



Carling Technologies®  
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Littelfuse®

# Switches and Circuit Protection

Ideal for Dental Equipment,  
X-Ray Machines, Nebulizers,  
Dialysis Equipment, and  
many more.

## Medical

Industry Brochure  
and Selector Guide



# Featured Switches



## R-Series Curvette® >

Mid-Sized rockers compatible with a wide range of panel cutouts and self-cleaning contacts.

1 Pole  
10-20A; 125-250VAC, 6-24VDC  
Variety of rocker styles, terminations & legend options



## T-Series >

Mid-size, snap-in mount rocker switches with self-cleaning contacts.

1 Pole  
5-20A; 125-250VAC, 6-28VDC  
Integrated wire leads and actuator choices



## TI-Series Tippette® >

Full-Sized rocker switches available with nylon snap-in or screw type mounting brackets.

1-4 Poles  
10-20A; 125-250VAC, 12-30VDC  
Variety of rocker styles & colors with maintained & momentary circuits



## TG/LTG-Series >

Mid-Size rocker switches feature snap-in mounting, nylon construction & optional illumination.

1-2 Poles  
5-15A; 125-250VAC, 6-28VDC  
Single or Double Throw Momentary & Maintained Circuits



## 611/621-Series >

Small-Sized rocker/paddle switches feature snap-in mounting with solder lug, tab and PC termination.

1-2 Poles  
.4-11A; 125-250VAC, 12-24VDC  
Variety of colors and legend options available



## 651/652-Series >

Small-Sized rocker switches ideal for applications with back panel size constraints.

1 Pole  
6-12A; 125-250VAC, 6-24VDC  
Butt action contacts, maintained & momentary circuitry, variety of legends

# Featured Switches



## V-Series Rotary >

Features a sturdy knob and is available in maintained & momentary circuit options.

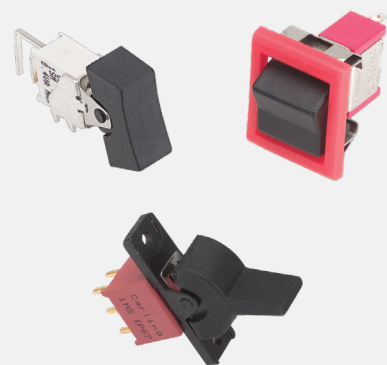
2 Poles  
up to 15A 24VDC 20A 12VDC  
IP67 Rated  
up to Three Separate LEDs



## V-Series >

Countless options for actuator styles, illumination, and legends.

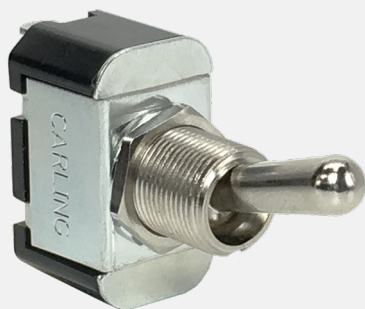
1-2 Poles  
Dry circuit up to 15A, 24VDC; 15A 125VAC; 10A 250VAC  
IP66/68 Rated



## Miniature Rockers >

Sealed and unsealed rocker and paddle options with and a variety of ratings.

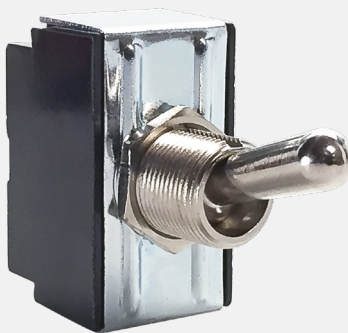
1-4 Poles  
Dry circuit up to 3A 125VAC  
IP67 Rated  
Variety of Mounting Options



## F-Series >

Single pole workhorses featuring a slow-make, slow-break contact mechanism.

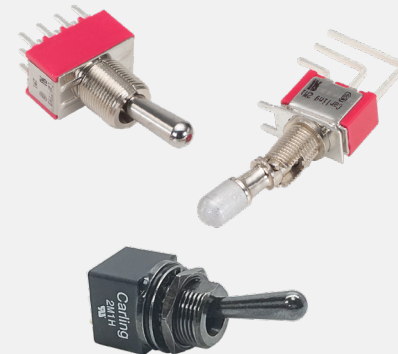
1 Pole  
up to 20A 277VAC  
Suitable for low voltage 12/24VDC  
Variety of Termination Options



## G-Series >

Double pole workhorses available with a variety of actuator lengths, styles and circuits.

2 Poles  
up to 20A 277VAC  
Suitable for low voltage 12/24VDC  
Metal or Nylon Actuator Styles



## Miniature Toggles >

Sealed and unsealed options with a variety of ratings & mounting options.

1-2 Poles  
up to 5A 125VAC, 28VDC  
IP67 Rated  
8 Single and Double Pole Circuits



# Featured Circuit Protection



## A-Series >

A compact, temperature stable, general purpose hydraulic-magnetic circuit breaker.

1-6 Poles  
0.02-50A;  
up to 277VAC or 80VDC  
UL 1077, CSA, VDE, TUV, CCC



## C-Series >

Hydraulic-magnetic circuit breaker ideal for high amperage applications

1-6 Poles  
0.02-100A; up to 480VAC/80VDC;  
Up to 240VAC/125VDC for UL 489  
UL 489, UL 1077, CSA, VDE, TUV, CCC



## H-Series >

Meets IEC spacing requirements for international applications.

1-3 Poles  
1-35A; up to 250VAC or 65VDC  
and 80VDC for single pole  
UL 1077, CSA, TUV & CCC



## M-Series >

Miniature circuit breakers offering high performance in a compact design.

1-2 Poles  
0.02-30A; up to 80VDC, 250VAC  
Many Actuator Styles  
UL 1077, CSA, VDE, TUV, CCC



## C1005B-Series >

Combination switch and thermal circuit protector in an illuminated or non-illuminated package.

1 Pole  
7-16A; 125/250VAC, 32VDC, up to 32 VDC  
Standard Reset/Off Legend  
UL 1077, UL 1363, cUL, TUV



## CTB-Series >

Rocker actuated thermal breaker offering simple snap-in mounting in a compact design.

1 Pole  
3-16A, 125VAC, 250VAC,  
125/250VAC, 50VDC  
.250 Tab Terminals

For additional medical capable circuit breakers please visit: [www.carlingtech.com/medical](http://www.carlingtech.com/medical)

# Selector Guide

## CIRCUIT PROTECTION

Hydraulic-Magnetic



**A-Series**



**C-Series**



**H-Series**



**M-Series**

| Poles                         | 1-6 (handle)<br>1-3 (rocker/toggle)                                                                                      | 1-6 (handle)<br>1-3 (rocker/toggle)                                                                                                                                                                                                              | 1-3                                                                | 1-2                                                                                                                                                                                                                                       |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Actuator Style                | sealed metal toggle,<br>handle, rocker                                                                                   | sealed metal toggle, handle,<br>rocker                                                                                                                                                                                                           | handle, rocker<br>(curved & flat)                                  | rocker (curved & flat), visi-<br>rocker, paddle, baton, push-to-<br>reset & push-pull pushbuttons                                                                                                                                         |
| Available Delays              | AC, DC, AC/DC:<br>instantaneous, ultra-<br>short, short, medium<br>& long AC, DC: high<br>inrush-short, medium<br>& long | AC, DC, AC/DC: instant,<br>ultrashort, short, medium<br>& long AC, DC: high inrush-<br>short, medium & long                                                                                                                                      | AC, DC:<br>instantaneous, ultra-<br>short, short, medium<br>& long | AC/DC: instantaneous, short,<br>medium, hi-inrush                                                                                                                                                                                         |
| Max Current & Voltage Ratings | 0.02-30A@ 277VAC,<br>80VDC<br>31.0-50A@ 125/250VAC,<br>65VDC                                                             | UL Listed:<br>0.02-250A@80VDC<br>0.1-100A@125VDC<br>0.02-70A@120VAC<br>0.02-20A@240VAC<br>UL Recognized:<br>0.02-30A @480WYE/277VAC<br>2 Pole, 1Ø<br>3 Pole, 3Ø<br>0.02-50A@277VAC<br>0.02-100A @250VAC, 80VDC<br>0.02-100A@120/240VAC,<br>65VDC | 1-35A@ 65VDC,<br>80VDC, 250VAC                                     | 1 Pole:<br>0.02-15FLA@32VDC,125VAC<br>15.1-25GPA@32VDC,125VAC<br>0.02-12FLA@250VAC<br>0.02-7.5GPA@50VDC<br>0.02-30GPA@65VDC, 80VDC<br>2 Pole:<br>0.02-15FLA@65VDC, 250VAC<br>15.1-25GPA@65VDC, 250VAC<br>Parallel Pole:<br>31-50GPA@80VDC |
| Max Interrupting Capacity     | 7500A@80VDC,<br>UL only<br>3000A @ 120/250VAC,<br>UL only<br>5000A@277VAC,<br>with fuse backup                           | UL Listed:<br>50000A@80VDC, 1 pole only<br>10000A@120VAC<br>5000A@125VDC/240VAC<br>UL Recognized:<br>7500A@80VDC<br>3000A@125/250VAC, UL<br>only 5000A@250VAC<br>listed construction<br>5000A@480WYE/277VAC with<br>fuse backup                  | 3000A@65VDC<br>1000A@80VDC<br>1500A@250VAC                         | 1 Pole:<br>1,000A@32VDC<br>1,000A@125VAC<br>2 Pole:<br>1,000A@65VDC<br>1,000A@250VAC<br>Parallel Pole:<br>600A@80VDC                                                                                                                      |
| Auxiliary Switch Rating       | 10.1A@125VAC<br>0.1A@125VAC (gold<br>contacts)<br>0.5A@65VDC<br>0.1A@80VDC                                               | 10.1A@250 VAC<br>0.1A@125 VAC<br>(gold contacts),<br>0.5A@80 VDC                                                                                                                                                                                 | 1.0A @ 65VDC/0.5A @<br>80VDC,<br>0.1A @ 125VAC (gold<br>contacts)  | 7A@250VAC<br>0.1A@125VAC (gold contacts)<br>7A (res.)@28VDC<br>4A (ind.)@28VDC<br>0.25A@80VDC                                                                                                                                             |
| Available Circuits            | series, shunt, relay,<br>switch only, series with<br>remote shutdown, relay<br>& shunt trip dual coil                    | series, shunt, relay, switch<br>only, series with remote<br>shutdown, relay & shunt trip<br>dual coil, mid-trip with alarm<br>switch                                                                                                             | series, switch only,<br>relay trip                                 | series and switch only parallel<br>pole                                                                                                                                                                                                   |
| Terminal Options              | .250" QC tabs<br>8-32 & 10-32 screw (&<br>metric), PCB                                                                   | 10-32 stud, 1/4-20 stud,<br>10-32 screw with saddle<br>clamp, 7/16 clip & push-in                                                                                                                                                                | .250" QC tabs<br>8-32 & 10-32 screw (&<br>metric), PCB             | .250" QC tabs, 8-32 screw with<br>upturned lugs, 8-32, 10-32<br>screw (bus type), push in stud<br>terminals                                                                                                                               |
| Mounting Method               | threaded inserts:<br>front panel snap-in                                                                                 | threaded inserts                                                                                                                                                                                                                                 | threaded inserts                                                   | snap-in front panel threaded<br>bushing                                                                                                                                                                                                   |
| Agency Approvals              | UL1077, CSA, VDE, TUV<br>(rocker), UL1500, UL489A                                                                        | UL1077, CSA, VDE, TUV,<br>UL1500, UL489, UL489A                                                                                                                                                                                                  | UL1077, CSA, TUV &<br>CCC                                          | UL1077, CSA, VDE, TUV, UL489A<br>listed                                                                                                                                                                                                   |

# Selector Guide

## CIRCUIT PROTECTION

Thermal



**CLB-Series**



**CMB-Series**



**C1005B-Series**



**CTB-Series**

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

## SWITCHES

Full-Sized and Mid-Sized Rockers



**V-Series**



**TIG/LTIG/TIH/LTIH/TIL/  
LTIL/TII/LS-Series**



**R/LRA/RSC/RG/  
LRG-Series**



**T/LTA/TG/LTG/  
TLG/TTG-Series**

| Poles                        | 1,2                                                           | 1, 2, 3, 4                                                            | 1,2                                                                                       | 1, 2                                                                                           |
|------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Ratings                      | IP66/68;<br>up to 20/15A 12/24VDC<br>15A 125VAC<br>10A 250VAC | up to<br>15A 125VAC<br>10A 250VAC<br>26A 250VAC Resistive             | up to<br>20A 125VAC<br>15A 250VAC                                                         | up to<br>20A 125VAC<br>10A 250VAC                                                              |
| Actuator                     | Rocker, Paddle,<br>Locking Rocker                             | rocker, paddle                                                        | rocker, paddle                                                                            | rocker, lever, paddle,<br>plunger, toggle (bat)                                                |
| Mounting Hole Specifications | .830" x 1.450"<br>[21.08mm x 36.83mm]<br>snap-in mount        | .830" x 1.450"<br>[21.08mm x 36.83mm]<br>snap-in mount<br>screw mount | .480" x 1.072"<br>[12.19mm x 27.23mm]<br>.866" x 1.182"<br>[22mm x 30mm]<br>snap-in mount | .550" x 1.125"<br>[13.97mm x 28.57mm]<br>1.00" x 1.125"<br>[25.4mm x 28.57mm]<br>snap-in mount |
| Termination                  | .250 tabs, solder lug,<br>wire leads                          | .187 tab, solder lug, .250 tabs,<br>screw terms, wire leads           | solder lug, .250 tabs,<br>wire leads, PC terms                                            | .187 tab, solder lug, .250<br>tabs, wire leads                                                 |
| Illumination                 | incandescent, LED, neon                                       | incandescent, neon                                                    | incandescent, neon                                                                        | incandescent, neon                                                                             |
| Approval                     | UL, CSA                                                       | UL, CSA, VDE                                                          | UL, CSA, VDE                                                                              | UL, CSA                                                                                        |

# Selector Guide

## SWITCHES

### Small-Sized Rockers



**610/620-Series**



**611/621-Series**



**622/632-Series**



**651/652-Series**

| Poles                       | 1, 2                                                | 1, 2                                                | 1, 2                                                  | 1                                                      |
|-----------------------------|-----------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|
| Ratings                     | up to<br>8A 125VAC<br>4A 250VAC                     | up to<br>8A 125VAC<br>4A 250VAC                     | up to<br>12A 125VAC<br>8A 250VAC<br>1/2 HP 125-250VAC | up to<br>10A 125VAC<br>10A 250VAC<br>1/4 HP 125-250VAC |
| Actuator                    | rocker, paddle                                      | rocker, paddle                                      | rocker                                                | rocker, paddle                                         |
| Mounting Hole Specification | .508" x .756"<br>[12.9mm x 19.2mm]<br>snap-in mount | .508" x .756"<br>[12.9mm x 19.2mm]<br>snap-in mount | .508" x .756"<br>[12.9mm x 19.2mm]<br>snap-in mount   | .508" x .756"<br>[12.9mm x 19.2mm]<br>snap-in mount    |
| Termination                 | solder lug<br>PC terms                              | .187 tab<br>solder lug<br>wire leads<br>PC terms    | .187 tab<br>solder lug                                | .187 tab<br>solder lug<br>wire leads<br>PC terms       |
| Illumination                | n/a                                                 | n/a                                                 | incandescent, LED,<br>neon                            | n/a                                                    |
| Approval                    | UL, CSA                                             | UL, CSA, VDE                                        | UL, CSA                                               | UL, CSA                                                |

### Toggles



**F/G/H/I-Series**

| Poles                        | 1,2,3,4                                                                     |
|------------------------------|-----------------------------------------------------------------------------|
| Ratings                      | up to<br>20A 125VAC<br>20A 277VAC<br>2 HP 250VAC                            |
| Actuator                     | paddle, toggle<br>(bat)                                                     |
| Mounting Hole Specifications | .500" dia [12.7mm]<br>bushing mount                                         |
| Termination                  | .187 tabs,solder lug,<br>.250 tabs, screw<br>terms, wire leads,<br>PC terms |
| Illumination                 | n/a                                                                         |
| Approval                     | UL, CSA, VDE                                                                |





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