

## ● PROFESSIONAL LED INDICATORS Ø13mm Mounting

## FEATURES

**528 SERIES**

PACK QUANTITY = 10 PIECES

- Robust stainless steel housing
- Low profile styling, sunlight readable LEDs
- Sealed to IP67
- Flying lead terminations available
- Suitable for high vibration applications
- Internal reverse protection diode fitted as standard in all voltage models.

## SPECIFICATION

Ordering Information &amp; Typical Technical Characteristics (Ta = 25°C)

Mean Time Between Failure = 100,000 Hours. Luminous intensity figures refer to the unmodified discrete LED.

| PART NUMBER    | COLOUR     | LENS                                                                                | VOLTAGE<br>DC (Vdc)<br>Vopr | CURRENT<br>DC (mA)<br>Iopr | LUMINOUS<br>INTENSITY<br>Iv@20mA (mcd) | WAVE<br>LENGTH<br>λp (nm) | OPERATING<br>TEMP<br>Topr | STORAGE<br>TEMP<br>Tstg |  |     |
|----------------|------------|-------------------------------------------------------------------------------------|-----------------------------|----------------------------|----------------------------------------|---------------------------|---------------------------|-------------------------|--------------------------------------------------------------------------------------|-----|
| HIGH INTENSITY |            |                                                                                     |                             |                            |                                        |                           |                           |                         |                                                                                      |     |
| 528-501-21     | Red        |  | Colour Diffused             | 12                         | 19                                     | 11000                     | 643                       | -40 ~ +95^              | -40 ~ +100                                                                           | Yes |
| 528-521-21     | Yellow     |  | Colour Diffused             | 12                         | 19                                     | 16000                     | 591                       | -40 ~ +95^              | -40 ~ +100                                                                           | Yes |
| 528-532-21     | Green      |  | Colour Diffused             | 12                         | 20                                     | 23000                     | 527                       | -40 ~ +95^              | -40 ~ +100                                                                           | Yes |
| 528-930-21     | Blue       |  | Colour Diffused             | 12                         | 20                                     | 7000                      | 470                       | -40 ~ +95^              | -40 ~ +100                                                                           | Yes |
| 528-997-21     | Cool White |  | Colour Diffused             | 12                         | 20                                     | 14000                     | *see below                | -40 ~ +95^              | -40 ~ +100                                                                           | Yes |
| 528-501-23     | Red        |  | Colour Diffused             | 24-28                      | 20                                     | 11000                     | 643                       | -40 ~ +95^              | -40 ~ +100                                                                           | Yes |
| 528-521-23     | Yellow     |  | Colour Diffused             | 24-28                      | 20                                     | 16000                     | 591                       | -40 ~ +95^              | -40 ~ +100                                                                           | Yes |
| 528-532-23     | Green      |  | Colour Diffused             | 24-28                      | 20                                     | 23000                     | 527                       | -40 ~ +95^              | -40 ~ +100                                                                           | Yes |
| 528-930-23     | Blue       |  | Colour Diffused             | 24-28                      | 20                                     | 7000                      | 470                       | -40 ~ +95^              | -40 ~ +100                                                                           | Yes |
| 528-997-23     | Cool White |  | Colour Diffused             | 24-28                      | 20                                     | 14000                     | *see below                | -40 ~ +95^              | -40 ~ +100                                                                           | Yes |
| UNITS          |            |                                                                                     | Vdc                         | mA                         | mcd                                    | nm                        | °C                        | °C                      |                                                                                      |     |

Other voltages AC/DC available. Please contact our Technical Sales.

<sup>^</sup> = Products must be derated according to the derating information. Each derating graph refers to specific LEDs.

| 997F-C | *Typical emission colour cool white |       |       |       |
|--------|-------------------------------------|-------|-------|-------|
| x      | 0.245                               | 0.361 | 0.356 | 0.264 |
| y      | 0.229                               | 0.385 | 0.351 | 0.220 |

Intensities (Iv) and colour shades of white (x,y co-ordinates) may vary between LEDs within a batch.

## How to Order:

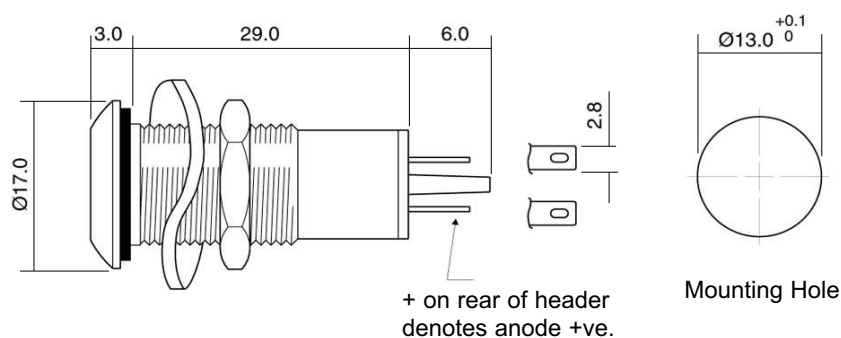
website: [www.marl.co.uk](http://www.marl.co.uk) • email: [sales@marl.co.uk](mailto:sales@marl.co.uk) •

• Telephone +44 (0)1229 582430 • Fax: +44 (0)1229 585155

The information contained in this datasheet does not constitute part of any order or contract and should not be regarded as a representation relating to either products or service. Marl International reserve the right to alter without notice the specification or any conditions of supply for products or service.

BS EN ISO 9001:2000  
Approved Manufacturer

## 528 Series



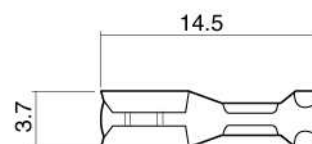
Dimensions in mm (Typical)  
Not to scale

Mounting hole to be clean and burr free

### MATERIALS

|               |                                                                           |
|---------------|---------------------------------------------------------------------------|
| Body          | Stainless steel grade 303                                                 |
| Nut           | Stainless steel grade 303                                                 |
| Panel Seal    | Viton                                                                     |
| Termination   | Brass to BS 2874 CZ108<br>Copper flash undercoat with silver flash finish |
| Lock Washer   | Stainless steel                                                           |
| Fresnel lens  | Polycarbonate                                                             |
| Encapsulation | PC5430 resin                                                              |
| Header        | Nylon 6 A82                                                               |

### PUSH-ON CONNECTORS



925-000-00 is brass tin plated.  
For use with 528 series lamps.

Dimensions in mm (Typical)  
Not to scale

## TECHNICAL CHARACTERISTICS

| SERIES | MAXIMUM POWER DISSIPATION | MAXIMUM REVERSE VOLTAGE | PANEL CUTOUT | NUT MOUNTING TORQUE | MINIMUM MOUNTING CENTRES | MIN/MAX. PANEL THICKNESS |
|--------|---------------------------|-------------------------|--------------|---------------------|--------------------------|--------------------------|
| 528    | 825                       | 1000                    | 13.0         | 1.0                 | x,y=26.0                 | 2.0-10.0                 |
|        | mw                        | Vdc                     | mm           | Nm                  | mm                       | mm                       |

\* = current version

• = voltage version

## OPTIONAL FLYING LEAD TERMINATIONS

| ORDER CODE SUFFIX | SUPPLY VOLTAGE | WIRE COLOUR               | WIRE LENGTH | NO/DIAMETER OF CONDUCTORS | DIAMETER OVER INSULATION | COMMENTS                     |
|-------------------|----------------|---------------------------|-------------|---------------------------|--------------------------|------------------------------|
| 15                | DC Products    | Red-anode / Black-cathode | 150mm       | 19/0.15mm                 | 1.2mm                    | Customised lengths available |
| 15                | AC Products    | Brown-live / Blue-neutral | 150mm       |                           |                          |                              |
| 19                | DC Products    | Red-anode / Black-cathode | 1000mm      |                           |                          |                              |
| 19                | AC Products    | Brown-live / Blue-neutral | 1000mm      |                           |                          |                              |

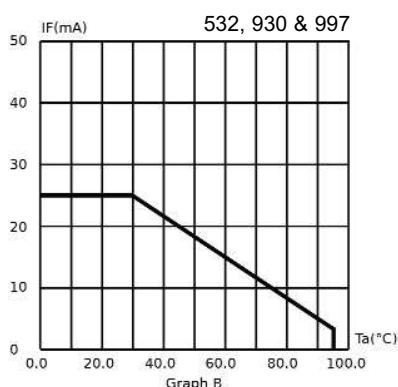
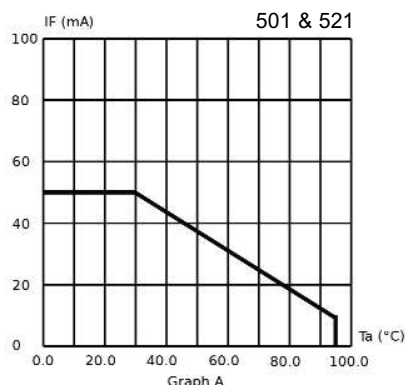
website: [www.marl.co.uk](http://www.marl.co.uk) • email: [sales@marl.co.uk](mailto:sales@marl.co.uk) •  
• Telephone +44 (0)1229 582430 • Fax: +44 (0)1229 585155

The information contained in this datasheet does not constitute part of any order or contract and should not be regarded as a representation relating to either products or service. Marl International reserve the right to alter without notice the specification or any conditions of supply for products or service.



BS EN ISO 9001:2000  
Approved Manufacturer

## DERATING INFORMATION



## ALSO AVAILABLE

Part numbers also available in the 528 Series:

| PART NO.      | COLOUR | VOLTAGE DC (Vdc) Vopr |
|---------------|--------|-----------------------|
| 528-000-00-50 |        | 125 VDC               |
| 528-501-04    | Red    | 20mA                  |
| 528-501-21-15 | Red    | 12 VDC                |
| 528-501-21-19 | Red    | 12 VDC                |
| 528-501-22    | Red    | 24 VDC                |
| 528-501-22-15 | Red    | 24 VDC                |
| 528-501-22-19 | Red    | 24 VDC                |
| 528-501-22-50 | Red    | 24 VDC                |
| 528-501-23-15 | Red    | 28 VDC                |
| 528-501-24-19 | Red    | 48 VDC                |
| 528-501-25    | Red    | 110 VDC               |
| 528-501-72    | Red    | 24 VAC                |
| 528-501-75    | Red    | 110 VAC               |
| 528-501-76    | Red    | 230 VAC               |
| 528-501-76-15 | Red    | 230 VAC               |
| 528-501-76-50 | Red    | 230 VAC               |
| 528-501-86    | Red    | 115 VAC               |
| 528-506-23    | Orange | 28 VDC                |
| 528-512-21-15 | Green  | 12 VDC                |
| 528-512-22-15 | Green  | 24 VDC                |
| 528-512-76    | Green  | 230 VAC               |
| 528-521-04    | Yellow | 20mA                  |
| 528-521-21-19 | Yellow | 12 VDC                |
| 528-521-22    | Yellow | 24 VDC                |
| 528-521-22-15 | Yellow | 24 VDC                |
| 528-521-22-19 | Yellow | 24 VDC                |
| 528-521-22-50 | Yellow | 24 VDC                |
| UNITS         |        |                       |

| PART NO.      | COLOUR | VOLTAGE DC (Vdc) Vopr |
|---------------|--------|-----------------------|
| 528-521-23-15 | Yellow | 28 VDC                |
| 528-521-23-50 | Yellow | 28 VDC                |
| 528-521-53    | Yellow | 50 VDC                |
| 528-521-72    | Yellow | 24 VAC                |
| 528-521-75    | Yellow | 110 VAC               |
| 528-521-76    | Yellow | 230 VAC               |
| 528-521-76-50 | Yellow | 230 VAC               |
| 528-521-86    | Yellow | 115 VAC               |
| 528-532-04    | Green  | 20mA                  |
| 528-532-20    | Green  | 5/6 VDC               |
| 528-532-21-19 | Green  | 12 VDC                |
| 528-532-22    | Green  | 24 VDC                |
| 528-532-22-19 | Green  | 24 VDC                |
| 528-532-22-50 | Green  | 24 VDC                |
| 528-532-24    | Green  | 48 VDC                |
| 528-532-25    | Green  | 110 VDC               |
| 528-532-42    | Green  | 15 VDC                |
| 528-532-72    | Green  | 24 VAC                |
| 528-532-74    | Green  | 48 VAC                |
| 528-532-75    | Green  | 110 VAC               |
| 528-532-76    | Green  | 230 VAC               |
| 528-532-76-19 | Green  | 230 VAC               |
| 528-532-76-21 | Green  | 230 VAC               |
| 528-532-76-50 | Green  | 230 VAC               |
| 528-532-86    | Green  | 115 VAC               |
| 528-930-04    | Blue   | 20mA                  |
| 528-930-04-15 | Blue   | 20mA                  |
| UNITS         |        |                       |

| PART NO.      | COLOUR | VOLTAGE DC (Vdc) Vopr |
|---------------|--------|-----------------------|
| 528-930-04-50 | Blue   | 20mA                  |
| 528-930-04-51 | Blue   | 20mA                  |
| 528-930-21-19 | Blue   | 12 VDC                |
| 528-930-22    | Blue   | 24 VDC                |
| 528-930-25    | Blue   | 110 VDC               |
| 528-930-75    | Blue   | 110 VAC               |
| 528-930-76    | Blue   | 230 VAC               |
| 528-997-04    | White  | 20mA                  |
| 528-997-21-19 | White  | 12 VDC                |
| 528-997-22    | White  | 24 VDC                |
| 528-997-22-19 | White  | 24 VDC                |
| 528-997-22-50 | White  | 24 VDC                |
| 528-997-24    | White  | 48 VDC                |
| 528-997-72    | White  | 24 VAC                |
| 528-997-75    | White  | 110 VAC               |
| 528-997-76    | White  | 230 VAC               |
| 528-997-76-19 | White  | 230 VAC               |
| 528-997-76-50 | White  | 230 VAC               |
| 528-997-86    | White  | 115 VAC               |
| UNITS         |        |                       |

The products listed above illustrate all of the options available to order. These products may have custom modifications that alter their operation beyond the generic information contained within this datasheet. Please contact sales for further information.

website: [www.marl.co.uk](http://www.marl.co.uk) • email: [sales@marl.co.uk](mailto:sales@marl.co.uk) •  
 • Telephone +44 (0)1229 582430 • Fax: +44 (0)1229 585155

The information contained in this datasheet does not constitute part of any order or contract and should not be regarded as a representation relating to either products or service. Marl International reserve the right to alter without notice the specification or any conditions of supply for products or service.



BS EN ISO 9001:2000  
Approved Manufacturer

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)

[www.lifeelectronics.ru](http://www.lifeelectronics.ru)