

Installation Instructions

DCNHE300 Series

Part Number: DCNHE300MFA-B, DCNHE300MFA-F, DCNHE300NFA-B, DCNHE300NFA-F



Expertise Applied | Answers Delivered



Description

The DCNHE300 Series high-voltage DC contactor relay is designed for electric vehicle and industrial applications, including battery power supply, charging systems, motor control, circuit isolation, and circuit protection. Its compact, corrosion-resistant resin housing ensures reliable performance in harsh environments. Sealed contacts prevent contamination and electrical arc leakage, providing maximum safety and long-term reliability.

Supporting 300A continuous current—or up to 500A when using 400 MCM cable—the SPST normally open (NO) contact circuitry handles a maximum voltage of 1000V DC. A PWM coil design reduces power consumption and heat generation during operation. The DCNHE300 Series contactor is offered with non-polarized load terminals in internal-thread or stud terminal configurations, along with a 12–36V DC coil voltage rating, delivering flexible, high-performance DC switching for demanding applications.

Web Resources

Download 2D print, installation guide and technical resources at: littelfuse.com/DCNHE300

Order Information:

See datasheet for part numbers and descriptions.

Installation

Assemble the relay in the following sequence:

Step 1. Prepare the Work Area - It is always advisable when working with electricity to take caution and turn off any power unit you may encounter while installing any electrical device.

Step 2. Mount the Contactor - Mount the contactor using the mounting hardware that is supplied with the contactor or the recommended fasteners.

Step 3. Prepare the Wiring and Connect the Control Wires - Strip all the wires that will be connected to the control coil and the contactor terminations with a wire stripper. Remove approximately ½ inch of the wire's insulation to expose the bare copper wire. Connect the control wires to the coil solenoid first, red and black wires on contactor. When installing the wires, be sure that a good electrical connection is made by using an appropriate electrical connector. Do not allow any loose strands to short against any equipment and cause electrical damage.

Step 4. Connecting the Switched Auxiliary Contact Wires - If an Auxiliary Contact is provided, connect the low power Line feed wire to one of the white wires and the low power Load output wire to the remaining white wire. When installing the wires, be sure that a good electrical connection is made. Do not allow any loose strands to short against any equipment and cause electrical damage.

Step 5. Connecting the Switched Power Wires - Verify the switched contacts are open, no continuity between terminals "A1" and "A2". Using the hardware that is supplied with the contactor or the recommended fasteners, connect the Line power feed wire to the contactor terminal marked "A1". Connect the Load power output wire to the contactor terminal marked "A2". As with the control wires, be sure that a good electrical connection is made. Do not allow any loose strands to short against any equipment and cause electrical damage.

Step by step images shown in Figure 2 on page 2.



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DCNHE300NFA-F



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STEP 1	 DANGER Electrical Hazard Turn Off Power Before Servicing	Prepare the Work Area - It is always advisable when working with electricity to take caution and turn off any power unit you may encounter while installing any electrical device.
STEP 2		Mount the Contactor - Mount the contactor using the mountin hardware that is supplied with the contactor or the recommended fasteners.
STEP 3		Prepare the Wiring and Connect the Control Wires - Strip all the wires that will be connected to the control coil and the contactor terminations with a wire stripper. Remove approximately ½ inch of the wire's insulation to expose the bare copper wire. Connect the control wires to the coil solenoid first, red and black wires on contactor. When installing the wires, be sure that a good electrical connection is made by using an appropriate electrical connector. Do not allow any loose strands to short against any equipment and cause electrical damage.
STEP 4		Connecting the Switched Auxiliary Contact Wires - If an Auxiliary Contact is provided, connect the low power Line feed wire to one of the white wires and the low power Load output wire to the remaining white wire. When installing the wires, be sure that a good electrical connection is made. Do not allow any loose strands to short against any equipment and cause electrical damage.
STEP 5		Connecting the Switched Power Wires - Verify the switched contacts are open, no continuity between terminals "A1" and "A2". Using the hardware that is supplied with the contactor or the recommended fasteners, connect the Line power feed wire to the contactor terminal marked "A1". Connect the Load power output wire to the contactor terminal marked "A2". As with the control wires, be sure that a good electrical connection is made. Do not allow any loose strands to short against any equipment and cause electrical damage.

Specifications, descriptions and illustrative material in this literature are as accurate as known at the time of publication, and are subject to changes without notice. Visit littelfuse.com for the most up-to-date technical information.