificate

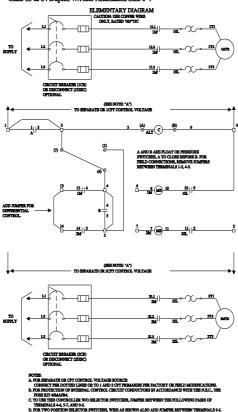






## SCHEMATIC DIAGRAM

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



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