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E87010-A0519-T003-A7-3RE4

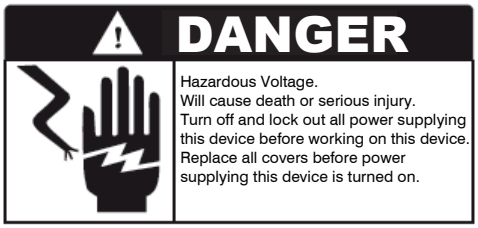
Instructions
Installation
Operation
Maintenance
Replacement

March, 2019

IMPORTANT

These instructions do not purport to cover all details or variations in equipment, nor to provide for every possible contingency to be met in connection with installation, operation or maintenance, should further information be desired, or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the local Siemens sales office. The content of this instruction manual shall not become part of or modify any prior or existing agreement, commitment or relationship. The sales contract contains the entire obligation of Siemens. The warranty contained in the contract between the parties is the sole warranty of Siemens. Any statements contained herein do not create new warranties or modify the existing warranty.

3RE4
Non-Combination Motor
Controllers



Description

3RE4 non-combination motor controllers include a horsepower rated contactor and an overload relay (OLR) with a reset operator (for motor starters). They may also include optional factory installed accessories such as pilot devices and a control power transformer.

The NEMA Type 1 enclosures have a lift-off cover. They are suited for general purpose indoor applications only.

The NEMA Type 3/3R/4/12 enclosures have a removable hinged door. They are water and dust tight and are suited for outdoor as well as indoor applications.

The NEMA Type 4X 304 stainless steel enclosures are noncorrosive and have a removable hinged door. They are water and dust tight and are suited for outdoor as well as indoor applications.

Pre-Installation

1. Examine the enclosure and each component for shipping damage. Notify carrier for a claim if any damage is found. DO NOT attempt to install or apply power to any damaged product.

2. Verify that the horsepower, voltage and current rating of the motor do not exceed the controller rating.

3. If the control circuit is to be powered by an external source, verify that the supply voltage matches the voltage rating of the contactor coil.

4. If a control power transformer is supplied with the controller, verify that the supply voltage matches the primary voltage of the control power transformer.

5. For controllers other than size S2 starters, skip this step and proceed to the next one. Size S2 starters are shipped with the OLR uncoupled from the contactor. This is to help prevent damage should the product be mishandled during shipment. The OLR must be coupled to the contactor by following these steps:

    a. Couple the OLR to the contactor as shown in Figure 1.
    b. A jumper wire should already be connected to terminal A2 on the contactor. Route the loose end of the wire between the contactor and OLR as shown in Figure 2.
    c. Connect the loose end of the wire to terminal 95 on the OLR.

Installation

Install in accordance with the National Electrical Code in the United States, or Canadian Electrical Code in Canada, and any applicable local codes.

1. If the enclosure has a hinged door, the enclosure may be fastened directly to a solid mounting surface via the four mounting feet, which are included. All four mounting feet must be attached to the enclosure using the supplied hardware to retain the NEMA rating of the enclosure. Follow the instructions included with the mounting feet.

   If the enclosure has a lift-off cover, the enclosure must be fastened directly to a solid mounting surface via the mounting holes in the back of the enclosure. Mounting hardware is not included and any suitable hardware may be used.
2. If the NEMA Type 3/3R/4/12 enclosure is to be used as a Type 3R enclosure, drill a 1/8" – 1/4" diameter drain hole at the lowest point in the bottom of the enclosure.
3. Turn off and lock out the power that will be supplying the controller.
4. Install conduit and necessary grounding means and wire controller in accordance with the wiring diagram included with the controller. Conduit knockouts are provided on the enclosures with lift-off covers. For the hinged enclosures, use UL Listed conduit hubs with the same NEMA Type rating as the enclosure. Joint compound or equivalent is recommended on conduit threads to prevent water from entering the enclosure.
5. Check that all wiring is secure and does not interfere with proper operation of any device.
6. Check that all wiring connections, including factory connections are proper and tightened to the proper torque values.
7. Remove all foreign materials and debris from enclosure.
8. For thermal OLRs, set the MANUAL / AUTO switch and FLA dial as shown in Figure 3a. For solid-state OLRs, set the Trip Class dial, MANUAL / AUTO switch and FLA dial as shown in Figure 3b. For more information, refer to the OLR instruction sheet. The publication number may be found on the side of the device.
9. Depress the OLR Reset button to make sure the OLR is not tripped.
10. Close and fully latch the cover / door before applying power.
11. If a local selector switch is installed, make sure it is in the OFF position.
12. Apply power and turn the controller on. The contactor should energize. If it does not energize, troubleshoot the controller to locate the issue.

General Maintenance

Periodically conduct the following inspection and maintenance tasks.

1. Clean the inside of the enclosure by wiping off dust and dirt which may have accumulated.
2. Clean weep hole in bottom of NEMA Type 3R enclosure to insure proper drainage.
3. Check all screws for tightness.
4. Refer to the OLR instruction sheet for instructions on optional device tests.

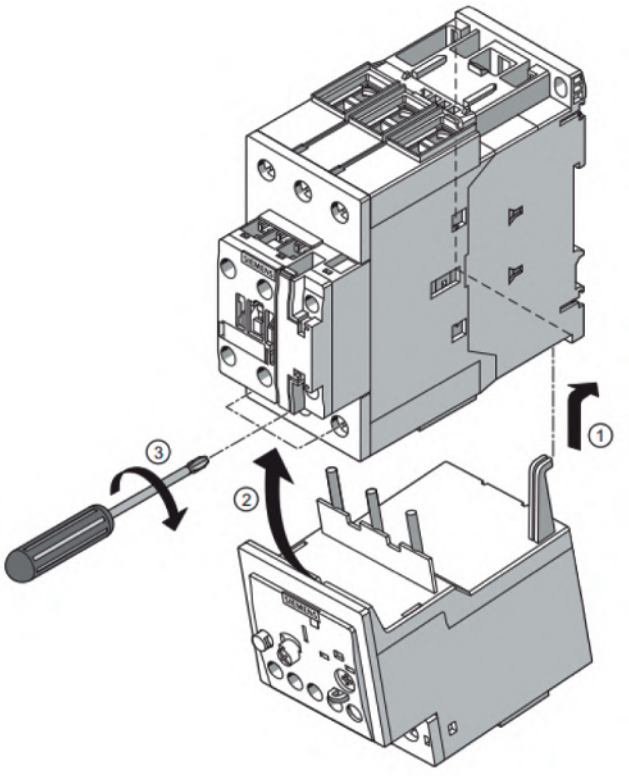


Figure 1
(Typical for both thermal and solid-state OLRs)

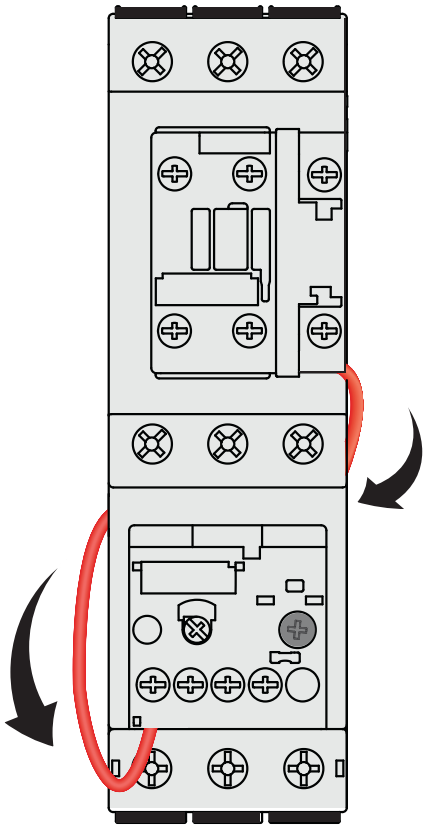


Figure 2
(Typical for both thermal and solid-state OLRs)

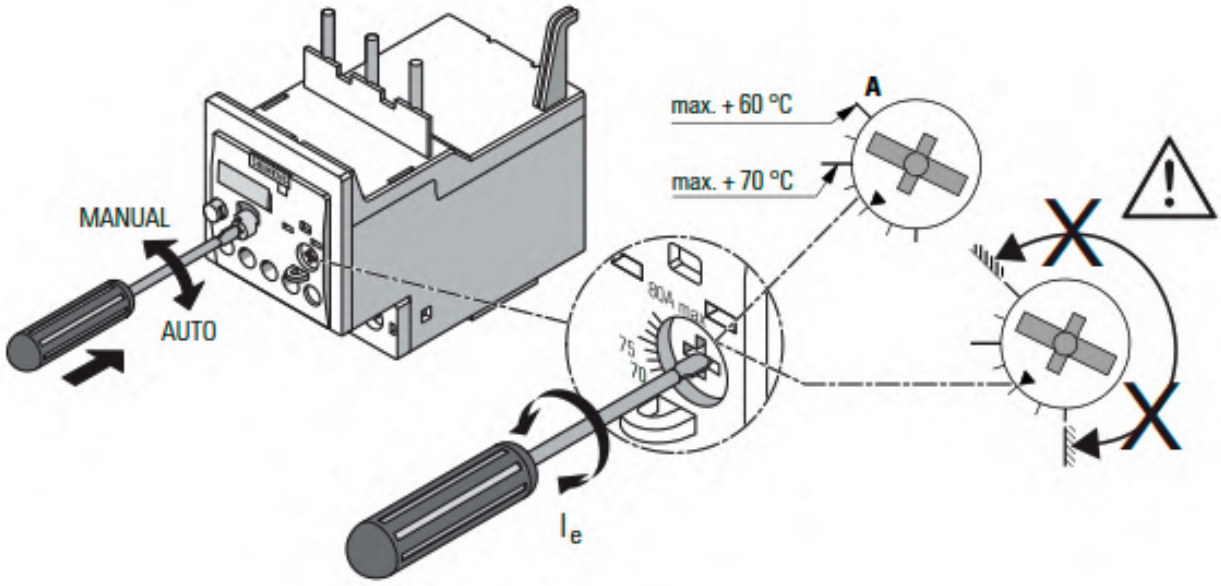


Figure 3a
Thermal OLR

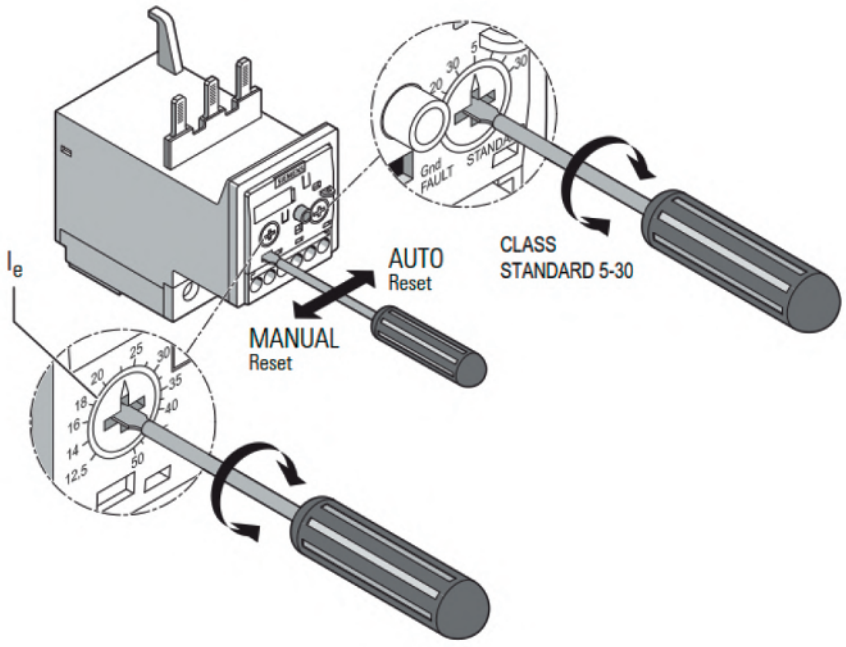


Figure 3b
Solid State OLR

Wire Type and Connection Torque Specifications

Contactor & OLR power connection type / torque	S00: Screw / 7 – 10 lb.-in. S0: Screw / 18 – 21 lb.-in. S2: Box lug / 26 - 39 lb.-in.
Contactor & OLR power connection solid & stranded conductors	S00: 2x (20 - 16), 2x (18 - 14), 2x 12 75°C CU S0: 2x (16 - 12), 2x (14 - 8) 75°C CU S2: 2x (18 - 2), 1x (18 - 1) 75°C CU
Coil connection type / torque	Screw / 7 - 10 lb.-in
Coil solid & stranded conductors	2x (20 - 16), 2x (18 - 14), 2x 12 CU 75°C
Contactor auxiliary contact connection type / torque	Screw / 7 - 10 lb.-in
Contactor auxiliary contact solid & stranded conductors	2x (20 - 16), 2x (18 - 14), 2x 12 CU 75°C
OLR auxiliary contact connection type / torque	Screw / 7 - 10 lb.-in
OLR auxiliary contact solid & stranded conductors	Thermal: 2x (20 ... 16), 2x (18 ... 14) CU 75°C Solid-State: 1x (20 - 14), 2x (20 - 14) CU 75°C

Replacement Parts

Description	Part Number
Contactor parts (Obtain Cat. No. from device and refer to Industrial Control Catalog.)	-
OLR parts (Obtain Cat. No. from device and refer to Industrial Control Catalog.)	-
OLR reset operator for all NEMA Type enclosures	49MBRS
Mounting feet for hinged enclosures (four feet per pack)	*Saginaw SCE-ELJMFK

* Part is not sold by Siemens and must be purchased from a third-party supplier.