

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.

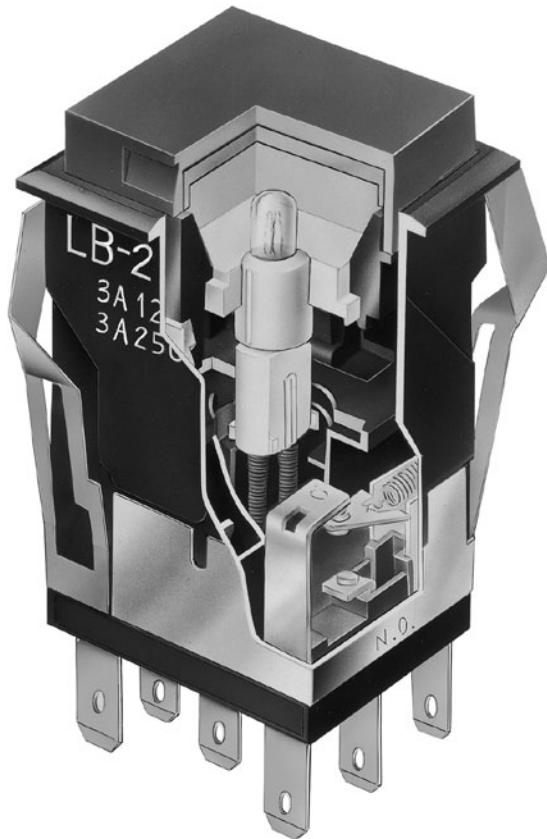
Snap-action contact mechanism gives long electrical life and sensitivity of actuation.

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

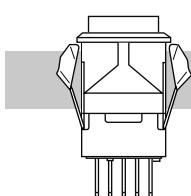
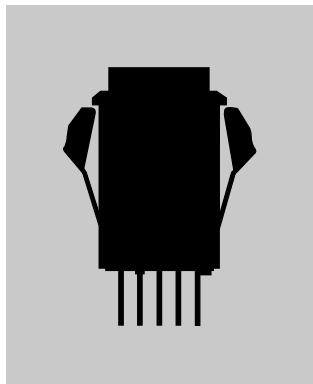
Panel sealed model meets IP65 of IEC60529 specifications (similar to NEMA 4 & 13).

Compact switch design minimizes behind panel depth.

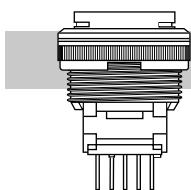
Matching indicators available.



Actual Size



Snap-in Mount Page D46



Panel Seal Page D57

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

1,000,000 operations minimum for momentary circuit

200,000 operations minimum for maintained circuit

100,000 operations minimum

Mechanical Life:

Electrical Life:

Nominal Operating Force:

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)

O-ring: Nitrile butadiene rubber

Inner Seal: Silicone rubber

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)

90 ~ 95% humidity for 96 hours @ 40°C (104°F)

Humidity: 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

Vibration: 50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

Shock: IP65 of IEC60529 standard (similar to NEMA 4 & 13)

Sealing:

Installation

Mounting Torque: 1.96Nm (17.35 lb•in) maximum

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

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.

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.

LB 1 6 W K W01

Poles		Circuits		Shape		Housing	
1	SPDT	5	ON (ON)	W	Round	K	Black
2	DPDT	()	= Momentary	G	Gray		

6 ON ON
Alternate Action
with Latchdown

Illuminated PB	
D	

Programmable	

Keylocks	

Rotaries	

Slides	

Tactiles	

Tilt	

Touch	

Indicators	

Accessories	

TYPICAL SWITCH ORDERING EXAMPLE

Contacts & Terminals

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

* Wire harness & cable assemblies
offered only in Americas

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

LB16WKW01-5C12-JC



5C 12 JC

Lamps

Incandescent Lamp Used with Solid Cap	
05	5-volt
12	12-volt
No Code	Nonilluminated

Cap Types & Colors

Solid Cap: Lens/Filter Colors	
BJ	White/Clear
CJ	Red/Clear
EJ	Yellow/Clear
FJ	Green/Clear
GJ	Blue/Clear

Incandescent or Neon Used with Insert Cap

01	110-volt Neon
05	5-volt Incandescent
12	12-volt Incandescent
No Code	Nonilluminated

Insert Cap: Lens/Filter Colors

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.

Bright LED Used with LED Cap

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

LED Cap: Lens/Diffuser Colors

LED Cap: Lens/Diffuser Colors	
JB	Clear/White
JC	Clear/Red
JD	Clear/Amber
JF	Clear/Green

Super Bright LED Used with LED Cap

6B	White
6F	Green
6G	Blue

LED Cap: Lens/Diffuser Colors

JB	Clear/White
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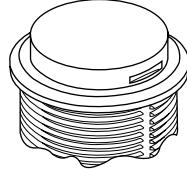
POLES & CIRCUITS

		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.

SHAPE & PANEL CUTOUT

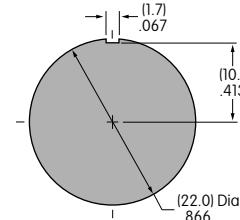
W .866" (22.0mm)
Round



Recommended Panel Thickness:
.039" ~ .157" (1.0mm ~ 4.0mm)

Recommended Panel Thickness with Splash Cover:
.039" ~ .138" (1.0mm ~ 3.5mm)

Overtightening the mounting nut AT074
may damage the switch housing.



HOUSING

Housing Colors Available:

K Black

G Gray

CONTACT MATERIALS, RATINGS & TERMINALS

W01

Silver Contacts

Power Level
3A @ 125V AC & 250V AC

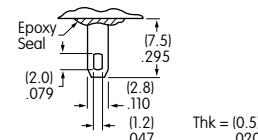
Solder Lug/Quick Connect

G01

Gold Contacts

Logic Level
0.4VA max. @ 28V AC/DC max.

Optional PCB adaptors AT711
& AT712 available; illustrated
in previous snap-in subsection.



Complete explanation of operating range in Supplement section.

INCANDESCENT & NEON LAMP CODES & SPECIFICATIONS

AT607 & AT607N



AT607 Incandescent 5-volt or
12-volt; AT607N Neon 110-volt

05

12

01 *

Voltage V 5V AC 12V AC 110V AC

Current I 115mA 60mA 1.5mA

Endurance Avg. Hours 10,000 10,000

T-1 Bi-pin

Ambient Temp. Range -25°C ~ +50°C

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

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.

Toggles
Rockers
Pushbuttons

D
Illuminated PB
Programmable

Keylocks
Rotaries
Slides
Tactiles
Tilt

Touch
Indicators

Accessories
Supplement

Bright LED without Resistor

AT635

LEDs are colored in OFF state.



(+) O (-)

T-1 1/2 Bi-pin

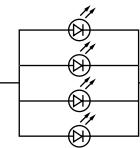
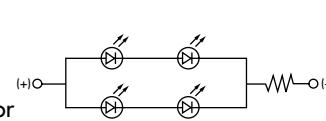
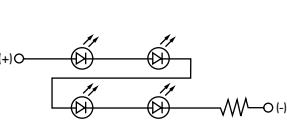
Color Codes	Red	Amber	Green	No Code		No Resistor
	5C	5D	5F	Red	Amber	Green
Forward Peak Current	I_{FM}			30mA	30mA	30mA
Continuous Forward Current	I_F			20mA	20mA	20mA
Forward Voltage	V_F			1.9V	2.0V	2.1V
Reverse Peak Voltage	V_{RM}			5V	5V	5V
Current Reduction Rate Above 25°C	ΔI_F			0.42mA/°C		
Ambient Temperature Range				-25° ~ +50°C		

Bright LED with Resistor

AT627
with Resistor

T-1 Bi-pin

Color Codes:	Red	Amber	Green	Resistor 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 ResistorAT627
12-volt
4-element
with ResistorAT627
24-volt
4-element
with ResistorAT625G Blue
AT631B White
AT632F Green

(+) O (-)

T-1 Bi-pin



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

No Code

No Lamp

CAP TYPES & COLOR COMBINATIONS

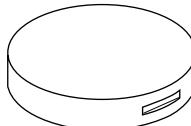
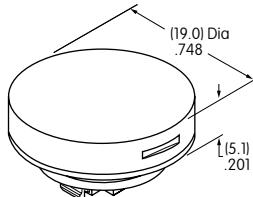
Color Codes: B White C Red D Amber E Yellow F Green G Blue J Clear

Solid Cap for Incandescent Lamp & Nonilluminated

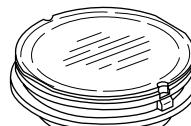
Lens/Filter
Colors Available:

BJ	FJ
CJ	GJ
EJ	

AT4054



Translucent
Colored Lens



Transparent
Clear Filter



Lamp
AT607

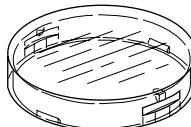
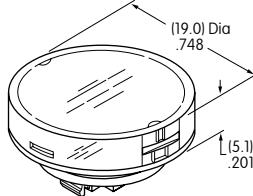
Material: Polycarbonate Finish: Glossy

Insert Cap for Incandescent or Neon Lamp & Nonilluminated

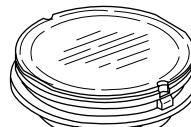
Lens/Filter
Colors Available:

JB	JF
JC	JG
JE	

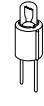
AT4055



Transparent
Clear Lens



Translucent
Colored Filter



Lamp
AT607



Lamp
AT607N

JF and JG not suitable
with neon lamp.

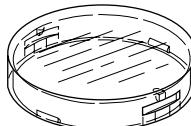
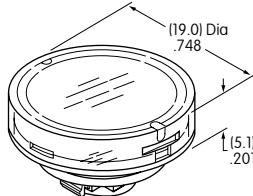
Material: Polycarbonate Finish: Glossy

Cap for Bright LED without Resistor

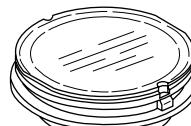
Lens/Diffuser
Colors Available:

JB
JC
JD
JF

AT4179



Transparent
Clear Lens



Translucent
Colored Diffuser



Bright LED
AT635

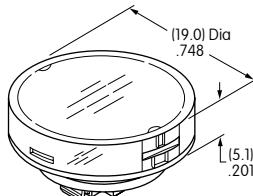
Material: Polycarbonate Finish: Glossy

Cap for Bright LED with Resistor

Lens/Diffuser
Colors Available:

JB
JC
JD
JF

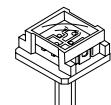
AT4165



Transparent
Clear Lens



Translucent
Colored Diffuser



Bright LED
AT627

Material: Polycarbonate Finish: Glossy

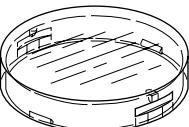
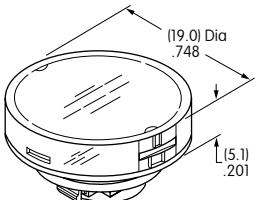
CAP TYPES & COLOR COMBINATIONS

Cap for Super Bright LEDs

JB Clear Lens
White Diffuser

Material:
Polycarbonate
Finish: Glossy

AT4131

Transparent
Clear LensTranslucent
Colored Diffuser

LEDs
AT625
AT631
AT632

Toggles

Rockers

Pushbuttons

D Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

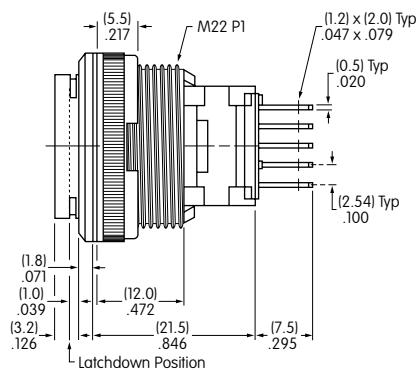
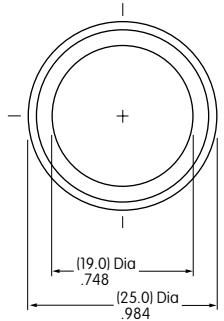
Indicators

Accessories

Supplement

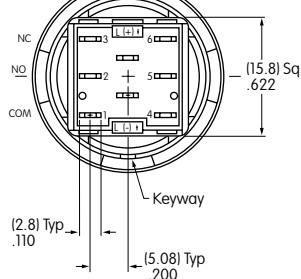
TYPICAL SWITCH DIMENSIONS

Single & Double Pole



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

Panel Seal



LB25WK01-12-JC

OPTIONAL ACCESSORIES

AT9410 Splash Cover for Panel Seal

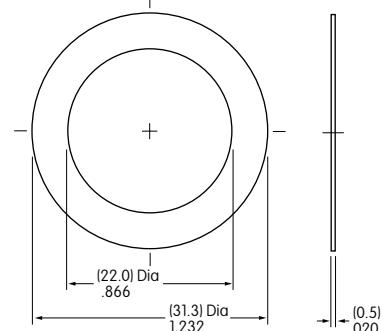
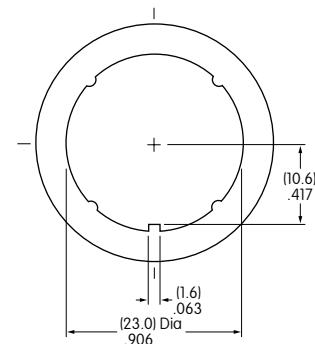
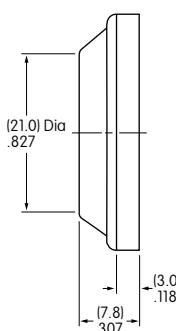
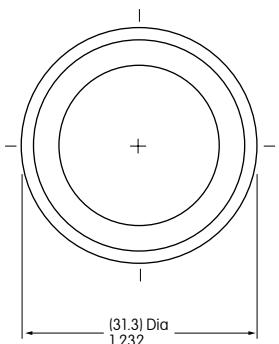
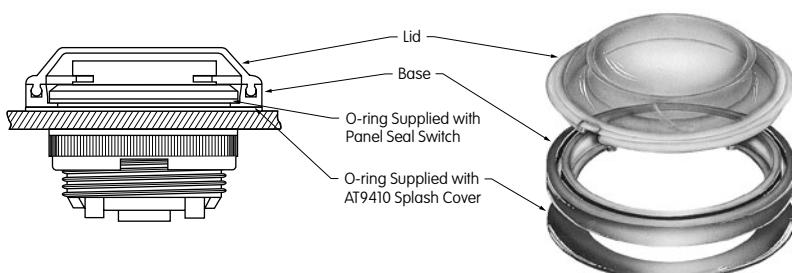
Materials:

Lid: PVC (loses pliability below 0°C/32°F)

Base: Polyethylene

O-ring: NBR

Recommended Panel Thickness:
.039" ~ .138" (1.0mm ~ 3.5mm)

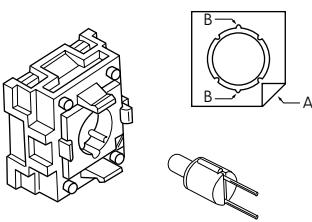


ASSEMBLY INSTRUCTIONS

Lamp Installation & LED Orientation

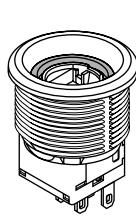
Incandescent & Neon Lamps AT607 & AT607N

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).



Panel Seal Models

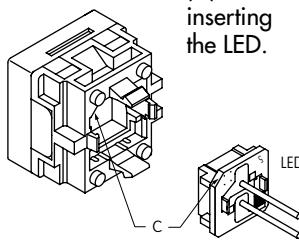
For panel seal models, Bright LED must first be inserted into the lamp socket which is built into the switch. The cap can then be placed on the switch.



Bright LED AT627

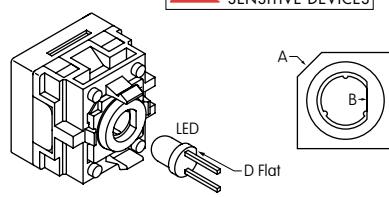
Snap-in Models

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

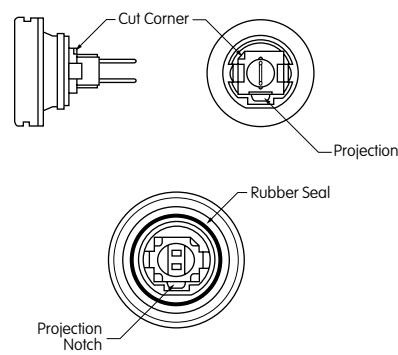
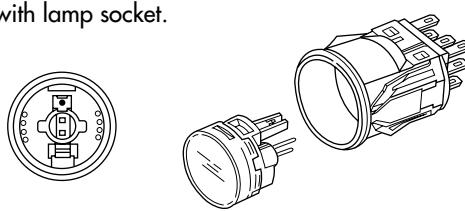
Align D-flat on LED with flat (B) in holder when inserting the LED. To correctly join the lamp holder and cap base, match the cut corners (A).



Switch & Cap Assembly

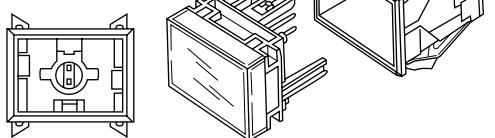
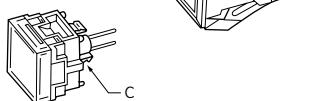
Round & Rectangular

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.



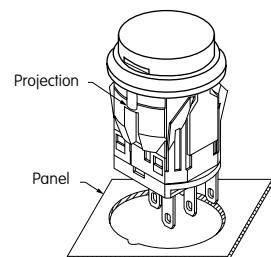
Panel Seal

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.

Snap-in Mount

Snap-in clip holds all switches firmly in place.

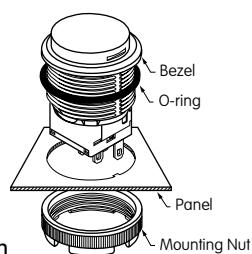
To mount round switch, match the antirotation projection on switch with guide cut in panel. Snap into panel cutout.



Installation & Maintenance

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



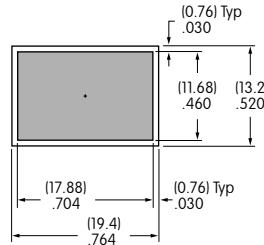
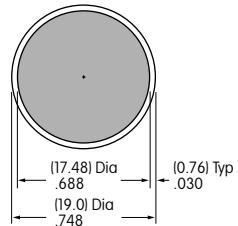
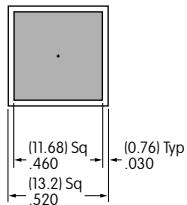
AT112
Socket Wrench

LEGENDS

NKK Switches can provide custom legends for caps. Contact factory for more information.

Suggested Printable Area for Lens

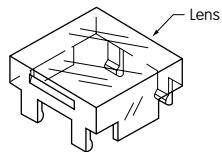
Recommended Methods: Laser Etch on clear lens, Screen Print, or Pad Print on lens.
Epoxy based ink is recommended.



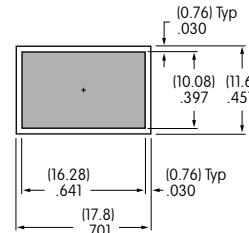
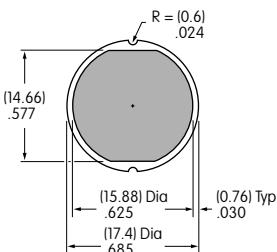
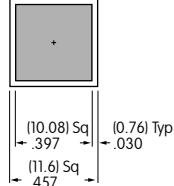
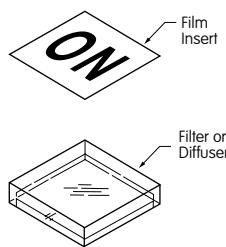
Shaded areas are printable areas.

Suggested Printable Area for Film Insert

Recommended Print Method: Laser Print or Screen Print with Epoxy based ink



Film Insert: Clear Polyester, 4 mil max. thickness



Shaded areas are printable areas.