

QRM14 series

Ø 14 mm rear panel mount LED indicators



DISTINCTIVE FEATURES

IP67 Sealed

Bi-Color & Tri-Color Options

2 to 28 VDC

200 mm wire 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: 75 cNm (Ø 14 mm)
- Insulation resistance : 4,000 MΩ at 500 VDC

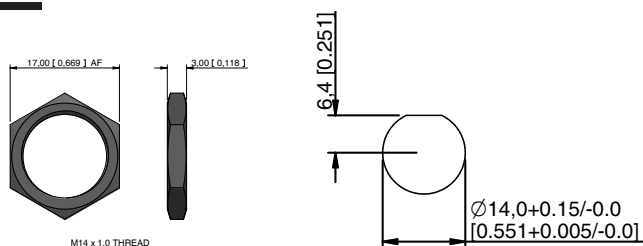


MATERIALS

- Body: Black plated brass or anodized aluminum
- Lock Washer: Spring steel
- Nut: Black plated brass
- Terminal Seal: Epoxy
- Panel Seal: Nitrile O-ring
- Wires: 22A WG - Approved to UL1007



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		
	Flush	Forward Voltage
HE Red	10 mcd	2.0 V
Green	5 mcd	2.2 V
Yellow	4 mcd	2.1 V
Blue	100 mcd	3.3 V
White	150 mcd	3.3 V
Orange	200 mcd	2.2 V
Bi-color (Typical) (Red/Green)	14/10 mcd	2.0 V/2.2 V
Tri-color (Typical) (Red/Green/Yellow)	15/10/30 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		
	Flush	Forward Voltage
HE Red	2,000 mcd	2.2 V
Green	680 mcd	3.5 V
Yellow	350 mcd	2.3 V
Blue	250 mcd	3.3 V
White	250 mcd	3.3 V
Orange	300 mcd	2.1 V

HYPER BRIGHT LED INTENSITY

LED COMPONENT SPECIFICATIONS		
	Flush	Forward Voltage
HE Red	800 mcd	2.0 V
Green	250 mcd	3.2 V
Yellow	250 mcd	2.0 V
Orange	200 mcd	2.1 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

QRM			
SERIES	MOUNTING HOLE	TERMINALS	BEZEL FINISH
	14 Ø14 mm	5 Wires	B Black AK Anodized Dark Olive AN Anodized Black

TYPE OF ILLUMINATION	LED COLOR	VOLTAGE	SEALING
XX Fixed Light YY Bi-color ZZ Tri-color	R Red G Green Y Yellow B Blue W White O Orange HR Hyper Bright Red HG Hyper Bright Green	HY Hyper Bright Yellow HO Hyper Bright Orange SR Super Bright Red SG Super Bright Green SY Super Bright Yellow SB Super Bright Blue SW Super Bright White SO Super Bright Orange RG Red/Green RY Red/Yellow GY Green/Yellow RYG Red/Yellow/Green	02 no resistor* 06 6 VDC 12 12 VDC 24 24 VDC 28 28 VDC E IP67 (Standard)

* please refer to the forward voltage in electrical specifications



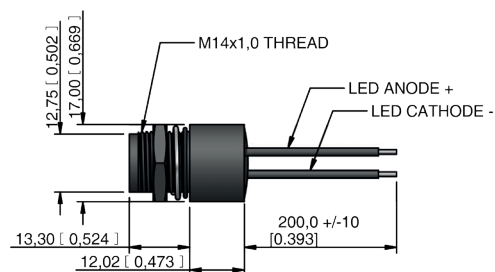
ABOUT THIS SERIES

- Notice:** please note that not all combinations of above numbers are available.
- Standard wire length is 200 mm, 22A WG UL1007, 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 300 °C - 3 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 - WIRES TERMINALS - SINGLE & BI-COLOR LED



REAR MOUNT - WIRES TERMINALS - TRI-COLOR LED

