

# QRM8 series

Ø8 mm rear panel mount LED indicators



## DISTINCTIVE FEATURES

- 5 mm flush diffused LED, standard, hyper bright or clear water
- Bi-color and tri-color LED options
- 200 mm wire or pin terminations



## ENVIRONMENTAL SPECIFICATIONS

- IP67 sealing option (EN60529)
- Operating Temperature Range: -40 °C to +85 °C (-40 °F to +185 °F)
- Storage Temperature Range: -55 °C to +100 °C (-67 °F to +212 °F)



## GENERAL SPECIFICATIONS

- Max Reverse Voltage: 5 V
- Viewing Angle: 60°
- Life Expectancy: 100,000 hours
- Max Panel Thickness: 3.5 mm
- Torque: 60 cNm

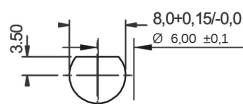
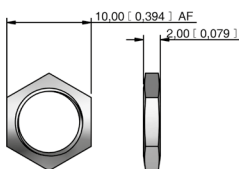


## MATERIALS

- Body: Black chrome plated brass
- Lock Washer: Spring steel
- Nut: Black chrome plated brass
- Terminal Seal: Epoxy
- Panel Seal: Nitrile O-ring
- Wires: 24 AWG to UL1061 or UL1213 on request

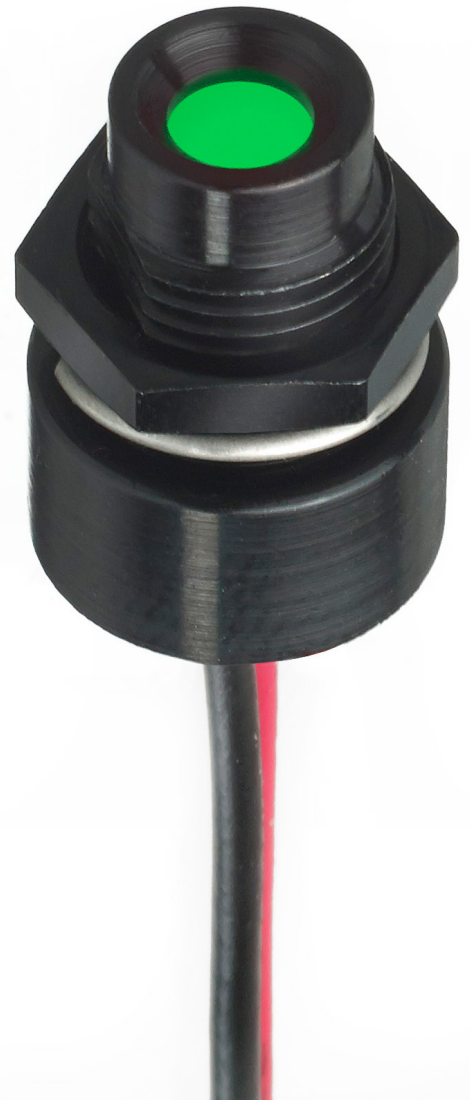


## MOUNTING



The company reserves the right to change specifications without notice.

LED characteristics are dependent upon environmental conditions. Therefore published data should be considered nominal and subject to variations.



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## ELECTRICAL SPECIFICATIONS

### STANDARD LED INTENSITY

| LED COMPONENT SPECIFICATIONS              |                           |                   |
|---|---------------------------|-------------------|
|   | MCD Output (all voltages) | Forward Voltage   |
| HE Red                                    | 8 mcd                     | 2.0 V             |
| Green                                     | 6 mcd                     | 2.2 V             |
| Yellow                                    | 6 mcd                     | 2.1 V             |
| Blue                                      | 50 mcd                    | 3.8 V             |
| White                                     | 500 mcd                   | 3.3 V             |
| Bi-color (Typical)<br>(Red/Green)         | 15/10 mcd                 | 2.0 V/2.2 V       |
| Tri-color (Typical)<br>(Red/Green/Yellow) | 15/10/6 mcd               | 2.0 V/2.2 V/2.1 V |

Bi-color - The color is changed by reversing the polarity of the supply voltage.  
Tri-color - The indicator has red and green LEDs, when both connected yellow is produced.

### SUPER BRIGHT LED INTENSITY

| LED COMPONENT SPECIFICATIONS |                           |                 |
|------------------------------|---------------------------|-----------------|
|                              | MCD Output (all voltages) | Forward Voltage |
| HE Red                       | 1,300 mcd                 | 2.2 V           |
| Green                        | 1,200 mcd                 | 3.3 V           |
| Yellow                       | 350 mcd                   | 2.0 V           |
| Blue                         | 280 mcd                   | 3.3 V           |
| White                        | 950 mcd                   | 3.3 V           |
| Orange                       | 500 mcd                   | 2.2 V           |

### HYPER BRIGHT LED INTENSITY

| LED COMPONENT SPECIFICATIONS |                           |                 |
|------------------------------|---------------------------|-----------------|
|                              | MCD Output (all voltages) | Forward Voltage |
| HE Red                       | 980 mcd                   | 2.2 V           |
| Green                        | 300 mcd                   | 3.3 V           |
| Yellow                       | 250 mcd                   | 2.0 V           |

- The operating voltage must not be exceeded by more than 10% as this will result in reduced life expectancy
- Luminous intensity is measured at 20 mA on a discrete led unless otherwise stated.
- Luminous intensities and color shades of white LEDs may vary within a batch.
- Luminous intensity will be reduced with lower operating current.

| Voltage          | Operating Voltage | Operating Current   |
|------------------|-------------------|---------------------|
|                  | (Min to Max)      | (Typical All Types) |
| 02 (No Resistor) | 1.8 to 3.8 VDC    | 20 mA max           |
| 6 VDC            | 5.4 to 6.6 VDC    | 20 mA               |
| 12 VDC           | 10.8 to 13.2 VDC  | 20 mA               |
| 24 VDC           | 21.6 to 26.4 VDC  | 20 mA               |
| 28 VDC           | 25.2 to 30.8 VDC  | 20 mA               |

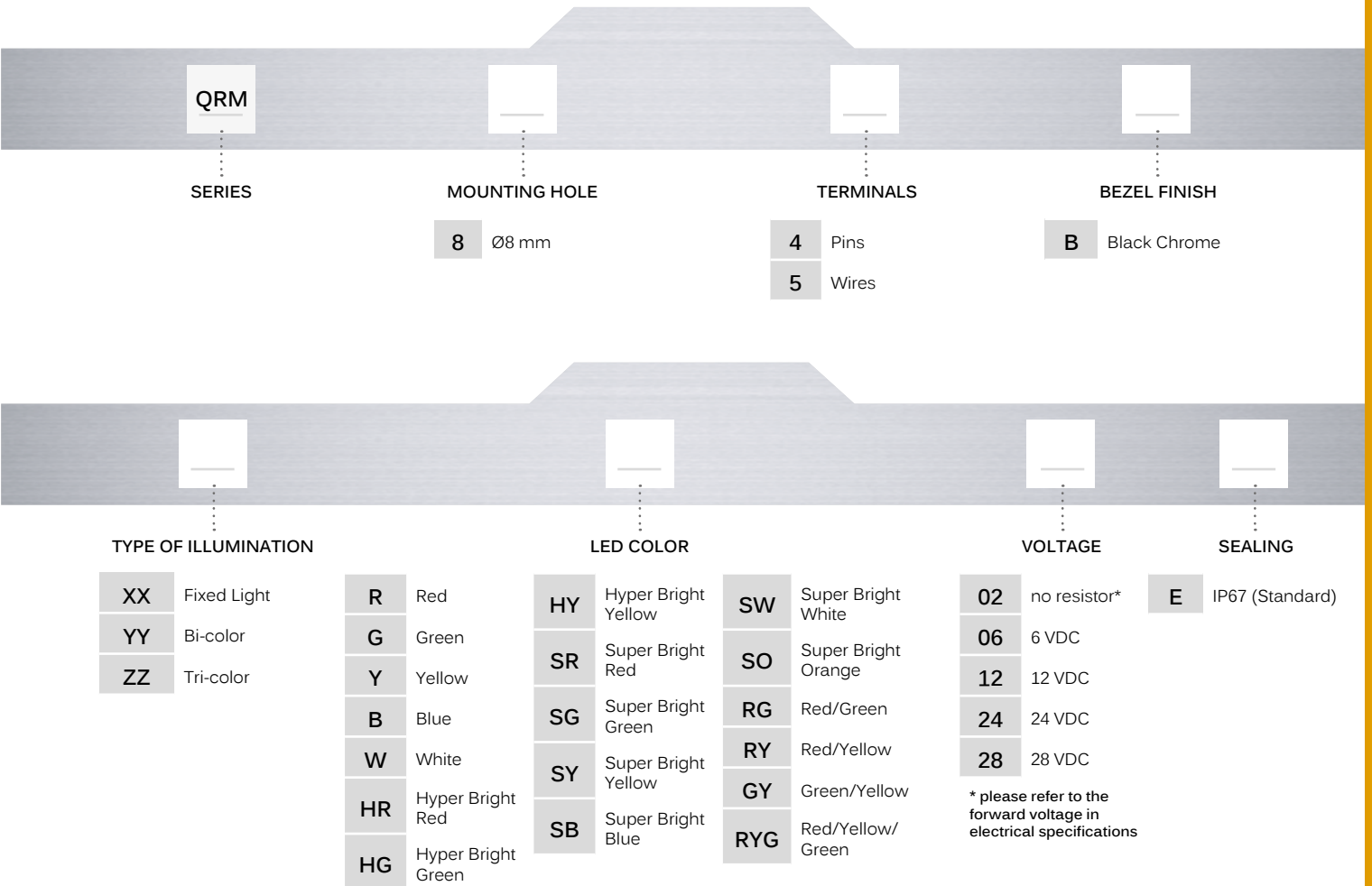
\* Customer to supply resistor for desired operating current.

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## BUILD YOUR PART NUMBER



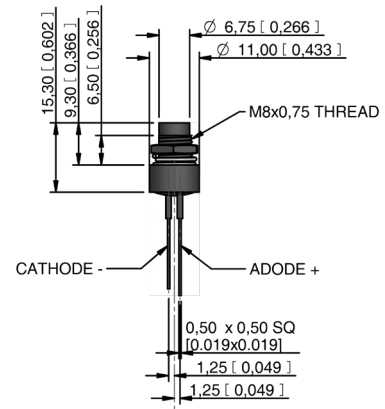
## ABOUT THIS SERIES

- Notice:** please note that not all combinations of above numbers are available.
- Standard wire length is 200 mm, 24 AWG UL1061, red wire denotes Anode (+), black wire denotes Cathode (-) for other wire lengths consult APEM.
  - For LEDs with alternate voltages and multi-voltage options consult APEM.
  - Bi-color LEDs, by connecting the gold Faston (+) one color is produced, by reversing the supply voltage another color is produced. Bi-color are available up to 28 VDC.
  - Take care when soldering (recommended solder temperature 270 °C - 2 sec).
  - The Tri-color LED has red and green LEDs when both are connected yellow is produced.
  - Standard Tri-color termination is two Anodes (+) and one Cathode (-).
  - Tri-color wires are one red (+) and one green (+) Anode and one black (-) Cathode.
  - Tri-color pins are center (-) Cathode, shortest (+) Anode pin green, longest (+) Anode pin red.

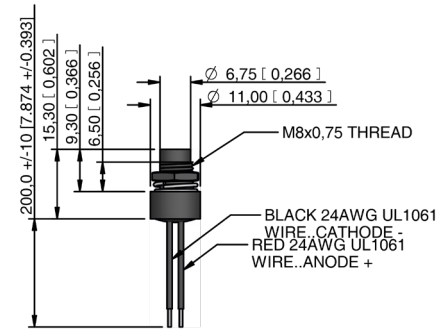
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## REAR MOUNT - PINS TERMINALS



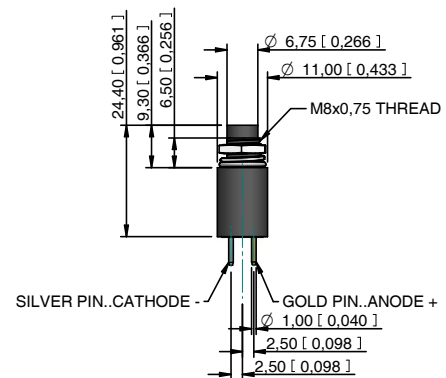
## REAR MOUNT - WIRES TERMINALS



## CUSTOM OPTIONS - FIXED AND BI-COLOR - LONG BODY - RIGID PINS

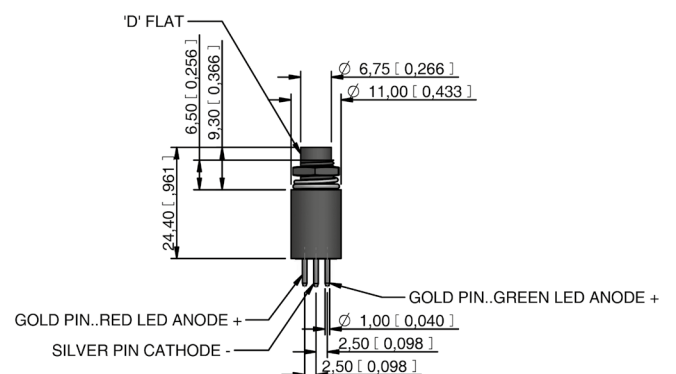
-X0245

To apply the above custom option, suffix the part number with the -X reference number. **Example** / QRM84BXXHB24AE-X0245



## CUSTOM OPTIONS - TRI-COLOR - LONG BODY - RIGID PCB TERMINALS

-X0246



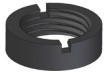
To apply the above custom option, suffix the part number with the -X reference number. **Example** / QRM84BXXHB24AE-X0246

### CUSTOM OPTIONS - FIXED AND BI-COLOR - STANDARD BODY - RIGID PINS

-X0259

To apply the above custom option, suffix the part number with the -X reference number. **Example / QRM84BXXHB24AE-X0259**

### HARDWARE - CYLINDRICAL DRESS NUTS - 8 MM

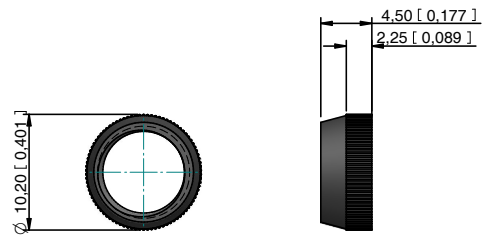
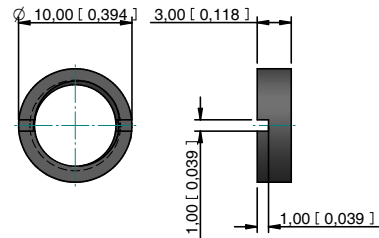
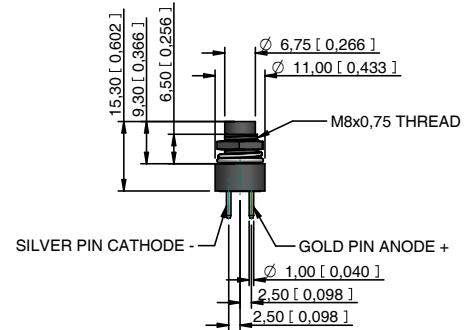


P/N : AUK0001

### HARDWARE - KNURLED DRESS NUTS - 8 MM



P/N : AUK0002



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