

Q14 series

Ø14 mm panel mount LED indicators



DISTINCTIVE FEATURES

10 mm colored diffused epoxy lens or 10 mm water clear super bright LEDs

Prominent and flush bezel styles

(2.8 x 0.8) solder lug/faston terminals, pins or (200 mm long) wire terminations

Custom engraving available

Available in RGB



ENVIRONMENTAL SPECIFICATIONS

- IP67 sealing option (EN60529)
- Operating & Storage Temperature Range:
Rear plastic body: -30 °C to +65° C (-22 °F to +149 °F)
Rear epoxy body: -40 °C to +85° C (-40 °F to +185 °F)



GENERAL SPECIFICATIONS

- Max Reverse Voltage: 5 V
- Viewing Angle: 30–100° (dependant on model)
- Life Expectancy: 100,000 hours
- Torque: 75 cNm
- Maximum panel thickness 11 mm

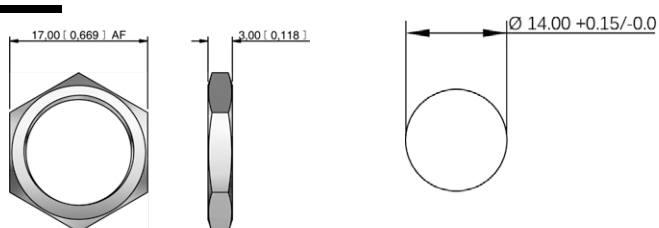


MATERIALS

- Plated brass bezel finished in bright chrome, black or satin grey and moulded polycarbonate rear body



MOUNTING



The company reserves the right to change specifications without notice.

All 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 | | | |
|--|------------------------|--------------|-------------------|
| | Prominent and Recessed | Flush | Forward Voltage |
| HE Red | 80 mcd | 10 mcd | 2.0 V |
| Green | 60 mcd | 5 mcd | 2.2 V |
| Yellow | 50 mcd | 4 mcd | 2.1 V |
| Blue | 540 mcd | 100 mcd | 3.3 V |
| White | 1000 mcd | 150 mcd | 3.3 V |
| Orange | 80 mcd | 200 mcd | 2.2 V |
| Bi-color (Typical) (Red/Green) | 15/15 mcd | 14/10 mcd | 2.0V/2.2 V |
| Tri-color (Typical) (Red/Green/Yellow) | 60/50/50mcd | 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 | | | |
|------------------------------|------------------------|-----------|-----------------|
| | Prominent and Recessed | Flush | Forward Voltage |
| HE Red | 17,000 mcd | 2,000 mcd | 2.2 V |
| Green | 11,000 mcd | 680 mcd | 3.3 V |
| Yellow | 4,000 mcd | 350 mcd | 2.0 V |
| Blue | 2,500mcd | 250 mcd | 3.3 V |
| White | 4,400 mcd | 250 mcd | 3.3 V |
| Orange | 2,800 mcd | 300 mcd | 2.2 V |

HYPER BRIGHT LED INTENSITY

| LED COMPONENT SPECIFICATIONS | | | |
|------------------------------|------------------------|---------|-----------------|
| | Prominent and Recessed | Flush | Forward Voltage |
| HE Red | 2,800 mcd | 800 mcd | 2.1 V |
| Green | 2,200 mcd | 250 mcd | 3.2 V |
| Yellow | 1,300 mcd | 250 mcd | 2.0 V |
| Orange | 850 mcd | 200 mcd | 2.1 V |

RGB LED INTENSITY

| ITEM | SYMBOL | CONDITION | TYP. |
|--------------------|---------------|-----------|---------|
| DC Forward Voltage | $V_F(R)$ | IF=20 mA | 2.1 |
| | $V_F(B/G)$ | IF=20 mA | 3.1 |
| Luminous Intensity | I_v (Red) | | 220 mdc |
| | I_v (Green) | | 500 mdc |
| | I_v (Blue) | | 100 mdc |

| Voltage | Operating Voltage | Operating Current |
|------------------|-------------------|---------------------|
| | (Min to Max) | (Typical All Types) |
| 02 (No Resistor) | 1.8 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 |
| 110 VAC | 99 to 121 VAC | 6 mA |
| 220 VAC | 207 to 235 VAC | 3 mA |

* Customer to supply resistor for desired operating current.

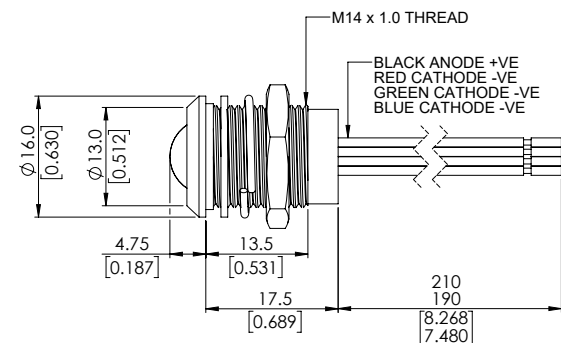
ADDITIONAL INFORMATION ON LED COMPONENTS

- 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.



CONNECTIONS

REAR EPOXY WIRES FOR RGB OPTION



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BUILD YOUR PART NUMBER

| | | | | | | | | | | | |
|----------------------|------------------------------|-----------|-----------|------------------------------------|---|----------------|---------------------|---------|---------------|--------------------|--|
| Q | — | — | — | — | — | — | — | — | — | | |
| SERIES | MOUNTING HOLE | | TERMINALS | | | BEZEL FINISH | | | | | |
| | 14 Ø14mm | | | | | ANODIZED FLUSH | | OTHERS | | | |
| | BEZEL STYLE | | | | | AR | Red | C | Bright Chrome | | |
| | P | Prominent | 1 | Solder Lug/ Fastons (2.8 x 0.8) | | 5 | Rear epoxy Wires | | B | Black | |
| | R | Recessed | 2 | Pins | | 6 | Short body Pins | | G | Satin Grey | |
| | F | Flush | 3 | Wires | | 7 | Short body Wires | | | | |
| | | | 4 | Rear epoxy Pins | | | | | | | |
| | | | | | | | AG | Green | | | |
| | | | | | | | AY | Yellow | | | |
| | | | | | | | AB | Blue | | | |
| | | | | | | | AN | Black | | | |
| TYPE OF ILLUMINATION | | | LED COLOR | | | VOLTAGE | | SEALING | | | |
| XX | Fixed Light | | R | Red | | HG | Hyper Bright Green | | SB | Super Bright Blue | |
| KK | Flashing Light (12V – 28VDC) | | G | Green | | HY | Hyper Bright Yellow | | SW | Super Bright White | |
| YY | Bi-color | | Y | Yellow | | HO | Hyper Bright Orange | | RG | Red/Green | |
| ZZ | Tri-color | | B | Blue | | SR | Super Bright Red | | RY | Red/Yellow | |
| | | | W | White | | SG | Super Bright Green | | GY | Green/Yellow | |
| | | | O | Orange | | SY | Super Bright Yellow | | RYG | Red/Yellow/Green | |
| | | | HR | Hyper Bright Red | | RGB | Red/Green/Blue* | | 02 | no resistor | |
| | | | | | | | | | 06 | 6 VDC | |
| | | | | | | | | | 12 | 12 VDC | |
| | | | | | | | | | 12A | 12 VAC/DC | |
| | | | | | | | | | 24 | 24 VDC | |
| | | | | | | | | | 24A | 24 VAC/DC | |
| | | | | | | | | | 28 | 28 VDC | |
| | | | | | | | | | 28A | 28 VAC/DC | |
| | | | | | | | | | 110 | 110 VAC | |
| | | | | | | | | | 220 | 220 VAC | |
| | | | | | | | | | (Blank) | Unsealed | |
| | | | | | | | | | E | IP67 | |
| | | | | | | | | | (Blank) | Common cathode | |
| | | | | | | | | | -CA | Common anode | |

* Terminals option 5 and common anode only



ABOUT THIS SERIES



Notice: please note that not all combinations of above numbers are available.

- Gold faston terminal denotes anode (+), silver terminal denotes cathode (-)
- Standard wire length is 200 mm, 22 AWG UL1061, red wire denotes anode (+), black wire denotes cathode (-) for other wire lengths consult APEM
- For LEDs with alternative voltages and multi-voltage options consult APEM
- 110 VAC and 220 VAC, only available with terminal options 1, 3 and 5
- Bi-color leds, by connecting the gold faston (+) one color is produced, by reversing the supply voltage another color is produced – bi-colors are available up to 28 VDC

- Take care when soldering to the faston terminals (recommended solder temperature 300 °C - 3 sec)
- Body options 2 and 6 are only available without integral resistor (02).
- The Tri-color LED has red and green LEDs when both are connected yellow is produced
- Standard tri-color faston terminals are 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
- We recommend using Hyperbright or Superbright LEDs for use at 110 VAC and 220 VAC

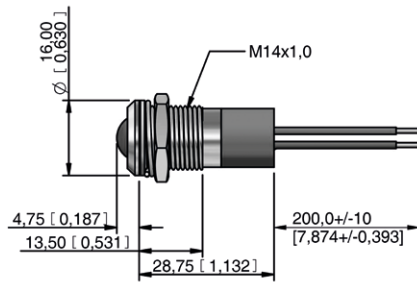
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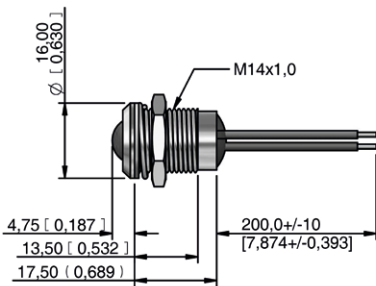
PROMINENT BEZEL



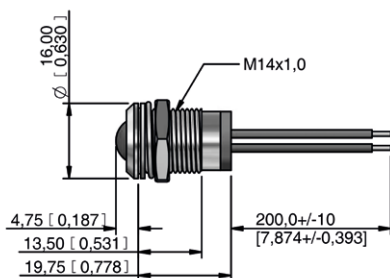
WIRES



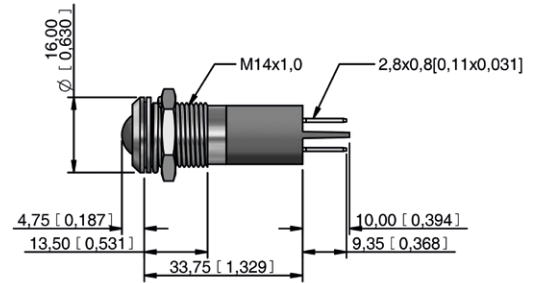
REAR EPOXY WIRES



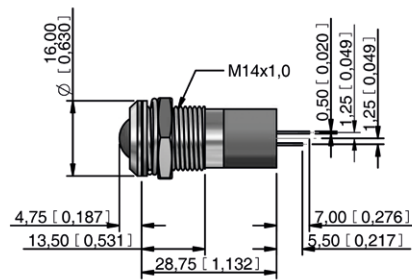
SHORT BODY WIRES



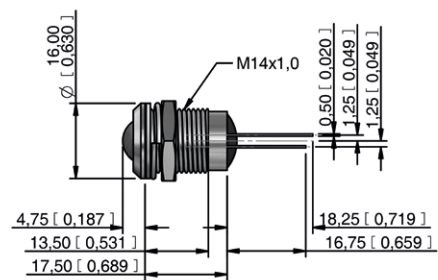
SOLDER LUG/FASTON



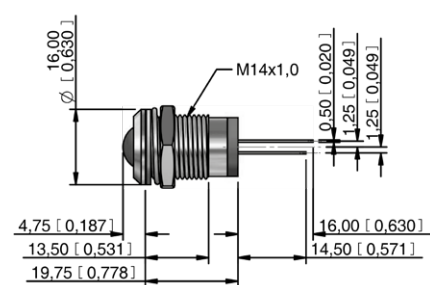
PINS



REAR EPOXY PINS



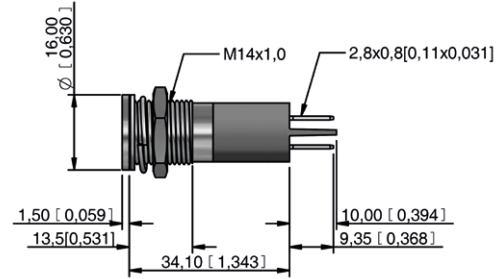
SHORT BODY PINS



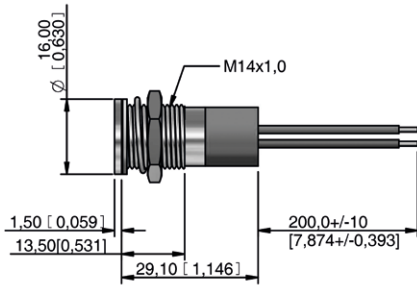
FLUSH BEZEL



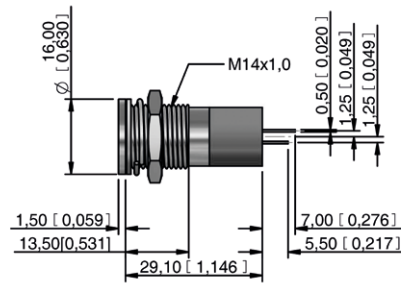
SOLDER LUG/FASTON



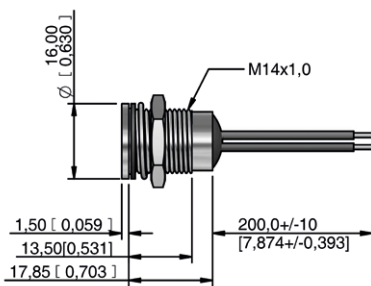
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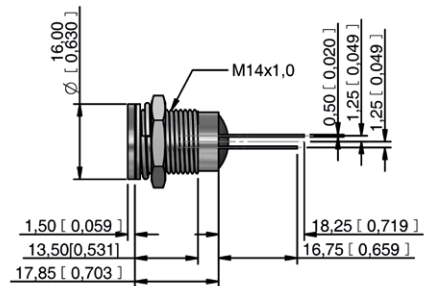
PINS



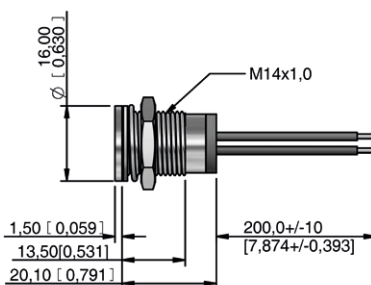
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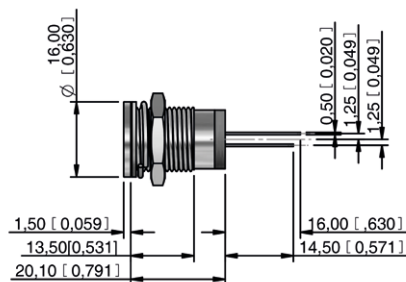
REAR EPOXY PINS



SHORT BODY WIRES



SHORT BODY PINS



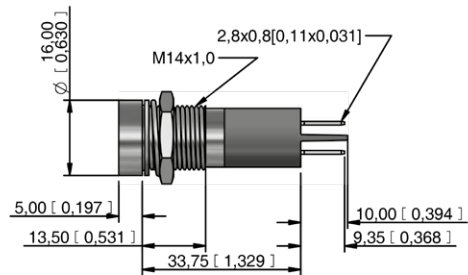
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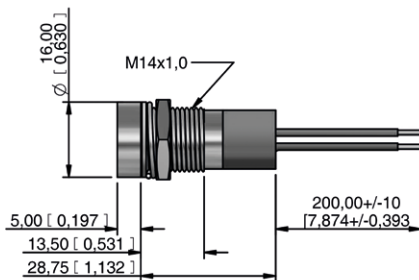
RECESSED BEZEL



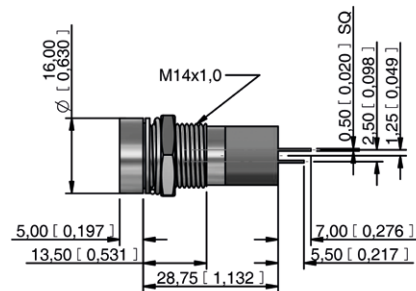
SOLDER LUG/FASTON



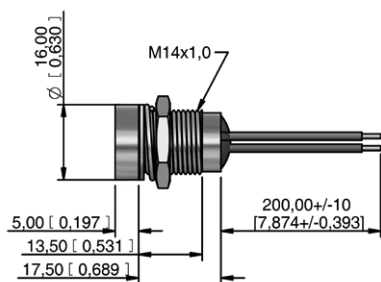
WIRES



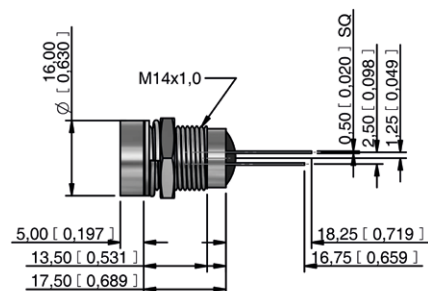
PINS



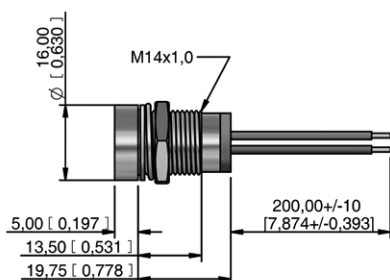
REAR EPOXY WIRES



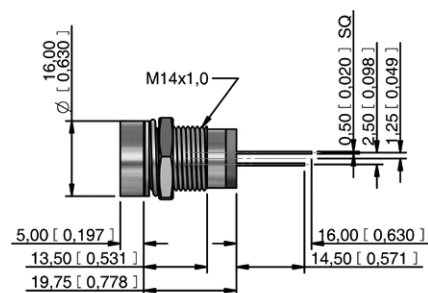
REAR EPOXY PINS



SHORT BODY WIRES



SHORT BODY PINS






























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CUSTOM ENGRAVING

Some common codes are listed above, for your custom requirements please contact APEM.
Unless specified standard engraving with white infill will be supplied.
Suffix the part number with legend code :

| | | | | | | |
|---|---|---|---|--|---|---|
|  |  |  |  |  |  |  |
| High beam -0AJ | Low beam -097 | Rear fog -027 | Front fog -026 | Windscreen wiper -021 | Windscreen washer -022 | Ventilator fan -023 |
|  |  |  |  |  |  |  |
| Turn Signal -0AH | Side lights -098 | Horn -041 | Hazard warning -013 | Heating -018 | Brake test -0BU | Arrow -0K6 |
|  |  |  |  |  |  |  |
| Battery -0AG | Oil can -0GP | Windscreen heating -020 | ABS -086 | Engine coil -0EL | Seat belt -0SB | USB connection -0UB |
|  |  |  |  |  |  | |
| Steam -0ST | ECU -0EU | Side step -0AD | Air con -012 | Engine -040 | Boot/Trunk Release -0BR | |



CABLE LENGTH AND CONNECTOR



For custom cable length and connectors contact APEM.