

# CMB-Series

## THERMAL CIRCUIT PROTECTORS

**Rating:**

3 to 20A, 125-250VAC, 32VDC

**Approvals:**

UL, CUL, CSA, TUV, CE  
UL1500/ISO8846 for ignition  
protection/marine

**Dielectric Strength:**

2500 VAC/1 minute

**Interrupting capacity:**

2500 amps @ 32 VDC

**Insulation Resistance:**

100M ohms

**Operating Temperature:**

-10°C to 60°C

**Voltage drop:**

< 0.25 V

**Applications:**

Household Appliances  
Transportation  
Marine  
Power Strips  
Medical Equipment  
Audio Visual Equipment  
Power Supplies

**ROHS Compliant**

A COMPACT, SINGLE POLE, PUSH-TO-RESET  
FAMILY OF THERMAL CIRCUIT BREAKERS

**Dimensional Specifications:**

**Carling Technologies®**

Innovative Designs. Powerful Solutions.

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**CMB** — **10** **3** — **11** **C** **3** **N** — **B** — **A** /**10**

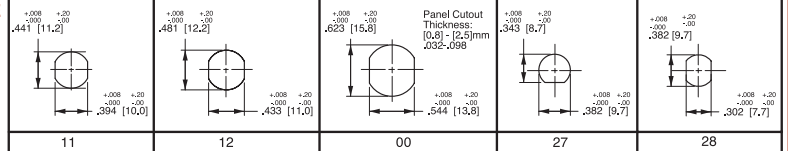
1 Series 2 Rating 3 Voltage 4 Mounting Hole 5 Bushing Type 6 Mounting Nut 7 Indicator Plate 8 Button 9 Terminal 10 Button Marking

**1 SERIES**  
**CMB**

**3 VOLTAGE**  
**3** 125-250VAC/ 32 VDC

|                 |       |           |        |
|-----------------|-------|-----------|--------|
| <b>2 RATING</b> |       | <b>10</b> | 10 amp |
| <b>03</b>       | 3 amp | <b>12</b> | 12 amp |
| <b>04</b>       | 4 amp | <b>13</b> | 13 amp |
| <b>05</b>       | 5 amp | <b>14</b> | 14 amp |
| <b>06</b>       | 6 amp | <b>15</b> | 15 amp |
| <b>07</b>       | 7 amp | <b>16</b> | 16 amp |
| <b>08</b>       | 8 amp | <b>20</b> | 20 amp |

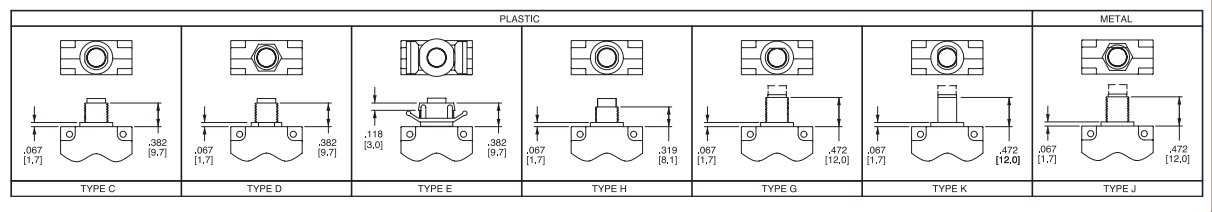
**4 MOUNTING HOLE**  
**11**<sup>1</sup> M11  
**12**<sup>2</sup> M12  
**00**<sup>3</sup> Snap In Style  
**27**<sup>9</sup> 3/8" 27 UNS  
**28**<sup>12</sup> 3/8" 27 UNS  
(double flatted)



**5 BUSHING**

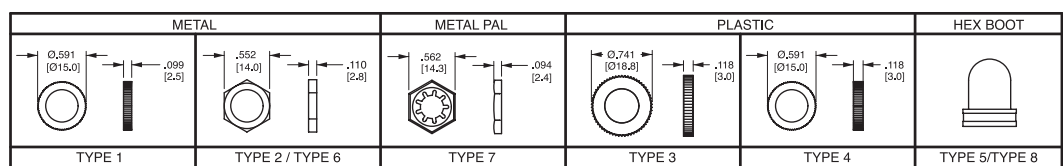
**PLASTIC**

**C**<sup>4</sup> Type C  
**D**<sup>4</sup> Type D  
**E**<sup>5</sup> Type E  
**G**<sup>8</sup> Type G  
**H**<sup>6</sup> Type H  
**K**<sup>13</sup> Type K  
**METAL**  
**J**<sup>8</sup> Type J



**6 MOUNTING NUT**<sup>7</sup>

**N** None  
**1** Type 1  
**2** Type 2  
**3**<sup>11</sup> Type 3  
**4** Type 4  
**5** Type 5  
**6**<sup>14</sup> Type 6  
**7**<sup>9</sup> Type 7  
**8**<sup>9</sup> Type 8

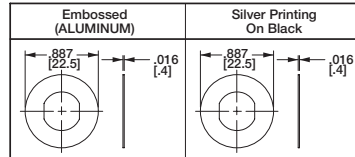


NOTE: Type 5 is clear hex boot. Type 8 is black hex boot (available for bushings G, J & K only); Type 3 nut includes molded in "PRESS TO RESET" marking.

**7 INDICATOR PLATE**<sup>7</sup>

**N** None  
**A** Embossed Legend  
**B** Silver Printing  
on Black

All indicator plates are marked  
"Suppl. Prot. press to reset".



Notes: All dimensions are in [mm]. Tolerance  $\pm 0.05$  [1.27] unless otherwise specified.

- |                                                          |                                                                                                             |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| 1 Used with bushing C or D only.                         | 9 Available with G, J or K bushing only.                                                                    |
| 2 Used with H bushing only.                              | 10 Amp rating must match button marking<br>(ex: 20 will be marked on the button of<br>CMB-203-27G3N-W-A/20) |
| 3 Used with bushing E only.                              | 11 Includes molded in "PRESS TO RESET"<br>marking.                                                          |
| 4 Used with M11 mounting hole only.                      | 12 Available with K bushing only.                                                                           |
| 5 Used with mounting hole 00 only.                       | 13 Available with mounting hole 28 only.                                                                    |
| 6 Used with M12 mounting hole only.                      | 14 Thickness is 3.0 mm, .118 in.                                                                            |
| 7 All hardware available separately.<br>Consult factory. |                                                                                                             |
| 8 Available with mounting hole 27 only.                  |                                                                                                             |

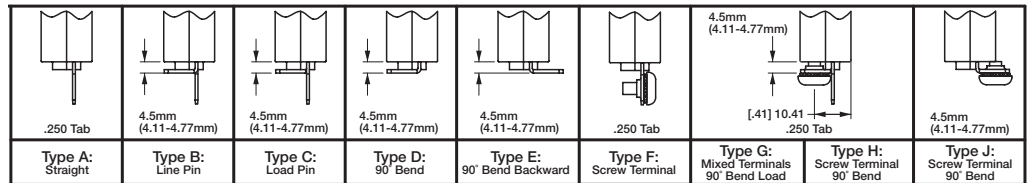
**8 BUTTON**

**B** Black **R** Red **W** White

**9 TERMINAL**

**F** Type F  
**A** Type A  
**B** Type B  
**C** Type C  
**D** Type D  
**E** Type E  
**G** Type G  
**H** Type H  
**J** Type J

F,G,H,J TERMINALS ARE 8-32 UNC

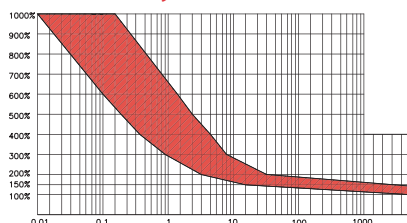


**10 BUTTON MARKING (IF BLANK, NO MARKING.)**<sup>10</sup> Button Marking Orientation:

line load

|           |       |           |       |           |       |           |        |           |        |           |        |           |        |
|-----------|-------|-----------|-------|-----------|-------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| <b>03</b> | 3 amp | <b>05</b> | 5 amp | <b>07</b> | 7 amp | <b>10</b> | 10 amp | <b>13</b> | 13 amp | <b>15</b> | 15 amp | <b>20</b> | 20 amp |
| <b>04</b> | 4 amp | <b>06</b> | 6 amp | <b>08</b> | 8 amp | <b>12</b> | 12 amp | <b>14</b> | 14 amp | <b>16</b> | 16 amp |           |        |

**Time Delay**



| DERATING FACTOR |       |
|-----------------|-------|
| -10°C           | X1.70 |
| -5°C            | X1.60 |
| 0°C             | X1.50 |
| 5°C             | X1.40 |
| 10°C            | X1.30 |
| 15°C            | X1.20 |
| 20°C            | X1.10 |
| 25°C            | X1.00 |

| DERATING FACTOR |       |
|-----------------|-------|
| 30°C            | X0.90 |
| 35°C            | X0.85 |
| 40°C            | X0.80 |
| 45°C            | X0.75 |
| 50°C            | X0.70 |
| 55°C            | X0.65 |
| 60°C            | X0.60 |

| OVERLOAD |  | TRIP TIME    |  |
|----------|--|--------------|--|
| 100 %    |  | NO TRIP      |  |
| 150 %    |  | TRIP IN 1 HR |  |
| 200 %    |  | 4.0~40 sec   |  |
| 300 %    |  | 0.9~8.0 sec  |  |
| 400 %    |  | 0.42~5.0 sec |  |
| 500 %    |  | 0.25~3.0 sec |  |
| 600 %    |  | 0.1~1.8 sec  |  |

Notes:

Breaker must hold 100% of rated current and must trip at 150% and above, within the time limits shown in curve. Trip times specified at 25° ambient with no preloading.

- 1 To adjust the breaker rating for ambient temperature multiply the breaker rating by the factor. (ex: 5 amp rating at 0°C: 5 x .67 = 3.3 amp. Select 3 amp rating.)