

# QRM-NV series

Ø8 and Ø14 mm rear panel mount •  
NVIS LED indicators



## DISTINCTIVE FEATURES

NVIS Green A, NVIS Green B, NVIS Yellow, NVIS Red, NVIS White  
NVIS compliant to MIL Std 3009

200 mm wire for Ø 8 and 14 mm or rigid pin (1.00 mm) for Ø8 mm 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: **Ø8 mm:** 60 cNm  
**Ø14 mm:** 75 cNm
- Insulation resistance : 4,000 MΩ at 500 VDC
- Salt spray test: 96 hours (IEC 68-2-11)



## ELECTRICAL SPECIFICATIONS

| Voltage          | Operating Voltage<br>(Min to Max) | Operating Current<br>(Typical All Types) |
|------------------|-----------------------------------|------------------------------------------|
| 02 (No Resistor) | 2.1 to 3.3 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                                    |

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 (CONTINUED)

LED COMPONENT SPECIFICATIONS

| LED Color           | NVIS Radiance                         | NVIS Chromaticity | Dominant Wavelength | MCD Output | Forward Voltage |
|---------------------|---------------------------------------|-------------------|---------------------|------------|-----------------|
| NVIS Green A        | $NRA \leq 1.7e-10 @ 0.1fL$            | $r \leq .037$     | 530 nm              | 150 mcd    | 3.3 V           |
| NVIS Green B        | $NRA \leq 1.7e-10 @ 0.1fL$            | $r \leq .057$     | 555 nm              | 150 mcd    | 3.3 V           |
| NVIS Yellow Class A | $5.0E-8 \leq NRA \leq 1.5E-7 @ 15fL$  | $r \leq .083$     | -                   | 150 mcd    | 3.3V            |
| NVIS Yellow Class B | $4.7E-8 \leq NRB \leq 1.47E-7 @ 15fL$ | $r \leq 0.83$     | 585 nm              | 150 mcd    | 3.3 V           |
| NVIS Red            | $4.7E-8 \leq NRB \leq 1.4E-7 @ 15 fL$ | $r \leq .060$     | 605 nm              | 110 mcd    | 2.1 V           |
| NVIS White          | $NRA \leq 1.0E-9 @ 0.1fL$             | $r \leq .40$      | (x).33 (y).33       | 150 mcd    | 3.3 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.



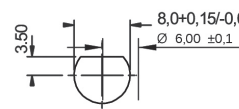
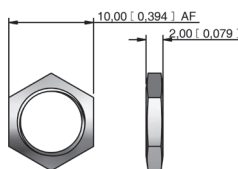
## MATERIALS

- Body: Black plated brass or anodized aluminum
- Lock Washer: Spring steel
- Nut: Black plated brass
- Terminal Seal: Epoxy
- Panel Seal: Nitrile O-ring
- Wires: Ø8 mm: 24 AWG - Approved to UL1213  
Ø14 mm: 22A WG - Approved to UL1007

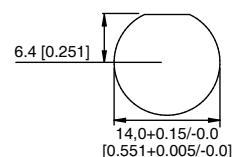
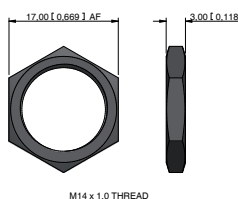


## MOUNTING

Ø8 MM



Ø14 MM



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## BUILD YOUR PART NUMBER

| SERIES | MOUNTING HOLE        | TERMINALS                                 | BEZEL FINISH                                           |
|--------|----------------------|-------------------------------------------|--------------------------------------------------------|
| QRM-NV | 8 Ø8 mm<br>14 Ø14 mm | 4 Rigid Pins (only with Ø8 mm)<br>5 Wires | B Black<br>AK Anodized Dark Olive<br>AN Anodized Black |

| TYPE OF ILLUMINATION | LED COLOR                                                                                                                        | VOLTAGE                                                                                                               | SEALING           |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------|
| XX Fixed Light       | NV-GRA NVIS Green A<br>NV-GRB NVIS Green B<br>NV-YWA NVIS Yellow A<br>NV-YWB NVIS Yellow B<br>NV-RD NVIS Red<br>NV-WH NVIS White | 02 no resistor*<br>06 6 VDC<br>12 12 VDC<br>12A 12 VAC/DC<br>24 24 VDC<br>24A 24 VAC/DC<br>28 28 VDC<br>28A 28 VAC/DC | 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.

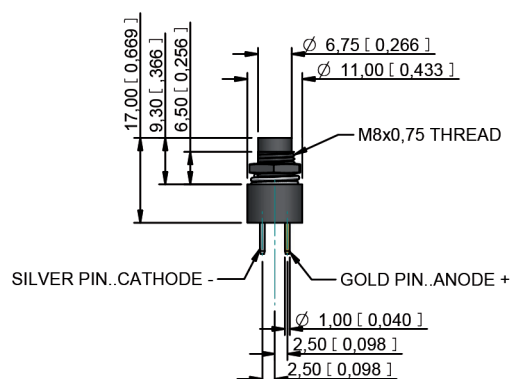
- Standard wire length is 200 mm, 24 AWG UL1061, red wire denotes Anode (+), black wire denotes Cathode (-) for other wire lengths consult APEM.
- For LEDs with alternate voltages and multi-voltage options consult APEM.
- Take care when soldering (recommended solder temperature 270°C - 2 sec).
- Suitable for the toughest environment and compliant to MIL standard specification



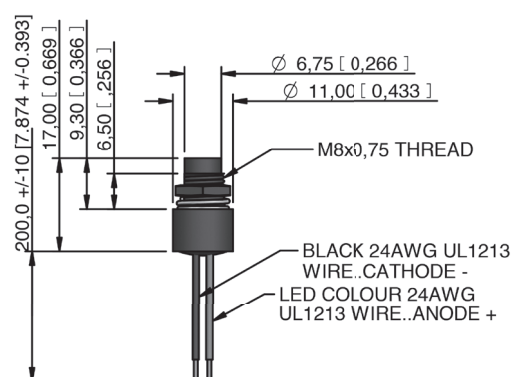
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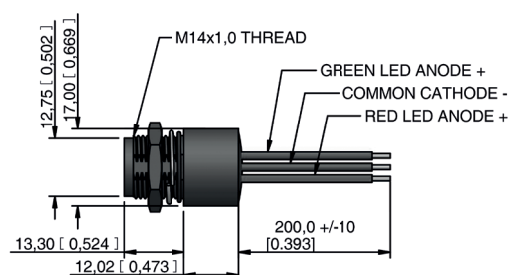
## Ø8 MM REAR MOUNT - PINS TERMINALS



## Ø8 MM REAR MOUNT - WIRES TERMINALS



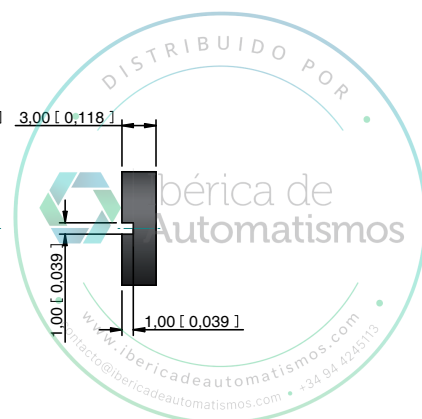
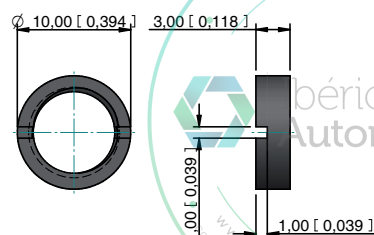
## Ø14 MM REAR MOUNT - WIRES TERMINALS



## HARDWARE - CYLINDRICAL DRESS NUTS - FOR Ø8 MM ONLY



P/N : AUK0001



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HARDWARE - KNURLED DRESS NUTS  
- FOR Ø8 MM ONLY



P/N : AUK0002

