## **SIEMENS**

Data sheet US2:83DUE95BF



Duplex starter w/o alternator, Size 1, Three phase full voltage, Solid-state overload relay, OLR amp range 10-40A, 110V 50Hz / 120V 60Hz coil, Noncombination type, Enclosure NEMA type 1, Indoor general purpose use

product brand name	Class 83	
design of the product	Duplex controller without 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]		
<ul> <li>during storage</li> </ul>	-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		
<ul><li>at 200/208 V rated value</li></ul>	7.5 hp	
<ul><li>at 220/230 V rated value</li></ul>	7.5 hp	
<ul> <li>at 460/480 V rated value</li> </ul>	0 hp	
• at 575/600 V rated value	0 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 (switching 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 DO mate division	0 0 0 1
at DC rated value	0 0 V
at AC at 50 Hz rated value	110 110 V
at AC at 60 Hz rated value    halding newer at AC minimum	120 120 V 8.6 W
holding power at AC minimum 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	0.85 1.1
of magnet coil	0.00 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	
<ul> <li>overload protection</li> </ul>	Yes
<ul> <li>phase failure detection</li> </ul>	Yes
<ul> <li>asymmetry detection</li> </ul>	Yes
<ul> <li>ground fault detection</li> </ul>	Yes
<ul> <li>test function</li> </ul>	Yes
external reset	Yes
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	
• 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
Enclosure	
degree of protection NEMA rating of the enclosure	NEMA 1 enclosure
design of the housing	indoors, usable on a general basis
Mounting/wiring	
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	35 35 lbf·in
type of connectable conductor cross-sections at line-side at 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	35 35 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 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 at AWG cables single or multi-stranded	2x (16 12 AWG)

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 at AWG cables for auxiliary contacts single or multi- stranded temperature of the conductor at contactor for auxiliary contacts type of electrical connection at overload relay for auxiliary contacts type of electrical connection at overload relay for auxiliary contacts tightening torque [lbf-in] at overload relay for auxiliary contacts type of of connectable conductor at contactor for auxiliary contacts type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts type of connectable conductor cross-sections at overload relay for auxiliary contacts type of connectable conductor at overload relay for auxiliary contacts type of connectable conductor at overload relay for auxiliary contacts type of connectable conductor at overload relay for auxiliary contacts maximum permissible  material of the conductor at overload relay for auxiliary contacts maximum permissible  material of the conductor at overload relay for auxiliary contacts maximum permissible  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 design of the fuse link for short-circuit troil protection of the main circuit required  design of the short-circuit trip  breaking capacity maximum short-circuit current (lcu)  • at 240 V  • at 480 V  • at 600 V  certificate of suitability  NEMA ICS 2; UL 508; CSA 22.2, No.14  Further information	permissible	
tightening torque [lbf·in] at contactor for auxiliary contacts type of connectable conductor cross-sections at contactor at AWG cables for auxiliary contacts single or multi- stranded temperature of the conductor at contactor for auxiliary contacts maximum permissible material of the conductor at contactor for auxiliary contacts type of electrical connection at overload relay for auxiliary contacts tightening torque [lbf·in] at overload relay for auxiliary contacts type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts single or multi- stranded temperature of the conductor at overload relay for auxiliary contacts maximum permissible material of the conductor at overload relay for auxiliary contacts  Short-circuit current rating design of the fuse link for short-circuit protection of the main circuit required design of the short-circuit trip breaking capacity maximum short-circuit current (Icu)  • at 240 V  • at 480 V  • at 480 V  • at 600 V  certificate of suitability  10 La AWG), 2x (16 14 AWG)  2 X (21 14 AWG), 2x (18 16 AWG)  10 La AWG, 2x (18 16 AWG)  10 La AWG, 2x (18 14 AWG)  11 La AWG, 2x (18 14 AWG)  12 La AWG, 2x (18 14 AWG)  13 La AWG, 2x (18 14 AWG)  14 La AWG, 2x (18 14 AWG)  15 CC  17 CC  18 La AWG, 2x (18 14 AWG)  19 La AWG, 2x (18 14 AWG)  10 La AWG, 2x (18 14 AWG)  10 La AWG, 2x (18 14 AWG)  11 La AWG, 2x (18 14 AWG)  12 La AWG, 2x (18 14 AWG)  13 La AWG, 2x (18 14 AWG)  14 La AWG, 2x (18 14 AWG)  18 La AWG, 2x (18 14	material of the conductor at magnet coil	CU
type of connectable conductor cross-sections at contactor at AWG cables for auxiliary contacts single or multi- stranded  temperature of the conductor at contactor for auxiliary contacts maximum permissible  material of the conductor at contactor for auxiliary contacts  type of electrical connection at overload relay for auxiliary contacts  type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts single or multi- stranded  temperature of the conductor cross-sections at overload relay at AWG cables for auxiliary contacts single or multi- stranded  temperature of the conductor at overload relay for auxiliary contacts maximum permissible  material of the conductor at overload relay for auxiliary contacts  Short-circuit current rating  design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit trip  breaking capacity maximum short-circuit current (Icu)  • at 240 V  • at 480 V  • at 480 V  • at 600 V  certificate of suitability  1x (12 AWG), 2x (16 14 AWG)  **  1x (12 AWG), 2	,	Screw-type terminals
at AWG cables for auxiliary contacts single or multi- stranded  temperature of the conductor at contactor for auxiliary contacts maximum permissible  material of the conductor at contactor for auxiliary contacts  type of electrical connection at overload relay for auxiliary contacts  tightening torque [lbf-in] at overload relay for auxiliary contacts  type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts single or multi- stranded  temperature of the conductor at overload relay for auxiliary contacts maximum permissible material of the conductor at overload relay for auxiliary contacts  Short-circuit current rating  design of the fuse link for short-circuit protection of the main circuit required design gapacity maximum short-circuit current (Icu)  • at 240 V  • at 480 V  • at 480 V  • at 600 V  certificate of suitability  75 °C  CU  To 10 Ibf-in  CU  2x (20 14 AWG)  **CO  CU  CU  CU  Thermal magnetic circuit breaker  Thermal magnetic circuit breaker  Thermal magnetic circuit breaker  NEMA ICS 2; UL 508; CSA 22.2, No.14	tightening torque [lbf·in] at contactor for auxiliary contacts	10 15 lbf·in
contacts maximum permissible material of the conductor at contactor for auxiliary contacts type of electrical connection at overload relay for auxiliary contacts  tightening torque [lbf-in] at overload relay for auxiliary contacts  type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts single or multi-stranded  temperature of the conductor at overload relay for auxiliary contacts maximum permissible  material of the conductor at overload relay for auxiliary contacts  Short-circuit current rating  design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit trip  breaking capacity maximum short-circuit current (Icu)  • at 240 V • at 480 V • at 600 V  certificate of suitability  CU  Screw-type terminals  CU  2x (20 14 AWG)  CU  CU  CU  10 LORA@600V (Class H or K); 100kA@600V (Class R or J)  Thermal magnetic circuit breaker  Thermal magnetic circuit breaker  NEMA ICS 2; UL 508; CSA 22.2, No.14	at AWG cables for auxiliary contacts single or multi-	1x (12 AWG), 2x (16 14 AWG), 2x (18 16 AWG)
type of electrical connection at overload relay for auxiliary contacts  tightening torque [lbf·in] at overload relay for auxiliary contacts  type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts single or multistranded  temperature of the conductor at overload relay for auxiliary contacts maximum permissible material of the conductor at overload relay for auxiliary contacts  Short-circuit current rating  design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit trip  breaking capacity maximum short-circuit current (Icu)  • at 240 V  • at 480 V  • at 600 V  certificate of suitability  Screw-type terminals  7 10 lbf·in  2x (20 14 AWG)  75 °C  CU  CU  14 AWG  10 INA  10		75 °C
tightening torque [lbf-in] at overload relay for auxiliary contacts  type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts single or multi-stranded  temperature of the conductor at overload relay for auxiliary contacts maximum permissible  material of the conductor at overload relay for auxiliary contacts  Short-circuit current rating  design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit trip  breaking capacity maximum short-circuit current (lcu)  • at 240 V  • at 480 V • at 600 V  certificate of suitability  7 10 lbf-in  2x (20 14 AWG)  CU  CU  CU  Thermal magnetic circuit protection of the magnetic circuit breaker  7 10 lbf-in  2x (20 14 AWG)  Thermal magnetic circuit suit file  4	material of the conductor at contactor for auxiliary contacts	CU
type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts single or multistranded  temperature of the conductor at overload relay for auxiliary contacts maximum permissible  material of the conductor at overload relay for auxiliary contacts  Short-circuit current rating  design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit trip  breaking capacity maximum short-circuit current (Icu)  • at 240 V  • at 480 V • at 600 V  certificate of suitability  2x (20 14 AWG)  75 °C  CU  CU  Thermal magnetic circuit protection of the magnetic circuit breaker  10kA@600V (Class H or K); 100kA@600V (Class R or J)  11kA  12kA  13kA  13kA  14kA  15kA  16kA  16kA  17kA  18kA  18kB  18		Screw-type terminals
relay at AWG cables for auxiliary contacts single or multi- stranded  temperature of the conductor at overload relay for auxiliary contacts maximum permissible  material of the conductor at overload relay for auxiliary contacts  Short-circuit current rating  design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit trip  breaking capacity maximum short-circuit current (Icu)  • at 240 V  • at 480 V  • at 600 V  certificate of suitability  75 °C  CU  CU  10kA@600V (Class H or K); 100kA@600V (Class R or J)  Thermal magnetic circuit breaker  10kA  • 10kA  • 10kA  • NEMA ICS 2; UL 508; CSA 22.2, No.14		7 10 lbf-in
contacts maximum permissible  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  design of the short-circuit trip  Thermal magnetic circuit breaker  breaking capacity maximum short-circuit current (Icu)  • at 240 V  • at 480 V  • at 600 V  certificate of suitability  CU  10kA@600V (Class H or K); 100kA@600V (Class R or J)  Thermal magnetic circuit breaker	relay at AWG cables for auxiliary contacts single or multi-	2x (20 14 AWG)
contacts  Short-circuit current rating  design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit trip  Thermal magnetic circuit breaker  breaking capacity maximum short-circuit current (Icu)  • at 240 V  • at 480 V  • at 600 V  Certificate of suitability  NEMA ICS 2; UL 508; CSA 22.2, No.14	·	75 °C
design of the fuse link for short-circuit protection of the main circuit required  design of the short-circuit trip  breaking capacity maximum short-circuit current (Icu)  • at 240 V  • at 480 V  • at 600 V  certificate of suitability  10kA@600V (Class H or K); 100kA@600V (Class R or J)  Thermal magnetic circuit breaker  14 kA  10 kA  10 kA  NEMA ICS 2; UL 508; CSA 22.2, No.14		CU
main circuit required  design of the short-circuit trip  breaking capacity maximum short-circuit current (Icu)  • at 240 V  • at 480 V  • at 600 V  10 kA  certificate of suitability  Thermal magnetic circuit breaker  14 kA  10 kA  10 kA	Short-circuit current rating	
breaking capacity maximum short-circuit current (Icu)  • at 240 V  • at 480 V  • at 600 V  10 kA  certificate of suitability  NEMA ICS 2; UL 508; CSA 22.2, No.14		10kA@600V (Class H or K); 100kA@600V (Class R or J)
<ul> <li>at 240 V</li> <li>at 480 V</li> <li>at 600 V</li> <li>certificate of suitability</li> <li>14 kA</li> <li>10 kA</li> <li>NEMA ICS 2; UL 508; CSA 22.2, No.14</li> </ul>	design of the short-circuit trip	Thermal magnetic circuit breaker
• at 480 V         • at 600 V	breaking capacity maximum short-circuit current (Icu)	
◆ at 600 V     Certificate of suitability     NEMA ICS 2; UL 508; CSA 22.2, No.14	• at 240 V	14 kA
certificate of suitability NEMA ICS 2; UL 508; CSA 22.2, No.14	• at 480 V	10 kA
·	● at 600 V	10 kA
Further information	certificate of suitability	NEMA ICS 2; UL 508; CSA 22.2, No.14

75 °C

Industrial Controls - Product Overview (Catalogs, Brochures,...)

temperature of the conductor at magnet coil maximum

www.usa.siemens.com/iccatalog

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/us/Catalog/product?mlfb=US2:83DUE95BF

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) <a href="https://support.industry.siemens.com/cs/US/en/ps/US2:83DUE95BF">https://support.industry.siemens.com/cs/US/en/ps/US2:83DUE95BF</a>

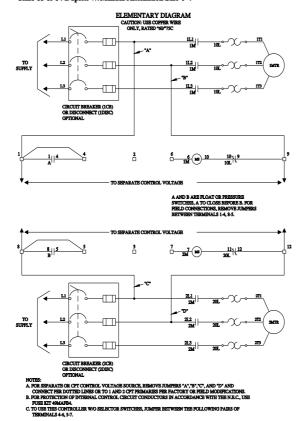
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="http://www.automation.siemens.com/bilddb/cax">http://www.automation.siemens.com/bilddb/cax</a> de.aspx?mlfb=US2:83DUE95BF&lang=en

Certificates/approvals

https://support.industry.siemens.com/cs/US/en/ps/US2:83DUE95BF/certificate

## SCHEMATIC DIAGRAM

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



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