

# LED COMPONENT & INDICATOR GUIDE

Marl has been adapting LED technology to provide innovative, stylish and functional indicator solutions for more than four decades. Supported by world class in-house design and manufacturing facilities, Marl is recognised internationally as industry pioneers and experts acknowledge a product offering that is synonymous with high performance and quality. We proudly design and manufacture all of our components and indicators from our base in Cumbria, UK.

Generic features include high intensity colours, wide range of operating voltage options, (including a bi-polar range), high quality materials and ruggedised construction methods to ensure reliability for a wide range of demanding applications. Marl LED components enhance the quality, performance and reliability of the host equipment, optimising the man machine interface and user experience. They are ideal for professional applications, including defence, aerospace, rail and specialised industrial markets, such as processing and automation plant, fire and security and mobile equipment.



## 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



### 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



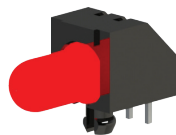
### 109 SERIES

- 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



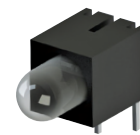
### 113 SERIES

- 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



### 125 SERIES

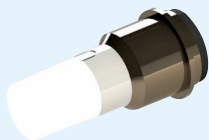
- Ø5.0mm diffused LED
- 90° single moulded housing
- Range of LED colours
- 1.6mm PCB mounting spigot
- Secures to PCB at wave soldering
- Low current options available
- UL94 V-0 flammability rating



### 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



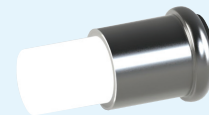
### 202 SERIES

- 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



### 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



### 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



### 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



### 225 SERIES

- BA15d mounting 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



### 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



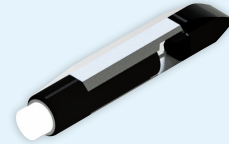
### 235 SERIES

- 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



### 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



### 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

## SEALED LED PANEL INDICATORS



### 508 SERIES

- Ø8.1mm 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



### 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



### 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



### 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



### 525 SERIES

- Ø8.1mm mounting
- Bright nickel plated brass housing
- White lens - good on/off ratio
- Multi LED colours - single indicator
- Input 12Vdc - 4 wire termination
- Sealed to IP67 - weatherproof
- Durable to shock and vibration

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



### 528 SERIES

- Ø12.7mm (½") 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 (½") 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



### 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



## SEALED LED PANEL INDICATORS (CONT'D)



One of the smallest sealed indicators on the market

### 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



### 612 SERIES

- Ø6.35mm (¼") 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



A unique indicator sealed to IP68 and ideal for harsh environments

### 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



Believed to be one of its kind with a 3 phase voltage input up to 440 Vac/DC

### 671 SERIES

- Ø25.4mm (1") mounting
- Black anodised aluminium housing
- Raised diffused lens
- High intensity LED colours
- High voltage 24Vac/DC - 440Vac/DC
- Sealed to IP67 - weatherproof
- Durable to shock and vibration



### 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



Marl's exclusive UL listed sealed indicator

### 690 SERIES

- Ø9.6mm (⅜") 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



### 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