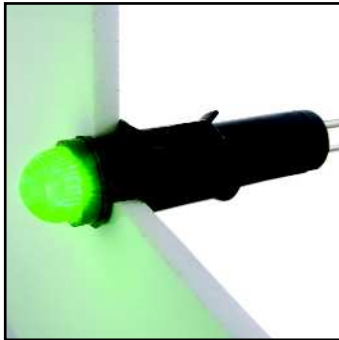


PANEL INDICATOR LEDs - Ø8.0mm Mounting

FEATURES



411 SERIES

PACK QUANTITY = 20 PIECES

- Front panel replaceability
- Must be used in conjunction with 907-000-00 panel socket. See datasheet DS084/04
- Domed fresnel lens for wide angle viewing
- Sealed to IP40
- Product illustrated 411-532-22 in the 907-000-00 panel mounting socket

SPECIFICATIONS

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

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

| PART NUMBER | COLOUR | LENS | VOLTAGE DC Vopr | CURRENT DC Iopr | LUMINOUS INTENSITY Iv@20mA | WAVE LENGTH λp | OPERATING TEMP Topr | STORAGE TEMP Tstg | | |
|-----------------------|------------|------|-----------------|-----------------|----------------------------|----------------|---------------------|-----------------------|----------|-----|
| HIGH INTENSITY | | | | | | | | | | |
| 411-501-21 | Red | | Colour Diffused | 12 | 20 | 11000 | 643 | -0 ~ +85 [^] | -0 ~ +85 | Yes |
| 411-521-21 | Yellow | | Colour Diffused | 12 | 20 | 16000 | 591 | -0 ~ +85 [^] | -0 ~ +85 | Yes |
| 411-532-21 | Green | | Colour Diffused | 12 | 20 | 23000 | 527 | -0 ~ +85 [^] | -0 ~ +85 | Yes |
| 411-930-21 | Blue | | Colour Diffused | 12 | 20 | 7000 | 470 | -0 ~ +85 [^] | -0 ~ +85 | Yes |
| 411-997-21 | Cold White | | Colour Diffused | 12 | 20 | 14000 | *see below | -0 ~ +85 [^] | -0 ~ +85 | Yes |
| 411-501-23 | Red | | Colour Diffused | 24-28 | 17.5 | 11000 | 643 | -0 ~ +85 [^] | -0 ~ +85 | Yes |
| 411-521-23 | Yellow | | Colour Diffused | 24-28 | 17.5 | 16000 | 591 | -0 ~ +85 [^] | -0 ~ +85 | Yes |
| 411-532-23 | Green | | Colour Diffused | 24-28 | 17.5 | 23000 | 527 | -0 ~ +85 [^] | -0 ~ +85 | Yes |
| 411-930-23 | Blue | | Colour Diffused | 24-28 | 17.5 | 7000 | 470 | -0 ~ +85 [^] | -0 ~ +85 | Yes |
| 411-997-23 | Cold White | | Colour Diffused | 24-28 | 17.5 | 14000 | *see below | -0 ~ +85 [^] | -0 ~ +85 | Yes |
| UNITS | | | Vdc | mA | mcd | nm | °C | °C | | |



| | | | | | |
|---------------|-------------------------------------|-------|-------|-------|--|
| 997F-C | *Typical emission colour cold white | | | | Intensities (Iv) and colour shades of white (x,y co-ordinates) may vary between LEDs within a batch. |
| x | 0.245 | 0.361 | 0.356 | 0.264 | |
| y | 0.229 | 0.385 | 0.351 | 0.220 | |

[^] = Products must be derated according to the derating information. Each derating graph refers to specific LEDs. Appropriate LED numbers shown. Refer to page 3.

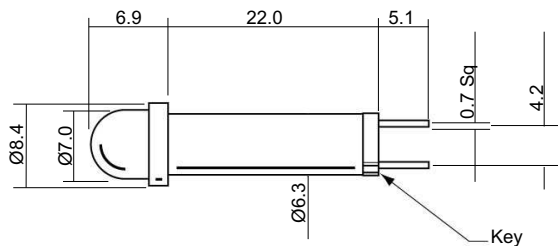
How to Order:

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411 SERIES



Dimensions in mm (Typical)
Not to scale

Key denotes cathode

MATERIALS

| | |
|-------------------|--|
| Body | Nylon 6 |
| Termination Pins | Tin on Nickel Plated Phosphor Bronze |
| Fresnel lens | Polycarbonate |
| Header | Nylon 6 |
| Rear Retainer | Spring Steel |
| Mounting Hardware | Use with socket 907-000-00. Use with socket 908-000-00 when diode test facility is specified |

TECHNICAL CHARACTERISTICS

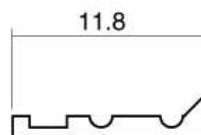
| SERIES | MAXIMUM POWER DISSIPATION | MAXIMUM REVERSE VOLTAGE | PANEL CUTOUT | MINIMUM MOUNTING CENTRES | MIN/MAX. PANEL THICKNESS |
|--------|---------------------------|-------------------------|--------------|--------------------------|--------------------------|
| 411 | 500 | 3 | 8.0 | 17.0 | 13.0 |
| UNITS | mW | Vdc | mm | mm | mm |

PANEL SOCKETS & CONNECTORS

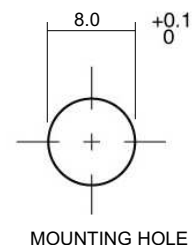
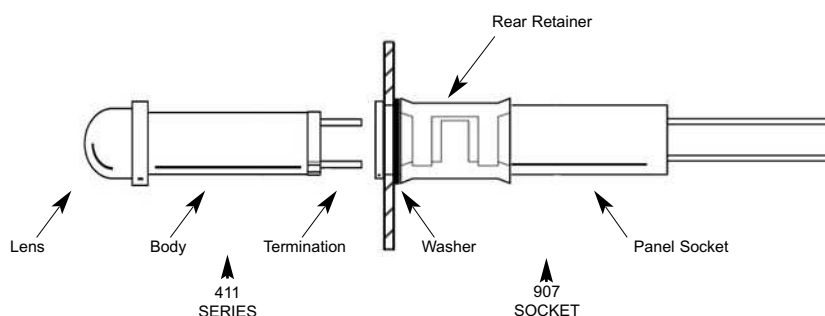
909-000-00 is gold plated
910-000-00 is tin plated
for use with 907 and 908 series panel sockets.

Suitable for wire sizes from 0.15mm² to 0.38mm² cross sectional area.

Dual metal contact design provides low resistance and gas tight electrical contact.



Dimensions in mm (Typical)
Not to scale



Mounting hole to be clean and burr free

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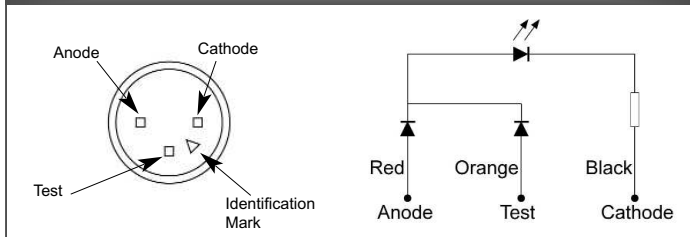
Optional Reverse Protection Diode

| ORDER CODE SUFFIX | CIRCUIT | COMMENTS |
|-------------------|---------|--|
| 01 | | Available on all indicators except Bi-Colour devices and when diode test is specified. |

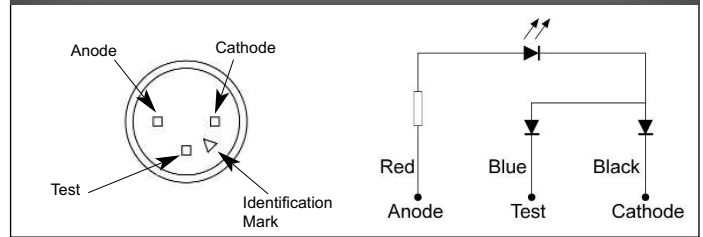
Optional Diode Test Facility

| ORDER CODE SUFFIX | TERMINATION | CIRCUIT | COMMENTS |
|-------------------|--|---------------|----------------------------------|
| 03 | 3 PIN 908-000-00 Socket | TEST POSITIVE | Not available with Bi-colour LED |
| 05 | 150mm of flying leads colours as shown (attached to 908-000-00) | | |
| 09 | 1000mm of flying leads colours as shown (attached to 908-000-00) | | |
| 04 | 3 PIN 908-000-00 Socket | TEST NEGATIVE | |
| 06 | 150mm of flying leads colours as shown (attached to 908-000-00) | | |
| 10 | 1000mm of flying leads colours as shown (attached to 908-000-00) | | |

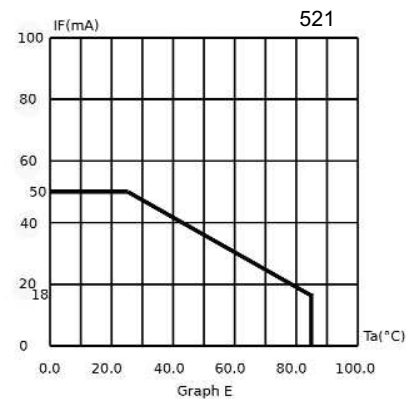
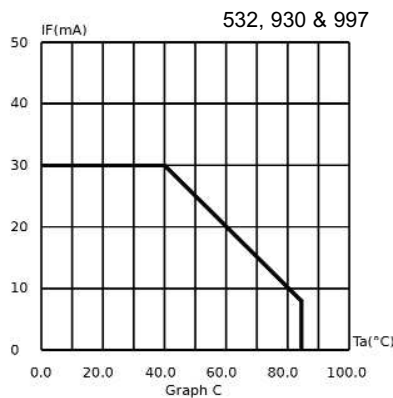
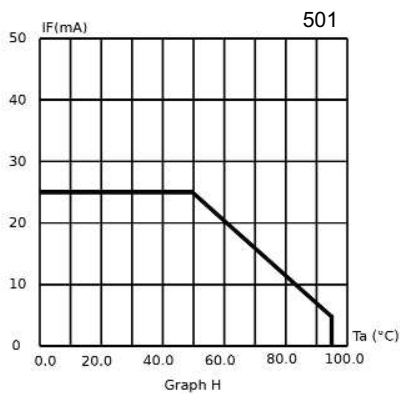
Test Positive



Test Negative



De-rating Information



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411 Series

Part numbers also available in the 411 Series:

| PART NO. | COLOUR | VOLTAGE (Vdc) Vopr |
|---------------|------------|-----------------------|
| 411-000-22-50 | Red/Yellow | 24Vdc |
| 411-501-04 | Red | 20mA |
| 411-501-04-03 | Red | 20mA |
| 411-501-22 | Red | 24Vdc |
| 411-501-22-03 | Red | 24Vdc |
| 411-501-22-04 | Red | 24Vdc |
| 411-501-24 | Red | 48Vdc |
| 411-501-24-03 | Red | 48Vdc |
| 411-501-24-04 | Red | 48Vdc |
| 411-501-75 | Red | 110Vac |
| 411-501-75-03 | Red | 110Vac |
| 411-501-76 | Red | 230Vac |
| 411-503-20 | Red | 5/6Vdc |
| 411-503-20-03 | Red | 5/6Vdc |
| 411-503-21 | Red | 12Vdc |
| 411-503-21-04 | Red | 12Vdc |
| 411-503-22 | Red | 24Vdc |
| 411-503-22-03 | Red | 24Vdc |
| 411-503-22-04 | Red | 24Vdc |
| 411-503-22-05 | Red | 24Vdc |
| 411-503-22-50 | Red | 24Vdc |
| 411-503-22-51 | Red | 24Vdc |
| 411-503-23 | Red | 24-28Vdc |
| 411-503-24-03 | Red | 48Vdc |
| 411-503-76 | Red | 230Vac |
| 411-506-20-03 | Orange | 5/6Vdc |
| 411-506-22 | Orange | 24Vdc |
| 411-506-22-03 | Orange | 24Vdc |
| 411-506-22-04 | Orange | 24Vdc |
| 411-506-22-51 | Orange | 24Vdc |
| 411-506-23 | Orange | 24-28Vdc |
| 411-506-75 | Orange | 110Vac |
| 411-506-76-15 | Orange | 230Vac |
| 411-509-20 | Yellow | 5/6Vdc |
| 411-509-21 | Yellow | 12Vdc |
| 411-509-21-50 | Yellow | 12Vdc |
| 411-509-22 | Yellow | 24Vdc |
| UNITS | | |

| PART NO. | COLOUR | VOLTAGE (Vdc) Vopr |
|---------------|--------|-----------------------|
| 411-509-22-03 | Yellow | 24Vdc |
| 411-509-22-04 | Yellow | 24Vdc |
| 411-509-22-05 | Yellow | 24Vdc |
| 411-509-22-52 | Yellow | 24Vdc |
| 411-509-23 | Yellow | 24-28Vdc |
| 411-512-20 | Green | 5/6Vdc |
| 411-512-21 | Green | 12Vdc |
| 411-512-21-04 | Green | 12Vdc |
| 411-512-22 | Green | 24Vdc |
| 411-512-22-03 | Green | 24Vdc |
| 411-512-22-04 | Green | 24Vdc |
| 411-512-22-05 | Green | 24Vdc |
| 411-512-22-51 | Green | 24Vdc |
| 411-512-24-03 | Green | 48Vdc |
| 411-519-22 | Blue | 24Vdc |
| 411-519-22-03 | Blue | 24Vdc |
| 411-519-22-50 | Blue | 24Vdc |
| 411-521-22 | Yellow | 24Vdc |
| 411-521-22-03 | Yellow | 24Vdc |
| 411-521-22-04 | Yellow | 24Vdc |
| 411-521-24-04 | Yellow | 48Vdc |
| 411-521-76-13 | Yellow | 230Vac |
| 411-532-04 | Green | 20mA |
| 411-532-22 | Green | 24Vdc |
| 411-532-22-03 | Green | 24Vdc |
| 411-532-22-04 | Green | 24Vdc |
| 411-532-24-03 | Green | 48Vdc |
| 411-532-76 | Green | 230Vac |
| 411-532-76-13 | Green | 230Vac |
| 411-532-76-15 | Green | 230Vac |
| 411-930-22 | Blue | 24Vdc |
| 411-930-22-03 | Blue | 24Vdc |
| 411-930-22-50 | Blue | 24Vdc |
| 411-997-22 | White | 24Vdc |
| 411-997-22-03 | White | 24Vdc |
| 411-997-43 | White | 18Vdc |
| 411-997-76 | White | 230Vac |
| 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.

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