

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: Pretravel .059" (1.5mm); Overtravel .059" (1.5mm); 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 Temperature Range: -25°C through +50°C (-13°F through +122°F) for Illuminated
 -25°C through +70°C (-13°F through +158°F) for Nonilluminated
 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: **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 3A @ 125V or 250V AC or 0.4VA @ 28V AC/DC maximum.
CSA: **File No. 023535_0_000 - Certified only when ordered with marking on switch.**
 Add "/C" before first dash in part number to order CSA certified switch.
 All models certified at 3A @ 125V or 250V AC or 0.4VA @ 28V AC/DC maximum.

Distinctive Characteristics

Carefully designed light diffusion and filtering system produces bright, full surface illumination with front panel relamping.

Spot illumination available in single and bicolor LEDs.

Choice of super bright LEDs in white, green, and blue in addition to standard or bright red, amber, and green LEDs.

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

Latchdown feature gives indication of circuit status. Audible and tactile feedback with smooth and responsive operation.

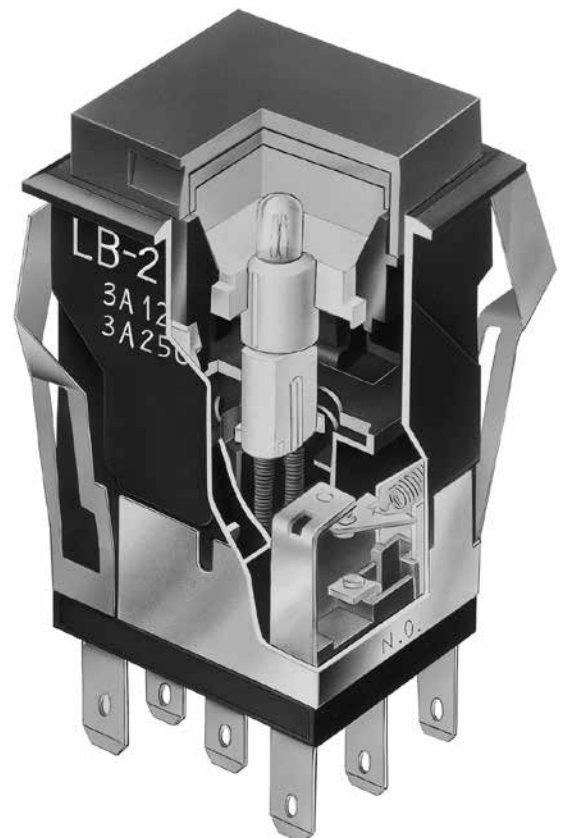
Snap-action contact mechanism gives long electrical life and sensitivity of actuation.

Combination solder lug and .110" quick connect terminals are epoxy sealed to prevent entry of flux, dust, and other contaminants.

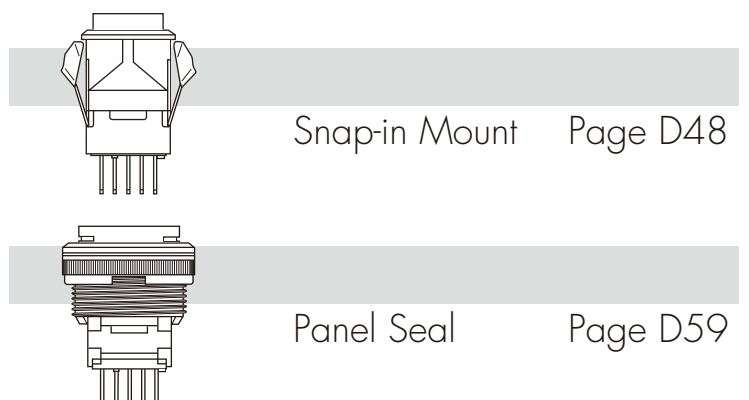
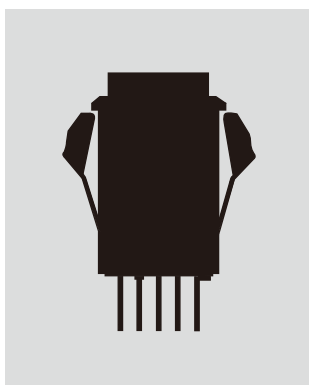
Panel sealed model meets IP65 of IEC60529 specifications (similar to NEMA 4 & 13).

Compact switch design minimizes behind panel depth.

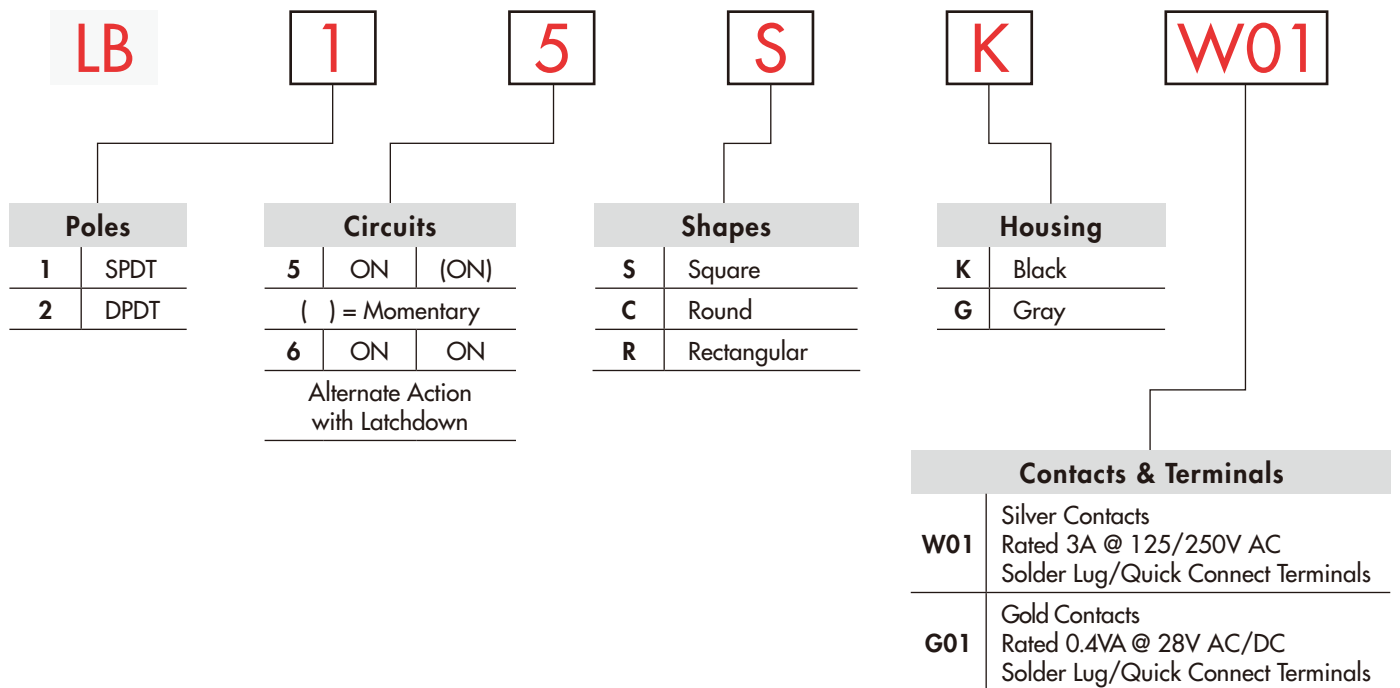
Matching indicators available.



Actual Size



TYPICAL SWITCH



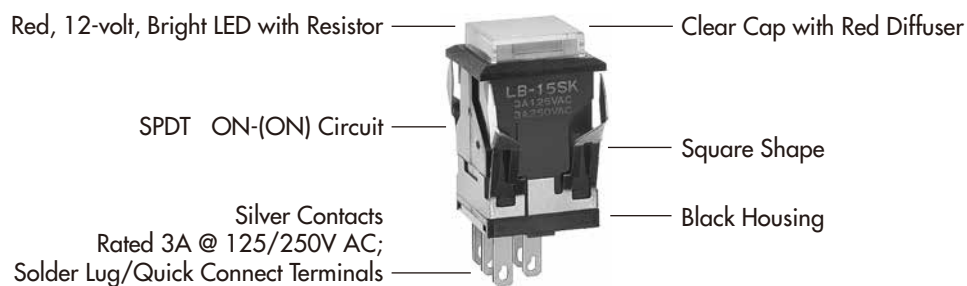
IMPORTANT:



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

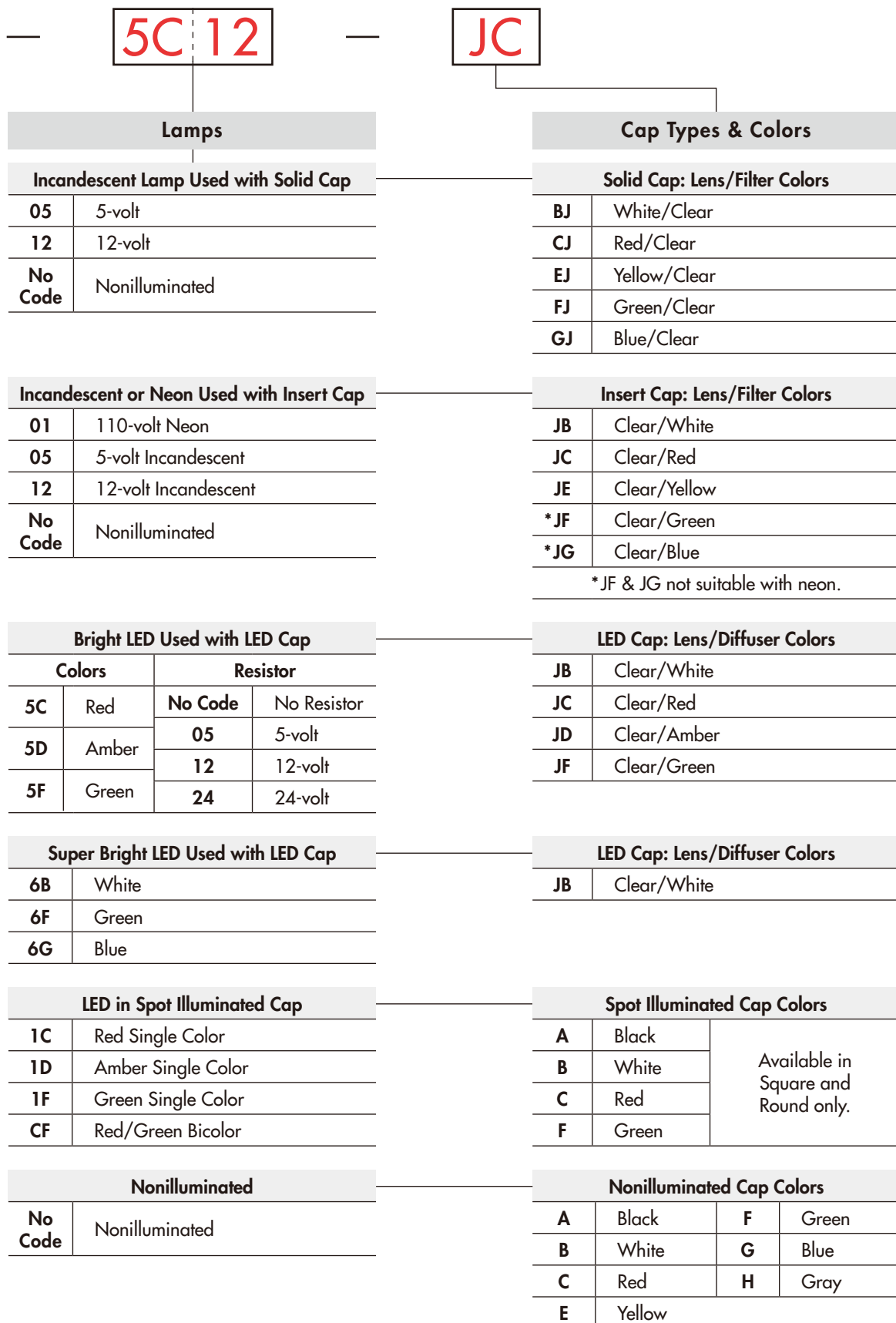
DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

LB15SKW01-5C12-JC



Toggles
 Rockers
 Pushbuttons
 Illuminated PB
 Programmable
 Keylocks
 Rotaries
 Slides
 Tactiles
 Tilt
 Touch
 Indicators
 Accessories
 Supplement

ORDERING EXAMPLE



Toggles
 Rockers
 Pushbuttons
 Illuminated PB
 Programmable
 Keylocks
 Rotaries
 Slides
 Tactiles
 Tilt
 Touch
 Indicators
 Accessories
 Supplement

POLES & CIRCUITS

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

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

SHAPES & PANEL CUTOUTS

S .622" (15.8mm)
Square

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)

C .854" (21.7mm)
Round

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)

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

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

HOUSING

Housing Colors Available:



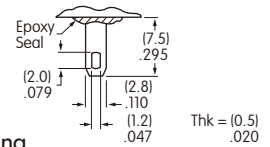
CONTACT MATERIALS, RATINGS & TERMINALS

W01	Silver Contacts	Power Level	3A @ 125V AC & 250V AC
G01	Gold Contacts	Logic Level	0.4VA max. @ 28V AC/DC max.

Complete explanation of operating range in Supplement section.

Solder Lug/Quick Connect

Optional PCB adaptors
 AT711 & AT712 available;
 illustrated in "Optional
 Accessories" immediately following
 "Typical Switch Dimensions."



INCANDESCENT & NEON LAMP CODES & SPECIFICATIONS


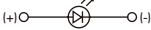
AT607 & AT607N	AT607 Incandescent 5-volt or 12-volt; AT607N Neon 110-volt	05	12	01 *	The electrical specifications shown are determined at a basic temperature of 25°C. Lamp circuit is isolated and requires external power source. * Recommended Resistors for Neon: 33K ohms for 110V AC; 100K ohms for 220V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




LED COLORS & SPECIFICATIONS

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.

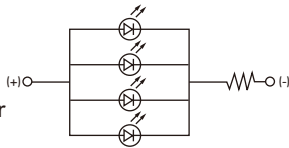
Bright LED without Resistor

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

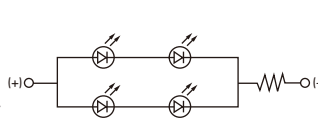
Bright LED with Resistor

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

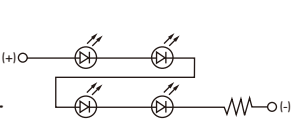
AT627 5-volt 4-element with Resistor






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	
	Maximum Forward Current			I_{FM}	30mA	30mA	30mA
	Typical Forward Current			I_F	20mA	20mA	20mA
	Forward Voltage			V_F	3.3V	3.3V	3.3V
	Maximum Reverse Voltage			V_{RM}	7V	7V	7V
	Current Reduction Rate Above 25°C			ΔI_F	0.40mA/°C	0.40mA/°C	0.40mA/°C
Ambient Temperature Range				-25° ~ +50°C			

No Code

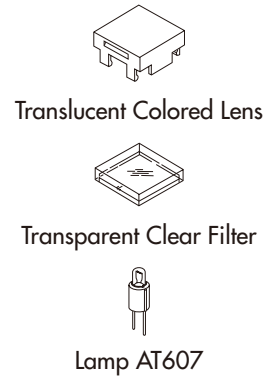
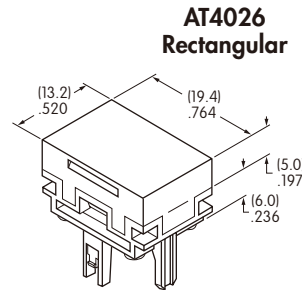
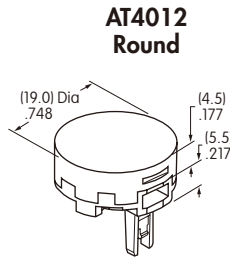
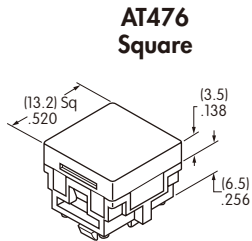
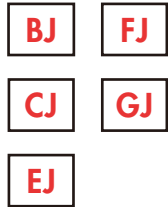
No Lamp

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 & Nonilluminated

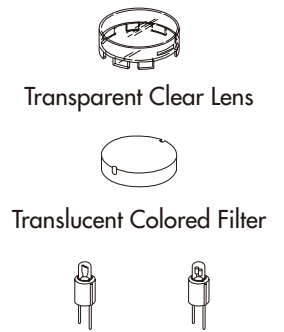
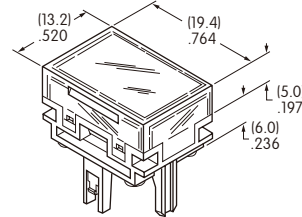
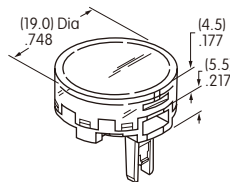
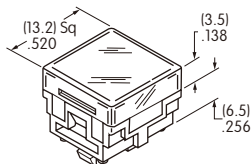
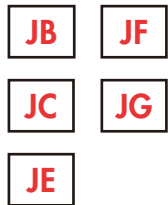
Lens/Filter
Colors Available:



Material: Polycarbonate Finish: Glossy

Insert Cap for Incandescent or Neon Lamp & Nonilluminated

Lens/Filter
Colors Available:

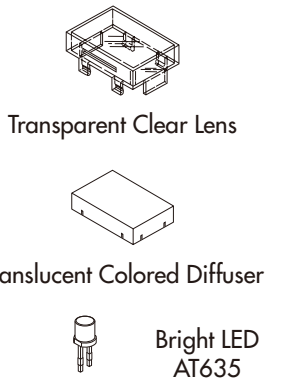
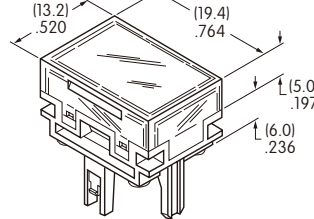
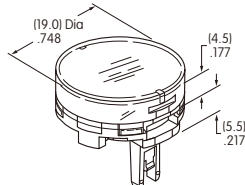
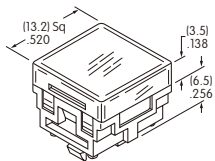


JF and JG not suitable with neon lamp.

Material: Polycarbonate Finish: Glossy

Cap for Bright LED without Resistor

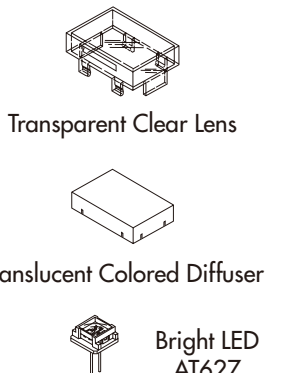
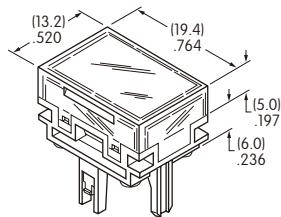
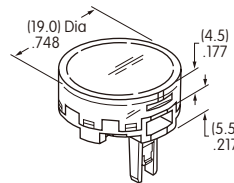
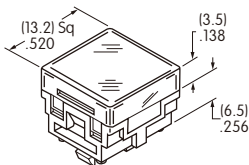
Lens/Diffuser
Colors Available:



Material: Polycarbonate Finish: Glossy

Cap for Bright LED with Resistor

Lens/Diffuser
Colors Available:



Material: Polycarbonate Finish: Glossy

Toggles
Rocker
Pushbuttons
Illuminated PB
D
Programmable
Keylocks
Rotaries
Slides
Tactiles
Tilt
Touch
Indicators
Accessories
Supplement

CAP TYPES & COLOR COMBINATIONS

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

Cap for Super Bright LEDs

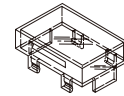
JB

Clear Lens
White Diffuser

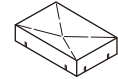
AT4129
Square

AT4128
Round

AT4130
Rectangular



Transparent
Clear Lens

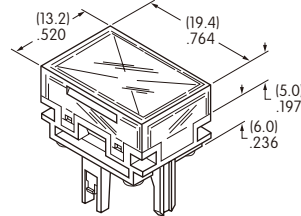
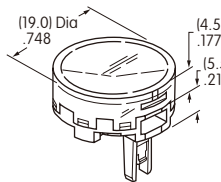
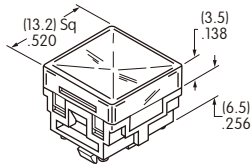


Translucent
White Diffuser



LEDs AT625
AT631 AT632

Material:
Polycarbonate
Finish: Glossy



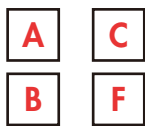
Spot Illuminated Cap with LED

The electrical specifications shown are determined at a basic temperature of 25°C. LED circuit is isolated and requires an 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

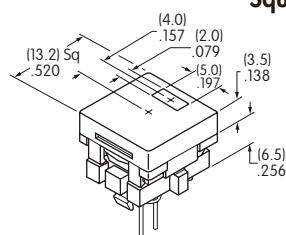
LED factory assembled in Spot Illuminated Caps	Single Color LED with 1 Element 	Bicolor LED with 2 Elements 	Single Color			Bicolor
			1C Red	1D Amber	1F Green	CF Red/Green
Not Available Separately	Maximum Forward Current	I_{FM}	25mA	30mA	25mA	30/25mA
	Typical Forward Current	I_F	20mA	20mA	20mA	20mA
	Forward Voltage	V_F	2.25V	2.1V	2.2V	2.0/2.2V
	Maximum Reverse Voltage	V_{RM}	5V	5V	5V	—
	Current Reduction Rate Above 25°C	ΔI_F	0.33mA/°C	0.40mA/°C	0.33mA/°C	0.43/0.38mA/°C
	Ambient Temperature Range	-25° ~ +70°C				

Cap Colors Available:

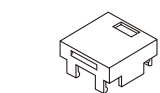
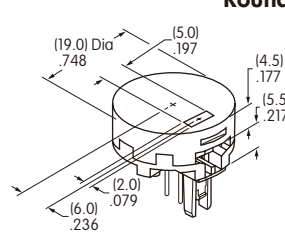


Material:
Polycarbonate
Finish: Glossy

AT480
Square



AT4016
Round



Cap with Window

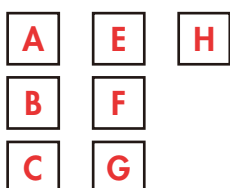


Factory Assembled LED;
Not Available Separately

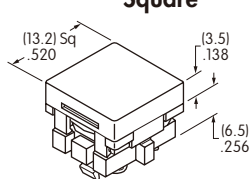
When ordering spot illuminated cap separately, LED color must be specified.
Examples: AT480CA (red LED, black cap); AT4016CFB (red/green bicolored LED, white cap)

Cap for Nonilluminated

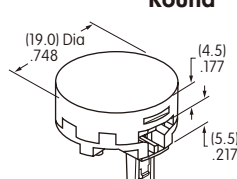
Cap Colors Available:



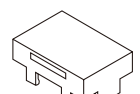
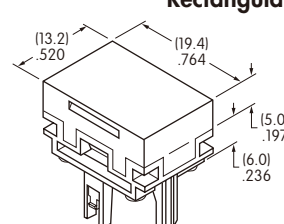
AT484
Square



AT4017
Round



AT4030
Rectangular



Cap

No Lamp

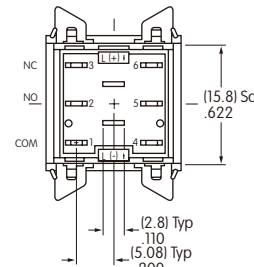
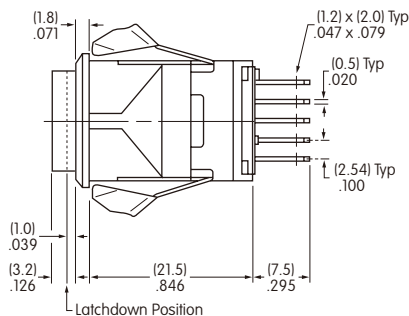
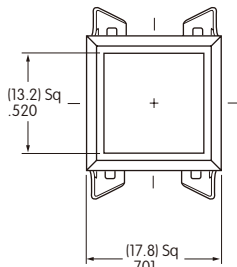
Material: Polycarbonate Finish: Glossy

Toggle
Rockers
Pushbuttons
Illuminated PB
Programmable
Keylocks
Rotaries
Slides
Tactiles
Tilt
Touch
Indicators
Accessories
Supplement

TYPICAL SWITCH DIMENSIONS

Square

Single & Double Pole

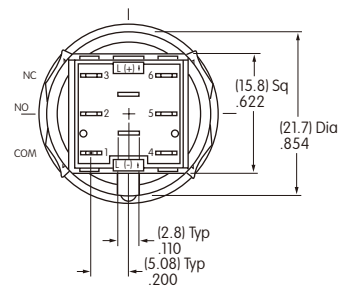
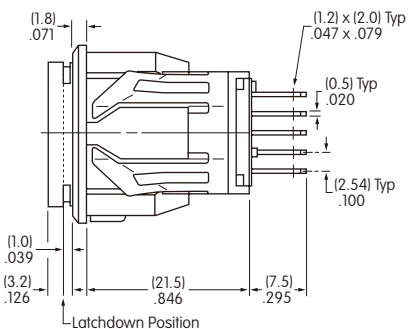
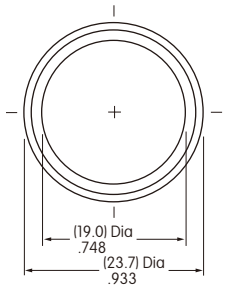


LB15SKW01-12-CJ

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

Round

Single & Double Pole

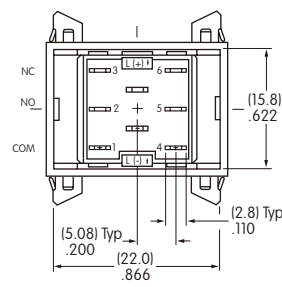
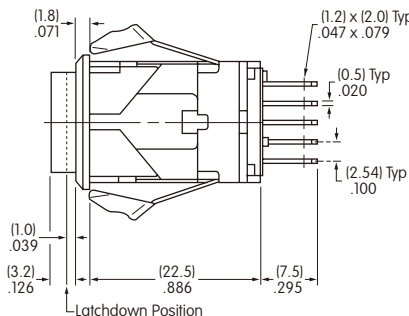
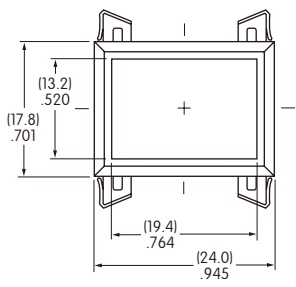


LB16CKW01-12-CJ

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

Rectangular

Single & Double Pole



LB26RGW01-12-CJ

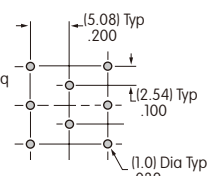
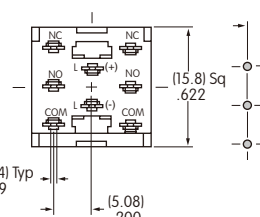
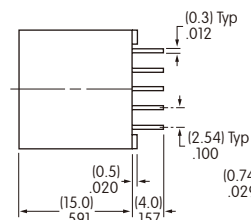
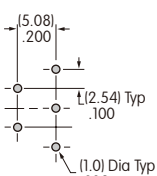
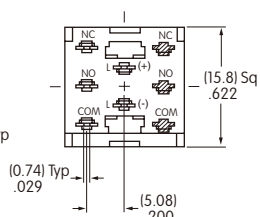
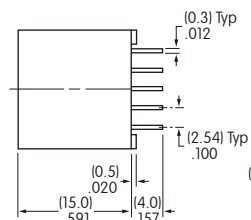
Single pole models do not have terminals 4, 5, & 6.

OPTIONAL ACCESSORIES

PCB Adaptors

AT711 Single Pole • Straight PC Terminals

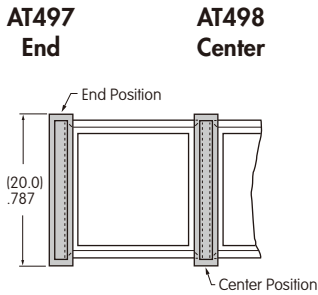
AT712 Double Pole • Straight PC Terminals



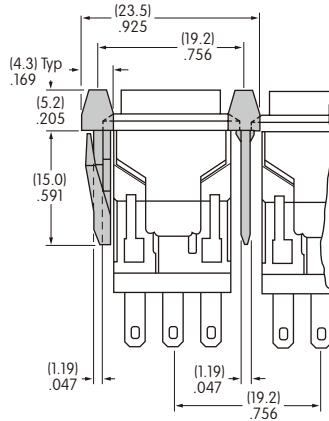
Note: Order adaptors separately.

OPTIONAL ACCESSORIES

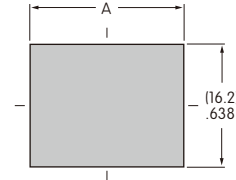
Barriers



Material: Polyamide



Cutouts for More Than 1 Switch

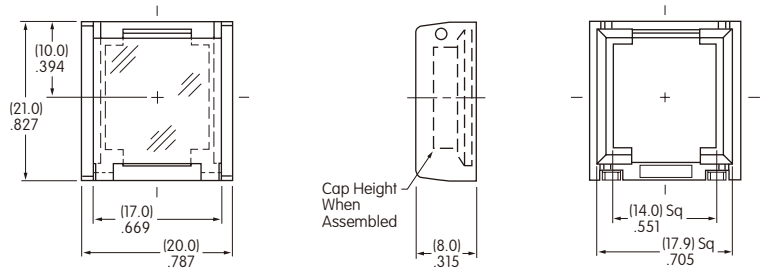


Square
 $A = .752'' (19.1\text{mm}) \times \text{Number of Switches} + .051'' (1.3\text{mm})$
Rectangular
 $A = .996'' (25.3\text{mm}) \times \text{Number of Switches} + .051'' (1.3\text{mm})$

Protective Guard

AT499 Square Protective Guard

Opens 90°
Closes manually



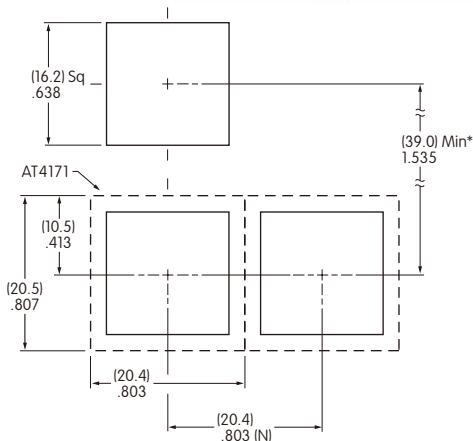
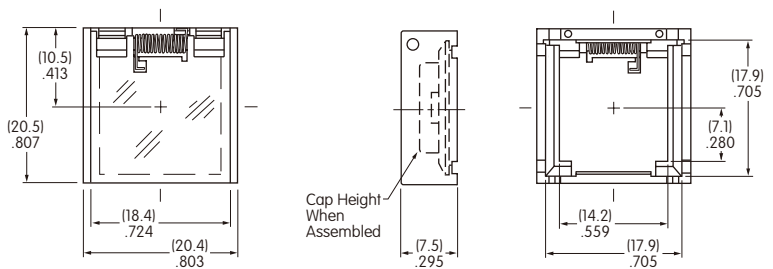
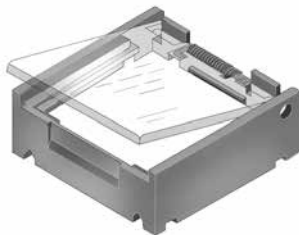
Material: Polyamide

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

Spring Loaded Protective Guard

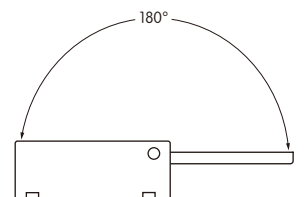
AT4171 Square Protective Guard

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)

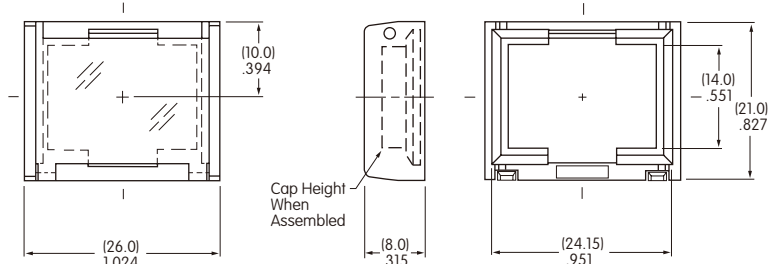
Toggles
Rockers
Pushbuttons
Illuminated PB
Programmable
Keylocks
Rotaries
Slides
Tactiles
Tilt
Touch
Indicators
Accessories
Supplement

OPTIONAL ACCESSORIES

Protective Guard

AT4057
Rectangular
Protective Guard

Opens 90°
Closes manually

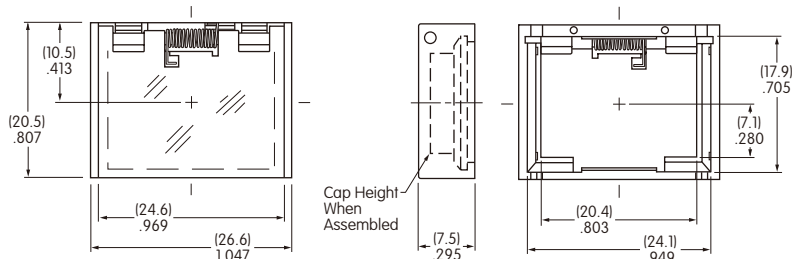
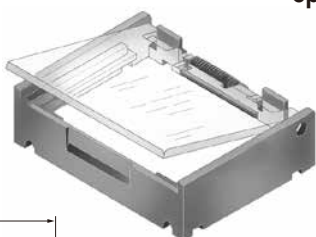


Material: Polyamide

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

Spring Loaded Protective Guard

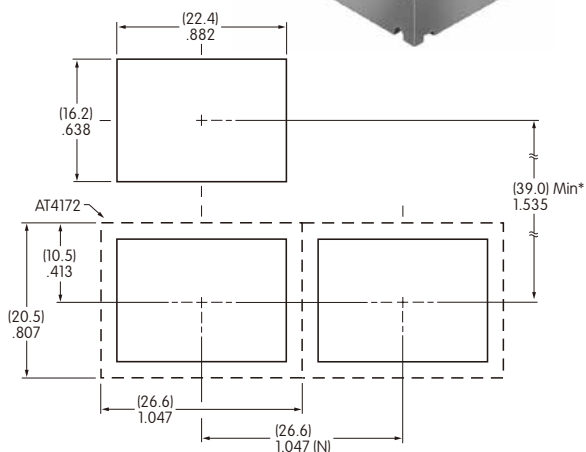
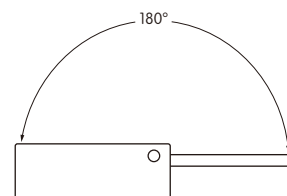
AT4172
Rectangular
Protective Guard



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)

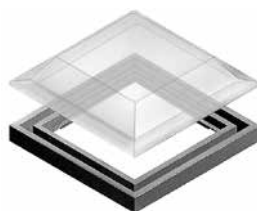


Dust Covers

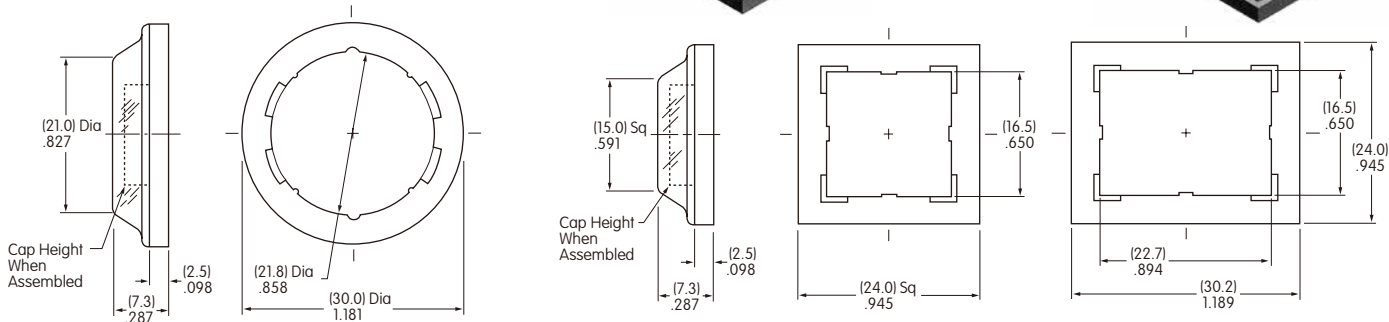
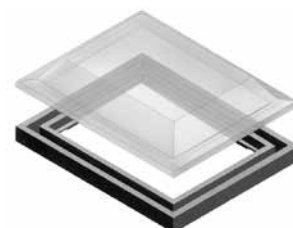
AT4002
Round



AT4001
Square



AT4011
Rectangular



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

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