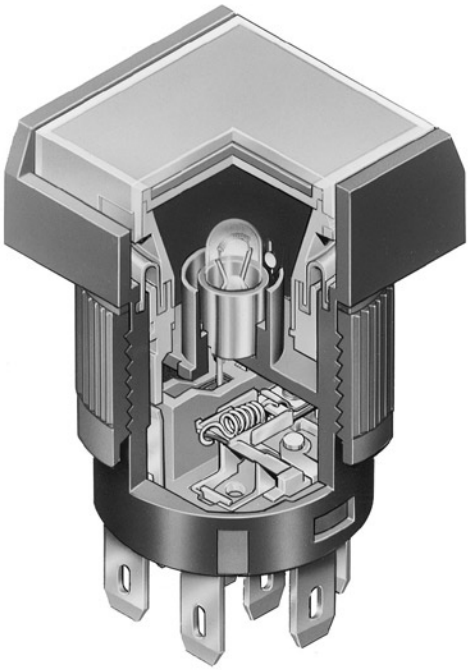
Distinctive Characteristics

Full face or spot illumination with incandescent lamps or multi-element LEDs, with or without resistors.

Choice of super bright LEDs in white, green, and blue as well as bright LEDs in red, amber, and green.

Combination bezel-barrier is an integral part of the switch and prevents accidental actuation.



Unique thermoplastic elastomer seal inside caps plus rolled sleeve of nitrile butadiene rubber at joining of housing and inner case, all for added protection to interior mechanism.

Dust and oil tight as well as splashproof panel seal models qualify to IP65 of IEC60529 Standards (similar to NEMA 4 and 13). Panel seal models provided with exterior o-ring.

Distinctive design of snap-action contacts for shock resistance, long life, and sensitive actuation.

High density design to give behind panel depth of less than one inch.

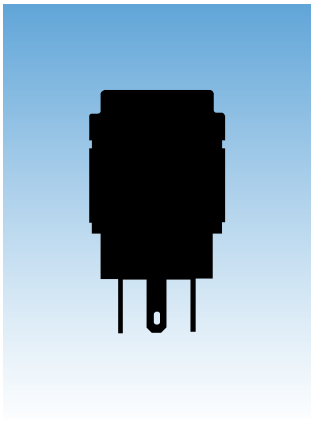
Terminals are epoxy sealed to lock out flux, dust, solvents, and other contaminants.

Latchdown for indication of circuit status, plus audible, tactile feedback with smooth, responsive operation.

Nonilluminated models available.

Matching indicators available.

Actual Size



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: Single pole: 1.47N for nonsealed; 1.67N for sealed
Double pole: 2.75N for nonsealed; 2.94N for sealed
Contact Timing: Nonshorting (break-before-make)
Travel: Pretravel .059" (1.5mm); Overtravel .059" (1.5mm); Total Travel .118" (3.0mm)

Materials & Finishes

Housing/Bezel: Glass fiber reinforced polyamide (UL94V-0)
Snap-in Frame: Stainless steel
Base: Diallyl phthalate resin (UL94V-0)
Movable Contactor: Phosphor bronze with silver or gold plating
Movable Contacts: Silver alloy with silver plating or brass with gold plating
Stationary Contacts: Silver alloy or copper with gold plating
Switch Terminals: Phosphor bronze with tin plating
Lamp Terminals: Phosphor bronze with tin plating

Environmental Data

Operating Temp Range: –25°C through +50°C (–13°F through +122°F)
Humidity: 90 ~ 95% humidity for 96 hours @ 40°C (104°F)
Vibration: 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range
& returning in 1 minute; 3 right angled directions for 2 hours
Shock: 50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)
Sealing: IP65 of IEC60529 standard for panel seal models

Installation

Mounting Torque: 0.80Nm (7.08 lb•in) maximum
Soldering Time & Temperature: 4 seconds maximum @ 410°C maximum for manual soldering

Standards & Certifications

Flammability Standards: UL94V-0 housing & base
UL Recognized: All solder lug models recognized at 3A @ 125/250V 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.
CSA Certified: All solder lug models certified at 3A @ 125/250V 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.

TYPICAL SWITCH ORDERING EXAMPLE

YB | 1 | 5 | ☐ | C | K | W | 01 — 6 | F — JB

POLES

1	SPDT
2	DPDT

CIRCUITS

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

PANEL SEAL

No Code	Without Panel Seal
W	With Panel Seal (Bushing Mount only)

SHAPES

Bushing Mounting	
S	Square
C	Round
R	Rectangular
Snap-in Mounting	
K	Square
M	Round
N	Rectangular

HOUSING

K	Black only

CONTACT MATERIALS & RATINGS

W	Silver Rated 3A @ 125V AC
G	Gold Rated 0.4VA max. @ 28V AC/DC max.

TERMINALS

01	Solder Lug/.110″ (2.8mm) Quick Connect
03	Straight PC

IMPORTANT:

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

LAMPS

Incandescent Lamp

05	5-volt
12	12-volt

LED for Spot Illuminated Cap

LED Colors		Forward Voltage	
1C	Red	02	2-volt (no resistor)
1D	Amber	05	5-volt
1F	Green	12	12-volt
1CF	Red/Green	24	24-volt

Bright LED

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

Super Bright LED

6B	White
6F	Green
6G	Blue

Bicolor LED for Full Face Illuminated

LED Colors		Forward Voltage	
2CF	Red/Green	02	2-volt (no resistor)
		05	5-volt
		12	12-volt
		24	24-volt

CAP TYPES & COLORS

Solid Cap: Lens/Insert Colors

BB	White/White
CB	Red/White
EB	Yellow/White
FB	Green/White
GB	Blue/White

Spot Illuminated Cap: Lens/Insert Colors

JA	Clear/Black
JB	Clear/White
JC	Clear/Red
JE	Clear/Yellow
JF	Clear/Green

LED Cap: Lens/Insert Colors

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

LED Cap: Lens/Insert Colors

JB	Clear/White

LED Cap: Lens/Insert Colors

JB	Clear/White

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

YB15CKW01-6F-JB

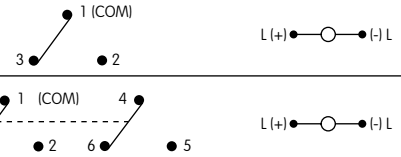
- Green, Super Bright LED
- Round with Bushing Mounting
- Black Housing
- SPDT ON-(ON) Circuit
- Led Cap with Clear Lens and White Insert
- Without Panel Seal
- Silver Contacts with 3 Amp Rating
- Solder Lug/.110″ (2.8mm) Quick Connect Terminals

NKK Switches • email: sales@nkkswitches.com • Phone (480) 991-0942 • Fax (480) 998-1435 • www.nkkswitches.com

POLES & CIRCUITS

Pole	Model	Plunger Position ( ) = Momentary: Normal	Plunger Position ( ) = Momentary: Down	Connected Terminals: Normal	Connected Terminals: Down	Throw & Switch/Lamp Schematics
SP	YB15 *YB16	ON ON	(ON) ON	1-3	1-2	SPDT
DP	YB25 *YB26	ON ON	(ON) ON	1-3 4-6	1-2 4-5	DPDT

Notes: Switch is marked with NC, NO, COM, L+, L–. Lamp circuit is isolated and requires external power source.

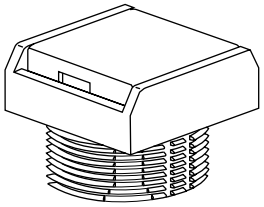


* When in latchdown position for the alternate circuit, cap position is .020" (0.5mm) above the built-in bezel.

PANEL SEAL

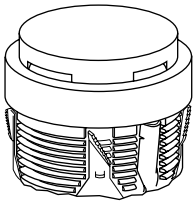
No Code **Without Panel Seal**

Bushing Mounting



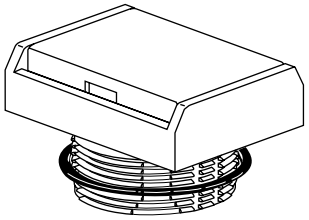
Supplied with mounting nut.

Snap-in Mounting



W **With Panel Seal**

Bushing Mounting only

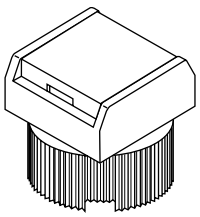


Supplied with mounting nut and o-ring AT089.

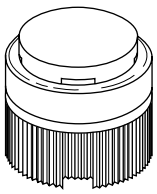
SHAPES & MOUNTING TYPES

Bushing Mounting

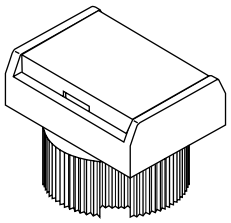
S **Square**



C **Round**

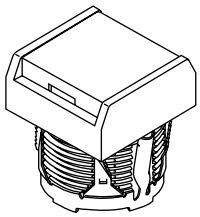


R **Rectangular**

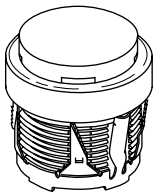


Snap-in Mounting

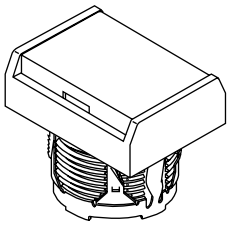
K **Square**



M **Round**



N **Rectangular**



Bezel-barrier is an integral part of the switch body.

HOUSING

K Black

Housing available in black only. The 1-piece body and bezel-barrier have a matte finish.

CONTACT MATERIALS & RATINGS

W **Silver Contacts**

G **Gold Contacts**

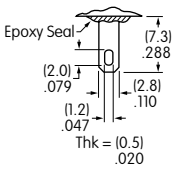
Power Level **3A @ 125/250V AC**

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

Complete explanation of operating range in Supplement section.

TERMINALS

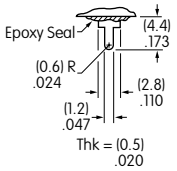
01 **Solder Lug/ .110" (2.8mm) Quick Connect**



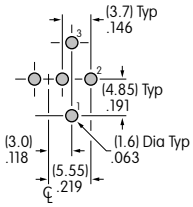
Wiring

The .047" x .079" (1.2mm x 2mm) oblong hole accommodates one solid 18-gauge wire or two solid or stranded 20-gauge wires.

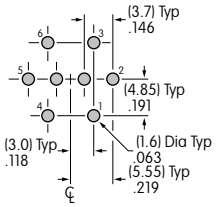
03 **Straight PC**



Single Pole



DoublePole



INCANDESCENT LAMP & SOLID CAP

Electrical specifications are determined at a basic temperature of 25°C. Lamp circuit is independent of switch operation.
For dimension drawing of lamp see the Accessories & Hardware section.

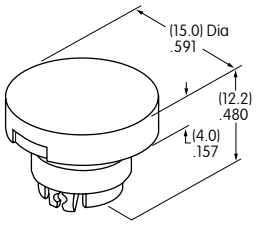
AT611		**05**	**12**
	Voltage V	5V AC	12V AC
	Current I	115mA	60mA
	MSCP	.150	.150
	Endurance Hours	7,000 average	
T-1 Bi-pin	Ambient Temperature Range	−25°C ~ +50°C	

Solid Cap for Incandescent Lamp

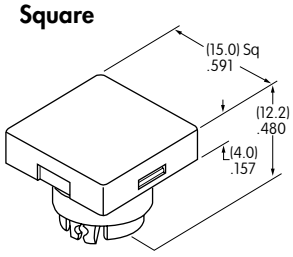
Lens/Insert Colors Available:

- **BB** White/ White
- **CB** Red/ White
- **EB** Yellow/ White
- **FB** Green/ White
- **GB** Blue/ White

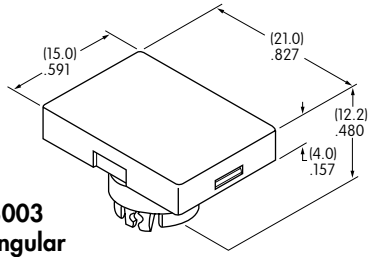
AT3002 Round

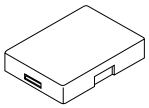


AT3001 Square

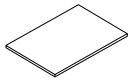


AT3003 Rectangular

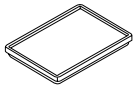




Translucent Colored Lens



Translucent White Insert



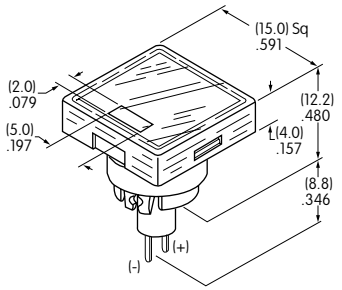
Translucent White Seal/Filter

Incandescent Lamp AT611

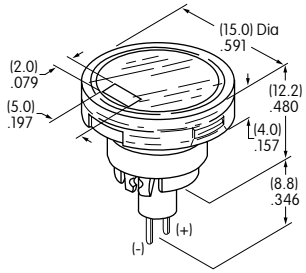
Materials: Polycarbonate (Lens & Insert)
Thermoplastic Elastomer (Seal/Filter)

SPOT ILLUMINATED CAP WITH BUILT-IN LED

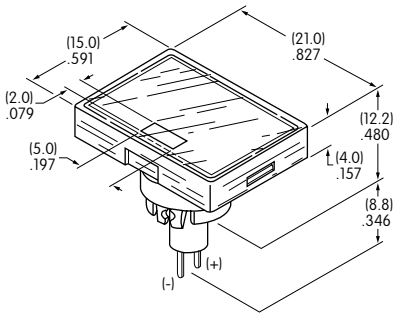
This spot-illuminated cap is factory assembled.



AT3010
Square



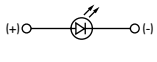
AT3011
Round



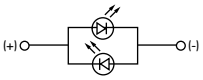
AT3012
Rectangular

Colors Available: 1C Red, 1D Amber, 1F Green, 1CF Red/Green		02 w/o Resistor	05 w/Resistor	12 w/Resistor	24 w/Resistor	Unit
Forward Peak Current	I_{FM}	20	15	15	12	mA
Continuous Forward Current	I_F	15	12.5	12.5	10	mA
Forward Voltage	V_F	2.1	5	12	24	V
Reverse Peak Voltage (not applicable to bicolor)	V_{RM}	5	5	5	5	V
Current Reduction Rate Above 25°C	ΔI_F	0.27	----	----	----	mA/°C
Ambient Temperature Range		−25 ~ +50				°C

Without Resistor 2-volt

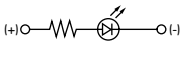


Single Color

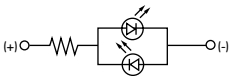


Bicolor

With Resistor 5, 12, 24-volt



Single Color

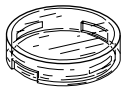


Bicolor

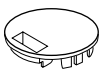
The electrical specifications shown are determined at a basic temperature of 25°C. LED circuit is isolated and requires external power source. Single color LEDs are colored in OFF state. Bicolor LED is translucent white in OFF state.
If the source voltage exceeds the rated voltage, a ballast resistor is required.
The resistor value can be calculated by using the formula in the Supplement section.

Lens/Insert Colors Available:

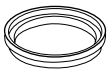
- JA **Clear/Black**
- JB **Clear/White**
- JC **Clear/Red**
- JE **Clear/Yellow**
- JF **Clear/Green**



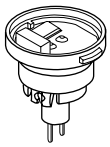
Clear Lens



Colored Insert



Seal



Built-in LED (integral part of the cap)

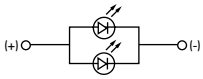
Example part number when cap is ordered separate from switch:
AT30101F02JA
for a
Square Spot Illuminated Cap
with Green 2-volt LED without resistor
Clear Lens and Black Insert

Materials: Polycarbonate (Lens & Insert) and Thermoplastic Elastomer (Seal)

BRIGHT LED & LED CAPS

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

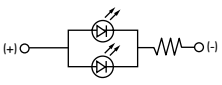
Electrical Specifications for Bright LED without Resistor

Bright AT628	**Colors Available:** 5C Red, 5D Amber, 5F Green		No Code No Resistor			Unit
	Forward Peak Current	I_{FM}	40	40	40	mA
	Continuous Forward Current	I_F	26	26	26	mA
	Forward Voltage	V_F	1.9	2.0	2.2	V
	Reverse Peak Voltage	V_{RM}	4	4	4	V
	Current Reduction Rate Above 25°C	ΔI_F	0.50			mA/°C
T-1 Bi-pin	Ambient Temperature Range		−25 ~ +50			°C

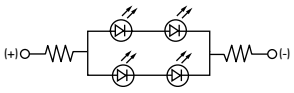
Electrical Specifications for Bright LED with Resistor

Bright AT634	**Colors Available:** 5C Red, 5D Amber, 5F Green		05	12	24	Unit
	Forward Peak Current	I_{FM}	—	—	—	mA
	Continuous Forward Current	I_F	25	20	10	mA
	Forward Voltage	V_F	5	12	24	V
	Reverse Peak Voltage	V_{RM}	4	8	16	V
	Current Reduction Rate Above 25°C	ΔI_F	—	—	—	mA/°C
T-1¼ Bi-pin	Ambient Temperature Range		−25 ~ +50			°C

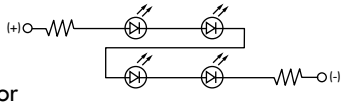
AT634 5-volt, 2-element with Resistor



AT634 12-volt, 4-element with Resistor



AT634 24-volt, 4-element with Resistor

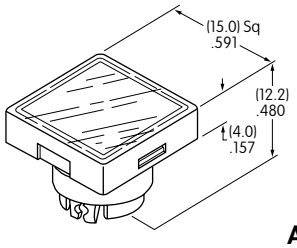


Cap for Bright LED

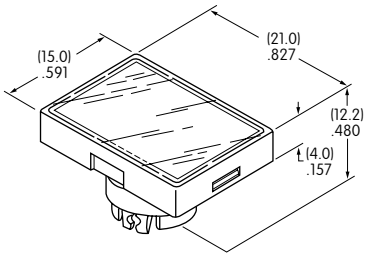
Lens/Insert Colors Available:

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

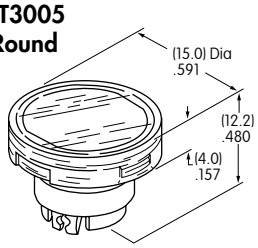
AT3004 Square

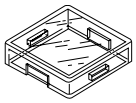


AT3006 Rectangular

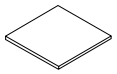


AT3005 Round

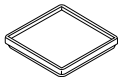




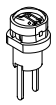
Transparent Clear Lens



Translucent Colored Insert



Translucent White Seal/Diffuser



Bright LEDs
AT628 AT634

Materials: Polycarbonate (Lens & Insert)
Thermoplastic Elastomer (Seal/Diffuser)