

Reduced voltage pump panel, Two step part winding, Size 2 1/2, 460V 3-phase motor voltage, Solid-state overload relay, OLR amp range 25-100A, 380-440/440-480V 50/60Hz coil, 100A circuit breaker, 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 MCP - Two step part winding |
| special product feature                                                  | Half-size controller; ESP200 overload relay                 |
| <b>General technical data</b>                                            |                                                             |
| weight [lb]                                                              | 118 lb                                                      |
| Height x Width x Depth [in]                                              | 43 × 24 × 11 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                                                         |
| <b>Horsepower ratings</b>                                                |                                                             |
| yielded mechanical performance [hp] for 3-phase AC motor                 |                                                             |
| • at 200/208 V rated value                                               | 0 hp                                                        |
| • at 220/230 V rated value                                               | 0 hp                                                        |
| • at 460/480 V rated value                                               | 60 hp                                                       |
| • at 575/600 V rated value                                               | 0 hp                                                        |
| <b>Contactor</b>                                                         |                                                             |
| size of contactor                                                        | Controller half size 2 1/2                                  |
| number of NO contacts for main contacts                                  | 3                                                           |
| operating voltage for main current circuit at AC at 60 Hz maximum        | 460 V                                                       |
| operational current at AC at 600 V rated value                           | 60 A                                                        |
| mechanical service life (operating cycles) of the main contacts typical  | 10000000                                                    |
| <b>Auxiliary contact</b>                                                 |                                                             |
| 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                               | 7                                                           |
| contact rating of auxiliary contacts of contactor according to UL        | 10A@600VAC (A600), 5A@600VDC (P600)                         |
| <b>Coil</b>                                                              |                                                             |
| 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                                             | 380 ... 440 V                                               |
| • at AC at 60 Hz rated value                                             | 440 ... 480 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                                                |
| <b>Overload relay</b>                                                    |                                                             |

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| 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 (factory set) / 20 / 30                |
| adjustable current response value current of the current-dependent overload release                                      | 25 ... 100 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)                                                                                                  |                                                     |
| • with single-phase operation at AC rated value                                                                          | 600 V                                               |
| • with multi-phase operation at AC rated value                                                                           | 300 V                                               |
| <b>Enclosure</b>                                                                                                         |                                                     |
| degree of protection NEMA rating of the enclosure                                                                        | NEMA 3/3R                                           |
| design of the housing                                                                                                    | Weather proof for outdoor use                       |
| <b>Circuit Breaker</b>                                                                                                   |                                                     |
| type of the motor protection                                                                                             | Motor circuit protector (magnetic trip only)        |
| operational current of motor circuit breaker rated value                                                                 | 100 A                                               |
| adjustable current response value current of instantaneous short-circuit trip unit                                       | 315 ... 1000 A                                      |
| <b>Mounting/wiring</b>                                                                                                   |                                                     |
| mounting position                                                                                                        | Vertical                                            |
| fastening method                                                                                                         | Surface mounting and installation                   |
| type of electrical connection for supply voltage line-side                                                               | Box lug                                             |
| type of connectable conductor cross-sections at line-side for AWG cables single or multi-stranded                        | 1x (10 AWG ... 1/0 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                                                              | Box lug                                             |
| tightening torque [lbf-in] for load-side outgoing feeder                                                                 | 45 ... 45 lbf-in                                    |
| type of connectable conductor cross-sections for 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 for AWG cables single or multi-stranded                      | 2x (16 ... 12 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                                                           | 10 ... 15 lbf-in                                    |
| type of connectable conductor cross-sections at contactor for AWG cables for auxiliary contacts single or multi-stranded | 1x (12 AWG), 2x (16 ... 14 AWG), 2x (18 ... 16 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                                     |

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| 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                                  |
| <b>Short-circuit current rating</b>                                                                                           |                                     |
| design of the short-circuit trip                                                                                              | Instantaneous trip circuit breaker  |
| maximum short-circuit current breaking capacity (Icu)                                                                         |                                     |
| • at 240 V                                                                                                                    | 100 kA                              |
| • at 480 V                                                                                                                    | 100 kA                              |
| • at 600 V                                                                                                                    | 25 kA                               |
| certificate of suitability                                                                                                    | NEMA ICS 2; UL 508; CSA 22.2, No.14 |
| <b>Further information</b>                                                                                                    |                                     |

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

[www.usa.siemens.com/iccatalog](http://www.usa.siemens.com/iccatalog)

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/us/Catalog/product?mlfb=US2:88GUGP4MH>

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

<https://support.industry.siemens.com/cs/US/en/ps/US2:88GUGP4MH>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=US2:88GUGP4MH&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=US2:88GUGP4MH&lang=en)

**Certificates/approvals**

<https://support.industry.siemens.com/cs/US/en/ps/US2:88GUGP4MH/certificate>

last modified:

11/29/2021 