



Figure similar

Non-reversing motor starter, Size 3, Three phase full voltage, Amb. compensate bimetal OLR, Contactor amp rating 90A, 208VAC 60Hz coil, Non-combination type, Enclosure type 1, Indoor general purpose use

|                                                                         |                                          |
|-------------------------------------------------------------------------|------------------------------------------|
| product brand name                                                      | Class 14 & 22                            |
| design of the product                                                   | Full-voltage non-reversing motor starter |
| <b>General technical data</b>                                           |                                          |
| weight [lb]                                                             | 32 lb                                    |
| Height x Width x Depth [in]                                             | 20 × 12 × 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                                      |
| <b>Horsepower ratings</b>                                               |                                          |
| yielded mechanical performance [hp] for 3-phase AC motor                |                                          |
| • at 200/208 V rated value                                              | 25 hp                                    |
| • at 220/230 V rated value                                              | 30 hp                                    |
| • at 460/480 V rated value                                              | 50 hp                                    |
| • at 575/600 V rated value                                              | 50 hp                                    |
| <b>Contactor</b>                                                        |                                          |
| size of contactor                                                       | NEMA controller size 3                   |
| 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                          | 90 A                                     |
| mechanical service life (operating cycles) of the main contacts typical | 5000000                                  |
| <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 AC at 60 Hz rated value                                            | 208 V                                    |
| holding power at AC minimum                                             | 14 W                                     |
| apparent pick-up power of magnet coil at AC                             | 310 VA                                   |
| apparent holding power of magnet coil at AC                             | 26 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                                                                                                                | 26 ... 41 ms                                        |
| OFF-delay time                                                                                                               | 14 ... 19 ms                                        |
| <b>Overload relay</b>                                                                                                        |                                                     |
| product function                                                                                                             |                                                     |
| • overload protection                                                                                                        | Yes                                                 |
| • test function                                                                                                              | Yes                                                 |
| • external reset                                                                                                             | Yes                                                 |
| reset function                                                                                                               | Manual and automatic                                |
| adjustment range of thermal overload trip unit                                                                               | 0.85 ... 1.15                                       |
| number of NC contacts of auxiliary contacts of overload relay                                                                | 3                                                   |
| number of NO contacts of auxiliary contacts of overload relay                                                                | 0                                                   |
| operational current of auxiliary contacts of overload relay                                                                  |                                                     |
| • at AC at 600 V                                                                                                             | 5 A                                                 |
| • at DC at 250 V                                                                                                             | 5 A                                                 |
| contact rating of auxiliary contacts of overload relay according to UL                                                       | 5A@600VAC (B600), 5A@250VDC (P300)                  |
| <b>Enclosure</b>                                                                                                             |                                                     |
| degree of protection NEMA rating                                                                                             | 1                                                   |
| design of the housing                                                                                                        | Extra-wide                                          |
| design of the housing                                                                                                        | indoors, usable on a general basis                  |
| <b>Mounting/wiring</b>                                                                                                       |                                                     |
| mounting position                                                                                                            | Vertical                                            |
| fastening method                                                                                                             | Surface mounting and installation                   |
| type of electrical connection for supply voltage line-side                                                                   | Box lug                                             |
| tightening torque [lbf-in] for supply                                                                                        | 120 ... 120 lbf-in                                  |
| 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 ... 50 lbf-in                                    |
| 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 at 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 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 at 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                                                          | 5 ... 12 lbf-in                                     |
| type of connectable conductor cross-sections at overload relay at AWG cables for auxiliary contacts single or multi-stranded | 2x (16 ... 12 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 fuse link for short-circuit protection of the main circuit required                                            | 10kA@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                                                                                                                   | 10 kA                                               |
| • at 600 V                                                                                                                   | 10 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](http://www.usa.siemens.com/iccatalog)

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/us/Catalog/product?mlfb=US2:14HP82BD81>

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

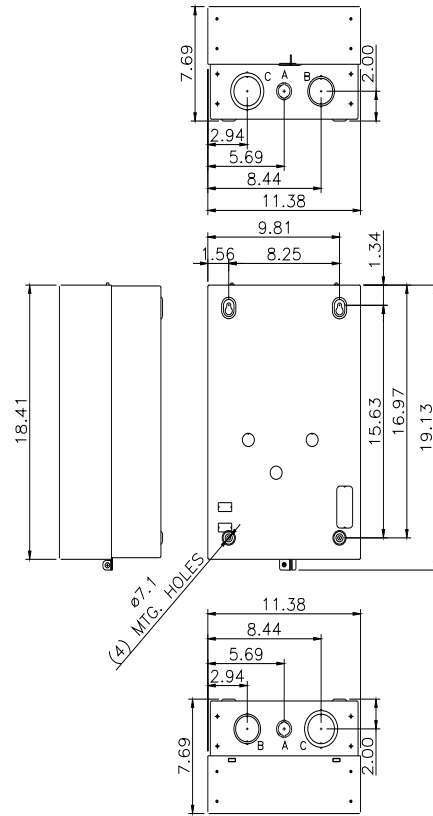
<https://support.industry.siemens.com/cs/US/en/ps/US2:14HP82BD81>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=US2:14HP82BD81&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=US2:14HP82BD81&lang=en)

Certificates/approvals

<https://support.industry.siemens.com/cs/US/en/ps/US2:14HP82BD81/certificate>



| LETTER | KNOCKOUT & CONDUIT SIZE                                       |
|--------|---------------------------------------------------------------|
| A      | $\varnothing 22.2$ X $\varnothing 28.6$ FOR 12.7 & 19 CONDUIT |
| B      | $\varnothing 43.6$ X $\varnothing 50$ FOR 31.8 & 38.1 CONDUIT |
| C      | $\varnothing 50$ X $\varnothing 62.7$ FOR 38.1 & 50.8 CONDUIT |



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