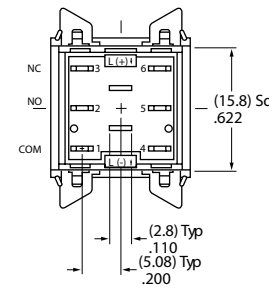
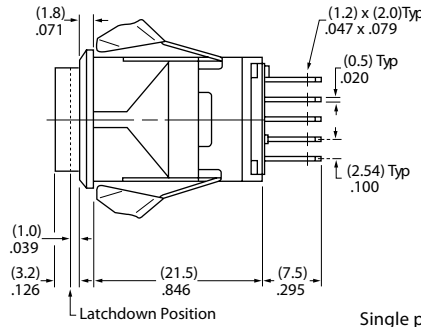
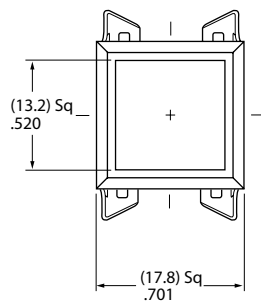


Standard Size Snap-in Pushbuttons

LB Series

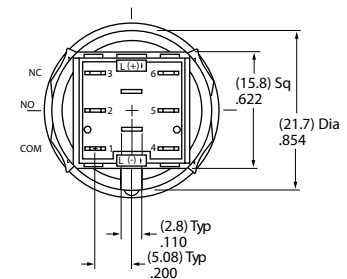
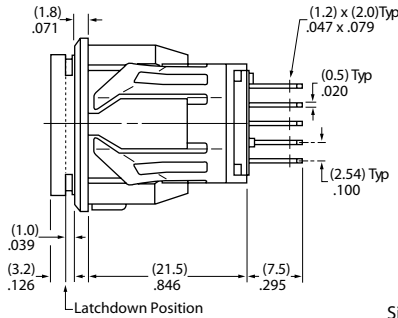
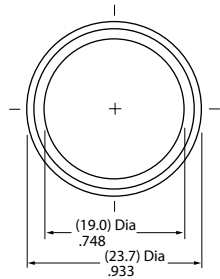
Square



LB15SKW01-12-CJ

Single pole models do not have terminals 4, 5, & 6.

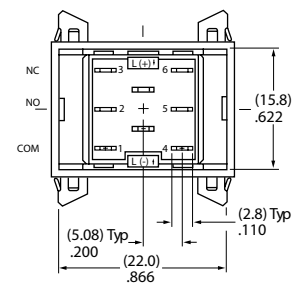
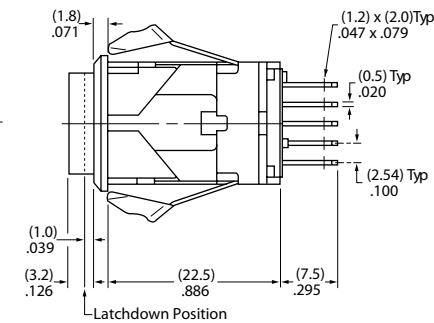
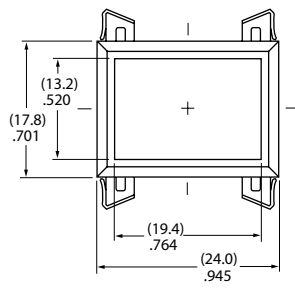
Round



LB16CKW01-12-CJ

Single pole models do not have terminals 4, 5, & 6.

Rectangular



LB26RGW01-12-CJ

Single pole models do not have terminals 4, 5, & 6.

How to order:



1 POLES:

- 1 SPDT
- 2 DPDT

2 CIRCUITS:

- 5 ON-(ON)
- 6 ON-ON (Alternate Action with Latchdown)

3 SHAPES:

- S Square
- C Round
- R Rectangular

4 HOUSING:

- K Black
- G Gray

5 CONTACTS & TERMINALS:

- W01 Silver Contacts
Rated 3A @ 125/250V AC
Solder Lug / Quick Connect
- G01 Gold Contacts
Rated 0.4VA @ 28V AC/DC
Solder Lug / Quick Connect

6 LAMPS:

Type1: Incandescent Lamp used with Solid Cap

- 05 5-volt
- 12 12-volt

Type2: Incandescent or Neon used w / Insert Cap

- 01 110-volt Neon
- 05 5-volt Incandescent
- 12 12-volt Incandescent

Type 3: Bright LED used with LED Cap

	No Resistor	5-volt	12-volt	24-volt
Red	5C	5C05	5C12	5C24
Amber	5D	5D05	5D12	5D24
Green	5F	5F05	5F12	5F24

Type 4: Super Bright LED used with LED Cap

- 6B White
- 6F Green
- 6G Blue

Type 5: LED in Spot Illuminated Cap

- 1C Red Single Color
- 1D Amber Single Color
- 1F Green Single Color
- CF Red/Green Bicolor

7 CAPS TYPES & COLORS:

Solid Cap: Lens/Filter Colors (only for type 1 lamp)

- BJ White/Clear
- CJ Red/Clear
- EJ Yellow/Clear
- FJ Green/Clear
- GJ Blue/Clear

Insert Cap: Lens/Filter Colors (only for type 2 lamp)

- JB Clear/White
- JC Clear/Red
- JE Clear/Yellow
- *JF Clear/Green
- *JG Clear/Blue

* JF & JG not suitable with neon.

LED Cap: Lens/Diffuser Colors (only for type 3 lamp)

- JB Clear/White
- JC Clear/Red
- JD Clear/Amber
- JF Clear/Green

LED Cap: Lens/Diffuser Colors (only for type 4 lamp)

- JB Clear/White

Spot Illuminated Cap Colors (only for type 5 lamp)
Available in square and round only.

- A Black
- B White
- C Red
- F Green

General Specifications

Electrical Capacity (Resistive Load)

Power Level (silver): 3A @ 125V AC or 3A @ 250V AC or 3A @ 30V DC
 Logic Level (gold): 0.4VA maximum @ 28V AC/DC maximum
 (Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)
 Note: Find additional explanation of operating range in Supplement section.

Other Ratings

Contact Resistance: 50 milliohms maximum for silver; 100 milliohms maximum for gold
 Insulation Resistance: 200 megohms minimum @ 500V DC
 Dielectric Strength: 1,000V AC minimum between contacts for 1 minute minimum;
 1,500V AC minimum between contacts & case for 1 minute minimum
 Mechanical Life: 1,000,000 operations minimum for momentary circuit
 200,000 operations minimum for maintained circuit
 Electrical Life: 100,000 operations minimum
 Nominal Operating Force: 4.41N
 Contact Timing: Nonshorting (break-before-make)
 Travel: Momentary: Pretravel .059" (1.5mm); Overtravel .059" (1.5mm);
 Total Travel .118" (3.0mm)
 Maintained: Pretravel .087" (2.2mm); Overtravel .031" (0.8mm);
 Total Travel .118" (3.0mm)

Materials & Finishes

Housing: Glass fiber reinforced polyamide (UL94V-0)
 Snap-in Frame: Stainless steel
 Movable Contact: Silver alloy or copper with gold plating
 Stationary Contacts: Silver alloy or copper with gold plating
 Base: Liquid crystal polymer (UL94V-0)
 Switch Terminals: Phosphor bronze with silver or gold plating
 Lamp Terminals: Brass with silver plating

Environmental Data

Operating Temp Range: -25°C through +50°C (-13°F through +122°F)
 Note: When used with a polyvinyl chloride splash cover, the lowest limit is 0°C (32°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/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)
 Sealing: Not available for snap-in; see next section for panel seal.

Installation

Cap Installation Force: 3.92N maximum downward force on cap
 Quick Connect Force: 52.95N maximum downward force on connector
 Soldering Time & Temperature: Manual Soldering: See Profile A in Supplement section.

Standards & Certifications

Flammability Standards: UL94V-0 housing & base
 UL & C-UL Recognized: All models recognized at 3A @ 125V or 250V AC or 0.4VA @ 28V AC/DC maximum;
 UL File No. WOYR2.E44145; add "/U" to end of part number to order UL mark on switch.
 C-UL File No. WOYR8.E44145; add "/C-UL" to end of part number to order C-UL mark on switch.
 CSA Certified: All models certified at 3A @ 125V or 250V AC or 0.4VA @ 28V AC/DC maximum;
 CSA File Nos. 023535-0-000; add "/C" to end of part number to order CSA mark on switch.

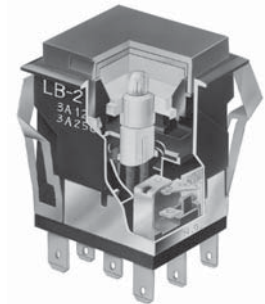


POLE & CIRCUIT

		Plunger Position () = Momentary		Connected Terminals		Throw & Switch/Lamp Schematics
Pole	Model	Normal	Down	Normal	Down	Notes: Switch is marked with NC, NO, COM, L+, L-. Lamp circuit is isolated and requires external power source.
SP	LB15 *LB16	ON ON	(ON) ON	1-3	1-2	SPDT
DP	LB25 *LB26	ON ON	(ON) ON	1-3 4-6	1-2 4-5	DPDT

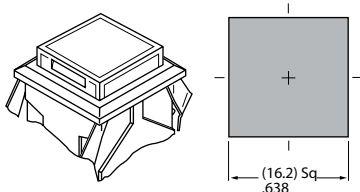
* When in latchdown position for the alternate circuit, cap position is .039" (1.0mm) above the built-in bezel.

CUTAWAY

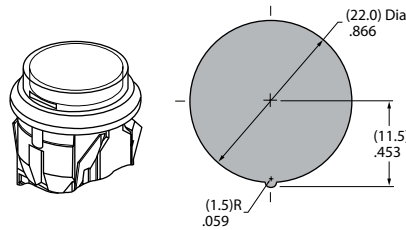


SHAPES & PANEL CUTOUTS

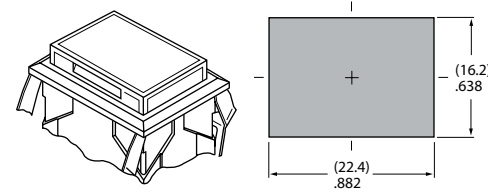
S .622" (15.8mm)
Square



C .854" (21.7mm)
Round



R .622" x .866" (15.8mm x 22.0mm)
Rectangular



Cutout for 1 switch:
.638" x .638" (16.2mm x 16.2mm)
Cutout for 1 switch with barriers:
.638" x .815" (16.2mm x 20.7mm)

Cutout for 1 switch:
.638" x .882" (16.2mm x 22.4mm)
Cutout for 1 switch with barriers:
.638" x 1.059" (16.2mm x 26.9mm)

Panel Thickness for Switches & Barriers: .039" ~ .157" (1.0 ~ 4.0mm)
Panel Thickness for Protective Guards & Splash Covers: .039" ~ .138" (1.0 ~ 3.5mm)



INCANDESCENT & NEON LAMP CODES & SPECIFICATIONS

AT607 & AT607N T-1 Bi-pin	AT607 Incandescent 5-volt or 12-volt; AT607N Neon 110-volt	05	12	01 *	The electrical specifications shown are determined at a basic temperature of 25°C. Lamp circuit is isolated and requires external power source. * Recommended Resistors for Neon: 33K ohms for 110V AC; 100K ohms for 220V AC	
	Voltage	V	5V AC	12V AC		110V AC
	Current	I	115mA	60mA		1.5mA
	Endurance	Avg. Hours	7,000			10,000
	Ambient Temp. Range		-25°C ~ +50°C			


SHAPES & PANEL CUTOUTS

The electrical specifications shown are determined at a basic temperature of 25°C.
 LED circuit is isolated and requires external power source. Polarity marks are on the switch.
 If the source voltage exceeds the rated voltage, a ballast resistor is required.
 The resistor value can be calculated by using the formula in the Supplement section.
 Additional lamp detail is shown in the Accessories & Hardware section.

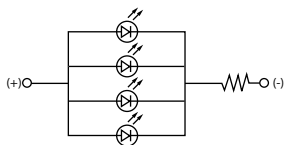
Bright LED without Resistor

AT635 LEDs are colored in OFF state.   T-1 1/2 Bi-pin	Red Amber Green			No Code No Resistor			
	Color Codes	5C	5D	5F	Red	Amber	Green
	Forward Peak Current	I_{FM}			30mA	30mA	30mA
	Continuous Forward Current	I_F			20mA	20mA	20mA
	Forward Voltage	V_F			1.9V	2.0V	2.1V
	Reverse Peak Voltage	V_{RM}			5V	5V	5V
	Current Reduction Rate Above 25°C	ΔI_F			0.42mA/°C		
	Ambient Temperature Range				-25° ~ +50°C		

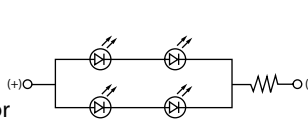
Bright LED with Resistor

AT627 with Resistor  T-1 Bi-pin	Red Amber Green			Resistor Codes			
	Color Codes:	5C	5D	5F	05	12	24
	Forward Peak Current	I_{FM}			—	—	—
	Continuous Forward Current	I_F			52mA	26mA	13mA
	Forward Voltage	V_F			5V	12V	24V
	Reverse Peak Voltage	V_{RM}			4V	8V	16V
	Current Reduction Rate Above 25°C	ΔI_F			0.50mA/°C		
	Ambient Temperature Range				-25° ~ +50°C		

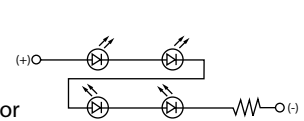
AT627
5-volt
4-element
with Resistor




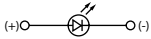

AT627
12-volt
4-element
with Resistor



AT627
24-volt
4-element
with Resistor



Super Bright Single Element LED

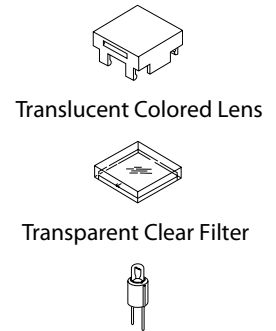
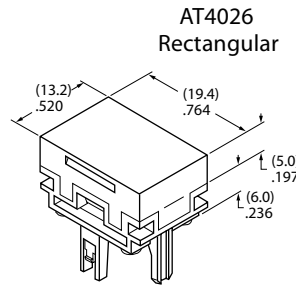
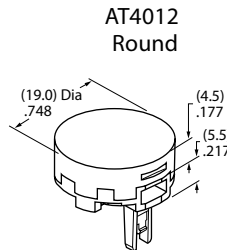
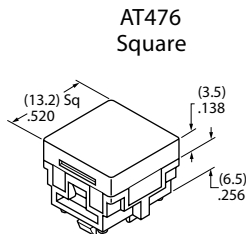
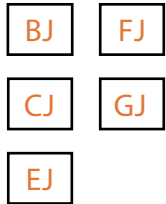
AT625G Blue AT631B White AT632F Green   T-1 Bi-pin				6B	6F	6G	
	Color			White	Green	Blue	
	Forward Peak Current	I_{FM}			30mA	30mA	30mA
	Continuous Forward Current	I_F			20mA	20mA	20mA
	Forward Voltage	V_F			3.6V	3.5V	3.6V
	Reverse Peak Voltage	V_{RM}			5V	5V	5V
	Current Reduction Rate Above 25°C	ΔI_F			0.50mA/°C		
	Ambient Temperature Range				-25° ~ +50°C		

CAP TYPES & COLOR COMBINATIONS

Color Codes: B White C Red D Amber E Yellow F Green G Blue J Clear

Solid Cap for Incandescent Lamp

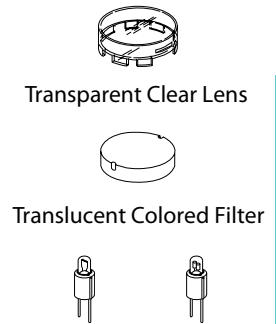
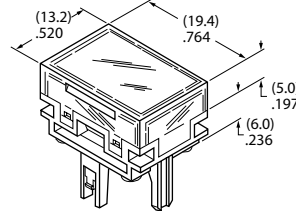
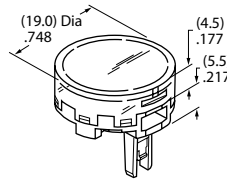
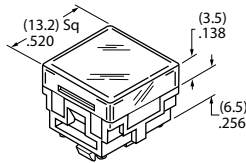
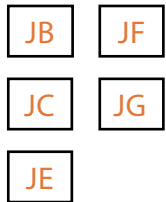
Lens/Filter
Colors Available:



Material: Polycarbonate Finish: Glossy

Insert Cap for Incandescent or Neon Lamp

Lens/Filter
Colors Available:

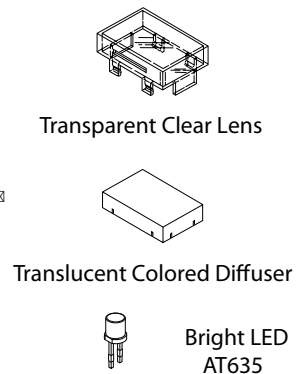
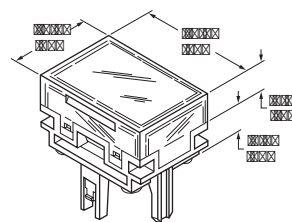
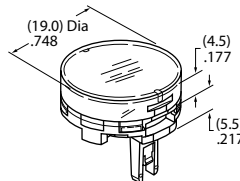
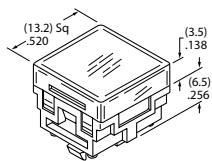


JF and JG not suitable with neon lamp.

Material: Polycarbonate Finish: Glossy

Cap for Bright LED without Resistor

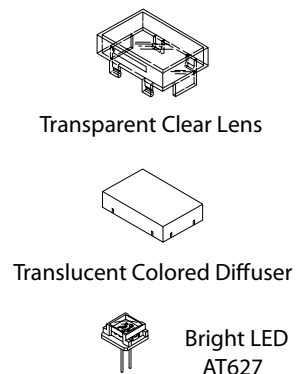
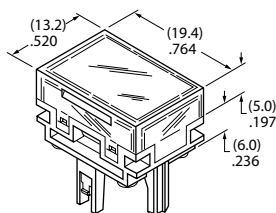
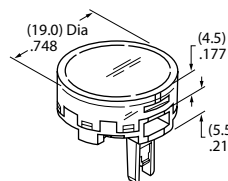
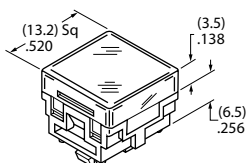
Lens/Diffuser
Colors Available:



Material: Polycarbonate Finish: Glossy

Cap for Bright LED with Resistor

Lens/Diffuser
Colors Available:



Material: Polycarbonate Finish: Glossy

Illuminated Switches

CAP TYPES & COLOR COMBINATIONS

Color Codes: A Black B White C Red D Amber F Green J Clear

Cap for Super Bright LEDs

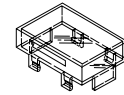
JB

Clear Lens
White Diffuser

AT4129
Square

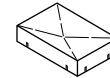
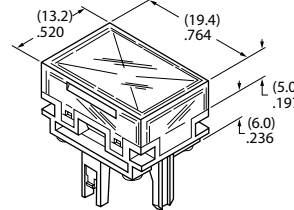
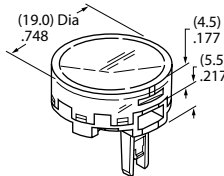
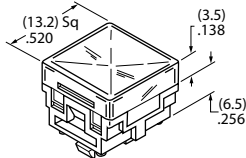
AT4128
Round

AT4130
Rectangular



Transparent
Clear Lens

Material:
Polycarbonate
Finish: Glossy



Translucent
White Diffuser

Material: Polycarbonate Finish: Glossy



LEDs AT625
AT631 AT632

Spot Illuminated Cap with LED

The electrical specifications shown are determined at a basic temperature of 25°C.

LED circuit is isolated and requires external power source.

Single color LEDs are colored in OFF state; bicolor LEDs are translucent white in OFF state. Polarity marks are on the switch.

If the source voltage exceeds the rated voltage, a ballast resistor is required.

The resistor value can be calculated by using the formula in the Supplement section.

Additional lamp detail is shown in the Accessories & Hardware section.

LED Specifications

LED factory assembled in Spot Illuminated Caps	Single Color LED with 1 Element 	Bicolor LED with 2 Elements 	Single Color			Bicolor
			1C Red	1D Amber	1F Green	CF Red/Green
Forward Peak Current	I_{FM}	10mA	30mA	30mA	30/25mA	
Continuous Forward Current	I_F	8mA	24mA	24mA	20mA	
Forward Voltage	V_F	1.9V	2.0V	2.1V	2.0/2.2V	
Reverse Peak Voltage	V_{RM}	5V	5V	5V	—	
Current Reduction Rate Above 25°C	ΔI_F	0.13mA/°C	0.40mA/°C	0.40mA/°C	0.43/0.38mA/°C	
Ambient Temperature Range	-25° ~ +50°C					

Cap Colors Available:

AT480
Square

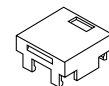
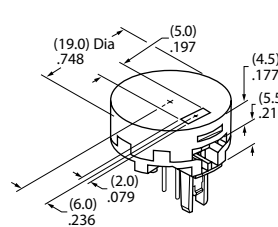
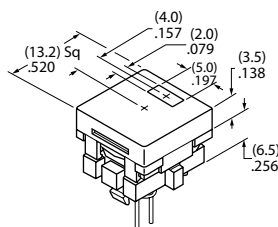
AT4016
Round

A

B

C

F



Cap with Window



Factory Assembled LED;
Not Available Separately

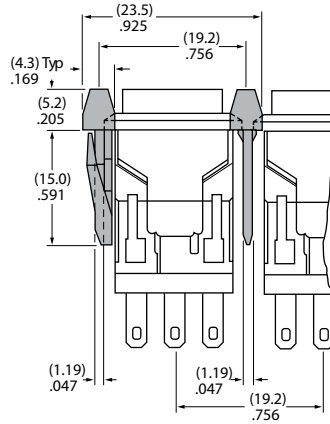
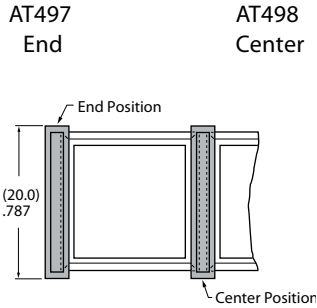
Material: Polycarbonate Finish: Glossy

When ordering spot illuminated cap separately, LED color must be specified.

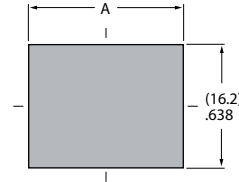
Examples: AT480CA (red LED, black cap); AT4016CFB (red/green bicolored LED, white cap)

OPTIONAL ACCESSORIES

Barriers



Cutouts for More Than 1 Switch



Square

$$A = .752" (19.1\text{mm}) \times \text{Number of Switches} + .051" (1.3\text{mm})$$

Rectangular

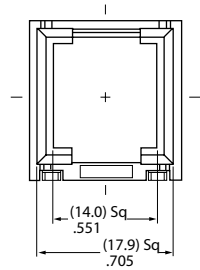
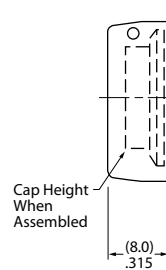
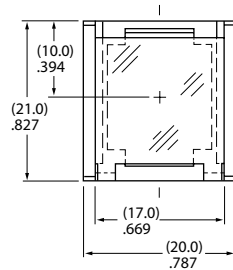
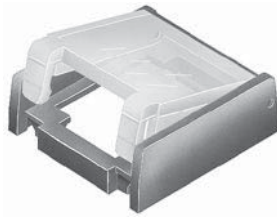
$$A = .996" (25.3\text{mm}) \times \text{Number of Switches} + .051" (1.3\text{mm})$$

Material: Polyamide

Splash Covers

AT499
Square
Protective Guard

Opens 90°
Closes manually



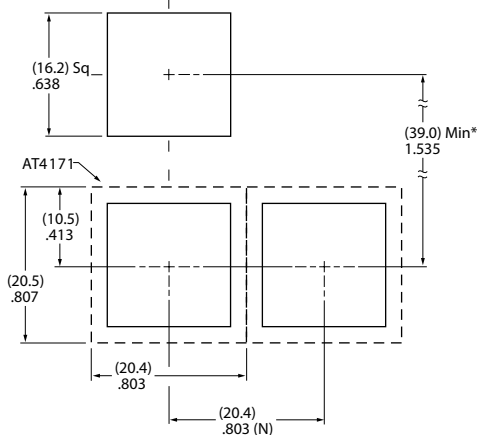
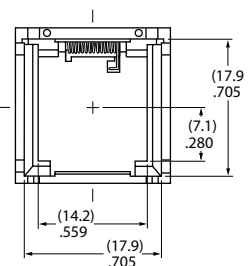
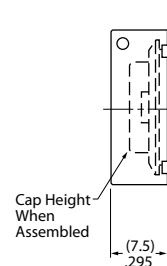
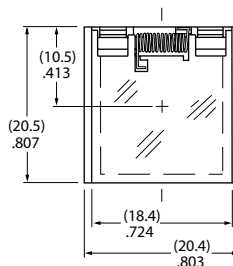
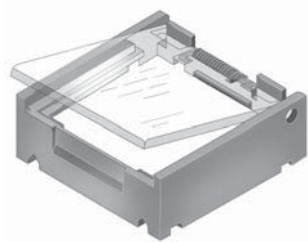
Material: Polyamide

Protective Guards reduce depth of switch behind panel by .020" (0.5mm).

Splash Covers

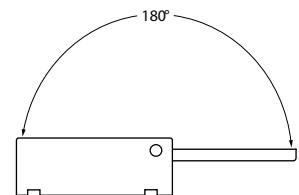
AT4171
Square
Protective Guard

Opens 180°
Closes automatically



(N) = Number of switches * Minimum dimension allows opening of cover to 180°

Materials :
Cover: Clear Polycarbonate
Base: Black GFR Polyamide
Coil Spring: Stainless Steel

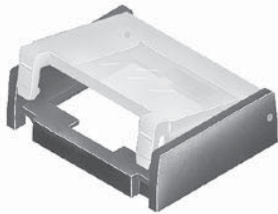


Recommended Panel Thickness:
.039" ~ .106" (1.0mm ~ 2.7mm)

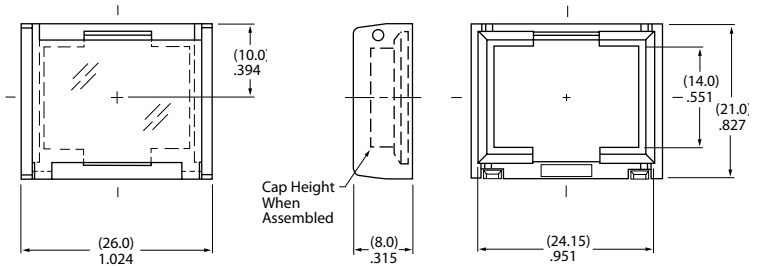
OPTIONAL ACCESSORIES

AT4057
Rectangular
Protective Guard

Opens 90°
Closes manually



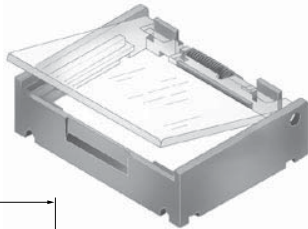
Protective Guard



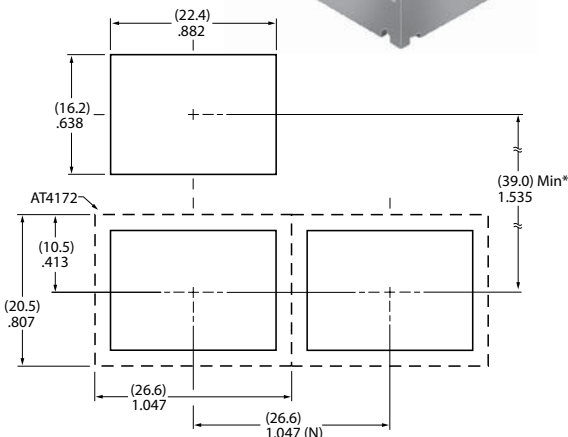
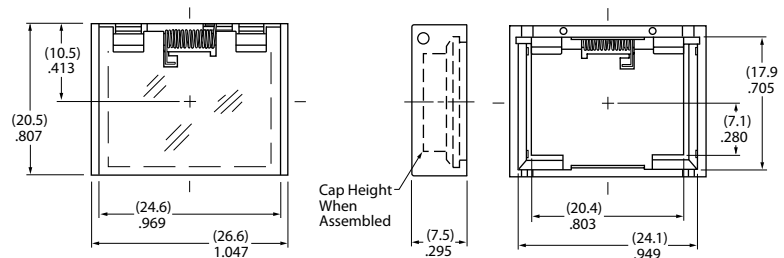
Material: Polyamide

Protective Guards reduce depth of switch behind panel by .020" (0.5mm).

AT4172
Rectangular
Protective Guard



Spring Loaded Protective Guard

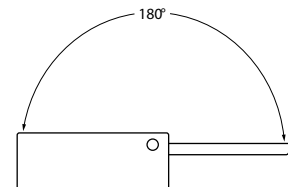


(N) = Number of switches * Minimum dimension allows opening of cover to 180°

Opens 180°
Closes automatically

Materials:
Cover: Clear Polycarbonate
Base: Black GFR Polyamide
Coil Spring: Stainless Steel

Recommended Panel Thickness:
.039" ~ .106" (1.0mm ~ 2.7mm)



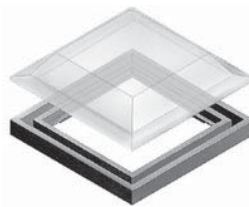
Illuminated Switches

Dust Covers

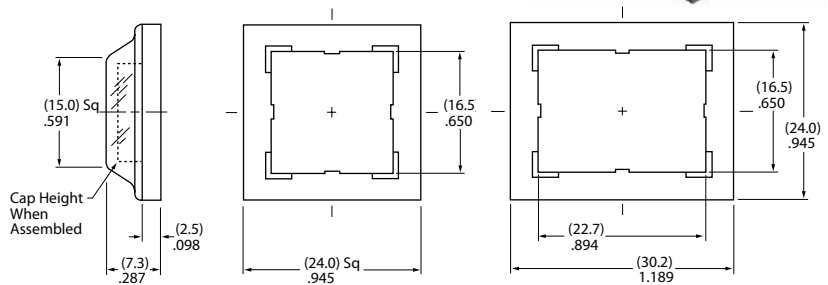
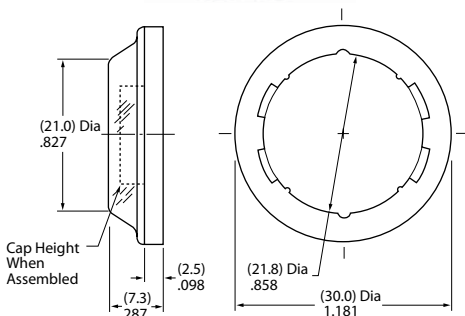
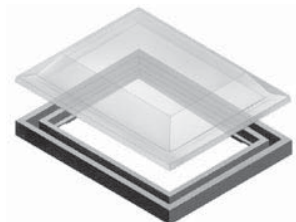
AT4002
Round



AT4001
Square



AT4011
Rectangular



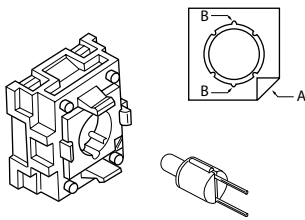
Materials: PVC with polyethylene gasket; PVC loses pliability below 0°C (32°F). Splash Covers reduce depth of switch behind panel by .020" (0.5mm).

ASSEMBLY INSTRUCTIONS

Lamp Installation & LED Orientation

Incandescent & Neon Lamps AT607 & AT607N

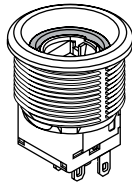
Align projections on lamp with grooves (B) in holder when inserting lamp. To correctly join the lamp holder and cap base, match the cut corners (A).



Bright LED AT627

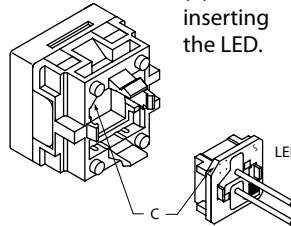
Panel Seal Models

For panel seal models, Bright LED must first be inserted into the lamp socket which is built into the switch. The cap can then be placed on the switch.



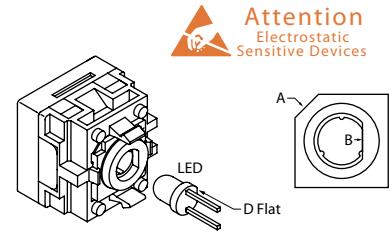
Snap-in Models

For snap-in models, Bright LED must be inserted into the cap first. Align cut corners (C) when inserting the LED.



Bright & Super Bright LEDs AT625, AT631, AT632, AT635

Align D-flat on LED with flat (B) in holder when inserting the LED. To correctly join the lamp holder and cap base, match the cut corners (A).

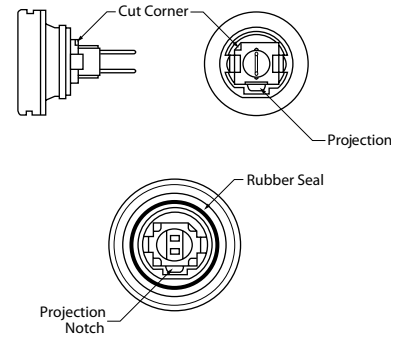
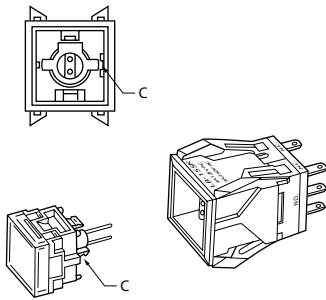


Attention
Electrostatic Sensitive Devices

Switch & Cap Assembly

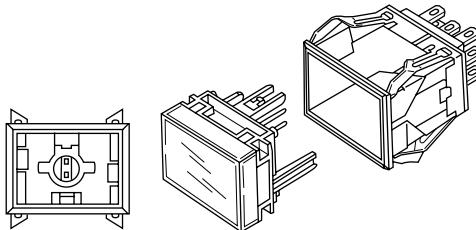
Round & Rectangular

Match clip on cap assembly with receptacle inside switch. Lamp terminals will then be aligned correctly with lamp socket.



Square

Match projection (C) on cap assembly with groove (C) inside switch. Lamp terminals will then be aligned correctly with lamp socket.



Panel Seal

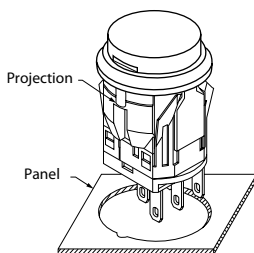
With Lamps AT607, AT607N, and LEDs AT614, AT625, AT631, AT632: Match projection on cap assembly with notch inside switch. Lamp terminals will then be aligned correctly with lamp socket.

Installation & Maintenance

Snap-in Mount

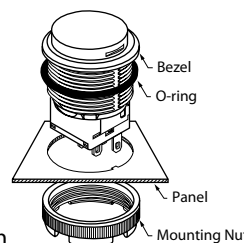
Snap-in clip holds all switches firmly in place.

To mount round switch, match the antirotation projection on switch with guide cut in panel. Snap into panel cutout.



Panel Seal Bushing Mount

Insert switch from the front of the panel with the o-ring between the built-in bezel and the panel. Install mounting nut AT075 (supplied with switch) from the rear of the panel. Overtightening mounting nut may damage the switch housing.



Lamp Replacement

Actuator must be in UP position. Pull off cap with cap extractor AT109. Replace lamp and reassemble as shown above.



AT109
Cap Extractor



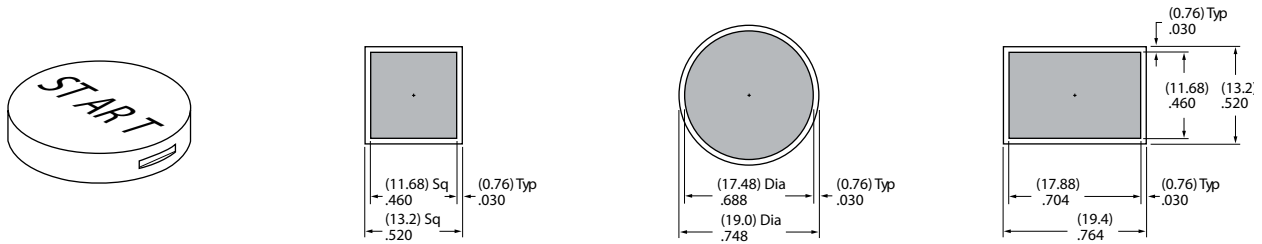
AT112
Socket Wrench

LEGENDS

General information and basic specifications are presented here for customers who want to do their own legends

Suggested Printable Area for Lens

Recommended Methods: Laser Etch on clear lens, Screen Print, or Pad Print on lens.
Epoxy based ink is recommended.

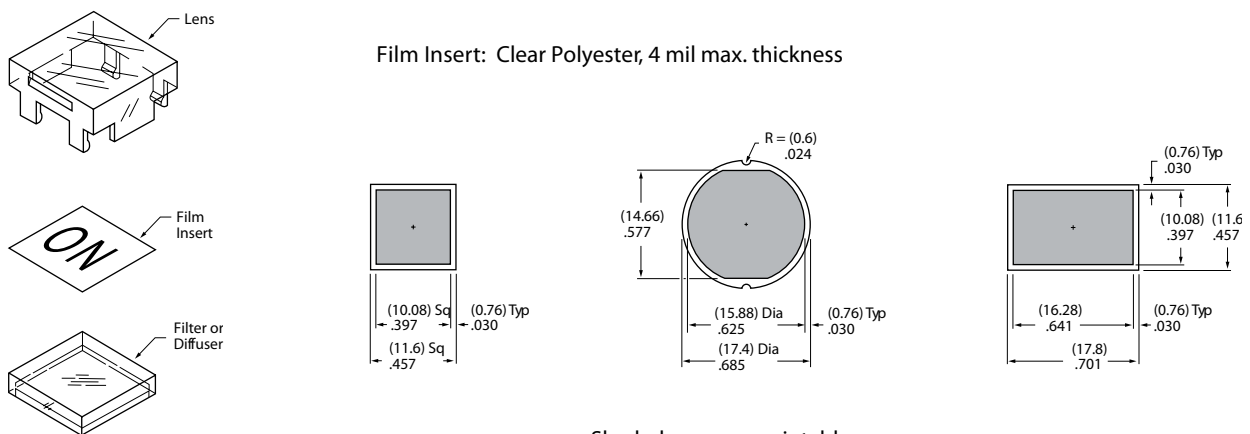


Shaded areas are printable areas.

Suggested Printable Area for Film Insert

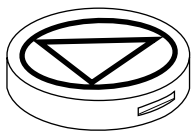
Recommended Print Method: Screen Print with Epoxy based ink

Film Insert: Clear Polyester, 4 mil max. thickness



Shaded areas are printable areas.

Additional Methods



Additional methods for legends are engraving the lens and laser printing on film inserts.
Maximum depth for engraving is .12" (0.3mm) on the cap lens.
Enamel paint is recommended to fill the engraved area.