

Reduced voltage pump panel, Two step part winding, Size 2, 460V 3-phase motor voltage, Solid-state overload relay, OLR amp range 13-52A, 380-440/440-480V 50/60Hz coil, 100A fusible disconnect, 100A/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 - Two step part winding                 |
| special product feature | Latest technology in arc quenching to extend contactor life; Same coil voltage is AC or DC |

| General technical data                                       |                          |
|--------------------------------------------------------------|--------------------------|
| weight [lb]                                                  | 120 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                      |

| Horsepower ratings                                       |       |
|----------------------------------------------------------|-------|
| 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                               | 40 hp |
| • at 575/600 V rated value                               | 0 hp  |

| Contactor                                                               |                        |
|-------------------------------------------------------------------------|------------------------|
| size of contactor                                                       | NEMA controller size 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                          | 45 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                        | 7                                   |
| 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                                             | 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  |
| percentual 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                                                                                                         |                                                     |
| • 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                                      | 13 ... 52 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>Disconnect Switch</b>                                                                                                 |                                                     |
| response value of switch disconnecter                                                                                    | 100A / 600V                                         |
| design of fuse holder                                                                                                    | Class R fuse clips                                  |
| operating class of the fuse link                                                                                         | Class R                                             |
| <b>Enclosure</b>                                                                                                         |                                                     |
| degree of protection NEMA rating of the enclosure                                                                        | NEMA 3/3R                                           |
| design of the housing                                                                                                    | Weather proof for outdoor use                       |
| <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 (14 ... 2/0 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                                     |
| type of connectable conductor cross-sections at overload relay                                                           | 2x (20 ... 14 AWG)                                  |

|                                                                                           |                                                     |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------|
| for AWG cables for auxiliary contacts single or multi-stranded                            |                                                     |
| 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 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; 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=US2:88FUEP4FH>

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

<https://support.industry.siemens.com/cs/US/en/ps/US2:88FUEP4FH>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=US2:88FUEP4FH&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=US2:88FUEP4FH&lang=en)

**Certificates/approvals**

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