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: Glass fiber reinforced polyamide (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

-25°C through +50°C (-13°F through +122°F) for Illuminated **Operating Temperature Range:**

-25°C through +70°C (-13°F through +158°F) for Nonilluminated

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

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

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

Sealing: IP65 of IEC60529 standard for panel seal models

Installation

Mounting Torque: 0.785Nm (6.95 lb•in) maximum

Quick Connect Force: 24.5N 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 solder lug models recognized at 3A @ 125/250V 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 solder lug models certified at 3A @ 125/250V AC or 0.4VA @ 28V AC/DC maximum.



Rockers

Keylocks Programmable Illuminated PB Pushbuttons

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.

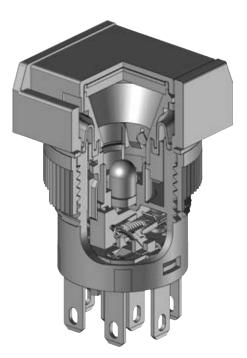
Distinctive design of snap-action contacts for shock resistance, long life, and sensitive actuation.

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

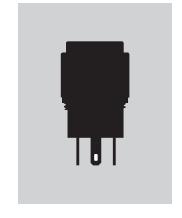
Terminals are epoxy sealed to lock out flux, dust, solvents, and other contaminants.

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

Matching indicators available.

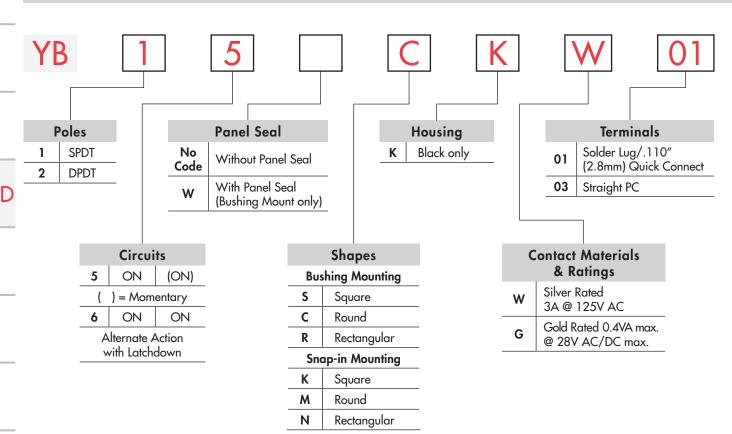








TYPICAL SWITCH



IMPORTANT:



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

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

YB15CKW01-6F-JB







24

24-volt

Slides Ė Touch Supplement Accessories Indicators

	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+ Lamp circuit is isolated and requires external power source.				
SP	YB15 *YB16	ON ON	(ON) ON	1-3	1-2	SPDT	1 (COM) L (+) • • • (-) (L		
DP	YB25 *YB26	ON ON	(ON) ON	1-3 4-6	1-2 4-5	DPDT	3 • 2 6 • 5 L(+) • • (-) l	L		

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

PANEL SEAL

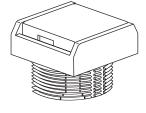


Without Panel Seal

Bushing Mounting

Supplied with

mounting nut.

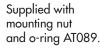


Snap-in Mounting



With Panel Seal

Bushing Mounting only



SHAPES & MOUNTING TYPES

Bushing Mounting





Rectangular



Square

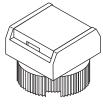


Round

Snap-in Mounting

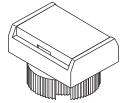


Rectangular

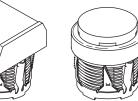


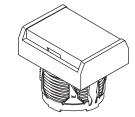
Square











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

HOUSING

Black

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

CONTACT MATERIALS & RATINGS

Silver Contacts

Power Level 3A @ 125/250V AC

Gold Contacts

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

Complete explanation of operating range in Supplement section.



Logic Level

Supplement | Accessories

TERMINALS

01

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

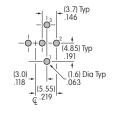


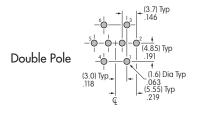
03

Straight PC



Single Pole





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	٧	5V AC	12V AC		
	Current	I	115mA	60mA		
П	MSCP		.150	.150		
T-1 Bi-pin	Endurance Hours		7,000 average			
	Ambient Temperature Range		−25°C ~ +50°C			

No Code

No Lamp

Solid Cap for Incandescent Lamp & Nonilluminated

Lens/Insert **Colors Available:**

BB

White/White

CB

Red/White

EB

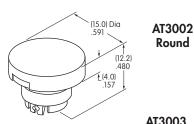
Yellow/White



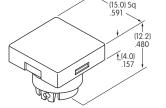
Green/White

GB

Blue/White



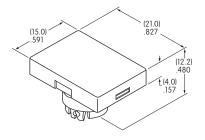
AT3003 Rectangular



AT3001

Square

Materials:



Lens & Insert: Polycarbonate Seal/Filter: Thermoplastic Elastomer



Translucent Colored Lens



Translucent White Insert



Translucent White Seal/Filter



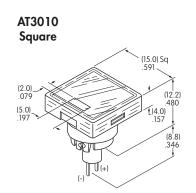
Incandescent Lamp AT611

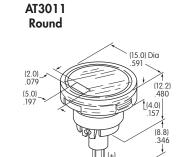


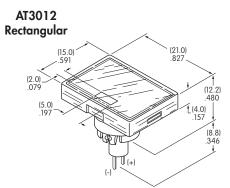
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SPOT ILLUMINATED CAP WITH BUILT-IN LED

This spot-illuminated cap is factory assembled.

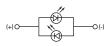


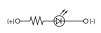


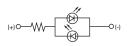


	Colors A	02	OF	10	24			
1C Red	1D Amber	1F Green	1CF Red/Green	Without Resistor	With Resistor	With Resistor	With Resistor	Unit
Maximum F	orward Current		I _{FM}	20	15	15	12	mA
Typical Forv	ward Current		I _F	15	12.5	12.5	10	mA
Forward Vo	oltage		V _F	2.1	5	12	24	٧
Maximum Reverse Voltage (not applicable to bicolor) V _{RM}				5	5	5	5	٧
Current Rec	duction Rate Above	0.27				mA/°C		
Ambient Te	mperature Range		-25 <i>-</i>	~ + 50		°C		

Without Resistor 2-volt







Bicolor

Single Color

Bicolor

Single Color

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.

With Resistor 5, 12, 24-volt

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:**



Clear/Black



Clear/White



Clear/Red



Clear/Yellow



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:

AT3010F02JA

for a

Square Spot Illuminated Cap with Green 2-volt LED without resistor Clear Lens and Black Insert

Materials:

Lens & Insert: Polycarbonate Seal: Thermoplastic Elastomer



BRIGHT LED & LED CAPS

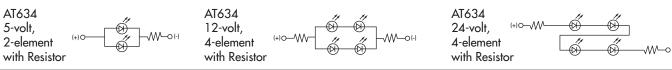
The electrical specifications shown are determined at a basic temperature of 25°C. LED circuit is isolated and requires external power source. If the source voltage exceeds the rated voltage, a ballast resistor is required. The resistor value can be calculated by using the formula in the Supplement section.

Electrical Specifications for Bright LED without Resistor

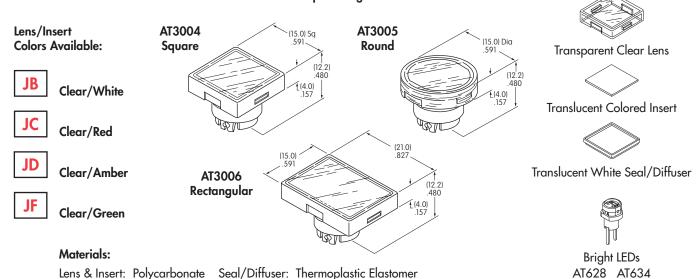
Bright AT628	Colors Available: 5C Red 5D Amber	5F Green	No Co	ode No Re	esistor	Unit
		LED Colors	Red	Amber	Green	
8	Maximum Forward Current	I _{FM}	40	40	40	mA
10	Typical Forward Current	I _F	26	26	26	mA
	Forward Voltage	V _F	1.9	2.0	2.0	٧
(+) (-)	Maximum Reverse Voltage	V_{RM}	4	4	4	٧
	Current Reduction Rate Above 25°C	$\Delta I_{_{\rm F}}$		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	
	Maximum Forward Current	I _{FM}	_	_	_	mA	_
8	Typical Forward Current		25	20	10	mA	_
T.	Forward Voltage	V _F	5	12	24	٧	_
1.	Maximum Reverse Voltage	$V_{_{RM}}$	4	8	16	٧	_
	Current Reduction Rate Above 25°C $\Delta I_{_{\rm F}}$					mA/°C	_
T-11/4 Bi-pin	Ambient Temperature Range			−25 ~ +50		°C	_



Cap for Bright LED



Supplement Accessories

SUPER 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 Super Bright LED

Super Bright AT625G Blue AT631B White AT632F Green

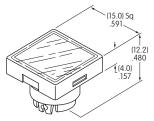


T-1 Bi-pin

ATTENTION ELECTROSTATIC SENSITIVE DEVICES (+)0 (+)0 (+)0 (-)		6B	6F	6G	
SENORIVE BEVICES	Colors:	White	Green	Blue	Unit
Maximum Forward Current	I _{FM}	30	30	30	mA
Typical Forward Current	I _F	20	20	20	mA
Forward Voltage	V _F	3.3	3.3	3.3	٧
Maximum Reverse Voltage	$V_{_{RM}}$	7	7	7	٧
Current Reduction Rate Above 25°C	$\Delta I_{_{\rm F}}$	0.40	0.40	0.40	mA/°C
Ambient Temperature Range			-25 ~ +50		°C

Cap for Super Bright LED

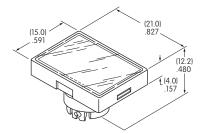
AT3014 Square



AT3015 Round



AT3016 Rectangular





Transparent Clear Lens



Translucent White Insert



Translucent White Seal/Diffuser



Super Bright LEDs AT625 AT631 AT632

Lens/Insert **Colors Available:**



Clear/White

Materials:

Lens & Insert: Polycarbonate Seal/Diffuser: Thermoplastic Elastomer



BICOLOR 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 Bicolor LED

Bicolor AT621

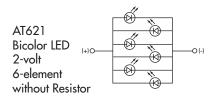


Red/Green

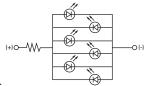


T-11/2 Bi-pin

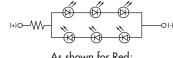
Bicolor LED is translucent white in OFF	02	05	12	24	Unit	
Maximum Forward Current	I _{FM}	60	60	20	12	mA
Typical Forward Current	I _F	45	45	15	10	mA
Forward Voltage (Red/Green)	V _F	1.9 / 2.1	5	12	24	٧
Current Reduction Rate Above 25°C	ΔI_{F}	0.80				mA/°C
Ambient Temperature Range		−25 ~	+50		°C	







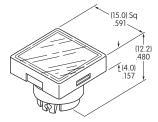
AT621 **Bicolor LED** 12 & 24-volt 6-element with Resistor



As shown for Red; Reverse polarity for Green

LED Caps

AT3004 Square

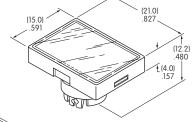


Clear/White

AT3005 Round



AT3006 Rectangular





Transparent Clear Lens



Transparent White Insert



Translucent White Seal/Diffuser



Materials:

Lens/Insert **Colors Available:**

Lens & Insert: Polycarbonate Seal/Diffuser: Thermoplastic Elastomer

Bicolor LED AT621



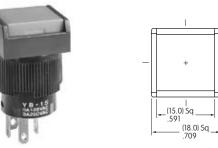
Square • Bushing Mounting

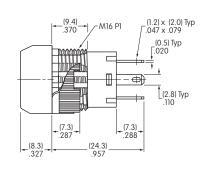
Rotaries

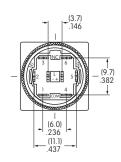
Keylocks Programmable Illuminated PB Pushbuttons

TYPICAL SWITCH DIMENSIONS

Single & Double Pole







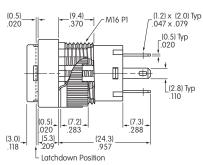
YB15SKW01-12-CB

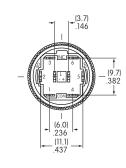
Single pole models do not have terminals 4, 5, & 6.

Round • Panel Seal









YB26WCKW01-12-EB

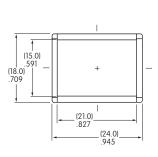
Single pole models do not have terminals 4, 5, & 6.

Rectangular • Snap-in Mounting

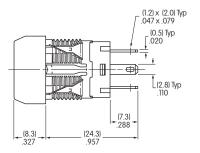


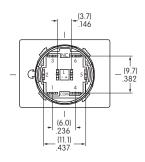
Single & Double Pole





(18.0) Dia .709





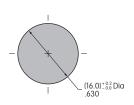
YB15NKW01-5C-JC

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

PANEL THICKNESS & CUTOUTS

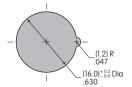
Bushing & Panel Seal Mount

Panel Thickness .020" ~ .197" $(0.5 mm \sim 5.0 mm)$



Snap-in Mount

Panel Thickness .039" ~ .138" $(1.0 \text{mm} \sim 3.5 \text{mm})$





OPTIONAL ACCESSORIES

Dust Covers and Protective Guards reduce depth of switch behind panel by .047" (1.2mm).

Panel Thickness Range with Dust Cover or Protective Guards:

Bushing Mounting .020" ~ .150" (0.5mm ~ 3.8mm)

Snap-in Mounting .020" ~ .091" (0.5mm ~ 2.3mm)

Panel Seal .020" ~ .118" (0.5mm ~ 3.0mm)

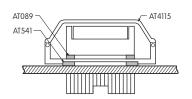
Dust/Splash Cover

AT4115 Dust Cover for Snap-in or

Bushing Mount

AT4115 AT4115 Splash Cover and AT541 O-ring for Bushing Mount

Splash Cover



Panel Seal

AT4115

Materials: Lid: Polyvinyl Chloride Base: Polyamide

O-ring: Nitrile butadiene rubber

Snap-in Mount

Dust Cover

Note: AT089 o-ring supplied with panel seal model.

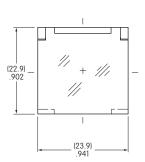


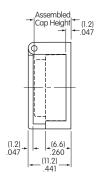
AT4072 Protective Guard

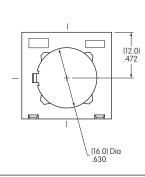
Opens 90° Closes manually



Protective Guard



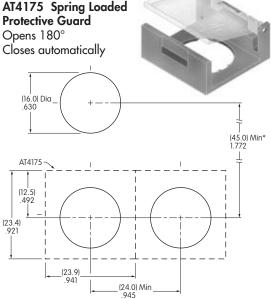


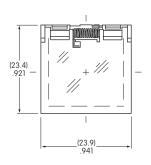


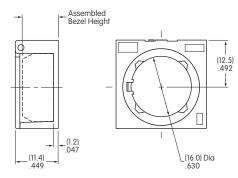
Materials:

Lid: Polycarbonate Base: Glass Fiber Reinforced Polycarbonate

Spring Loaded Protective Guard





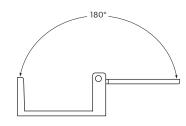


Materials:

Lid: Polycarbonate

Base: Glass Fiber Reinforced Polyamide

Coil Spring: Stainless Steel



* Minimum dimension allows opening of cover to 180°

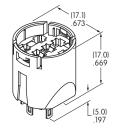
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Supplement Accessories

OPTIONAL ACCESSORIES

NEW AT716 **Single Pole**

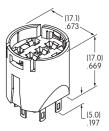
Solder Lug/ **Quick Connect Terminals**

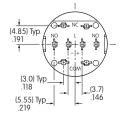


AT717

Adaptors

Double Pole Solder Lug/ **Quick Connect Terminals**

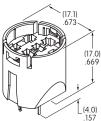




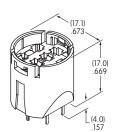
NEW

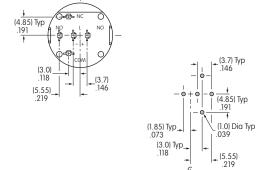
(4.85) Typ .191

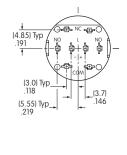
NEW AT718 **Single Pole** Straight PC **Terminals**

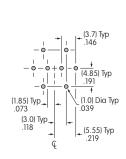












Material: Glass fiber reinforced polyamide

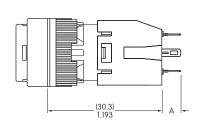
Note: Order adaptors separately

Switch Dimensions Shown with Adaptor AT716

Dimension A: Solder Lug .197" (5.0mm); Straight PC .157" (4.0mm)

Panel thickness for YB Bushing Mount:

.020" ~ .197" (0.5mm ~ 5.0mm)

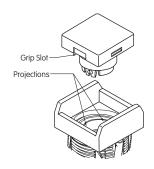


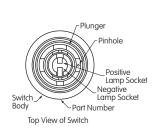


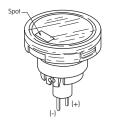
ASSEMBLY INSTRUCTIONS

Cap Assembly

LED Polarity & Orientation in Lamp Socket











ATTENTION
ELECTROSTATIC
SENSITIVE DEVICES



Spot Illuminated Cap with Built-in LED LED AT628 AT634 LEDs AT625G AT631B AT632F LED AT621

The following installation tools are available: AT106 Socket Wrench for bushing mounting (Overtightening the mounting nut AT092 may damage the switch housing.); AT109 Cap Extractor; AT111 Lamping Tool.

Further details and dimensions are shown in the Accessories and Hardware section.

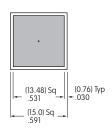
LEGENDS

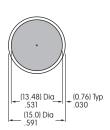
NKK Switches can provide custom legends for caps. Contact factory for more information.

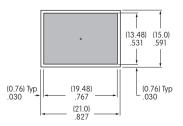
Suggested Printable Area for YB Lens

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





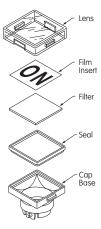


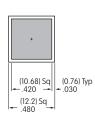


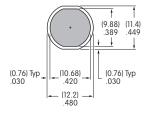
Shaded areas are printable areas.

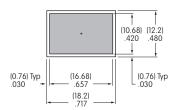
Suggested Printable Area for Film Insert

Recommended Print Method: Laser Print Film Insert: Clear Polyester, 4 mil max. thickness









Shaded areas are printable areas.



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