

# General Specifications

## B Electrical Capacity

**Resistive Load:** 10A @ 125V AC, 6A @ 250V AC, or 6A @ 30V DC  
**Inductive Load:** 5A @ 125V AC (P. F. @ .60)

## Other Ratings

**Contact Resistance:** 10 milliohms maximum  
**Insulation Resistance:** 200 megohms minimum @ 500V DC  
**Dielectric Strength:** 1,500V AC minimum for 1 minute minimum  
**Mechanical Life:** 30,000 operations minimum  
**Electrical Life:** 10,000 operations minimum  
**Nominal Operating Force:** 11.77N for maintained & 17.65N for momentary  
**Angle of Throw:** 34°

## Materials & Finishes

**Housing:** Steel with chrome plating  
**Movable Contacts:** Silver clad copper with silver plating  
**Stationary Contacts:** Copper with silver plating  
**Base:** Melamine  
**Common Terminal:** Copper with silver plating  
**End Terminals:** Brass with silver plating  
**Lamp Terminals:** Phosphor bronze with nickel plating

## Environmental Data

**Operating Temperature Range:** -20°C through +50°C (-4°F through +122°F)  
**Humidity:** 90 ~ 95% humidity for 96 hours @ 40°C (104°F)  
**Vibration:** 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours  
**Shock:** 50G (490m/s<sup>2</sup>) acceleration (tested in 3 right angled directions, with 3 shocks in each direction)

## Installation

**Cap Installation Force:** 19.61N (4.41 lbf)  
**Soldering Time & Temperature:** Manual Soldering: See Profile A in Supplement section.

## Standards & Certifications

**UL:** File No. E44145 - Recognized only when ordered with marking on switch.  
 Add "/U" or "/CUL" before first dash in part number to order UL recognized switch.  
 All models recognized at 10A @ 125V AC & 6A @ 250V AC

# Distinctive Characteristics

Each half of the rocker face is distinctly illuminated due to partitioned rocker construction and dual lamps.

Numerous lighting effects achievable by using white or clear rocker with colored filters or lamp covers, plus using different colors on each side of rocker.

Snap-in mounting allows fast, easy installation of switch into panel.

Stainless steel retaining clips provide secure mounting over a wide range of panel thicknesses.

Dual incandescent or neon lamps operate independently of each other.

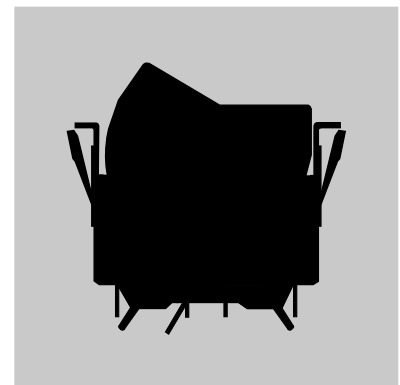
Front panel relamping.

Stationary lamp sockets are independent of rocker actuation, protecting lamps from damage due to shock and vibration.

Switch contacts are rated at 10 amps 125V AC which makes these devices well-suited for various power switching applications.



Actual Size



Toggles

**B** Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

### TYPICAL SWITCH ORDERING EXAMPLE

**LW31**

**2**

**2**

**H**

**4**

**C**

**F**

**A**

#### Pole

**2** DPDT

#### Circuits

|          | Up   | Center | Down |
|----------|------|--------|------|
| <b>2</b> | ON   | NONE   | ON   |
| <b>3</b> | ON   | OFF    | ON   |
| <b>5</b> | ON   | NONE   | (ON) |
| <b>8</b> | (ON) | OFF    | (ON) |
| <b>9</b> | ON   | OFF    | (ON) |

( ) = Momentary

#### Lamps

| Incandescent                   |          |
|--------------------------------|----------|
| <b>E</b>                       | 6-volt   |
| <b>F</b>                       | 12-volt  |
| <b>H</b>                       | 18-volt  |
| <b>K</b>                       | 24-volt  |
| <b>L</b>                       | 28-volt  |
| Neon                           |          |
| <b>N</b>                       | 110-volt |
| Not suitable with green & blue |          |
| Nonilluminated                 |          |
| <b>0</b>                       | No Lamp  |

#### Bezel

| No Code  | No Bezel |
|----------|----------|
| <b>A</b> | Black    |
| <b>B</b> | White    |
| <b>C</b> | Red      |
| <b>D</b> | Amber    |
| <b>E</b> | Yellow   |
| <b>F</b> | Green    |
| <b>G</b> | Blue     |
| <b>H</b> | Gray     |

#### Rocker Caps

|          |                                      |
|----------|--------------------------------------|
| <b>1</b> | White without filters or lamp covers |
| <b>2</b> | White with filters                   |
| <b>3</b> | White with lamp covers               |
| <b>4</b> | Clear with filters                   |

#### Lamp Cover/Filter Colors For Up Position

| <b>0</b>   | No Cover/Filter |
|------------|-----------------|
| Lamp Cover |                 |
| <b>C</b>   | Red             |
| <b>D</b>   | Amber           |
| <b>F</b>   | Green           |
| Filter     |                 |
| <b>B</b>   | White           |
| <b>C</b>   | Red             |
| <b>D</b>   | Amber           |
| <b>E</b>   | Yellow          |
| <b>F</b>   | Green           |
| <b>G</b>   | Blue            |

#### Lamp Cover/Filter Colors For Down Position

| <b>0</b>   | No Cover/Filter |
|------------|-----------------|
| Lamp Cover |                 |
| <b>C</b>   | Red             |
| <b>D</b>   | Amber           |
| <b>F</b>   | Green           |
| Filter     |                 |
| <b>B</b>   | White           |
| <b>C</b>   | Red             |
| <b>D</b>   | Amber           |
| <b>E</b>   | Yellow          |
| <b>F</b>   | Green           |
| <b>G</b>   | Blue            |

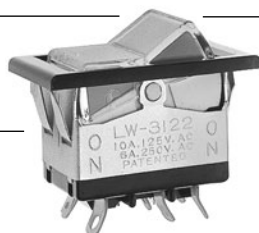
Note: Wire harness & cable assemblies offered only in Americas

#### DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

**LW3122-H4CF-A**

Clear Rocker with  
Red Filter in Up Position and  
Green Filter in Down Position

DPDT  
ON-NONE-ON Circuit



18-volt  
Incandescent Lamp  
Black Bezel

#### IMPORTANT:

Switches are supplied without UL & cULus marking unless specified. **UL & cULus recognized only when ordered with marking on the switch.** Specific models, ratings, & ordering instructions are noted on General Specifications page.



## POLES & CIRCUITS

| Pole | Model  | Rocker Position<br>( ) = Momentary |        |      | Connected Terminals |        |         | Throw & Power/Lamp Schematics                                                                                                       |
|------|--------|------------------------------------|--------|------|---------------------|--------|---------|-------------------------------------------------------------------------------------------------------------------------------------|
|      |        | Up                                 | Center | Down | Up                  | Center | Down    |                                                                                                                                     |
| DP   | LW3122 | ON                                 | NONE   | ON   |                     |        |         | Notes: Terminal numbers are not actually on switch. Lamp circuit is isolated and requires an external power source.<br><br>DPDT<br> |
|      | LW3123 | ON                                 | OFF    | ON   |                     |        |         |                                                                                                                                     |
|      | LW3125 | ON                                 | NONE   | (ON) | 2-3 5-6             | OPEN   | 2-1 5-4 |                                                                                                                                     |
|      | LW3128 | (ON)                               | OFF    | (ON) |                     |        |         |                                                                                                                                     |
|      | LW3129 | ON                                 | OFF    | (ON) |                     |        |         |                                                                                                                                     |

## LAMP CODES & SPECIFICATIONS

Electrical specifications are determined at a basic temperature of 25°C. Lamp circuit is independent of switch operation.

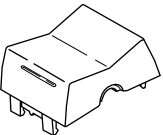
For dimension drawing of lamps see Accessories & Hardware section.

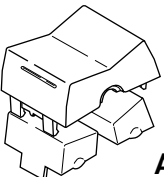
For neon, if the source voltage is greater than rated voltage, a ballast resistor is required. The ballast resistor calculation and more lamp detail are shown in the Supplement section. Neon not for use with green lamp cover or blue and green filters.

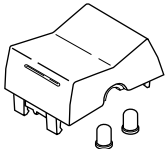
### Incandescent & Neon Lamps for Solid & Design Caps

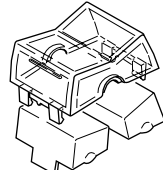
|                                                                                                                                 |                                                                                                                          |                                                                            |                                                           |               |              |              |              |              |         |                |
|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------|---------------|--------------|--------------|--------------|--------------|---------|----------------|
| <div>AT602<br/>Incandescent</div> <div></div> | <div>AT602N<br/>Neon</div> <div></div> |                                                                            | <div>E</div>                                              | <div>F</div>  | <div>H</div> | <div>K</div> | <div>L</div> | <div>N</div> |         |                |
|                                                                                                                                 |                                                                                                                          | Voltage                                                                    | V                                                         | 6V AC         | 12V AC       | 18V AC       | 24V AC       | 28V AC       | 110V AC |                |
|                                                                                                                                 |                                                                                                                          | Current                                                                    | I                                                         | 80mA          | 50mA         | 35mA         | 25mA         | 22mA         | 1.5mA   |                |
|                                                                                                                                 |                                                                                                                          | MSCP                                                                       |                                                           | .159          | .215         | .398         | .215         | .247         | NA      |                |
|                                                                                                                                 |                                                                                                                          | Endurance                                                                  | Hours                                                     | 2,000 Average |              |              |              |              |         | 15,000 Average |
|                                                                                                                                 |                                                                                                                          | Ambient Temperature Range                                                  |                                                           | -20°C ~ +50°C |              |              |              |              |         | -20°C ~ +50°C  |
|                                                                                                                                 |                                                                                                                          | Recommended Resistor for Neon: 33K ohms for 110V AC; 100K ohms for 220V AC |                                                           |               |              |              |              |              |         |                |
| T-1½ Pilot Slide Base                                                                                                           |                                                                                                                          | <div>0</div>                                                               | <div>No Lamp</div> Code 0 indicates that no lamp is used. |               |              |              |              |              |         |                |

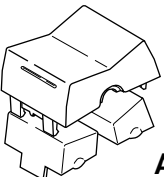
## ROCKER CAPS, LAMP COVER & FILTER

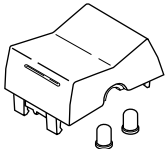
**1**  
**AT420B**  
**White Rocker**  
**without Filters**  
**or Lamp Covers**  


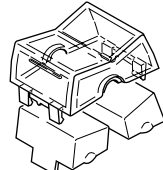
**2**  
**AT420B**  
**White Rocker**  
**with Filters**  


**3**  
**AT420B**  
**White Rocker**  
**with Lamp Covers**  


**4**  
**AT420J**  
**Clear Rocker**  
**with Filters**  


**AT421**  


**AT416**  


**AT421**  


Rocker Cap Material: Polycarbonate      Finish: Glossy

Indicate the lamp cover or filter color desired in both the up and down positions.

**AT416 Lamp Cover**

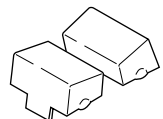
**C** Red  
**D** Amber  
**F** Green

  
 Material: Silicon Rubber

**AT421 Filter**

**B** White  
**C** Red  
**D** Amber

**E** Yellow  
**F** Green  
**G** Blue

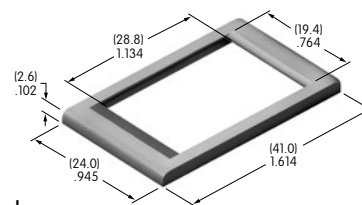
  
 Material: Polycarbonate

### BEZEL & BEZEL COLORS

#### AT206 Bezel & Color Codes

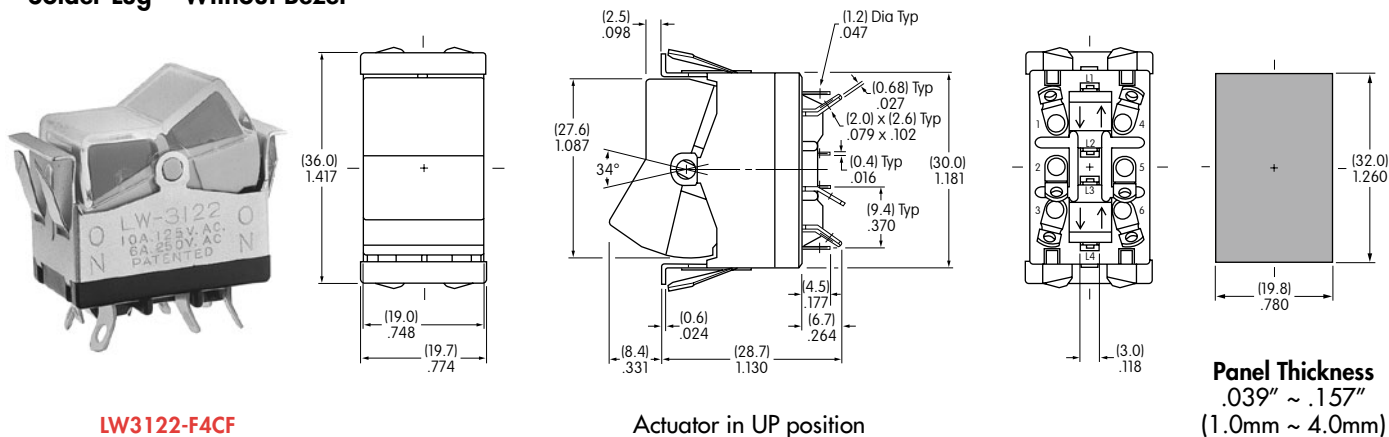
|                |          |          |       |          |        |          |       |          |      |
|----------------|----------|----------|-------|----------|--------|----------|-------|----------|------|
| <b>No Code</b> | No Bezel | <b>B</b> | White | <b>D</b> | Amber  | <b>F</b> | Green | <b>H</b> | Gray |
| <b>A</b>       | Black    | <b>C</b> | Red   | <b>E</b> | Yellow | <b>G</b> | Blue  |          |      |

Material: Polycarbonate

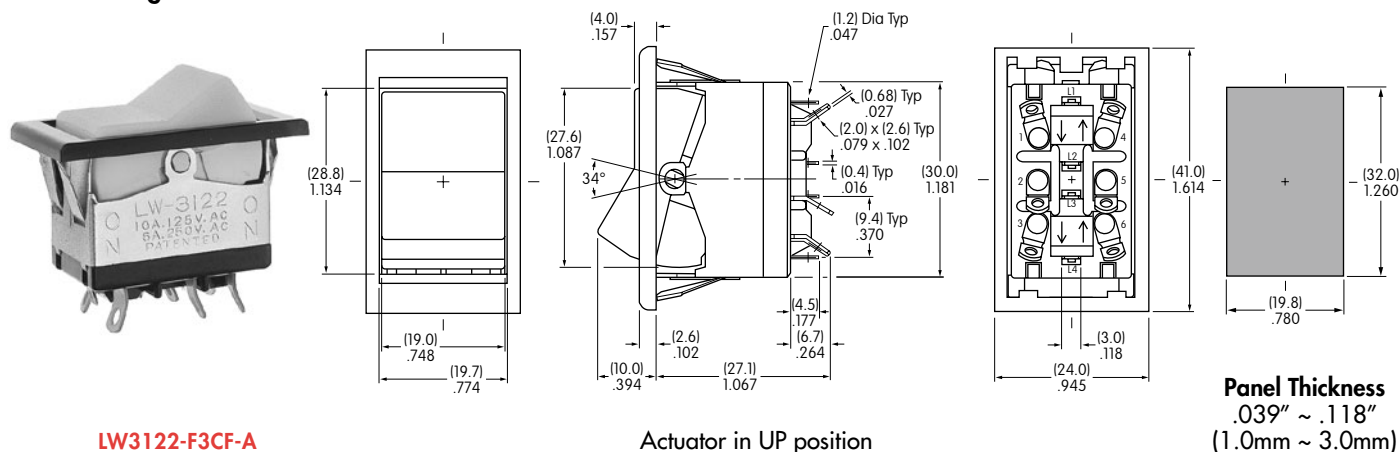


### TYPICAL SWITCH DIMENSIONS

#### Solder Lug • Without Bezel



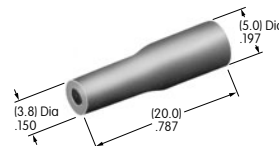
#### Solder Lug • With Bezel



### OPTIONAL ACCESSORY

#### AT107 Lamp Extractor

Lamps can be changed without removing the switch from the panel.  
AT107 assists in removing lamps from the switch.



### LEGENDS

Inscriptions can be placed on the rocker or filter.  
Details regarding screen printing may be obtained from the factory.