

Pump control panel, Size 1, Three phase full voltage, Solid-state overload relay, OLR amp range 3-12A, 110-120/220-240VAC 60Hz coil, Standard type contactor, 10A circuit breaker, HOA Sel Sw. Start P.B., Enclosure NEMA type 3/3R, Weather proof outdoor use

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| product brand name | Class 87 |
| design of the product | Pump control panel with MCP |
| special product feature | ESP200 overload relay; Dual voltage coil |
| General technical data | |
| weight [lb] | 47 lb |
| Height x Width x Depth [in] | 29 × 20 × 8 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 | 2 hp |
| • at 220/230 V rated value | 2 hp |
| • at 460/480 V rated value | 5 hp |
| • at 575/600 V rated value | 5 hp |
| Contactors | |
| 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 (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 | 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 DC rated value | 0 ... 0 V |
| • at AC at 50 Hz rated value | 0 ... 0 V |
| • at AC at 60 Hz rated value | 110 ... 240 V |
| holding power at AC minimum | 8.6 W |

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| 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

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| product function | |
| <ul style="list-style-type: none"> • overload protection • phase failure detection • asymmetry detection • ground fault detection • test function • external reset | <ul style="list-style-type: none"> Yes Yes Yes Yes Yes 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 | 3 ... 12 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 | |
| <ul style="list-style-type: none"> • at AC at 600 V • at DC at 250 V | <ul style="list-style-type: none"> 5 A 1 A |
| contact rating of auxiliary contacts of overload relay according to UL | 5A@600VAC (B600), 1A@250VDC (R300) |
| insulation voltage (Ui) | |
| <ul style="list-style-type: none"> • with single-phase operation at AC rated value • with multi-phase operation at AC rated value | <ul style="list-style-type: none"> 600 V 300 V |

Enclosure

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| degree of protection NEMA rating of the enclosure | NEMA Type 3R |
| design of the housing | Weather proof for outdoor use |

Standard Control Devices

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|---|--------------------------------------|
| product component Hand-Off-Auto selector switch | Yes |
| type of Hand-Off-Auto selector switch | 30mm metal housing with matte finish |
| product component start push button | Yes |
| type of start push button | 30mm metal housing with matte finish |

Circuit Breaker

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| type of the motor protection | Motor circuit protector (magnetic trip only) |
| operational current of motor circuit breaker rated value | 10 A |
| adjustable current response value current of instantaneous short-circuit trip unit | 30 ... 100 A |

Mounting/wiring

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| 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 AWG ... 10 AWG) or 1x (12 AWG ... 10 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 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 |

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|---|---|
| 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 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 |

Short-circuit current rating

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| design of the short-circuit trip | Instantaneous trip circuit breaker |
| maximum short-circuit current breaking capacity (Icu) | |
| <ul style="list-style-type: none"> • at 240 V • at 480 V • at 600 V | 100 kA 100 kA 25 kA |
| 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=US2:87DUC6MA>

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

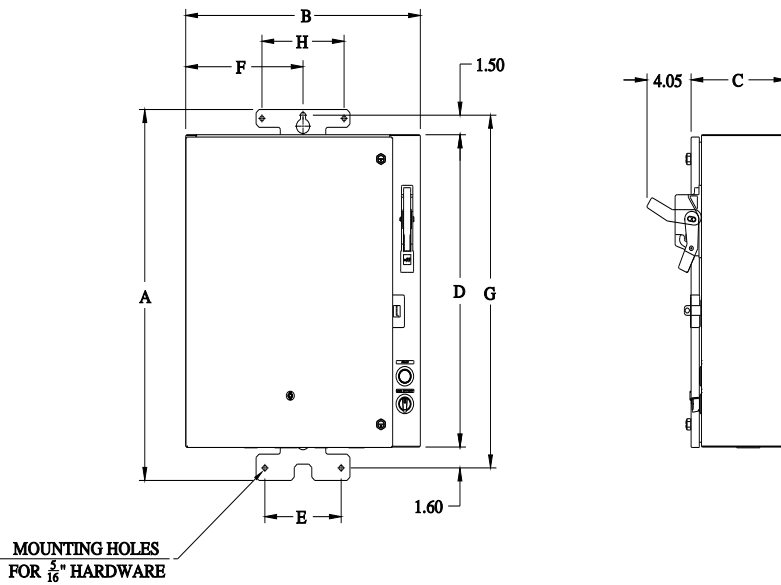
<https://support.industry.siemens.com/cs/US/en/ps/US2:87DUC6MA>

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

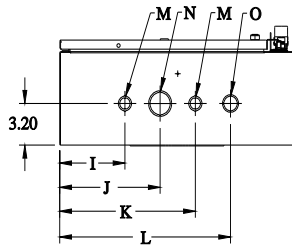
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=US2:87DUC6MA&lang=en

Certificates/approvals

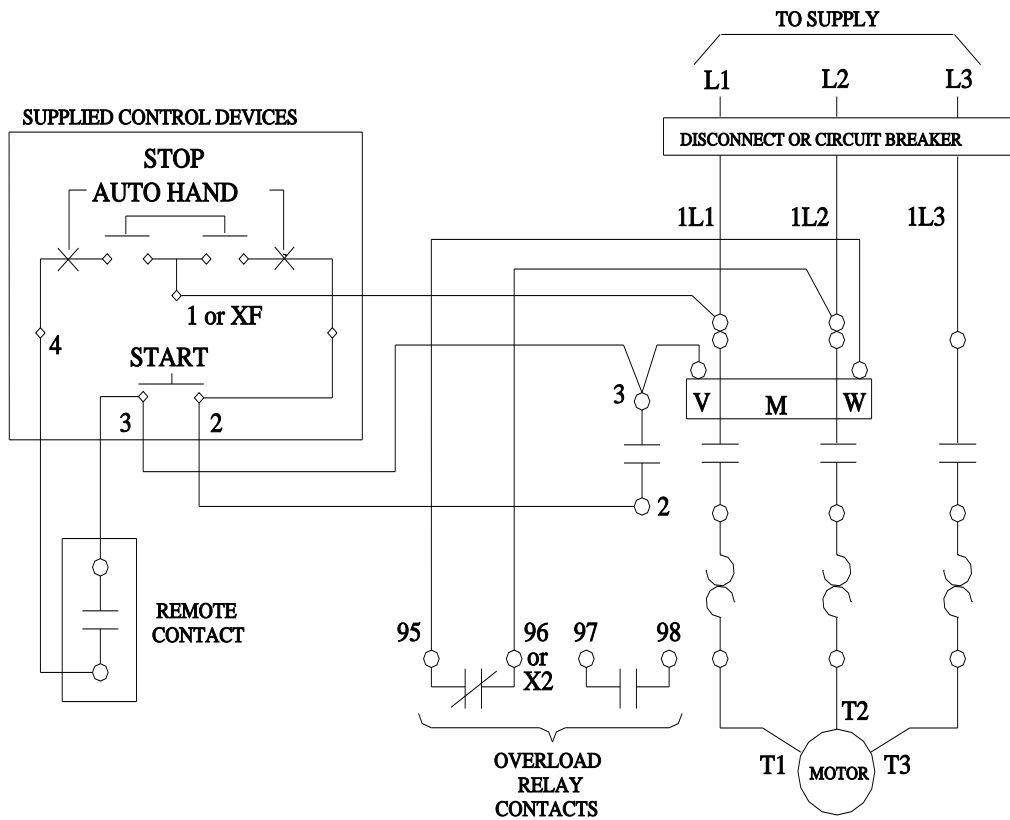
<https://support.industry.siemens.com/cs/US/en/ps/US2:87DUC6MA/certificate>



| OUTLINE DIMENSIONS | | | | | | |
|---------------------|-------|-------|-------|----------|-----------|-----------|
| A | B | C | | | | |
| 28.50 | 20.00 | 8.06 | | | | |
| MOUNTING DIMENSIONS | | | | | | |
| D | E | F | G | H | | |
| 24.00 | 6.50 | 10.00 | 27.10 | 7.00 | | |
| CONDUIT KNOCKOUTS | | | | | | |
| I | J | K | L | M | N | O |
| 5.50 | 8.50 | 11.50 | 14.50 | 1.12-875 | 1.96-1.71 | 1.35-1.12 |



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