

STARTER,FVNR,S0,3PH,THOLR,120VAC,NEMA 1



Figure similar

|                         |                                  |
|-------------------------|----------------------------------|
| Product brand name      | Siemens                          |
| Product designation     | Non-reversing motor starter      |
| Special product feature | No factory installed accessories |

### General technical data

|  |                          |
|--|--------------------------|
| Weight [lb]  | 8 lb                     |
| Height x Width x Depth [in]                                  | 11 × 7 × 5 in            |
| Protection against electrical shock                          | NA for enclosed products |
| Installation altitude [ft] at height above sea level maximum | 6 560 ft                 |
| Ambient temperature [°F] during storage                      | -22 ... +149 °F          |
| Ambient temperature [°F] during operation                    | -4 ... +104 °F           |
| Ambient temperature during storage                           | -30 ... +65 °C           |
| Ambient temperature during operation                         | -20 ... +40 °C           |
| Country of origin  | Germany                  |

### Power and control electronics

|   |    |
|---|----|
| Number of poles for main current circuit      | 3  |
| Type of voltage of the control supply voltage | AC |

|  |                                |
|--|--------------------------------|
| Control supply voltage   |                                |
| <ul style="list-style-type: none"> <li>• at AC at 50 Hz rated value</li> <li>• at AC at 60 Hz rated value</li> </ul>   | 110 V<br>120 V                 |
| Disconnecter functionality   | No                             |
| Yielded mechanical performance [hp] for three-phase AC motor   |                                |
| <ul style="list-style-type: none"> <li>• at 200/208 V rated value</li> <li>• at 220/230 V rated value</li> <li>• at 460/480 V rated value</li> <li>• at 575/600 V rated value</li> </ul> | 2 hp<br>3 hp<br>5 hp<br>7.5 hp |

### Contactors

|   |            |
|---|------------|
| Number of NO contacts for main contacts                                 | 3          |
| Operating voltage for main current circuit at AC at 60 Hz maximum       | 600 V      |
| Operating voltage at AC-3 rated value maximum                           | 600 V      |
| Mechanical service life (switching cycles) of the main contacts typical | 10 000 000 |

### Auxiliary contact

|   |                                 |
|---|---------------------------------|
| Number of NC contacts for auxiliary contacts                      | 1                               |
| Number of NO contacts for auxiliary contacts                      | 1                               |
| Number of total auxiliary contacts maximum                        | 8                               |
| Contact rating of auxiliary contacts of contactor according to UL | 10A@600V(A600), 2.5A@600V(Q600) |

### Coil

|  |             |
|--|-------------|
| Apparent pick-up power of magnet coil at AC                              | 67 V·A      |
| Apparent holding power of magnet coil at AC                              | 6.5 V·A     |
| Operating range factor control supply voltage rated value of magnet coil | 0.8 ... 1.1 |
| Switch-on delay time   | 9 ... 38 ms |
| Off-delay time   | 4 ... 16 ms |

### Overload relay

|  |  |
|--|--|
| Product function   |  |
| <ul style="list-style-type: none"> <li>• Overload protection</li> <li>• Test function</li> <li>• External reset</li> </ul> | Yes<br>Yes<br>Yes                                      |
| Reset function   | Manual, automatic and remote (with optional accessory) |
| Adjustment range of thermal overload trip unit   | 28 ... 40  |
| Number of NC contacts of auxiliary contacts of overload relay  | 1  |
| Number of NO contacts of auxiliary contacts of overload relay  | 1  |

|  |                                    |
|--|------------------------------------|
| Contact rating of auxiliary contacts of overload relay according to UL | 5A@600VAC (B600), 1A@250VDC (R300) |
|--|------------------------------------|

### Enclosure

|   |                                |
|---|--------------------------------|
| Degree of protection NEMA rating of the enclosure | NEMA 1 standard size enclosure |
| Design of the housing                             | Indoor general purpose use     |

### Mounting/wiring

|   |                                   |
|---|-----------------------------------|
| (mounting position)   | vertical                          |
| (mounting type)   | Surface mounting and installation |
| Type of electrical connection for supply voltage line-side  | Screw-type terminals              |
| Tightening torque [lbf·in] for supply   | 18 ... 21 lbf·in                  |
| Type of connectable conductor cross-sections at line-side at AWG conductors single or multi-stranded                        | 2x (16 ... 12), 2x (14 ... 8)     |
| Temperature of the conductor for supply maximum permissible   | 60 °C                             |
| Material of the conductor for supply  | CU                                |
| Type of electrical connection for load-side outgoing feeder   | Screw-type terminals              |
| Tightening torque [lbf·in] for load-side outgoing feeder  | 18 ... 21 lbf·in                  |
| Type of connectable conductor cross-sections at AWG conductors for load-side outgoing feeder single or multi-stranded       | 2x (16 ... 12), 2x (14 ... 8)     |
| Temperature of the conductor for load-side outgoing feeder maximum permissible  | 60 °C                             |
| Material of the conductor for load-side outgoing feeder   | 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 (16 ... 12), 2x (14 ... 8)     |
| 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  | 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), 2x (18 ... 14)    |
| 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 ... 16), 2x (18 ... 14) |
| Temperature of the conductor at overload relay for auxiliary contacts maximum permissible  | 70 °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                    | Class J                          |
| Design of the short-circuit trip   | Thermal magnetic circuit breaker |
| Maximum short-circuit current breaking capacity (I <sub>cu</sub> )                                   | 5 kA                             |
| <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 480 V</li> <li>• at 600 V</li> </ul> | 5 kA                             |
| (certificate of suitability)   | UL 60947-4-1                     |

#### 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=3RE4122-3AA31-4FY0>

**Search Datasheet in Service&Support (Manuals)**

<https://support.industry.siemens.com/cs/US/en/ps/3RE4122-3AA31-4FY0/man>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RE4122-3AA31-4FY0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RE4122-3AA31-4FY0&lang=en)

**Certificates/approvals**

<https://support.industry.siemens.com/cs/US/en/ps/3RE4122-3AA31-4FY0/certificate>



| LETTER | KNOCKOUT & CONDUIT SIZE                 |
|--------|---|
| A      | %%C22.2 FOR 12.7 CONDUIT                |
| B      | %%C22.2 X %%C28.6 FOR 12.7 & 19 CONDUIT |
| C      | %%C28.6 X %%C34.9 FOR 19 & 25.4 CONDUIT |

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