## **Change Notice**

# Change to LED Specifications for HB2 Illuminated Pushbuttons

Type of Change:

✓ Engineering✓ Part Number✓ Product✓ Appearance

The HB2 Illuminated Pushbuttons will have changes to the LED specifications for bicolors Red/Yellow and Red/Green. Also, the dimensions of the LED and the LED holder will be modified. These revisions, however, will not be visible, as they are inside the switch case. These changes will effect all models, both standard and custom. The specification changes are outlined below, followed by effected standard part numbers.



**HB2 Pushbutton** 

#### **LED COLORS & SPECIFICATIONS**

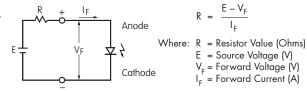
LEDs are supplied as an integral part of illuminated devices and are not available separately. The electrical specifications shown here are determined at a basic temperature of 25°C.

3 (+) Red 5 (+) 4 (-) Yellow or Green		Before Change				After Change			
		CE Bicolor Red/Yellow		CF Bicolor Red/Green		CE Bicolor Red/Yellow		CF Bicolor Red/Green	
	Color	Red	Yellow	Red	Green	Red	Yellow	Red	Green
Maximum Forward Current	I <sub>FM</sub>	*30mA	*30mA	*30mA	*30mA	*30mA	*30mA	*30mA	*25mA
Typical Forward Current	I <sub>F</sub>	20mA	20mA	20mA	20mA	20mA	20mA	20mA	20mA
Forward Voltage	V <sub>F</sub>	2.0V	2.1V	2.0V	2.1V	2.0V	2.1V	2.0V	2.25V
Maximum Reverse Voltage	$V_{RM}$	4V	4V	4V	4V	5V	5V	5V	5V
Current Reduction Rate Above 25°C	$\Delta I_{_{\rm F}}$	0.33 mA/°C	0.33 mA/°C	0.33 mA/°C	0.33 mA/°C	0.40 mA/°C	0.40 mA/°C	0.40 mA/°C	0.40 mA/°C
Ambient Temperature Range		−25°C ~ +50°C				−25°C ~ +50°C			

<sup>\*</sup> Value applies to single color illumination for either Red or Green or Red or Yellow. When both colors are illuminated simultaneously, the sum of the currents should not exceed the smallest value of the maximum forward current.

#### 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.
- There are no changes to any other specifications or external dimensions.
- · Contact the factory if further details are needed.



### PART NUMBERS EFFECTED BY CHANGES TO HB2

HB215SKG03CE-JB HB215SKG03CF-JB

#### **Effective Date**

Changes to HB2 Illuminated Pushbuttons will be effective February 2017.



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

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