

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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## SYMBOLS



L Wire Leads 200mm long Standard

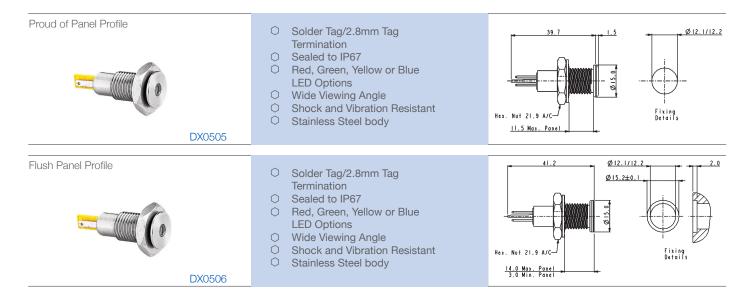
Solid wires W LED fitted A LED not fitted Panel hole size

Panel thickness

Temperature rating

# Vandal Resistant LED Indicators

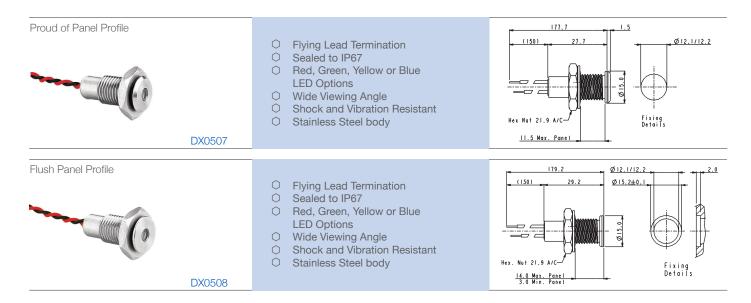




Specifications	DX0505/Col/Voltage	DX0506/Col/Voltage
Terminations: Forward Voltage: Cont. Forward Current:	Solder Tab/2.8mm Tab Red 1.85V, Green 2.2V, Yellow 2.0V, Blue 3.8V Red 30mA, Green 25mA, Yellow 30mA, Blue 25mA	Solder Tab/2.8mm Tab Red 1.85V, Green 2.2V, Yellow 2.0V, Blue 3.8V Red 30mA, Green 25mA, Yellow 30mA, Blue 25mA
(max)	Tellow Sonia, Blue 25ma	Tellow SUMA, Dide 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: Lens: O Ring (external): (internal):	Stainless Steel Polycarbonate UL94V-0 Nitrile Silicone	Stainless Steel Polycarbonate UL94V-0 Nitrile 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 DC), /24 (24V DC) or /00 (no ballast resistor)	/12 (12V DC), /24 (24V DC) or /00 (no ballast resistor)
RoHS	Compliant	Compliant

# Vandal Resistant LED Indicators





Specifications	DX0507/Col/Voltage	DX0508/Col/Voltage
Terminations: Forward Voltage: Cont. Forward Current: (max)	Flying Leads Red 1.85V, Green 2.2V, Yellow 2.0V, Blue 3.8V Red 30mA, Green 25mA, Yellow 30mA, Blue 25mA	Flying Leads Red 1.85V, Green 2.2V, Yellow 2.0V, Blue 3.8V 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: Lens: O Ring (external): (internal):	Stainless Steel Polycarbonate UL94V-0 Nitrile Silicone	Stainless Steel Polycarbonate UL94V-0 Nitrile 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 DC), /24 (24V DC) or /00 (no ballast resistor)	/12 (12V DC), /24 (24V DC) or /00 (no ballast resistor)
RoHS	Compliant	Compliant

## Indicators 5mm LED Indicators



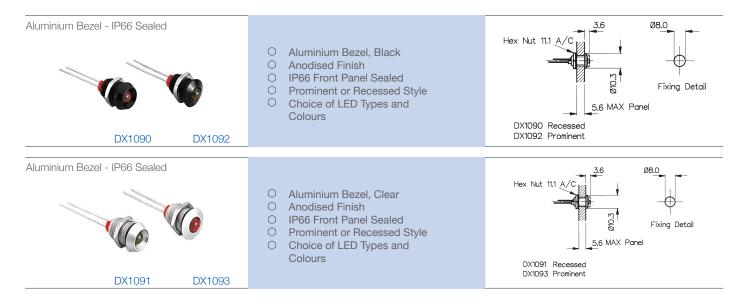


Specifications	DX0998 Colour/Options	DX1120, DX1121/Colour/Options
Bezel Material:	Brass, Chrome Plated	Glass Filled Nylon
Style:	Recessed (DX0998)	Recessed (DX1120) Prominent (DX1121)
Operating Temp. Range:	Dependent on LED used	Dependent on LED used
Storage Temperature:	Dependent on LED used	Dependent on LED used
LED Colours:	/RD (Red), /GN (Green), /YL (Yellow), /BL (Blue), /TR (Tri Colour), /D1 (Dual Colour - Red/Green), /D2 (Dual Colour - Red/Amber), /D3 (Dual Colour - Green/Amber)	/RD (Red), /GN (Green), /YL (Yellow), /BL (Blue), /TR (Tri Colour), /D1 (Dual Colour - Red/Green), /D2 (Dual Colour - Red/Amber), /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



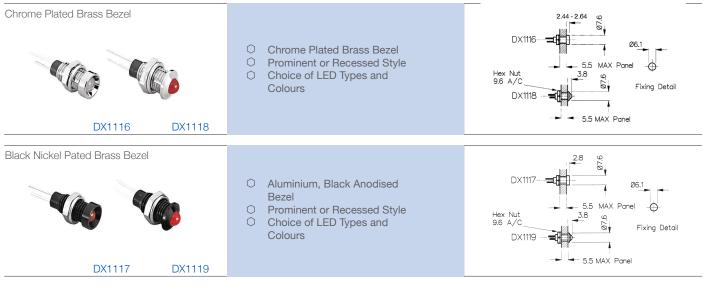


Specifications	DX1090, DX1092/Colour/Options	DX1091, DX1093/Colour/Options
Materials:	Aluminium - Black	Aluminium - Clear
Style:	Recessed (DX1090) Prominent (DX1092)	Recessed (DX1091) Prominent (DX1093)
Operating Temp. Range:	Dependent on LED used	Dependent on LED used
Storage Temperature:	Dependent 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:	0.056 - 0.064Nm (8 - 9ozf.in.)	0.056 - 0.064Nm (8 - 9ozf.in.)
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), /TR (Tri Colour), /D1 (Dual Colour - Red/Green), /D2 (Dual Colour - Red/Amber), /D3 (Dual Colour - Green/Amber)	/RD (Red), /GN (Green), /YL (Yellow), /BL (Blue), /TR (Tri Colour), /D1 (Dual Colour - Red/Green), /D2 (Dual Colour - Red/Amber), /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) Prominent (DX1118)	Recessed (DX1117) 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\*

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

#### 5mm LEDs TRI COLOUR

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

#### 5mm LEDs DUAL COLOUR

Specifications	Red/Green	Red/Amber	Green/Amber	
Luminous Intensity: Forward voltage: Cont. Forward Current: Power Dissipation: Reverse Current: Reverse Voltage: Operating Temp: Part No:	4.5/5mcd 2.2V 30mA/30mA 100mW/100mW 100mA 5V (max) /D1	4.5/4mcd 2.2V 30mA/20mA 100mW/60mW 100mA 5V (max) -40°C to +85°C /D2	4/5mcd 2.2V 30mA/20mA 100mW/60mW 100mA 5V (max) /D3	
				I 2 I 2 I 2

# Amm LED Options



#### 4mm LEDs Standard

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

#### Part No Breakdown

DXxxxx	/ xx /	/ <b>xx</b>	
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

# 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

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Available with

Red, Amber,

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

(marked 230V)



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AC

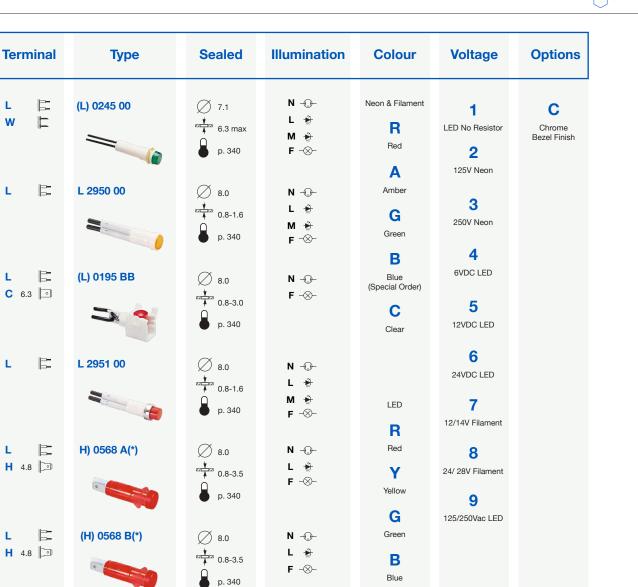
Red, Yellow, Red, Yellow, Green, Blue, White 110-230V AC Green, Blue, White 2.0/2.2V Resistors for other voltages operation. available.



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

Terminal	Туре	Sealed	Illumination	Colour	Voltage	Options
K 2.8 ⊨⊐ L ⊨	(K) 0566 A	6.0 2.0 max p. 340	N	Neon & Filament <b>R</b> Red	1 LED No Resistor 2	C Chrome Bezel Finish
K 2.8 📁	(K) 0566 B	6.0 2.0 max p. 340	N L <del></del> M <del></del>	A Amber G Green	125V Neon 3 250V Neon	
K 2.8 📁 L 📑	(K) 0566 C	6.0 2.0max	N L <del>2</del> M <del>2</del>	B Blue (Special Order) C Clear	4 6VDC LED 5 12VDC LED	
<b>C</b> 6.3 问	(C) 0145 AA	<ul> <li>✓ 5.8</li> <li>★ 3.0max</li> <li>↓ p. 340</li> </ul>	N -⊕- L <del>⊉</del> M <del>⊉</del> F -⊗-	LED	6 24VDC LED 7	
L 🗄 W L	(L) 1041 00	<ul> <li>✓ 6.3</li> <li>✓ 6.3max</li> <li>✓ p. 340</li> </ul>	N -⊕- L <del>∛</del> F -⊗-	R Red Y Yellow	12/14V Filament 8 24/ 28V Filament 9	
L E W L	(L) 1045 00	6.3 10.0max p. 340	N -⊕- L ∛- M <del>∛</del> - F -⊗-	Green B Blue	125/250VAC LED	

Neon, LED and Filament Lamp



#### **Dimensions**

(K) 0566 A



Ø7.0

Ø7.0

Ø7.0

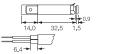




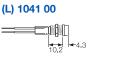
(K) 0566 C



(C) 0145 AA









Ø7.6

Ø7.6



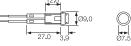




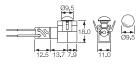




L 2950 00







 $\square$ 

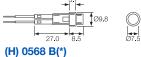
0

bulgin

H) 0568 A(\*)



L 2951 00







#### **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.



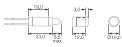
FILAMENT

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

Terminal	Туре	Illumination	Colour	Voltage	Options	Panel	Approval
L E K 2.8 P H 4.8 7 C 6.3 0	(C) 0273 00	N -@- L <del>₿</del> M <del>₿</del> F -⊗-	Neon & Filament R Red	1 LED No Resistor 2 125V Neon	C Chrome Bezel Finish	9.0 2.0 max p. 340	RL KEGD KEGD KEGD KEGD
L 2.8 H 4.8 C 4.3 C 6.3 C	(C) 0278 00	N -@- L <del>∜</del> M <del>∜</del> F -⊗-	Amber <b>G</b> Green	3 250V Neon 4		9.0 2.0 max p. 340	RL KEE Ø
L 2.8 H 4.8 C 6.3	(C) 0276 AA	N -⊕- L <del>∛</del> M <del>∛</del> F -⊗-	B Blue (Special Order) C Clear	6VDC LED 5 12VDC LED		9.5 0.8-2.8 p. 340	R Keed Keed Keed Keed
L 2.8 H 4.8 C 6.3	(C) 0275 00	N -⊕- L <del>‡</del> M <del>‡</del> F -⊗-	LED	6 24VDC LED 7 12/14V Filament		<ul> <li>✓ 10.0</li> <li>★ 12.0</li> <li>▶ p. 340</li> </ul>	FL KED &
L 2.8 H 4.8 C 6.3	(C) 0275 00	N -⊕- L <del>≹</del> M <del>≹</del> F -⊗-	Red Y Yellow Green B	8 24/ 28V Filament 9 125/250VAC LED		<ul> <li>✓ 10.0</li> <li>★ 11.5 max</li> <li>p. 340</li> </ul>	RA KEED () KEED () KEED () KEED
			Blue				

Terminal	Туре	Illumination	Colour	Voltage	Options	Panel	Approval
L E- K 2.8 D H 4.8 D C 6.3 D	(C) 0276 00	N -⊕- L <del>≹</del> M <del>≹</del> F -⊗-	Neon & Filament R Red	1 LED No Resistor 2 125V Neon	C Chrome Bezel Finish	<ul> <li>10.0</li> <li>2.8 max</li> <li>p. 340</li> </ul>	RU KEEN () KEEN RU KEEN () KEEN
L 2.8 H 4.8 C 6.3	(C) 0277 00	N -⊕- L <del>∛</del> M <del>∜</del> F -⊗-	Amber G Green B	3 250V Neon 4		<ul> <li>10.0</li> <li>12 max</li> <li>p. 340</li> </ul>	RU KEER <b>G</b> KEER KEER
L □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	(C) 0273 LL	N -⊕- L <del>∛</del> M <del>∛</del> F -⊗-	Blue (Special Order) C Clear	6VDC LED 5 12VDC LED		<ul> <li>✓ 10.0</li> <li>✓ 0.6-2.0</li> <li>✓ p. 340</li> </ul>	RU Keen S Keen S Keen S
L 2.8 H 4.8 C 6.3	(C) 2820 00	N -⊕- L <del>∛</del> M <del>∜</del> F -⊗-	LED R	6 24VDC LED 7 12/14V Filament		<ul> <li>✓ 12.0</li> <li>✓ 0.75-2.0</li> <li>✓ p. 340</li> </ul>	RU KEEA KEEA KEEA
L ⊨ K 2.8 ⊨ H 4.8 ⊨ C 6.3 ⊡	(C) 2821 00	N -⊕- L <del>∛</del> M <del>∜</del> F -⊗-	Red Y Yellow G	8 24/ 28V Filament 9 125/250VAC LED		<ul> <li>✓ 12.0or12.7</li> <li>of2.0 = 0.8-2.5 of2.7 = 1.1-2.5</li> <li>p. 340</li> </ul>	7 <b>FL</b> KEER <b>()</b> KEER KEER <b>()</b> KEER
L         E           K         2.8         F           H         4.8         F           C         6.3         I	(C) 0586 00	N -⊕- L <del>∛</del> M <del>∛</del> F -⊗-	Green B Blue			<ul> <li>12.5</li> <li>0.8-1.5</li> <li>p. 340</li> </ul>	RL Keen () Keen Keen Keen
Dimensions							
(L) 0569 AW			(C) 027				

bulgin



012.2

12.0 Sq.

O 012.0





(C) 0278 00









32.5 8

O 015.6

O 012.0



(C) 0277 00

7









(C) 2821 00



### (C) 0586 00



15.5 Sq

436 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 H 4.8 C 6.3 C 6.3 L K 2.8 H 4.8 C 6.3 C 7 C 7 C 7 C 7 C 7 C 7 C 7 C	(C) 2870 00 (C) 0589 00	N - (0)- L <del>∜</del> F -⊗- N - (0)- L <del>∜</del> M <del>∜</del> F - ⊗-	Neon & Filament R Red A Amber G Green B	1 LED No Resistor 2 125V Neon 3 250V Neon 4	C Chrome Bezel Finish	<ul> <li>12.7</li> <li>0.75-2.0</li> <li>P. 340</li> <li>12.7</li> <li>0.8-1.5</li> <li>p. 340</li> </ul>	N. KER         (8)           KER         (1)           KER         (1)
LE	L 0081 00	N -⊕- L <del>∜</del> M <del>∜</del> F -⊗-	Blue (Special Order) Clear	6VDC LED 5 12VDC LED		<ul> <li>✓ 12.7</li> <li>♥ 9.5</li> <li>● p. 340</li> </ul>	KIER C
L 2.8 H 4.8 C 6.3	(C) 0177 00	N -⊕- L <del>≹</del> - M <del>≹</del> F -⊗-	LED	6 24Vdc LED 7 12/14V Filament		<ul> <li>12.7</li> <li>12.0max</li> <li>p. 340</li> </ul>	N KEE G KEE KEE
L 2.8 H 4.8 C 6.3	(C) 0067 00	N -⊕- L <del>∜</del> M <del>∜</del> F -⊗-	Red Y Yellow G	8 24/ 28V Filament 9 125/250VAC LED		<ul> <li>12.7</li> <li>1.14 max</li> <li>p. 340</li> </ul>	KICA KICA KICA
L E C 6.3	(C) 0180AA	N -⊕- L <del>∜</del> F -⊗-	Green B Blue			<ul> <li>12.7</li> <li>19.0 max</li> <li>p. 340</li> </ul>	<b>M.</b> Kieł <b>G</b>

Terminal	Туре	Illumination	Colour	Voltage	Options	Panel	Approval
L E C 6.3 🖸	(C) 0180BB	N -⊕- L <del>≹</del> F -⊗-	Neon & Filament <b>R</b> Red	1 LED No Resistor 2	C Chrome Bezel Finish	<ul> <li>13.5</li> <li>0.9-1.14</li> <li>p. 340</li> </ul>	Kiid 🚳
L 2.8 3 H 4.8 3 C 6.3 3	(C) 0579 00	N-⊕- L# M# F-⊗-	A Amber G Green	125V Neon <b>3</b> 250V Neon		<ul> <li>14.0</li> <li>2.5 max</li> <li>p. 340</li> </ul>	Kigg
C 6.3 ₽	(C) 1092	N - <del>0-</del>	B Blue (Special Order)	4 6VDC LED 5 12VDC LED		<ul> <li>19.0</li> <li>4.0max</li> <li>p. 340</li> </ul>	KEG
			Clear LED	6 24VDC LED		p. 340	
			Red Y Yellow	7 12/14V Filament 8 24/ 28V Filament			
			G Green B Blue	<b>9</b> 125/250VAC LED			

### **Dimensions**

(C) 2870 00



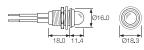


C) 0589 00

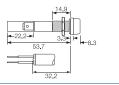




L 0081 00







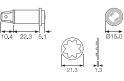
438 Indicators



38.1



(C) 0180AA



### (C) 0180BB

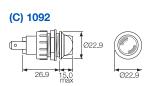


(C) 0579 00

10.0







bulgin

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



AC MAINS LED

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

FILAMENT

L E L0234 00 N - 0- Neon & Filament 1 R LED No Resistor Red 2 A 125V Neon Chrome Bazel Finish 2 2.0-3.5 P. 340 P. 340	Terminal	Туре	Illumination	Colour	Voltage	Options	Panel	Approval
Green 9 125/250VAC LED Blue		L 0233 00		R Red A Amber G Green B Uue (Special Order) C Clear LED R Red Y Yellow G Green B	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	Chrome	$\begin{array}{c c} & & & \\ & & & \\ & & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & \\ & & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ &$	

#### **Dimensions**

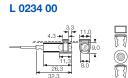
#### H 0581 AY



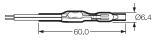








L 0233 00



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

# Low Voltage Lampholders



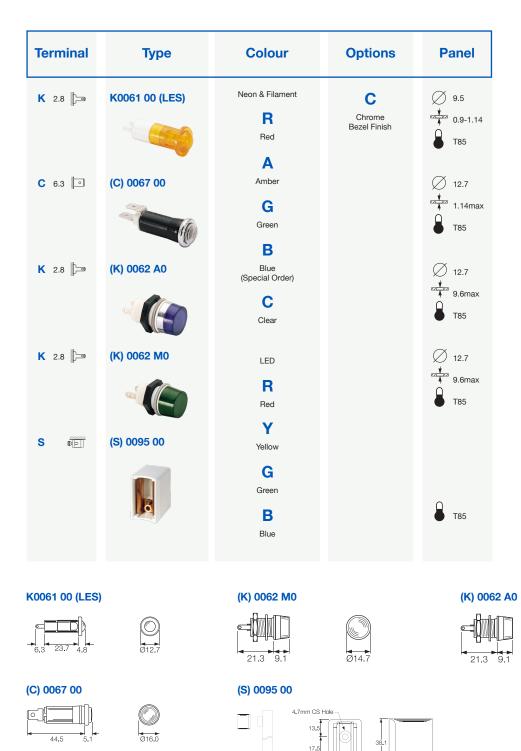
#### **Key Features**

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

O Up to 50V

These lampholders are suitable for up to 50V max.

- C Red, Amber, Green, Blue and Clear
- Colours Red, Amber, Green, (Clear & Blue, check availability).
- C Linestra/Philinea lamp holder



33.3

25.4

# Large Low Voltage Lampholders





C1090FE - - -

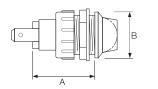


P1090FL - - -

Key Features

- O Up to 50V
- MES or MBC bulb
- O 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 9.1 $6.3 \times 0.8$ H 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1	1090 MES (E10) INFO (E10) INFO (E10) INFO (E10) (C and S Terminals only)	R Red Y Yellow G Green B Blue C Clear	C Chrome Bezel Finish	1090 (MES lamps)           Panel Hole Dia         Body Material         Dim A         Dim B           A         19.0         Brass         35.0         22.0           D         19.0         Brass         30.2         22.0           E         19.0         Nylon with         30.2         22.8           G         19.0         Brass         24.6         22.0           chrome bezel         30.2         22.8         22.4         22.0           G         19.0         Brass         24.6         22.0           L         25.4         Brass         26.0         31.5           IOP1 (MBC lamps)           Iop Material         A         B           B         19.0         Brass         36.0         22.0           C         19.0         Brass         36.0         22.0           C         19.0         Brass         36.0         22.0           Q         19.0         Nylon (Chrome twin)         36.6         22.0           Q         19.0         Nylon (Chrome twin)         36.6         22.0	F Flat V MES (E10)
S					

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



#### **Key Features**

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

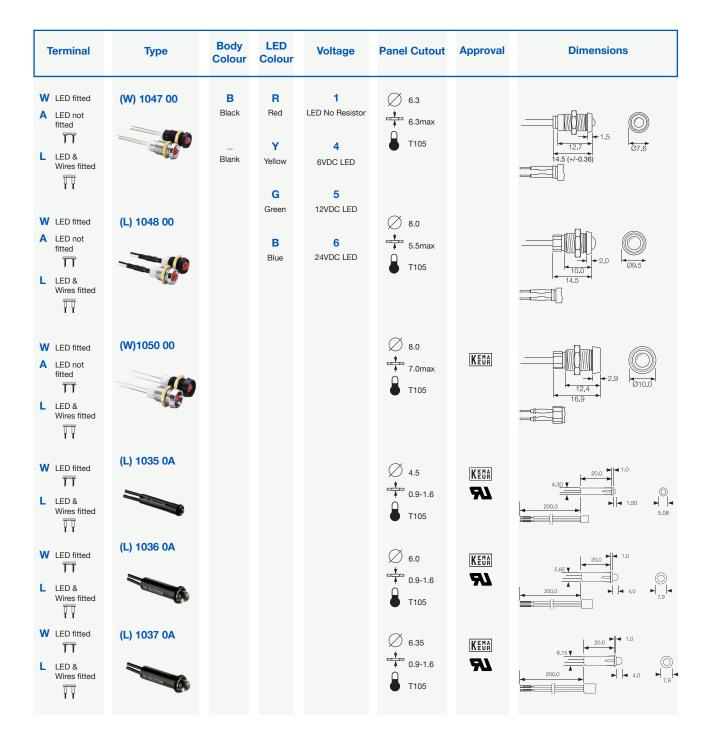
C LED lampholders

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**

LEDs

 $\bigcirc$ 

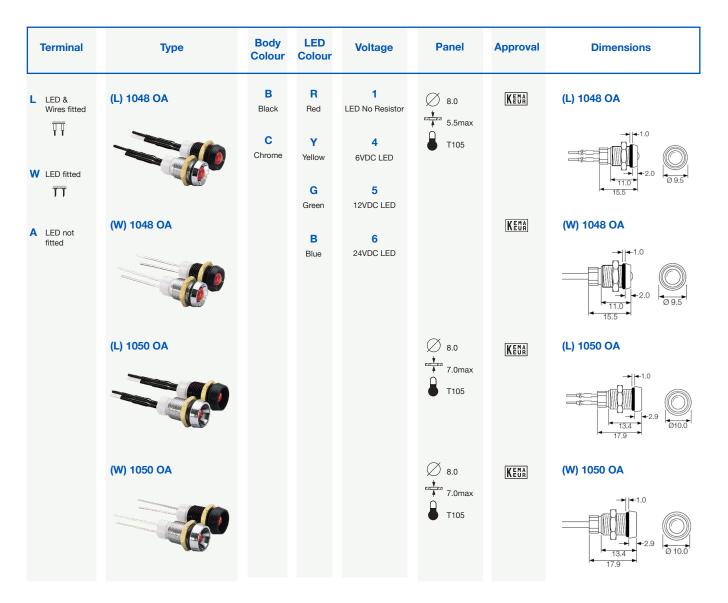
#### **Colours and voltages:**

$\bigcirc$	IP67 front bezel sealing
$\bigcirc$	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.



### **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



DC LED

DC



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

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

clear lenses

white LEDs

O Wide choice of styles

Available with Red, Amber, Green or Clear lenses 100/130V (marked 110V), 200/250V (marked 230V)



 Red, Yellow,
 Red, Yellow,

 Green, Blue,
 Green, Blue,

 White
 White

 2.0/2.2V
 110-230V AC

 Resistors for
 operation.

 other voltages
 available.



Available with 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> Sealed	N -⊕- L ∜ M ∜ F -⊗-	R Red A Amber	<b>1</b> LED No Resistor <b>2</b> 125V Neon	C Chrome Bezel Finish	<ul> <li>Ø 6.3</li> <li><sup>★</sup>/<sub>4</sub> 5.3max</li> </ul>	KEUR
LE	(L) 0245 OS		N -⊕- L <del>∛</del> M <del>∛</del> F -⊗-	G Green B Blue (Spocial)	<b>3</b> 250V Neon		<ul> <li>         7.1         ★         4.6max     </li> </ul>	KEUA
L 2.8 H 4.8 C 6.3	(C) 0275 OS		N -⊕- L <del>∜</del> M <del>∜</del> F -⊗-	(Special) C Clear	4 6VDC LED 5 12VDC LED		<ul> <li>Ø 10.0</li> <li>♥ 11.15max</li> </ul>	KEUR
L     L       K     2.8       H     4.8       C     6.3	(C) 0277 OS		N-⊕- L <del>∛</del> M <del>∛</del> F-⊗-	LED R Red	6 24VDC LED 7			KEUR
L     □       K     2.8     □       H     4.8     □       C     6.3     □	(C) 0177 OS		N -⊕- L # M #∃ F -⊗-	Y Yellow G Green	12/14V Filament 8 24/ 28V Filament		<ul> <li>✓ 12.7</li> <li><sup>+</sup>/<sub>4</sub></li> <li>11.15max</li> </ul>	KEDA
				B Blue W White	9 125/250VAC LED			
(L) 1041 OS			(C)	0275 OS		(C) 0177	OS	
(L) 0245 OS	-4.5 Ø9.5				3.5 - O15.6	+-22.2+ +-53.7		014.6
22.2 4.	5 9.5		(C)	0277 OS	8.3 014.6			

# 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

### **TEMPERATURE RATING**

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

## 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

# **Mouser Electronics**

Authorized Distributor

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

## Bulgin:

 FL2870WL7R
 FL2950BWL7A
 FL2951WL7G
 FL67H8C
 LE1041WL39007
 LE1041WL39017
 LE276C5G

 LE569WL39007
 LH1037OA37007
 LH1048BSWL3702
 LH1048BSWL37028
 LH1048WL3600
 LH1048WL3601

 LH1050
 LH10503700
 LH382R
 NL177C3G
 NL177C3R
 NL276C2R
 NL276C3A
 NL2870C3R
 NL579C3G

 NL67WL2BL
 FL276WL8G
 FL2950BWL7R
 FL2950WL8A
 FL568AH7R
 FL67C7G
 FL2950WL5A
 LE2950WL7R

 FL589C8R
 LE177C39027
 LE177C39028
 LE275CH5A
 LE276WL5A
 LE2950WL5A
 LE2951WL5R

 FL2950BWL8A
 FL2951WL8R
 FL589WL8R
 LE1041WL39027
 LE2950WL39018
 LE2951WL5G

 LH1048BSWL37017/22
 LH1048SWL3700
 LH1050S
 LH1050WL3702
 LE2870C5R
 LE2950WL39028

 LE568AH39007
 LE67C39007
 LE67C50
 FL67WL7A
 FL67WL7A
 FL67WL7A
 FL67WL7A

 LE1041WL8SWL37007/22
 LH1048BWL3602
 LH1048BWL37006
 LH1037OAWL37007
 LH1048BS

 LH1048BSWL37007/22
 LH1048BWL3602
 LH1048BWL37006
 LH1050B
 LH382B
 LH392C
 LH692G

 LHM62A
 NL275CWL2A</