## **SIEMENS**

Data sheet US2:22LPU32AL



Reversing motor starter Size 5 Three phase full voltage Solid-state overload relay OLRelay amp range 55-250A 240-277V 50-60HZ/DC coil Non-combination type Enclosure type (open)

Figure similar

product brand name	Class 22
design of the product	Full-voltage reversing motor starter
General technical data	
weight [lb]	41 lb
touch protection against electrical shock	Main circuit (not finger-safe); Control circuit (finger-safe)
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>	75 hp
<ul><li>at 220/230 V rated value</li></ul>	100 hp
<ul><li>at 460/480 V rated value</li></ul>	200 hp
<ul><li>at 575/600 V rated value</li></ul>	200 hp
Contactor	
size of contactor	NEMA controller size 5
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	270 A
mechanical service life (operating cycles) of the main contacts typical	10000000
Auxiliary contact	
number of NC contacts at contactor for auxiliary contacts	2
number of NO contacts at contactor for auxiliary contacts	2
number of total auxiliary contacts maximum	8
contact rating of auxiliary contacts of contactor according to UL	10A@240VAC (A300), 2.5A@250VDC (Q300)
Coil	
type of voltage of the control supply voltage	AC/DC
control supply voltage	
<ul> <li>at DC rated value</li> </ul>	240 277 V
<ul> <li>at AC at 50 Hz rated value</li> </ul>	240 277 V
at AC at 60 Hz rated value	240 277 V
holding power at AC minimum	7.4 W
apparent pick-up power of magnet coil at AC	590 VA

	0.7.1/4
apparent holding power of magnet coil at AC	6.7 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	60 %
ON-delay time	30 95 ms
OFF-delay time	40 80 ms
Overload relay	
product function	
overload protection	Yes
phase failure detection	Yes
asymmetry detection	Yes
ground fault detection	No
• test function	Yes
external reset	No
reset function	Manual and automatic
trip class	CLASS 20
adjustable current response value current of the current- dependent overload release	55 250 A
product feature protective coating on printed-circuit board	No
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)	
with single-phase operation at AC rated value	600 V
with multi-phase operation at AC rated value	300 V
Enclosure	
degree of protection NEMA rating	Open device (no enclosure)
design of the housing	NA
Mounting/wiring	
mounting position	Vertical
fastening method	Surface mounting and installation
type of electrical connection for supply voltage line-side	
tightening torque [lbf-in] for supply	Box lug
type of connectable conductor cross-sections at line-side at	80x lug 180 195 lbf·in
AWG cables single or multi-stranded	
**	180 195 lbf·in 3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0
AWG cables single or multi-stranded	180 195 lbf·in 3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0 AWG 2x 500 MCM (both front & back)
AWG cables single or multi-stranded temperature of the conductor for supply maximum permissible	180 195 lbf·in 3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0 AWG 2x 500 MCM (both front & back) 75 °C
AWG cables single or multi-stranded temperature of the conductor for supply maximum permissible type of electrical connection for load-side outgoing feeder	180 195 lbf·in  3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0  AWG 2x 500 MCM (both front & back)  75 °C  Box lug
AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections at AWG cables for	180 195 lbf·in 3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0 AWG 2x 500 MCM (both front & back) 75 °C Box lug 180 220 lbf·in
AWG cables single or multi-stranded temperature of the conductor for supply maximum permissible type of electrical connection for load-side outgoing feeder tightening torque [lbf·in] for load-side outgoing feeder type of connectable conductor cross-sections at AWG cables for load-side outgoing feeder single or multi-stranded temperature of the conductor for load-side outgoing feeder	180 195 lbf·in 3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0 AWG 2x 500 MCM (both front & back) 75 °C Box lug 180 220 lbf·in 2x 2/0 AWG 500 MCM
ÁWG cables single or multi-stranded temperature of the conductor for supply maximum permissible type of electrical connection for load-side outgoing feeder tightening torque [lbf-in] for load-side outgoing feeder type of connectable conductor cross-sections at AWG cables for load-side outgoing feeder single or multi-stranded temperature of the conductor for load-side outgoing feeder maximum permissible	180 195 lbf·in 3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0 AWG 2x 500 MCM (both front & back) 75 °C Box lug 180 220 lbf·in 2x 2/0 AWG 500 MCM
AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections at 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	180 195 lbf·in 3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0 AWG 2x 500 MCM (both front & back) 75 °C Box lug 180 220 lbf·in 2x 2/0 AWG 500 MCM 75 °C CU
AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections at 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	180 195 lbf·in  3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0  AWG 2x 500 MCM (both front & back)  75 °C  Box lug  180 220 lbf·in  2x 2/0 AWG 500 MCM  75 °C  CU  Screw-type terminals
AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections at 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 at	180 195 lbf·in  3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0  AWG 2x 500 MCM (both front & back)  75 °C  Box lug  180 220 lbf·in  2x 2/0 AWG 500 MCM  75 °C  CU  Screw-type terminals  7 10 lbf·in
AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible  type of electrical connection for load-side outgoing feeder  tightening torque [lbf-in] for load-side outgoing feeder  type of connectable conductor cross-sections at 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 at AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum	180 195 lbf·in  3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0  AWG 2x 500 MCM (both front & back)  75 °C  Box lug  180 220 lbf·in  2x 2/0 AWG 500 MCM  75 °C  CU  Screw-type terminals  7 10 lbf·in  2x (18 14 AWG)
AWG cables single or multi-stranded temperature of the conductor for supply maximum permissible type of electrical connection for load-side outgoing feeder tightening torque [lbf-in] for load-side outgoing feeder type of connectable conductor cross-sections at 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 at AWG cables single or multi-stranded temperature of the conductor at magnet coil maximum permissible	180 195 lbf·in  3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0  AWG 2x 500 MCM (both front & back)  75 °C  Box lug  180 220 lbf·in  2x 2/0 AWG 500 MCM  75 °C  CU  Screw-type terminals  7 10 lbf·in  2x (18 14 AWG)
AWG cables single or multi-stranded  temperature of the conductor for supply maximum permissible  type of electrical connection for load-side outgoing feeder  tightening torque [lbf·in] for load-side outgoing feeder  type of connectable conductor cross-sections at 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 at AWG cables single or multi-stranded  temperature of the conductor at magnet coil maximum permissible  material of the conductor at magnet coil	180 195 lbf·in  3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0  AWG 2x 500 MCM (both front & back)  75 °C  Box lug  180 220 lbf·in  2x 2/0 AWG 500 MCM  75 °C  CU  Screw-type terminals  7 10 lbf·in  2x (18 14 AWG)  75 °C  CU
AWG cables single or multi-stranded temperature of the conductor for supply maximum permissible type of electrical connection for load-side outgoing feeder tightening torque [lbf-in] for load-side outgoing feeder type of connectable conductor cross-sections at 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 at AWG cables single or multi-stranded temperature of the conductor at magnet coil maximum permissible material of the conductor at magnet coil	180 195 lbf-in 3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0 AWG 2x 500 MCM (both front & back) 75 °C Box lug 180 220 lbf-in 2x 2/0 AWG 500 MCM 75 °C CU Screw-type terminals 7 10 lbf-in 2x (18 14 AWG) 75 °C CU Screw-type terminals
AWG cables single or multi-stranded temperature of the conductor for supply maximum permissible type of electrical connection for load-side outgoing feeder tightening torque [lbf-in] for load-side outgoing feeder type of connectable conductor cross-sections at 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 at 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 for auxiliary contacts tightening torque [lbf-in] at contactor for auxiliary contacts	180 195 lbf-in 3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0 AWG 2x 500 MCM (both front & back) 75 °C Box lug 180 220 lbf-in 2x 2/0 AWG 500 MCM 75 °C CU Screw-type terminals 7 10 lbf-in 2x (18 14 AWG) 75 °C CU Screw-type terminals 7 10 lbf-in
AWG cables single or multi-stranded temperature of the conductor for supply maximum permissible type of electrical connection for load-side outgoing feeder tightening torque [lbf-in] for load-side outgoing feeder type of connectable conductor cross-sections at 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 at 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 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	180 195 lbf·in  3/0 AWG 600 MCM (front only) or 250 500 MCM (back only) or 2x 2/0  AWG 2x 500 MCM (both front & back)  75 °C  Box lug  180 220 lbf·in  2x 2/0 AWG 500 MCM  75 °C  CU  Screw-type terminals  7 10 lbf·in  2x (18 14 AWG)  75 °C  CU  Screw-type terminals  7 10 lbf·in

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 fuse link for short-circuit protection of the main circuit required	14kA@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 (Icu)	
• at 240 V	14 kA
• at 480 V	14 kA
• at 600 V	14 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=US2:22LPU32AL

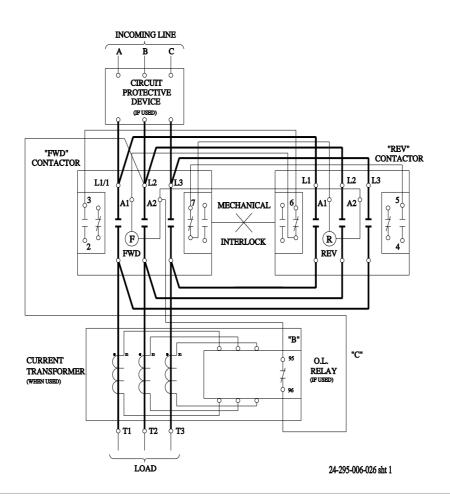
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https://support.industry.siemens.com/cs/US/en/ps/US2:22LPU32AL

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=US2:22LPU32AL&lang=en">http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=US2:22LPU32AL&lang=en</a>

Certificates/approvals

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last modified: 11/29/2021 🖸