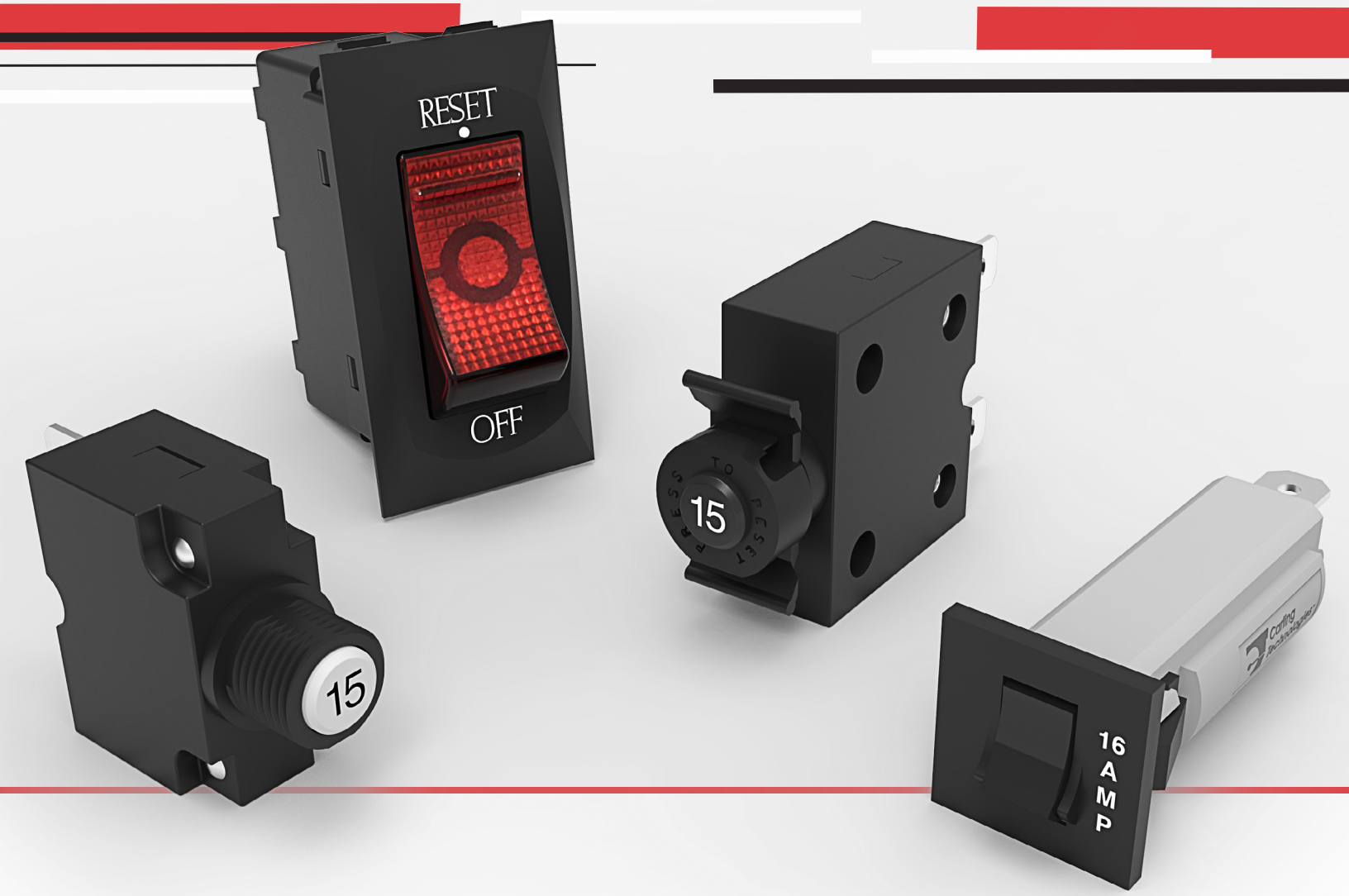


CATALOG

Thermal

Circuit Protection

Carling Technologies®
/// NOW PART OF
Littelfuse®

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FOUNDED IN 1920

Since its founding, Carling Technologies has continually forged a tradition of leadership in quality and product innovation.

There are few products that Carling Technologies hasn't turned "ON" and fewer industries that haven't turned to Carling for solutions. With ISO and TS registered manufacturing facilities and technical sales offices worldwide, Carling ranks among the world's largest manufacturers of circuit breakers, switches, power distribution units, digital switching systems and electronic controls.

SWITCHES & CONTROLS

- Electronic
- Rocker
- Toggle
- Pushbutton
- Rotary
- Combination
- Battery Disconnect

CIRCUIT PROTECTION

- Hydraulic-Magnetic
- Thermal
- GFCI / ELCI
- Fuse Links & Holders

CUSTOM SOLUTIONS

- PDU's
- Keypads
- Control Modules

MULTIPLEXED POWER SYSTEMS

- HMI Devices & I/O Modules
- Programmable Displays
- Data Communication Interfaces
- Electrical Systems Monitoring

STRATEGIC MARKETS SERVED:

On/Off Highway | Marine | Telecom/Datacom | Renewable Energy

OTHER SERVED INDUSTRIES:

Medical | Industrial Control | Audio / Visual | Commercial Food | HVAC | Floor Care | Generators | Small Appliances | Security Systems | Test & Measurment

HEADQUARTERS/MANUFACTURING FACILITIES:



WORLDWIDE NUMBERS:

2800+ EMPLOYEES

150+ ENGINEERS

70+ DISTRIBUTORS

50+ REP FIRMS

COMPETITIVE ADVANTAGES+

Innovative & Eco-Friendly Products

Excellent Quality & Customer Service

Reliable & On-Time Delivery

Vertical Integration

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C1005B-SERIES 6

CLB-SERIES 8

CMB-SERIES 12

CTB-SERIES 16

HELPFUL TIP Click on a product to go directly to that page number!

Thermal Circuit Protectors

This catalog features Carling Technologies' current line of thermal circuit protectors, from 3 to 60 amps, which offer reliable, cost effective circuit protection. Thermal circuit protectors utilize a bimetallic strip electrically in series with the circuit. The heat generated by the current during an overload deforms the bimetallic strip and trips the breaker. Thermal protectors have a significant advantage over fuses in that they can be reset after tripping. They can also be used as the main ON/OFF switch for the equipment being protected.

Typical Applications Include:

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

Available Online are tools such as a **configurit**, **product selector** and **stock check**. Please visit **www.carlingtech.com** for the latest information on all our products.

Application Solution Engineers are readily available to assist you in selecting the appropriate product for your application. For further assistance, please email us at **team2@carlingtech.com**

Custom Design Solutions can be tailor-made for most any application using our extensive engineering resources.

Other Products such as hydraulic-magnetic and ground fault circuit breakers, switches and miniature switches are also

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Selector Guide



CTB-Series



CMB-Series



CLB-Series



C1005B-Series

Poles	1	1	1	1
Actuator Style	rocker	pushbutton	pushbutton	rocker, lighted rocker
Max Current & Voltage Ratings	3 to 16A, 125-250VAC, 50VDC	3 to 20A, 125-250VAC, 32 VDC	3 to 60A, 125-250VAC, 32 VDC	7 to 16A, 125-250VAC, 32VDC
Max Interrupting Capacity	1000A	2500A@32VDC	2500A@32VDC	1000A
Available Circuits	series trip manual reset	series trip manual reset	series trip manual reset	series trip manual reset
Termination	.250" tab	.250" tab, .250" tab with 90° bend, screw terminal, screw terminal with 90° bend	.250" tab, .250" tab with 90° bend, screw terminal, screw terminal with 90° bend	.250" tab, solder lug
Mounting Method	front panel snap-in	threaded bushing, front panel snap-in	threaded bushing, front panel snap-in	front panel snap-in
Operating Temperate	-10°C to 60°C	-10°C to 60°C	-10°C to 60°C	-10°C to 65°C
Agency Approvals	UL, cUL, VDE, CE	UL, cUL, TUV, CE, ISO 8846 for ignition protection / marine	UL, cUL, TUV, CE, ISO 8846 for ignition protection / marine	UL, cUL, TUV

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C1005B-Series

Thermal Circuit Breaker

PRODUCT WEBPAGE

request sample, configure part





The C1005B-Series offers the functionality of a switch and circuit breaker in a single compact package, which fits an industry standard .550 x 1.125 mounting hole. This combo device eliminates the need for both a switch and thermal circuit protector on customer panels. By using only this multi-purpose product, wiring and assembly costs are greatly reduced, while at the same time, valuable panel real estate is saved.

1	7-16	125-250	32
Pole	Amps	VAC Max	VDC Max

Typical Applications

- Household Appliances
- On/Off-Highway
- Marine
- Power Strips and Supplies
- Medical Equipment
- Audio Visual Equipment
- Exercise Equipment
- ROHS Complaint

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Ordering Scheme

Sample Part Number: C1005B - 3 B 15 1 B R 3

Selection: 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8

1. SERIES

C1005B

2. ILLUMINATION

2	Non-Lighted	**3**	Lighted

3. TERMINATION

A	Solder Lug	**B**	.250 Tab

4. CURRENT RATING (AMPERES)

07	7 amps	**11**	11 amps	**15**	15 amps
08	8 amps	**12**	12 amps	**16**	16 amps
09	9 amps	**13**	13 amps		
10	10 amps	**14**	14 amps		

5. CONTACT MATERIAL [1]

1 Silver Cad Oxide (switch), Silver plated copper (breaker)

6. BEZEL LEGEND IMPRINT

B Black Bezel with white legend
W White Bezel with black legend
C Gray Bezel with black legend

7. ROCKER COLOR

R Red
G Green
U Blue
T Clear

Note: RESET OFF Legend is standard.

8 LAMP VOLTAGE

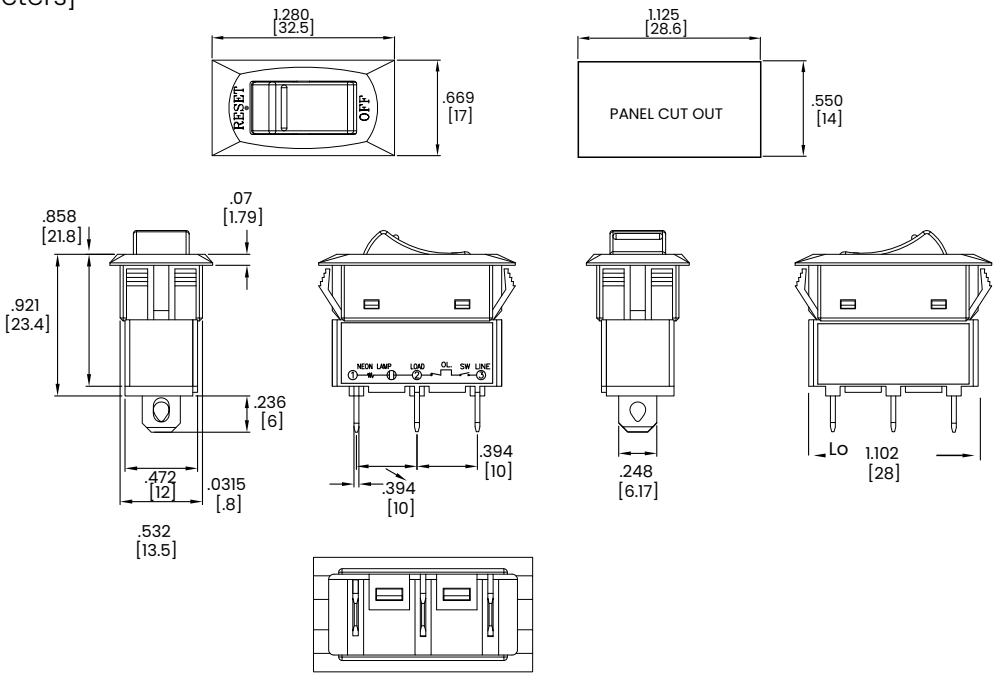
3	Neon Lamp 125/250 VAC	**9**	Non-lighted

Notes:
1. Silver cad oxide switch and breaker contacts are available as a special order. Specify 3 for selection 5

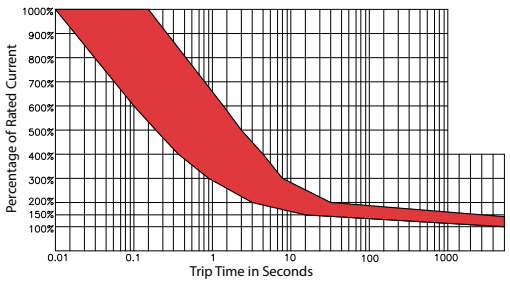
Configure Complete Part Number > | Browse Standard Parts >

Dimensional Specs

inches [millimeters]



Time Delay



Overload	Trip Time
100%	No Trip
135%	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%	0.01 ~ 1.8 sec.

Trip Time Factor [1]			
-10 °C	x 1.70	30 °C	x 0.90
-5 °C	x 1.60	35 °C	x 0.85
0 °C	x 1.50	40 °C	x 0.80
5 °C	x 1.40	45 °C	x 0.75
10 °C	x 1.30	50 °C	x 0.70
15 °C	x 1.20	55 °C	x 0.65
20 °C	x 1.10	60 °C	x 0.60
25 °C	x 1.00		

Notes:
1. Trip Time factor is a guideline that indicates ambient temperature effect on trip times at various overload values.

*Manufacturer reserves the right to change product specification without prior notice.

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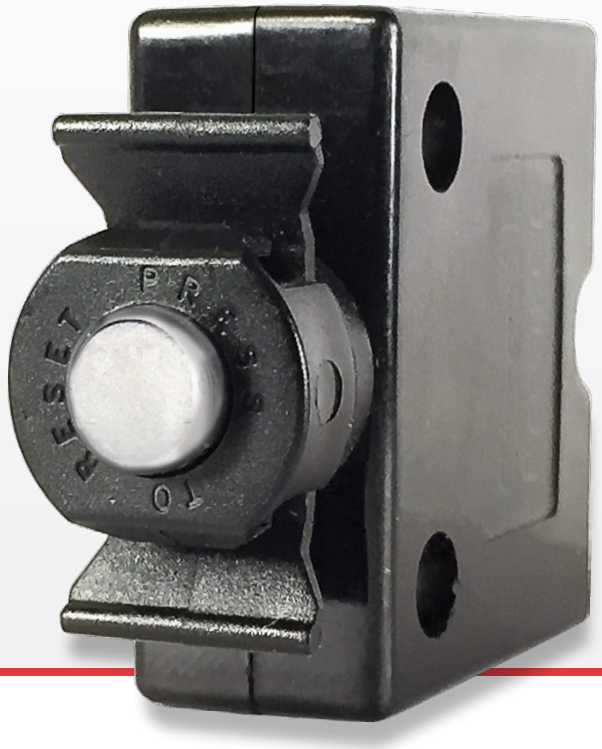
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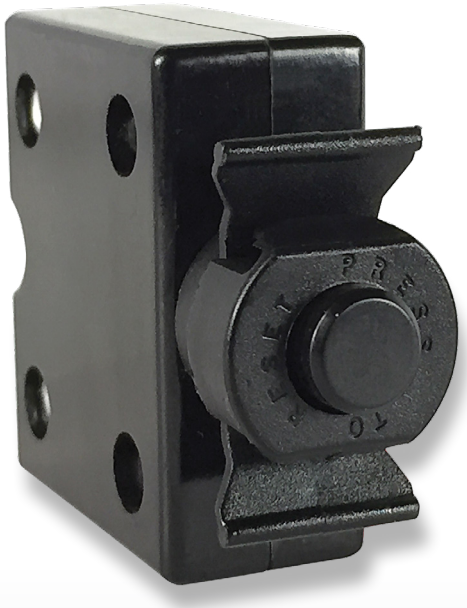
CLB-Series

Thermal Circuit Breaker

PRODUCT WEBPAGE

request sample, configure part





The CLB-Series is a compact, single pole, push-to-reset family of thermal circuit breakers designed to protect equipment. Utilizing simple, precision design with few moving parts, these breakers offer cost effective, extremely reliable circuit protection with high resistance against shock and vibration.

1	3-60	125-250	32
Pole	Amps	VAC Max	VDC Max

Typical Applications

- Household Appliances
- On/Off-Highway
- Marine
- Power Strips and Supplies
- Medical Equipment
- Audio Visual Equipment
- Exercise Equipment
- ROHS Complaint

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Ordering Scheme

Sample Part Number	CLB	-	10	3	-	12	C	3	N	-	B	-	A	/	10
Selection	1		2	3		4	5	6	7		8		9		10

1. SERIES

CLB

2. RATING

03	3 amps	**10**	10 amps	**25**	25 amps
04	4 amps	**12**	12 amps	**30**	30 amps
05	5 amps	**13**	13 amps	**35**	35 amps
06	6 amps	**15**	15 amps	**40**	40 amps
07	7 amps	**18**	18 amps	**50**	50 amps [12]
08	8 amps	**20**	20 amps	**60**	60 amps [12]

3. VOLTAGE

3	125-250VAC / 32 VDC

4. MOUNTING HOLE

see next page for diagram

11	M11 [1]
12	M12 [2]
00	Snap In Style [3]
27	3/8" 27 UNS [4]

5. BUSHING

see next page for diagram

METAL		PLASTIC	
A	Type A [6]	**C**	Type C [5]
B	Type B [16]	**D**	Type D [7]
J	Type J [8]	**E**	Type E [8]

6. MOUNTING NUT

[9] see next page for diagram

N	None	**5**	Type 5
1	Type 1	**6**	Type 6 [4, 14]
2	Type 2	**7**	Type 7 [4]
3	Type 3 [17]	**8**	Type 8 [4]
4	Type 4		

7. INDICATOR PLATE

[9] see next page for diagram

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

8. BUTTON

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

9. TERMINAL

[10,11,15] see next page for diagram

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

10 BUTTON MARKING (IF BLANK, NO MARKING)

[13]

Button Marking Orientation:

line 20 load

03	3 amp	**10**	10 amp	**25**	25 amp
04	4 amp	**12**	12 amp	**30**	30 amp
05	5 amp	**13**	13 amp	**35**	35 amp
06	6 amp	**15**	15 amp	**40**	40 amp
07	7 amp	**18**	18 amp	**50**	50 amp
08	8 amp	**20**	20 amp	**60**	60 amp

Notes: Tolerance ±.005 [.127] unless otherwise specified.

1 Used with bushing A or B only.
2 Used with bushing A or C only.
3 Used with bushing D only.
4 Used with bushing E & J only.
5 Used with M12 mounting hole only.
6 Used with M11 and M12 mounting hole only.
7 Used with mounting hole 00 only.
8 Used with 27 mounting hole only.
9 All hardware available separately.
10 Greater than 35 amp rating must use solder joint to connect wire to non-screw type terminals.
11 Terminals are .040 [1.0] thickness for ratings greater than 35 amps. Terminals are .315 [0.8] thickness is for ratings less than 35 amps.
12 Available only with 10-24 unc. screw terms. (select type F, G, H, J only.) UL, CUL only.
13 Amp rating must match button marking (ex: "20" will be marked on the button of the breaker)
14 Thickness is 3.0 mm, .118 in.
15 Screw terminals are 8-32 UNC
16 Used with M11 mounting hole only.
17 Includes molded in "PRESS TO RESET" marking.

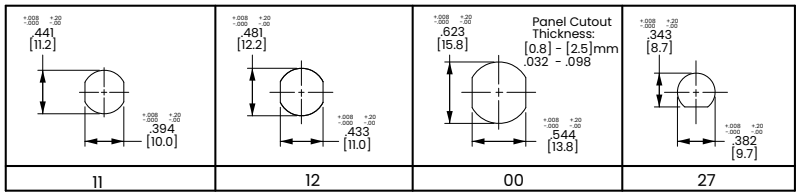
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*Manufacturer reserves the right to change product specification without prior notice.

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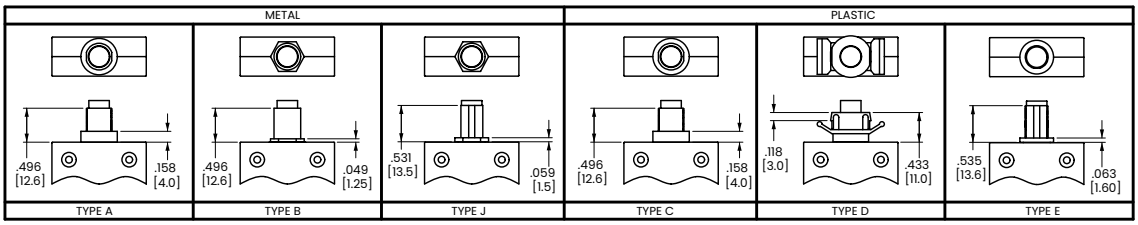
Ordering Scheme Diagrams

4. MOUNTING HOLE

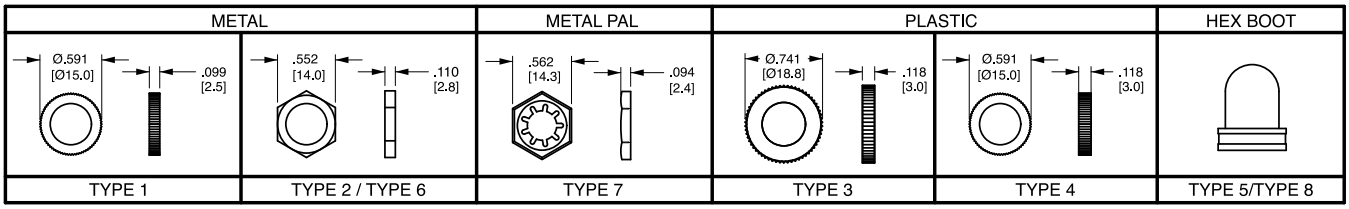


11	12	00	27

5. BUSHING

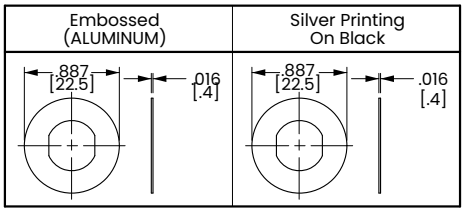


6. MOUNTING NUT



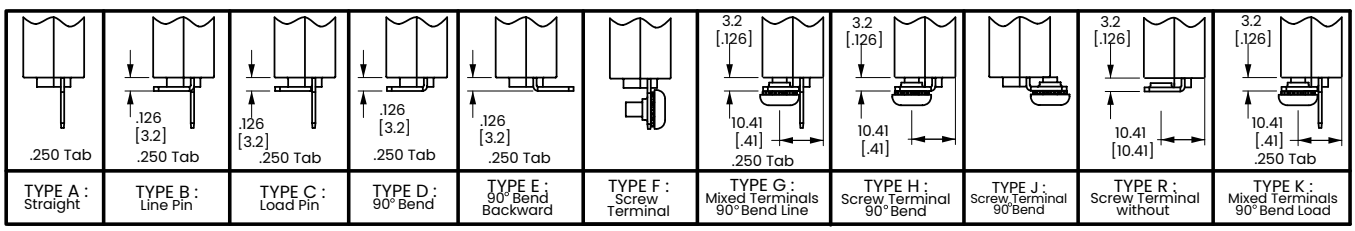
Type 5 is clear hex boot. Type 8 is black hex boot (available for bushings G, J & K only); Type 3 nut includes molded in "PRESS TO RESET" marking.

7. INDICATOR PLATE



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

9. TERMINAL



TYPE A : Straight	TYPE B : Line Pin	TYPE C : Load Pin	TYPE D : 90° Bend	TYPE E : 90° Bend Backward	TYPE F : Screw Terminal	TYPE G : Mixed Terminals 90° Bend Line	TYPE H : Screw Terminal 90° Bend	TYPE J : Screw Terminal 90° Bend	TYPE R : Screw Terminal without	TYPE K : Mixed Terminals 90° Bend Load

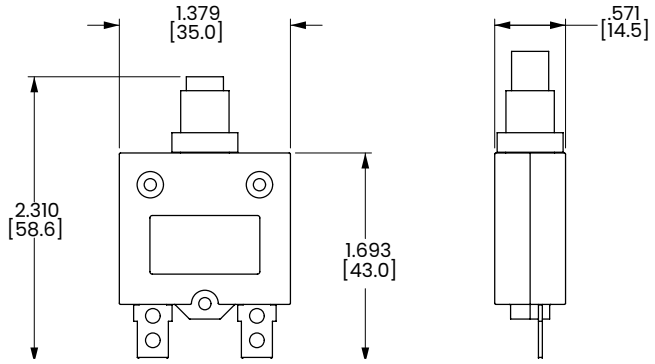
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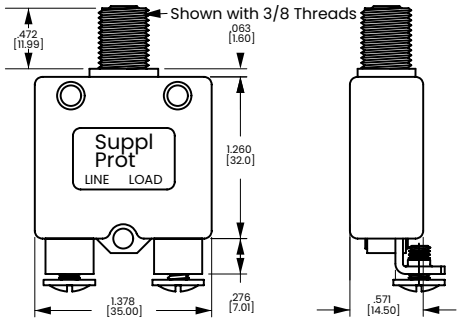
Dimensional Specs

inches [millimeters]

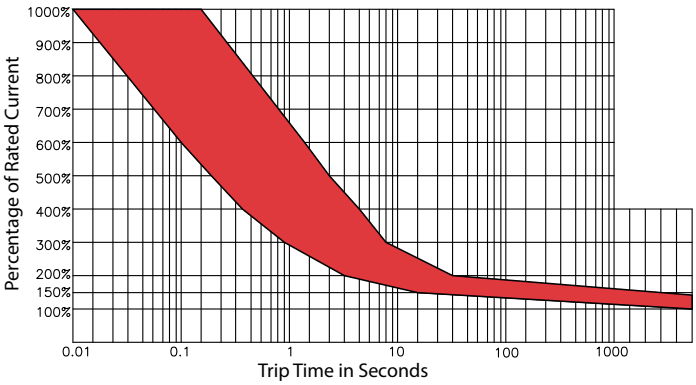
3-40A Construction



50 & 60A Construction



Time Delay



Overload	Trip Time
100%	No Trip
135%	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%	0.01 ~ 1.8 sec.

Trip Time Factor[1]			
-10 °C	x 1.70	30 °C	x 0.90
-5 °C	x 1.60	35 °C	x 0.85
0 °C	x 1.50	40 °C	x 0.80
5 °C	x 1.40	45 °C	x 0.75
10 °C	x 1.30	50 °C	x 0.70
15 °C	x 1.20	55 °C	x 0.65
20 °C	x 1.10	60 °C	x 0.60
25 °C	x 1.00		

Notes:
1. Trip Time factor is a guideline that indicates ambient temperature effect on trip times at various overload values.

*Manufacturer reserves the right to change product specification without prior notice.

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CMB-Series

Thermal Circuit Breaker

PRODUCT WEBPAGE

request sample, configure part





The CMB-Series is a compact, single pole, push-to-reset family of thermal circuit breakers designed to protect equipment. Utilizing simple, precision design with few moving parts, these breakers offer cost effective, extremely reliable circuit protection with high resistance against shock and vibration.

1	3-20	125-250	32
Pole	Amps	VAC Max	VDC Max

Typical Applications

- Household Appliances
- On/Off-Highway
- Marine
- Power Strips and Supplies
- Medical Equipment
- Audio Visual Equipment
- Exercise Equipment
- ROHS Complaint

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Ordering Scheme

Sample Part Number	CMB	-	10	3	-	11	C	3	N	-	B	-	A	/	10
Selection	1		2	3		4	5	6	7		8		9		10

1. SERIES

CMB

2. RATING

03	3 amps	**08**	8 amps	**15**	15 amps
04	4 amps	**10**	10 amps	**16**	16 amps
05	5 amps	**12**	12 amps	**20**	20 amps
06	6 amps	**13**	13 amps		
07	7 amps	**14**	14 amps		

3. VOLTAGE

3	125-250VAC / 32 VDC

4. MOUNTING HOLE

see next page for diagram

11	M11 [1]
12	M12 [2]
00	Snap In Style [3]
27	3/8" 27 UNS [15,16]
28	3/8" 27 UNS (double flatted) [12]

5. BUSHING

see next page for diagram

PLASTIC		METAL	
C	Type C [4]	**J**	Type J [8]
D	Type D [4]		
E	Type E [5]		
G	Type G [8]		
H	Type H [6]		
K	Type K [13]		

6. MOUNTING NUT

7 see next page for diagram

N	None	**5**	Type 5
1	Type 1	**6**	Type 6 [14]
2	Type 2	**7**	Type 7 [9]
3	Type 3 [11]	**8**	Type 8 [9]
4	Type 4		

7. INDICATOR PLATE

9 see next page for diagram

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

8. BUTTON

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

9. TERMINAL

10,11,15 see next page for diagram

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

10 BUTTON MARKING (IF BLANK, NO MARKING)

13

Button Marking Orientation:

line (20) load

03	3 amp	**08**	8 amp	**15**	15 amp
04	4 amp	**10**	10 amp	**16**	16 amp
05	5 amp	**12**	12 amp	**20**	20 amp
06	6 amp	**13**	13 amp		
07	7 amp	**14**	14 amp		

Notes: Tolerance ±.005 [.127] unless otherwise specified.

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

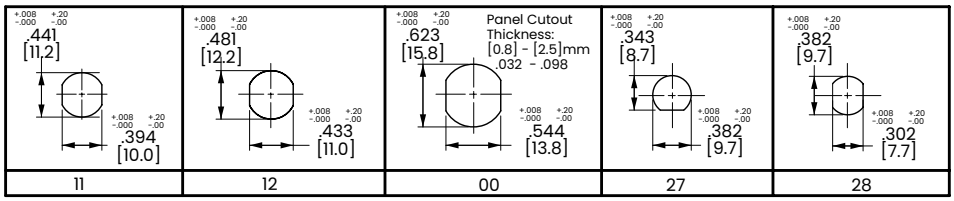
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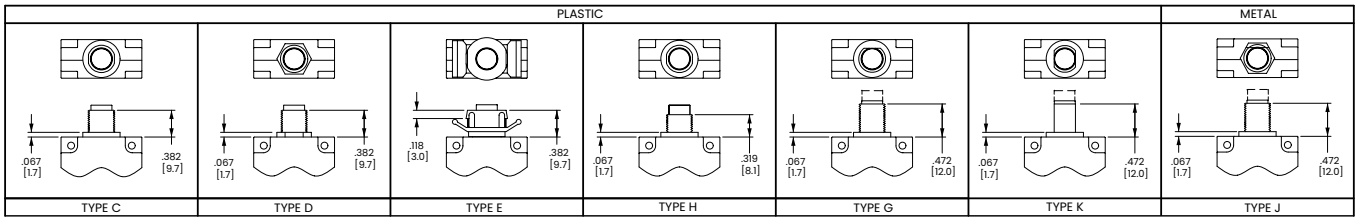
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Ordering Scheme Diagrams

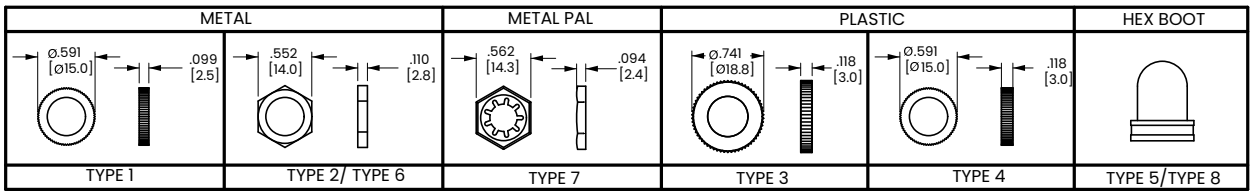
4. MOUNTING HOLE



5. BUSHING

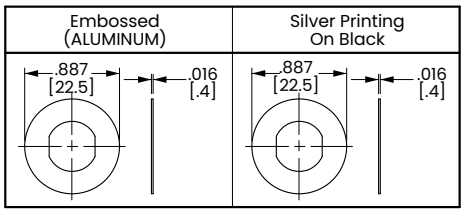


6. MOUNTING NUT



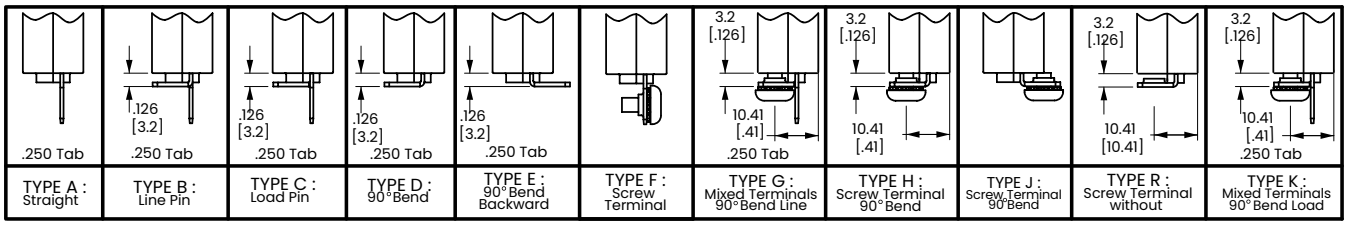
Type 5 is clear hex boot. Type 8 is black hex boot (available for bushings G, J & K only); Type 3 nut includes molded in "PRESS TO RESET" marking.

7. INDICATOR PLATE



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

9. TERMINAL



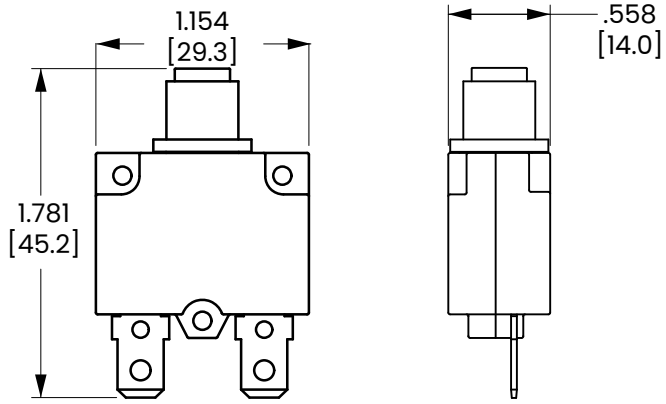
F,G,H,J terminals are 8-32 UNC

*Manufacturer reserves the right to change product specification without prior notice.

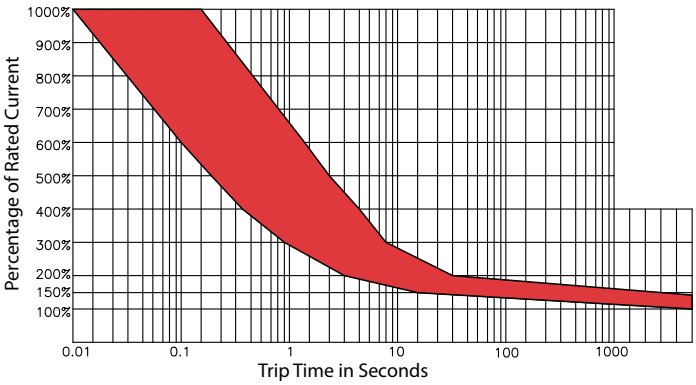
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Dimensional Specs

inches [millimeters]



Time Delay



Overload	Trip Time
100%	No Trip
135%	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%	0.01 ~ 1.8 sec.

Trip Time Factor[1]			
-10 °C	x 1.70	30 °C	x 0.90
-5 °C	x 1.60	35 °C	x 0.85
0 °C	x 1.50	40 °C	x 0.80
5 °C	x 1.40	45 °C	x 0.75
10 °C	x 1.30	50 °C	x 0.70
15 °C	x 1.20	55 °C	x 0.65
20 °C	x 1.10	60 °C	x 0.60
25 °C	x 1.00		

Notes:
1. Trip Time factor is a guideline that indicates ambient temperature effect on trip times at various overload values.

*Manufacturer reserves the right to change product specification without prior notice.

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Carling Technologies®
/// NOW PART OF
Littelfuse®

CTB-Series

Thermal Circuit Breaker

PRODUCT WEBPAGE

request sample, configure part





The CTB-Series is a compact, single pole, rocker actuated family of thermal circuit breakers designed to protect equipment. Utilizing simple, precision design with few moving parts, these breakers offer cost effective, extremely reliable circuit protection with high resistance against shock and vibration.

1	3-16	125-250	50
Pole	Amps	VAC Max	VDC Max

Typical Applications

- Household Appliances
- On/Off-Highway
- Marine
- Power Strips and Supplies
- Medical Equipment
- Audio Visual Equipment
- Exercise Equipment
- ROHS Complaint

www.carlingtech.com 860.793.9281 sales@carlingtech.com

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Ordering Scheme

Sample Part Number: CTB - B - B - 05 - B

Selection: 1 2 3 4 5

1. SERIES

CTB

2. BEZEL COLOR [1]

B Black

3. ROCKER COLOR [1]

B Black

4. RATING

03	3 amps	**08**	8 amps	**14**	14 amps
04	4 amps	**09**	9 amps	**15**	15 amps
05	5 amps	**10**	10 amps	**16**	16 amps
06	6 amps	**12**	12 amps		
07	7 amps	**13**	13 amps		

5. PANEL THICKNESS

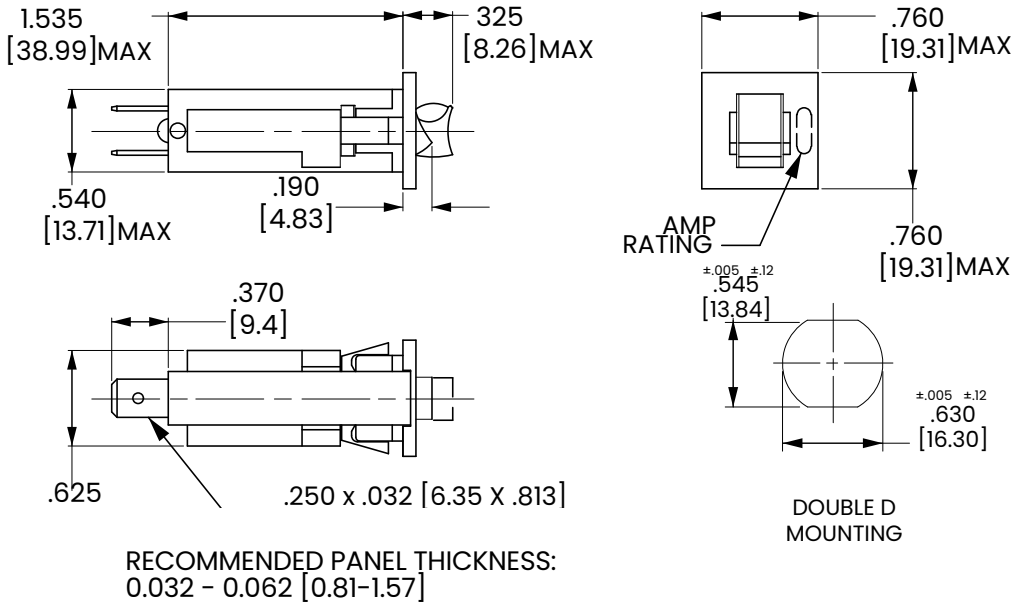
blank fits standard thickness of .032 – .062
B fits .070 – .110 panel thickness

Notes:
1. Additional colors available. Consult factory.

Configure Complete Part Number > Browse Standard Parts >

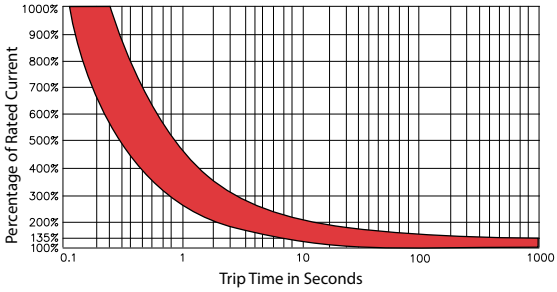
Dimensional Specs

inches [millimeters]



Notes:
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.

Time Delay



Overload	Trip Time
100%	No Trip
135%	Trip in 1 hr
200%	2.2 ~ 15 sec.
300%	0.9 ~ 3.4 sec.
400%	0.57 ~ 1.6 sec.
500%	0.38 ~ 0.94 sec.
600%	0.27 ~ 0.76 sec.

Correction Factor [1]	
0 °C	x 0.85
10 °C	x 0.90
15 °C	x 0.925
18 °C	x 0.952
25 °C	x 1.00
32 °C	x 1.05
40 °C	x 1.15
50 °C	x 1.39
60 °C	x 1.49

Notes:
1. To adjust the breaker rating for ambient temperature, multiply the breaker rating by the factor. ex: 5A rating x .850 = 4.25A. Select 4A rating.

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Authorized Sales Representatives and Distributors

Click on a region of the map below to find your local representatives and distributors or visit **www.carlingtech.com/findarep**.



About Carling

Founded in 1920, Carling Technologies is a leading manufacturer of electrical and electronic switches and assemblies, circuit breakers, electronic controls, power distribution units, and multiplexed power distribution systems. With six ISO9001 and IATF16949 registered manufacturing facilities and technical sales offices worldwide, Carling Technologies Sales, Service and Engineering teams do much more than manufacture electrical components, they engineer powerful solutions! To learn more about Carling please visit **www.carlingtech.com/company-profile**.

To view all of Carling's environmental, quality, health & safety certifications please visit **www.carlingtech.com/environmental-certifications**.

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