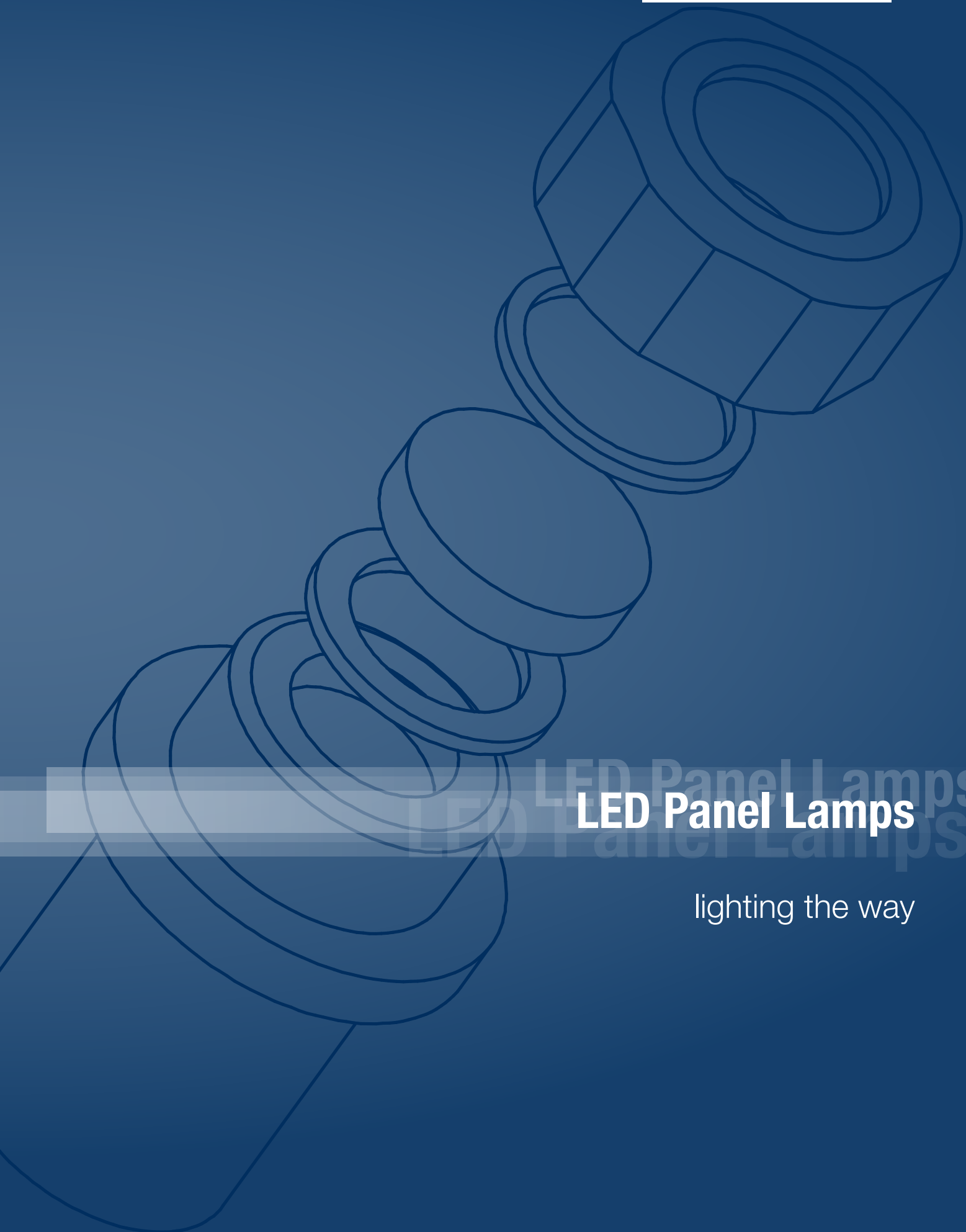
OXLEY



LED Panel Lamps

lighting the way

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INTRODUCTION

PANEL LAMPS

HIGH PERFORMANCE PANEL LAMPS

FILAMENT REPLACEMENT LEDS

LED Panel Indication

Oxley Light Emitting Diode (LED) indicator lamps combine the latest in LED technology with Oxley mechanical and optical expertise to provide a wide range of panel mounting indicator lamps for both benign and hazardous environments.

With the exciting advances in LED technology and the continuation of existing panel mounting lamp ranges, many options are available including wide angle and focused viewing; sunlight readability and Night Vision Goggle Compatibility (NVG).

With Oxley's knowledge and experience within the field of opto-electronics we can address high reliability applications, LEDs are electrically screened ensuring typical Mean Time Between Failure (MTBF) ranging from 90,000 hours to in excess of 200,000 hours.

Oxley has a variety of LED indicator lamps available which have various sealing specifications ranging from IP66 to IP68, with low current versions also available. All variants have optional flame retardant flying lead terminations which can be colour coded to suit customers special requirements.

Traditionally designed for the most demanding of applications both military and non-military, many devices are approved by the UK MoD and US DoD and hold allocated NATO Stock Numbers. An extensive range of products suitable for commercial and industrial applications is also available with mounting hole diameters ranging from 5 mm to 12.7mm and with many other options and features available, LED panel indicators suitable for any applications can be provided.

LED Bulb Replacement

With the increasing brightness of LED technology, Oxley has introduced a wide range of filament replacement LED lamps.

Both uni-polar and bi-polar options are available which operate from either AC or DC voltages. This product range is ideal for fit-and-forget use in professional illuminated pushbutton switches and annunicators.

Available in either T1 or T1¾ as standard, telephone slide base, BA9 is also available on request with operating voltage ranges from 5 V to 440 V DC/AC dependant on the product type.

Options include a choice of six high intensity colours (red, orange, yellow, green, blue and white).

Panel Lamp Sealing

Various sealing options, denoted by IP ratings, are available for the different styles of lamps.

IP Ratings

The IP rating system provides a means of classifying the degrees of protection from dust, water and impact afforded by electrical equipment and enclosure. The system is recognised in most European countries and set out in BS EN 60529:1992 Degrees of protection provided by enclosures (IP code). Note: All LED indicator lamps range from IP66 to IP68

FIRST NUMBER = PROTECTION AGAINST SOLID OBJECTS	
IP TESTS	
0 = No protection	
1 Protected against solid objects up to 50 mm, e.g. accidental touch by hand.	4 Protected against solid objects over 1 mm (tools, wires and small wires)
2 Protected against solid objects up to 12 mm, e.g. fingers.	5 Protected against dust - limited ingress (no harmful deposit)
3 Protected against solid objects over 2.5 mm (tools and wires)	6 Totally protected against dust

SECOND NUMBER = PROTECTION AGAINST LIQUID INGRESS	
IP TESTS	
0 = No protection	
1 Protected against vertically falling drops of water (e.g. condensation).	5 Protected against low pressure jets of water from all directions - limited ingress permitted.
2 Protected against direct sprays of water up to 15° from the vertical.	6 Protected against strong jets of water, e.g. for use on ships decks - limited ingress permitted
3 Protected against direct sprays of water up to 60° from the vertical.	7 Protected against the effects of temporary immersion between 15cm and 1m. Duration of test 30 minutes.
4 Protected against water sprayed from all directions - limited ingress permitted.	8 Protected against long periods of immersion under pressure.

Integral Resistor

The option of integral resistor eliminates the need for a current limiting resistor and therefore simplifies the external drive circuitry. Indicator lamps incorporating a current limiting resistor are identified by a colour coded sleeve on the cathode terminal. The table below displays the standard supply voltage indicator lamps available with colour codes used to identify the supply voltage.

Supply voltage (Vdc)	Colour Code of Sleeve
5	Blue
12	Yellow
15	Green
24	Brown
28	Violet
110	Blue/Black
240	Black/Black

The integral resistor limits the supply current to approximately 12 mA -15 mA at the specified supply voltage as standard. Integral resistors for different supply voltages and currents are available, but may be limited by the space inside the indicator lamp body to dissipate the power generated. (Please contact us for further details).

The majority of our indicator lamps are fitted with integral blocking diodes electrically connected in series with the LED. The blocking diode prevents the LED from being damaged through inadvertent connection to a reverse polarity supply. In addition to providing protection from reverse polarity connection the diode also provides halfwave rectification, which allows the lamp to be operated from AC supplies, providing the supply frequency is above 50 Hz to eliminate flicker.

Lens Characteristics

PLANO-CONVEX
Rear surface of lens flat - 'plano' - diffused and front of lens convex. Focal length of lens designed to increase the 'virtual image' of the light source, this in combination with the diffusion on the rear of lens increases the area of the light source and provides even illumination across the viewing aperture.

FRESNEL
Flat or convex lens with a series of concentric rings (grooves) cut into the rear surface of the lens. This provides the best of both worlds by attaining maximum on-axis brightness from the light source, viewed through clear portions of the lens, in between the concentric grooves and increasing the viewing angle of the indicator lamp by diffusing and refracting the light from the light source in the concentric rings. Due to the relatively small size and complexity of fresnel lenses used in Oxley indicator lamps these lenses are plastic injection moulded, in a variety of colours including clear to match the colour of the light source and the application.

DOMED
Domed lens. This lens provides 130° omni-directional viewing characteristics. Ideal for applications requiring wide angle visibility in all ambient light conditions where a high level of performance is required.

FLAT - CLEAR
Used in applications where the indicator lamp is to be viewed under low ambient light conditions.

DIFFUSED
Light projected on to the rear diffused surface of the lens is scattered, improving the viewing angle and increasing the area of the viewed light source. Increases readability of indicator lamps under higher ambient light conditions; however, readability under sunlight conditions is compromised and improves the aesthetic appearance of the lamp, since the diffused surface on the rear of the lens provides a screen preventing direct viewing of the light source.

EMI SHIELDING
A special electrostatic screen is connected both electrically and mechanically between the light source and the lens. Shielding efficiency – 20 dB reduction in electromagnetic radiation over the frequency range 5 MHz to 1GHz when compared against a nonshielded device.

SUNLIGHT READABLE
A filter with light attenuating properties that is used to increase the 'ON/OFF' contrast ratio of the indicator lamp, therefore achieving greater sunlight readability. Eliminating reflections and increasing the contrast ratio play the major part in achieving better sunlight readability. The specially designed filters used in Oxley indicator lamps attenuate the ambient light reflected off the lens. Any reflected light from the inner surfaces of the indicator lamp that may cause spurious ON/OFF indications is also attenuated, which produces the 'black hole' effect where reflected light is effectively quenched, thereby increasing the sunlight readability by increasing the contrast ratio. This explains how a lamp with a lower luminous intensity can have better sunlight readability than a lamp with a higher luminous intensity.

ANTI-REFLECTION COATING
An interference coating applied to a flat surface of a filter or lens which reduces the reflectance of that surface over the visible spectrum, further enhancing the sunlight readability of the indicator lamp.

LENS MATERIAL
Material from which the lens is manufactured.

GLASS - Used on the majority of Oxley indicator lamps due to precise control of optical properties and mechanical robustness. It also offers excellent resistance to temperature, thermal shock and solvents.

POLYCARBONATE - Used for mechanically complex lenses, e.g. fresnel, that require injection moulding due to the complexity of the opto-mechanical design.

Terminals

PINS or SPILLS
Indicates lamp terminals.

TAGS
Generally more robust terminations featuring pins for insertion into PCBs, wire wraps or eyelets for ease of connecting hook-up wires.

FLYING LEADS
Available with colour coded wire for indication of polarity and different grades of wire, e.g. flame retardant, MIL-Spec, halogen free etc. Incorporation of flying lead option generally indicated by addition of 'FLxx' into the part No., where 'xx' indicates the length of the flying lead in centimetres.

FLYING LEADS WITH CONNECTORS
For ease of assembly and reduced solder joints.

Secure XIR Lighting - Night Vision Goggle Compatible

Used to describe an indicator lamp designed to meet the parameters specified by DESC control drawing No. 87019. The main purpose of DESC 87019 is to define secure lighting of equipment that is

going into ‘front-line’ combat operations where standard indicator lamps could give away the position of the equipment and personnel to enemy forces. Secure lighting is achieved by meeting two main parameters:

1. Restricting the viewing angle of visible light emitted from the indicator lamp. e.g. the operator must be standing directly in front of the equipment to see the light source.
2. Restricting the amount of energy emitted from the indicator lamp in the near infrared (NIR) region in the bandwidth of approximately 600 to 930nm. This is to eliminate detection by enemy forces using night vision goggles (NVGs).

NVG
Is the nomenclature used to describe an indicator lamp that is Night Vision Goggle compatible. For an indicator to be NVG compatible the amount of energy emitted in the near infrared (NIR) region must be restricted as described above for the XIR indicator lamps; however, unlike the XIR lamps there is no restriction on the viewing angle of the indicator lamp.

Night vision goggles produce an image by amplifying light in the NIR region of the spectrum. The NVGs have an Automatic Gain Control (AGC) which controls the amplification of the NIR. As NIR levels illuminating a scene increase, to maintain the contrast of the image being presented to the user, the AGC reduces the level of amplification. As NIR levels reduce the AGC increases the amplification to maintain the image. The effect of stray high intensity NIR (for example, unfiltered light from an indicator lamp on a control panel close to the user of NVGs) is for the amplification of the NVGs to be reduced thereby blinding the goggles to all but the strong light source. This is particularly critical for aerospace cockpit applications.

The restriction of the NIR spectrum is achieved by vacuum deposition of special materials with differing refractive indices on to the rear surface of the filter. To form the NIR blocking filter, many alternate layers of these materials are vacuum deposited onto the lens.

DESC 85122 APPROVED
Indicates styles of indicator lamps which can be approved against DESC control drawing 85122.

Indicator lamps approved against DESC 85122 are 100% screened against the following test schedule:

High Temperature Storage - at 100°C, duration 72 hours minimum.

Thermal Shock: • high = 100°C • low = -55°C

10 cycles duration at each temperature, 15 minutes minimum.

Constant Acceleration: 20,000 g.

Seal test: immersion per MIL- STD-750, test method 1011 condition A.

Pre Burn-in Measurements:

- Luminous Intensity (Iv)
- Forward Voltage (Vf)
- Reverse Current (Ir)
- Burn-In - (Forward bias) at ambient temperature. 168 hours minimum duration.
- Post Burn-in Measurements:
- Iv (A Iv, 20% max. from initial value).
- Vf (A Vf ± 50 mV from initial value).
- Ir Insulation Resistance >1,000 MΩ at 500 V between both of the terminations and body.

Mechanical Inspection - Additional maintenance testing is carried out against sampling plan to ensure compliance with the specification.

DESC 87019 APPROVED
Indicates styles of indicator lamps which can be approved against DESC control drawing 87019. Testing generally as specified for DESC 85122 with the addition of total power emission measurements between 350 nm and 930 nm.

DESC -GENERAL
Only indicator lamps that are specified on the DESC control drawing can be formally released against the drawing. However other styles of indicator lamps can be certified as meeting the screening and general requirements of the DESC drawing. (Please contact us for further sdetails).

	MI/5's Series	OXL/CLH/63 Series	OXL/CLH/80 Series	OXL/CLH/100 Series	OXL/MIL50 Series	PS/LH/8 Series	STR/LH/8 Series	STR/LH23/10 Series	STR/LH/10 Series	STR5 Series	STR501 Series	DESC Approved	STR/NLH Series	ELED/682 T1 Series	ELED/1750 T1¾ Series	ELED/T5.5 Telephone Slide Base Series	ELED/BA9 Bayonet Series
Page Number	6	8	12	16	22	28	34	42	46	48	50	52	56	58	60	62	64
Bulb Replacements														■	■	■	■
DESC 87019 Approved							■					■					
DESC 85122 Approved						■	■					■					
Plastic Body	■																
Aluminum						■	■		■				■				
Chromate Finish						■											
Black Anodised Finish		■	■	■	■			■		■	■						
Flying Leads	■	■	■	■	■				■	■	■		■				
Tags							■										
Spill Terminations	■	■	■	■	■	■	■			■	■						
Prominent Lens		■	■	■													
Flat Lens					■	■	■			■	■						
Domed Lens						■	■	■	■								
Cone Bezel			■														
Convex Lens						■	■	■	■				■				
Low Profile		■		■													
NVG Compatible					■	■	■			■	■						
Sunlight Viewable	■				■	■	■			■	■						
Bi or Tri Colour				■			■	■									
Rear Mounting										■	■						
Voltage Options	■	■	■	■	■		■	■	■		■		■	■		■	■
Neon													■				
LED	■	■	■	■	■	■	■	■	■	■	■			■	■	■	■
IP Seal Rating	67	66	66	66	67	68	68	68	68	68	68	68	68	66	66	66	66
Mouting Hole Dia (mm)	5.0	6.35	8.0	10.0	5.0	8.0	8.0	10.0	10.0	8.0	8.0	8.0	8.0	N/A	N/A	N/A	N/A

Sub-Miniature Cone Lock Indicator Lamp

Key Characteristics

Functional

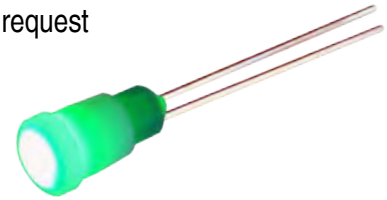
- 5mm mounting
- Fast, easy push fit mounting
- 80° viewing angle

Resilient

- Self-sealing indicator sealed to IP66
- -40 to 85°C operating and storage temp

Adaptable

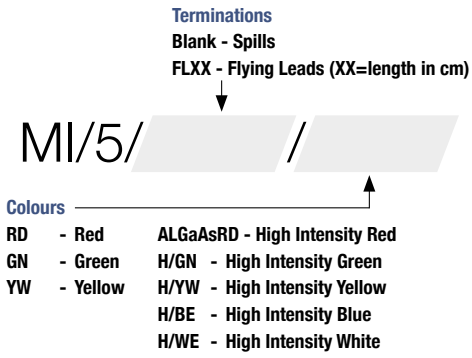
- Low profile
- Customer specials on request



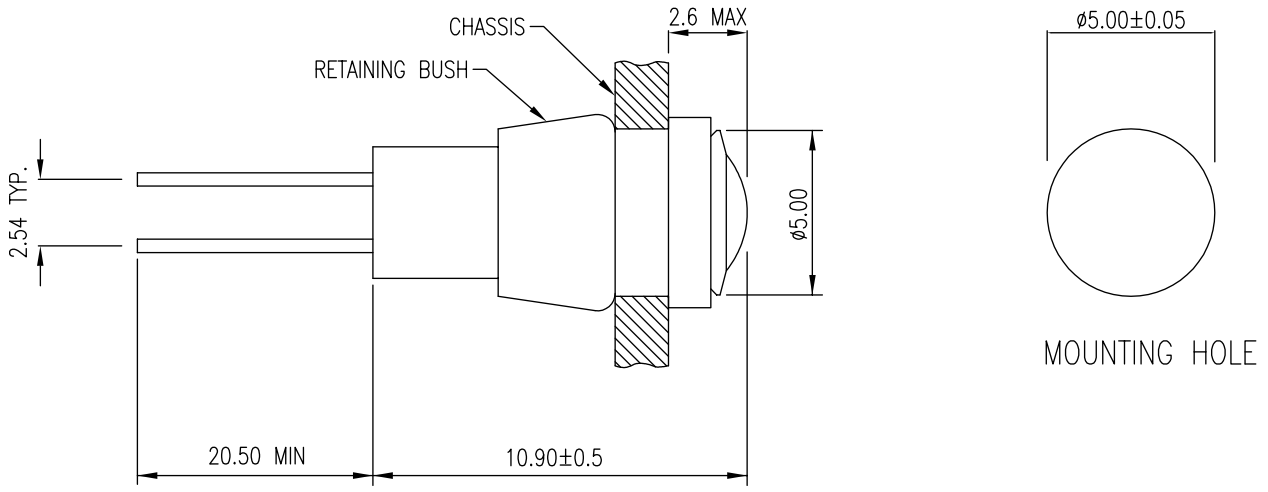
Specifications

COLOURS									
Luminous Intensity		White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	mcd						Forward	Reverse	
Std	1	x	✓	x	x	x	2.1	5	20
	1.5	x	x	✓	✓	x	2.1	5	20
High Intensity	1000	x	x	✓	x	x	2.1	5	20
	1000	✓	x	x	x	x	3.6	5	20
	1200	x	x	x	x	✓	3.6	5	20
	1200	x	✓	x	x	x	1.9	5	20
	1250	x	x	x	✓	x	3.6	5	20

Ordering Information



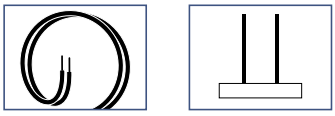
Example: MI/5/H/GN - Spills, High Intensity Green
Example: MI/5/FL30/YW - Flying Leads 30cm, Yellow



Technical Information

Terminations	Spills or Flying Leads
Body	Acetal
Bush	High Dispersion Grade PTFE (White Standard)
Encapsulant	Silicone Resin
Chassis Thickness	1.6mm (0.062") – 3.2mm (0.125")
Mounting Hole	5.0mm ± 0.05
Mean Time Before Failure	90,000 hours

Termination Options



RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Low Profile or Prominent with Flush Mounting

Key Characteristics

Functional

- 6.35mm mounting
- Space critical applications
- 80° viewing angle

Resilient

- IP66 sealed
- -40 to 85°C operating and storage temp
- Corrosion resistant

Adaptable

- Full colour range with lens options
- Voltage and current options
- Customer specials on request

Specifications

		COLOURS							
Luminous Intensity		White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	mcd						Forward	Reverse	
STD	35	x	✓	✓	✓	x	5,12,24,28	5,12,24,28	15
	45	x	✓	✓	✓	x	2.2	5	20
High Intensity	750	✓	x	✓	x	x	5,12,24,28	5,12,24,28	15
	900	x	✓	x	x	✓	5,12,24,28	5,12,24,28	15
	940	x	x	x	✓	x	5,12,24,28	5,12,24,28	15
	1000	✓	x	x	x	x	2.2	5	20
	1000	x	x	✓	x	x	3.6	5	20
	1200	x	x	x	x	✓	3.6	5	20
	1250	x	✓	x	x	x	1.9	5	20
	1250	x	x	x	✓	x	3.6	5	20

Ordering Information

OXL/CLH/63/ ____ / ____ / ____ / ____ / ____ / ____

Lens
Blank - Fresnel Lens
P - Prominent Lens

Lens Colour
Blank - Coloured Lens
CL - Clear Lens

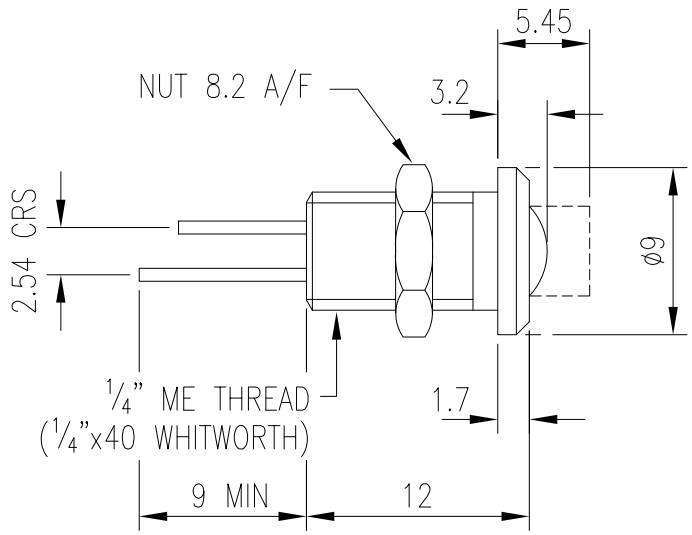
Terminations
Blank - Spills
FLXX - Flying Leads

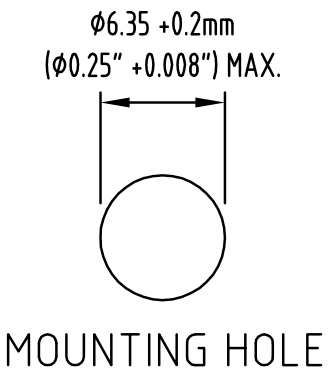
Finish
Blank - Aluminium
BB - Black Anodised

Voltage
Blank - <5VDC (current driven)
5 - 5VDC
12 - 12VDC
24 - 24VDC
28 - 28VDC

Colours
RD - Red
GN - Green
YW - Yellow
ALGaAsRD - High Intensity Red
H/GN - High Intensity Green
H/YW - High Intensity Yellow
H/BE - High Intensity Blue
H/WE - High Intensity White

Example: OXL/CLH/63/RD - Aluminium Finish, Fresnel Lens, 2.2v, Coloured Lens, Spills, Standard Intensity Red
Example: OXL/CLH/63/BB/P/12/CL/FL20/H/BE - Black Anodised, Prominent Lens, Clear Lens, 12v, Flying Lead 20cm, High Intensity Blue



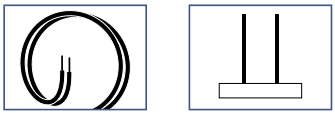


ALL DIMENSIONS IN MM

Technical Information

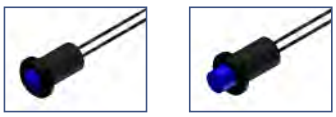
Terminations	Flying Leads Copper wire PVDF Insulation
Body	Aluminium Alloy, Clear (Black Anodised Option)
Lens	Colour Polycarbonate (Clear Lens Optional)
Nut	Nickel Plated Brass
Washer	Spring Steel, Bright Zinc Plated
Chassis Thickness	1.5mm (0.059") – 5mm (0.197")
Mounting Hole	6.35mm + 0.2
Recommended Mounting Torque	1Nm (0.74lbft)
Mean Time Before Failure	90,000 hours

Termination Options



Flying Leads | Spills

Lens Options



Low Profile | Prominent

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Low Profile or Prominent with Flush Mounting, AC Voltage

Key Characteristics

Functional

- 6.3mm mounting
- 80° or 100° viewing angle

Resilient

- IP66 sealed
- -40 to 85°C operating and storage temp
- Aluminium, optional black anodised body

Adaptable

- Full colour range with lens options
- Voltage and current options
- Customer specials on request

Specifications

		COLOURS							
Luminous Intensity		White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	mcd						Forward	Reverse	
High Intensity	375	✓	x	✓	x	x	5,12,24	5,12,24	15
	450	x	✓	x	x	✓	5,12,24	5,12,24	15
	470	x	x	x	✓	x	5,12,24	5,12,24	15

Ordering Information

OXL/CLH/63/ [ ] / [ ] / [ ] / [ ] / [ ] / [ ]

Lens
Blank - Fresnel Lens
P - Prominent Lens

Lens Colour
Blank - Coloured Lens
CL - Clear Lens

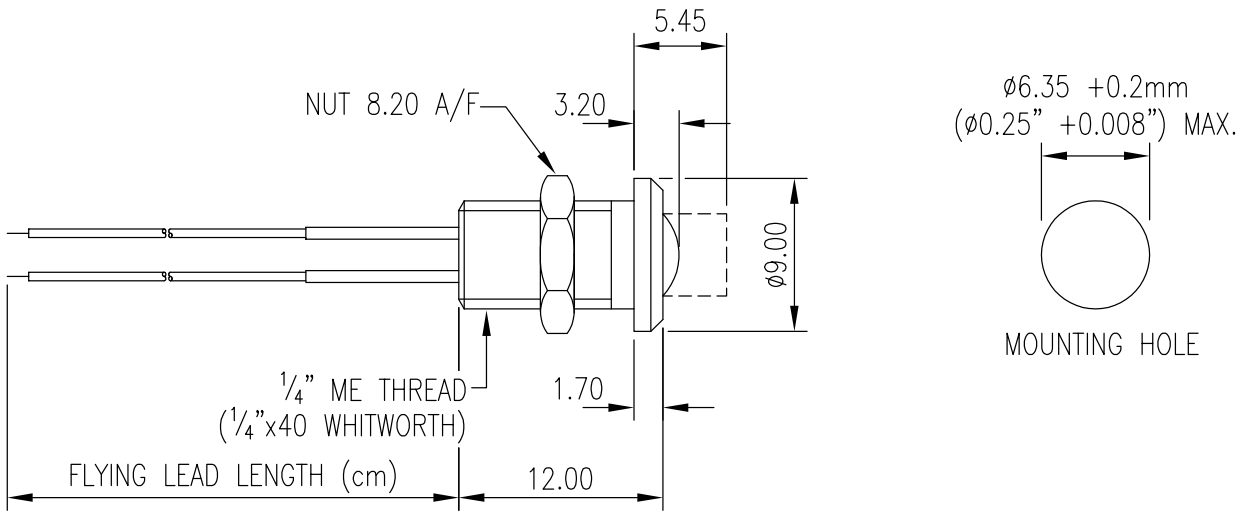
Terminations
Blank - Spills
FLXX - Flying Leads

Finish
Blank - Aluminium
BB - Black Anodised

Voltage
5AC - 5VAC
12AC - 12VAC
24AC - 24VAC

Colours
ALGaAsRD - High Intensity Red
GN - High Intensity Green
YW - High Intensity Yellow
BE - High Intensity Blue
WE - High Intensity White

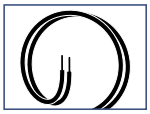
Example: OXL/CLH/63/12AC/FL30/ALGaAsRD - Aluminium Finish, Fresnel Lens, 12AC, Coloured Lens, 30cm Flying Leads, High Intensity Red
Example: OXL/CLH/63/BB/P/24AC/FL30/GN - Black Anodised, Prominent Lens, 24AC, Coloured Lens, 30cm Flying Leads, High Intensity Green



Technical Information

Terminations	Flying Leads, red and black wire insulation. Length defined in Part No. (CM)
Body	Aluminium Alloy, optional Black Anodised
Lens	Polycarbonate
Nut	Nickel Plated Brass
Washer	Spring Steel, Bright Zinc Plated
Chassis Thickness	1mm (0.039") to 4mm (0.157")
Mounting Hole	6.35mm ± 0.2
Recommended Mounting Torque	1Nm
Mean Time Before Failure	90,000 hours

Termination Options



Flying Leads

Lens Options

Low Profile

Prominent

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Cone Bezel or Prominent Bezel Indicator

Key Characteristics

Functional

- 8mm mounting
- 80° viewing angle
- Standard protective reflective cone bezel

Resilient

- IP66 sealed
- -40 to 85°C operating and storage temp

Adaptable

- Full colour range
- Voltage and current options
- Customer specials on request

Specifications

		COLOURS							
Luminous Intensity		White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	mcd						Forward	Reverse	
STD	34	x	✓	✓	✓	x	5,12,24,28	5,12,24,28	15
	45	x	✓	✓	✓	x	2.2	5	20
High Intensity	750	✓	x	✓	x	x	5,12,24,28	5,12,24,28	15
	900	x	✓	x	x	✓	5,12,24,28	5,12,24,28	15
	940	x	x	x	✓	x	5,12,24,28	5,12,24,28	15
	1000	✓	x	x	x	x	2.2	5	20
	1000	x	x	✓	x	x	3.6	5	20
	1200	x	x	x	x	✓	3.6	5	20
	1200	x	✓	x	x	x	1.9	5	20
	1250	x	x	x	✓	x	3.6	5	20

Ordering Information

Voltage (in-line resistor only)
Blank - <5VDC (Current Driven)
5 - 5VDC
12 - 12VDC
24 - 24VDC
28 - 28VDC

Finish
Blank - Aluminium (Black Anodised for Prominent)
BB - Black Anodised (Option on Cone Bezel Only)

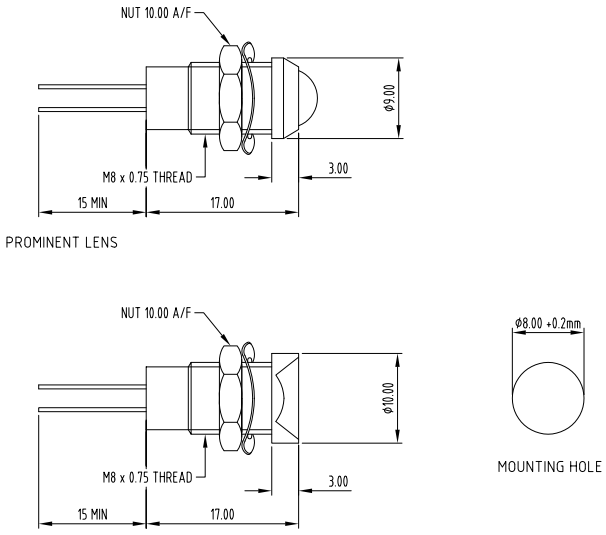
Terminations
Blank - Spills
FLXX - Flying Leads (XX length in cm)

OXL/CLH/80/ ____ / ____ / ____ / ____ / ____

Lens
Blank - Cone Bezel
P - Prominent Lens

Colours
RD - Red
GN - Green
YW - Yellow
AlGaAsRD - High Intensity Red
H/GN - High Intensity Green
H/YW - High Intensity Yellow
H/BE - High Intensity Blue
H/WE - High Intensity White

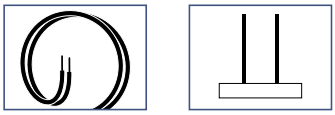
Example: OXL/CLH/80/GN – Cone Bezel, Aluminum Finish, Current Driven, Spills, Standard Intensity Green
Example: OXL/CLH/80/5/FL99/H/GN – Cone Bezel, Aluminum Finish, 5VDC, Flying Leads 99cm, High Intensity Green



Technical Information

Terminations	Silver Plated
Body	Aluminium on Cone Bezel, Prominent Black Anodised
Lens	LED Dome
Nut	Aluminium Alloy
Washer	BeCu. Tin Plated
Chassis Thickness	1 to 5mm
Mounting Hole	8mm + 0.2
Recommended Mounting Torque	1Nm (0.74lbft)
Mean Time Before Failure	90,000 Hours

Termination Options



Flying Leads | Spills

Lens Options

Cone Bezel | Prominent

RoHS

Certified System SAI GLOBAL
AS9100
Aerospace

Cone Bezel or Prominent Lens with AC Voltage

Key Characteristics

Functional
- 8mm mounting
- 80° viewing angle

Resilient
- IP66 sealed
- -40 to 85°C operating and storage temp

Adaptable
- Full colour range
- Voltage and current options
- Customer specials on request

Specifications

COLOURS									
Luminous Intensity		White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	mcd						Forward	Reverse	
High Intensity	370	✓	x	x	x	x	12,24	12,24	7.5
	450	x	✓	x	x	x	12,24	12,24	7.5
	380	x	x	✓	x	x	12,24	12,24	7.5
	470	x	x	x	✓	x	12,24	12,24	7.5
	450	x	x	x	x	✓	12,24	12,24	7.5

Ordering Information

Finish
Blank - Aluminium (Black Anodised for Prominent)
BB - Black Anodised (Option on Cone Bezel Only)

Terminations
FLXX - Flying Leads (XX length in cm)

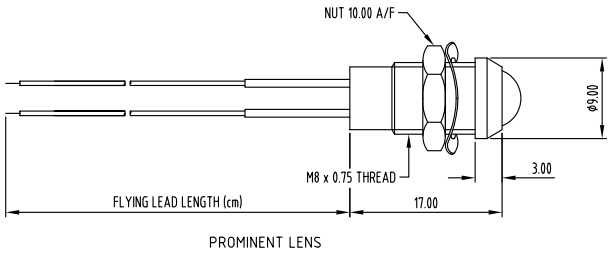
OXL/CLH/80/ ____ / ____ / ____ / ____ / ____

Lens
Blank - Cone Bezel
P - Prominent Lens

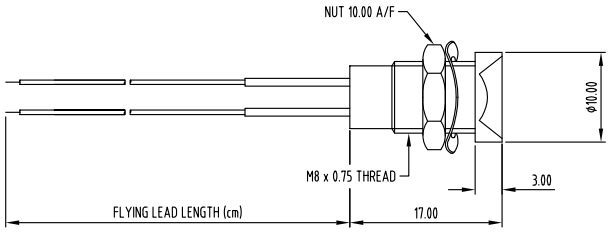
Voltage
12AC - 12VAC
24AC - 24VAC

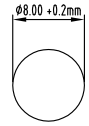
Colours
AlGaAsRD - High Intensity Red
GN - High Intensity Green
YW - High Intensity Yellow
BE - High Intensity Blue
WE - High Intensity White

Example: OXL/CLH/80/12AC/FL30/AL – Cone Bezel, Aluminium Finish, 12VAC, Flying Leads 30cm, High Intensity Red
Example: OXL/CLH/80/P/24AC/FL30/GN – Prominent Lens, Black Anodised Finish, 24VAC, Flying Leads 30cm, High Intensity Green



PROMINENT LENS





MOUNTING HOLE

ALL DIMENSIONS IN MM

Technical Information

Terminations	Flying Leads Insulation Red and Black
Body	Aluminium on Cone Bezel, Prominent Black Anodised
Lens	LED Dome
Nut	Aluminium Alloy
Washer	BeCu. Tin Plated
Chassis Thickness	1 to 5mm
Mounting Hole	8mm + 0.2
Recommended Mounting Torque	1Nm (0.74lbft)
Mean Time Before Failure	90,000 Hours

Termination Options

Flying Leads

Lens Options

Cone Bezel

Prominent

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Low Profile or Prominent with Flush Mounting

Key Characteristics

Functional

- 10mm mounting
- 80° or 100° viewing angle

Resilient

- IP66 sealed
- -40 to 85°C operating and storage temp
- Aluminium black anodised body

Adaptable

- Full colour range with lens options
- Voltage and current options
- Customer specials on request

Specifications

		COLOURS							
Luminous Intensity		White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	mcd						Forward	Reverse	
STD	34	x	✓	✓	✓	x	5,12,24,28	5,12,24,28	15
	45	x	✓	✓	✓	x	2.2	5	20
High Intensity	750	✓	x	✓	x	x	5,12,24,28	5,12,24,28	15
	900	x	✓	x	x	✓	5,12,24,28	5,12,24,28	15
	940	x	x	x	✓	x	5,12,24,28	5,12,24,28	15
	1000	✓	x	x	x	x	2.2	5	20
	1000	x	x	✓	x	x	3.6	5	20
	1200	x	x	x	x	✓	3.6	5	20
	1200	x	✓	x	x	x	1.9	5	20
	1250	x	x	x	✓	x	3.6	5	20

Ordering Information

Lens
Blank - Low Profile Lens
P - Prominent Lens

Lens Colour
Blank - Coloured Lens
CL - Clear Lens

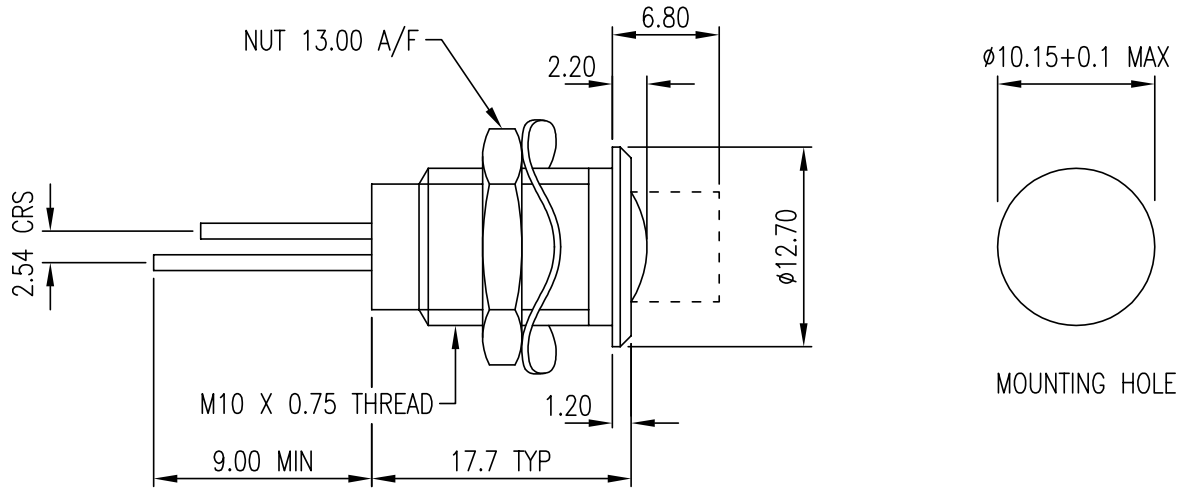
Terminations
Blank - Spills
FLXX - Flying Leads

OXL/CLH/100/ ____ / ____ / ____ / ____ / ____

Voltage
Blank - <5VDC (current driven)
5 - 5VDC
12 - 12VDC
24 - 24VDC
28 - 28VDC

Colours
RD - Red
GN - Green
YW - Yellow
ALGaAsRD - High Intensity Red
H/GN - High Intensity Green
H/YW - High Intensity Yellow
H/BE - High Intensity Blue
H/WE - High Intensity White

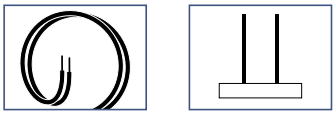
Example: OXL/CLH/100/RD - Black Anodized Finish, Low Profile Lens, 2.2VDC, Coloured Lens, Spills, Red
Example: OXL/CLH/100/P/5/CL/FL30/GN - Black Anodized Finish, Prominent Lens, 5VDC, Clear Lens, Flying Leads of 30cm, Green



Technical Information

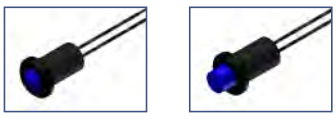
Terminations	Silver Plated or Tin-Lead solderability exceeds BS2011, TEST T
Body	Aluminium Alloy Matt Black Anodised
Lens	Polycarbonate
Nut	Aluminium Alloy
Washer	BeCu. Tin Plated
Chassis Thickness	1.5mm (0.059") min
Mounting Hole	10.15mm ± 0.1
Recommended Mounting Torque	1Nm (0.74lbft)
Mean Time Before Failure	90,000 Hours

Termination Options



Flying Leads | Spills

Lens Options



Low Profile | Prominent

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Low Profile or Prominent with Flush Mounting, AC Voltage

Key Characteristics

Functional
- 10mm mounting
- 80° or 100° viewing angle

Resilient
- IP66 sealed
- -40 to 85°C operating and storage temp
- Aluminium black anodised body

Adaptable
- Full colour range with lens options
- Voltage and current options
- Customer specials on request

Specifications

COLOURS									
Luminous Intensity		White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	mcd						Forward	Reverse	
High Intensity	375	✓	x	✓	x	x	12,24	12,24	15
	450	x	✓	x	x	✓	12,24	12,24	15
	470	x	x	x	✓	x	12,24	12,24	15

Ordering Information

Lens
Blank - Low Profile Lens
P - Prominent Lens

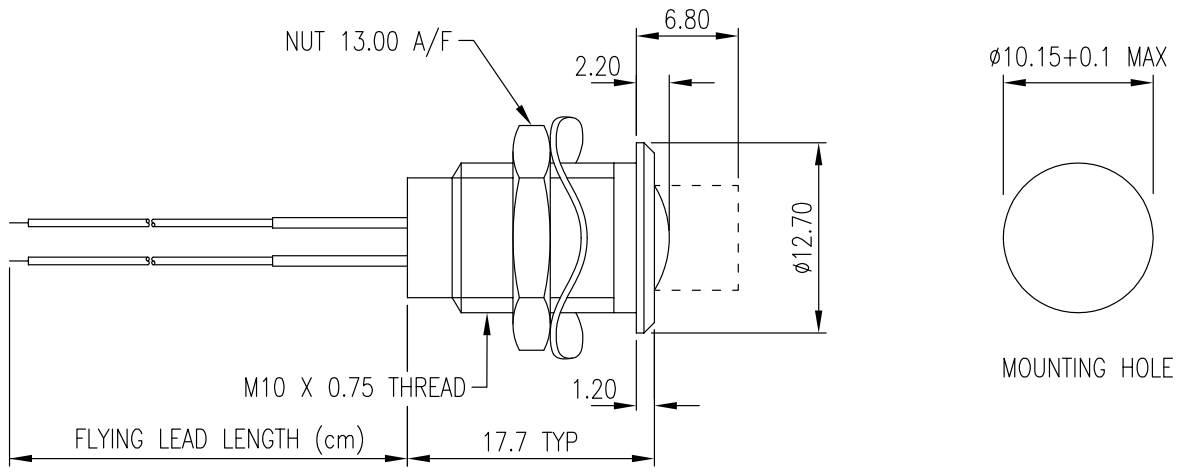
Terminations
FLXX - Flying Leads
(XX length in cm)

OXL/CLH/100/ ____ / ____ / ____ / ____

Voltage
12AC - 12VAC
24AC - 24VAC
110 - 110VAC
240 - 240VAC

Colours
AlGaAsRD - High Intensity Red
GN - High Intensity Green
YW - High Intensity Yellow
BE - High Intensity Blue
WE - High Intensity White

Example: OXL/CLH/100/12AC/FL30/AlGaAsRD - Low Profile Lens, 12VAC, Flying Leads 30cm, High Intensity Red
Example: OXL/CLH/100/P/110/FL30/YW - Prominent Lens, 110VAC, Flying Leads 30cm, High Intensity Yellow



Technical Information

Terminations	Flying Leads
Body	Aluminium Alloy Matt Black Anodised
Lens	Polycarbonate
Nut	Aluminium Alloy
Washer	BeCu. Tin Plated
Chassis Thickness	1.5mm (0.059") min
Mounting Hole	10.15mm ± 0.1
Recommended Mounting Torque	1Nm (0.74lbft)
Mean Time Before Failure	90,000 Hours

Termination Options

Flying Leads

Lens Options

Low Profile

Prominent

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Bi or Tri Colour Fresnel Lens

Key Characteristics

Functional

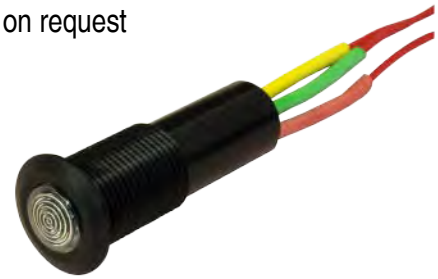
- 10mm mounting
- 80° viewing angle
- Replaces two or three single indicators
- Independent LED indication

Resilient

- IP66 sealed
- -40 to 85°C operating temp
- -40 to 100°C storage temp

Adaptable

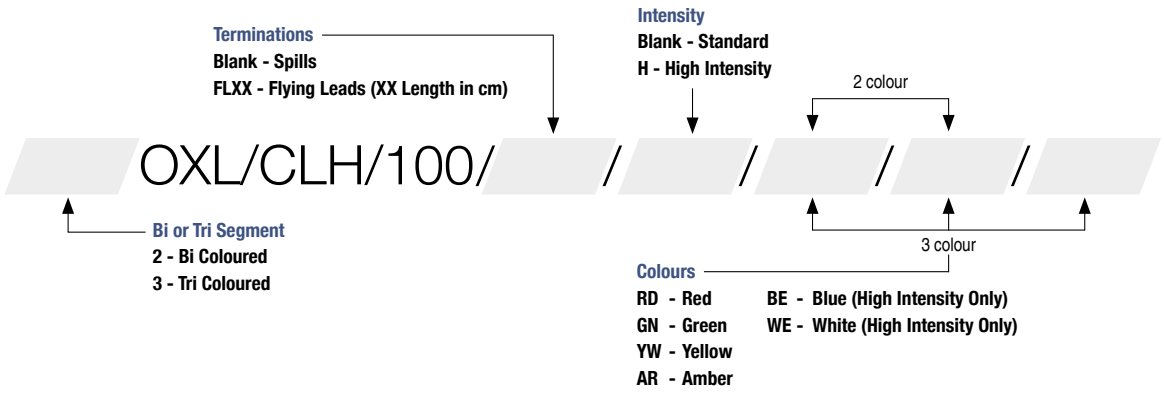
- Full colour range
- Customer specials on request



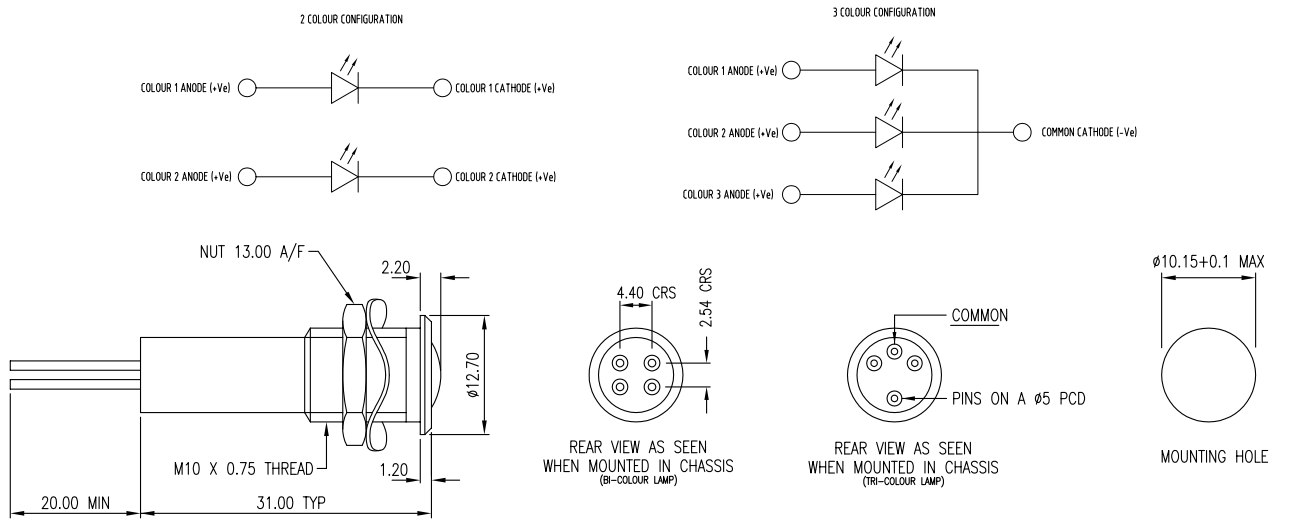
Specifications

	Luminous Intensity	COLOURS							
		White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	mcd						Forward	Reverse	
STD	25	x	x	✓	x	x	2.2	5	20
	30	x	✓	x	x	x	1.9	5	20
	35	x	x	x	✓	x	2.2	5	20
High Intensity	1000	x	x	✓	x	x	2.2	5	20
	1000	✓	x	x	x	x	3.6	5	20
	1200	x	x	x	x	✓	3.6	5	20
	1200	x	✓	x	x	x	1.9	5	20
	1250	x	x	x	✓	x	3.6	5	20

Ordering Information



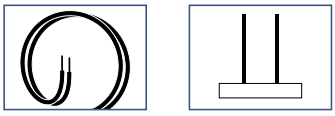
Example: 2OXL/CLH/100/FL30/H/AR/BE - Bi Colour, 10mm Mounted, 30cm Flying Leads, High Intensity Amber and Blue
Example: 3OXL/CLH/100/H/RD/GN/YW - Tri Colour, 10mm Mounted, High Intensity Red, Green and Yellow



Technical Information

Terminations	Silver Plated Terminations, Colour Coded Sleeve - Polyefin
Body	Aluminium Alloy, Matt Black Anodised
Lens	Polycarbonate, Clear
Nut	Aluminium Alloy
Washer	BeCu. - Tin Plated
Chassis Thickness	1.5mm min
Mounting Hole	10.15mm + 0.1
Recommended Mounting Torque	1Nm (0.74lbft)
Mean Time Before Failure	90,000 hours

Termination Options



Flying Leads | Spills

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Sub-Miniature Sealed Top and Rear

Key Characteristics

Functional

- 5mm mounting
- 60° viewing angle

Rugged

- Panel sealed to IP67
- -40° to 85°C operating temp
- -55° to 100°C storage temp

Adaptable

- Full colour range
- Voltage and current options
- Separate body and LED available
- Customer specials available on request

Specifications

	Luminous Intensity mcd	COLOURS White	Red	Yellow	Green	Blue	Voltage Forward	Voltage Reverse	Current (mA)
Std	15	x	✓	✓	✓	x	5,12,24,28	5,12,24,28	15
	20	x	✓	✓	✓	x	2.2	5	20
High Intensity	750	✓	x	✓	x	x	5,12,24,28	5,12,24,28	15
	900	x	✓	x	x	✓	5,12,24,28	5,12,24,28	15
	940	x	x	x	✓	x	5,12,24,28	5,12,24,28	15
	1000	x	x	✓	x	x	2.2	5	20
	1000	✓	x	x	x	x	3.6	5	20
	1200	x	x	x	x	✓	3.6	5	20
	1200	x	✓	x	x	x	1.9	5	20
	1250	x	x	x	✓	x	3.6	5	20

Ordering Information

Finish
Blank - Aluminium, Black Anodised Shroud
BB - Black Anodised

EMI Shielding
Blank - No EMI Shield
SES - EMI Shield (Aluminium body only, shroud size changes)

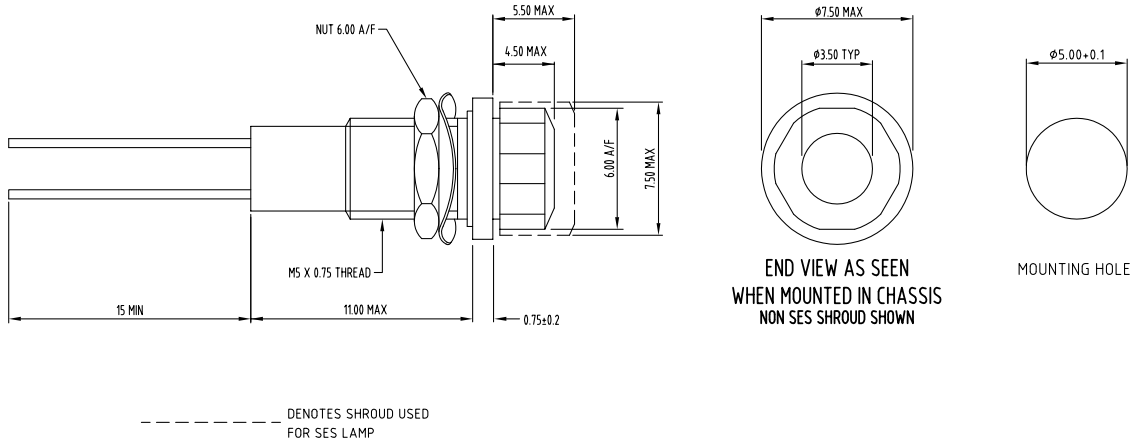
Terminations
Blank - Spills
FLXX - Flying Leads (XX length in cm)

OXL/MIL50/ ____ / ____ / ____ / ____ / ____

Voltage
Blank - <5VDC (Current Driven)
5 - 5VDC
12 - 12VDC
24 - 24VDC
28 - 28VDC

Colours
RD - Red
GN - Green
YW - Yellow
ALGaAsRD - High Intensity Red
H/GN - High Intensity Green
H/YW - High Intensity Yellow
H/BE - High Intensity Blue
H/WE - High Intensity White

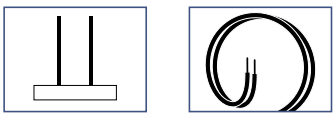
Example: OXL/MIL50/28/H/WE - Aluminium, Black Anodised Shroud, 28VDC, No EMI Shield, Spills, High Intensity White
Example: OXL/MIL50/SES/FL20/GN - Aluminium, Black Anodised Shroud, Current Driven, EMI Shielding (longer body), Flying Leads 20cm, Green



Technical Information

Terminations	Copper Alloy - Finish Silver on Tin Lead
Shroud	Aluminium Alloy, Matt Black Anodised
Lens	Glass
Body and Nut	Aluminium Alloy
Washer	BeCu. Tin Plated
Sealing Ring	Nylon
Chassis Thickness	1mm - 4mm
Mounting Hole	5mm + 0.1
Recommended Mounting Torque	0.5Nm
Mean Time Before Failure	90,000 Hours

Termination Options



RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

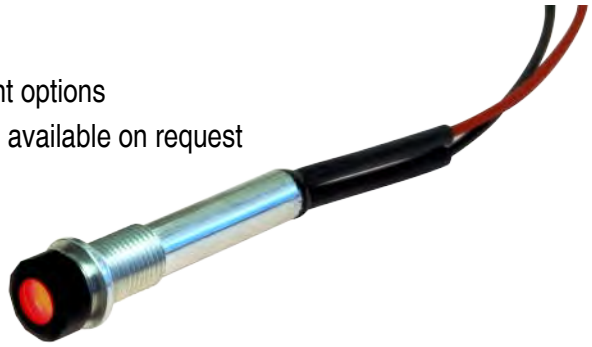
Sub-Miniature Sealed Top and Rear AC Voltage

Key Characteristics

Functional
- 5mm mounting
- 60° viewing angle
- Operating from AC voltage

Adaptable
- Full colour range
- Voltage and current options
- Customer specials available on request

Rugged
- Panel sealed to IP67
- -40° to 85°C operating temp
- -55° to 100°C storage temp



Specifications

COLOURS									
Luminous Intensity		AlgaAs Red	Yellow	White	Blue	Green	Voltage		Current (mA)
	mcd						Forward	Reverse	
High Intensity	40	✓	x	x	x	x	5,12,15,24,28	5,12,15,24,28	15
	750	x	✓	x	x	x	5,12,15,24,28	5,12,15,24,28	15
	360	x	x	✓	x	x	5,12,15,24,28	5,12,15,24,28	15
	240	x	x	x	✓	x	5,12,15,24,28	5,12,15,24,28	15
	2080	x	x	x	x	✓	5,12,15,24,28	5,12,15,24,28	15

Ordering Information

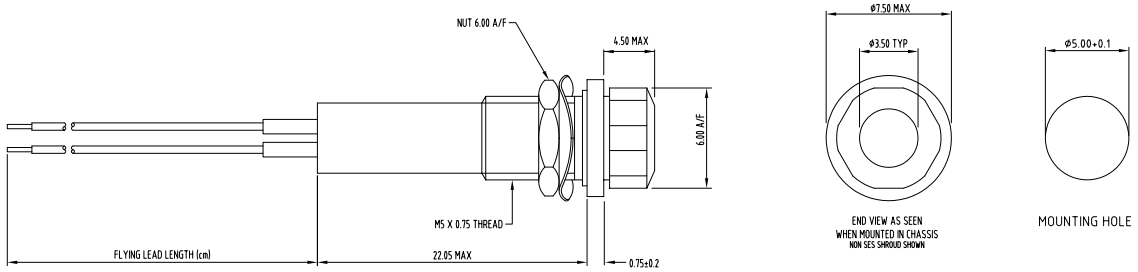
Terminations
FLXX - Flying Leads (XX length in cm)

OXL/MIL50/ ____ / ____ / ____

Voltage
5 - 5VAC
12 - 12VAC
15 - 15VAC
24 - 24VAC
28 - 28VAC

Colours
ALGaAsRD - High Intensity Red
H/GN - High Intensity Green
H/YW - High Intensity Yellow
H/BE - High Intensity Blue
H/WE - High Intensity White

Example: OXL/MIL50/24/FL30/H/WE - 24 VAC, Flying Leads 30cm, High Intensity White
Example: OXL/MIL50/12/FL30/H/GN - 12 VAC, Flying Leads 30cm, High Intensity Green



ALL DIMENSIONS IN MM

Technical Information

Terminations	Flying Leads, Insulation Red and Black, 30cm Standard Length
Shroud	Aluminium Alloy, Matt Black Anodised
Lens	Glass
Body and Nut	Aluminium Alloy
Washer	BeCu. Tin Plated
Sealing Ring	Nylon
Chassis Thickness	1mm - 4mm
Mounting Hole	5mm + 0.1
Recommended Mounting Torque	0.5Nm
Mean Time Before Failure	90,000 Hours

Termination Options

Flying Leads

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Sub-Miniature Sealed Top and Rear Sunlight Viewable and NVG Compatible Option

Key Characteristics

Functional

- 5mm mounting
- 60° viewing angle

Rugged

- Panel sealed to IP67
- -40° to 85°C operating temp
- -55° to 100°C storage temp

Adaptable

- Full colour range
- Voltage and current options
- Customer specials available on request

Specifications

COLOURS										
	Luminous Intensity		White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	RAF mcd	NVG mcd						Forward	Reverse	
Std	15	8	x	✓	x	x	x	5,12,24,28	5,12,24,28	15
	15	8	x	x	✓	x	x	5,12,24,28	5,12,24,28	15
	15	185	x	x	x	✓	x	5,12,24,28	5,12,24,28	15
	20	8	x	✓	x	x	x	2.2	5	20
	20	8	x	x	✓	x	x	2.2	5	20
	20	185	x	x	x	✓	x	2.2	5	20
High Intensity	750	70	x	x	✓	x	x	5,12,24,28	5,12,24,28	15
	750	x	✓	x	x	x	x	5,12,24,28	5,12,24,28	15
	900	x	x	x	x	x	✓	5,12,24,28	5,12,24,28	15
	900	20	x	✓	x	x	x	5,12,24,28	5,12,24,28	15
	940	900	x	x	x	✓	x	5,12,24,28	5,12,24,28	15
	1000	88	x	x	✓	x	x	2.2	5	20
	1000	x	✓	x	x	x	x	3.6	5	20
	1200	x	x	x	x	x	✓	3.6	5	20
	1200	25	x	✓	x	x	x	1.9	5	20
	1250	1100	x	x	x	✓	x	3.6	5	20

Ordering Information

Finish
Blank - Aluminium, Black Anodised Shroud
BB - Black Anodised Body

EMI Shielding
Blank - No EMI Shield
SES - EMI Shield (Aluminium body only, shroud size changes)

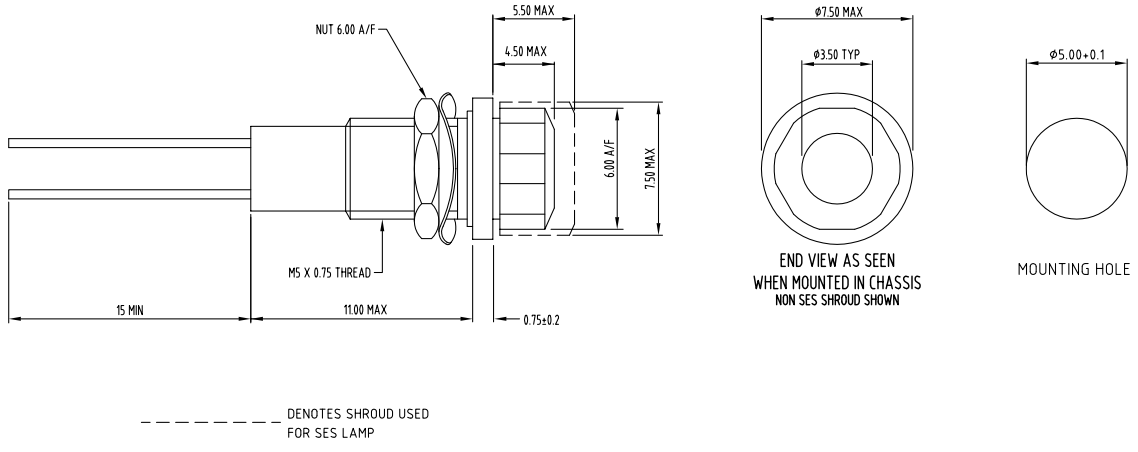
Terminations
Blank - Spills
FLXX - Flying Leads (XX length in cm)

OXL/MIL50/ ____ / ____ / RAF / ____ / ____ / ____

Voltage
Blank - <5VDC (Current Driven)
5 - 5VDC
12 - 12VDC
24 - 24VDC
28 - 28VDC

Colours
RD - Red
GN - Green
YW - Yellow
ALGaAsRD - High Intensity Red
H/GN - High Intensity Green
H/YW - High Intensity Yellow
H/BE - High Intensity Blue
H/WE - High Intensity White
NVG30 - Std Red
NVG10 - Std Green
NVG20 - Std Yellow
H/NVG30 - High Intensity Red
H/NVG10 - High Intensity Green
H/NVG20 - High Intensity Yellow

Example: OXL/MIL50/28/RAF/H/NVG20 - 28VDC, High Intensity Night Vision Compatible Green
Example: OXL/MIL50/RAF/SES/FL20/GN - EMI Shielding, Flying Leads 20cm, Green

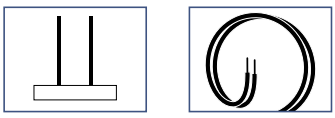


ALL DIMENSIONS IN MM

Technical Information

Terminations	Copper Alloy - Silver Plated
Shroud	Aluminium Alloy, Matt Black Anodised
Lens	Glass
Body and Nut	Aluminium Alloy
Washer	BeCu. Tin Plated
Sealing Ring	Nylon
Chassis Thickness	1mm - 4mm
Mounting Hole	5mm + 0.1
Recommended Mounting Torque	0.5Nm
Mean Time Before Failure	90,000 Hours

Termination Options



Spills | Flying Leads

RoHS

Certified System SAI GLOBAL AS9100 Aerospace

Panel Sealed Domed or Convex Lens

Key Characteristics

Functional

- 8mm mounting
- 60° or 100° viewing angle
- Short body length, ideal when space is critical

Adaptable

- Full colour range with lens options
- Customer specials available on request

Rugged

- Panel sealed to IP68
- Glass and metal construction
- -40° to 85°C operating temp
- -55° to 100°C storage temp

Specifications

		COLOURS							
Luminous Intensity		White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	mcd						Forward	Reverse	
STD	40	x	x	✓	x	x	2.2	5	20
	50	x	✓	x	✓	x	2.2	5	20
Low Current	2	x	✓	x	x	x	1.8	5	2
	2	x	x	✓	x	x	1.9	5	2
	3	x	x	x	✓	x	1.9	5	2
High Intensity	1000	x	x	✓	x	x	2.2	5	20
	1000	✓	x	x	x	x	3.6	5	20
	1200	x	x	x	x	✓	3.6	5	20
	1200	x	✓	x	x	x	1.9	5	20
	1250	x	x	x	✓	x	3.6	5	20

Ordering Information

Lens
Blank - Convex Lens
DOM - Domed Lens

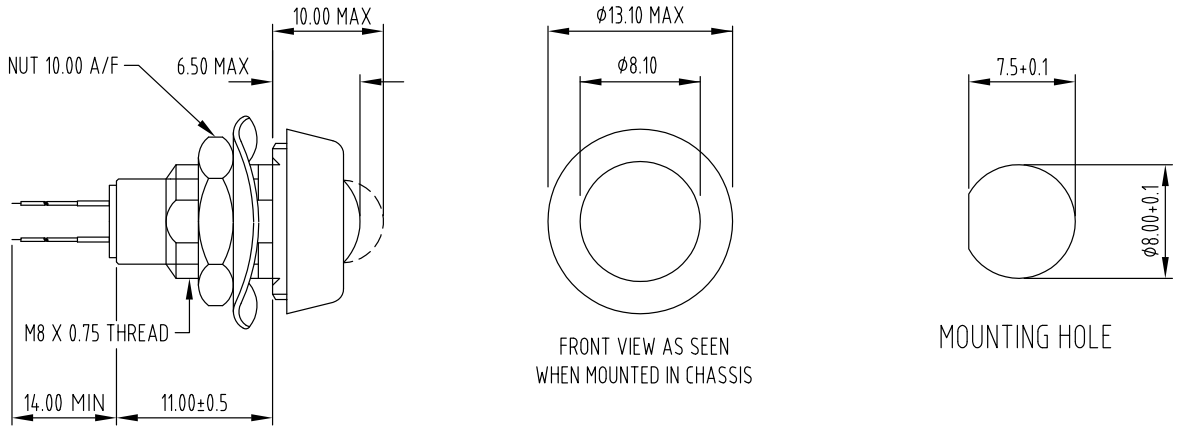
Current
Blank - Standard
LC - Low Current

PS/LH/8/ ____ / ____ / ____

Colours

RD	**- Red**	**ALGaAsRD - High Intensity Red**
GN	**- Green**	**H/GN - High Intensity Green**
YW	**- Yellow**	**H/YW - High Intensity Yellow**
		H/BE - High Intensity Blue
		H/WE - High Intensity White

Example: PS/LH/8/LC/RD - Convex Lens, Low Current, Red
Example: PS/LH/8/DOM/H/YW - Domed Lens, High Intensity Yellow

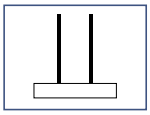


ALL DIMENSIONS IN MM

Technical Information

Terminations	Copper Alloy, Silver Plated
Shroud	Aluminium Alloy, Matt Black Anodised
Lens	Glass
Body and Nut	Aluminium Alloy
Washer	BeCu. Tin Plated
Sealing Ring	PTFE
Chassis Thickness	3mm (0.118") max
Mounting Hole	8mm + 0.1
Recommended Mounting Torque	1Nm (0.74lbf.ft)
Mean Time Before Failure	90,000 Hours

Termination Options



Spills

Lens Options

Domed

Convex

RoHS

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Aerospace

Panel Sealed Convex Lens - Separate Body and LED

Key Characteristics

Functional

- 8mm mounting
- 60° viewing angle
- 2 part construction

Adaptable

- Full colour range
- Customer specials available on request

Rugged

- Panel sealed to IP68
- Glass and metal construction
- -40° to 85°C operating temp
- -55° to 100°C storage temp

Specifications

		COLOURS							
Luminous Intensity		White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	mcd						Forward	Reverse	
Std	20	x	✓	✓	✓	x	2.2	5	20
High Intensity	1000	x	x	✓	x	x	2.2	5	20
	1000	✓	x	x	x	x	3.6	5	20
	1200	x	x	x	x	✓	3.6	5	20
	1200	x	✓	x	x	x	1.9	5	20
	1250	x	x	x	✓	x	3.6	5	20

Ordering Information

EMI Shielding
Blank - No EMI Shield
SES - EMI Shield

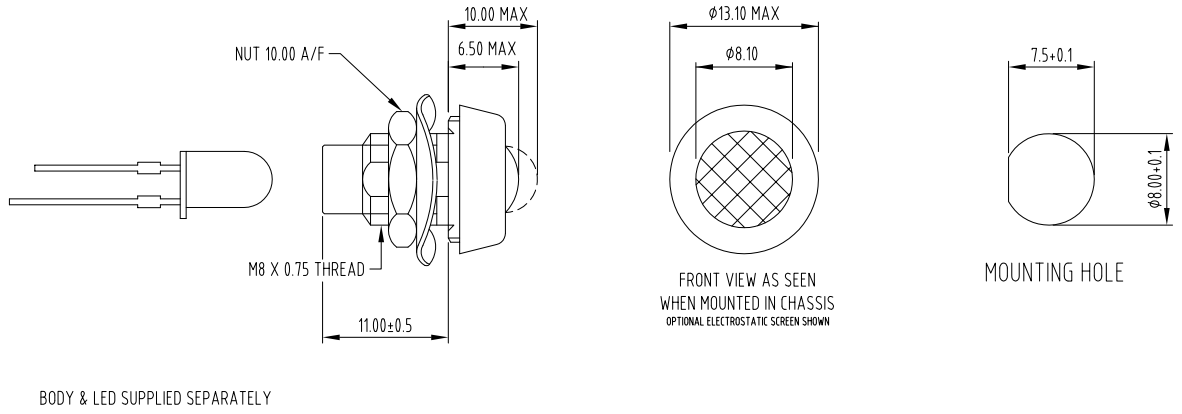
2 Part Construction Body and LED

PS/LH/8/ ____ / ____ / LX / ____

Lens
Blank - Convex Lens
DOM - Domed Lens

Colours
BDY - Body Only
RD - Red
GN - Green
YW - Yellow
ALGaAsRD - High Intensity Red
H/GN - High Intensity Green
H/YW - High Intensity Yellow

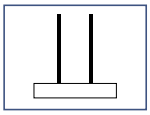
Example: PS/LH/8/SES/LX/GN - Convex Lens, EMI Shielding, 2 Part, Green
Example: PS/LH/8/LX/H/YW - Convex Lens, 2 Part, High Intensity Yellow



Technical Information

Terminations	Copper Alloy
Shroud	Aluminium Alloy, Matt Black Anodised
Lens	Glass
Body and Nut	Aluminium Alloy (Clear)
Washer	BeCu. Tin Plated
Sealing Ring	PTFE
Chassis Thickness	3mm (0.118") max
Mounting Hole	8mm + 0.1
Recommended Mounting Torque	1Nm (0.74lbf.ft)
Mean Time Before Failure	90,000 Hours

Termination Options



Spills

Lens Options

Domed

Convex

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Panel Sealed Sunlight Viewable and NVG Compatible Option

Key Characteristics

Functional

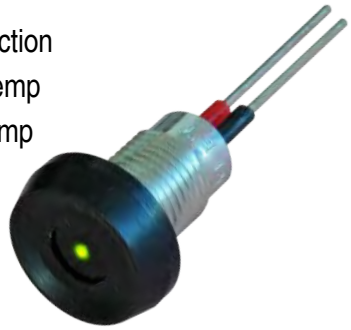
- 8mm mounting
- 30° or 100° viewing angle
- Short body length, ideal when space is critical

Adaptable

- Full colour range with lens options
- 2 part option (LX) for wireless detachment
- EMI shield available with 2 part option
- Customer specials available on request

Rugged

- Panel sealed to IP68
- Glass and metal construction
- -40° to 85°C operating temp
- -55° to 100°C storage temp



Specifications

	Luminous Intensity			COLOURS							
	NVG mcd	RAPP mcd	RAF mcd	White	Red	Yellow	Green	Blue	Voltage Forward	Voltage Reverse	Current (mA)
Std	1	1	12	x	x	✓	x	x	2.2	5	20
	1	2	15	x	✓	x	✓	x	2.2	5	20
High Intensity	20	45	300	x	x	✓	x	x	2.2	5	20
	n/a	45	300	✓	x	x	x	x	3.6	5	20
	n/a	54	360	x	x	x	x	✓	3.6	5	20
	25	54	360	x	✓	x	x	x	1.9	5	20
	25	56	375	x	x	x	✓	x	3.6	5	20

Ordering Information

Lens
RAF - 30° Viewing Angle
RAPP - 100° Viewing Angle

Terminations
Blank - Spills
FLXX - Flying Leads (XX length in cm)
LX - Separate Body and LED

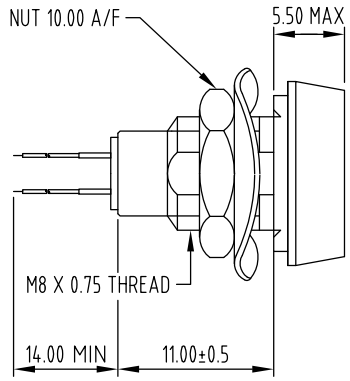
PS/LH/8/ ____ / ____ / ____ / ____

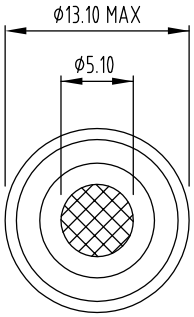
EMI Shielding (with LX only)
Blank - No EMI Shield
SES - EMI Shield

Colours
RD - Red
GN - Green
YW - Yellow
ALGaAsRD - High Intensity Red
H/GN - High Intensity Green
H/YW - High Intensity Yellow
H/BE - High Intensity Blue
H/WE - High Intensity White

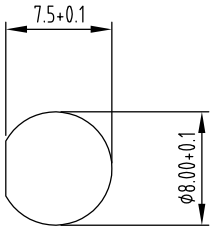
NVG Compatible
NVG30 - Standard Red
NVG10 - Standard Green
NVG20 - Standard Yellow
H/NVG30 - High Intensity Red
H/NVG10 - High Intensity Green
H/NVG20 - High Intensity Yellow

Example: PS/LH/8/RAPP/RD - 100˚ Viewing Angle, Spill Terminations, Red
Example: PS/LH/8/RAF/SES/LX/NVG10 - 30˚ Viewing Angle, EMI Shield, Separate Body and LED, Night Vision Compatible Green





FRONT VIEW AS SEEN
WHEN MOUNTED IN CHASSIS
OPTIONAL ELECTROSTATIC SCREEN SHOWN



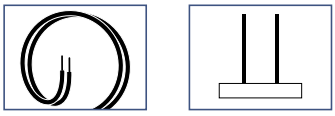
MOUNTING HOLE

ALL DIMENSIONS IN MM

Technical Information

Terminations	Copper Alloy, Silver Plated
Shroud	Aluminium Alloy, Matt Black Anodised
Lens	Glass
Body and Nut	Aluminium Alloy
Washer	BeCu. Tin Plated
Sealing Ring	PTFE
Chassis Thickness	3mm (0.118") max
Mounting Hole	8mm + 0.1
Recommended Mounting Torque	1Nm (0.74lbf.ft)
Mean Time Before Failure	90,000 Hours

Termination Options



Flying Leads Spills

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Sealed Top and Rear Domed or Convex Lens

Key Characteristics

Functional

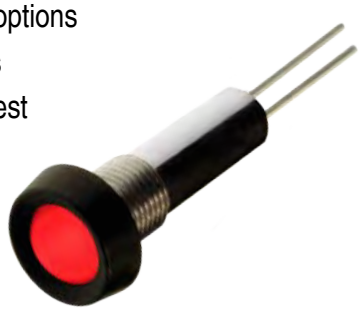
- 8mm mounting
- 60° or 100° viewing angle

Resilient

- IP68 sealed
- Glass and metal construction
- -40 to 85°C operating temp
- -55 to 100°C storage temp

Adaptable

- Full colour range with lens options
- Voltage and current options
- Customer specials on request



Specifications

		COLOURS							
Luminous Intensity		White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	mcd						Forward	Reverse	
STD	30	x	x	✓	x	x	5,12,15,24,28	5,12,15,24,28	15
	38	x	✓	x	✓	x	5,12,15,24,28	5,12,15,24,28	15
	40	x	x	✓	x	x	2.2	5	20
	50	x	✓	x	✓	x	2.2	5	20
High Intensity	750	✓	x	✓	x	x	5,12,15,24,28	5,12,15,24,28	15
	900	x	✓	x	x	✓	5,12,15,24,28	5,12,15,24,28	15
	940	x	x	x	✓	x	5,12,15,24,28	5,12,15,24,28	15
	1000	x	x	✓	x	x	2.2	5	20
	1000	✓	x	x	x	x	3.6	5	20
	1200	x	x	x	x	✓	3.6	5	20
	1200	x	✓	x	x	x	1.9	5	20
	1250	x	x	x	✓	x	3.6	5	20

Ordering Information

Finish
Blank - Aluminium
C - Chromate

Lens
Blank - Convex Lens 60° Viewing Angle
DOM - Domed Lens 100° Viewing Angle

Terminations
Blank - Spills
FLXX - Flying Leads (XX length in cm)
REF1 - Tags

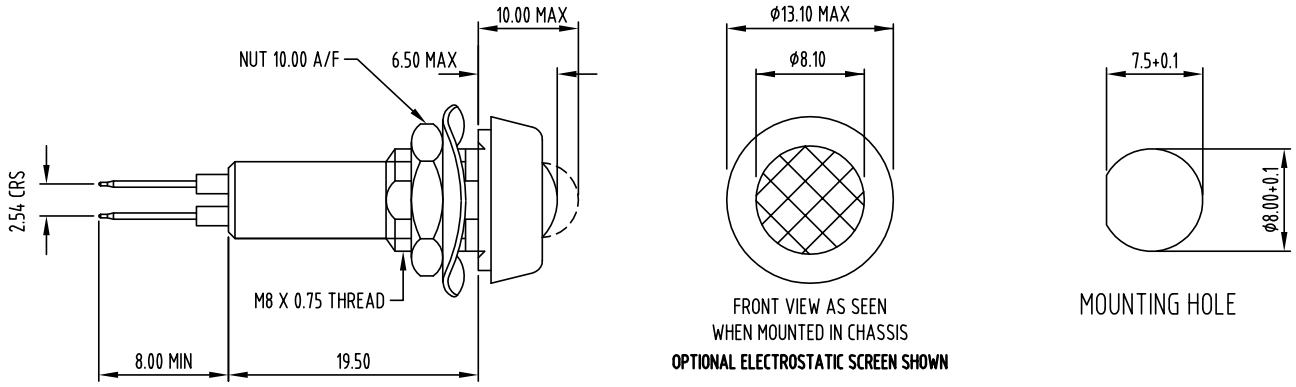
STR/LH/8/ ____ / ____ / ____ / ____ / ____ / ____

Voltage
Blank - <5VDC (current driven)
5 - 5VDC
12 - 12VDC
15 - 15VDC
24 - 24VDC
28 - 28VDC

EMI Shielding
Blank - No EMI Shield
SES - EMI Shield

Colours
RD - Red
GN - Green
YW - Yellow
ALGaAsRD - High Intensity Red
H/GN - High Intensity Green
H/YW - High Intensity Yellow
H/BE - High Intensity Blue
H/WE - High Intensity White

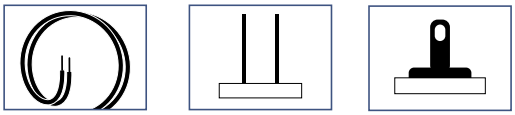
Example: STR/LH/8/RD - Aluminium Alloy Finish, Current Driven, No Emi Shield, Convex Lens, Spill terminations, Red
Example: STR/LH/8/5/SES/DOM/FL20/H/GN Aluminium Alloy Finish, 5 VDC, EMI Shielding, Domed Lens, Flying Leads of 20cm and High Intensity Green



Technical Information

Terminations	Copper Alloy, Silver Plated
Shroud	Aluminium Alloy, Matt Black Anodised
Lens	Glass
Body and Nut	Aluminium Alloy
Washer	BeCu Tin Plated
Sealing Ring	PTFE
Chassis Thickness	3mm (0.118") max
Mounting Hole	8mm + 0.1
Recommended Mounting Torque	1Nm (0.74lb.ft)
Mean Time Before Failure	90,000 hours

Termination Options



Flying Leads | Spills | Tags

Lens Options

Convex | Dome

RoHS

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AS9100
Aerospace

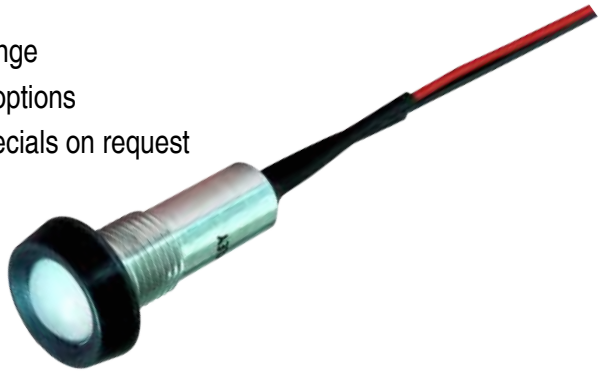
Sealed Top and Rear Mains AC Powered

Key Characteristics

Functional
- 8mm mounting
- 60° viewing angle

Resilient
- IP68 sealed
- Glass and metal construction
- -40 to 85°C operating temp
- -55 to 100°C storage temp

Adaptable
- Full colour range
- Two voltage options
- Customer specials on request



Specifications

	Luminous Intensity				COLOURS				
	VAC/mA	mcd	VAC/mA	mcd	White	AlgaAs Red	Blue	Yellow	Green
High Intensity	110/5	250	240/2.5	125	✓	x	x	x	x
	110/5	300	240/2.5	150	x	✓	x	x	x
	110/5	300	240/2.5	150	x	x	✓	x	x
	110/5	250	240/2.5	125	x	x	x	✓	x
	110/5	315	240/2.5	160	x	x	x	x	✓

Ordering Information

EMI Shielding
Blank - No EMI Shield
SES - EMI Shield

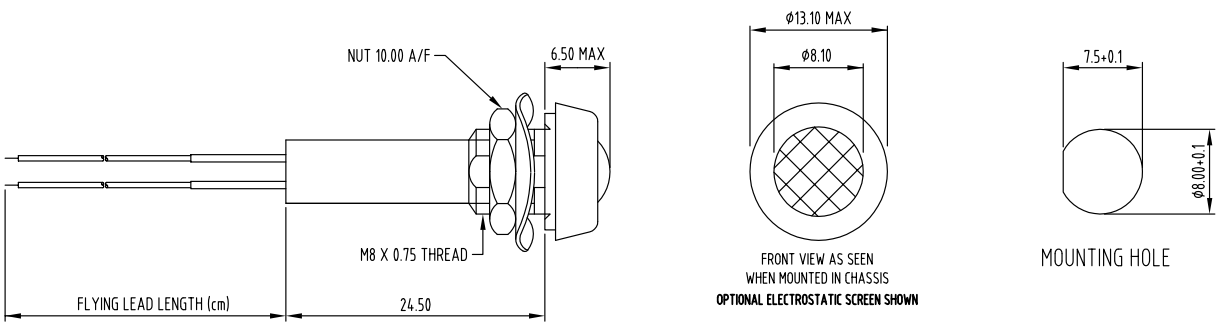
Terminations
Blank - Flying Leads 20cm
FLXX - Flying Leads (XX length in cm)
REF1 - Tags

STR/LH/8/ ____ / ____ / ____ / ____

Voltage
110 - 110VAC
230 - 230VAC
240 - 240VAC

Colours
AL - High Intensity Red
GN - High Intensity Green
YW - High Intensity Yellow
BE - High Intensity Blue
WE - High Intensity White

Example: STR/LH/8/110/FL30/GN - 110VAC, Flying Leads 30cm, High Intensity Green
Example: STR/LH/8/240/REF1/YW - 240VAC, Tag Terminations, High Intensity Yellow

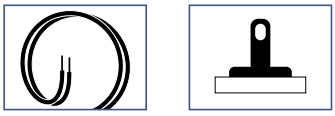


ALL DIMENSIONS IN MM

Technical Information

Terminations	Flying Leads - Raychem Type 44 Wire Insulation (24 Gauge) REF 1 - Brass Silver Plated or Tin lead
Shroud	Aluminium Alloy, Black Anodised
Lens	Glass
Body and Nut	Aluminium Alloy
Washer	BeCu Tin Plated
Sealing Ring	PTFE
Chassis Thickness	3mm (0.118") max
Mounting Hole	8mm + 0.1
Recommended Mounting Torque	1Nm (0.74lb.ft)
Mean Time Before Failure	90,000 hours

Termination Options



Flying Leads | Tags

RoHS

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AS9100
Aerospace

Sealed Top and Rear Sunlight Viewable and NVG Compatible Option

Key Characteristics

Functional

- 8mm mounting
- 30° or 100° viewing angle
- Visible up to 100,000 LUX ambient illumination
- Optional night vision compatability

Adaptable

- Full colour range
- Voltage and current options
- Customer specials available on request

Rugged

- Panel sealed to IP68
- Glass and metal construction
- -40° to 85°C operating temp
- -55° to 100°C storage temp

Specifications

	Luminous Intensity		COLOURS							
	RAPP mcd	RAF mcd	White	Red	Yellow	Green	Blue	Voltage Forward	Voltage Reverse	Current (mA)
Standard	0.75	9	x	x	✓	x	x	5,12,24,28	5,12,24,28	15
	1.5	12	x	✓	x	✓	x	5,12,24,28	5,12,24,28	15
	1	12	x	x	✓	x	x	2.2	5	20
	2	15	x	✓	x	✓	x	2.2	5	20
Night Vision	5	24	x	x	✓	x	x	Any combination - as "Standard" above		
	5	18	x	x	x	✓	x			
	5	12	x	✓	x	x	x			
High Intensity	34	225	✓	x	✓	x	x	5,12,24,28	5,12,24,28	15
	41	270	x	✓	x	x	✓	5,12,24,28	5,12,24,28	15
	42	282	x	x	x	✓	x	5,12,24,28	5,12,24,28	15
	45	300	x	x	✓	x	x	2.2	5	20
	45	300	✓	x	x	x	x	3.6	5	20
	54	360	x	x	x	x	✓	3.6	5	20
	54	360	x	✓	x	x	x	1.9	5	20
	56	375	x	x	x	✓	x	3.6	5	20

Ordering Information

STR/LH/8/ [Voltage] / [Finish] / [Lens] / [EMI Shielding] / [Colours] / [Terminations]

Voltage
Blank - <5vDC (current driven)
5 - 5vDC
12 - 12vDC
24 - 24vDC
28 - 28vDC

EMI Shielding
Blank - No EMI Shield
SES - EMI Shield

Terminations
Blank - Spills
FLXX - Flying Leads (XX length in cm)
REF1 - Tags

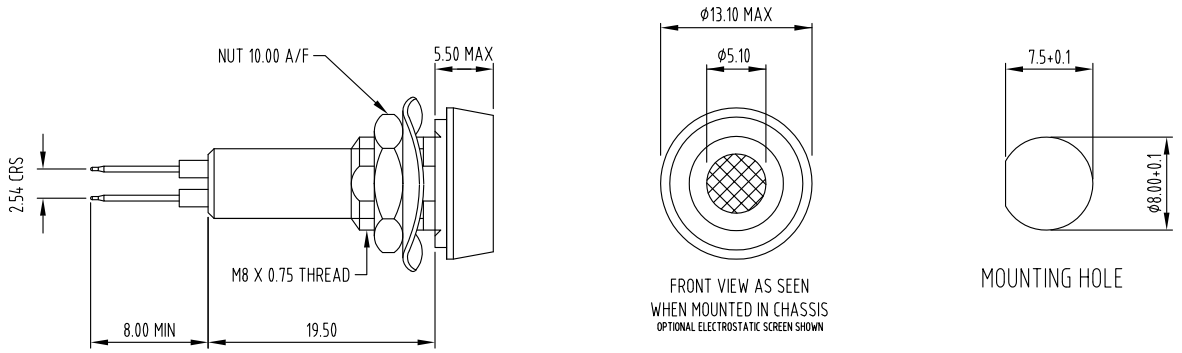
Finish
Blank - Aluminium
C - Chromate

Lens
RAF - 30° Viewing Angle
RAPP - 100° Viewing Angle

Colours
RD - Red
GN - Green
YW - Yellow
ALGaAsRD - High Intensity Red
H/GN - High Intensity Green
H/YW - High Intensity Yellow
H/BE - High Intensity Blue
H/WE - High Intensity White

NVG Compatible
NVG30 - Standard Red
NVG10 - Standard Green
NVG20 - Standard Yellow
H/NVG30 - High Intensity Red
H/NVG10 - High Intensity Green
H/NVG20 - High Intensity Yellow

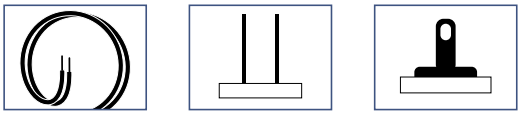
Example: STR/LH/8/5/RAPP/SES/H/GN
Aluminium Body, 5vDC, 100˚ Viewing Angle, EMI Shielding, High Intensity Green
Example: STR/LH/8/RAF/NVG20
Aluminium Body, Current Driven, 30˚ Viewing Angle, Night Vision Compatible Yellow



Technical Information

Terminations	Copper Alloy, Silver Plated
Shroud	Aluminium Alloy, Matt Black Anodised
Lens	Glass
Body and Nut	Aluminium Alloy
Washer	BeCu. Tin Plated
Sealing Ring	PTFE
Chassis Thickness	3 max
Mounting Hole	Ø 8 + 0.1
Recommended Mounting Torque	1Nm (0.74lbf.ft)
Mean Time Before Failure	90,000 Hours

Termination Options



Flying Leads | Spills | Tags

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Bi or Tri Colour Fresnel Lens

Key Characteristics

Functional

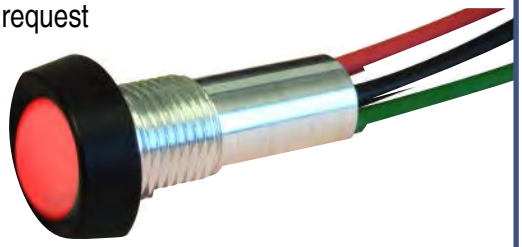
- 8mm mounting
- 60° or 100° viewing angle
- Replaces two or three single indicators
- Independent LED indication

Resilient

- IP68 sealed
- -40 to 85°C operating temp
- -55 to 100°C storage temp

Adaptable

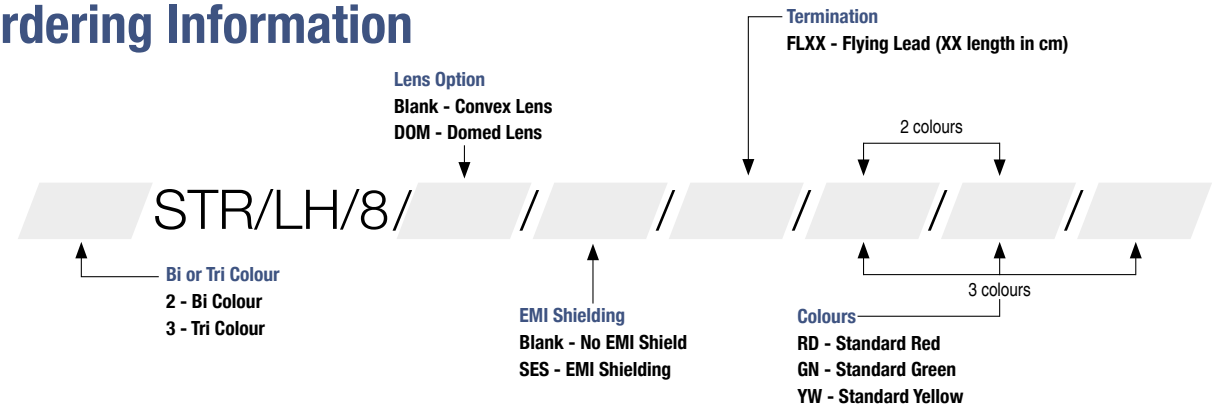
- Full colour range
- Customer specials on request



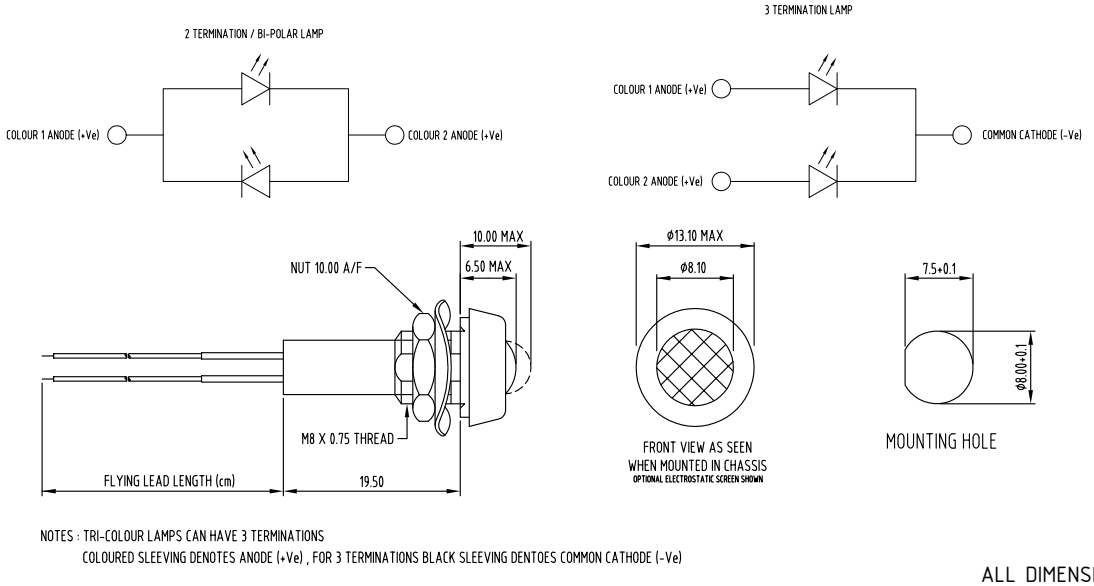
Specifications

		COLOURS					
Luminous Intensity		Red	Yellow	Green	Voltage		Current (mA)
	mcd				Forward	Reverse	
STD	30	x	✓	x	2.2	5	20
	50	✓	x	x	1.9	5	20
	30	x	x	✓	2.2	5	20

Ordering Information



Example: 2STR/LH/8/SES/FL20/RD/GN - Bi Colour, EMI Shielding, 20cm Flying Leads, Standard Red and Green
Example: 3STR/LH/8/FL30/RD/GN/YW - Tri Colour, 30cm Flying Leads, Standard Red, Green and Yellow



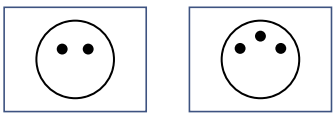
NOTES : TRI-COLOUR LAMPS CAN HAVE 3 TERMINATIONS
COLOURED SLEEVING DENOTES ANODE (+Ve) , FOR 3 TERMINATIONS BLACK SLEEVING DENTOES COMMON CATHODE (-Ve)

ALL DIMENSIONS IN MM

Technical Information

Terminations	Flying Leads - Raychem 44
Body & Nut	Aluminium Alloy
Lens	Glass
Shroud	Aluminium Alloy, Black Anodised
Sealing Ring	PTFE
Washer	BeCu. - Tin Plated
Chassis Thickness	3mm (0.118") max
Mounting Hole	8mm + 0.1
Recommended Mounting Torque	1Nm (0.74lbft)
Mean Time Before Failure	90,000 hours

Termination Options



2 Pin | 3 Pin

Lens Options

Dome | Convex

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Sealed Top and Rear Domed Lens

Key Characteristics

Functional
- 10mm mounting
- 100° viewing angle

Resilient
- IP68 sealed
- Black anodised body
- -40 to 85°C operating temp
- -55 to 100° storage temp

Adaptable
- Full colour and voltage range
- Customer specials on request

Specifications

		COLOURS						
Luminous Intensity		Red	Amber	Yellow	Green	Voltage		Current (mA)
	mcd					Forward	Reverse	
Std	38	✓	x	x	x	5,12,24,28	5,12,24,28	15
	30	x	✓	x	x	5,12,24,28	5,12,24,28	15
	30	x	x	✓	x	5,12,24,28	5,12,24,28	15
	38	x	x	x	✓	5,12,24,28	5,12,24,28	15
Std	50	✓	x	x	x	1.9	5	20
	40	x	✓	x	x	2.2	5	20
	40	x	x	✓	x	2.2	5	20
	50	x	x	x	✓	2.2	5	20

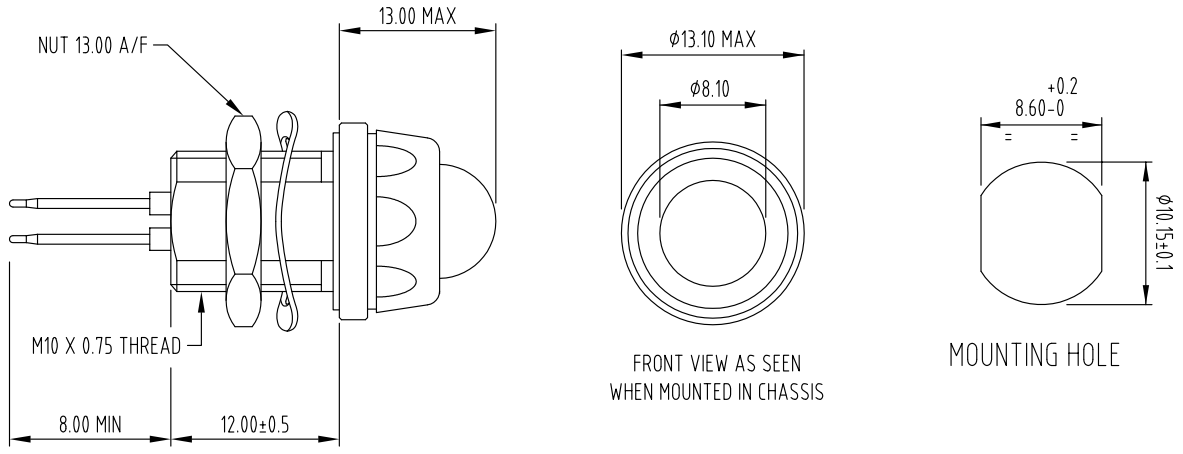
Ordering Information

STR/LH23/10/ ____ / ____

Voltage
- WR - <5VDC (Current Driven)
- 5 - 5VDC
- 12 - 12VDC
- 15 - 15VDC
- 24 - 24VDC
- 28 - 28VDC

Colours
- RD - Red
- AR - Amber
- YW - Yellow
- GN - Green

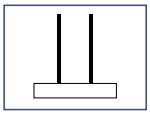
Example: STR/LH23/10/WR/RD - 10mm Mounted, Current Driven, Red
Example: STR/LH23/10/5/GN - 10mm Mounted, 5 Volt, Green



Technical Information

Terminations	Copper Alloy - Silver Plated
Shroud & Body	Aluminium Alloy Matt Black Anodised
Lens	Glass
Nut	Aluminium Alloy
Washer	BeCu. Tin Plated
Sealing Ring	Fluorocarbon Rubber
Chassis Thickness	6.5mm max
Mounting Hole	10.15mm + 0.1
Recommended Mounting Torque	1Nm (0.74lbft)
Mean Time Before Failure	90,000 Hours

Termination Options



Spills

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Bi or Tri Segmented LEDs Sealed Top and Rear

Key Characteristics

Functional

- 10mm mounting
- 60° viewing angle
- Replaces two or three single indicators
- Independently addressable segments

Resilient

- IP68 sealed
- -40 to 85°C operating temp
- -55 to 100°C storage temp

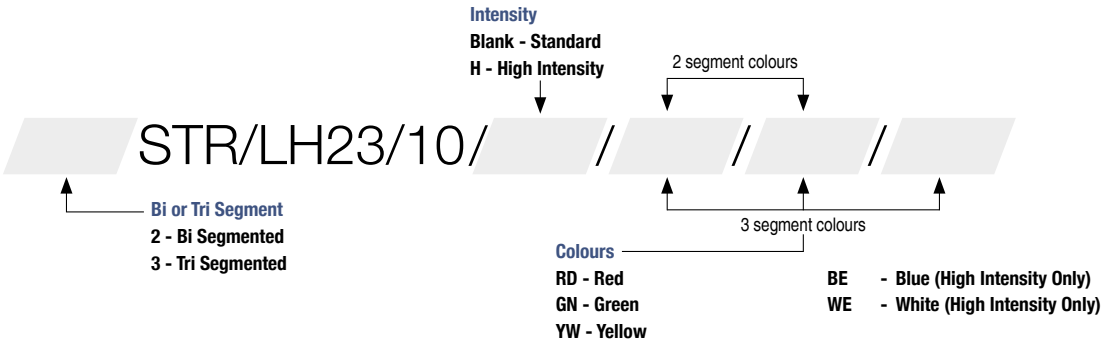
Adaptable

- Full colour range
- Customer specials on request

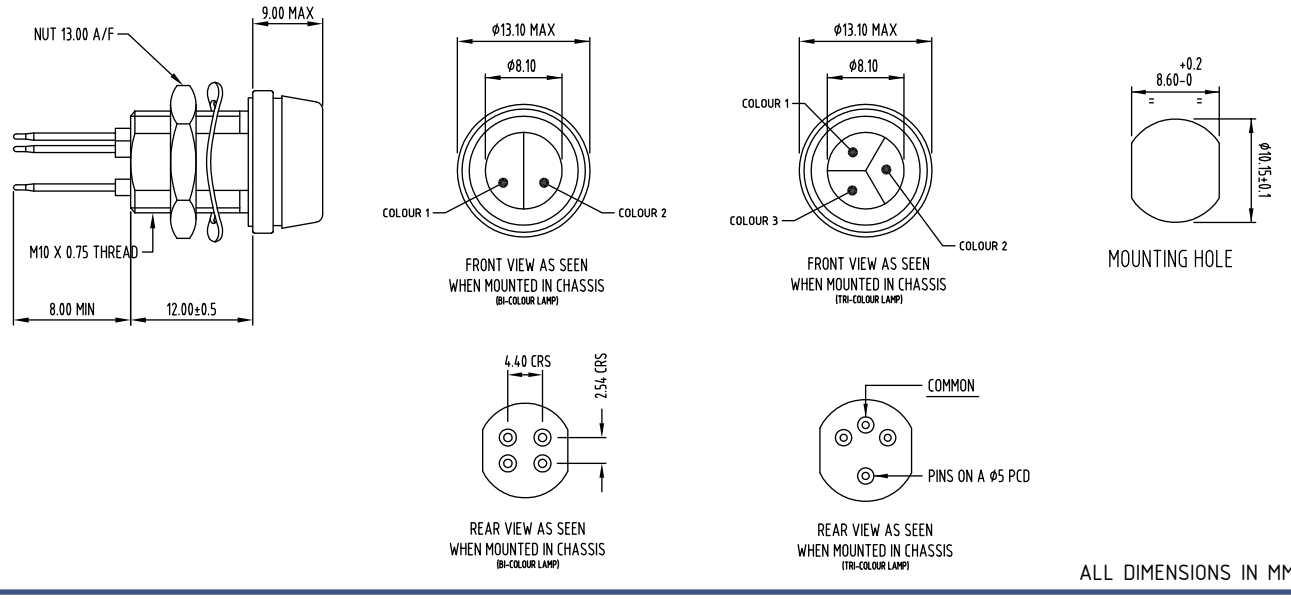
Specifications

		COLOURS							
Luminous Intensity		White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	mcd						Forward	Reverse	
STD	12	x	x	✓	x	x	2.2	5	20
	15	x	✓	x	✓	x	2.2	5	20
High Intensity	1000	x	x	✓	x	x	2.2	5	20
	1000	✓	x	x	x	x	3.6	5	20
	1200	x	x	x	x	✓	3.6	5	20
	1200	x	✓	x	x	x	1.9	5	20
	1250	x	x	x	✓	x	3.6	5	20

Ordering Information



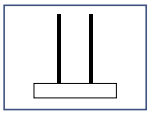
Example: 2STR/LH23/10/RD/GN - Bi Segment, Standard Intensity, Red and Green
Example: 3STR/LH23/10/H/RD/GN/YW - Tri Segment, High Intensity, Red, Green and Yellow



Technical Information

Terminations	Copper Alloy - Silver Plated
Shroud & Body	Aluminium Alloy, Matt Black Anodised
Lens	Glass
Nut	Aluminium Alloy
Washer	BeCu. - Tin Plated
Sealing Ring	Fluorocarbon Rubber
Chassis Thickness	6.5mm max
Mounting Hole	10.15mm + 0.1
Recommended Mounting Torque	1Nm (0.74lbft)
Mean Time Before Failure	90,000 hours

Termination Options



Spills

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Sealed Top and Rear Domed or Convex Lens

Key Characteristics

Functional
- 10mm mounting
- 60° to 100° viewing angle

Resilient
- IP68 sealed
- Glass and metal construction
- -40 to 85°C operating temp
- -55 to 100°C storage temp

Adaptable
- Full colour range with lens options
- Voltage and current options
- Customer specials on request

Specifications

COLOURS									
Luminous Intensity		White	AlGaAs Red	Yellow	Green	Blue	Voltage		Current (mA)
	mcd						Forward	Reverse	
High Intensity	3000	✓	x	x	x	x	5,12,15,24,28	5,12,15,24,28	9
	250	x	✓	x	x	x	5,12,15,24,28	5,12,15,24,28	15
	2500	x	x	✓	x	x	5,12,15,24,28	5,12,15,24,28	15
	3000	x	x	x	✓	x	5,12,15,24,28	5,12,15,24,28	9
	1000	x	x	x	x	✓	5,12,15,24,28	5,12,15,24,28	15

Running at AC voltage will reduce the luminous intensity by about half

Ordering Information

EMI Shielding
Blank - No EMI Shield
SES - EMI Shield

Lens Options
Blank - Convex Lens
DOM - Domed Lens

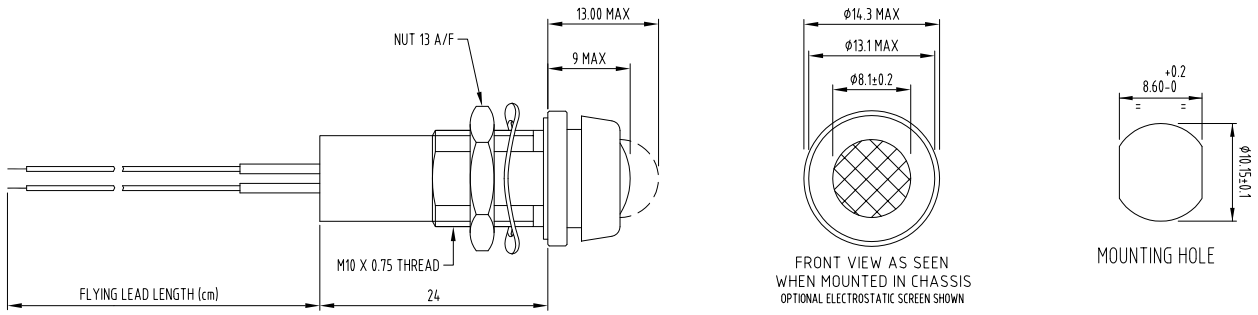
Termination
FLXX - Flying Lead (XX length in cm)

STR/LH10/ ____ / ____ / ____ / ____ / ____

Voltage
Blank - <5VDC (Current Driven)
5 - 5VDC/AC
12 - 12VDC/AC
15 - 15VDC/AC
24 - 24VDC/AC
28 - 28VDC/AC

Colours
AlGaAsRD - High Intensity Red
H/GN - High Intensity Green
H/YW - High Intensity Yellow
H/BE - High Intensity Blue
H/WE - High Intensity White

Example: STR/LH10/12/FL30/H/GN - 12VDC/AC, No EMI Shield, Convex Lens, Flying Leads 30cm, High Intensity Green
Example: STR/LH10/SES/FL30/AlGaAsRD - Current Driven, EMI Shield, Convex Lens, Flying Leads 30cm, High Intensity Red



ALL DIMENSIONS IN MM

Technical Information

Terminations	Flying Leads - Raychem 44, 24AWG
Shroud	Aluminium Alloy, Black Anodised
Lens	Glass
Body and Nut	Aluminium Alloy
Washer	BeCu Tin Plated
Sealing Ring	Fluorocarbon Rubber
Chassis Thickness	6.5mm max
Mounting Hole	10.15mm + 0.1
Recommended Mounting Torque	1Nm (0.74lb.ft)
Mean Time Before Failure	90,000 hours

Termination Options

Flying Leads

Lens Options

Convex

Dome

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Sealed Top and Rear, Rear Mounting Sunlight Viewable and NVG Option

Key Characteristics

Functional

- 8mm rear mounting
- 30°, 60° or 100° viewing angle
- Removal from chassis possible without removing terminations

Adaptable

- Customer specials on request

Resilient

- IP67 sealed
- Flat diffused lens
- -55 to 100°C operating and storage temp

Specifications

	Luminous Intensity			COLOURS							
	Std	RAPP	RAF	White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	mcd	mcd	mcd						Forward	Reverse	
STD	40	1	12	x	x	✓	x	x	2.2	5	20
	50	2	15	x	✓	x	✓	x	2.2	5	20
High Intensity	1000	45	300	x	x	✓	x	x	2.2	5	20
	1000	45	300	✓	x	x	x	x	3.6	5	20
	1200	54	360	x	x	x	x	✓	3.6	5	20
	1200	54	360	x	✓	x	x	x	1.9	5	20
	1250	56	375	x	x	x	✓	x	3.6	5	20

Ordering Information

Nut Finish
Blank - Stainless Steel
BN - Black Anodised

Terminations
Blank - Spills
FLXX - Flying Leads (XX length in cm)

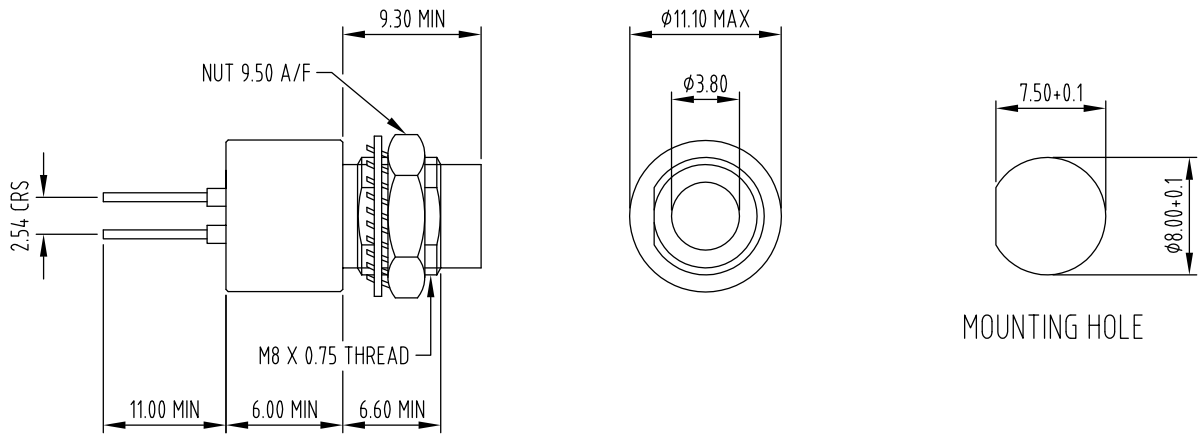
STR5/LH/8/ ____ / ____ / ____ / ____

Lens
Blank - 60° Viewing Angle (not on NVG)
RAF - 30° Viewing Angle
RAPP - 100° Viewing Angle

Colours
RD - Red
GN - Green
YW - Yellow
ALGaAsRD - High Intensity Red
H/GN - High Intensity Green
H/YW - High Intensity Yellow
H/BE - High Intensity Blue
H/WE - High Intensity White

NIGHT VISION
NVG30 - Standard Red
NVG10 - Standard Green
NVG20 - Standard Yellow
H/NVG30 - High Intensity Red
H/NVG10 - High Intensity Green
H/NVG20 - High Intensity Yellow

Example: STR5/LH/8/BN/H/GN
Black Anodised Nut, 60° Viewing Angle, Spills, High Intensity Green
Example: STR5/LH/8/RAF/NVG20
Stainless Steel Nut, 30° Viewing Angle, Spills, Night Vision Compatible Yellow

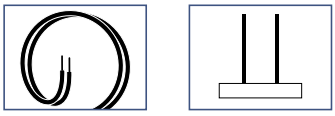


ALL DIMENSIONS IN MM

Technical Information

Terminations	Silver Plated or Tin-Lead. Solderability exceeds BS2011, TEST T
Body	Aluminium Alloy Body Finish, Matt Black Anodised
Lens	Glass
Nut	Stainless Steel (passivated finish) optional Matt Black Anodised
Lockwasher	Stainless Steel (passivated finish)
Chassis Thickness	1.5mm min
Panel Seal	Fluorocarbon Rubber
Recommended Mounting Torque	1Nm
Mean Time Before Failure	90000 hours

Termination Options



Flying Leads Spills

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

Sealed Top and Rear, Rear Mounting Sunlight Viewable and NVG Option

Key Characteristics

Resilient
- IP67 sealed
- Flat diffused lens
- -55 to 100°C operating and storage temp

Adaptable
- Customer specials on request
- Viewing angle options

Functional
- 8mm rear mounting
- 30°, 60° or 100° viewing angle
- Removal from chassis possible without removing terminations

Specifications

	COLOURS										
	Luminous Intensity			White	Red	Yellow	Green	Blue	Voltage		Current (mA)
	Std mcd	RAPP mcd	RAF mcd						Forward	Reverse	
Std	40	1	12	x	x	✓	x	x	2.2	5	20
	50	2	15	x	✓	x	✓	x	2.2	5	20
High Intensity	1000	45	300	x	x	✓	x	x	2.2	5	20
	1000	45	300	✓	x	x	x	x	3.6	5	20
	1200	54	360	x	x	x	x	✓	3.6	5	20
	1200	54	360	x	✓	x	x	x	1.9	5	20
	1250	56	375	x	x	x	✓	x	3.6	5	20

Ordering Information

Lens
Blank - 60° Viewing Angle (not on NVG option)
RAF - 30° Viewing Angle Sunlight Viewable
RAPP - 100° Viewing Angle Sunlight Viewable

Terminations
Blank - Spills
FLXX - Flying Leads (XX length in cm)

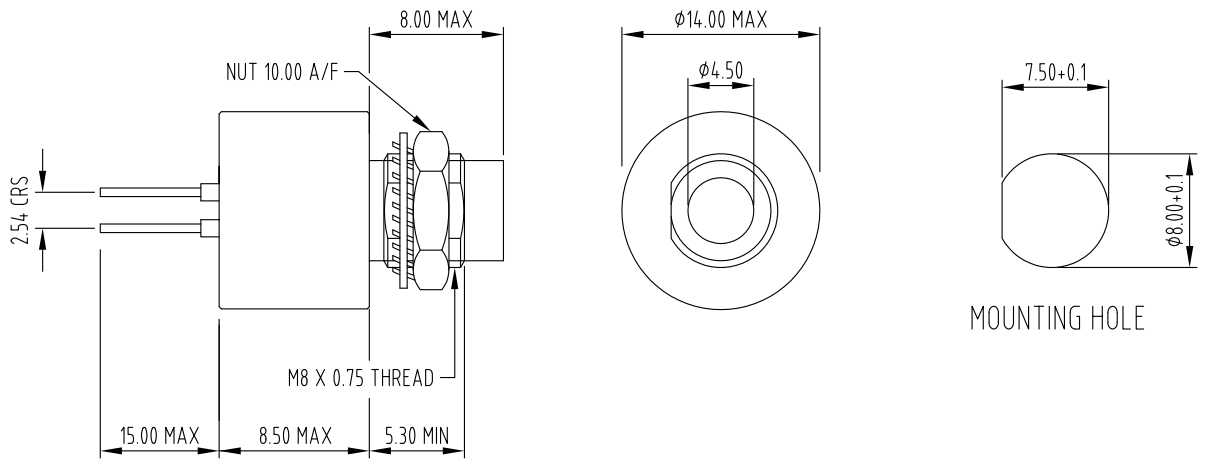
STR501/LH/8/ ____ / ____ / ____ / ____

Voltage
Blank - <5VDC (current driven)
5 - 5VDC
12 - 12VDC
24 - 24VDC
28 - 28VDC

Colours
RD - Red
GN - Green
YW - Yellow
ALGaAsRD - High Intensity Red
H/GN - High Intensity Green
H/YW - High Intensity Yellow
H/BE - High Intensity Blue
H/WE - High Intensity White

NIGHT VISION
NVG30 - Standard Red
NVG10 - Standard Green
NVG20 - Standard Yellow
H/NVG30 - High Intensity Red
H/NVG10 - High Intensity Green
H/NVG20 - High Intensity Yellow

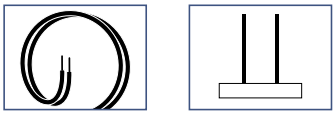
Example: STR501/LH/8/28/GN - 60° Viewing Angle, 28 volts, Spills, Green
Example: STR501/LH/8/RAPP/NVG30 - 100° Viewing Angle, Sunlight Viewable, Spills, Night Vision Compatible Red



Technical Information

Terminations	Copper or Iron Alloy: Finish Tin Lead
Body & Nut	Aluminium, Matt Black Anodised
Lockwasher	Corrosion Resistant Steel
Rear Potting	Black Stycast Compound
Chassis Thickness	1.7mm max
Recommended Mounting Torque	1Nm
Mean Time Before Failure	90000 hours

Termination Options



RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

DESC 85122 Approved Indicator Lamps

Key Characteristics

Functional

- 8mm mounting
- DESC approved for use in DoD projects
- Approved to DESC drawing 85122

Adaptable

- Full colour range
- Operating and storage temp -55˚ to 100˚

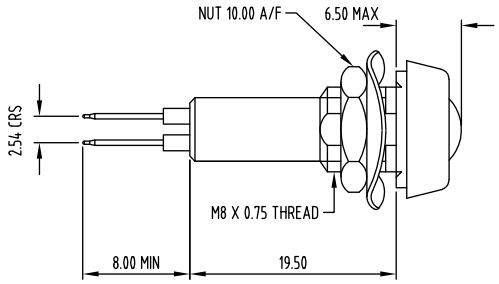
Resilient

- IP68 sealed
- Glass and metal construction
- 100% screened against Table I and II of DESC drawing 85122. Including burn-in, seal temperature cycling and luminous intensity

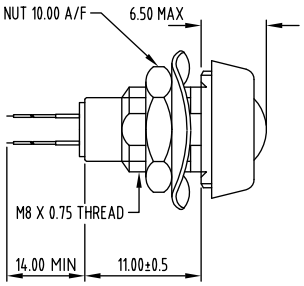
Ordering Information

DESC Drawing Dash Number	Oxley Part Number	Oxley Series Type
85122-X01	OX1100X	PS/LH/8
85122-X02	OX2100X	STR/LH/8
85122-X11	OX2101X	STR/LH/8/SES
85122-X05	OX2200X	STR/LH/8/RAF
85122-X06	OX2300X	STR/LH/8/RAPP
85122-X07	OX2210X	STR/LH/8/HS/RAF
85122-X08	OX2310X	STR/LH/8/HS/RAPP
85122-X09	OX2211X	STR/LH/8/RAF/SES
85122-X010	OX2311X	STR/LH/8/RAPP/SES
85122-X03	OX1200X	PS/LH/8/RAF
85122-X04	OX1300X	PS/LH/8/RAPP
85122-X12	OX1250X	PS/LH/8/RAF/FL
* Where X equals the color, R - Red, G - Green and Y - Yellow		

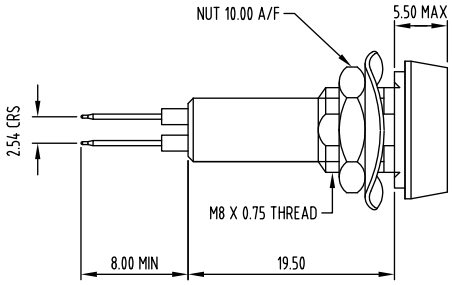
Example: 85122-R01 (OX1100R) Red Desc Lamp



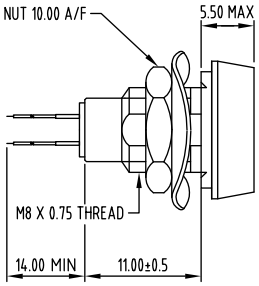
-X02, -X11



-X01



-X05, -X06, -X07, -X08, -X09, -X10



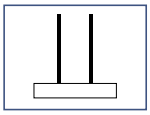
-X03, -X04, -X12 (flying leads)

ALL DIMENSIONS IN MM

Technical Information

Terminations	Copper Alloy - Silver Plated or Tin-Lead
Shroud	Aluminium Alloy - Matt Black Anodised
Lens	Glass
Body & Nut	Aluminium Alloy - Finish to MIL-C-5541 Class 3
Washer	BeCu - Nickel Plated
Sealing Ring	PTFE
Chassis Thickness	3mm (0.118") max
Mounting Hole	8mm + 0.1
Recommended Mounting Torque	1Nm (0.74lb/ft)
Mean Time Before Failure	90000 hours

Termination Options



Spills

Please add A to the end of the part number or leave blank for Tin Lead Finish terminations and B for Silver.
Example 85122-G11A (OX2101G Tin Lead)

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

DESC 87019 Approved Indicator Lamps

Key Characteristics

Functional

- 8mm mounting
- Meets US CECOM Secure Lighting
- Approved to DESC drawing 87019

Adaptable

- Full colour range
- Operating and storage temp -55˚ to 100˚

Resilient

- IP68 sealed
- Glass and metal construction
- 100% screened against Table I and II of DESC drawing 85122. Including burn-in, seal temperature cycling and luminous intensity

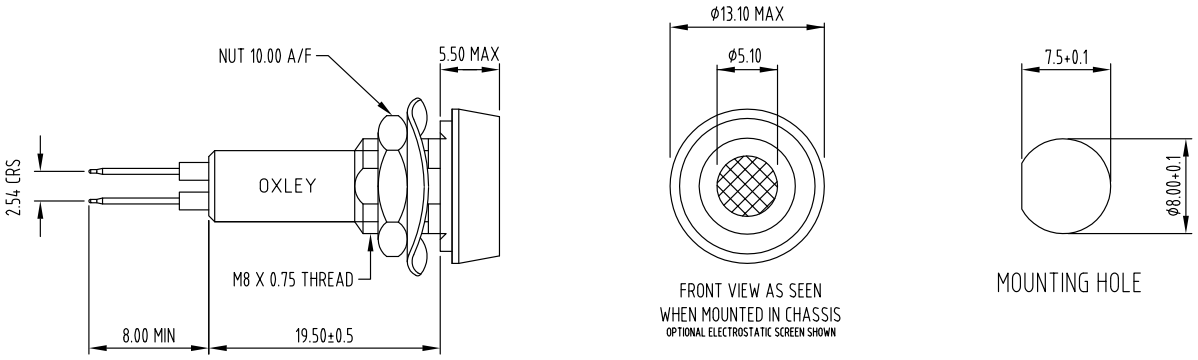
Specifications

		COLOURS					
Luminous Intensity		Red	Yellow	Green	Voltage		Current (mA)
	mcd				Forward	Reverse	
Secure	1.5	✓	x	x	2.2	5	5
	2	x	✓	x	2.2	5	5
	2.5	x	x	✓	2.2	5	5

Ordering Information

DESC Drawing Dash Number	Oxley Part Number	Oxley Series Type	Features
87019 - X01*	OX2410X*	STR/LH/8/XIR	Secure
87019 - X02*	OX2411X*	STR/LH/8/SES	Secure - EMI Screen
* Where X equals the color, R -Red, G - Green and Y - Yellow			

Example: 87019-R01 (OX2410R) Red Secure Desc Lamp

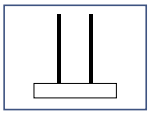


ALL DIMENSIONS IN MM

Technical Information

Terminations	Copper Alloy - Silver Plated or Tin-Lead
Shroud	Aluminium Alloy - Black Anodised (Matt) to MIL-A-8625 Type Class 2 (Dyed Matt Black)
Lens	Glass - AR Coated to MIL-C-14806
Body & Nut	Aluminium Alloy - Finish to MIL-C-5541 Class 3 (MIL DTL 5541)
Washer	BeCu - Nickel Plated
Sealing Ring	PTFE
Chassis Thickness	3mm (0.118") max
Mounting Hole	8mm + 0.1
Recommended Mounting Torque	1Nm (0.74lb/ft)
Mean Time Before Failure	90000 hours

Termination Options



Spills

Please add A to the end of the part number or leave blank for Tin Lead Finish terminations and B for Silver.
Example 87019-G01A (OX2410G Tin Lead)

RoHS

Certified System
SAI GLOBAL
AS9100
Aerospace

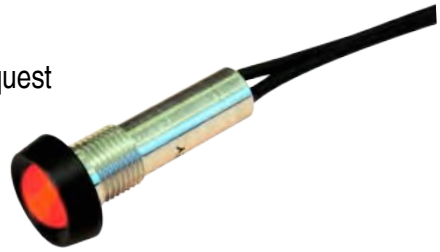
Sealed Top and Rear Neon Indicator Mains (AC) Powered

Key Characteristics

Functional
- 8mm mounting
- 80° viewing angle

Resilient
- IP68 sealed
- Glass and metal construction
- -40 to 85°C operating temp
- -55 to 100° storage temp

Adaptable
- Full colour range with lens options
- Two voltage variants available
- Coloured diffused lens
- Customer specials on request



Specifications

		COLOURS					
Luminous Intensity		Clear	Red	Amber	Green	Voltage VAC	Current mA
	mcd						
High Intensity	125	✓	x	x	x	110/240	1
	150	x	✓	x	x	110/240	2
	150	x	x	✓	x	110/240	3
	160	x	x	x	✓	110/240	4

Ordering Information

STR/NLH/ ____ / ____ / ____ / ____

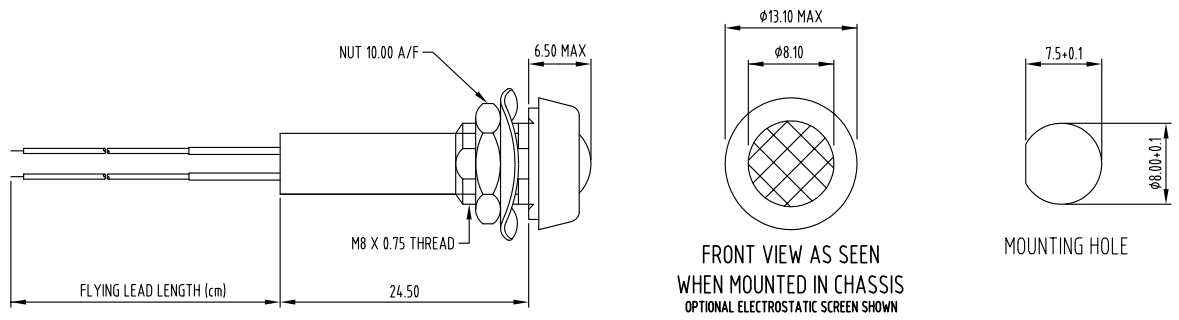
EMI Shielding
Blank - No EMI Shield
SES - EMI Shield

Terminations
Blank - Flying Leads of 20cm
FLXX - Flying Leads (XX length in cm)
REF1 - Tag Terminations

Colours
31 - Red
32 - Amber
34 - Green
36 - Clear

Voltage
WR - Without Resistor
110 - 110VAC
240 - 240VAC

Example: STR/NLH/31/110/SES - Red Neon Indicator, 110 VAC, EMI Shielded, 20cm Flying Leads
Example: STR/NLH/34/REF1/240 - Green Neon Indicator, 240 VAC, Tag Terminations

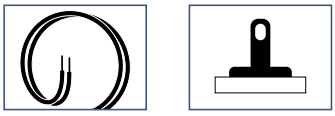


ALL DIMENSIONS IN MM

Technical Information

Terminations	Flying Leads - Raychem 44, Tags - Brass, Silver Plated
Shroud	Aluminium Alloy Matt Black Anodised
Lens	Glass
Body & Nut	Aluminium Alloy
Washer	BeCu. Tin Plated
Sealing Ring	PTFE
Chassis Thickness	3mm (0.118") max
Mounting Hole	8mm + 0.1
Recommended Mounting Torque	1Nm (0.74lbft)
Mean Time Before Failure	90,000 Hours

Termination Options



Flying Leads Tags

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T1 Midget Flanged Cap Bulb Replacements

Key Characteristics

Functional

- Reduces power consumption
- Reduces maintenance costs
- 130° viewing angle

Resilient

- Meets MIL-DTL-6363H/6363/6A
- 100,000 hours mean time between failure

Adaptable

- Operating and storage temp -40° to 85°C
- Replaces less reliable filament bulbs
- Voltage options
- Available in a variety of colours

Specifications

				COLOURS				
	Luminous Intensity			White	Red	Blue	Yellow	Green
	VDC	mA	mcd					
High Intensity	3.2,5,12,15,24,28	20	300	✓	x	x	x	x
	2,5,12,15,24,28	20	50	x	✓	x	x	x
	3.2,5,12,15,24,28	20	90	x	x	✓	x	x
	2,5,12,15,24,28	20	40	x	x	x	✓	x
	3. 2,5,12,15,24,28	20	300	x	x	x	x	✓

Ordering Information

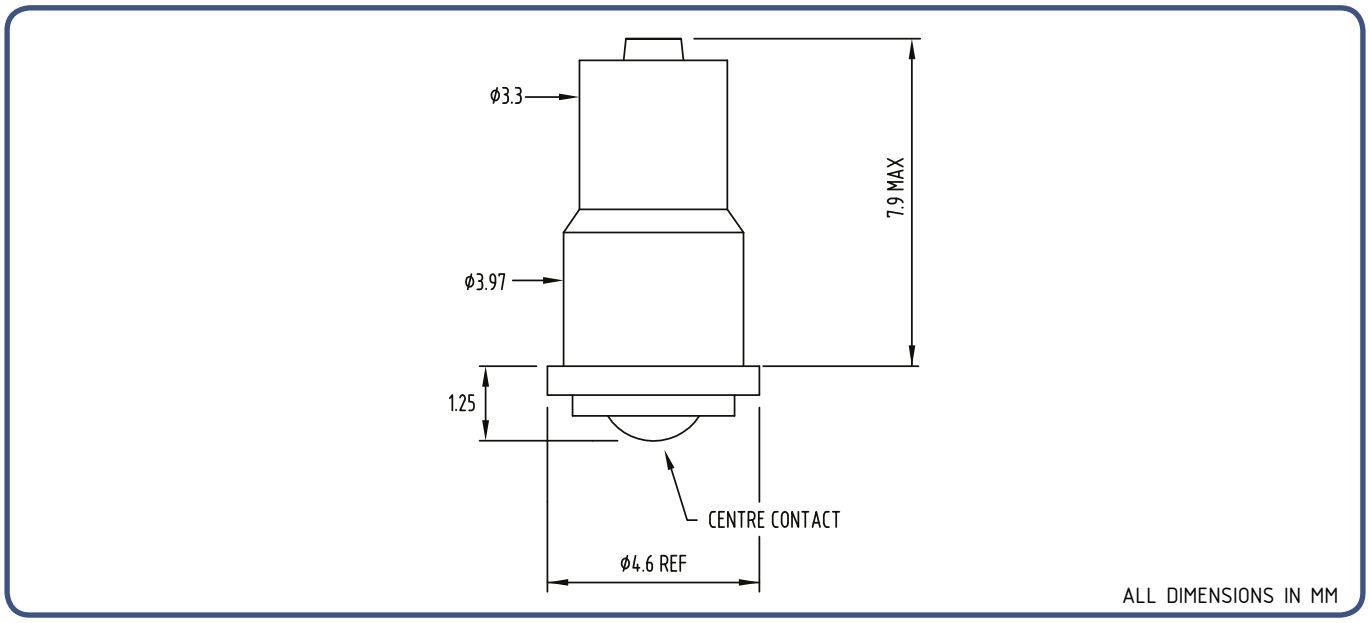
Centre Contact Polarity
A - Anode
C - Cathode

ELED/682/2/ ____ / ____ / ____

Voltage
5 - 5VDC
12 - 12VDC
15 - 15VDC
24 - 24VDC
28 - 28VDC

Colours
RD - Red
GN - Green
YW - Yellow
WE - White
BE - Blue

Example: ELED/682/2/5/A/RD - 5 VDC, Anode Centre Contact, Red
Example: ELED/682/2/12/C/WE - 12 VDC, Cathode Centre Contact, White



Technical Information

Terminations	Centre Contact Anode or Cathode
Max Current Draw	20mA Typical
Input Voltage	Optional
Viewing Angle	130° Typical

RoHS

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T1¾ Midget Flange Bulb Replacements

Key Characteristics

Functional

- 6 LED chips for maximum light output
- High reliability replacement for T1¾ tungsten incandescent bulbs

Adaptable

- Full colour range
- Dual polarity
- Customer specials on request

Resilient

- High thermal conductivity
- Aluminium spacer eliminates thermoplastic fire risk
- Operating and storage temp -40° to 70°C

Specifications

	Luminous Intensity			COLOURS		
	VAC or VDC	mA	mcd	Red	Yellow	Green
Standard	28	20	70	✓	x	x
	28	20	20	x	✓	x
	28	20	20	x	x	✓

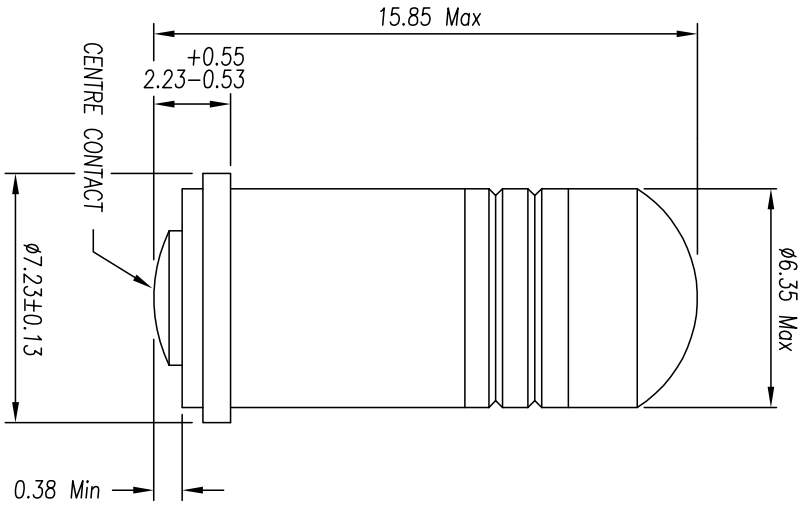
Ordering Information

ELED/1750/DMC/28/

Colours

D/ALRD - Standard Intensity Red
GN - Standard Intensity Green
YW - Standard Intensity Yellow

Example: ELED//1750/DMC/28/D/ALRD – 28 VAC or VDC, Standard Intensity Red
Example: ELED/1750/DMC/28/YW - 28VAC or VDC, Standard Intensity Yellow



ALL DIMENSIONS IN MM

Technical Information

Terminations	Dual Polarity Centre Contact
Max Current Draw	14mA Typical
Input Voltage	24 to 28 VAC or VDC
Mean Time Between Failure	90,000 Hours

RoHS

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Aerospace

T5.5 Telephone Slide Base Bulb Replacements

Key Characteristics

Functional

- 5mm mounting
- 120° viewing angle

Adaptable

- Full colour range
- Voltage and current options
- Customer specials on request

Resilient

- Operating and storage temp -20° to 80°C

Specifications

	Luminous Intensity			COLOURS				
	VAC	mA	mcd	White	Red	Blue	Yellow	Green
High Intensity	12,24	20	5600	✓	x	x	x	x
	12,24	20	3500	x	✓	x	x	x
	12,24	20	3000	x	x	✓	x	x
	12,24	20	8000	x	x	x	✓	x
	12,24	20	6000	x	x	x	x	✓

Ordering Information

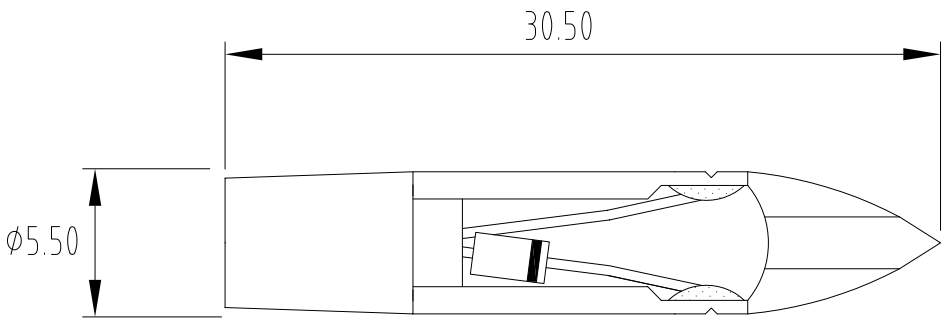
ELED/T5.5/ ____ / ____ / ____

Current
Blank - Standard Current
LC5 - Low Current 5mA

Voltage
12 - 12VAC
24 - 24VAC

Colours
H/RD - High Intensity Red
H/GN - High Intensity Green
H/YW - High Intensity Yellow
WWE - High Intensity Warm White
H/BE - High Intensity Blue

Example: ELED/T5.5/24/H/BE - 24VAC, High Intensity Blue
Example: ELED/T5.5/12/LC5/H/YW - 12VAC, Low Current 5mA, High Intensity Yellow



ALL DIMENSIONS IN MM

Technical Information

Terminations	Telephone Slide Base
Max Current Draw	20mA Typical
Input Voltage	Optional
Viewing Angle	120° Typical
Mean Time Between Failure	90,000 Hours

RoHS

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BA9 LED Bulb Replacements

Key Characteristics

Resilient

- IP66 sealed
- 100,000 hours mean time between failure

Functional

- Minimum strike up voltage 8VDC/VAC
- Latest LED technology
- Replaces standard BA9 incandescent bulbs

Adaptable

- Multi-voltage operating range 12V to 60V
- Available in a variety of colours
- Bi-polar

These bipolar LEDs have been designed to replace standard BA9 incandescent bulbs in push button switches and panel instrumentation.

With advances in LED technology, the required levels of illumination to replace incandescent light sources are now achievable. Oxley have used the latest surface mount LED technology in order to create an even spread of illumination. This, along with the introduction of warm white, ensures 'true and even' behind panel illumination and eliminates the Hot Spotting often associated with earlier LEDs.

Specifications

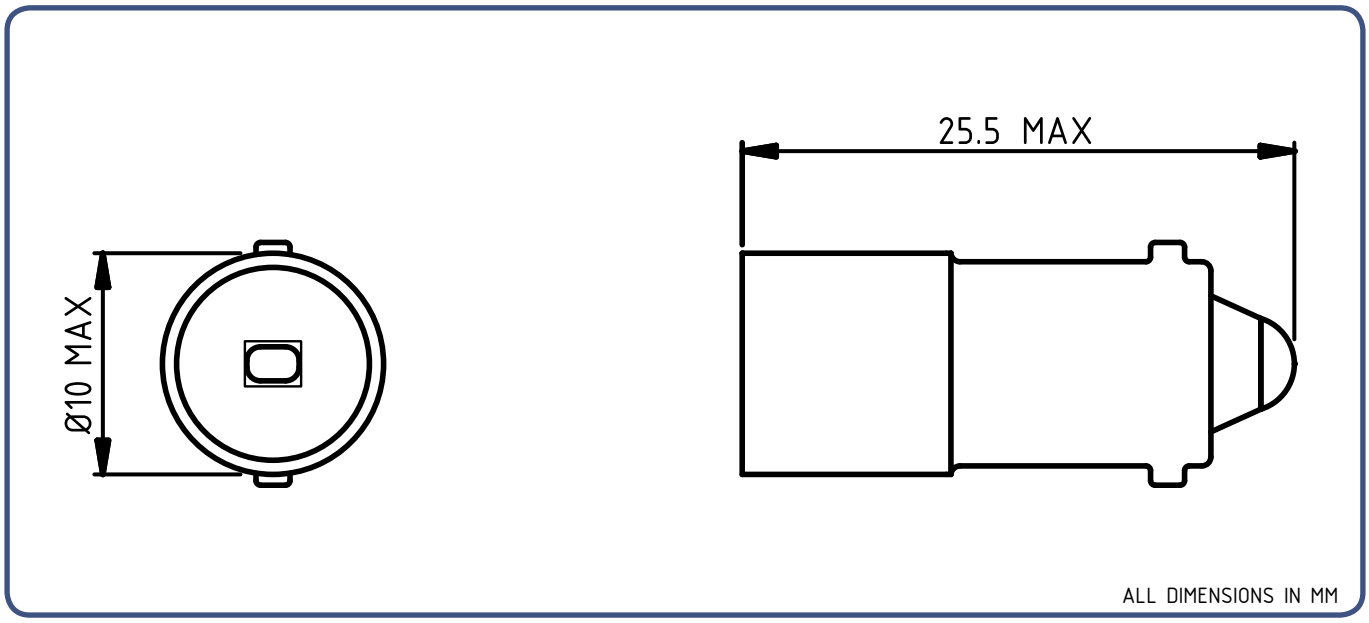
Luminous Intensity Chart	COLOURS						Voltage	Current (mA)
	White	Warm White	Red	Yellow	Green	Blue		
	mcd	mcd	mcd	mcd	mcd	mcd		
DC	1012	884	70	108	235	191	12VDC	8.5
	1792	1502	123	181	340	306	60VDC	17.0
AC	784	67	55	84	178	143	12VAC	8.5
	1652	1365	111	166	313	281	60VAC	17.0

Ordering Information

ELED/BA9S/ [ ]

Colours
CW - Cold White
WW - Warm White
YW - Yellow
BE - Blue
GN - Green
RD - Red

Example: ELED/BA9S/CW - Cold White
Example: ELED/BA9S/GN - Green



Technical Information

Terminations	Bipolar Centre Contact
Collar	Black Acetal
Base	Metal
Max Current Draw	20mA Typical
Input Voltage	12V to 60V AC to DC
Viewing Angle	120° Typical

RoHS

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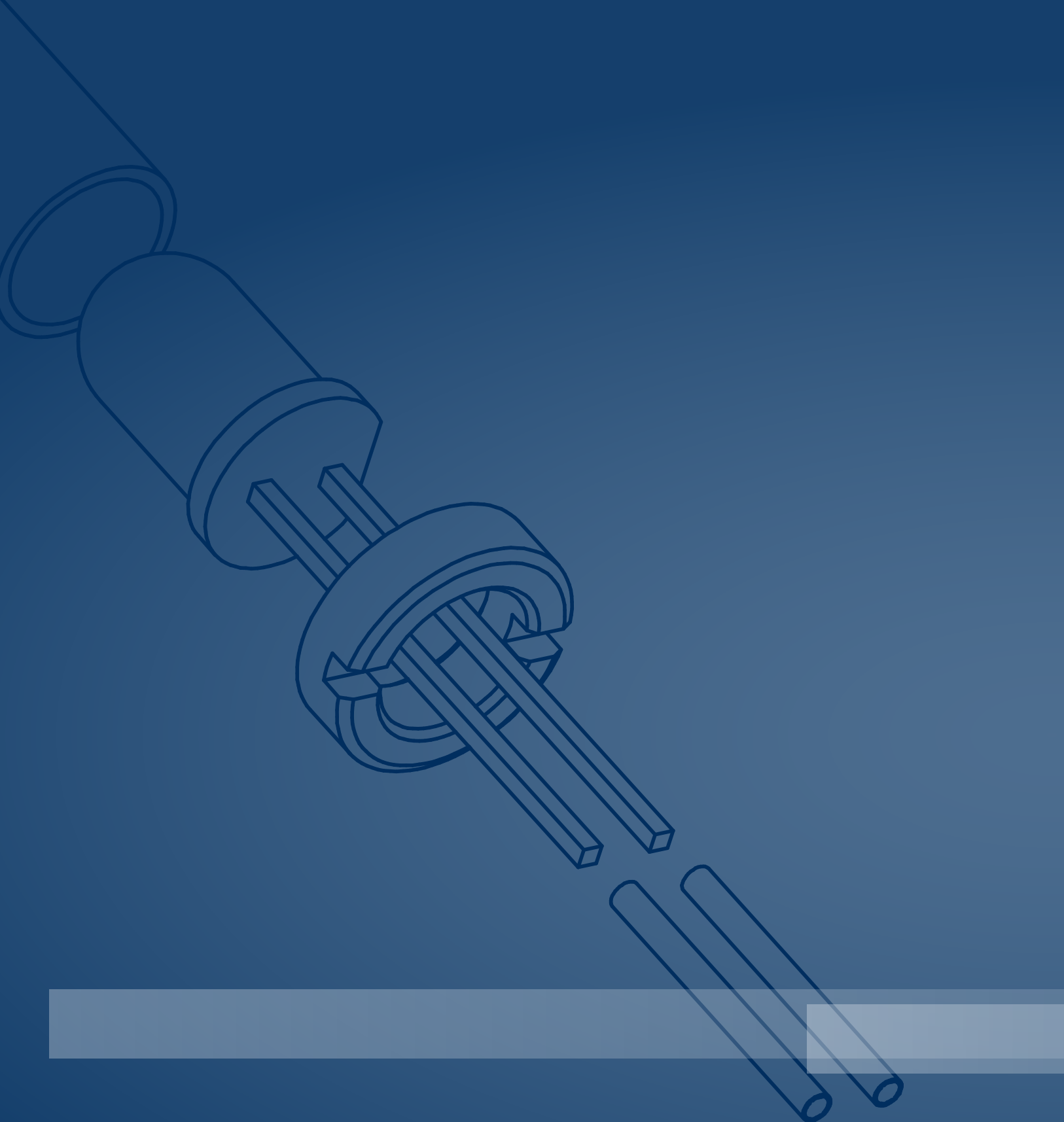
Aerospace



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