**MULTI-LIGHT OILTIGHT CONTROLS**

CMC square, multi-light controls are ideal for process control panels. They are available with selector, pushbutton, and selector-push actuators, and mechanical or electronic duty contact blocks.

- Indicators, pushbuttons, selectors, and selector-push units
- Mechanical and electronic duty contact blocks
- Contact blocks tandem mount behind operator
- More circuitry control than with any other control by using four plunger adapter kit
- Legend plates with legending in square or diagonal formats
- Bright, lighted displays with good contrast for easy identification
- Square shape is compatible with other panel controls
- Rotary cam-actuated contact blocks
- NEMA 13, oiltight and dusttight
- CSA certified no. LR57326
- UL listed file no. E37138

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CMC Multi-light Oiltight Controls

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Multi-Light Oiltight Controls

Contact Blocks

- PTC heavy duty and electronic duty contact blocks
- Tandem mounting in any combination up to four contact blocks per operator. (Two blocks on spring return devices.)
- Exclusive four plunger adapter kit may be used with selector and selector-push units for greater circuit flexibility.

HEAVY DUTY UL/CSA Listed
Heavy duty contact blocks contain fine silver, buttong-type contacts. Terminals are angled 30° for easy screwdriver access to terminal screws. Screws contain self-lifting pressure plates for easy wiring. Holds bare wires of 12 to 16 gauge, either singly or two wires of same or adjacent size. Crimp on spade or ring lugs can be used. Base of contact block has marked pad for pencil identification of the control from back of panel.

TWO CIRCUIT BLOCKS ORDER GUIDE

<table>
<thead>
<tr>
<th>Description</th>
<th>Symbol</th>
<th>Silver Catalog Listing</th>
<th>Gold Plated Catalog Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 NC-1 NO</td>
<td></td>
<td>PTCB</td>
<td>PTCT</td>
</tr>
<tr>
<td>1 NO</td>
<td></td>
<td>PTCD</td>
<td></td>
</tr>
<tr>
<td>1 NC</td>
<td></td>
<td>PTCE</td>
<td></td>
</tr>
<tr>
<td>1 NO-1 NO</td>
<td></td>
<td>PTCF</td>
<td></td>
</tr>
<tr>
<td>1 NC-1 NC</td>
<td></td>
<td>PTCG</td>
<td></td>
</tr>
</tbody>
</table>

For AC use only.
For use with 909 pushbuttons.
For other applications contact MICRO SWITCH.

SILVER

ELECTRONIC DUTY
Electronic duty contact blocks contain sliding contacts for reliable operation on electrical loads where thermal cleaning action is not present. These blocks are offered with silver contacts for low energy applications or gold contacts for solid state millivolt and milliamp dry circuits. Terminals are combination .187 x .021 inch quick connect plated for soldering.

GOLD

FOUR CIRCUIT BLOCKS ORDER GUIDE

<table>
<thead>
<tr>
<th>Description</th>
<th>Symbol</th>
<th>Silver Catalog Listing</th>
<th>Gold Catalog Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2NC-2NO</td>
<td></td>
<td>PTCC</td>
<td>PTCW</td>
</tr>
<tr>
<td>1 NC</td>
<td></td>
<td>PTCH</td>
<td></td>
</tr>
<tr>
<td>1 NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 NC-1 NO</td>
<td></td>
<td>PTCU</td>
<td></td>
</tr>
</tbody>
</table>

ELECTRICAL RATINGS

<table>
<thead>
<tr>
<th>Continuous Current 5 Amps. Carry</th>
<th>AC Volts 35% Power Factor</th>
<th>DC Volts Inductive Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>240 480 600</td>
<td>125 250</td>
</tr>
<tr>
<td>Normal Inrush Current in Amps.</td>
<td>60 30 15 12</td>
<td>— —</td>
</tr>
<tr>
<td>Normal Break in Amps.</td>
<td>6 3 1.5 1.2</td>
<td>2.2 0.55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maximum Volts</th>
<th>Maximum Resistive Loads in Amps.</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 VDC</td>
<td>1 Amp. Resistive</td>
</tr>
<tr>
<td>125 VAC</td>
<td>.5 Amp Resistive</td>
</tr>
</tbody>
</table>

Initial contact resistance—.006 ohm average
Multi-Light Oiltight Controls

Four Plunger Adapter Kit

- Exclusive four plunger actuation for selector and selector-push units.
- Affords more circuit sequencing possibilities by using all four points on the cam.

Any combination of heavy duty and electronic duty contact blocks (up to four) may be used per operator. Catalog Listing PTCA

* 4 Plunger Adapter Kit (Catalog Listing PTCA) includes two sets of auxiliary and offset plungers. One set is .200 inch longer than the other set in order to match the variation in 2-circuit and 4-circuit block depth.

CIRCUIT SEQUENCING CONTROL COMPARISON

2 PLUNGER ACTUATION

4 PLUNGER ACTUATION

BETWEEN BLOCKS 1 & 2

BETWEEN BLOCKS 2 & 3

CAM — Actuates plunger as it turns.

2 PLUNGER CONTACT BLOCK —
Offset plunger positions shown by dotted lines.

SPACER — Separates plunger action of upper and lower blocks.

* AUXILIARY PLUNGERS —
Used with 2 blocks above spacer.

OFFSET PLUNGERS —
Added to produce 4 plunger actuation. Positioned in upper stock to operate plungers below spacer.

LOWER CONTACT BLOCK —
Operated by offset plungers.
A complete CMC control includes:
- A cover plate with snap-in inserts
- A legend plate
- An operator
- Contact block(s)

To aid you in ordering, refer to the Legend Order Sheet (page 17) and CMC Specification Sheet (page 21). These forms are available from your nearest MICRO SWITCH Sales Office.

Use the Specification Sheet to order CMC units furnished to you:
1. Completely assembled, tested, and tagged with your tag number.
2. With all components packed in one box and tagged.
3. As individual components, each packed in its own box.

### TERMINAL CONSTRUCTION FOR LAMP OPERATION

#### 4 Terminal Construction

Four terminal construction provides two separate leads for each lamp in the two lamp CMC units. For electrical clearance, four terminal units require .969” (24.6mm) minimum spacing on all sides.

- C & 1—Lamp 1
- 2 & 12—Lamp 2
- 3 & 13—Lamp 1
- 4 & 14—Lamp 2

Lighted quadrants A & B

#### 5 Terminal Construction

Five terminal construction uses a common terminal (C). Minimum center mounting is possible with five terminal construction. Units may be placed adjacent to one another within .344” (8.74mm) in either horizontal or vertical rows.

- C—Common
- 1—Lamp 1
- 2—Lamp 2
- 3—Lamp 3
- 4—Lamp 4

#### 8 Terminal Construction

Eight terminal construction provides two separate leads for each lamp. For electrical clearance, eight terminal units require .969” (24.6mm) minimum spacing on all sides.

- C & 1—Lamp 1
- 2 & 12—Lamp 2
- 3 & 13—Lamp 3
- 4 & 14—Lamp 4

Terminal construction applies to indicators, pushbuttons, selectors, and selector-push modules.

For LED line voltage applications – Terminals C, 12, 13, 14 are connected to outer shell of lamp socket.
- Terminals 1, 2, 3, 4 are connected to inner pin of lamp socket.
Multi-Light Oiltight Controls

Indicators and Pushbuttons

- Suitable for use in NEMA 13 enclosures.

**Indicator**
- Four lighted quadrants
- Two or four transformers, 120 or 240 VAC
- Jumpers available for low voltage applications.
- Resistor boards available for 24V or 48V supply

**Pushbutton**
- Actuate up to four 2-plunger contact blocks in any combination
- Lighted and unlighted versions available

- Each lamp individually controlled
- Cover plates, color inserts, and legend plates are ordered separately.

**ORDER GUIDE**

Complete the last two blanks of the catalog listing with the terminal number, which is colored in the table at the right.

Order incandescent cover plate, color inserts, and legend plate separately from page 12.

Order LED lamps and color inserts separately.
- 6VAC/DC - Page 14
- 24VAC/DC - Page 15

Contact blocks may be ordered separately from page 4.

**QUADRANT AREAS**

**FOUR TERMINAL UNITS use with 2 lamps**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>120 VAC transformers (4) and (4) No. 755 lamps</td>
</tr>
<tr>
<td>02</td>
<td>240 VAC transformers (4) and (4) No. 755 lamps</td>
</tr>
<tr>
<td>03</td>
<td>Line voltage jumpers (4) - less lamps. Can be used with incandescent or LED bulbs.</td>
</tr>
<tr>
<td>04</td>
<td>48 volt resistors (4) and (4) No. 1819 lamps</td>
</tr>
<tr>
<td>05</td>
<td>24 volt resistors (4) and (4) No. 756 lamps</td>
</tr>
<tr>
<td>15</td>
<td>120 VAC transformers (4). For use with 6 volt LED lamps and color inserts. Order from page 14.</td>
</tr>
<tr>
<td>16</td>
<td>240 VAC transformers (4). For use with 6 volt LED lamps and color inserts. Order from page 14.</td>
</tr>
</tbody>
</table>

**FIVE TERMINAL UNITS use with 4 lamps**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
<td>120 VAC transformers (4) and (4) No. 755 lamps</td>
</tr>
<tr>
<td>52</td>
<td>240 VAC transformers (4) and (4) No. 755 lamps</td>
</tr>
<tr>
<td>53</td>
<td>Line voltage jumpers (4) less lamps. Can be used with incandescent or LED bulbs.</td>
</tr>
<tr>
<td>89</td>
<td>48 volt resistors (4) and (4) No. 1819 lamps</td>
</tr>
<tr>
<td>90</td>
<td>24 volt resistors (4) and (4) No. 756 lamps</td>
</tr>
<tr>
<td>91</td>
<td>120 VAC transformers (4). For use with 6 volt LED lamps and color inserts. Order from page 14.</td>
</tr>
<tr>
<td>92</td>
<td>240 VAC transformers (4). For use with 6 volt LED lamps and color inserts. Order from page 14.</td>
</tr>
</tbody>
</table>

See Page 23 for 2-28 volt lamp recommendations.
**Multi-Light Oiltight Controls**

**CMC Series**

**Selector Units**

- Suitable for use in NEMA 13 enclosures.
- Accepts 4 plunger adapter kit

**Example:**

910 — Grey knob
913 — Black knob

---

**Selector Action**

<table>
<thead>
<tr>
<th>2 Positions</th>
<th>3 Positions</th>
<th>4 Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A — Pos. 1, 2</td>
<td>B — Pos. 1, 2, 3</td>
<td>C — Pos. 1, 2, 3, 4</td>
</tr>
<tr>
<td>E — Pos. 2, 3</td>
<td>F — Pos. 2, 3, 4</td>
<td>no stop</td>
</tr>
<tr>
<td>H — Pos. 3, 4</td>
<td>J — Pos. 3, 4, 1</td>
<td>D — Pos. 1, 2, 3, 4</td>
</tr>
<tr>
<td>L — Pos. 4, 1, 2</td>
<td>M — Pos. 4, 1, 2</td>
<td>stop between 1 and 4</td>
</tr>
</tbody>
</table>

**Operator**

910 — Grey knob
913 — Black knob

---

**Cam Code Selection Chart**

<table>
<thead>
<tr>
<th>Turn Cam:</th>
<th>Contact Block</th>
<th>Device Positions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cam:</td>
<td>Orientation: 1 2 1 3 1 4 1 2 2 1</td>
<td></td>
</tr>
<tr>
<td>PTCC</td>
<td>1-2 (NC)</td>
<td>X O O X O O X X O X O X O O X O X O</td>
</tr>
<tr>
<td></td>
<td>3-4 (NO)</td>
<td>O X X O O X O O X X O X O X O O X X O</td>
</tr>
<tr>
<td></td>
<td>5-6 (NC)</td>
<td>X O O X O X O X O X O X O X O O X</td>
</tr>
<tr>
<td></td>
<td>7-8 (NO)</td>
<td>X O O X O X O X O X O X O X O O X</td>
</tr>
</tbody>
</table>

**For circuits below — Use 4 plunger adapter kit and at least 1 block from above**

- Adapter kit PTCA requires contact blocks both before and after the adapter spacer. Up to two blocks may be added both before and after the adapter. PTCA is explained on page 5.
- Contact block PTCB may be mounted with its location arrow and that of the operator aligned or reversed; i.e., the block may be turned 180° so location arrows do not match.
- Use up to 4 contact blocks with maintained forms and up to 2 with spring return forms.
- For use with 2 position clockwise spring return selector only.
Multi-Light Oiltight Controls

Selector Units

CMC Series

<table>
<thead>
<tr>
<th>Operator** Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – Maintained</td>
</tr>
<tr>
<td>B – Clockwise spring return from left (2 and 3 pos)</td>
</tr>
<tr>
<td>C – Counterclockwise spring return from right (2 and 3 pos)</td>
</tr>
<tr>
<td>D – Clockwise and counterclockwise spring return to center from left and right (3 pos)</td>
</tr>
<tr>
<td>F – Uni-rotational clockwise (4 pos. only, no stop)</td>
</tr>
</tbody>
</table>

**Lamp Terminals and Service**

<table>
<thead>
<tr>
<th>01</th>
</tr>
</thead>
<tbody>
<tr>
<td>67 – Unlighted 4 Terminal</td>
</tr>
<tr>
<td>95 – (2) 120 V transformers and (2) No. 755 lamps in quadrants A &amp; B only.</td>
</tr>
<tr>
<td>96 – (2) 120 V transformers and (2) No. 755 lamps in quadrants C &amp; D only.</td>
</tr>
<tr>
<td>97 – (2) line voltage jumpers in quadrants A &amp; B. No lamps.</td>
</tr>
<tr>
<td>98 – (2) line voltage jumpers in quadrants C &amp; D. No lamps.</td>
</tr>
<tr>
<td>Line voltage jumper versions can use incandescent or LED lamps.</td>
</tr>
</tbody>
</table>

**LED Lamp Terminals and Service**

<table>
<thead>
<tr>
<th>03</th>
</tr>
</thead>
<tbody>
<tr>
<td>38 – (2) 120 V transformers in quadrants A &amp; B</td>
</tr>
<tr>
<td>97 – (2) line voltage jumpers in quadrants A &amp; B. No LED.</td>
</tr>
<tr>
<td>98 – (2) line voltage jumpers in quadrants C &amp; D. No LED.</td>
</tr>
<tr>
<td>Order LEDs, color inserts and covers from pages 14-15.</td>
</tr>
</tbody>
</table>

Cam Orientation

Insert the cam orientation code from the shaded area of the chart on the facing page. The area is labeled orientation and it must be from the same column as the cam.

Order cover plates, color inserts, and legend plates separately from page 12.

**DEVICE POSITIONS**

**QUADRANT AREAS**

* This chart lists only a few of the unlimited number of switch versions available.

Definition:
Spring return is the direction the knob is turned by the internal spring force when the operator releases the knob. For example, on a two position clockwise spring return device, the knob is turned from position 2 to position 1 by the operator. When the operator releases the knob, it spring returns to position 2 in a clockwise direction.
Multi-Light Oiltight Controls
Selector - Push Units
CMC Series

**CMC SELECTORS**
- Suitable for use in NEMA 13 enclosures.
- Accepts 4 plunger adapter kit

**Example:**
- **911** — Grey knob
- **914** — Black knob

### CAM CODE SELECTION CHART *

<table>
<thead>
<tr>
<th>Turn Cam Configuration</th>
<th>2-Positions</th>
<th>3-Positions</th>
<th>4-Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation</td>
<td>B</td>
<td>J</td>
<td>G</td>
</tr>
<tr>
<td>1-1-1-3</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Push Cam Code:</td>
<td>YA</td>
<td>TC</td>
<td>BB</td>
</tr>
<tr>
<td>Device Positions:</td>
<td>1 2 1 2 1 2</td>
<td>1 2 1 2 1 2</td>
<td>1 2 1 2 1 2</td>
</tr>
</tbody>
</table>

### Notes:
1. Order contact blocks separately from page 4. Only PTCC contact blocks are charted. All other contact block alternatives may be substituted for portions of PTCC circuitry.
2. Contact block PTCB, with its location arrow aligned with the operator, provides the circuitry equivalent to 1-2 and 7-8 of the PTCC block. When PTCB is reversed (turned 180°), so location arrows do not align with operator, the circuit obtained is equivalent to 3-4 and 5-6 of the PTCC block. PTCD with arrows aligned, provides same circuit as 7-8 of PTCC block.
3. PTCA is explained on page 5.
4. Use up to 4 contact blocks with maintained forms and up to 2 with spring return forms.

**Operator**
- **911** — Grey knob
- **914** — Black knob

**Selector Action**

<table>
<thead>
<tr>
<th>Operator</th>
<th>2 Position</th>
<th>3 Position</th>
<th>4 Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>A — Pos. 1, 2</td>
<td>B — Pos. 1, 2, 3</td>
<td>C — Pos. 1, 2, 3, 4</td>
<td>no stop</td>
</tr>
<tr>
<td>E — Pos. 2, 3</td>
<td>F — Pos. 2, 3, 4</td>
<td>D — Pos. 1, 2, 3, 4</td>
<td>stop between 1 and 4</td>
</tr>
<tr>
<td>H — Pos. 3, 4</td>
<td>J — Pos. 3, 4, 1</td>
<td>G — Pos. 2, 3, 4, 1</td>
<td>stop between 2 and 1</td>
</tr>
<tr>
<td>L — Pos. 4, 1</td>
<td>M — Pos. 4, 1, 2</td>
<td>K — Pos. 3, 4, 1, 2</td>
<td>stop between 3 and 2</td>
</tr>
<tr>
<td>U — Pos. 9, 12 o'clock</td>
<td>P — Pos. 9, 12, 3 o'clock</td>
<td>N — Pos. 4, 1, 2, 3</td>
<td>stop between 3 and 4</td>
</tr>
<tr>
<td>V — Pos. 12, 3 o'clock</td>
<td>R — Pos. 12, 3</td>
<td>Y — Pos. 9, 12, 3, 6 o'clock</td>
<td>no stop</td>
</tr>
<tr>
<td>W — Pos. 3, 6 o'clock</td>
<td>S — Pos. 3, 6, 9 o'clock</td>
<td>Z — Pos. 9, 12, 3, 6 o'clock</td>
<td>stop between 6 and 9</td>
</tr>
</tbody>
</table>
| X — Pos. 6, 9 o'clock | T — Pos. 6, 9, 12 o'clock | **Turn Cam Configuration**

Insert the turn cam configuration code from the shaded area of the chart below.

1. Match your circuit requirements in one cam code column in the chart below.*
2. Develop the catalog listing of the unit, including the shaded letters of the cam code configuration selected in step 1 from the chart below.
3. Consider position number 1 as the furthest counter-clockwise device position. Order contact block(s) and adapter kit as indicated in the left hand column of the cam code selection chart.

**4-Plunger Adapter Kit**

**PTCC**
- **1-2** — Free
- **3-4** — Free
- **5-6** — Free
- **7-8** — Free

**PTCA**

When reversed (arrows not aligned), the circuit obtained is equivalent to 3-4 of PTCC block. PTCE with arrows aligned, provides same circuit as 1-2 of PTCC block. When reversed (arrows not aligned), the circuit obtained is equivalent to 5-6 of PTCC block.
**Operator Function**

- **A** – Maintained
- **B** – Clockwise spring return from left (2 and 3 pos)
- **C** – Counterclockwise spring return from right (2 and 3 pos)
- **D** – Clockwise and counterclockwise spring return to center from left and right (3 pos)
- **F** – Uni-rotational clockwise (4 pos. only, no stop)

### Lamp Terminals and Service

<table>
<thead>
<tr>
<th>01</th>
<th>Lamp Terminals and Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>67</td>
<td>- Unlighted 4 Terminal</td>
</tr>
<tr>
<td>95</td>
<td>- (2) 120 V transformers and (2) No. 755 lamps in quadrants A &amp; B only.</td>
</tr>
<tr>
<td>96</td>
<td>- (2) 120 V transformers and (2) No. 755 lamps in quadrants C &amp; D only.</td>
</tr>
<tr>
<td>97</td>
<td>- (2) line voltage jumpers in quadrants A &amp; B. No lamps.</td>
</tr>
<tr>
<td>98</td>
<td>- (2) line voltage jumpers in quadrants C &amp; D. No lamps.</td>
</tr>
</tbody>
</table>

**Definition:**
Spring return is the direction the knob is turned by the internal spring force when the operator releases the knob. For example, on a two position clockwise spring return device, the knob is turned from position 2 to position 1 by the operator. When the operator releases the knob, it spring returns to position 2 in a clockwise direction.

---

*This chart lists only a few of the unlimited number of the switch versions available.*
Multi-Light Oiltight Controls

Cover Plates, Color Inserts, and Legend Plates

FAST ASSEMBLY LEGEND DISPLAY

The four selected color inserts snap into the legend plate. This sub-assembly then snaps into the cover plate to complete the front-of-panel assembly.

COVER PLATES AND COLOR INSERTS

Cover plates and color inserts are offered together in one package under a single catalog listing. The four color inserts can be positioned in any of the four quarters of the total display area.

Any color combination you desire is included in this chart. The chart is arranged in the following order: 4 same colors, 3 + 1 colors, 2 + 2 colors, 2 + 1 + 1 colors, and 1 + 1 + 1 + 1 colors.

The cover plates listed in the tables have a gray painted edge. Plates with edges other than gray may be ordered by substituting any of the following four digits in place of the first four digits in the tables. Example: 906A — gray edge or 906E — black edge. Listings are completed from the next page.

LEGEND PLATES

Legend plates are transparent plastic parts on which word messages are displayed.

BLANK PLATES

Blank legend plates are available for customers preferring to do their own hot stamping, etching, engraving, or silk screening of legend plates. Drafting mylar or film positives can also be positioned on the legend plate for custom panel appearance.

LEGEND CONTRAST

For maximum visibility in both the lighted and unlighted condition, the chart below is recommended as a guide.

<table>
<thead>
<tr>
<th>Edge Color</th>
<th>Indicator</th>
<th>Operator-Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gray</td>
<td>906A</td>
<td>906B</td>
</tr>
<tr>
<td>Chrome</td>
<td>906C</td>
<td>906D</td>
</tr>
<tr>
<td>Black</td>
<td>906E</td>
<td>906F</td>
</tr>
<tr>
<td>Unpainted</td>
<td>906G</td>
<td>906H</td>
</tr>
<tr>
<td>Red</td>
<td>906J</td>
<td>906K</td>
</tr>
<tr>
<td>White</td>
<td>906N</td>
<td>906P</td>
</tr>
</tbody>
</table>

LEGENDED

Legend plates are offered with lettering positioned horizontally, vertically, or diagonally — in combinations of black and white lettering — in combinations of three different type sizes — and the message the customer specifies. (See character count chart, page 16.) These plates are ordered on Custom Legend Form on page 22.

See completed sample page 17.
### Multi-Light Oiltight Controls

**Gray Cover Plate and Color Insert Color Guide / Incandescent Lamps**

**COLOR CODE:**
- A—Amber
- B—Blue
- G—Green
- R—Red
- W—White
- Y—Yellow
- K—Black

<table>
<thead>
<tr>
<th>Cover Plate &amp; Color Inserts for Indicator Units Only</th>
<th>Color Code</th>
<th>Cover Plate &amp; Color Inserts for Operator Units Only</th>
<th>Color Code</th>
<th>Cover Plate &amp; Color Inserts for Indicator Units Only</th>
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<td>906 BAF</td>
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<td>BBWF</td>
</tr>
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</table>

**Additional variations with black inserts are available.**
Multi-Light Oiltight Controls

LED Cover Plates and Color Inserts

Cover plates, LEDs, and color inserts are offered together in one package under a single catalog listing. The four color inserts can be positioned in any of the four quarters of the total display area.

<table>
<thead>
<tr>
<th>Edge Color</th>
<th>Indicator</th>
<th>Operator-Indicator</th>
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<tbody>
<tr>
<td>Gray</td>
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<tr>
<td>Chrome</td>
<td>906C</td>
<td>905D</td>
</tr>
<tr>
<td>Black</td>
<td>905E</td>
<td>905F</td>
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<tr>
<td>Unpainted</td>
<td>905G</td>
<td>905H</td>
</tr>
<tr>
<td>Red</td>
<td>905J</td>
<td>905K</td>
</tr>
<tr>
<td>White</td>
<td>905N</td>
<td>905P</td>
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</table>

The cover plates listed in the tables have a gray painted edge. Plates with edges other than gray may be ordered by substituting any of the adjacent four digits in place of the first four digits in the tables. Example: 905A — gray edge or 905E — black edge.

6 VAC/VDC LEDs, GRAY COVER PLATE AND COLOR INSERT ORDER GUIDE

<table>
<thead>
<tr>
<th>Color Code</th>
<th>Cover Plate &amp; Color Inserts For Indicator Units Only</th>
<th>Cover Plate &amp; Color Inserts For Operator Indicator Units Only</th>
<th>Operator-Indicator</th>
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</thead>
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<tr>
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<td>905 ACA1 905 BAA1 905 BAA1 905 BAA1</td>
<td>905 BJ1A</td>
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</table>

Above listings include gray cover plate, 4 color inserts and one to four 6 VAC/DC LEDs for all lighted quadrants. (R,G,Y), Black (K) and White (W) color inserts are normally not lighted so LEDs are not included.
Cover plates, LEDs, and color inserts are offered together in one package under a single catalog listing. The four color inserts can be positioned in any of the four quarters of the total display area.

The cover plates listed in the tables have a gray painted edge. Plates with edges other than gray may be ordered by substituting any of the adjacent four digits in place of the first four digits in the tables. Example: 905A — gray edge or 905E — black edge.

### 24 VAC/VDC LEDs, GRAY COVER PLATE AND COLOR INSERT ORDER GUIDE

**COLOR CODE:**
- **G**—Green
- **R**—Red
- **W**—White
- **Y**—Yellow
- **K**—Black

<table>
<thead>
<tr>
<th>Cover Plate &amp; Color Inserts For Indicator Units Only</th>
<th>Color Code</th>
<th>Cover Plate &amp; Color Inserts For Operator Indicator Units</th>
<th>Color Code</th>
<th>Cover Plate &amp; Color Inserts For Operator Indicator Units</th>
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</tr>
</tbody>
</table>

Above listings include gray cover plate, 4 color inserts and one to four 24 VAC/DC LEDs for all lighted quadrants. (R,G,Y). Black (K) and White (W) color inserts are normally not lighted so LEDs are not included.
Multi-Light Oiltight Controls

Legend Plates

Three type sizes are offered in either black or white lettering for custom legends on blank legend plates. A guide to legend area character counting is shown in the chart below. Stay within the limits spelled out in the chart for number of lines and characters.

LEGEND STYLE AND SIZES

Sizes available in full capital alphabetic and numeric characters are:

- 9/64 (.141"
  3.57mm)
- 13/64 (.203"
  5.16mm)
- 5/16 (.313"
  7.94mm)

Characters available are:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

. ’ ’ / ( ) + – − % &

0 1 2 3 4 5 6 7 8 9

½ ¼ ⅛ ⅜ ⅝ ⅞

Additional characters available only in .141 (3.57) and .203 (5.16) sizes are:

# * — → ∞ ” ” ° ′ ″ ′′

⅛ ⅜ ⅝ ⅞

I II III IV V VI VII VIII IX X

Na Cl H 2O O₂

CUSTOM LEGEND AREAS

<table>
<thead>
<tr>
<th>Form Number in Shaded Area</th>
<th>Letter Height</th>
<th>Max. No. of Characters Per Line (Include Spaces)</th>
<th>Max. No. of Lines of Each Shaded Area</th>
<th>Max. Total Characters Per Shaded Area</th>
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<td>4</td>
<td>1</td>
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</tbody>
</table>

The shaded areas shown below indicate the selections available for division of the legend display area. After determining the form number, read the letter size, maximum number of characters and lines from the chart on the left.

INDICATORS 907 AUS

OPERATOR-INDICATORS 907 BUS

INDICATORS 907 AUS

OPERATOR-INDICATORS 907 BUS

DIAGONAL LEGEND PLATES

NOTE: 2 LINE LEGENDS ARE 2 LETTERS SHORTER PER LINE THAN SINGLE LINE LEGENDS

* Legend plate areas 4 and 6 will accept a third line. Maximum number of characters is 5 for ⅛" and 3 for ⅛" where marked.
COORDINATED MANUAL CONTROL ORDER SHEET for CMC LEGEND PLATES

INSTRUCTIONS:
1. Extend lines to show QUADRANT(S) DIVISIONS.
2. Fill in QuoRReQuLd legses in the diagrams below. (Diagrams are ACTUAL size.)
3. Fill in LETTER SIZE: (3/8" ** 1/3", or 5/16")
4. Check lettering (BLACK or WHITE) by QUADRANT.
5. Fill in CATALOG LISTING and QUANTITY.

<table>
<thead>
<tr>
<th>QUADRANT</th>
<th>LETTER SIZE</th>
<th>BLACK</th>
<th>WHITE</th>
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<tbody>
<tr>
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<td>✔</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>3/8&quot;</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>5/16&quot;</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>D</td>
<td>5/16&quot;</td>
<td>✔</td>
<td>✔</td>
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SHADEd AREAS for FREEPORT USE ONLY

<table>
<thead>
<tr>
<th>SHADEd</th>
<th>QUADRANT</th>
<th>LETTER SIZE</th>
<th>BLACK</th>
<th>WHITE</th>
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<tr>
<td>A</td>
<td>3/8&quot;</td>
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<td></td>
</tr>
<tr>
<td>B</td>
<td>3/8&quot;</td>
<td>✔</td>
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<td></td>
</tr>
<tr>
<td>C</td>
<td>5/16&quot;</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>5/16&quot;</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

NOTE: Legends will be CENTERED within QUADRANT(S) Specified.

INDICATOR DIAGRAMS

907AUS

OFF | ON

MOTOR 15

OPERATOR DIAGRAMS

907BOS

OFF | ON

MOTOR 15

LINE PRESS OFF

VALVE 15

ON
<table>
<thead>
<tr>
<th>Type Of Unit</th>
<th>Schematic Circuit</th>
<th>Function</th>
</tr>
</thead>
</table>
| **START-STOP** | ![Schematic Circuit Diagram](image) | Pos. 1—**TURN TO START**
| | | Circuit 3-4 closed
| | | Knob then spring returns to pos. 2
| | | Pos. 2—**PUSH TO STOP**
| | | Opens stop circuit 5-6
| **OPEN-STOP-CLOSE** | ![Schematic Circuit Diagram](image) | 9:00 o'clock—**TURN TO OPEN**
| | | Closes circuit 3-4 and opens circuit 1-2
| | | Open coil energizes and seals in.
| | | Knob spring returns to 12:00 o'clock
| | | 12:00 o'clock—**PUSH TO STOP**
| | | Opens common parallel-connected stop circuits 1-2 and 5-6
| | | 3:00—**TURN TO CLOSE**
| | | Closes circuit 7-8 and opens circuit 5-6
| | | Close coil energizes and seals in.
| | | Knob spring returns to 12:00 o'clock.
| **OFF-ON** | ![Schematic Circuit Diagram](image) | Pos. 1—**OFF** (Maintained)
| | | Opens **ON** circuit 3-4
| | | Pos. 2—**ON** (Maintained)
| | | Closes **ON** circuit 3-4
| **CENTER NEUTRAL (Hand-Off-Auto)** | ![Schematic Circuit Diagram](image) | 9 o'clock **HAND**
| | | Turn knob to 9 o'clock position to close circuit 1-2 which energizes solenoid **HAND**.
| | | Knob then spring returns to 12 o'clock position.
| | | 12 o'clock—**OFF** (Maintained).
| | | All circuits are open.
| | | 3 o'clock—**AUTO**
| | | Turn knob to 3 o'clock position to close circuit 3-4 which energizes solenoid **AUTO**.
| | | Knob then spring returns to 12 o'clock position.

*See Area 4, Page 16

---

F = FREE = KNOB RELEASED
D = DEPRESS = KNOB DEPRESSED
## Multi-Light Oiltight Controls
### CMC Series
#### Typical Applications

<table>
<thead>
<tr>
<th>Circuits</th>
<th>Line Diagram</th>
<th>What To Order</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Device Position</strong></td>
<td><strong>Connections</strong></td>
<td><strong>What To Order</strong></td>
</tr>
<tr>
<td><strong>Circuit Notation</strong></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Free</td>
<td>X</td>
<td>Turn To</td>
</tr>
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<td>X</td>
<td></td>
<td>Start</td>
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<tr>
<td>Depress</td>
<td>X</td>
<td></td>
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</tbody>
</table>

"X" indicates a circuit closure

---

<table>
<thead>
<tr>
<th>Circuits</th>
<th>Line Diagram</th>
<th>What To Order</th>
</tr>
</thead>
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<td><strong>Connections</strong></td>
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<td>Free</td>
<td>X</td>
<td>Turn To</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Open</td>
</tr>
<tr>
<td>Depress</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Free</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Stop</td>
</tr>
<tr>
<td>Depress</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Free</td>
<td>X</td>
<td>Turn To</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Close</td>
</tr>
<tr>
<td>Depress</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

"X" indicates a circuit closure

---

<table>
<thead>
<tr>
<th>Device Position</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Position</strong></td>
<td>1</td>
</tr>
<tr>
<td>Circuit</td>
<td>1-2</td>
</tr>
<tr>
<td>X</td>
<td>Off Maintained</td>
</tr>
<tr>
<td>X</td>
<td>On Maintained</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Device Position</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Position</strong></td>
<td>9</td>
</tr>
<tr>
<td>Circuit</td>
<td>Auto</td>
</tr>
<tr>
<td>X</td>
<td>Hand</td>
</tr>
<tr>
<td>X</td>
<td>Auto</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Device Position</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Position</strong></td>
<td>1</td>
</tr>
<tr>
<td>Circuit</td>
<td>AUTO</td>
</tr>
<tr>
<td></td>
<td>Level Control</td>
</tr>
<tr>
<td></td>
<td>Pump Motor</td>
</tr>
</tbody>
</table>

---

**Indicator-Operator Assembly**
1—911AGB011BB, 120 volts or 911AGB021BB, 240 volts
1—Contact Block—PTCC
Cover Plate and Color Inserts
1—906BDB 1 Red, 1 Green, 2 White
(See Page 13 for other color selections)
1—Legend plate 907 BUS

---

**Indicator-Operator Assembly**
1—911PGD011MC, 120 volts, 5 terminal or 911PGD511MC, 8 terminal.
1—Contact Block PTCC
1—Cover Plate and Color Inserts 906B--
(See Page 13 for color selections)
1—Legend plate 907 BUS

---

**Indicator-Operator Assembly**
1—910AEA011, 120 volts or 910AEA021, 240 volts
1—Contact Block PTCH
1—Cover Plate and Color Inserts—906B--
(See Page 13 for color selections)
1—Legend plate 907 BUS

---

**Indicator-Operator Assembly**
1—910PDD011, 120 volts or 910PDD021, 240 volts
1—Contact Block—PTCH
1—Cover Plate and Color Inserts—906B--
(See Page 13 for color selections)
1—Legend plate 907 BUS
Multi-Light Oiltight Controls

Specification Sheet

Custom circuit control for selector and selector-push units

For assistance in determining your circuit requirements for selector and selector-push units, fill out a CMC Specification Sheet (shown here) and submit it to Senasys at support@senasys.com or Fax to (419) 818-0897. Your circuit requirements will be analyzed, and the form will be returned to you filled out.

The completed form will include a catalog listing of the unit that will provide the control you require along with contact block catalog listings. The completed form will also include contact block terminal connections for wiring the circuits you specified. Additional forms (FO-62783-B) are available on request.

Follow these steps to fill out a Specification Sheet: (Refer to the example on this page.)

1. Mark an “X” where a circuit is to be closed under “Device Position.” The form may be used for any 2, 3, or 4 position unit. Cross out the unused position columns.

1.1 For selector-push units, mark an “X” where circuit is closed in either (or both) the FREE and DEPRESS condition in each Device Position.

1.2 For selectors, there is no DEPRESS knob function, and the DEPRESS lines should be crossed out.

2. Note under “Circuit” if any circuits are to be controlled with electronic duty contact blocks. Heavy duty contact blocks will be specified unless otherwise noted.

3. Indicate choice of construction details; i.e., 120 or 240 volt transformers, low voltage jumpers, 24 or 48 volt resistors. Check whether 4, 5, or 8 terminal construction is desired, maintained or spring return action, and other control specifications, if applicable.

NOTE: For 125VDC applications, use line voltage jumpers with customer supplied externally mounted dropping resistors. Lamp supply voltage must not exceed 28 volts.
### Multi-Light Oiltight Controls

**CMC Series**

**Specification Sheet**

<table>
<thead>
<tr>
<th>CUSTOMER:</th>
<th>TYPE OF CONTROL</th>
<th>LAMP SUPPLY VOLTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Indicator</td>
<td>□ Pushbutton</td>
<td>□ 120 VAC Trans.</td>
</tr>
<tr>
<td>■ Selector</td>
<td>■ Selector-push</td>
<td>□ 240 VAC Trans.</td>
</tr>
<tr>
<td>■ Selector</td>
<td>■ Knob</td>
<td>□ 24 VAC/DC</td>
</tr>
<tr>
<td></td>
<td>□ Gray</td>
<td>□ 48 VAC/DC w/resistor &amp; 6919</td>
</tr>
<tr>
<td></td>
<td>□ Black</td>
<td>■ Line voltage jumpers; No lamps or LED's</td>
</tr>
</tbody>
</table>

**UNIT OR TAG NO:**

4 Position Units — Without Stops

2 or 3 Position Units — With Stop between Pos. ___ and Pos. ___

**REMARKS:**

1. Fill in type of control, lamp information, position requirements, contact block type, packing instructions and legend plate information.
2. Mark an "X" where a circuit is to be closed under "DEVICE POSITION". Cross out the unused position columns. (Applicable to all CMC units except Indicators).
3. For Selector-Push units, mark with an "X" where circuits are closed in either (or both) the FREE and DEPRESS condition in each Device Position.
4. For Selectors there is no DEPRESS function. Cross out the DEPRESS lines.
5. For Pushbuttons, there is just one Device Position. Cross out positions 2, 3, and 4.

<table>
<thead>
<tr>
<th>CIRCUIT</th>
<th>DEVICE POSITION</th>
<th>TERMINALS</th>
<th>BLOCK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Free</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Free</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Free</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Free</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CONTACT BLOCK TYPE**

- □ Heavy duty (check one)
- □ Gold □ Silver
- □ Electronic duty (check one)
- □ Gold □ Silver

**PACKING INSTRUCTIONS**

- □ 1. Individual components
- □ 2. Box and tag only *
- □ 3. Assemble, test, box and tag *

<table>
<thead>
<tr>
<th>CIRCUIT</th>
<th>DEVICE POSITION</th>
<th>TERMINALS</th>
<th>BLOCK</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Free</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Free</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Free</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Free</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** P = Parallel Wiring  S = Series Wiring

**LEGCEND PLATE**

*(SHOW LEGEND DESIRED)*

<table>
<thead>
<tr>
<th>COLOR CODE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - Amber</td>
</tr>
<tr>
<td>B - Blue</td>
</tr>
<tr>
<td>C - Green</td>
</tr>
<tr>
<td>K - Black</td>
</tr>
<tr>
<td>R - Red</td>
</tr>
<tr>
<td>W - White</td>
</tr>
<tr>
<td>Y - Yellow</td>
</tr>
</tbody>
</table>

**LEGEND NOTE:**

Extend lines to show Quadrant(s) Divisions. Legends will be centered within "Quadrant(s) specified"

**CATALOG LISTING**

- Operator and/or indicator
- Block 1
- Block 2
- Block 3
- Block 4
- Adapter Kit
- Cover Plate and Inserts
- Legend
- Packaging & Tagging

**TOTAL PRICE**

**CATALOG LISTING**

<table>
<thead>
<tr>
<th>S.W.O. NO.</th>
<th>TR</th>
<th>C</th>
<th>SCHED DATE</th>
<th>LINE NO.</th>
<th>PRODUCT CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>126-288</td>
<td>1</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**COMPLETED BY:**

(SIGNATURE)  (DATE)  Per. No. ___
Multi-Light Oiltight Controls

Legend Plate Order Sheet

COORDINATED MANUAL CONTROL ORDER SHEET for CMC LEGEND PLATES

guide to ARRANGEMENT of LEGENDS and CATALOG LISTINGS

INSTRUCTIONS:
1. Extend lines to show QUADRANT(S) DIVISION.
2. Print REQUIRED legends in the diagrams below. (Diagrams are ACTUAL size.)
3. Fill in LETTER SIZE, (9/64", 13/64", or 5/16")
4. Check lettering (BLACK or WHITE) by QUADRANT.
5. Fill in CATALOG LISTING and QUANTITY.

NOTE: Legends will be CENTERED within *QUADRANT(S) Specified

INTERATOR DIAGRAMS

907AUS

OPERATOR DIAGRAMS

907 Bus

COMPLETED BY:
Multi-Light Oiltight Controls

CMC Series

Accessories

Not all of the accessories listed here are available from Senasys. Be sure to order from the suggested manufacturer for each accessory.

COLOR FILTERS FOR LAMPS

For use over type lamps as furnished with CMC transformer units. Projects color indicated when used with white color inserts and high ambient light level lamps shown at right.

LAMP INFORMATION

120 VAC and 240 VAC transformer units are equipped with four T-3 1/4 #755 lamps. The #755 lamp has a 6.3 volt rating and is readily obtainable from all industrial or automotive supply companies. These same units will accommodate the #1847 lamp. Replacement #755 lamps can be ordered as PTZ40.

24 volt or 48 volt resistor units are supplied with lamps. 48 volt units are equipped with GE #1819 lamps rated at 28 volts. 24 volt units are equipped with #756 lamps rated at 14 volts. Replacement #756 lamps can be ordered as PTZ66 and #1819 lamps can be ordered at PTZ67.

CMC units containing line voltage jumpers are not supplied with lamps. These units are designed for use with any 5 through 28 volt lamp listed.

If a lamp other than those listed is used, the lamp must be limited to 1 watt per quadrant.

QUICK CONNECTORS

Available from suppliers shown

ENCLOSURES FOR CMC

Numerous panel manufacturers build cabinets, panelboards or enclosures for use with CMC.

PANEL PUNCH FOR CMC

A 2” (50.8mm) square panel punch (Greenlee Model 731M) for CMC is manufactured by Greenlee Tool Co., Rockford, Illinois. Use in conjunction with a Greenlee No. 7646 hydraulic punch driver.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Color Lamp Filters</th>
</tr>
</thead>
</table>

T-3¼ LAMP INFORMATION

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Voltage</th>
<th>Current Amps</th>
<th>Life (Hrs)</th>
<th>Ambient Light Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850</td>
<td>5.0</td>
<td>.09</td>
<td>1,500</td>
<td>X</td>
</tr>
<tr>
<td>756</td>
<td>14.0</td>
<td>.08</td>
<td>15,000</td>
<td>X</td>
</tr>
<tr>
<td>1819</td>
<td>28.0</td>
<td>.04</td>
<td>2,500</td>
<td>X</td>
</tr>
<tr>
<td>1847</td>
<td>6.3</td>
<td>.15</td>
<td>5,000</td>
<td>X</td>
</tr>
<tr>
<td>47</td>
<td>6.3</td>
<td>.15</td>
<td>3,000</td>
<td>X</td>
</tr>
<tr>
<td>755</td>
<td>6.3</td>
<td>.15</td>
<td>20,000</td>
<td>X</td>
</tr>
</tbody>
</table>

T-3¾ LED INFORMATION

<table>
<thead>
<tr>
<th>LED Color</th>
<th>Voltage (V AC/DC)</th>
<th>Current Amps (Nominal)</th>
<th>Luminous Intensity (MCD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White/Yellow</td>
<td>6</td>
<td>.06</td>
<td>75</td>
</tr>
<tr>
<td>White/Yellow</td>
<td>24</td>
<td>.02</td>
<td>75</td>
</tr>
<tr>
<td>Green</td>
<td>6</td>
<td>.06</td>
<td>75</td>
</tr>
<tr>
<td>Green</td>
<td>24</td>
<td>.02</td>
<td>75</td>
</tr>
<tr>
<td>Red</td>
<td>6</td>
<td>.06</td>
<td>85</td>
</tr>
<tr>
<td>Red</td>
<td>24</td>
<td>.02</td>
<td>85</td>
</tr>
</tbody>
</table>

FOR ELECTRONIC DUTY CONTACT BLOCKS

(Either silver or gold contacts)

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Range of Wire Size</th>
<th>Straight—No Insulation</th>
<th>Flag</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMP</td>
<td>20-16</td>
<td>42452-1 or 42452-2</td>
<td>42486-1 or 42800-1</td>
</tr>
<tr>
<td>AMP</td>
<td>18-14</td>
<td>62016-2</td>
<td></td>
</tr>
</tbody>
</table>

HOLE PLUG

Contains Oiltight Seal
2.25” (57.2mm) + 2.25” (57.2mm)
986CAA01 Gray

SWITCH GUARD

Guard consists of cover plate and transparent cover. Switch cannot be operated when cover guard is closed helping prevent accidental operation. Guard can be used on 908, 910 and 911 series operators. Extends 1.52 in. (38,5 mm) from panel.

Catalog Listing 986DAA01
**Multi-Light Oiltight Controls**

**CMC Series**

**Replacement Parts**

### Cover Plates

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Color</th>
<th>Operator-Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>986 AAB 01</td>
<td>Gray</td>
<td>986 AAB 02</td>
</tr>
<tr>
<td>986 AAB 03</td>
<td>Black</td>
<td>986 AAB 04</td>
</tr>
<tr>
<td>986 AAB 05</td>
<td>Unpainted</td>
<td>986 AAB 06</td>
</tr>
<tr>
<td>986 AAB 09</td>
<td>Red</td>
<td>986 AAB 10</td>
</tr>
<tr>
<td>986 AAB 13</td>
<td>White</td>
<td>986 AAB 14</td>
</tr>
<tr>
<td>986 AAB 07</td>
<td>Chrome</td>
<td>986 AAB 08</td>
</tr>
</tbody>
</table>

### Bulk Packed Cover Plates for Indicators

<table>
<thead>
<tr>
<th>Specified in multiples of 20</th>
<th>Specified in multiples of 40</th>
</tr>
</thead>
<tbody>
<tr>
<td>986 AAB 01-BP</td>
<td>986 AAB 02-BP</td>
</tr>
<tr>
<td>986 AAB 03-BP</td>
<td>986 AAB 04-BP</td>
</tr>
<tr>
<td>986 AAB 05-BP</td>
<td>986 AAB 06-BP</td>
</tr>
<tr>
<td>986 AAB 09-BP</td>
<td>986 AAB 10-BP</td>
</tr>
<tr>
<td>986 AAB 13-BP</td>
<td>986 AAB 14-BP</td>
</tr>
<tr>
<td>986 AAB 07-BP</td>
<td>986 AAB 08-BP</td>
</tr>
</tbody>
</table>

### Individual Color Inserts for Incandescent

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Color</th>
<th>Operator-Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>986 AAA 01</td>
<td>Red</td>
<td>986 AAA 02</td>
</tr>
<tr>
<td>986 AAA 03</td>
<td>Yellow</td>
<td>986 AAA 04</td>
</tr>
<tr>
<td>986 AAA 05</td>
<td>Green</td>
<td>986 AAA 06</td>
</tr>
<tr>
<td>986 AAA 07</td>
<td>Blue</td>
<td>986 AAA 08</td>
</tr>
<tr>
<td>986 AAA 09</td>
<td>White</td>
<td>986 AAA 10</td>
</tr>
<tr>
<td>986 AAA 11</td>
<td>Amber</td>
<td>986 AAA 12</td>
</tr>
<tr>
<td>986 AAA 13</td>
<td>Black</td>
<td>986 AAA 14</td>
</tr>
</tbody>
</table>

### Bulk Packed for Indicators

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Color</th>
<th>Operator-Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>986 AAA ---BP</td>
<td></td>
<td>986 AAA ---BP</td>
</tr>
</tbody>
</table>

### Individual Color Inserts for LEDs

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Color</th>
<th>Operator-Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>985 AAA 01</td>
<td>Red</td>
<td>985 AAA 02</td>
</tr>
<tr>
<td>985 AAA 03</td>
<td>Yellow</td>
<td>985 AAA 04</td>
</tr>
<tr>
<td>985 AAA 05</td>
<td>Green</td>
<td>985 AAA 06</td>
</tr>
<tr>
<td>986 AAA 09</td>
<td>White</td>
<td>986 AAA 10</td>
</tr>
<tr>
<td>986 AAA 13</td>
<td>Black</td>
<td>986 AAA 14</td>
</tr>
</tbody>
</table>

### Voltage Control

<table>
<thead>
<tr>
<th>Voltage Control For Lamp</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 VAC transformer</td>
</tr>
<tr>
<td>240 VAC transformer</td>
</tr>
<tr>
<td>48 volt resistor</td>
</tr>
<tr>
<td>Low voltage jumper</td>
</tr>
<tr>
<td>24V resistor</td>
</tr>
</tbody>
</table>

### Lamp Holder

<table>
<thead>
<tr>
<th>Lamp Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td>908 Indicator Only</td>
</tr>
<tr>
<td>909 thru 114 Operator-Indicators</td>
</tr>
<tr>
<td>986 BAA 05</td>
</tr>
</tbody>
</table>

### Lamp Box Without Lamp Hardware

<table>
<thead>
<tr>
<th>Lamp Box Without Lamp Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>910 Selector Series 911 Selector-Push Series 908 Indicators</td>
</tr>
<tr>
<td>986 BAA 24</td>
</tr>
</tbody>
</table>

### Knobs

<table>
<thead>
<tr>
<th>Knobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>910 Series Knob Packet For</td>
</tr>
<tr>
<td>911 Series Knob Packet For</td>
</tr>
<tr>
<td>913 Series Black Knob</td>
</tr>
<tr>
<td>914 Series Black Knob</td>
</tr>
</tbody>
</table>

### REPLACEMENT LAMPS

<table>
<thead>
<tr>
<th>Industry No. Description</th>
<th>Voltage</th>
<th>Catalog Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>755</td>
<td>6</td>
<td>PTZ40</td>
</tr>
<tr>
<td>756</td>
<td>12</td>
<td>PTZ66</td>
</tr>
<tr>
<td>1819</td>
<td>24</td>
<td>PTZ67</td>
</tr>
<tr>
<td>LED, Red</td>
<td>6VA/DC</td>
<td>PTZ69</td>
</tr>
<tr>
<td>LED, Green</td>
<td>6VA/DC</td>
<td>PTZ70</td>
</tr>
<tr>
<td>LED, Yellow</td>
<td>6VA/DC</td>
<td>PTZ68</td>
</tr>
<tr>
<td>LED, Red</td>
<td>24V/DC</td>
<td>PTZ78</td>
</tr>
<tr>
<td>LED, Green</td>
<td>24V/DC</td>
<td>PTZ79</td>
</tr>
<tr>
<td>LED, Yellow</td>
<td>24V/DC</td>
<td>PTZ71</td>
</tr>
</tbody>
</table>

### Notes:

1. Knob packets include knob, shaft, and O-ring seal.
2. White inserts not recommended for illumination by LEDs.
3. Black inserts not suitable for illumination.
Multi-Light Oiltight Controls
CMC Series

Mounting Dimensions
Note: The location arrow on the contact block must be lined up with the arrow on the operator, except as noted for the PTCB block on the ordering pages.

CMC WEIGHT
Indicators and operator-indicators (includes cover plate, legend plate, and color inserts). With transformers — 14 oz. max.
Without transformers — 7½ oz. max.
Contact blocks — 2 oz. each.
4-Plunger Adapter Kit — 1 oz.

INDICATOR

PUSHBUTTON

SELECTOR

SELECTOR-PUSH

PANEL CUTOUT RECOMMENDATIONS

HORIZONTAL MOUNTING 5 TERMINAL CONSTRUCTION

VERTICAL MOUNTING 5 TERMINAL CONSTRUCTION

HORIZONTAL or VERTICAL 8 TERMINAL CONSTRUCTION