TYPICAL SWITCH ORDERING EXAMPLE

LB 1 5 S K W01 – 5C 12 – JC

POLES

1	SPDT
2	DPDT

SHAPES

S	Square
C	Round
R	Rectangular

HOUSING

K	Black
G	Gray

CIRCUITS

5	ON	(ON)
( ) = Momentary		
6	ON	ON
Alternate Action with Latchdown		

CONTACTS & TERMINALS

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

LAMPS

Incandescent Lamp used with Solid Cap

00	No Lamp
05	5-volt
12	12-volt
28	28-volt

Incandescent or Neon used w/Insert Cap

00	No Lamp
01	110-volt Neon
05	5-volt Incandescent
12	12-volt Incandescent
28	28-volt Incandescent

Standard LED used w/LED Cap

C	Red
D	Amber
F	Green

Bright LED used w/LED Cap

Colors		Resistor	
5C	Red	No Code	No Resistor
5D	Amber	05	5-volt
5F	Green	12	12-volt
		24	24-volt

Super Bright LED used w/LED Cap

6B	White
6F	Green
6G	Blue

LED used with Spot Illuminated Cap

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

Nonilluminated

00	No Lamp

CAP TYPES & COLORS

Solid Cap: Lens/Filter Colors

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

Insert Cap: Lens/Filter Colors

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

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

LED Cap: Lens/Diffuser Colors

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

LED Cap: Lens/Diffuser Colors

JB	Clear/White

Spot Illuminated Cap Colors

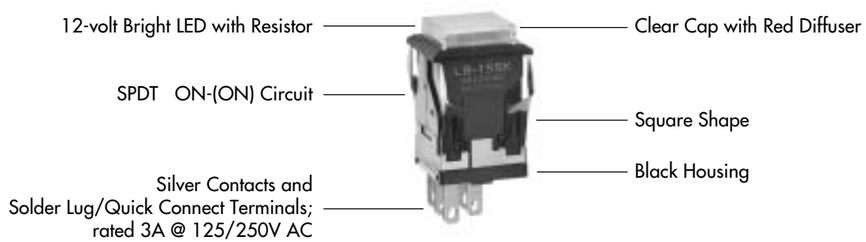
A	Black	Available in square and round only.
B	White	
C	Red	
F	Green	

Nonilluminated Cap Colors

A	Black	E	Yellow	G	Blue
B	White	F	Green	H	Gray
C	Red				

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

LB15SKW01-5C12-JC



IMPORTANT:

Switches are supplied without UL & CSA marking unless specified. Specific models & ratings noted on General Specifications page.

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
Note: See Supplement Index (page Z1) to find explanation of operating range.

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; 1,500V AC minimum between contacts & case
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: 450 grams
Contact Timing: Nonshorting (break-before-make)
Travel for Momentary Circuit: 1.9mm (.075") pretravel; 1.1mm (.043") overtravel; 3.0mm (.118") total travel
Travel for Maintained Circuit: 2.2mm (.087") pretravel; 0.8mm (.031") overtravel; 3.0mm (.118") total travel

Materials & Finishes

Housing: Glass fiber reinforced polyamide
Snap-in Frame: Stainless steel
Movable Contact: Silver alloy or copper with gold plating over nickel plating
Stationary Contacts: Silver alloy or copper with gold plating over nickel plating
Base: Diallyl phthalate
Common Terminals: Phosphor bronze with silver or gold plating
End Terminals: Phosphor bronze with silver or gold plating
Lamp Terminals: Phosphor bronze with silver plating

Environmental Data

Operating Temp 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: 93% 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 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: 0.4 kg (.88 lb) maximum downward force on actuator
Quick Connect Force: 5.4 kg (11.9 lbs) maximum downward force on connector
Soldering Time & Temperature: 3 seconds @ 350°C or 5 seconds @ 270°C
Process Seal: Not available

Standards & Certifications

Flammability Standards: UL94V-0 base
UL Recognized: All models recognized at 3A @ 125V or 250V AC or 0.4A @ 28V DC; UL File No. E44145
CSA Certified: All models certified at 3A @ 125V or 250V AC or 0.4VA @ 28V maximum; CSA File Nos. LR23535

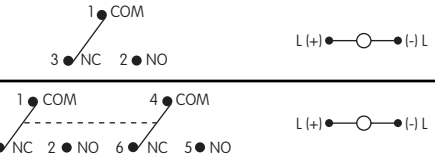
Series LB

Standard Size Pushbutton Switches

POLES & CIRCUITS

Pole	Model	Plunger Position ( ) = Momentary: Normal	Plunger Position ( ) = Momentary: Down	Connected Terminals: Normal	Connected Terminals: Down	Throw & Power/Lamp Schematics
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

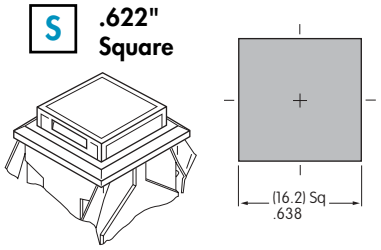
Notes: (1) Switch is marked with NC, NO, COM, L+, L-.
(2) Lamp circuit is isolated & requires external power source.



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

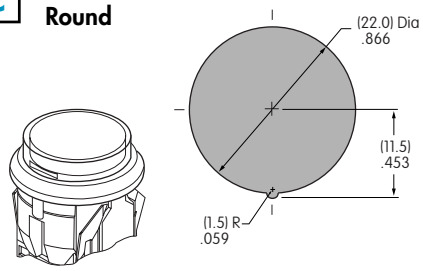
SHAPES & PANEL CUTOUTS

S **.622" Square**

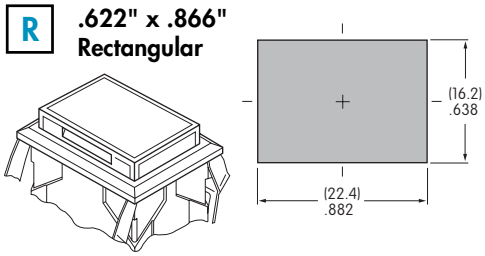


Cutout for 1 switch: .638" x .638"
Cutout for 1 switch with barriers: .638" x .815".

C **.854" Round**



R **.622" x .866" Rectangular**



Cutout for 1 switch: .638" x .882"
Cutout for 1 switch with barriers: .638" x 1.059".

Panel Thickness for Switches & Barriers: 1 ~ 4mm (.039" ~ .157")
Panel Thickness for Protective Guards & Splash Covers: 1 ~ 3.5mm (.039" ~ .138")

HOUSING

Housing Colors Available: **K** Black **G** Gray

CONTACT MATERIALS, RATINGS, & TERMINALS

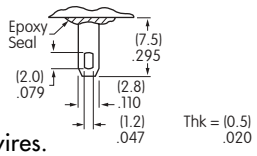
W01 **Silver Contacts** — **Power Level** **3A @ 125V AC & 250V AC**

G01 **Gold Contacts** — **Logic Level** **0.4VA max. @ 28V AC/DC max.**

See Supplement page Z1 for complete explanation of operating range.

Solder Lug/Quick Connect

The .047" x .079" oblong hole accommodates one solid 18-gauge wire or two solid or stranded 20-gauge wires.



INCANDESCENT & NEON LAMP CODES & SPECIFICATIONS

AT607 & AT607N

T-1 Bi-pin

AT607 Incandescent 5-, 12-, 28-volt; AT607N Neon 110-volt		05	12	28 *	01 **
Voltage	V	5V AC	12V AC	28V AC	110V AC
Current	I	115mA	60mA	24mA	1.5mA
Endurance	Avg. Hrs.	7,000			10,000

* Lamp life is significantly reduced in applications with DC current, high shock, vibration, or continuous illumination.

** Recommended Resistors: 33K ohms for 110V AC; 100K ohms for 220V AC.

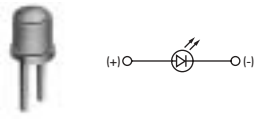
Electrical specifications are determined at a basic temperature of 25°C. Lamp circuit is independent of switch operation.

LED CODES & SPECIFICATIONS

Electrical specifications are determined at a basic temperature of 25°C. LED circuit is independent of switch operation.
LEDs are colored in OFF state. For dimension drawings of lamps see Accessories & Hardware Index (page Y1).
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; see Supplement Index (page Z1).

Standard Single Element LED

AT614

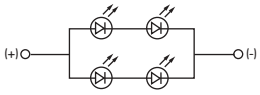


T-1 1/2 Cylindrical

		Colors: C Red	D Amber	F Green
Forward Peak Current	I_{FM}	50mA	50mA	50mA
Continuous Forward Current	I_F	40mA	40mA	40mA
Forward Voltage	V_F	1.75V	2.35V	2.35V
Reverse Peak Voltage	V_{RM}	4V	4V	4V
Current Reduction Rate Above 25°C	ΔI_F	0.67mA/°C		

Bright Quad Element LED without Resistor

AT626
No Resistor



T-1 Bi-pin

Color Codes: Red 5C Amber 5D Green 5F		No Code No Resistor		
		Red	Amber	Green
Forward Peak Current	I_{FM}	40mA	40mA	40mA
Continuous Forward Current	I_F	26mA	26mA	26mA
Forward Voltage	V_F	3.8V	4.0V	4.4V
Reverse Peak Voltage	V_{RM}	8V	8V	8V
Current Reduction Rate Above 25°C	ΔI_F	0.50mA/°C		

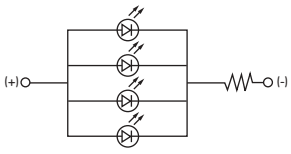
Bright Quad Element LED with Resistor

AT627
with Resistor

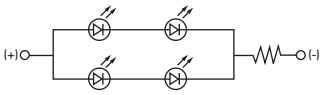
T-1 Bi-pin

Color Codes: Red 5C Amber 5D Green 5F		Resistor Codes 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		

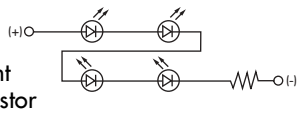
AT627
5 volt,
4-Element
with Resistor



AT627
12 volt,
4-Element
with Resistor

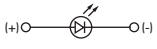


AT627
24 volt,
4-Element
with Resistor



Super Bright Single Element LED

AT625G Blue
AT631B White
AT632F Green



T-1 Bi-pin

Attention Electrostatic Sensitive Devices	Colors:	6B White	6F Green	6G 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	3.6
Reverse Peak Voltage	V_{RM}	5V	5V	5V
Current Reduction Rate Above 25°C	ΔI_F	0.50mA/°C		

00 **No Lamp** Code 00 indicates that no lamp is used.

CAP TYPES & COLOR COMBINATIONS

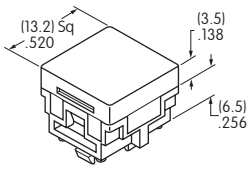
Color Codes: **A** Black **B** White **C** Red **D** Amber **E** Yellow **F** Green **G** Blue **J** Clear

Solid Cap for Incandescent Lamp

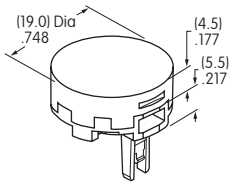
Lens/Filter Colors Available:

BJ FJ
CJ GJ
EJ

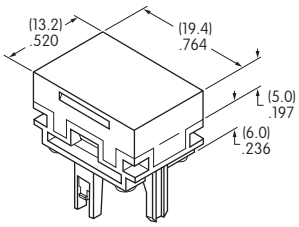
AT476 Square



AT4012 Round



AT4026 Rectangular



Material: Polycarbonate Finish: Glossy

Translucent Colored Lens

Transparent Clear Filter

Lamp AT607

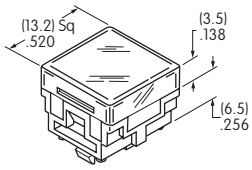
Insert Cap for Incandescent or Neon Lamp

Lens/Filter Colors Available:

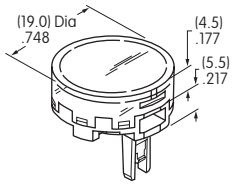
JB JF
JC JG
JE

JF & JG not suitable with neon.

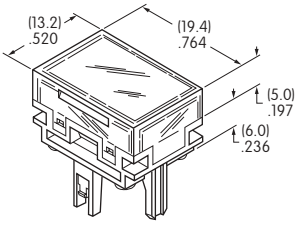
AT477 Square



AT4013 Round



AT4027 Rectangular



Material: Polycarbonate Finish: Glossy

Transparent Clear Lens

Translucent Colored Filter

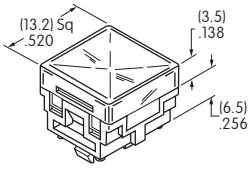
Lamps AT607 or AT607N

Cap for Standard LED

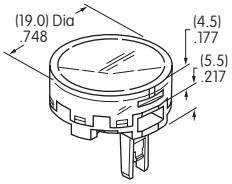
Lens/Diffuser Colors Available:

JB
JC
JD
JF

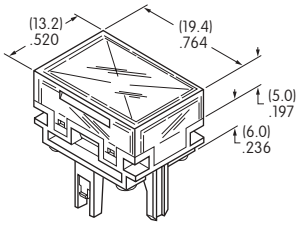
AT478 Square



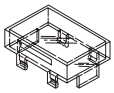
AT4014 Round



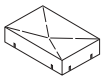
AT4028 Rectangular



Material: Polycarbonate Finish: Glossy



Transparent Clear Lens



Translucent Colored Diffuser

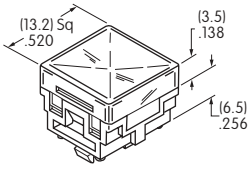
Standard LED AT614

Cap for Bright LEDs

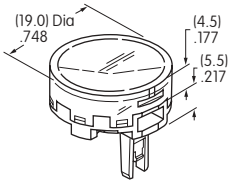
Lens/Diffuser Colors Available:

JB
JC
JD
JF

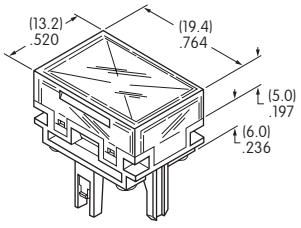
AT4162 Square



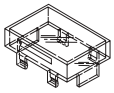
AT4164 Round



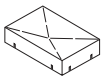
AT4163 Rectangular



Material: Polycarbonate Finish: Glossy



Transparent Clear Lens



Translucent Colored Diffuser

Bright LEDs AT626 AT627

CAP TYPES & COLOR COMBINATIONS

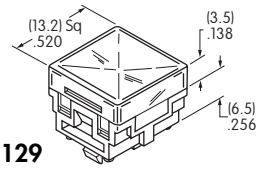
Color Codes: **A** Black **B** White **C** Red **D** Amber **E** Yellow **F** Green **G** Blue **H** Gray **J** Clear

Cap for Super Bright LEDs

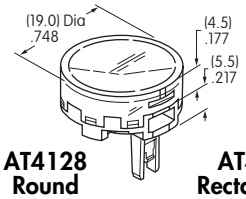
Lens/Diffuser Colors Available:

JB

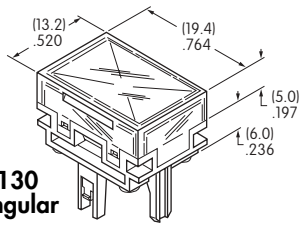
Material: Polycarbonate
Finish: Glossy



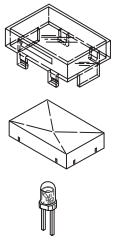
AT4129 Square



AT4128 Round



AT4130 Rectangular



Transparent Clear Lens

Translucent White Diffuser

LEDs AT625 AT631 AT632

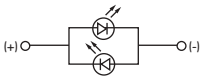
Spot Illuminated Cap with LED

Electrical specifications are determined at a basic temperature of 25°C. LED circuit is independent of switch operation. Single color LEDs are colored in OFF state & bicolor translucent white in OFF state. For dimension drawings of lamps see Accessories & Hardware Index (page Y1). 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; see Supplement Index (page Z1).

LED Specifications

LED factory assembled in Spot Illuminated Caps

Not Available Separately

		Single Color			Bicolor
Single Color LED with 1 Element  Bicolor LED with 2 Elements 		1C Red	1D Amber	1F Green	CF Red/Green
Forward Peak Current	I_{FM}	10mA	30mA	30mA	30mA
Continuous Forward Current	I_F	8mA	24mA	24mA	25mA
Forward Voltage	V_F	1.9V	2.0V	2.1V	2.1V
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	0.33mA/°C

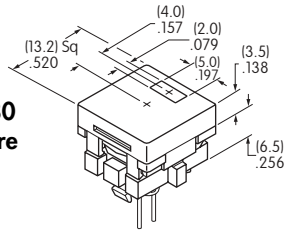
Cap Colors Available:

A

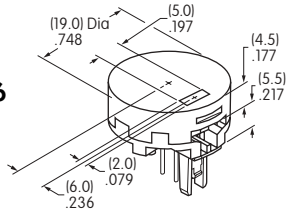
B

C

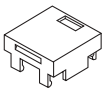
F



AT480 Square



AT4016 Round



Cap with Window

Factory Assembled LED

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)

Nonilluminated Cap

Cap Colors Available:

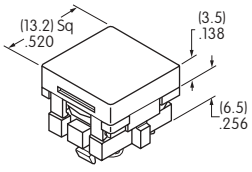
A F

B G

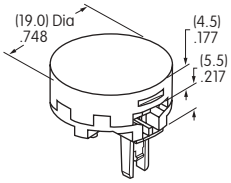
C H

E

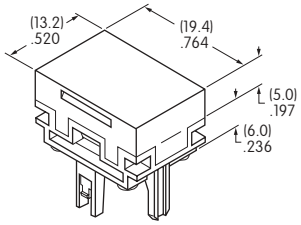
AT484 Square

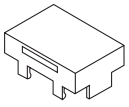


AT4017 Round



AT4030 Rectangular





Cap

No Lamp

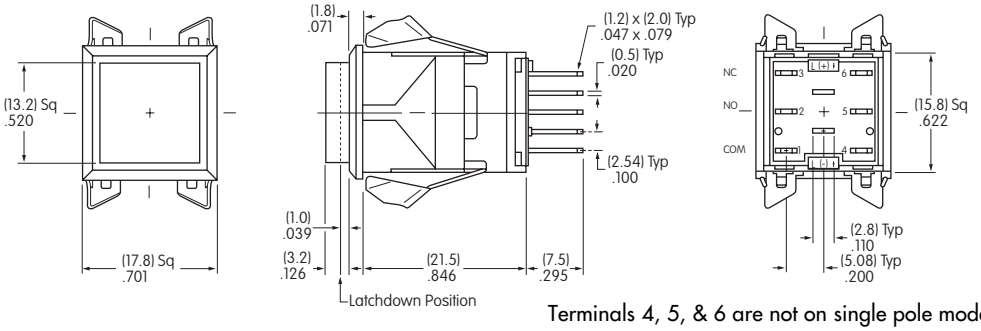
Material: Polycarbonate Finish: Glossy

TYPICAL SWITCH DIMENSIONS

Square

LB15SKW01-12-CJ

Single & Double Pole

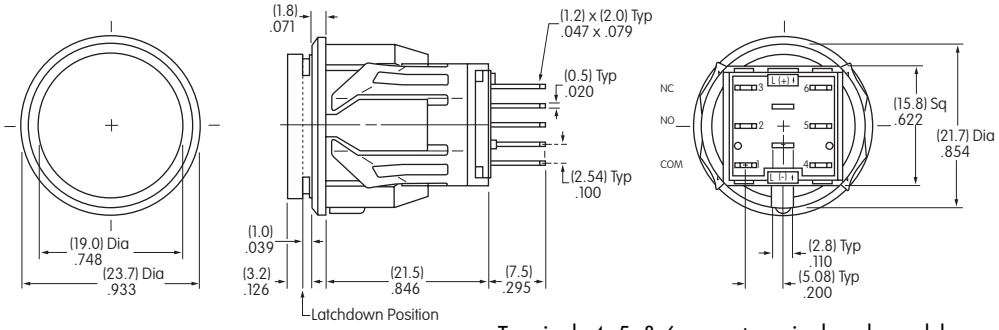


Terminals 4, 5, & 6 are not on single pole models.

Round

LB16CKW01-12-CJ

Single & Double Pole

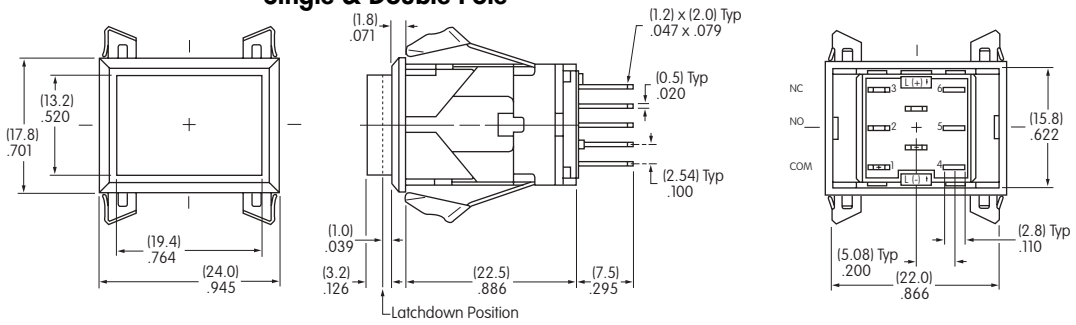


Terminals 4, 5, & 6 are not on single pole models.

Rectangular

LB26RGW01-12-CJ

Single & Double Pole

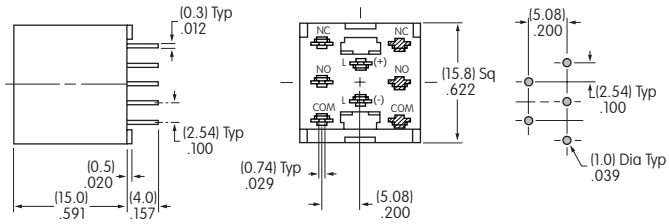


Terminals 4, 5, & 6 are not on single pole models.

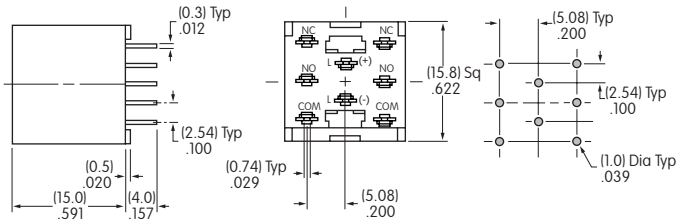
OPTIONAL ACCESSORIES

PCB Adaptors

AT711 Single Pole • Straight PC Terminals



AT712 Double Pole • Straight PC Terminals

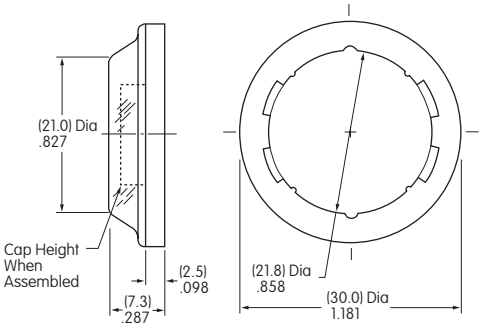


Note: Order adaptors separately.

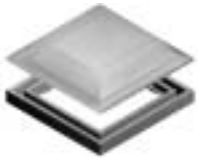
OPTIONAL ACCESSORIES

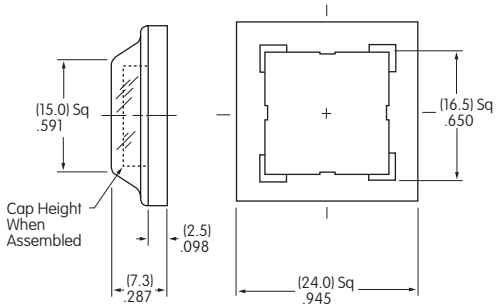
Splash Covers

AT4002 Round

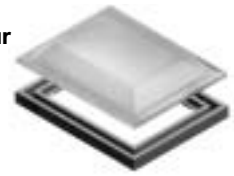


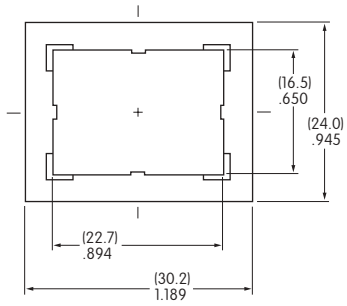
AT4001 Square





AT4011 Rectangular



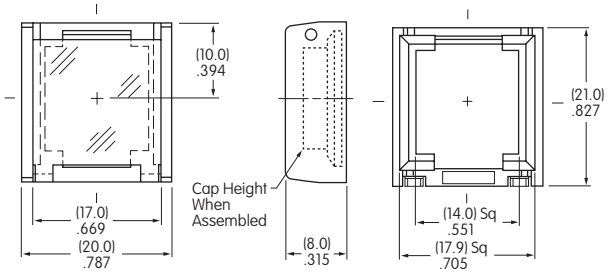


Materials: PVC with polyethylene gasket
PVC loses pliability below 0°C (32°F).

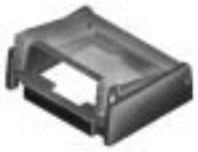
Splash Covers reduce depth of switch behind panel by .020".

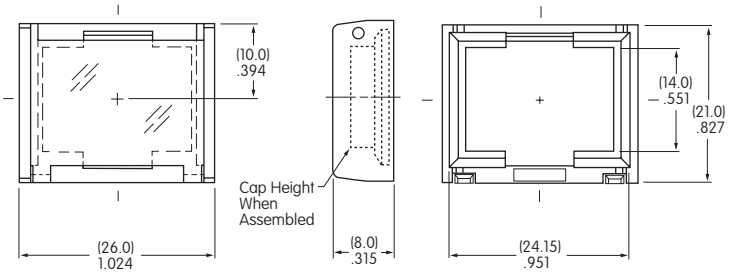
Protective Guards

AT499 Square



AT4057 Rectangular



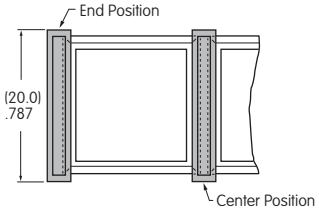


Material: Polyamide

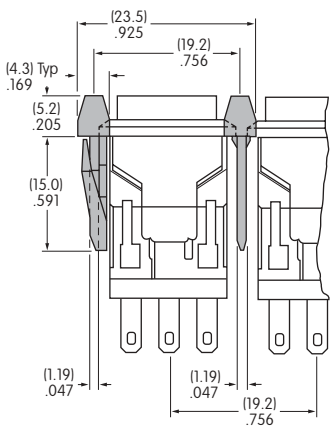
Protective Guards reduce depth of switch behind panel by .020".

Barriers

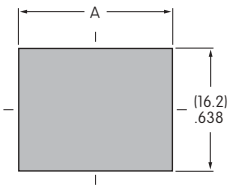
AT497 End **AT498 Center**



Material: Polyamide



Cutouts for More Than 1 Switch



Square
A = .752" x Number of Switches + .051"
Rectangular
A = .996" x Number of Switches + .051"