

This range of panel mounting LED indicators consists of many different bezel styles, types of LED's and colours. The range has developed to meet the different needs of panel design including IP66 and IP67 environmentally sealed versions for use where a front panel seal is needed.

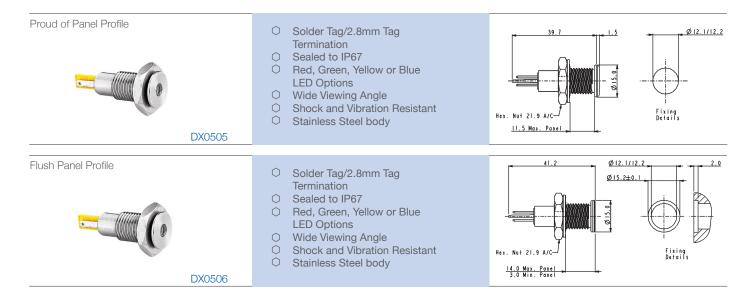
The vandal resistant LED indicators are designed to complement the vandal resistant switches (see the Switch Section), they have similar profiles with stainless steel bodies, sealing to IP66 & 68 and are built to withstand harsh environments.

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## Vandal Resistant LED Indicators

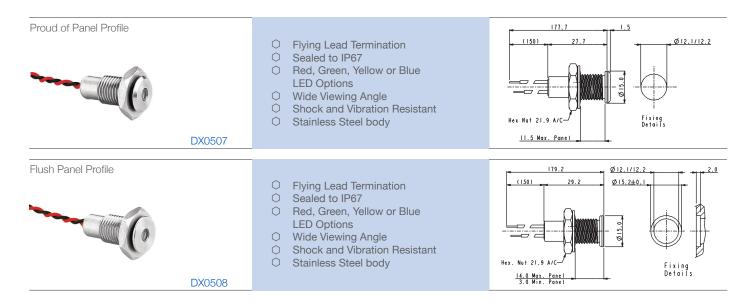




| Specifications   | DX0505/Col/Voltage   | DX0506/Col/Voltage   |
|--|--|--|
| Terminations:<br>Forward Voltage:                                | Solder Tab/2.8mm Tab<br>Red 1.85V, Green 2.2V, Yellow 2.0V,<br>Blue 3.8V           | Solder Tab/2.8mm Tab<br>Red 1.85V, Green 2.2V, Yellow 2.0V,<br>Blue 3.8V           |
| Cont. Forward Current:<br>(max)                                  | Red 30mA, Green 25mA,<br>Yellow 30mA, Blue 25mA                                    | Red 30mA, Green 25mA,<br>Yellow 30mA, Blue 25mA                                    |
| Power Dissipation:   | Red 100mW, Green 105mW,<br>Yellow 125mW, Blue 120mW                                | Red 100mW, Green 105mW,<br>Yellow 125mW, Blue 120mW                                |
| Reverse Current:<br>(@Vr = 5V)                                   | Red 10µA max., Green 10µA max.,<br>Yellow 10µA max., Blue 50µA max.                | Red 10μA max., Green 10μA max.,<br>Yellow 10μA max., Blue 50μA max.                |
| LED Luminous Intensity:  | Red 2000mcd, Green 100mcd,<br>Yellow 400mcd, Blue 1600mcd (typ)                    | Red 2000mcd, Green 100mcd,<br>Yellow 400mcd, Blue 1600mcd (typ)                    |
| Operating Temp. Range:   | -40°C to +80°C   | -40°C to +80°C   |
| Storage Temperature:   | -40°C to +85°C   | -40°C to +85°C   |
| Sealing (Front of panel):  | Protection Classification IP67 to EN60529:1992+A2:2013                             | Protection Classification IP67 to EN60529:1992+A2:2013                             |
| Materials<br>Body:<br>Lens:<br>O Ring (external):<br>(internal): | Stainless Steel<br>Polycarbonate UL94V-0<br>Nitrile<br>Silicone                    | Stainless Steel<br>Polycarbonate UL94V-0<br>Nitrile<br>Silicone                    |
| Tightening Torque  | 0.5Nm - 0.9Nm (4.4lbf.in 8.0lbf.in.)   | 0.5Nm - 0.9Nm (4.4lbf.in 8.0lbf.in.)   |
| Thread Size:   | M12 x 1.25-6g  | M12 x 1.25-6g  |
| LED Colours:   | /RD (Red), /GN (Green), /YL (Yellow)<br>/BL (Blue), with colour coded<br>insulator | /RD (Red), /GN (Green), /YL (Yellow)<br>/BL (Blue), with colour coded<br>insulator |
| LED Voltage:   | /12 (12V d.c.), /24 (24V d.c.) or<br>/00 (no ballast resistor)                     | /12 (12V d.c.), /24 (24V d.c.) or<br>/00 (no ballast resistor)                     |
| RoHS   | Compliant  | Compliant  |

## Vandal Resistant LED Indicators

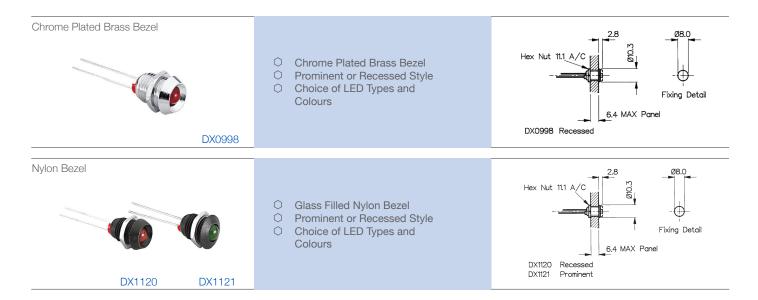




| Specifications   | DX0507/Col/Voltage  | DX0508/Col/Voltage  |
|--|---|---|
| Terminations:<br>Forward Voltage:<br>Cont. Forward Current:<br>(max) | Flying Leads<br>Red 1.85V, Green 2.2V, Yellow 2.0V,<br>Blue 3.8V<br>Red 30mA, Green 25mA,<br>Yellow 30mA, Blue 25mA | Flying Leads<br>Red 1.85V, Green 2.2V, Yellow 2.0V,<br>Blue 3.8V<br>Red 30mA, Green 25mA,<br>Yellow 30mA, Blue 25mA |
| Power Dissipation:   | Red 100mW, Green 105mW,<br>Yellow 125mW, Blue 120mW   | Red 100mW, Green 105mW,<br>Yellow 125mW, Blue 120mW   |
| Reverse Current:<br>(@Vr = 5V)                                       | Red 10μA max., Green 10μA max.,<br>Yellow 10μA max., Blue 50μA max.   | Red 10µA max., Green 10µA max.,<br>Yellow 10µA max., Blue 50µA max.   |
| LED Luminous Intensity:  | Red 2000mcd, Green 100mcd,<br>Yellow 400mcd, Blue 1600mcd (typ)   | Red 2000mcd, Green 100mcd,<br>Yellow 400mcd, Blue 1600mcd (typ)   |
| Operating Temp. Range:   | -40°C to +80°C  | -40°C to +80°C  |
| Storage Temperature:   | –40°C to +85°C  | -40°C to +85°C  |
| Sealing (Front of panel):  | Protection Classification IP67 to EN60529:1992+A2:2013  | Protection Classification IP67 to EN60529:1992+A2:2013  |
| Materials<br>Body:<br>Lens:<br>O Ring (external):<br>(internal):     | Stainless Steel<br>Polycarbonate UL94V-0<br>Nitrile<br>Silicone   | Stainless Steel<br>Polycarbonate UL94V-0<br>Nitrile<br>Silicone   |
| Tightening Torque  | 0.5Nm - 0.9Nm (4.4lbf.in 8.0lbf.in.)  | 0.5Nm - 0.9Nm (4.4lbf.in 8.0lbf.in.)  |
| Thread Size:   | M12 x 1.25-6g   | M12 x 1.25-6g   |
| LED Colours:   | /RD (Red), /GN (Green), /YL (Yellow)<br>/BL (Blue), with colour coded<br>insulator                                  | /RD (Red), /GN (Green), /YL (Yellow)<br>/BL (Blue), with colour coded<br>insulator                                  |
| LED Voltage:   | /12 (12V d.c.), /24 (24V d.c.) or<br>/00 (no ballast resistor)  | /12 (12V d.c.), /24 (24V d.c.) or<br>/00 (no ballast resistor)  |
| RoHS   | Compliant   | Compliant   |

#### Indicators 5mm LED Indicators





| Specifications         | DX0998 Colour/Options   | DX1120, DX1121/Colour/Options   |
|------------------------|---|---|
| Bezel Material:        | Brass, Chrome Plated  | Glass Filled Nylon  |
| Style:                 | Recessed (DX0998)   | Recessed (DX1120)<br>Prominent (DX1121)   |
| Operating Temp. Range: | Dependent on LED used   | Dependent on LED used   |
| Storage Temperature:   | Dependent on LED used   | Dependent on LED used   |
| LED Colours:           | /RD (Red), /GN (Green), /YL (Yellow),<br>/BL (Blue), /TR (Tri Colour),<br>/D1 (Dual Colour - Red/Green),<br>/D2 (Dual Colour - Red/Amber),<br>/D3 (Dual Colour - Green/Amber) | /RD (Red), /GN (Green), /YL (Yellow),<br>/BL (Blue), /TR (Tri Colour),<br>/D1 (Dual Colour - Red/Green),<br>/D2 (Dual Colour - Red/Amber),<br>/D3 (Dual Colour - Green/Amber) |
| LED Options:           | /02 (Flashing, Green or Red only)   | /02 (Flashing, Green or Red only)   |
| Thread Size:           | 0.312" x 32TPI  | 0.312" x 32TPI  |
| RoHS                   | Compliant   | Compliant   |

See Page 212 for LED options and specifications\*

#### Indicators 5mm LED Indicators



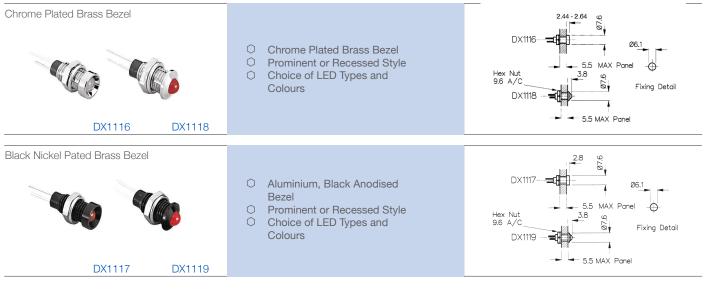


| Specifications            | DX1090, DX1092/Colour/Options   | DX1091, DX1093/Colour/Options   |
|---------------------------|---|---|
| Materials:                | Aluminium - Black   | Aluminium - Clear   |
| Style:                    | Recessed (DX1090)<br>Prominent (DX1092)   | Recessed (DX1091)<br>Prominent (DX1093)   |
| Operating Temp. Range:    | Dependent on LED used   | Dependent on LED used   |
| Storage Temperature:      | Dependent on LED used   | Dependent on LED used   |
| Sealing (Front of panel): | Protection Classification IP66 to EN60529:1992+A2:2013  | Protection Classification IP66 to<br>EN60529:1992+A2:2013   |
| Tightening Torque:        | 0.056Nm (8ozf.in.) min  | 0.056Nm (8ozf.in.) min  |
| Lead Solder Time:         | 260°C for 5 seconds max.  | 260°C for 5 seconds max.  |
| LED Colours:              | /RD (Red), /GN (Green), /YL (Yellow),<br>/BL (Blue), /TR (Tri Colour),<br>/D1 (Dual Colour - Red/Green),<br>/D2 (Dual Colour - Red/Amber),<br>/D3 (Dual Colour - Green/Amber) | /RD (Red), /GN (Green), /YL (Yellow),<br>/BL (Blue), /TR (Tri Colour),<br>/D1 (Dual Colour - Red/Green),<br>/D2 (Dual Colour - Red/Amber),<br>/D3 (Dual Colour - Green/Amber) |
| Thread Size:              | 0.312" x 32TPI  | 0.312" x 32TPI  |
| RoHS                      | Compliant   | Compliant   |

See Page 212 for LED options and specifications

## Amm LED Indicators





| Specifications         | DX1116, DX1118/Colour                               | DX1117, DX1119/Colour                               |
|------------------------|---|---|
| Bezel Materials:       | Brass, Chrome Plated                                | Aluminium, Black Anodised                           |
| Style:                 | Recessed (DX1116)<br>Prominent (DX1118)             | Recessed (DX1117)<br>Prominent (DX1119)             |
| Operating Temp. Range: | Dependent on LED used                               | Dependent on LED used                               |
| Storage Temperature:   | Dependent on LED used                               | Dependent on LED used                               |
| Lead Solder Time:      | 260°C for 5 seconds max.                            | 260°C for 5 seconds max.                            |
| LED Colours:           | /RD (Red), /GN (Green), /YL (Yellow),<br>/BL (Blue) | /RD (Red), /GN (Green), /YL (Yellow),<br>/BL (Blue) |
| RoHS                   | Compliant   | Compliant   |

See Page 213 for LED specifications\*

### Indicators 5mm LED options



#### 5mm LEDs STANDARD

| Specification                | Red      | Green         | Yellow   | Blue           |                    |
|------------------------------|----------|---------------|----------|----------------|--------------------|
| Luminous Intensity @20mA:    | 25mcd    | 20mcd         | 20mcd    | 21mcd          | 27 MIN8.6          |
| Forward voltage:             | 2.0V     | 2.0V          | 2.1V     | 3.5V           |                    |
| Cont. Forward Current (max): | 30mA     | 25mA          | 30mA     | 30mA           |                    |
| Power Dissipation:           | 105mW (  | max) @20°C A  | mbient   | 120mW          |                    |
| Reverse Current:             | 10µA     | 10µA          | 10µA     | 50µA           | Ø5.9 <u>15 TYP</u> |
| Reverse Voltage:             | 5V (max) | 5V (max)      | 5V (max) | 5V (max)       | SQUARE SPILLS      |
| Operating Temp:              | -4       | 40°C to +85°C |          | –20°C to +80°C |                    |
| Part No:                     | /RD      | /GN           | /YL      | /BL            |                    |
|                              |          |               |          |                |                    |

#### 5mm LEDs FLASHING

| Specification   | Red                            | Green                                |
|---|--------------------------------|--------------------------------------|
| Luminous Intensity @20mA:<br>Forward voltage:<br>Cont. Forward Current (max): | 1.2mcd<br>2.0-15.0V<br>10-30mA | 20mcd<br>2.0V<br>25mA                |
| Power Dissipation:<br>Flash Frequency @ 3V supply:<br>Operating Temp:         | 2.2H                           | @ 20°C ambient<br>z (typ)<br>o +70°C |
| Part No:  | /RD/02                         | /GN/02                               |

#### 5mm LEDs TRI COLOUR

| Specification  | Red/Green/Amber  |         |
|--|--|---------|
| Luminous Intensity @20mA:<br>Forward voltage:<br>Cont. Forward Current (max):<br>Power Dissipation:<br>Reverse Current:<br>Reverse Voltage:<br>Operating Temp:<br>Part No: | 2.5mcd<br>2.4V<br>30mA (max)<br>150mW (max) @ 20°C Ambient<br>100μA<br>5V (max)<br>-40°C to +70°C<br>/TR | CATHODE |

#### 5mm LEDs DUAL COLOUR

| Specifications   | Red/Green  | Red/Amber   | Green/Amber   |   |
|--|--|---|---|---|
| Luminous Intensity:<br>Forward voltage:<br>Cont. Forward Current:<br>Power Dissipation:<br>Reverse Current:<br>Reverse Voltage:<br>Operating Temp:<br>Part No: | 4.5/5mcd<br>2.2V<br>30mA/30mA<br>100mW/100mW<br>100mA<br>5V (max)<br>/D1 | 4.5/4mcd<br>2.2V<br>30mA/20mA<br>100mW/60mW<br>100mA<br>5V (max)<br>-40°C to +85°C<br>/D2 | 4/5mcd<br>2.2V<br>30mA/20mA<br>100mW/60mW<br>100mA<br>5V (max)<br>/D3 | HIN<br>RED<br>RED<br>RED<br>VELLOW<br>VELLOW<br>VELLOW<br>GREEN |
| Operating Temp:  | . ,  | –40°C to +85°C  |   |   |

# Amm LED Options



#### 4mm LEDs Standard

| Specifications   | Red  | Green  | Yellow  | Blue  |                  |
|--|--|--|---|---|------------------|
| Luminous Intensity @10mA:<br>Forward voltage:<br>Cont. Forward Current (max):<br>Power Dissipation (max) @ 20°C Ambient:<br>Reverse Current:<br>Reverse Voltage:<br>Part No: | 2.5mcd<br>2.0V<br>30mA<br>100mW<br>10µA<br>5V (max)<br>/RD | 2.5mcd<br>2.1V<br>30mA<br>100mW<br>10µA<br>5V (max)<br>/GN | 2.5mcd<br>2.0V<br>20mA<br>85mW<br>10µA<br>5V (max)<br>/YL | 50mcd<br>3.8V<br>30mA<br>120mW<br>50μA<br>5V (max)<br>/BL | ANODE<br>CATHODE |

#### Part No Breakdown

| DXxxxx     | / xx /  | / <b>xx</b>   |  |
|------------|---|---|--|
| Bezel Type | LED Colour<br>RD = Red<br>GN = Green<br>YL = Yellow<br>BL = Blue<br>D1 = Dual Colour - 5mm (Red/<br>Green)<br>D2 = Dual Colour - 5mm (Red/<br>Amber)<br>D3 = Dual Colour - 5mm (Green/<br>Amber)<br>TR = Tri Colour - 5mm (Red/<br>Green/Amber) | LED Options<br>Blank = Standard<br>02 = Flashing - 5mm (Red or<br>Green only) |  |

Example: DX1092/RD/02 = Black Aluminum IP66 Prominent Bezel, with Red flashing LED

## Indicator Lights Neon, LED and Filament Lamp



#### **Key Features**

O Neon, LED, mains LED or filament lamp

- O Bezel sizes from 6.7 to
- 16.3mm diameter O Red, amber, green, blue and clear lenses
- $\bigcirc$ Red, yellow, green, blue and white LEDs
- O Wide choice of styles

#### **Colours and voltages:**

NEON

(,)

Available with

Red, Amber,

Green or Clear lenses 100/130V (marked 110V),

(marked 230V)



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AC

Green, Blue, White 110-230V ac Green, Blue, White 2.0/2.2V Resistors for other voltages operation. available.

Available with

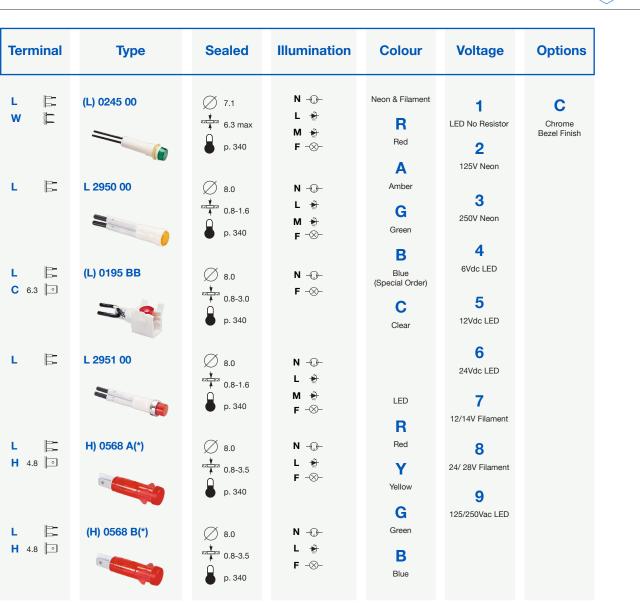
FILAMENT

Red, Amber, Green, Clear or Blue lenses 6V, 12/14V, 24/28V.

| Terminal       | Туре        | Sealed   | Illumination                                       | Colour                                     | Voltage                                       | Options                     |
|----------------|-------------|--|--|--|---|-----------------------------|
| B 2.8 ⊨<br>L ⊨ | (B) 0566 A  | 6.0<br>2.0 max<br>p. 340                                       | N -@-<br>L <del>®</del><br>M <del>®</del>          | Neon & Filament<br><b>R</b><br>Red         | 1<br>LED No Resistor<br>2                     | C<br>Chrome<br>Bezel Finish |
| B 2.8 📁        | (B) 0566 B  | 6.0<br>• 2.0 max<br>• 2.40                                     | N<br>L <del>&amp;</del><br>M <del>&amp;</del>      | A<br>Amber<br>G<br>Green                   | 125V Neon<br>3<br>250V Neon                   |                             |
| B 2.8 🕞        | (B) 0566 C  | 6.0<br>•••••<br>• 2.0max                                       | N - <del>()-</del><br>L <del></del>                | B<br>Blue<br>(Special Order)<br>C<br>Clear | 4<br>6Vdc LED<br>5<br>12Vdc LED               |                             |
| <b>C</b> 6.3   | (C) 0145 AA | <ul> <li>∑ 5.8</li> <li>★ 3.0max</li> <li>p. 340</li> </ul>    | N -⊕-<br>L <del>∜</del><br>M <del>∛</del><br>F -⊗- | LED  | 6<br>24Vdc LED<br>7                           |                             |
| L 🖁<br>W L     | (L) 1041 00 | 6.3<br>6.3<br>6.3max<br>p. 340                                 | N -@-<br>L <del>#</del><br>F -⊗-                   | R<br>Red<br>Y<br>Yellow                    | 12/14V Filament<br>8<br>24/ 28V Filament<br>9 |                             |
| L E<br>W L     | (L) 1045 00 | <ul> <li>Ø 6.3</li> <li>Ø 10.0max</li> <li>Ø p. 340</li> </ul> | N -⊕-<br>L <del>∛</del><br>M <del>∛</del><br>F -⊗- | G<br>Green<br>B<br>Blue                    | 125/250Vac LED                                |                             |

Indicators 375

Neon, LED and Filament Lamp



#### **Dimensions**





Ø7.0

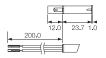
Ø7.0

Ø7.0

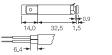




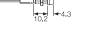




(C) 0145 AA







Ø7.6

Ø7.6

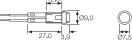




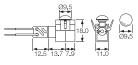












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L 2951 00





€ = 27.5 = 27.5 = 2.3





#### **Key Features**

#### O Neon, LED, mains LED or filament lamp

- O Bezel sizes from 6.7 to 16.3mm diameter
- O Red, amber, green, blue and clear lenses
- O Red, yellow, green, blue and white LEDs
- Wide choice of styles

#### **Colours and voltages:**

NEON

Available with

Red, Amber,

Green or Clear

lenses 100/130V (marked 110V), 200/250V (marked 230V)



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AC

Red, Yellow, Red, Yellow, Green, Blue, White Green, Blue, White 110-230V ac 2.0/2.2V Resistors for other voltages operation.

available.



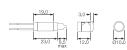
FILAMENT

Red, Amber, Green, Clear or Blue lenses 6V, 12/14V, 24/28V.

| Terminal                             | Туре        | Illumination   | Colour                                     | Voltage                                      | Options                     | Panel  | Approval                               |
|--------------------------------------|-------------|--|--|--|-----------------------------|--|--|
| L E<br>K 2.8 P<br>H 4.8 0<br>C 6.3 0 | (C) 0273 00 | N -⊕-<br>L <del>∛</del><br>M <del>∛</del><br>F -⊗-     | Neon & Filament<br>R<br>Red                | 1<br>LED No Resistor<br>2<br>125V Neon       | C<br>Chrome<br>Bezel Finish | 9.0<br>2.0 max<br>p. 340   | R Kiin G<br>Kiin<br>Kiin               |
| L 2.8<br>H 4.8<br>C 6.3              | (C) 0278 00 | N -⊕-<br>L <del>∛</del><br>F -⊗-                       | A<br>Amber<br>G<br>Green                   | 3<br>250V Neon<br>4                          |                             | 9.0<br>2.0 max<br>p. 340   | RA KII GO<br>KII<br>KII<br>KII         |
| L E<br>K 2.8 F<br>H 4.8 C<br>C 6.3 C | (C) 0276 AA | N -⊕-<br>L <del>†)</del><br>M <del>†)</del><br>F -⊗-   | B<br>Blue<br>(Special Order)<br>C<br>Clear | 4<br>6Vdc LED<br>5<br>12Vdc LED              |                             | 9.5<br>0.8-2.8<br>0.340  | RL KEED Ø<br>KEED<br>KEED              |
| L 2.8<br>H 4.8<br>C 6.3              | (C) 0275 00 | N -⊕-<br>L <del>†)</del><br>M <del>†)</del><br>F -⊗-   | LED<br>R                                   | 6<br>24Vdc LED<br>7<br>12/14V Filament       |                             | <ul> <li>10.0</li> <li>12.0</li> <li>p. 340</li> </ul>           | RL KEE <b>G</b><br>KEE <b>G</b><br>KEE |
| L 2.8<br>H 4.8<br>C 6.3              | (C) 0275 00 | N -⊕-<br>L <del>&amp;</del><br>M <del>∛</del><br>F -⊗- | Red<br>Y<br>Yellow<br>Green<br>B           | 8<br>24/ 28V Filament<br>9<br>125/250Vac LED |                             | <ul> <li>✓ 10.0</li> <li>★ 11.5 max</li> <li>▶ p. 340</li> </ul> | RL KEED S                              |
|                                      |             |  | Blue                                       |  |                             |  |  |

| Terminal  | Туре        | Illumination   | Colour                           | Voltage                                      | Options                     | Panel  | Approval  |
|---|-------------|--|----------------------------------|--|-----------------------------|--|---|
| L E<br>K 2.8 F<br>H 4.8 C<br>C 6.3 C                    | (C) 0276 00 | N -⊕-<br>L <del>≹</del><br>M <del>≹</del><br>F -⊗-               | Neon & Filament<br>R<br>Red      | 1<br>LED No Resistor<br>2<br>125V Neon       | C<br>Chrome<br>Bezel Finish | <ul> <li>Ø 10.0</li> <li>♥ 2.8 max</li> <li>● p. 340</li> </ul>  | R KEER<br>KEER<br>R KEER<br>KEER  |
| L E<br>K 2.8<br>H 4.8<br>C 6.3                          | (C) 0277 00 | N -⊕-<br>L <del>∜</del><br>M <del>∜</del><br>F -⊗-               | Amber<br>G<br>Green<br>B         | 3<br>250V Neon<br>4                          |                             | <ul> <li>10.0</li> <li>12 max</li> <li>p. 340</li> </ul>         | RL KEED <b>()</b><br>KEED<br>KEED                                       |
| L 2.8<br>H 4.8<br>C 6.3                                 | (C) 0273 LL | N -⊕-<br>L <del>∛</del><br>M <del>*</del> }<br>F -⊗-             | Blue<br>(Special Order)<br>Clear | 6Vdc LED<br>5<br>12Vdc LED<br>6              |                             | <ul> <li>✓ 10.0</li> <li>★ 0.6-2.0</li> <li>▶ p. 340</li> </ul>  | Kina S<br>Kina<br>Kina<br>Kina  |
| L 2.8<br>H 4.8<br>C 6.3                                 | (C) 2820 00 | N -⊕-<br>L <del>∛</del> -<br>M <del>∜</del><br>F -⊗-             | LED<br>R                         | 24Vdc LED<br><b>7</b><br>12/14V Filament     |                             | <ul> <li>✓ 12.0</li> <li>✓ 0.75-2.0</li> <li>● p. 340</li> </ul> | KEDD<br>KEDD<br>KEDD<br>KEDD  |
| L 2.8<br>H 4.8<br>C 6.3                                 | (C) 2821 00 | N - <del>0-</del><br>L <del>∛</del><br>M <del>*</del> }<br>F -⊗- | Red<br>Y<br>Yellow<br>G          | 8<br>24/ 28V Filament<br>9<br>125/250Vac LED |                             | 22.00r12<br>012.0<br>0.8-2.5<br>012.7<br>= 1.1-2.5<br>p. 340     | .7 <b>PA</b> KEEB <b>()</b><br>KEEB <b>()</b><br>KEEB <b>()</b><br>KEEB |
| L     ↓       K     2.8       H     4.8       C     6.3 | (C) 0586 00 | N -⊕-<br>L <del>∜</del><br>M <del>∲</del><br>F -⊗-               | Green<br>B<br>Blue               |  |                             | <ul> <li>12.5</li> <li>0.8-1.5</li> <li>p. 340</li> </ul>        | RA KEED<br>KEED<br>KEED   |
| Dimensions<br>(L) 0569 AW                               | (C          | ) <b>0275 00</b>   | (C) 027                          | 3 LL   |                             |  |   |

bulgin



012.2

12.0 Sc

O ∅12.0





(C) 0278 00









0



32.5 2

(C) 0275 00

Ø13.3

O 015.6

Ø12.0

014.6

(C) 0277 00

3









(C) 2821 00



#### (C) 0586 00



15.5 Sq

378 Indicators

## Indicator Lights Neon, LED and Filament Lamp



#### **Key Features**

#### **Colours and voltages:**

- Neon, LED, mains LED or filament lamp  $\bigcirc$
- $\bigcirc$ Bezel sizes from 6.7 to 16.3mm diameter
- O Red, amber, green and clear lenses
- O Red, yellow, green, blue and white LEDs
- Wide choice of styles



(marked 230V)

NEON

Red, Yellow, Green, Blue, White 2.0/2.2V Resistors for other voltages available.

DC LED



Red, Yellow, Green, Blue, White 110-230V ac operation.

AC MAINS LED

77



FILAMENT

Green, Clear or Blue lenses 6V, 12/14V, 24/28V.

| Terminal   | Туре                                   | Illumination  | Colour  | Voltage   | Options                     | Panel   | Approval  |
|--|--|---|---|---|-----------------------------|---|---|
| L 2.8<br>H 4.8<br>C 6.3<br>C 6.3<br>L<br>K 2.8<br>H 4.8<br>C 6.3<br>C 6.3<br>C 6.3<br>C 6.3<br>L<br>L<br>L<br>L<br>L<br>L<br>L<br>L<br>L L<br>L L L<br>L | (C) 2870 00<br>C) 0589 00<br>L 0081 00 | N - ⊕-<br>L 巻<br>F - ⊗-<br>N - ⊕-<br>L 巻<br>F - ⊗-<br>N - ⊕-<br>L 巻 | Neon & Filament<br>R<br>Red<br>A<br>Amber<br>G<br>Green<br>B<br>B<br>Uue<br>(Special Order) | 1<br>LED No Resistor<br>2<br>125V Neon<br>3<br>250V Neon<br>4<br>6Vdc LED | C<br>Chrome<br>Bezel Finish | $() 12.7 \\ + 0.75-2.0 \\ 0.75-2.0 \\ P. 340 \\ () 12.7 \\ + 0.8-1.5 \\ 0.8-1.5 \\ P. 340 \\ () 12.7 \\ + 12.7$ | N. KEE         (8)           KEE         (8)           KEE         (8)           N. KEE         (8)           KEE         (8) |
| L 2.8<br>H 4.8<br>C 6.3  | (C) 0177 00                            | M <del>∲</del><br>F -⊗-<br>N -⊕-<br>L <del>∛</del><br>F -⊗-         | C<br>Clear<br>LED   | 5<br>12Vdc LED<br>6<br>24Vdc LED<br>7<br>12/14V Filament                  |                             | 9.5<br>p. 340<br>212.7<br>12.0max<br>p. 340   | KEED<br>KEED<br>KEED<br>KEED<br>KEED  |
| L 2.8<br>H 4.8<br>C 6.3  | (C) 0067 00                            | N -⊕-<br>L <del>∛</del><br>M <del>∛</del><br>F -⊗-                  | Red<br>Y<br>Yellow  | 8<br>24/ 28V Filament<br>9<br>125/250Vac LED                              |                             | <ul> <li>12.7</li> <li>1.14 max</li> <li>p. 340</li> </ul>  | KICA<br>KICA<br>KICA  |
| L  | (C) 0180AA                             | N -⊕-<br>L <del>∛</del><br>F -⊗-                                    | Green<br>B<br>Blue  |   |                             | <ul> <li>✓ 12.7</li> <li>✓ 19.0 max</li> <li>✓ p. 340</li> </ul>  | <b>NA</b> KCC <b>G</b>  |

| Terminal      | Туре        | Illumination                                       | Colour                             | Voltage                                       | Options                     | Panel  | Approval     |
|---------------|-------------|--|------------------------------------|---|-----------------------------|--|--------------|
| L E.<br>C 6.3 | (C) 0180BB  | N -⊕-<br>L <del>∛</del><br>F -⊗-                   | Neon & Filament<br><b>R</b><br>Red | 1<br>LED No Resistor<br>2                     | C<br>Chrome<br>Bezel Finish | <ul> <li>✓ 13.5</li> <li>✓ 0.9-1.14</li> <li>■ p. 340</li> </ul> | KTGD 🔇       |
| L             | (C) 0579 00 | N -⊕-<br>L <del>≇</del><br>M <del>*</del><br>F -⊗- | A<br>Amber<br>G<br>Green           | 125V Neon<br><b>3</b><br>250V Neon            |                             | <ul> <li>14.0</li> <li>2.5 max</li> <li>p. 340</li> </ul>        | KIGA<br>KIGA |
| C 6.3         | (C) 1092    | N - <del>Q-</del>                                  | B<br>Blue<br>(Special Order)       | 4<br>6Vdc LED<br>5<br>12Vdc LED               |                             | <ul> <li>19.0</li> <li>4.0max</li> <li>p. 340</li> </ul>         | (KECS)       |
|               |             |  | Clear<br>LED                       | 6<br>24Vdc LED                                |                             | ψ μ. 340   |              |
|               |             |  | Red<br>Y<br>Yellow                 | 7<br>12/14V Filament<br>8<br>24/ 28V Filament |                             |  |              |
|               |             |  | G<br>Green<br>B<br>Blue            | <b>9</b><br>125/250Vac LED                    |                             |  |              |
| Dimonsions    |             |  | Yellow<br>G<br>Green<br>B          | <b>8</b><br>24/ 28V Filament<br><b>9</b>      |                             |  |              |

#### **Dimensions**

(C) 2870 00





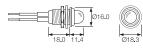
C) 0589 00



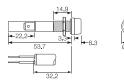


Ø15.9

#### L 0081 00



(C) 0177 00



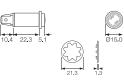
380 Indicators



38.1







#### (C) 0180BB



(C) 0579 00

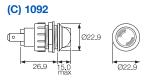
10.0











bulgin

## Indicator Lights Neon, LED and Filament Lamp



#### **Key Features**

- Neon, LED, mains LED or filament lamp
- $\bigcirc$ Bezel sizes from 6.7 to 16.3mm diameter
- O Red, amber, green and clear lenses
- C Red, yellow, green, blue and white LEDs
- O Wide choice of styles



NEON

(marked 230V)

**Colours and voltages:** 

Red, Yellow, Green, Blue, White 2.0/2.2V Resistors for operation. other voltages available.

DC LED

Red, Yellow, Green, Blue, White 110-230V ac

AC MAINS LED

\*\*



FILAMENT

Green, Clear or Blue lenses 6V, 12/14V, 24/28V.

| Terminal | Туре                           | Illumination | Colour   | Voltage  | Options                                | Panel | Approval               |
|----------|--------------------------------|--------------|--|--|--|-------|------------------------|
| L E      | Type<br>L 0234 00<br>L 0233 00 | N -⊕-        | Neon & Filament<br>R<br>Red<br>A<br>Amber<br>G<br>Green<br>B<br>Uue<br>(Special Order)<br>C<br>Clear<br>LED<br>R<br>Red<br>Y<br>Yellow<br>G<br>Green | Voltage<br>1<br>LED No Resistor<br>2<br>125V Neon<br>3<br>250V Neon<br>4<br>6Vdc LED<br>5<br>12Vdc LED<br>6<br>24Vdc LED<br>7<br>12/14V Filament<br>8<br>24/ 28V Filament<br>9<br>125/250Vac LED | Options<br>C<br>Chrome<br>Bezel Finish | Panel | <b>FL</b> KEE <b>3</b> |
|          |                                |              | Blue   |  |  |       |                        |

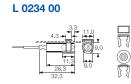
#### **Dimensions**

#### H 0581 AY

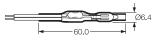








L 0233 00



Neon tube, resistor and flexible lead assembly, protected by "shrunk on" transparent sleeving.

### Low Voltage Lampholders



#### **Key Features**

#### **Colours and voltages:**

O Up to 50V

These lampholders are suitable for up to 50V max.

Colours - Red, Amber, Green, (Clear & Blue, check availability).

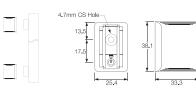
- $\bigcirc$ Red, Amber, Green, Blue and Clear
- C Linestra/Philinea lamp holder





### (C) 0067 00







### Large Low Voltage Lampholders





C1090FE - - -

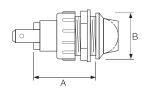


P1090FL - - -

**Key Features** 

- O Up to 50V
- MES or MBC bulb
- C Flat and domed lens
- Brass or nylon bodies
- Red, Amber, Green, Blue and Clear lenses

#### **Dimensions and Options**



F0445 MO P.V.C. Insulating terminal cover.

Approvals and specifications

Colours - Red, Amber, Green, (Clear & Blue, check availability). Brass bodies have polished chrome finish.

These lampholders are suitable for up to 50V max.



| Terminal  | Туре  | Colour   | Options                        | Panel   | Lens      |
|---|---|--|--------------------------------|---|-----------|
| C<br>$ \begin{array}{c}                                     $ | 1090<br>MES (E10)<br>Image: Message of the second | R<br>Red<br>Y<br>Yellow<br>G<br>Green<br>B<br>Blue<br>C<br>Clear | C<br>Chrome<br>Bezel<br>Finish | ID90 (MES lamps)           Panel Hole<br>Dia         Body<br>Material         Dim<br>A         Dim<br>B         Dim<br>C         Dim<br>B         Dim<br>B         Dim<br>B         Dim<br>Material         Dim<br>A         Dim<br>B         Di | F<br>Flat |
| S   |   |  |                                |   |           |

## LED Lamps and LED Lampholders LED Lampholders can be supplied with or without LEDs



#### **Key Features**

#### **Colours and voltages:**

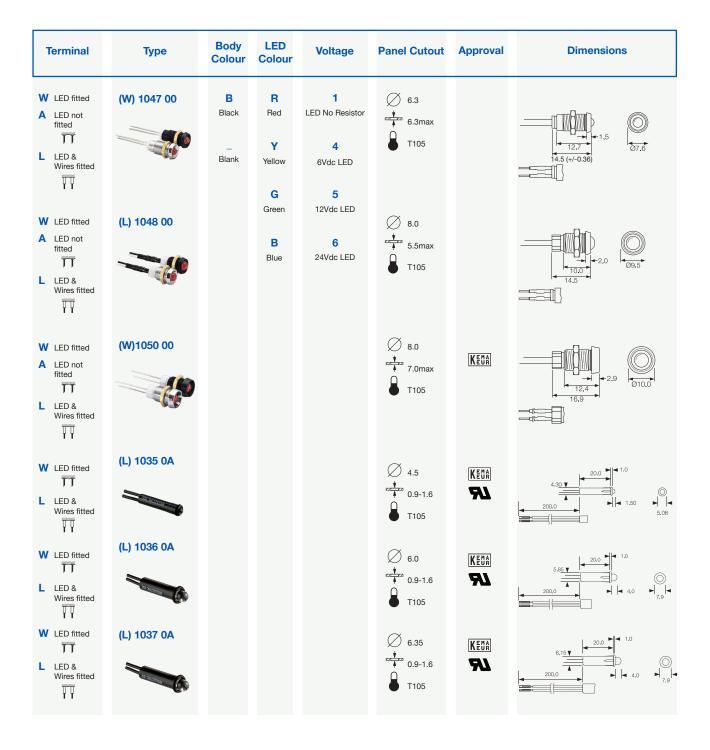
C LED lampholders

O Black or Chrome finish

Colours: Red, Yellow, Green and Blue LEDs (High Intensity is standard. Option of extra super bright). Supplied with or without LEDs

Voltages: LEDs are available for direct connection to 2.0/2.2V or 12Vdc

For other voltages contact sales.





### Key Features

 $\bigcirc$ 

LEDs

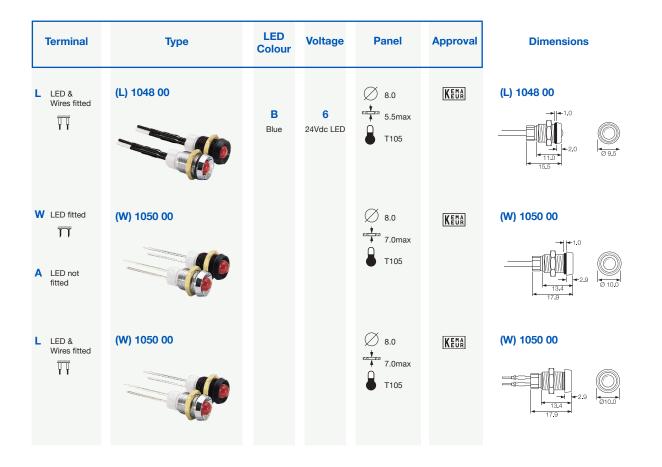
#### **Colours and voltages:**

| $\bigcirc$ | IP67 from bezei sealing |
|------------|-------------------------|
| 0          | LED lampholders         |

O Black or Chrome finish

Supplied with or without

Colours: Red, Yellow Green and Blue LEDs. (High Intensity is standard. Option of extra super bright). Voltages: LEDs are available for direct connection to 2.0/2.2V or 12Vdc. For other voltages contact sales.



Properties

Sealing

O-ring sealing equivalent to IP67, of both the LED to bezel, and bezel to panel is available where shown.

#### Polarity

The nylon base mouldings are polarity marked.

Body Material and Finish Chromed brass or Black oxide coated brass. Lampholders only Items prefixed 'A' are supplied without LEDs.

LED wires or PVC covered wire leads 125mm min length wires, 6.3mm standard strip. Alternative colours, length and strip available.

### Indicator Lights - Sealed to IP67

○ Red, amber, green, blue and

 $\bigcirc$  Red, yellow, green, blue and

clear lenses

white LEDs

O Wide choice of styles



#### **Key Features**

- IP67 Panel Sealing
- Supplied complete with gaskets/'O' rings
- $\bigcirc$ Neon, LED, mains LED or filament lamp
- Bezel sizes from 7.6 to  $\bigcirc$ 22.9mm diameter



DC LED

DC

Green, Blue, White



Available with Red, Amber, Green or Clear White 2.0/2.2V Resistors for other voltages available. lenses 100/130V (marked 110V), 200/250V (marked 230V)



Red, Yellow, Green, Blue, White 110-230V ac operation.



Red, Amber, Green, Clear or Blue lenses 6V, 12/14V, 24/28V.

| Terminal                              | Туре          | Sealed             | Illumination  | Colour                          | Voltage                                       | Option                                | Panel Cutout   | Approval |
|---------------------------------------|---------------|--------------------|---|---------------------------------|---|---------------------------------------|--|----------|
| LE                                    | (L) 1041 OS   | <b>S</b><br>Sealed | N -⊕-<br>L *ੈ<br>M *ੈ<br>F -⊗-                                  | R<br>Red<br>A                   | 1<br>LED No Resistor<br>2                     | <b>C</b><br>Chrome<br>Bezel<br>Finish | <ul> <li>Ø 6.3</li> <li>Ø 5.3max</li> </ul>                            | KEUR     |
| LE                                    | (L) 0245 OS   |                    | N -⊕-<br>L #ੇ<br>M #ੇ   | Amber<br>G<br>Green<br>B        | 125V Neon<br><b>3</b><br>250V Neon            |                                       | <ul> <li>         7.1         ₹         4.6max     </li> </ul>         | KEUR     |
| L                                     | (C) 0275 OS   |                    | F -⊗-<br>N -⊕-<br>L + <del>≹</del><br>M + <del>≹</del><br>F -⊗- | Blue<br>(Special)<br>C<br>Clear | <b>4</b><br>6Vdc LED<br><b>5</b><br>12Vdc LED |                                       | <ul> <li>✓ 10.0</li> <li>★ 11.15max</li> </ul>                         | KEUR     |
| L E.<br>C 6.3 F<br>K 2.8 F<br>H 4.8 F | (C) 0277 OS   |                    | ⊖-<br>L #ੇ<br>M #ੇ<br>F-⊗-                                      | LED<br><b>R</b><br>Red          | 6<br>24Vdc LED                                |                                       | <ul> <li>✓ 10.0</li> <li><sup>★</sup>/<sub>↑</sub> 11.15max</li> </ul> | KEUR     |
| L 6.3<br>C 4.8<br>K 2.8<br>H          | (C) 0177 OS   |                    | N-⊕-<br>L <del>®</del><br>M <del>®</del><br>F-⊗-                | Y<br>Yellow<br>Green            | 7<br>12/14V Filament<br>8<br>24/ 28V Filament |                                       | <ul> <li>✓ 12.7</li> <li>★ 11.15max</li> </ul>                         | KENA     |
|                                       |               |                    |   | B<br>Blue<br>W<br>White         | <b>9</b><br>125/250Vac LED                    |                                       |  |          |
| (L) 1041 OS                           |               |                    | (C)   | 0275 OS                         |   | (C) 0177                              | OS   |          |
| (L) 0245 OS                           | ↓<br>4.5 Ø9.5 |                    | 22.2  | 15.5<br>32.0<br>32.2            | 3.5   | +-22.2+<br>+-25.2-<br>+               |  | 014.6    |
|                                       | 9.5 9.5       |                    | (C)   | 0277 OS                         | 8.3 O14.6                                     |                                       |  |          |

### Technical Information - Indicators



The majority of Arcolectric indicator lights can be supplied with alternative light sources: Neon, Fluorescent, Filament lamp or LED

#### NEON and FLUORESCENT LAMPS Colours

Available with Red, Amber, Green, Blue or Clear lenses.

#### Maximum striking voltages

Standard brightness types 65Vac 90Vdc. High brightness types 85Vac 135Vdc. High brightness types are usually fitted.

#### Life

Typically 25,000 hours (Green fluorescent lamps 20,000 hours). (Measured to a point when the light output of the lamp is half its original level.) The end of life for a neon lamp is not usually a sudden failure.

#### False signals due to long wiring

It is possible for neon or fluorescent tubes to glow when they should be off. Thefalse signal is caused by the capacitance effect of fairly long wiring to the indicator being adjacent to other live cables. This effect can be prevented in most cases by fitting a 100k resistor across the supply wires close to the indicator assembly.

#### MATERIALS

| Moulded bodies and bases Nylon 6.6   |
|--|
| Metal bodies and bezels Chrome plated brass (except #)                     |
| Lenses   |
| Terminals (most types) Brass (electro-tin plated)                          |
| Terminals (exceptions) Brass (flash silver* or nickel** plated)            |
| Threaded metal nuts Brass (nickel plated on 0275/7)                        |
| Other fixings  |
| * R9, 0061, 0062, 0430, 0480, 1090, 1091, 6030, 7030, 8630, 8580           |
| ** # 3130, 3160, 3161, 3221 have nickel plated terminals with steel screws |
| and plated polyamide bezel trims   |

#### TEMPERATURE RATING

| Authority | with Terminals | with Wire leads |          |  |
|-----------|----------------|-----------------|----------|--|
|           |                | PVC             | SILICONE |  |
| European  | T105°C         | T105°C          | T105°C   |  |
| UL        | T65/75°C       | T65/75°C        |          |  |

#### SYMBOLS

Terminals C 6.3, H 4.8, K 2.8 Wire leads 200mm long Standard

Solid wires

#### FILAMENT LAMPS

Colours

Available with Red, Amber, Green, Clear or Blue lenses

LEDs - DC Colours Red, Yellow, Green, Blue and White.

#### Voltage

Basic voltage 2.0/2.2V. Some items are available with integral resistors for 12V use. For details of resistors required for higher voltages, please call sales.

Current Maximum continuous forward current 20mA

Life >100,000hrs

#### LEDs - AC

Colours Red, Yellow, Green, Blue and White.

#### Voltage

Rated up to 230V ac, suitable for use at 110V and 230V ac.

Panel thickness

### Current

<3mA

Life >100,000hrs

Panel hole size



### **Mouser Electronics**

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

**Bulgin**:

A104800AAC A104800AAB A1048OAAAC A1048OAAAD A104800AAA