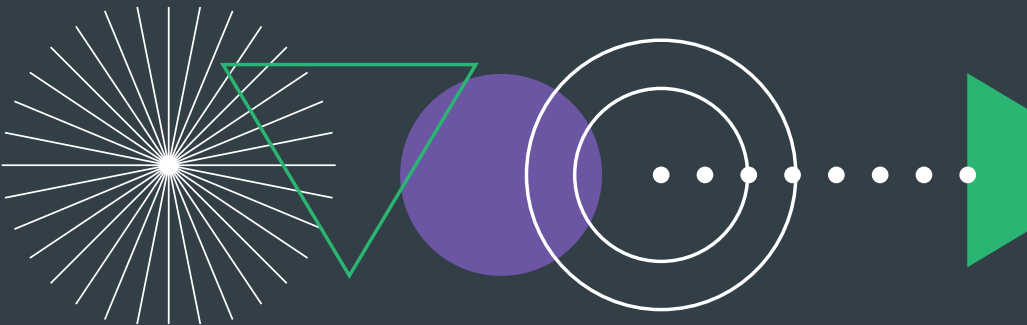


# LED COMPONENT AND INDICATOR GUIDE





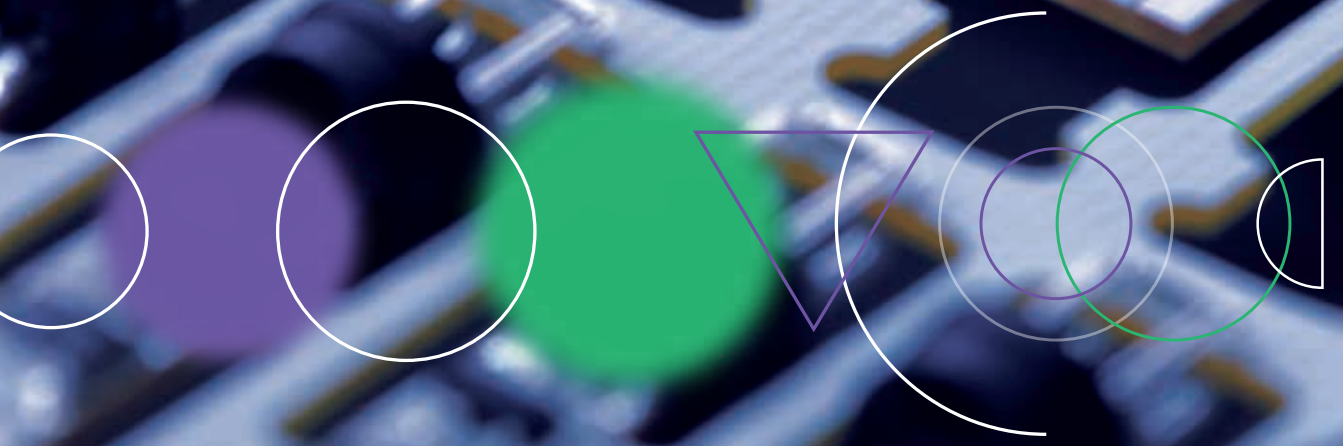
# LED BY DESIGN

MARL has been adapting LED technology to provide innovative, stylish and functional indicator solutions for over four decades.

From our facility in Ulverston, we develop and manufacture durable LED components using the highest grade materials and featuring high quality white light and full spectrum RGB technology.

Marl components are ideal for a range of professional applications including defence, aerospace, rail and specialised industrial markets.

Proudly Made in Britain.



# PCB MOUNTING LEDs

## 103 SERIES



- Ø3.0mm diffused LED
- 90° single moulded housing
- Range of LED colours
- Range of voltage options
- Low current options available
- UL94 V-0 flammability rating
- Reverse polarity options available

## 113 SERIES



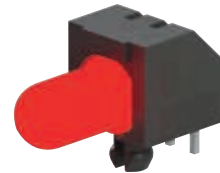
- Ø3.0mm diffused LED
- 90° single moulded housing
- Range of LED colours
- Range of voltage options
- Low current options available
- UL94 V-0 flammability rating
- Reverse polarity options available

## 104 SERIES



- Ø5.0mm diffused LED
- 90° single moulded housing
- Range of LED colours
- Bi-colour options available
- Range of voltage options
- Low current options available
- UL94 V-0 flammability rating

## 125 SERIES



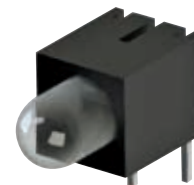
- Ø5.0mm diffused LED
- 90° single moulded housing
- Range of LED colours
- 1.6mm PCB mounting spigot
- Secures to PCB at wave soldering
- Low current options available
- UL94 V-0 flammability rating

## 109 SERIES



- Ø3.0mm diffused LED
- 90° duplex moulded housing
- Range of LED colours
- Bi-colour options available
- Range of voltage options
- Low current options available
- UL94 V-0 flammability rating

## 151 SERIES



- Ø5.0mm diffused LED
- 90° single moulded housing
- Red/green bi-colour LED
- Red/amber/green tri-colour LED
- Diffused lens - wide angle viewing
- UL94 V-0 flammability rating
- Reduced power consumption

# LED BULB REPLACEMENTS

## 202 SERIES



- T1 midget flange SX3s
- Range of LED colours
- High intensity LEDs, flat topped
- Wide viewing angle for switches
- Internal resistor - voltage options
- Centre contact Anode as standard
- Reverse polarity options available

## 215 SERIES



- T3¼ bayonet automobile cap BA9s
- Range of LED colours
- High intensity LEDs, flat topped
- Wide viewing angle
- Internal resistor - voltage options
- Centre contact Anode as standard
- Reverse polarity options available

## 205 SERIES



- T1¾ midget groove S5.7s
- Range of LED colours
- High intensity LEDs, flat topped
- Wide viewing angle for switches
- Internal resistor - voltage options
- Centre contact Anode as standard
- Reverse polarity options available

## 225 SERIES



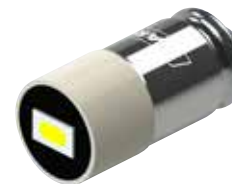
- BA15d bayonet cap
- Range of LED colours
- 6 high intensity LEDs, multi-cluster
- Narrow viewing angle
- Internal resistor - voltage options
- Bi-polar termination
- Durable to shock and vibration

## 206 SERIES



- T1¾ midget flange SX6s
- Range of LED colours
- High intensity LEDs, flat topped
- Wide viewing angle for switches
- Internal resistor - voltage options
- Centre contact Anode as standard
- Reverse polarity options available

## 235 SERIES



- T1¾ midget groove S5.7s
- Range of LED colours
- Surface mount LED technology
- Wide viewing angle for switches
- Internal resistor - voltage options
- Bi-polar AC/DC termination
- Durable to shock and vibration

## SEALED LED PANEL INDICATORS

### 236 SERIES



- T1¾ midget flange SX6s
- Range of LED colours
- Surface mount LED technology
- Wide viewing angle for switches
- Internal resistor - voltage options
- Bi-polar AC/DC termination
- Durable to shock and vibration

### 508 SERIES



- Ø8.1mm mounting
- Bright nickel plated brass housing
- Smoked lens - good on/off ratio
- High intensity LED colours
- Sealed to IP67 - weatherproof
- Durable to shock and vibration
- EMC / RFI options available

### 255 SERIES



- T3¼ bayonet automobile cap BA9s
- Range of LED colours
- High intensity LEDs, flat topped
- Wide viewing angle
- Voltage input: 8 - 48VAC/DC
- Bi-polar termination
- Durable to shock and vibration

### 512 SERIES



- Ø12.7mm (½") mounting
- Bright nickel plated brass housing
- Smoked lens - good on/off ratio
- High intensity LED colours
- Internal resistor - voltage options
- Sealed to IP67 - weatherproof
- Durable to shock and vibration

### 258 SERIES



- T6.8 slide base
- Range of LED colours
- High intensity LEDs, flat topped
- Wide viewing angle
- Voltage input: 8 - 48VAC/DC
- Bi-polar termination
- Durable to shock and vibration

### 514 SERIES



- Ø12.7mm (½") mounting
- Bright nickel plated brass housing
- Raised coloured diffused lens
- Range of LED colours
- Internal resistor - voltage options
- Sealed to IP67 - weatherproof
- Durable to shock and vibration

## 520 SERIES



- Ø6.1mm countersunk mounting
- Robust stainless steel housing
- Coloured diffused lens
- High intensity LED colours
- Internal resistor - voltage options
- Sealed to IP67 - weatherproof
- Durable to shock and vibration

## 528 SERIES



- Ø12.7mm (1/2") mounting
- Robust stainless steel housing
- Coloured diffused lens
- High intensity LED colours
- Internal resistor - voltage options
- Sealed to IP67 - weatherproof
- Durable to shock and vibration

## 524 SERIES



- Ø8.1mm mounting
- Robust stainless steel housing
- Coloured diffused lens
- High intensity LED colours
- Internal resistor - voltage options
- Sealed to IP67 - weatherproof
- Durable to shock and vibration

## 531 SERIES



- Ø12.7mm (1/2") mounting
- Bright nickel plated brass housing
- Coloured diffused lens
- High intensity LED colours
- Bi-polar AC/DC - voltage options
- Sealed to IP67 - weatherproof
- Durable to shock and vibration

## 525 SERIES



- Ø8.1mm mounting
- Bright nickel plated brass housing
- White lens - good on/off ratio
- Multi LED colours - single indicator
- Sealed to IP67 - weatherproof
- Internal resistor - voltage options
- LED colours individually addressable - 4 wire terminations

Believed to be one of the only sealed multi-coloured indicators available

## 534 SERIES



- Ø8.1mm mounting
- Robust stainless steel housing
- Coloured diffused lens
- High intensity LED colours
- Bi-polar AC/DC - voltage options
- Sealed to IP67 - weatherproof
- Durable to shock and vibration

## 602 SERIES



- Ø5.0mm mounting
- Nickel plated brass housing
- Sealed optical light pipe
- Water clear lens gives clear "off" state
- Sealed to IP67 weatherproof
- Sleeve included on longer lengths to prevent light bleed
- Available in 4 length variations

## 604 SERIES



- Ø5.0mm mounting
- Bright nickel plated brass housing
- Smoked lens - good on/off ratio
- High intensity LED colours
- Voltage options - wire termination
- Sealed to IP67 - weatherproof
- Durable to shock and vibration

One of the smallest sealed indicators on the market

## 612 SERIES



- Ø6.35mm (1/4") mounting
- Black anodised aluminium housing
- Smoked lens - good on/off ratio
- High intensity LED colours
- Internal resistor - voltage options
- Sealed to IP67 - weatherproof
- Bi-Tri colour options (R/A/G)

## 665 SERIES



- Ø8.5mm mounting
- Hard anodised aluminium housing
- Unique PTFE panel seal
- High intensity LED colours
- 20mA operation - wire termination
- Sealed to IP68-10psi weatherproof
- Durable to harsh environments

A unique indicator sealed to IP68 and ideal for harsh environments

## 677 SERIES



- Ø8.1mm mounting
- Black anodised aluminium housing
- Smoked lens - good on/off Ratio
- High intensity LED colours
- Internal resistor - voltage options
- Sealed to IP67 - weatherproof
- Durable to shock and vibration

## 690 SERIES



- Ø9.6mm (3/8") mounting
- Black anodised aluminium housing
- UL certified - No: E349017
- High intensity LED colours
- Voltage input: 8-48VAC/DC bi-polar
- Sealed to IP67 - weatherproof
- Durable to shock and vibration

Marl's exclusive UL listed sealed indicator

## 696 SERIES



- Ø6.1mm countersunk mounting
- Black anodised aluminium housing
- Coloured diffused lens
- High intensity LED colours
- Internal resistor - voltage options
- Sealed to IP67 - weatherproof
- Durable to shock and vibration

## 698 SERIES



- Ø8.1mm mounting
- Black anodised aluminium housing
- Smoked lens - good on/off Ratio
- High intensity LED colours
- Bi-polar AC/DC - voltage options
- Sealed to IP67 - weatherproof
- Durable to shock and vibration

## 699 SERIES



- Ø12.7mm (½") mounting
- Black anodised aluminium housing
- Coloured diffused lens
- High intensity LED colours
- Bi-polar AC/DC - voltage options
- Sealed to IP67 - weatherproof
- Durable to shock and vibration

