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# 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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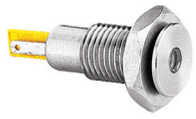

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# Vandal Resistant LED Indicators

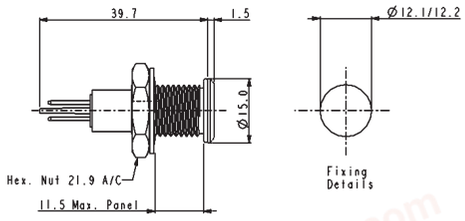
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## Proud of Panel Profile

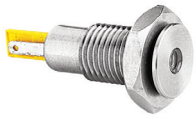


DX0505

- Solder Tag/2.8mm Tag Termination
- Sealed to IP67
- Red, Green, Yellow or Blue LED Options
- Wide Viewing Angle
- Shock and Vibration Resistant
- Stainless Steel body

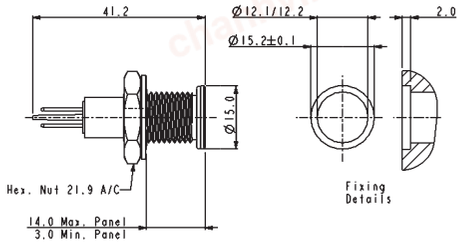



## Flush Panel Profile



DX0506

- Solder Tag/2.8mm Tag Termination
- Sealed to IP67
- Red, Green, Yellow or Blue LED Options
- Wide Viewing Angle
- Shock and Vibration Resistant
- Stainless Steel body




| Specifications | DX0505/Col/Voltage | DX0506/Col/Voltage |
|---|---|---|
| Terminations: | Solder Tab/2.8mm Tab | Solder Tab/2.8mm Tab |
| Forward Voltage: | Red 1.85V, Green 2.2V, Yellow 2.0V, Blue 3.8V | Red 1.85V, Green 2.2V, Yellow 2.0V, Blue 3.8V |
| Cont. Forward Current: (max) | Red 30mA, Green 25mA, Yellow 30mA, Blue 25mA | Red 30mA, Green 25mA, Yellow 30mA, Blue 25mA |
| Power Dissipation: | Red 100mW, Green 105mW, Yellow 125mW, Blue 120mW | Red 100mW, Green 105mW, Yellow 125mW, Blue 120mW |
| Reverse Current: (@Vr = 5V) | Red 10µA max., Green 10µA max., Yellow 10µA max., Blue 50µA max. | Red 10µA max., Green 10µA max., Yellow 10µA max., Blue 50µA max. |
| LED Luminous Intensity: | Red 2000mcd, Green 100mcd, Yellow 400mcd, Blue 1600mcd (typ) | Red 2000mcd, Green 100mcd, 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 | | |
| Body: | Stainless Steel | Stainless Steel |
| Lens: | Polycarbonate UL94V-0 | Polycarbonate UL94V-0 |
| O Ring (external): | Nitrile | Nitrile |
| (internal): | Silicone | 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) /BL (Blue), with colour coded insulator | /RD (Red), /GN (Green), /YL (Yellow) /BL (Blue), with colour coded insulator |
| LED Voltage: | /12 (12V d.c.), /24 (24V d.c.) or /00 (no ballast resistor) | /12 (12V d.c.), /24 (24V d.c.) or /00 (no ballast resistor) |
| RoHS | Compliant | Compliant |

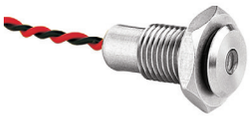
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# Vandal Resistant LED Indicators

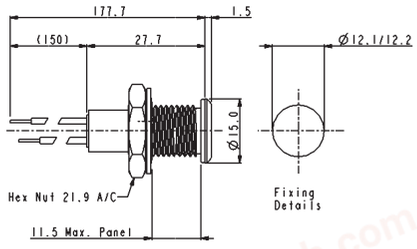
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Proud of Panel Profile

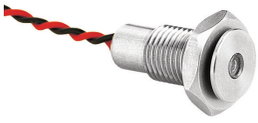


DX0507

- Flying Lead Termination
- Sealed to IP67
- Red, Green, Yellow or Blue LED Options
- Wide Viewing Angle
- Shock and Vibration Resistant
- Stainless Steel body

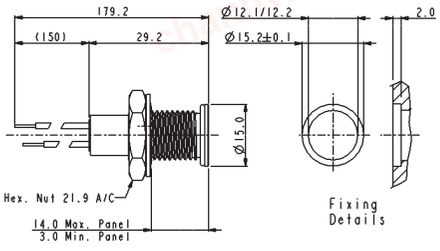



Flush Panel Profile



DX0508

- Flying Lead Termination
- Sealed to IP67
- Red, Green, Yellow or Blue LED Options
- Wide Viewing Angle
- Shock and Vibration Resistant
- Stainless Steel body




| Specifications | DX0507/Col/Voltage | DX0508/Col/Voltage |
|---|---|---|
| Terminations: | Flying Leads | Flying Leads |
| Forward Voltage: | Red 1.85V, Green 2.2V, Yellow 2.0V, Blue 3.8V | Red 1.85V, Green 2.2V, Yellow 2.0V, Blue 3.8V |
| Cont. Forward Current: (max) | Red 30mA, Green 25mA, Yellow 30mA, Blue 25mA | Red 30mA, Green 25mA, Yellow 30mA, Blue 25mA |
| Power Dissipation: | Red 100mW, Green 105mW, Yellow 125mW, Blue 120mW | Red 100mW, Green 105mW, Yellow 125mW, Blue 120mW |
| Reverse Current: (@Vr = 5V) | Red 10µA max., Green 10µA max., Yellow 10µA max., Blue 50µA max. | Red 10µA max., Green 10µA max., Yellow 10µA max., Blue 50µA max. |
| LED Luminous Intensity: | Red 2000mcd, Green 100mcd, Yellow 400mcd, Blue 1600mcd (typ) | Red 2000mcd, Green 100mcd, 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 | | |
| Body: | Stainless Steel | Stainless Steel |
| Lens: | Polycarbonate UL94V-0 | Polycarbonate UL94V-0 |
| O Ring (external): | Nitrile | Nitrile |
| (internal): | Silicone | 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) /BL (Blue), with colour coded insulator | /RD (Red), /GN (Green), /YL (Yellow) /BL (Blue), with colour coded insulator |
| LED Voltage: | /12 (12V d.c.), /24 (24V d.c.) or /00 (no ballast resistor) | /12 (12V d.c.), /24 (24V d.c.) or /00 (no ballast resistor) |
| RoHS | Compliant | Compliant |

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# 5mm LED Indicators

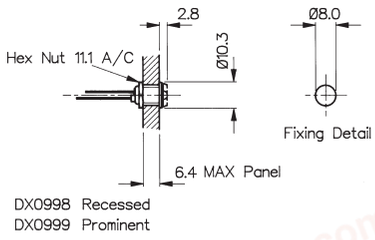
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## Chrome Plated Brass Bezel



DX0998

- Chrome Plated Brass Bezel
- Prominent or Recessed Style
- Choice of LED Types and Colours

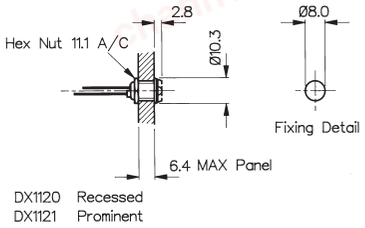



## Nylon Bezel



DX1120 DX1121

- Glass Filled Nylon Bezel
- Prominent or Recessed Style
- Choice of LED Types and Colours




| 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*

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# 5mm LED Indicators

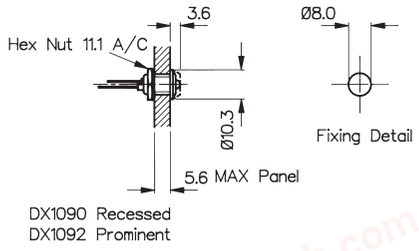
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Aluminium Bezel - IP66 Sealed



DX1090 DX1092

- Aluminium Bezel, Black
- Anodised Finish
- IP66 Front Panel Sealed
- Prominent or Recessed Style
- Choice of LED Types and Colours

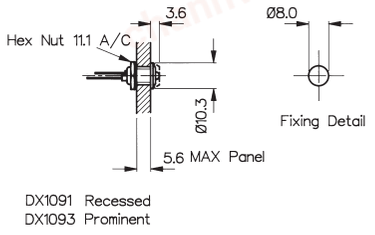



Aluminium Bezel - IP66 Sealed



DX1091 DX1093

- Aluminium Bezel, Clear
- Anodised Finish
- IP66 Front Panel Sealed
- Prominent or Recessed Style
- Choice of LED Types and Colours




| 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 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

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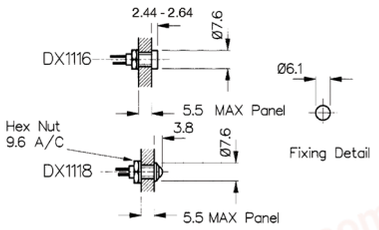
# 4mm LED Indicators

## Chrome Plated Brass Bezel



DX1116 DX1118

- Chrome Plated Brass Bezel
- Prominent or Recessed Style
- Choice of LED Types and Colours

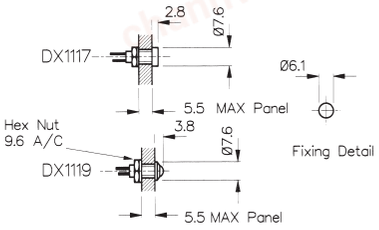



## Black Nickel Pated Brass Bezel



DX1117 DX1119

- Aluminium, Black Anodised Bezel
- Prominent or Recessed Style
- Choice of LED Types and Colours




| 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), /BL (Blue) | /RD (Red), /GN (Green), /YL (Yellow), /BL (Blue) |
| RoHS | Compliant | Compliant |

See Page 213 for LED specifications*

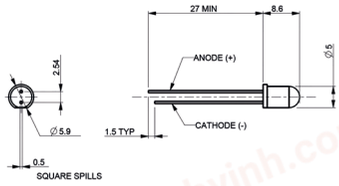
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# 5mm LED options

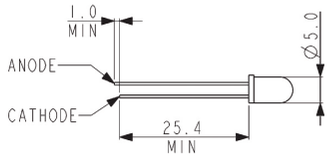
## 5mm LEDs STANDARD

| Specification | Red | Green | Yellow | Blue |
|---|---|---|---|---|
| Luminous Intensity @20mA: | 25mcd | 20mcd | 20mcd | 21mcd |
| Forward voltage: | 2.0V | 2.0V | 2.1V | 3.5V |
| Cont. Forward Current (max): | 30mA | 25mA | 30mA | 30mA |
| Power Dissipation: | 105mW (max) @20°C Ambient | | | 120mW |
| Reverse Current: | 10µA | 10µA | 10µA | 50µA |
| Reverse Voltage: | 5V (max) | 5V (max) | 5V (max) | 5V (max) |
| Operating Temp: | –40°C to +85°C | | | –20°C to +80°C |
| Part No: | /RD | /GN | /YL | /BL |



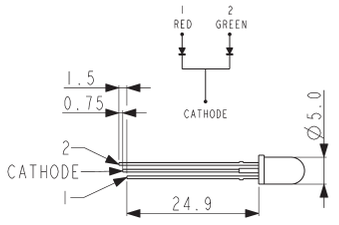

## 5mm LEDs FLASHING

| Specification | Red | Green |
|---|---|---|
| Luminous Intensity @20mA: | 1.2mcd | 20mcd |
| Forward voltage: | 2.0-15.0V | 2.0V |
| Cont. Forward Current (max): | 10-30mA | 25mA |
| Power Dissipation: | 200mW (max) @ 20°C ambient | |
| Flash Frequency @ 3V supply: | 2.2Hz (typ) | |
| Operating Temp: | 0°C to +70°C | |
| Part No: | /RD/02 | /GN/02 |



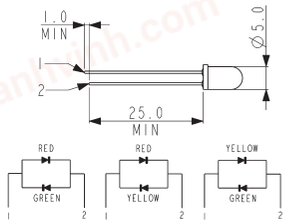

## 5mm LEDs TRI COLOUR

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




## 5mm LEDs DUAL COLOUR

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



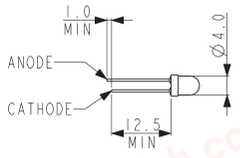
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# 4mm LED Options

## 4mm LEDs Standard

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




## Part No Breakdown

| DXxxxx | / | XX | / | XX |
|---|---|---|---|---|

**Bezel Type**

**LED Colour**
RD = Red
GN = Green
YL = Yellow
BL = Blue
D1 = Dual Colour - 5mm (Red/Green)
D2 = Dual Colour - 5mm (Red/Amber)
D3 = Dual Colour - 5mm (Green/Amber)
TR = Tri Colour - 5mm (Red/Green/Amber)

**LED Options**
Blank = Standard
02 = Flashing - 5mm (Red or Green only)

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

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# Indicator Lights

Neon, LED and Filament Lamp

bulgin

## Key Features

- Neon, LED, mains LED or filament lamp
- Bezel sizes from 6.7 to 16.3mm diameter
- Red, amber, green, blue and clear lenses
- 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)

**DC LED**

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

**AC MAINS LED**

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

**FILAMENT**

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

| Terminal | Type | Sealed | Illumination | Colour | Voltage | Options |
|---|---|---|---|---|---|---|
| B 2.8 / L | (B) 0566 A  | ∅ 6.0 / 2.0 max / p. 340 | N / L / M | Neon & Filament<br>**R** Red<br>**A** Amber<br>**G** Green<br>**B** Blue (Special Order)<br>**C** Clear | **1** LED No Resistor<br>**2** 125V Neon<br>**3** 250V Neon<br>**4** 6Vdc LED<br>**5** 12Vdc LED<br>**6** 24Vdc LED<br>**7** 12/14V Filament<br>**8** 24/ 28V Filament<br>**9** 125/250Vac LED | **C** Chrome Bezel Finish |
| B 2.8 / L | (B) 0566 B  | ∅ 6.0 / 2.0 max / p. 340 | N / L / M | | | |
| B 2.8 / L | (B) 0566 C  | ∅ 6.0 / 2.0max | N / L / M | | | |
| C 6.3 | (C) 0145 AA  | ∅ 5.8 / 3.0max / p. 340 | N / L / M / F | LED<br>**R** Red<br>**Y** Yellow<br>**G** Green<br>**B** Blue | | |
| L / W | (L) 1041 00  | ∅ 6.3 / 6.3max / p. 340 | N / L / F | | | |
| L / W | (L) 1045 00  | ∅ 6.3 / 10.0max / p. 340 | N / L / M / F | | | |

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# Indicator Lights

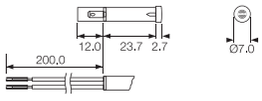
Neon, LED and Filament Lamp

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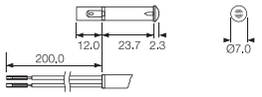
| Terminal | Type | Sealed | Illumination | Colour | Voltage | Options |
|---|---|---|---|---|---|---|
| L<br>W | (L) 0245 00  | ∅ 7.1<br>6.3 max<br>p. 340 | N<br>L<br>M<br>F | Neon & Filament<br>**R** Red<br>**A** Amber<br>**G** Green<br>**B** Blue (Special Order)<br>**C** Clear | **1** LED No Resistor<br>**2** 125V Neon<br>**3** 250V Neon<br>**4** 6Vdc LED<br>**5** 12Vdc LED<br>**6** 24Vdc LED<br>**7** 12/14V Filament<br>**8** 24/ 28V Filament<br>**9** 125/250Vac LED | **C** Chrome Bezel Finish |
| L | L 2950 00  | ∅ 8.0<br>0.8-1.6<br>p. 340 | N<br>L<br>M<br>F | | | |
| L<br>C 6.3 | (L) 0195 BB  | ∅ 8.0<br>0.8-3.0<br>p. 340 | N<br>F | | | |
| L | L 2951 00  | ∅ 8.0<br>0.8-1.6<br>p. 340 | N<br>L<br>M<br>F | LED<br>**R** Red<br>**Y** Yellow<br>**G** Green<br>**B** Blue | | |
| L<br>H 4.8 | H) 0568 A(*)  | ∅ 8.0<br>0.8-3.5<br>p. 340 | N<br>L<br>F | | | |
| L<br>H 4.8 | (H) 0568 B(*)  | ∅ 8.0<br>0.8-3.5<br>p. 340 | N<br>L<br>F | | | |

## Dimensions

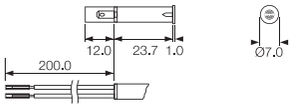
**(B) 0566 A**



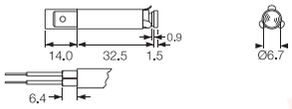

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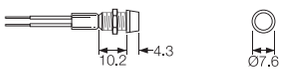

**(B) 0566 C**



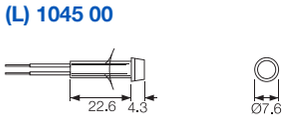

**(C) 0145 AA**



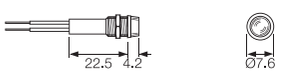

**(L) 1041 00**



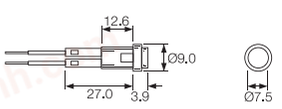

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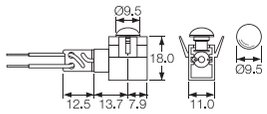

**(L) 0245 00**



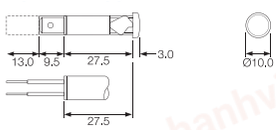

**L 2950 00**



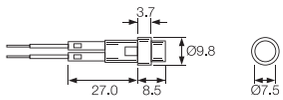

**(L) 0195 BB**



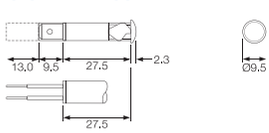

**H) 0568 A(*)**




**L 2951 00**




**(H) 0568 B(*)**



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# Indicator Lights

Neon, LED and Filament Lamp

bulgin

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- Red, amber, green, blue and clear lenses
- 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)

**DC LED**




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

**AC MAINS LED**




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

**FILAMENT**



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

| Terminal | Type | Illumination | Colour | Voltage | Options | Panel | Approval |
|---|---|---|---|---|---|---|---|
| L<br>K 2.8<br>H 4.8<br>C 6.3 | (C) 0273 00  | N<br>L<br>M<br>F | Neon & Filament<br>**R** Red<br>**A** Amber<br>**G** Green<br>**B** Blue (Special Order)<br>**C** Clear | **1** LED No Resistor<br>**2** 125V Neon<br>**3** 250V Neon<br>**4** 6Vdc LED<br>**5** 12Vdc LED<br>**6** 24Vdc LED<br>**7** 12/14V Filament<br>**8** 24/ 28V Filament<br>**9** 125/250Vac LED | **C** Chrome Bezel Finish | ∅ 9.0<br>2.0 max<br>p. 340 | |
| L<br>K 2.8<br>H 4.8<br>C 6.3 | (C) 0278 00  | N<br>L<br>M<br>F | | | | ∅ 9.0<br>2.0 max<br>p. 340 | |
| L<br>K 2.8<br>H 4.8<br>C 6.3 | (C) 0276 AA  | N<br>L<br>M<br>F | | | | ∅ 9.5<br>0.8-2.8<br>p. 340 | |
| L<br>K 2.8<br>H 4.8<br>C 6.3 | (C) 0275 00  | N<br>L<br>M<br>F | LED<br>**R** Red<br>**Y** Yellow<br>**G** Green<br>**B** Blue | | | ∅ 10.0<br>12.0<br>p. 340 | |
| L<br>K 2.8<br>H 4.8<br>C 6.3 | (C) 0275 00  | N<br>L<br>M<br>F | | | | ∅ 10.0<br>11.5 max<br>p. 340 | |

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# Indicator Lights

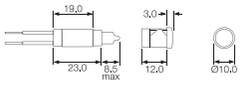
Neon, LED and Filament Lamp

bulgin

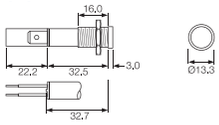
| Terminal | Type | Illumination | Colour | Voltage | Options | Panel | Approval |
|---|---|---|---|---|---|---|---|
| L<br>K 2.8<br>H 4.8<br>C 6.3 | (C) 0276 00  | N<br>L<br>M<br>F | Neon & Filament<br>**R** Red<br>**A** Amber<br>**G** Green<br>**B** Blue (Special Order)<br>**C** Clear | **1** LED No Resistor<br>**2** 125V Neon<br>**3** 250V Neon<br>**4** 6Vdc LED<br>**5** 12Vdc LED<br>**6** 24Vdc LED<br>**7** 12/14V Filament<br>**8** 24/ 28V Filament<br>**9** 125/250Vac LED | **C** Chrome Bezel Finish | ∅ 10.0<br>2.8 max<br>p. 340 | |
| L<br>K 2.8<br>H 4.8<br>C 6.3 | (C) 0277 00  | N<br>L<br>M<br>F | | | | ∅ 10.0<br>12 max<br>p. 340 | |
| L<br>K 2.8<br>H 4.8<br>C 6.3 | (C) 0273 LL  | N<br>L<br>M<br>F | | | | ∅ 10.0<br>0.6-2.0<br>p. 340 | |
| L<br>K 2.8<br>H 4.8<br>C 6.3 | (C) 2820 00  | N<br>L<br>M<br>F | | | | ∅ 12.0<br>0.75-2.0<br>p. 340 | |
| L<br>K 2.8<br>H 4.8<br>C 6.3 | (C) 2821 00  | N<br>L<br>M<br>F | | | | ∅ 12.0or12.7<br>ø12.0 = 0.8-2.5<br>ø12.7 = 1.1-2.5<br>p. 340 | |
| L<br>K 2.8<br>H 4.8<br>C 6.3 | (C) 0586 00  | N<br>L<br>M<br>F | | | | ∅ 12.5<br>0.8-1.5<br>p. 340 | |

## Dimensions

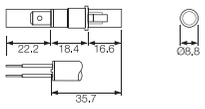
**(L) 0569 AW**



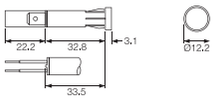

**(C) 0275 00**



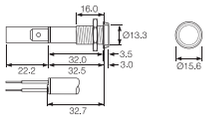

**(C) 0273 LL**



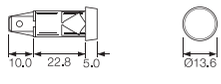

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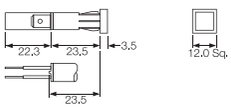

**(C) 0275 00**



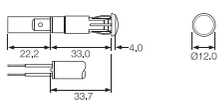

**(C) 2820 00**



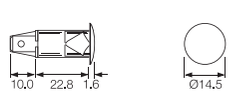

**(C) 0278 00**



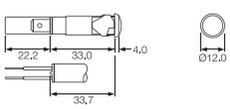

**(C) 0276 00**



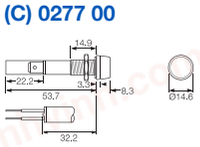

**(C) 2821 00**



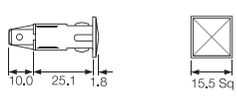

**(C) 0276 AA**




**(C) 0277 00**




**(C) 0586 00**



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# Indicator Lights

Neon, LED and Filament Lamp

bulgin

## Key Features

- Neon, LED, mains LED or filament lamp
- Bezel sizes from 6.7 to 16.3mm diameter
- Red, amber, green and clear lenses
- 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)

**DC LED**

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

**AC MAINS LED**

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

**FILAMENT**

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

| Terminal | Type | Illumination | Colour | Voltage | Options | Panel | Approval |
|---|---|---|---|---|---|---|---|
| L<br>K 2.8<br>H 4.8<br>C 6.3 | (C) 2870 00  | N<br>L<br>M<br>F | Neon & Filament<br>**R** Red<br>**A** Amber<br>**G** Green<br>**B** Blue (Special Order)<br>**C** Clear<br>LED<br>**R** Red<br>**Y** Yellow<br>**G** Green<br>**B** Blue | **1** LED No Resistor<br>**2** 125V Neon<br>**3** 250V Neon<br>**4** 6Vdc LED<br>**5** 12Vdc LED<br>**6** 24Vdc LED<br>**7** 12/14V Filament<br>**8** 24/ 28V Filament<br>**9** 125/250Vac LED | **C** Chrome Bezel Finish | ∅ 12.7<br>0.75-2.0<br>P. 340 | |
| L<br>K 2.8<br>H 4.8<br>C 6.3 | C) 0589 00  | N<br>L<br>M<br>F | | | | ∅ 12.7<br>0.8-1.5<br>p. 340 | |
| L | L 0081 00  | N<br>L<br>M<br>F | | | | ∅ 12.7<br>9.5<br>p. 340 | |
| L<br>K 2.8<br>H 4.8<br>C 6.3 | (C) 0177 00  | N<br>L<br>M<br>F | | | | ∅ 12.7<br>12.0max<br>p. 340 | |
| L<br>K 2.8<br>H 4.8<br>C 6.3 | (C) 0067 00  | N<br>L<br>M<br>F | | | | ∅ 12.7<br>1.14 max<br>p. 340 | |
| L<br>C 6.3 | (C) 0180AA  | N<br>L<br>F | | | | ∅ 12.7<br>19.0 max<br>p. 340 | |

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# Indicator Lights

Neon, LED and Filament Lamp

bulgin

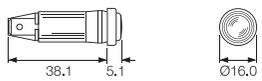
| Terminal | Type | Illumination | Colour | Voltage | Options | Panel | Approval |
|---|---|---|---|---|---|---|---|
| **L**<br>**C** 6.3 | **(C) 0180BB**<br> | **N**<br>**L**<br>**F** | Neon & Filament<br>**R**<br>Red<br>**A**<br>Amber<br>**G**<br>Green<br>**B**<br>Blue<br>(Special Order)<br>**C**<br>Clear | **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 | **C**<br>Chrome<br>Bezel Finish | ∅ 13.5<br>0.9-1.14<br>p. 340 | |
| **L**<br>**K** 2.8<br>**H** 4.8<br>**C** 6.3 | **(C) 0579 00**<br> | **N**<br>**L**<br>**M**<br>**F** | | | | ∅ 14.0<br>2.5 max<br>p. 340 | |
| **C** 6.3 | **(C) 1092**<br> | **N** | | | | ∅ 19.0<br>4.0max<br>p. 340 | |

## Dimensions

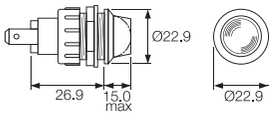
**(C) 2870 00**




**(C) 0067 00**



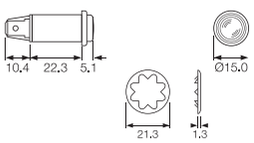

**(C) 1092**



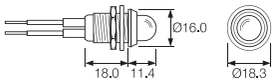

**C) 0589 00**



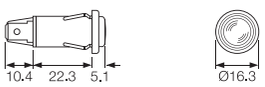

**(C) 0180AA**



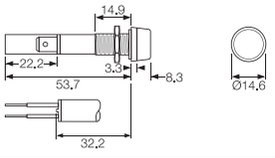

**L 0081 00**



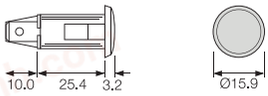

**(C) 0180BB**




**(C) 0177 00**




**(C) 0579 00**



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bulgin

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

**FILAMENT**

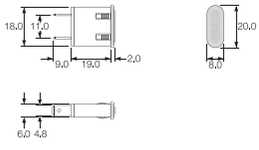


Available with Red, Amber, Green, Clear or Blue lenses 6V, 12/14V, 24/28V.

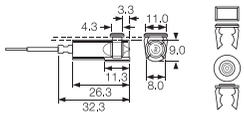
| Terminal | Type | Illumination | Colour | Voltage | Options | Panel | Approval |
|---|---|---|---|---|---|---|---|
| L | L 0234 00  | N | Neon & Filament<br>**R** Red<br>**A** Amber<br>**G** Green<br>**B** Blue (Special Order)<br>**C** Clear<br>LED<br>**R** Red<br>**Y** Yellow<br>**G** Green<br>**B** Blue | **1** LED No Resistor<br>**2** 125V Neon<br>**3** 250V Neon<br>**4** 6Vdc LED<br>**5** 12Vdc LED<br>**6** 24Vdc LED<br>**7** 12/14V Filament<br>**8** 24/ 28V Filament<br>**9** 125/250Vac LED | **C** Chrome Bezel Finish | 18.2/18.3 x 6.2/6.3*<br>2.0-3.5<br>P. 340 | |
| L | L 0233 00  | N | | | | 9.27/9.50 x 4.75*<br>0.71-1.62<br>p. 340<br>p. 340 | |

## Dimensions

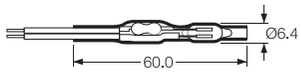
### H 0581 AY




### L 0234 00




### L 0233 00




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

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# Low Voltage Lampholders

bulgin

## Key Features

- Up to 50V
- Red, Amber, Green, Blue and Clear
- Linestra/Philinea lamp holder

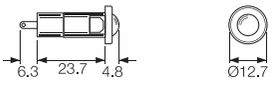
## Colours and voltages:

These lampholders are suitable for up to 50V max.

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

| Terminal | Type | Colour | Options | Panel |
|---|---|---|---|---|
| T | T0061 00 (LES)  | Neon & Filament<br>**R** Red<br>**A** Amber<br>**G** Green<br>**B** Blue (Special Order)<br>**C** Clear | **C** Chrome Bezel Finish | ∅ 9.5<br>0.9-1.14<br>T85 |
| C | (C) 0067 00  | | | ∅ 12.7<br>1.14max<br>T85 |
| T 6.3 | (T) 0062 A0  | | | ∅ 12.7<br>9.6max<br>T85 |
| T | (C) 0062 M0  | LED<br>**R** Red<br>**Y** Yellow<br>**G** Green<br>**B** Blue | | ∅ 12.7<br>9.6max<br>T85 |
| S | (S) 0095 00  | | | T85 |

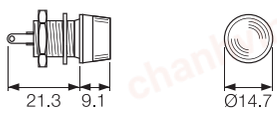
### T0061 00 (LES)



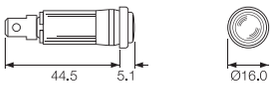

### (C) 0062 M0



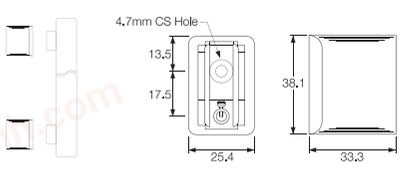

### (T) 0062 A0




### (C) 0067 00




### (S) 0095 00



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# Large Low Voltage Lampholders



C1090FE - - -



P1090FL - - -

## Key Features

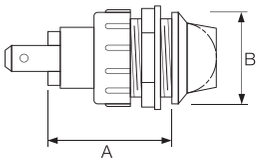
- Up to 50V
- MES or MBC bulb
- Flat and domed lens
- Brass or nylon bodies
- Red, Amber, Green, Blue and Clear lenses

## Approvals and specifications

These lampholders are suitable for up to 50V max.

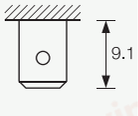
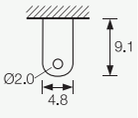
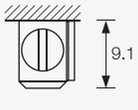
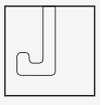
Colours - Red, Amber, Green,
(Clear & Blue, check availability).
Brass bodies have polished chrome finish.

## Dimensions and Options




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



| Terminal | Type | Colour | Options | Panel | Lens |
|---|---|---|---|---|---|
| **C**<br><br><br>6.3 x 0.8<br><br>**T**<br><br><br>Solder<br><br>**S**<br><br><br>Screw and Clamp | **1090**<br>MES (E10)<br><br><br>**1091**<br>MBC (BA9s) (C and S Terminals only)<br> | **R**<br>Red<br>**Y**<br>Yellow<br>**G**<br>Green<br>**B**<br>Blue<br>**C**<br>Clear | **C**<br>Chrome Bezel Finish | **1090 (MES lamps)**<br>Panel Hole Dia / Body Material / Dim A / Dim B<br>**A** 19.0 Brass 35.0 22.0<br>**D** 19.0 Brass 30.2 22.0<br>**E** 19.0 Nylon with chrome bezel 30.2 22.0<br>30.2 22.8<br>**G** 19.0 Brass 24.6 22.0<br>**H** 19.0 Nylon with chrome bezel 24.6 22.0<br>24.6 22.8<br>**L** 25.4 Brass 26.0 31.5<br><br>**1091 (MBC lamps)**<br>Panel Hole Dia / Body Material / Dim A / Dim B<br>**B** 19.0 Brass 36.0 22.0<br>**C** 19.0 Nylon 36.6 22.0<br>**Q** 19.0 Nylon (Chrome twin) 36.6 22.8<br>**M** 25.4 Brass 38.1 31.5 | **F**<br>Flat<br><br><br>**V**<br>MES (E10)<br><br><br>**L**<br>No lens |

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# LED Lamps and LED Lampholders

LED Lampholders can be supplied with or without LEDs

bulgin

## Key Features

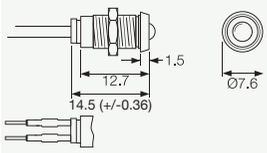
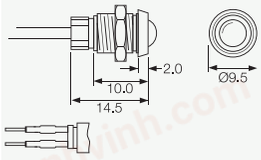
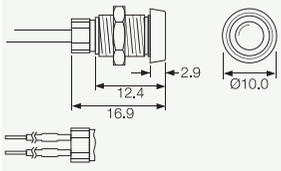
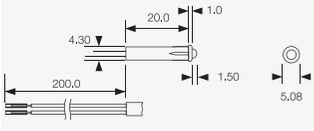
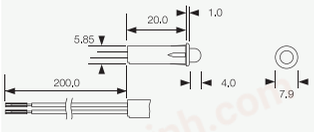
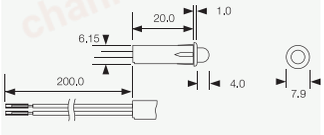
- LED lampholders
- Supplied with or without LEDs
- Black or Chrome finish

## Colours and voltages:

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.

| Terminal | Type | Body Colour | LED Colour | Voltage | Panel Cutout | Approval | Dimensions |
|---|---|---|---|---|---|---|---|
| **W** LED fitted<br>**A** LED not fitted<br>**L** LED & Wires fitted | **(W) 1047 00**  | **B** Black<br>**–** Blank | **R** Red<br>**Y** Yellow<br>**G** Green<br>**B** Blue | **1** LED No Resistor<br>**4** 6Vdc LED<br>**5** 12Vdc LED<br>**6** 24Vdc LED | ∅ 6.3<br>6.3max<br>T105 | |   |
| **W** LED fitted<br>**A** LED not fitted<br>**L** LED & Wires fitted | **(L) 1048 00**  | | | | ∅ 8.0<br>5.5max<br>T105 | |   |
| **W** LED fitted<br>**A** LED not fitted<br>**L** LED & Wires fitted | **(W)1050 00**  | | | | ∅ 8.0<br>7.0max<br>T105 | KEMA KEUR |   |
| **W** LED fitted<br>**L** LED & Wires fitted | **(L) 1035 0A**  | | | | ∅ 4.5<br>0.9-1.6<br>T105 | KEMA KEUR<br>UL |   |
| **W** LED fitted<br>**L** LED & Wires fitted | **(L) 1036 0A**  | | | | ∅ 6.0<br>0.9-1.6<br>T105 | KEMA KEUR<br>UL |   |
| **W** LED fitted<br>**L** LED & Wires fitted | **(L) 1037 0A**  | | | | ∅ 6.35<br>0.9-1.6<br>T105 | KEMA KEUR<br>UL |   |

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# LED Lamps and LED Lampholders - Sealed to IP67

bulgin

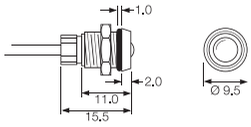
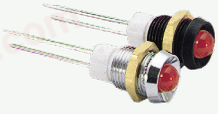
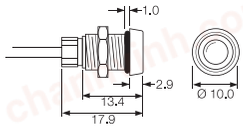
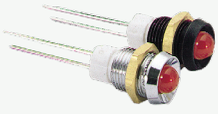
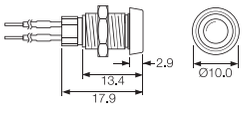
## Key Features

- IP67 front bezel sealing
- LED lampholders
- Supplied with or without LEDs
- Black or Chrome finish

## Colours and voltages:

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.

| Terminal | Type | LED Colour | Voltage | Panel | Approval | Dimensions |
|---|---|---|---|---|---|---|
| **L** LED & Wires fitted | **(L) 1048 00**  | **B** Blue | **6** 24Vdc LED | ∅ 8.0<br>5.5max<br>T105 | KEMA KEUR | **(L) 1048 00**   |
| **W** LED fitted<br>**A** LED not fitted | **(W) 1050 00**  | | | ∅ 8.0<br>7.0max<br>T105 | KEMA KEUR | **(W) 1050 00**   |
| **L** LED & Wires fitted | **(W) 1050 00**  | | | ∅ 8.0<br>7.0max<br>T105 | KEMA KEUR | **(W) 1050 00**   |

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.

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# Indicator Lights - Sealed to IP67

## Key Features

- IP67 Panel Sealing
- Supplied complete with gaskets/'O' rings
- Neon, LED, mains LED or filament lamp
- Bezel sizes from 7.6 to 22.9mm diameter
- Red, amber, green, blue and clear lenses
- 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)

**DC LED**

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

**AC MAINS LED**

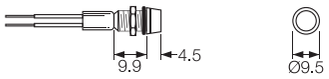
Red, Yellow, Green, Blue, White 110-230V ac operation.

**FILAMENT**

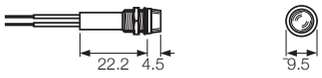
Available with Red, Amber, Green, Clear or Blue lenses 6V, 12/14V, 24/28V.

| Terminal | Type | Sealed | Illumination | Colour | Voltage | Option | Panel Cutout | Approval |
|---|---|---|---|---|---|---|---|---|
| L | (L) 1041 OS | S Sealed | N L M F | R Red, A Amber, G Green, B Blue (Special), C Clear, LED, R Red, Y Yellow, G Green, B Blue, W White | 1 LED No Resistor, 2 125V Neon, 3 250V Neon, 4 6Vdc LED, 5 12Vdc LED, 6 24Vdc LED, 7 12/14V Filament, 8 24/ 28V Filament, 9 125/250Vac LED | C Chrome Bezel Finish | ∅ 6.3, 5.3max | KEMA KEUR |
| L | (L) 0245 OS | | N L M F | | | | ∅ 7.1, 4.6max | KEMA KEUR |
| L, C 6.3, K 2.8, H 4.8 | (C) 0275 OS | | N L M F | | | | ∅ 10.0, 11.15max | KEMA KEUR |
| L, C 6.3, K 2.8, H 4.8 | (C) 0277 OS | | N L M F | | | | ∅ 10.0, 11.15max | KEMA KEUR |
| L 6.3, C 4.8, K 2.8, H | (C) 0177 OS | | N L M F | | | | ∅ 12.7, 11.15max | KEMA KEUR |

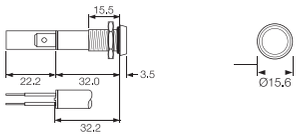
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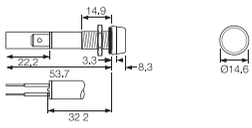

### (L) 0245 OS



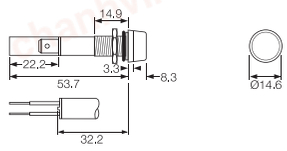

### (C) 0275 OS




### (C) 0277 OS




### (C) 0177 OS



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# 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 . . . . . .Polycarbonate
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 . . . . . .Call sales for details
* 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

### 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.

#### Current
<3mA

#### Life
>100,000hrs

### TEMPERATURE RATING

| Authority | with Terminals | with Wire leads | |
|---|---|---|---|
| | | PVC | SILICONE |
| European | T125°C | T105°C | T125°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
LED only

Panel hole size

Panel thickness

Temperature rating