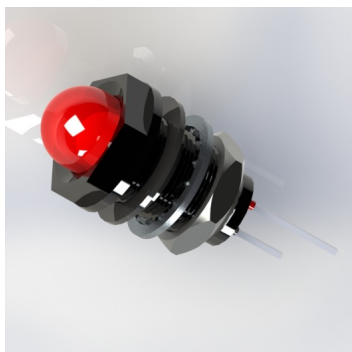


# 669 series



## features



- Ø8.1mm mounting
- Unique hexagonal bezel to aid mounting to panel
- Sealed to IP68 (0.34 bar)
- Ideal for marine applications
- Hard, black anodised aluminium housing
- Unique PTFE mounting/ panel seal
- Low current versions available
- Pack Quantity = 10 Pieces

## specifications

Typical characteristics (Ta = 25°C)

| Part Number | Colour | Voltage Vac/dc | Current DC (mA) | Luminous Intensity (mcd) | Wave Length (nm) | Operating Temp. (°C) | Storage Temp. (°C) | De-rating Graphs |
|-------------|--------|----------------|-----------------|--------------------------|------------------|----------------------|--------------------|------------------|
| 669-503-04  | Red    | 2.1 Vdc        | 20              | 80                       | 625              | -40 - +85            | -40 - +85          | B                |
| 669-509-04  | Yellow | 2.2 Vdc        | 20              | 45                       | 590              | -40 - +85            | -40 - +85          | B                |
| 669-512-04  | Green  | 2.2 Vdc        | 20              | 45                       | 565              | -40 - +85            | -40 - +85          | C                |

- Products must be de-rated according to the de-rating information. Each de-rating graph refers to specific LEDs. Please refer to graphs on page 3.  
- Luminous intensity is measured at 20mA on a discrete LED unless otherwise stated.

## to order

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**f: +44 (0)1229 585 155 e: sales@marl.co.uk w: www.leds.co.uk**

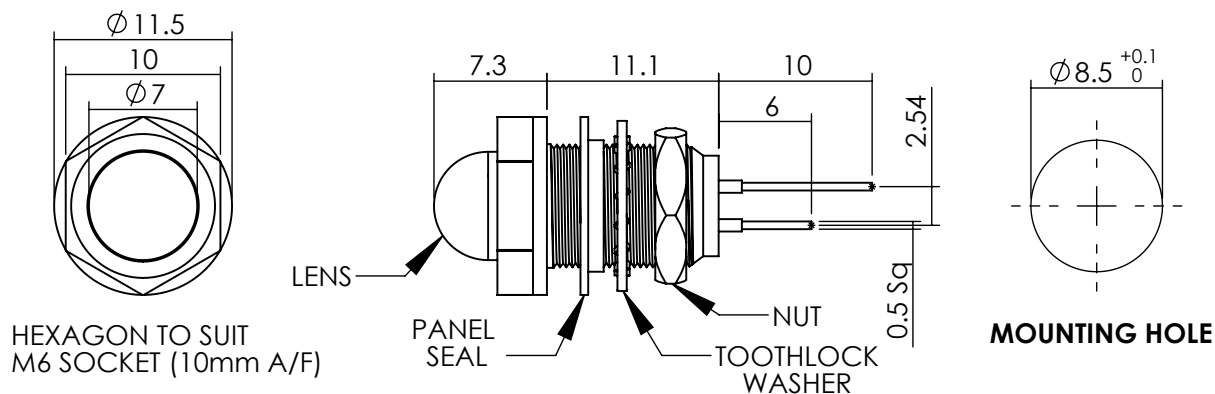
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# 669 series



## technical data



Anode termination indicated by red sleeve  
Mounting hole to be cleaned and burr free

Anode termination denoted by red indicator  
Mounting hole to be clean and burr free

Dimensions in mm (typical)

Not to scale

## housing material

|                  |                                                    |
|------------------|----------------------------------------------------|
| Body             | Hard, black anodised Aluminium. Anodised to Def St |
| Nut              | Bright Nickel Plated Brass                         |
| Panel Seal       | PTFE                                               |
| Fresnel Lens     | Polycarbonate                                      |
| Encapsulation    | PC5430 Resin                                       |
| Lock Washer      | Spring Steel                                       |
| Termination Tags | -                                                  |
| Header           | -                                                  |

## technical characteristics

| Series | Max. Power Dissipation | Max. Reverse Voltage | Panel Cutout | Nut Mounting Torque | Min. Mounting Centres | Max. Panel Thickness |
|--------|------------------------|----------------------|--------------|---------------------|-----------------------|----------------------|
| 669    | 75                     | 3*                   | 8.5          | 1.0                 | 14.5                  | 1.5 - 5.0            |
| units  | mW                     | Vdc                  | mm           | Nm                  | mm                    | mm                   |

\* = Current Version

^ = Voltage Version

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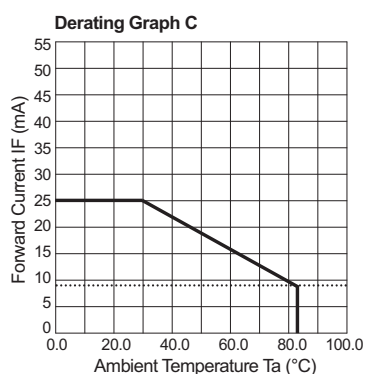
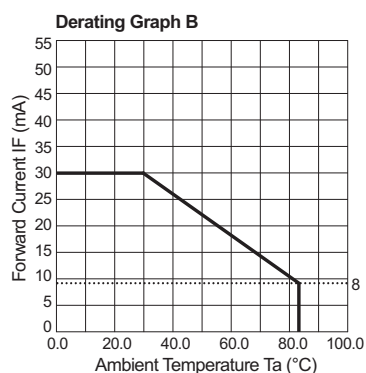
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# 669 series



## de-rating information



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## design considerations

### Electro-Static Discharge (ESD)

Build up of electro-static discharge occurs in many situations involving people moving and handling products. The range of possible situations is very diverse but voltage levels as high as several thousand volts can and do arise in many individual situations. When an operator charged up to these levels handles a static sensitive device, there is a very probable likelihood that the device will be irreversibly damaged. It is essential that precautions are taken at all stages during manufacture and assembly of these products. Although LEDs were never considered to be static sensitive devices, changes in manufacturing technology and materials used to produce higher intensity products over a large range of the wavelength spectrum have changed this. Marl has an approved system of ESD control from goods in, through production and into final packing and despatch. Marl recommend all users of LED based products follow the guidelines of BS 100015.

### Power De-Rating

The forward voltage/ current value of an LED is dependant upon the ambient temperature of the environment in which it is operated. Therefore, care must be taken to operate the LED at the correct voltage/ current values, depending upon the ambient temperature. Consequently, a recommendation regarding operating voltages and currents is given in order to address these temperature effects. This recommendation is termed 'de-rating'. It is usual for forward voltages and currents to be specified for ambient temperature of 25°C. However, because the values of these qualities vary with temperature, please refer to the de-rating graphs for correct operation. Marl accept no liability for any product that is operated higher than the stated voltage.

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