

Reduced voltage pump panel, Auto transformer, Size 6, 460V 3-phase motor voltage, Solid-state overload relay, OLR amp range 160-630A, 110-127V 50-60Hz/DC coil, 600A fusible disconnect, 600A/600V fuse clip, HOA Sel Sw. & Start P.B., Enclosure NEMA type 3/3R, Weather proof outdoor use

Product brand name	Class 88
Design of the product	Reduced voltage pump panel with fusible disconnect - Auto transformer
Special product feature	Latest technology in arc quenching to extend contactor life; Same coil voltage is AC or DC

General technical data

Weight [lb]	770 lb
Height x Width x Depth [in]	90 × 30 × 20 in
Protection against electrical shock	NA for enclosed products
Installation altitude [ft] at height above sea level maximum	6560 ft
Ambient temperature [°F]	
<ul style="list-style-type: none"> during storage during operation 	-22 ... +149 °F -4 ... +104 °F
Ambient temperature	
<ul style="list-style-type: none"> during storage during operation 	-30 ... +65 °C -20 ... +40 °C
Country of origin	USA

Horsepower ratings

Yielded mechanical performance [hp] for three-phase AC motor	
<ul style="list-style-type: none"> at 200/208 V rated value at 220/230 V rated value at 460/480 V rated value at 575/600 V rated value 	0 hp 0 hp 400 hp 0 hp

Contactor

Size of contactor	NEMA controller size 6
Number of NO contacts for main contacts	3
Operating voltage for main current circuit at AC at 60 Hz maximum	460 V
Operating current at AC at 600 V rated value	540 A
Mechanical service life (switching 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 style="list-style-type: none"> • at DC rated value 	110 ... 127 V
<ul style="list-style-type: none"> • at AC at 50 Hz rated value 	110 ... 127 V
<ul style="list-style-type: none"> • at AC at 60 Hz rated value 	110 ... 127 V
Holding power at AC minimum	10 W
Apparent pick-up power of magnet coil at AC	830 V·A
Apparent holding power of magnet coil at AC	9.2 V·A
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 %
Switch-on delay time	45 ... 100 ms
Off-delay time	60 ... 100 ms

Overload relay	
Product function	
<ul style="list-style-type: none"> • Overload protection 	Yes
<ul style="list-style-type: none"> • Phase failure detection 	Yes
<ul style="list-style-type: none"> • Phase unbalance 	Yes
<ul style="list-style-type: none"> • Ground fault detection 	No
<ul style="list-style-type: none"> • Test function 	Yes
<ul style="list-style-type: none"> • External reset 	Yes
Reset function	Manual and automatic
Trip class	CLASS 10
Adjustable pick-up value current of the current-dependent overload release	160 ... 630 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
Operating current of auxiliary contacts of overload relay	

<ul style="list-style-type: none"> • at AC at 600 V • at DC at 250 V 	5 A 1 A
Contact rating of auxiliary contacts of overload relay according to UL	5A@600VAC (B600), 1A@250VDC (R300)
Insulation voltage	
<ul style="list-style-type: none"> • with single-phase operation at AC rated value • with multi-phase operation at AC rated value 	600 V 300 V

Disconnect Switch

Response value of switch disconnecter	600A / 600V
Design of fuse holder	Class R fuse clips
Operating class of the fuse link	Class R

Enclosure

Degree of protection NEMA rating of the enclosure	NEMA 3/3R
Design of the housing	Weather proof for outdoor use

Mounting/wiring

Mounting position	Vertical
Mounting type	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 conductors single or multi-stranded	2x (3/0 ... 500 kcmil) or 2x (4/0 ... 500 kcmil)
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	180 ... 195 lbf-in
Type of connectable conductor cross-sections at AWG conductors for load-side outgoing feeder single or multi-stranded	3/0 AWG ... 600 MCM (front only) or 250 ... 500 MCM (back only) or 2x 2/0 AWG ... 2x 500 MCM (both front & back)
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	7 ... 10 lbf-in
Type of connectable conductor cross-sections of magnet coil at AWG conductors single or multi-stranded	2x (18 ... 14 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	7 ... 10 lbf·in
Type of connectable conductor cross-sections at contactor at AWG conductors for auxiliary contacts single or multi-stranded	2x (20 ... 16 AWG), 2x (18 ... 14 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 conductors 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)
Certificate of suitability	NEMA ICS 2; UL 508

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=US2:88MSXT4FF>

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

<https://support.industry.siemens.com/cs/US/en/ps/US2:88MSXT4FF>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=US2:88MSXT4FF&lang=en

Certificates/approvals

<https://support.industry.siemens.com/cs/US/en/ps/US2:88MSXT4FF/certificate>

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