CR460 LIGHTING CONTACTOR SERIES

WARNING!
HAZARDOUS VOLTAGE
Disconnect all power before working on equipment.
Electrical shock will cause severe injury or death.

TENSION DANGEREUSE
Coupez l’alimentation avant travailler sur le produit.
Electrocution peut causer de severes blessures ou la mort.

Description
The GE CR460 Series is a magnetically operated lighting contactor, and is available in either an open or an enclosed form. These contactors are field configurable for up to twelve poles, with a maximum of eight normally closed “NC” poles.

1 MAIN BASE

1.1 Description
The base of the lighting contactor (see Figure 1) has provisions to accept power poles at positions “1” to “6”. Provisions are also provided for up to 2 “NO” and 2 “NC” auxiliary contacts.

1.2 Installation
1. Remove all packing material from the base and all the kits.
2. Contactor must be mounted in the vertical position on a sturdy support.
3. Additional over-current protection may be required. Refer to the National Electrical Code or local electrical code as required.
4. Refer to Table D on page 3 for the wire size and the required torque for the coil terminals.

2 POWER POLES: CR460XP31 / 32

2.1 Description
Power poles are available in both single pole (CR460XP31) and double pole (CR460XP32) versions. A maximum of twelve poles may be installed on the base. Positions “1” to “4” on the base can be configured as either normally open “NO” or “NC” while positions “5” and “6” can be configured as “NO” only.

2.2 Removal and Conversion of Power Poles
1. If installed ensure that all power is disconnected.
2. For multiple possible configurations of the power pole, refer to the Table A below.

3. Remove block by pulling the clip as shown (see Figure 2). Rotate block 180 degrees to convert from NO to NC.

Table A

<table>
<thead>
<tr>
<th>NO</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>0</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>80</td>
<td>90</td>
</tr>
<tr>
<td>0</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td>1</td>
<td>11</td>
<td>30</td>
<td>31</td>
<td>50</td>
<td>51</td>
<td>70</td>
<td>71</td>
<td>90</td>
<td>91</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>31</td>
<td>50</td>
<td>51</td>
<td>70</td>
<td>71</td>
<td>90</td>
<td>91</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>50</td>
<td>51</td>
<td>70</td>
<td>71</td>
<td>90</td>
<td>91</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>60</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>90</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.3 Installation of Power Poles
1. Check moving carrier to assure free movement
2. Install the block by sliding foot into slot; pull the clip, and position block onto base. Release the clip.
3. Check for the lettering on the base. “NO” should be visible if the power pole is assembled as normally open, or “NC”, if it is assembled a normally closed (see Figure 3).

2.4 Termination
Power poles can accept wires from #14 to #8 AWG (either solid or stranded) as single or combination of two wires (refer to Table B below for valid wire combination). Refer to Table D on page 3 for the required torque.

<table>
<thead>
<tr>
<th>Size</th>
<th>Type</th>
<th>8 AWG</th>
<th>10 AWG</th>
<th>12 AWG</th>
<th>14 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Wired</td>
<td>Wired</td>
<td>Wired</td>
<td>Wired</td>
</tr>
<tr>
<td>8 AWG</td>
<td>Wired</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>10 AWG</td>
<td>Wired</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Wired</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>12 AWG</td>
<td>Wired</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Wired</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Table B

3 AUXILIARY CONTACTS: CR460XB1/XB2

3.1 Description
The auxiliary contact blocks are available in both single pole (CR460XB1) and double pole (CR460XB2) versions. Auxiliary contacts can be added on either side of the base (see Figure 1). When added to the LEFT side of base, the auxiliary block functions as “NO”, and when added to the RIGHT side of base it functions as “NC”. Refer to Table D on page 3 for wire size and required torque.

4 CONTROL MODULE KITS
The base (electrically held) can be converted to a mechanically held type by adding the control module kit.

IMPORTANT: The control module kits are for use with the coils up to 277 Vac maximum. Use a control power transformer for higher voltages.

Conversion from an electrically held to a mechanically held type is possible by adding the “control module kit” to the base.

4.1 Description
Control modules kits are available both for 2-wire and 3-wire control with a wide range of control voltage inputs. Figure 4 shows the components in 2-wire control module kit. A 3-wire kit includes an additional single-pole auxiliary contact block. Refer to the Ordering Detail section for more information on the control module kits and the control voltages available.

4.2 Installation
1. Disconnect all power and mount the control module on the contactor as shown in Figure 1 (3-wire control type).
2. Mount the latch and the latch cover as shown in Figure 5.
3. Be sure the latch is firmly in place with the wire facing out and the slot positioned with tab inserted.
4. Operate contactor manually, using manual operation tabs on side, prior to installing cover to insure correct installation.
   Note: Once latch cover has been installed, it may not be removed.
5. For 2-wire control, the auxiliary contact block is assembled to the right side of the base for “NC”.

IMPORTANT: Latch and electronic module must be used together to ensure proper operation. Failure to do so will void warranty.

4.3 Wiring
Follow the schematic (Figure 6) for 2 and 3-wire control. Refer to Table D on page 3 for wire size and required torque.

Note: For 2-wire control, ensure the two wires coming from the control module are connected across a NC auxiliary contact.
5 COIL KITS

5.1 Description
A wide range of coils is available for both electrically held and mechanically held lighting contactor. Refer to the Ordering Detail section for more information about the coil kit catalog numbers and voltages available.

Note: For mechanically held lighting contactor, only use coil rated up to 277 VAC maximum. Use control power transformer for higher voltages.

5.2 Installation
1. Disconnect all power. Replace and mount the coil on the contactor as shown in Figure 7.
2. For mechanically held contactors, remove all wires from the control module and remove the coil cover along with control module.

5.3 Wiring
Coil terminal can accept wires from #18 AWG to #14 AWG (either solid or stranded) as single or combination of two wires (Refer to Table C below for valid wire combination). Refer to Table D below for required torque.

### Table C

<table>
<thead>
<tr>
<th>Size</th>
<th>Type</th>
<th>#14 AWG</th>
<th>#16 AWG</th>
<th>#18 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>Solid</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Solid</td>
<td>Stranded</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Stranded</td>
<td>Solid</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Stranded</td>
<td>Stranded</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### Table D

<table>
<thead>
<tr>
<th>Kit</th>
<th>Wire Size (AWG)</th>
<th>Wire Material</th>
<th>Wire Type</th>
<th>Temperature (°C)</th>
<th>Torque (in-lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coil</td>
<td>18-14</td>
<td>Copper</td>
<td>Solid or Stranded</td>
<td>60 or 75</td>
<td>15</td>
</tr>
<tr>
<td>Power Pole</td>
<td>14-8</td>
<td>Copper</td>
<td>Solid or Stranded</td>
<td>75</td>
<td>35</td>
</tr>
<tr>
<td>Aux. Contact</td>
<td>22-12</td>
<td>Copper</td>
<td>Solid or Stranded</td>
<td>60 or 75</td>
<td>7-12</td>
</tr>
<tr>
<td>Control Module</td>
<td>22-12</td>
<td>Copper</td>
<td>Solid or Stranded</td>
<td>60 or 75</td>
<td>5</td>
</tr>
</tbody>
</table>

* #8 AWG is stranded only for the power pole.

Ordering details

**Coil Kits:**
- CR460XCC 24V 60Hz/20V 50Hz coil
- CR460XCD 28V 60Hz/24V 50Hz coil
- CR460XCJ 115-120V 60Hz/110V 50Hz coil
- CR460XCL 200-208V 60Hz coil
- CR460XCS 230-240V 60Hz/220V 50Hz coil
- CR460XCN 265-277V 60Hz/240V 50Hz coil
- CR460XCT 347V 60Hz coil
- CR460XCU 460-480V 60Hz/440V 50Hz coil
- CR460XCY 575-600V 60Hz/550V 50Hz coil

**Control Module Kits:**
- CR460XMB 2 wire 24 Vac 60/50 Hz
- CR460XMC 2 wire 110-120 Vac 60/50 Hz
- CR460XMD 2 wire 200-277 Vac 60/50 Hz
- CR460XME 2 wire 12-18 Vdc
- CR460XMM 3 wire 24 Vac 60/50 Hz
- CR460XMN 3 wire 110-120 Vac 60/50 Hz
- CR460XMP 3 wire 200-277 Vac 60/50 Hz
- CR460XMR 3 wire 12-18 Vdc

**Power Pole Kits:**
- CR460XP31 Single Power Pole
- CR460XP32 Double Power Pole

**Auxiliary Contact Kits:**
- CR460XB1 1 NO/NC
- CR460XB2 2 NO/NC

Note: 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 purpose, the matter should be referred to the nearest General Electric sales office.
Wiring Diagrams

CR460L Electrically Held Contactor

CR460M Mechanically Held Contactor