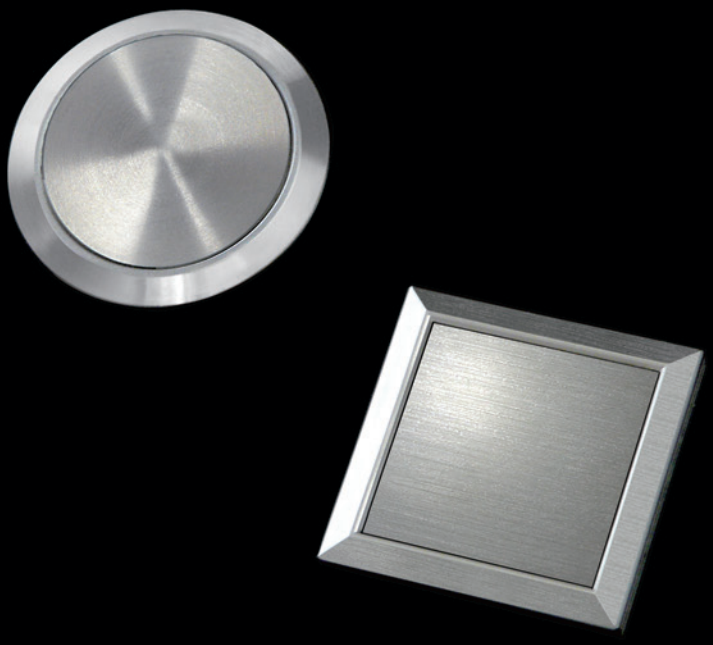
Contact No. 208

# New Brushed Chrome Cap and Bezel

## Thin Flush Mount Pushbuttons
## YB2 Panel Seal



2012-09-18

NKK SWITCHES

# 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)

## 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: 1.5N
Double pole: 3.0N
**Contact Timing:** Nonshorting (break-before-make)
**Travel:** Pretravel .059" (1.5mm); Overtravel .059" (1.5mm); Total Travel .118" (3.0mm)
.098" (2.5mm) in Latchdown Position

## Materials & Finishes

**Bezel:** Black: Glass fiber reinforced polyamide (UL94V-0); Silver: Polycarbonate
**Housing:** Glass fiber reinforced polyamide (UL94V-0)
**Base:** Diallyl phthalate resin (UL94V-0)
**Movable Contactor:** Phosphor bronze with silver or gold plating
**Movable Contacts:** Phosphor bronze & silver alloy
**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 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
**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/s$^2$) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)
**Sealing:** IP65 of IEC60529 standard

## Installation

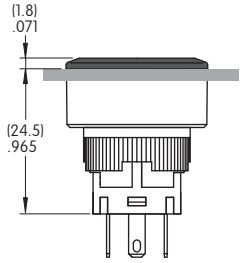
**Mounting Torque:** 0.785Nm (6.95 lb•in) maximum
**Soldering Time & Temperature:** Manual Soldering: 390°C maximum for 4 seconds maximum

## Standards & Certifications

**Flammability Standards:** UL94V-0 housing, base & black or metallic silver bezel
**UL:** File No. E44145
All solder lug models recognized at 3A @ 125/250V AC or 0.4VA @ 28V AC/DC maximum.
Add "/CUL" to end of part number to order cULus mark on switch.

# Distinctive Characteristics

- High quality brushed chrome cap and bezel options.
- Improved weather durability against ultaviolet rays.
- Meets IP65 of IEC60529 standards (similar to NEMA 4 and 13), providing dust tight and splashproof panel seal protection.
- Short body of .965" (24.5mm) conserves behind-panel space.
- Tamper resistant 19mm diameter actuator and 18mm square actuator.
- Shortest above-panel dimension (1.8mm) in the industry for splashproof design making panel flat and preventing operator error.
- Light weight compared to actual metal switches due to metal plating on resin.
- Distinctive long stroke and light touch actuation for smooth actuation and clear indication of circuit status.
- Choice of cap colors includes clear, red, green, amber, or brushed chrome for enhanced panel appearance.
- Metallic silver cap option has bright ring illumination (round only).
- Bezel color options in brushed chrome or black.
- Available in momentary and alternate action with latchdown.
- Crisp actuation and clear circuit status provided by snap-action contact mechanism. Arc barrier protects against crossover.
- Combination solder lug and .110" quick connect terminals. Terminals are epoxy sealed to lock out flux, dust, solvents, and other contaminants, as well as to secure terminals and improve contact stability.



Brushed Chrome Bezel + Brushed Chrome Cap

Brushed Chrome Bezel + Ring Illuminated Metallic Silver Cap

Brushed Chrome Bezel + Illuminated Cap

Brushed Chrome Bezel + Brushed Chrome Plated Cap

Brushed Chrome Bezel + Illuminated Cap

# Series YB2

NEW → Brushed Chrome Cap and Bezel

## TYPICAL SWITCH

| YB2 | 1 | 6 | C | W | S | P | W | 01 |
|---|---|---|---|---|---|---|---|---|

### Poles

| | |
|---|---|
| 1 | SPDT |
| 2 | DPDT |

### Contact Point

| | |
|---|---|
| C | Normally Open and Normally Closed |

### Shape

| | |
|---|---|
| C | Round |
| S | Square |

### Terminals

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

### Circuits

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

### Panel Seal

| | |
|---|---|
| W | With Panel Seal |

### Bezel

| | |
|---|---|
| K | Black |
| P | Brushed Chrome |
| S | Metallic Silver |

Note: Metallic Silver (S) will be discontinued on March 22, 2013.

### Contact Materials & Ratings

| | |
|---|---|
| W | Silver Rated 3A @ 125V AC |
| G | Gold Rated 0.4VA maximum @ 28V AC/DC maximum |

### IMPORTANT:

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

* Wire harness & cable assemblies offered only in Americas

**DESCRIPTION FOR TYPICAL ORDERING EXAMPLE**

**YB216CWSPW01-N-P**

## ORDERING EXAMPLE

— N — P

### LEDS

**Bright LED**

| LED Colors | | Resistor | |
|---|---|---|---|
| 5C | Red | No Code | No Resistor (not for Green) |
| 5D | Amber | 05 | 5-volt |
| 5F | Green | 12 | 12-volt |
| | | 24 | 24-volt |

**Super Bright LED**

| | |
|---|---|
| 6B | White |
| 6F | Green |
| 6G | Blue |

**Nonilluminated**

| | |
|---|---|
| N | No Lamp |

### Cap Types & Colors

**Lens/Diffuser Colors**

| | |
|---|---|
| JB | Clear/White |
| JS | Metallic Silver Cap/Clear Ring (round only) |
| CB | Red/White |
| EB | Yellow/White |
| FB | Green/White |

LED & cap need to be the same color. Yellow cap pairs with amber LED to achieve amber illumination. Codes JB & JS (round only) may be combined with all LED colors.

**Lens/Diffuser Cap Colors**

| | |
|---|---|
| JB | Clear/White |
| JS | Metallic Silver Cap/Clear Ring (round only) |

**Cap Color**

| | |
|---|---|
| JB | Clear/White |
| CB | Red/White |
| EB | Yellow/White |
| FB | Green/White |
| P | Brushed Chrome |
| S | Metallic Silver |

Note: Metallic Silver (S) will be discontinued on March 22, 013.

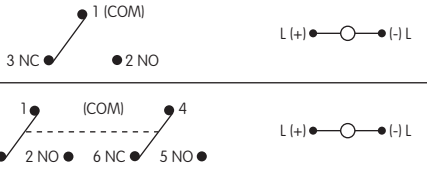
# Series YB2

NEW → Brushed Chrome Cap and Bezel

## POLES & CIRCUITS

| Pole | Model | Plunger Position ( ) = Momentary: Normal | Plunger Position ( ) = Momentary: Down | Connected Terminals: Normal | Connected Terminals: Down | Throw & Switch/Lamp Schematics |
|---|---|---|---|---|---|---|
| SP | **YB215**<br>**YB216** | ON<br>ON | (ON)<br>ON | 1-3 | 1-2 | SPDT |
| DP | **YB225**<br>**YB226** | ON<br>ON | (ON)<br>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 an external power source.




## CONTACT POINT

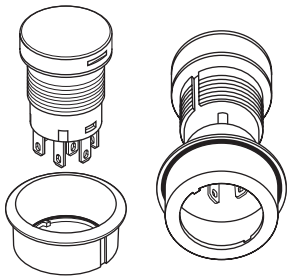
**C** **Normally Open and Normally Closed**

Contact points are both Normally Open and Normally Closed.

## PANEL SEAL

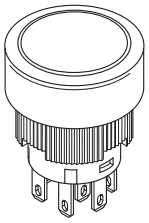
**W** **Panel Seal (round and square)**

Two o-rings provide panel seal protection meeting IP65 of IEC60529 standards.

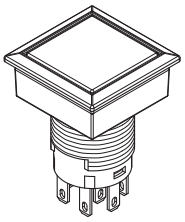


## SHAPE

**C** **Round**



**S** **Square**

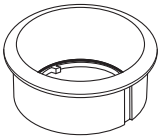


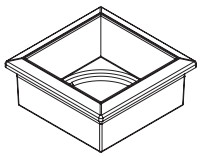
## BEZEL

**K** **Black**

**P** **Brushed Chrome**

**S** **Metallic Silver**





## CONTACT MATERIALS & RATINGS

**W** **Silver Contacts**

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

Switch base is green

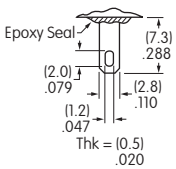
**G** **Gold Contacts**

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

Switch base is red

## TERMINALS

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

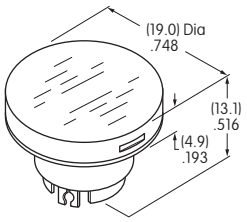


## CAPS & CAP COLORS

### AT3017 Cap for Bright LED

**Lens/Diffuser Colors Available:**

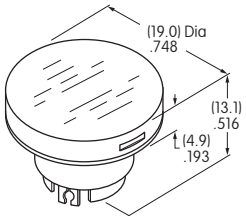
- **JB** Clear/White
- **CB** Red/White
- **EB** *Yellow/White
- **FB** Green/White




### AT3018 Cap for Super Bright LED

**Lens/Diffuser Colors Available:**

- **JB** Clear/White



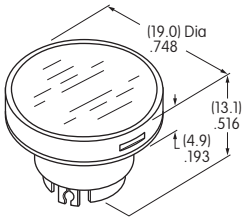

Material for Lens & Diffuser: Polycarbonate

### AT3019 Cap for Nonilluminated

**Cap Color Available:**

- **P** Brushed Chrome
- **S** Metallic Silver

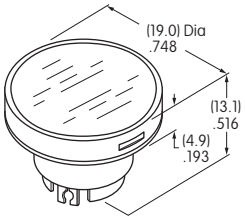
Note: AT3017 Cap can also be used without illumination.




### AT3020 Cap with Illumination Ring for Bright or Super Bright LED

**Cap Color Available:**

- **JS** Metallic Silver with Clear Ring




Materials
Lens: Polycarbonate
Insert: Polyester

*Yellow cap pairs with amber LED to achieve amber illumination.

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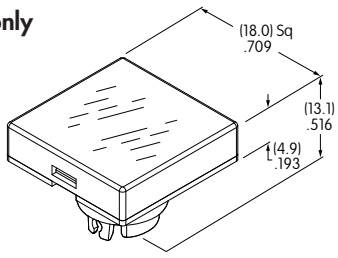
### AT3025 Cap for Illuminated

**Lens/Diffuser Colors Available:**

- **JB** Clear/White For Bright & Superbright LEDs
- **CB** Red/White For Bright LED only
- **EB** *Yellow/White For Bright LED only
- **FB** Green/White For Bright LED only

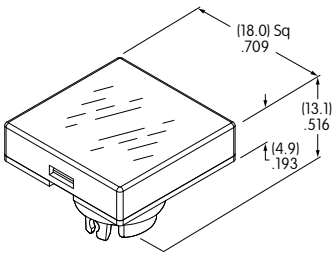



### AT3027 Cap for Nonilluminated

**Cap Color Available:**

- **P** Brushed Chrome
- **S** Metallic Silver

Note: AT3025 Cap can also be used without illumination.



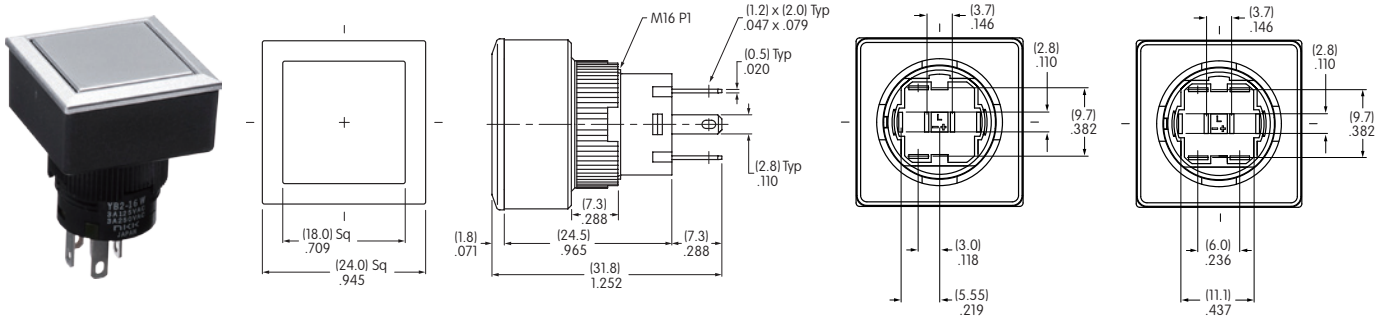

Material for Lens & Diffuser: Polycarbonate

*Yellow cap pairs with amber LED to achieve amber illumination.

# Series YB2

NEW → Brushed Chrome Cap and Bezel

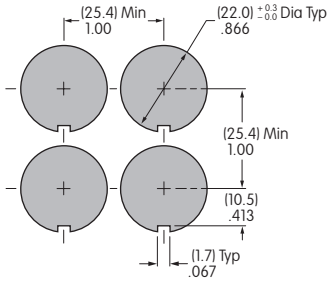
## TYPICAL SWITCH DIMENSIONS




YB216CWSPW01-N-P

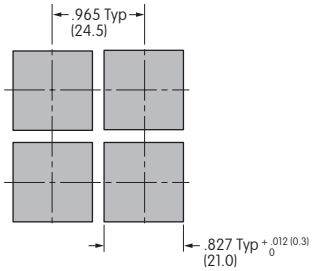
## PANEL THICKNESS & CUTOUT

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




Side-by-side Mounting

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




Side-by-side Mounting

**Availability**
October 22, 2012


NKK SWITCHES

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LifeElectronics
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