

# toggle switches



B

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FREIGHTLINER REPLACEMENT SWITCHES 25A	B3
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## toggle switches

### B1 WEATHER-RESISTANT SWITCHES

#### 54100 Series, Weather-Resistant, 25A

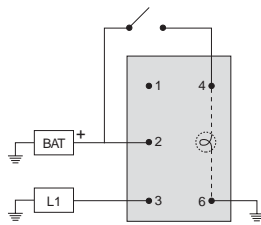
Standard or lighted handle – black nylon or clear plastic, 11/16" (17.5mm) long. Silver contacts. Mounting stem 15/32" -32 thread, 15/32" (11.9mm) long, fits panels up to 1/8" (31.8mm) thick. Includes mounting hardware: black metal facenut and nickel-plated hexnut. 25A at 12V DC. Terminals: .250" blade or 6-32 screw.



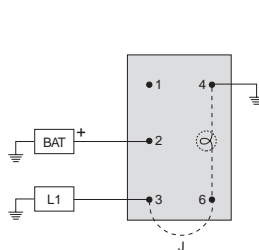
Standard Switch



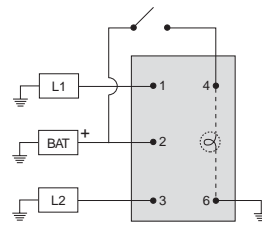
Illuminated Switch



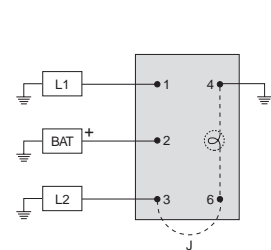
54109 & 54109-01  
independent wiring



54109 & 54109-01  
dependent wiring



54110 & 54110-01  
independent wiring



54110 & 54110-01  
dependent wiring

#### SPST

##### 54100 On-Off BP ★

Up: On, Down: Off. Two screw terminals.

##### 54100-01 On-Off BP

Up: On, Down: Off. Two blade terminals.

##### 54101 Mom On-Off

Up: Mom On, Down: Off. Two screw terminals.

##### 54101-01 Mom On-Off BP

Up: Mom On, Down: Off. Two blade terminals.

CONTINUED **B1**



Cole Hersee Co. 20 Old Colony Ave, Boston, MA 02127-2467

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★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.

T 617.268.2100 F 617.268.9490 [www.colehersee.com](http://www.colehersee.com)

# B toggle switches

## B1 WEATHER-RESISTANT SWITCHES



### sealed

Neoprene O-ring seal within the mounting stem protects against moisture and dirt entering around the base of the actuator handle. Some switches are coated in polyvinyl chloride (PVC), providing additional sealing. PVC-coated switches normally have wire leads, which provide complete covering and insulation of the terminals.

#### 54109 On-Off, illuminated BP ★

Up: On/Red, Down: Off/White. Four screw terminals.  
O-ring seal in bushing.

#### 54109-01 On-Off, illuminated ★

Up: On/Red, Down: Off/White. Four blade terminals.  
O-ring seal in bushing.

### SPDT

#### 54103 On-Off-On BP

Up: On, Center: Off, Down: On. Three screw terminals.

#### 54103-01 On-Off-On BP

Up: On, Center: Off, Down: On. Three blade terminals.

#### 54104 Mom On-Off-Mom On BP

Up: Mom On, Center: Off, Down: Mom On.  
Three screw terminals.

#### 54104-01 Mom On-Off-Mom On

Up: Mom On, Center: Off, Down: Mom On.  
Three blade terminals.

#### 54110 On-Off-On, illuminated BP

Up: On/red, Center: Off/White, Down: On/White.  
Five screw terminals. O-ring seal in bushing.  
Independent illumination.

#### 54110-01 On-Off-On, illuminated BP

Up: On/red, Center: Off/White, Down: On/White.  
Five blade terminals. O-ring seal in bushing.  
Independent illumination.

### DPST

#### 54105 On-Off

Up: On, Down: Off. Four screw terminals.

#### 54105-01 On-Off

Up: On, Down: Off. Four blade terminals.

### DPDT

#### 54107 On-Off-On

Up: On, Center: Off, Down: On. Six screw terminals.

#### 54107-01 On-Off-On BP ★

Up: On, Center: Off, Down: On. Six blade terminals.

## dependent or independent?

#### Dependent Illumination

When the switch is On, the handle is illuminated.

#### Independent Illumination

Actuation of the switch does not affect the illumination of the handle. The switch can be On or Off, and illumination is usually controlled by another switch. This mode can be used to light a whole bank of switches, and is especially useful for locating switches in the dark.

A switch with independent illumination can be converted to a dependent switch by adding a jumper wire as shown on the previous page.

# B toggle switches

B10 INFORMATION

## SPST SPDT DPST DPDT

*SP and DP refer to single pole and double pole, ST and DT refer to single throw and double throw.*

*Pole refers to the number of circuits controlled by the switch: SP switches control only one electrical circuit.*

*DP switches control two independent circuits (and act like two identical switches that are mechanically linked).*

*Do not confuse 'pole' with 'terminal'. The DPST switch, for example, has four terminals, but it is a DP, not a 4P switch.*

*Throw refers to the extreme position of the actuator:*

*ST switches close a circuit at only one position.*

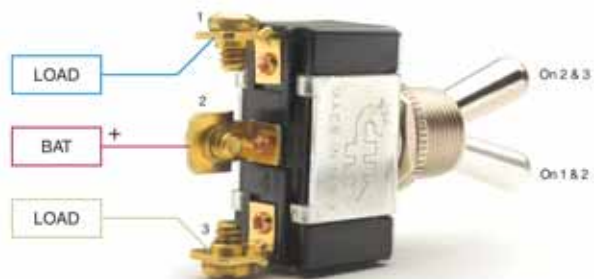
*The other position of the handle is Off.*

*DT switches close a circuit in the Up position, as well as the Down position (On-On). A DT switch can also have a center position (frequently On-Off-On).*

*The following switch diagrams illustrate the most common types of toggle and rocker switch.*

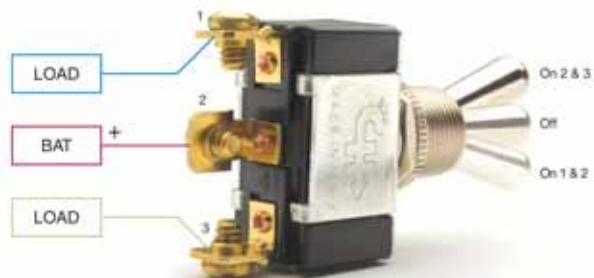


SPST On-Off



SPDT On-On

Only one of the loads can be energized at a time.



SPDT On-Off-On

Only one of the loads can be energized at a time.



DPST On-Off

Both load terminals can be energized at the same time. They are independent of each other and could be of different voltages.



DPDT On-On

Functions like two separate SPDT switches operated by the same actuator. Only two loads can be On at a time.



DPDT On-Off-On

Functions like two separate SPDT switches operated by the same actuator. Only two loads can be On at a time.

*Single pole/throw and double pole/throw switches are by far the most common switches, but triple and quadruple configurations are also available. They are commonly denoted 3PST, 3PDT, 4PDT, etc. For our switches of this type, see Rotary Switches, section D1.*