# **Change Notice**

### Change to Super Bright White LED Specifications for HB Illuminated Pushbuttons

Type of Change:

- 🗹 Engineering 🛛 Part Number
- Product Appearance

The HB Illuminated Pushbuttons will have a change to the specifications for Super Bright White LEDs. The change will effect all illuminated switches and indicators with AT629B, both standard and custom. The specification changes are outlined below, followed by effected standard part numbers.



HB Illuminated Pushbuttons

 $E - V_F$ 

I<sub>F</sub>

R = Resistor Value (Ohms)

V<sub>F</sub> = Forward Voltage (V)

= Forward Current (A)

E =Source Voltage (V)

Anode

Cathode

Where.

Electrical Specifications for AT629B LED						
Super Bright White					Before Change	After Change
AT629B	Single element LED is colored in OFF state.				6B	<b>6</b> B
	Maximum Forward Current			FM	30mA	30mA
21	Typical Forward	Current		F	20mA	20mA
T-1 Bi-pin	Forward Voltage			V <sub>F</sub>	3.6V	3.3V
L (+) V <sub>F</sub> L (-)	Maximum Reverse Voltage			V <sub>RM</sub>	5	7
	Current Reduction Rate Above 25°C			ΔI <sub>F</sub>	0.50 mA/°C	0.40 mA/°C
	Ambient Temperature Range			–25 ~ +50 °C	–25 ~ +50 °C	
Super Bright LED AT629B Change to Dimensions		Before Change	(3.1) .122 (5.4) .213 .213 .126		After Change	(3.1) 122 (5.0) 197 (3.2) 126
			.120			.120

- The LED circuit is isolated and requires an 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 shown here.
- The changes to LED specifications do not effect any external dimensions of the switches.



Contact the factory if further details are needed.

### Part Numbers Effected by AT629B LED Change

Swit	Indicators		
HB15SKW01-6B-JB	HB16SKW01-6B-JB	HB01KW01-6B-JB	
HB15CKW01-6B-JB	HB16CKW01-6B-JB	HB02KW01-6B-JB	

### **Effective Date**

Changes to HB Pushbuttons with AT629B Super Bright White LEDs will be effective April, 2016.



http://www.nkkswitches.com • 1.877.2BUYNKK (228.9655)

7850 East Gelding Drive • Scottsdale, AZ 85260 • Telephone 480.991.0942 • Fax 480.998.1435

## **Change Notice**

## Change to Super Bright White LED Specifications for TL Illuminated Toggles

The TL Illuminated Toggles will have a change to the specifications for Super Bright White LEDs. The change will effect all illuminated models with the 6B super bright code, both standard and custom. The specification changes are outlined below, followed by effected standard part numbers.

Type of Change: ☑ Engineering

Part Number

Product M Appearance

TL Illuminated Toggle

Electrical Specifications for Super Bright White LED							
	Electrical specifications are determined at a basic		Clear Toggle				
temperature of 25°C. Lamp circuit is independent of switch operation.		Before Change	After Change				
Super Bright White AT629B	LED Factory Assembled – Not Available Separately		<u>6</u> B	6 <b>B</b>			
	Maximum Forward Current	I <sub>FM</sub>	30mA	30mA			
	Typical Forward Current	I <sub>F</sub>	20mA	20mA			
L (+) 0 L (-)	Forward Voltage	$V_{F}$	3.6V	3.3V			
	Maximum Reverse Voltage	V <sub>RM</sub>	5	7			
	Current Reduction Rate Above 25°C	$\Delta I_{F}$	0.50 mA/°C	0.40 mA/°C			
	Ambient Temperature Range		–10°C ~ +55°C	–10°C ~ +55°C			

#### Notes

- The LED circuit is isolated and requires an 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 shown here.
- The changes to LED specifications do not effect any external dimensions of the switches.



 $R = \frac{1}{I_{F}}$ Where: R = Resistor Value (Ohms) E = Source Voltage (V) V\_{F} = Forward Voltage (V) I\_{F} = Forward Current (A)

- No changes to the Green (6F) or Blue (6G) Super Bright LEDs.
- Contact the factory if further details are needed.

### Part Numbers Effected by Change to Super Bright White LED

TL22DNAW016B TL22SNAG016B
---------------------------

### **Effective Date**

Changes to TL Toggles with AT629B Super Bright White LEDs will be effective April 2016.