

NEW

Thermal Circuit Protectors



***The NEW CLB and CMB-Series
provide reliable, cost effective
Circuit Protection for a variety
of applications.***

Product Announcement TCP4/02 April 22, 2002

For additional information on our Thermal Circuit Protectors, please contact a Carling Technologies Technical Customer Service Rep:

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60 Johnson Avenue
Plainville, CT 06062-1177

Carling Technologies is pleased to introduce our new CLB and CMB-Series Thermal Circuit Protectors.

The CLB and CMB-Series offer a reliable, cost effective solution to your circuit protection needs. This newest addition to the Carling family of circuit protection products is ideal for:

- general household appliances
- commercial appliances
- transportation
- marine
- telecommunications
- power strips
- audio-visual equipment
- medical equipment
- power supplies

Specifications:

- AC/DC ratings to 40 amps
- choice of snap-in or threaded mount
- 6 termination options
- 3 actuator/button color choices
- choice of metal or plastic bushing construction
- various hardware and indicator plate options
- UL, CUL and TUV certified

Product Availability:


- Samples available.
- Standard lead times for production quantities



Carling Technologies™
Innovative Designs. Powerful Solutions.

Ordering Schemes


CMB	-	10	3	-	12	C	3	B	-	B	-	A
1 Series		2 Rating	3 Voltage		4 Mounting Hole	5 Bushing Type	6 Mounting Nut	7 Indicator Plate		8 Button		9 Terminal



General Specifications:
Rating: 3 to 20A, 125-250VAC (28VDC - June 2002)
Approvals: UL/CUL
Dielectric Strength: 1500 VAC/ 1 minute
Interrupting capacity: 1000 amps
Resettable overload capacity: 10 x rated current
Insulation Resistance: 100M ohms
Operating Temperature: -10°C to 60°C
Voltage drop: < 0.25 V

1 SERIES CMB	4 MOUNTING HOLE 11 ³ M11 12 ⁴ M12 00 ¹ Snap In Style	7 INDICATOR PLATE⁷ N None A Embossed B Silver Printing on Black
2 RATING 03 3 amp 04 4 amp 05 5 amp 06 6 amp 07 7 amp 08 8 amp 10 10 amp 12 12 amp 13 13 amp 14 14 amp 15 15 amp 16 16 amp 20 20 amp	5 BUSHING TYPE C ⁵ Type C (plastic) D ⁵ Type D (plastic) E ² Type E (plastic) H ⁶ Type H (plastic)	8 BUTTON B Black R Red W White
3 VOLTAGE¹¹ 3 125-250VAC/28 VDC	6 MOUNTING NUT⁷ N None 3 Type 3 4 Type 4	9 TERMINAL A Type A B Type B C Type C D Type D E Type E

CLB	-	10	3	-	12	C	3	B	-	B	-	A
1 Series		2 Rating	3 Voltage		4 Mounting Hole	5 Bushing Type	6 Mounting Nut	7 Indicator Plate		8 Button		9 Terminal



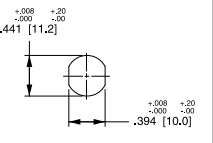
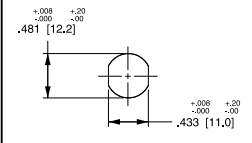
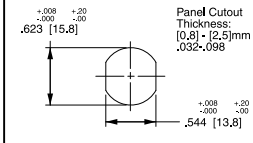
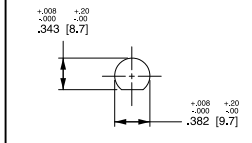
General Specifications:
Rating: 3 to 40A, 125-250VAC (28VDC - June 2002)
Approvals: UL/CUL
Dielectric Strength: 1500 VAC/ 1 minute
Interrupting capacity: 1000 amps
Resettable overload capacity: 10 x rated current
Insulation Resistance: 100M ohms
Operating Temperature: -10°C to 60°C
Voltage drop: < 0.25 V

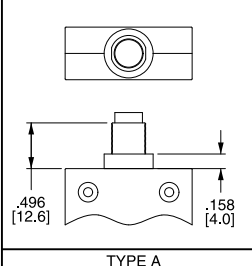
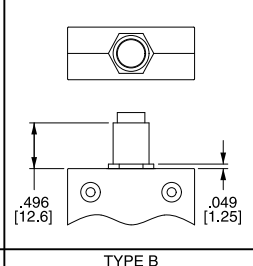
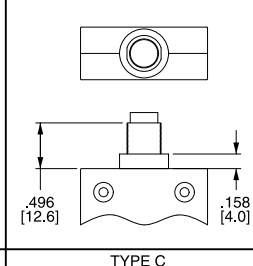
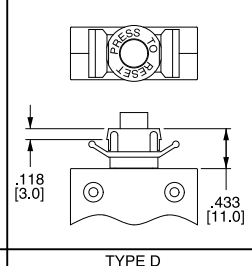
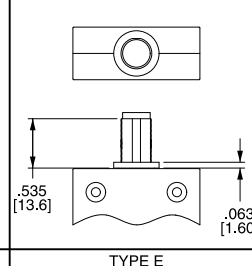
1 SERIES CLB	4 MOUNTING HOLE 11 ⁸ M11 12 ¹⁰ M12 27 ¹ 3/8 inch 00 ⁹ Snap In Style	7 INDICATOR PLATE⁷ N None A Embossed B Silver Printing on Black
2 RATING 03 3 amp 04 4 amp 05 5 amp 06 6 amp 07 7 amp 08 8 amp 10 10 amp 12 12 amp 13 13 amp 15 15 amp 20 20 amp 25 25 amp 30 30 amp 35 35 amp 40 40 amp	5 BUSHING TYPE A ⁶ Type A (metal) B ⁵ Type B (metal) C ⁵ Type C (plastic) D ² Type D (plastic) E ¹² Type E (plastic)	8 BUTTON B Black R Red W White
3 VOLTAGE¹¹ 3 125-250VAC/28 VDC	6 MOUNTING NUT⁷ N None 1 Type 1 2 Type 2 3 Type 3 4 Type 4 5 Type 5 6 Type 6	9 TERMINAL A Type A B Type B C Type C D Type D E Type E F Type F

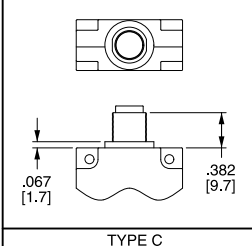
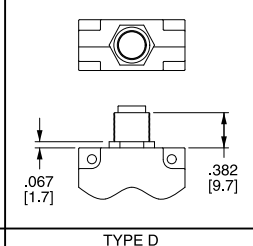
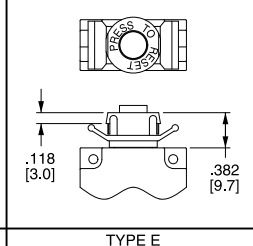
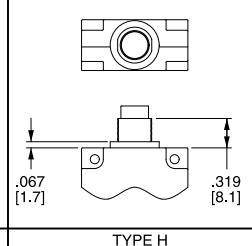
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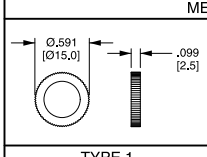
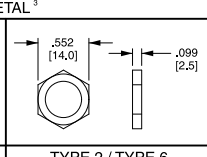
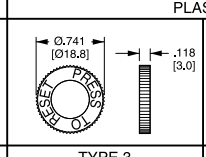
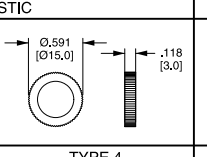
- 1 Used with bushing E only.
- 2 Used with mounting hole 00 only.
- 3 Used with bushing C or D only.
- 4 Used with H bushing only.
- 5 Used with M11 mounting hole only.
- 6 Used with M12 mounting hole only.
- 7 All hardware is available separately. Consult factory.
- 8 Used with bushing A or B only.
- 9 Used with bushing D only.
- 10 Used with bushing C only.
- 11 UL/CUL approval at 28VDC expected June 2002.
- 12 Used with 27 mounting hole and Type 6 mounting nut only.

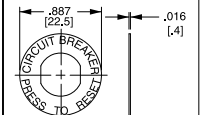
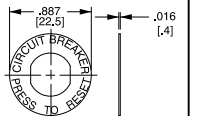
Dimensional Specifications

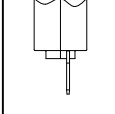
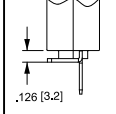
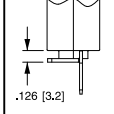
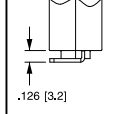
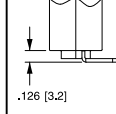
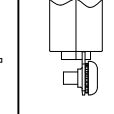
Mounting Hole	 <p>M 11</p>	 <p>M12</p>	 <p>Snap-in Style</p>	 <p>3/8-27</p>
	<p>Panel Cutout Thickness: (0.6) - (2.5)mm .032-.098</p>			

Bushing Type	CLB SERIES				
	METAL		PLASTIC		
	 <p>TYPE A</p>	 <p>TYPE B</p>	 <p>TYPE C</p>	 <p>TYPE D</p>	 <p>TYPE E</p>

Bushing Type	CMB SERIES			
	PLASTIC			
	 <p>TYPE C</p>	 <p>TYPE D</p>	 <p>TYPE E</p>	 <p>TYPE H</p>

Mounting Nut	METAL ³		PLASTIC		HEX BOOT
	 <p>TYPE 1</p>	 <p>TYPE 2 / TYPE 6</p>	 <p>TYPE 3</p>	 <p>TYPE 4</p>	

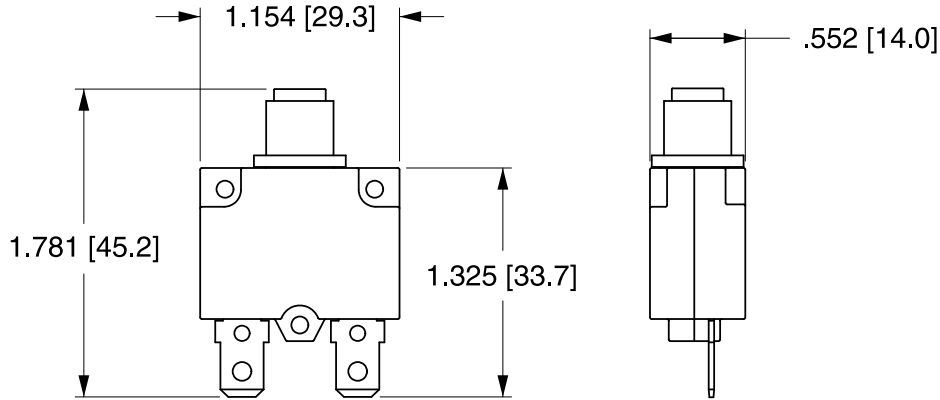
Indicator Plate	Embossed (ALUMINUM)	Silver Printing On Black
		

Terminal Type ^{4,5}	 <p>.250 Tab</p> <p>Type A: Straight</p>	 <p>.126 [3.2]</p> <p>.250 Tab</p> <p>Type B: Line Pin</p>	 <p>.126 [3.2]</p> <p>.250 Tab</p> <p>Type C: Load Pin</p>	 <p>.126 [3.2]</p> <p>.250 Tab</p> <p>Type D: 90° Bend</p>	 <p>.126 [3.2]</p> <p>.250 Tab</p> <p>Type E: 90° Bend Backward</p>	 <p>.250 Tab</p> <p>Type F: Screw Terminal</p>
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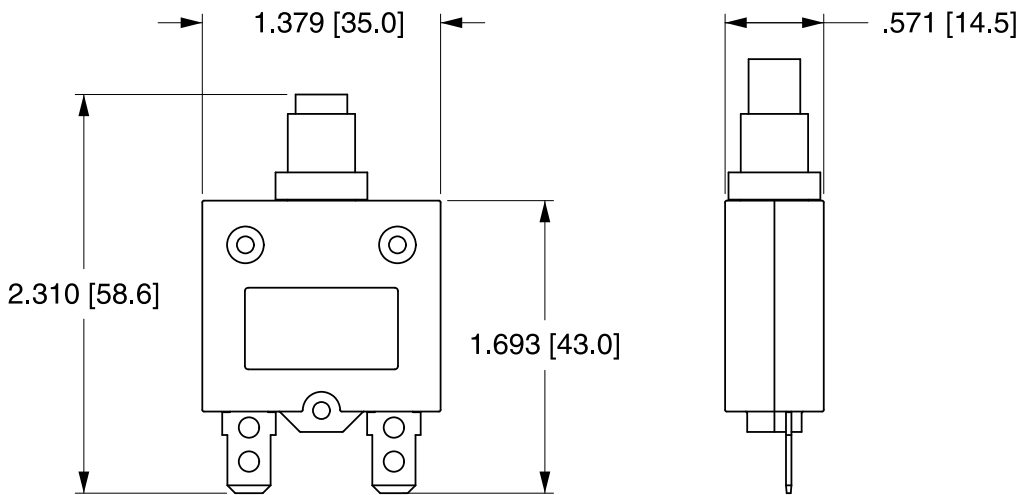
NOTES:

- 1 All dimensions are in inches [millimeters].
- 2 Tolerance ±.005 [0.127] unless otherwise specified.
- 3 Type 6 mounting nut available with CLB-Series bushing E only.
- 4 35 and 40 amp ratings must use solder joint to connect wire to non-screw type terminals.
- 5 Type A, B, C, D and E terminals are supplied with .040 [1.0] thickness for rating 35 and 40. For ratings below 35 amps, thickness is .315 [.8].

CMB-Series Dimensional Specifications

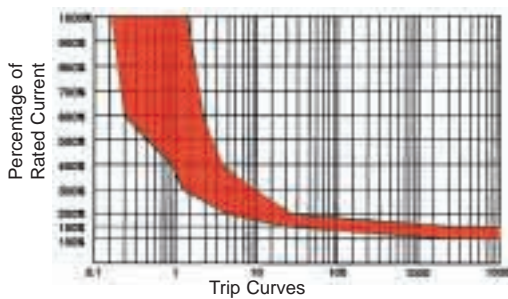


CLB-Series Dimensional Specifications



Time Delay Values

Trip Time in Seconds



CORRECTION FACTOR ¹	
0°C	x .67
10°C	x .72
15°C	x .83
18°C	x .87
25°C	x 1.00
32°C	x 1.05
40°C	x 1.18
50°C	x 1.33
60°C	x 1.67

CMB SERIES ONLY	
OVERLOAD	TRIP TIME
100%	NO TRIP
150%	TRIP IN 1 HR
200%	4 - 40 SEC.
300%	1.2-12 SEC.
400%	0.5 - 5.5 SEC.
500%	0.4 - 3.5 SEC.
600%	0.3 - 2.5 SEC.

CLB SERIES ONLY	
OVERLOAD	TRIP TIME
100%	NO TRIP
150%	TRIP IN 1 HR
200%	5 - 35 SEC.
300%	1.5-9 SEC.
400%	0.9 - 5.5 SEC.
500%	0.5 - 3.5 SEC.
600%	0.3 - 2.8 SEC.

NOTES:
 All dimensions are in inches [millimeters].
 Tolerance ±.005 [.127] unless otherwise specified.
 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.

Warranty Policy

Carling Technologies, Inc. (Seller) warrants that goods sold hereunder shall be free of defects in material and workmanship for one year from date of shipment.

In the event of such defects, the Seller's only obligation shall be the replacement or the cost of the defective goods, themselves, excluding, without limitation, labor costs, which are or may be required in connection with the replacement or reinstallation of the goods.

This warranty is the Seller's sole obligation and excludes all other remedies or warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, whether or not purposes or specifications are described herein. This Warranty expressly excludes any and all incidental, special and/or consequential damages of any nature. Seller further disclaims any responsibility for injury to person or damage to or loss of property or value caused by any product which has been subjected to misuse, negligence, or accident; or misapplied, or modified or repaired by a person or persons not authorized by the Seller or which have been improperly installed.