

ICAO Low-intensity Type A Obstacle Light (10cd) with infrared

ICAO Low-intensity Type B Obstacle Light (32cd) with infrared

Low-Intensity Infrared - LED Aircraft Warning Light

Key features

- Night Vision Goggles compatible
- Based on LED-technology
- Extremely reliable with long lifetime
- Suitable for off-shore use
- Very low power consumption
- Wide input voltage range
- Lightweight and small - low wind load factor
- Easy to install, several mounting sets available
- Two cable glands, easy to chain without external terminal boxes
- No RF-radiations
- Five (5) years warranty

Specifications

- ICAO International Standards and Recommended Practices: Aerodromes, Annex 14 Volume 1, 5th Edition, July 2009, Chapter 6: Low-intensity, Type A/B Fixed Obstacle Light
- FAA Advisory Circular 150/5345-43F 09/12/06 L-810 Light Unit
- Finland: TraFi Regulations for NVG-Compliant Obstacle Light

Optical characteristics

- Intensity better than 10 cd (LI-10+IR Models)
- Intensity better than 32.5 cd (LI-32+IR Models)
- Colour aviation red
- Infrared wavelength 850 nm
- Horizontal radiation pattern 360°
- Vertical radiation pattern 15°
- LED supply current stabilised by constant current generator
- Light output degradation less than 30% after 100,000hrs of operation

Electrical characteristics

- On -ACW- models, wide AC voltage range: Nominal 100 V_{AC} ... 240 V_{AC} (Range: 90 V_{AC} ... 270 V_{AC})
Nominal 50 ... 60 Hz (Range: 47 ... 63 Hz)
- On -DCW- models, wide DC voltage range: Nominal 10 V_{DC} ... 60 V_{DC}
- Overvoltage protection

Mechanical characteristics

- Anodised, marine grade aluminium body and end parts
- AISI 316 acid-proof stainless steel screws
- Colourless (clear) glass cover
- Terminal block for 1.5 ... 4 mm² wires
- Degree of protection IP 65
- Operating temperature range -55°C to +55°C
- Height 255 mm, diameter 104 mm, weight 1.3 kg
- Wind load with MS-EV60 mounting kit @ 200 km/h less than 40



CEL LI+IR Series LED obstacle light (illustration)

ICAO Low-Intensity Type A (10cd) with infrared:

Order code 10cd models	Operating voltage (AC)	Power consumption	Built-in Photo- cell/ Flasher
CEL-LI-10+IR-ACW-F	100 ... 240 V	7 VA (4 W)	No
CEL-LI-10+IR-ACW-PCFL	100 ... 240 V	7 VA (4 W)	Yes

Order code	Operating voltage (DC)	Power consumption	Built-in Photo- cell/ Flasher
CEL-LI-10+IR-DCW-F	10 ... 60 V	4 W	No
CEL-LI-10+IR-DCW-PCFL	10 ... 60 V	4 W	Yes

ICAO Low-Intensity Type B and FAA L-810 (32cd) with infrared:

Order code 32cd models	Operating voltage (AC)	Power consumption	Built-in Photo- cell/ Flasher
CEL-LI-32+IR-ACW-F	100 ... 240 V	9 VA (6 W)	No
CEL-LI-32+IR-ACW-PCFL	100 ... 240 V	9 VA (6 W)	Yes

Order code	Operating voltage (DC)	Power consumption	Built-in Photo- cell/ Flasher
CEL-LI-32+IR-DCW-F	10 ... 60 V	7 W	No
CEL-LI-32+IR-DCW-PCFL	10 ... 60 V	7 W	Yes

On -PCFL models (built-in photocell and flasher installed), photocell mode (enabled/disabled) and threshold (400 lux/800 lux/1600 lux) can be selected by the user using DIP configuration switches.

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ELECTRICAL INSTALLATION INSTRUCTIONS

CEL LI+IR Series products are aviation obstacle lights utilizing LED technology. Cabling and installation principles are similar to those of conventional obstacle lights.

CEL LI+IR Series have two cable glands for easy chaining without external distribution boxes. Connection can be protected with a 6 A or 10 A fuse or with a circuit breaker (C curve: C6A or C10A).

Installation specifications

- Cable gland: M25
- Cable diameter: 11 to 17mm
- Wire diameter: max. 6mm²
- Recommended cable: 3x1.5mm² or 3x2.5mm²

Options

- CGS-20: Smaller cable glands
Set includes 2 pcs M20 cable glands with M25-M20 adapters for 7-13mm cables

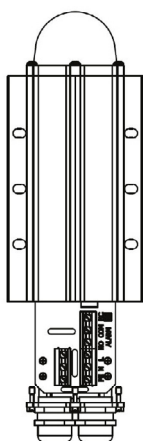
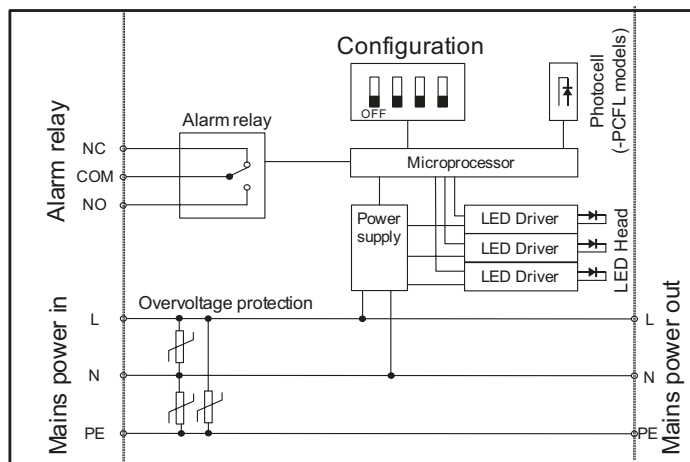


Illustration: CEL LI+IR Series



CEL-LI+IR Series



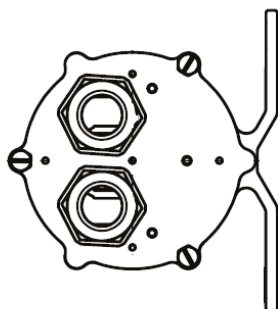
CEL LI-32+IR-ACW block diagram

ICAO Low-intensity Type A Obstacle Light (10cd) with infrared

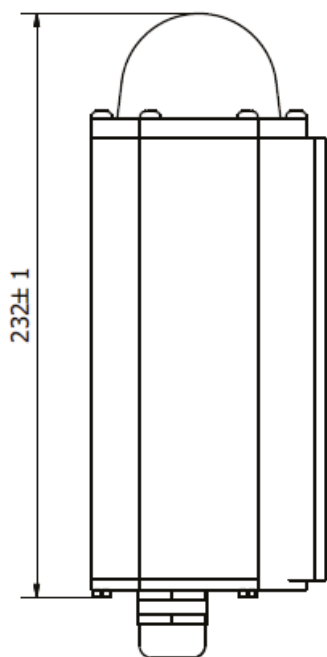
ICAO Low-intensity Type B Obstacle Light (32cd) with infrared

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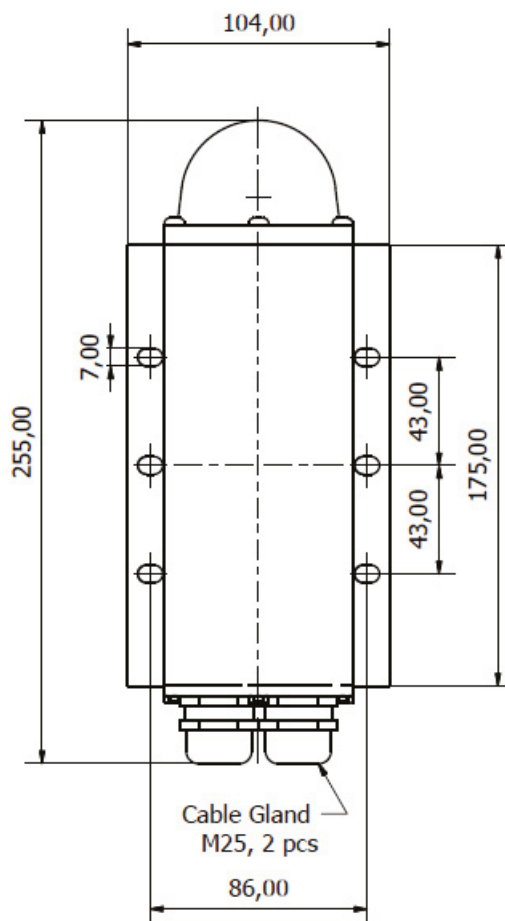
Mechanical dimensions



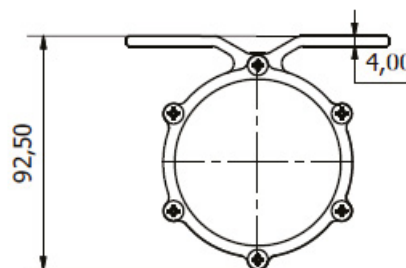
Bottom view



Sideview



Front view



Top view

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Mounting sets

CEL MS-HV80:

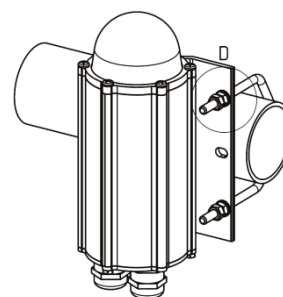
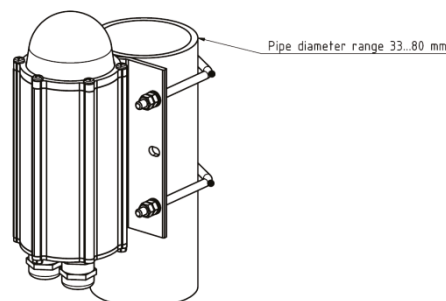
Mounting set for 33-80 mm vertical or horizontal pipe. This mounting set includes:

- 2 pcs M6 U-bolt
- 8 pcs M6 hex nut
- 4 pcs 6/12 mm washer

All parts are AISI316 acid-proof stainless steel.

More detailed mechanical data: see MS-HV80 datasheet

Order Code: MS-HV80



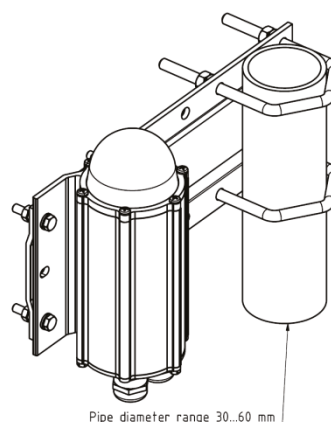
CEL MS-EV60:

Mounting set with extension plate for 30-60 mm vertical pipe installation. This mounting set includes:

- 2 pcs M8 U-bolt, 8 pcs M8 hex nut
- 4 pcs M6x30 bolt, 8 pcs M6 hex nut, 4 pcs 6/12 washer
- 1 pcs extension plate

Extension plate marine grade anodised aluminium, other parts AISI316 acid-proof stainless steel. More detailed mechanical data: see MS-EV60 datasheet

Order Code: MS-EV60



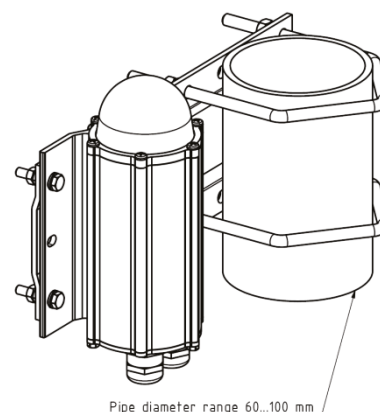
CEL MS-EV100:

Mounting set with extension plate for 60-100 mm vertical pipe installation. This mounting set includes:

- 2 pcs M8 U-bolt, 8 pcs M8 hex nut
- 4 pcs M6x30 bolt, 8 pcs M6 hex nut, 4 pcs 6/12 washer
- 1 pcs extension plate

Extension plate marine grade anodised aluminium, other parts AISI316 acid-proof stainless steel. More detailed mechanical data: see MS-EV100 datasheet

Order Code: MS-EV100



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CEL MS-EV150:

Mounting set with extension plate for 100-150 mm vertical pipe installation.

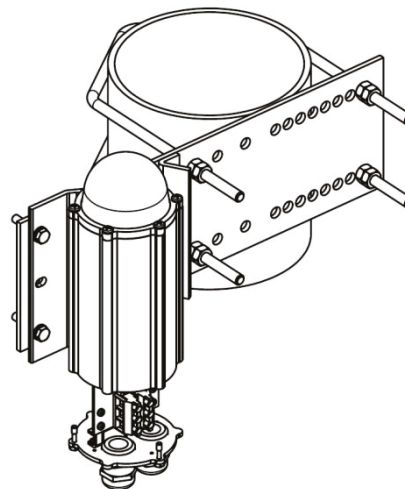
Mounting set include:

- 2 pcs M8 U-bolt, 8 pcs M8 hex nut
- 4 pcs M6x30 bolt, 8 pcs M6 hex nut, 4 pcs 6/12 washer
- 1 pcs extension plate

Extension plate hot dipped galvanised steel, other parts AISI316 acid-proof stainless steel.

More detailed mechanical data: see MS-EV150 datasheet.

Order Code: MS-EV150



CEL MS-DEV60:

Double mounting set with extension plate for 30-60 mm vertical pipe installation.

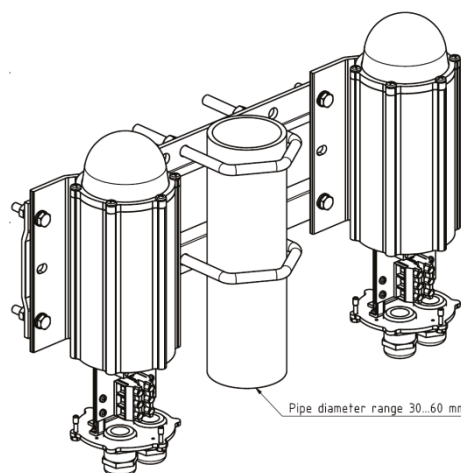
Mounting set include:

- 2 pcs M8 U-bolt, 8 pcs M8 hex nut
- 8 pcs M6x30 bolt, 16 pcs M6 hex nut, 8 pcs 6/12 washer
- 1 pcs extension plate

Extension plate marine grade anodised aluminium, other parts AISI316 acid-proof stainless steel.

More detailed mechanical data: see MS-DEV60 datasheet.

Order Code: MS-DEV60



CEL MS-DEV100:

Double mounting set with extension plate for 60-100 mm vertical pipe installation

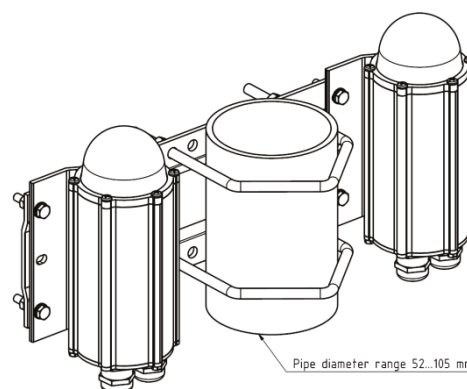
Mounting set include:

- 2 pcs M8 U-bolt, 8 pcs M8 hex nut
- 8 pcs M6x30 bolt, 16 pcs M6 hex nut, 8 pcs 6/12 washer
- 1 pcs extension plate

Extension plate marine grade anodised aluminium, other parts AISI316 acid-proof stainless steel.

More detailed mechanical data: MS-DEV100 datasheet.

Order Code: MS-DEV100



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CEL MS-RW:

Mounting set for horizontal plate or wall installation.

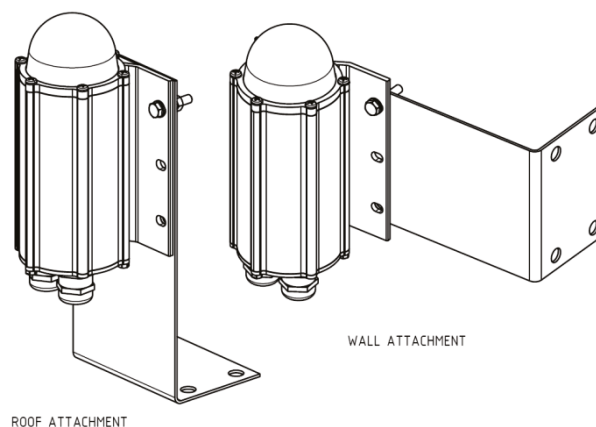
Mounting set includes:

- 4 pcs M6x30 bolt, 8 pcs M6 hex nut, 4 pcs 6/12 washer
- 1 pcs L-shape 2 mm plate

All parts AISI 316 acid-proof stainless steel.

More detailed mechanical data: see MS-RW datasheet.

Order Code: MS-RW



CEL MS-LVU:

Mounting set for L and V -shape profiles

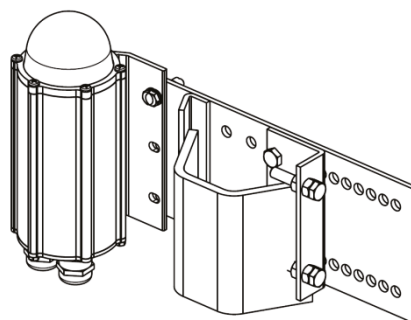
Mounting set includes:

- 1 set accessories for light unit fitting to plate
- 1 pcs extension plate with adjusting plate and accessories

Extension plate hot dip galvanized steel, other parts AISI316 acid-proof stainless steel.

More detailed mechanical data: see MS-LVU datasheet.

Order Code: MS-LVU (with galvanized extension plate)
MS-LVA (with AISI316 extension plate)

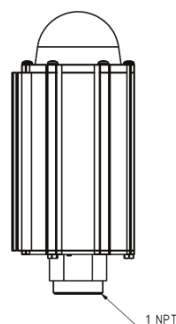


CEL MS-N1B :

Mounting set for 1" NPT at bottom

More detailed mechanical dimensions: see MS-N1B datasheet.

Order Code: MS-N1B



ICAO Low-intensity Type A Obstacle Light (10cd) with infrared

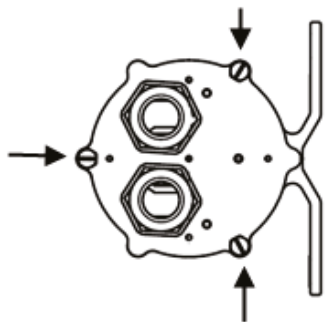
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CONFIGURING CEL LI-xx+IR-xxx-PCFL

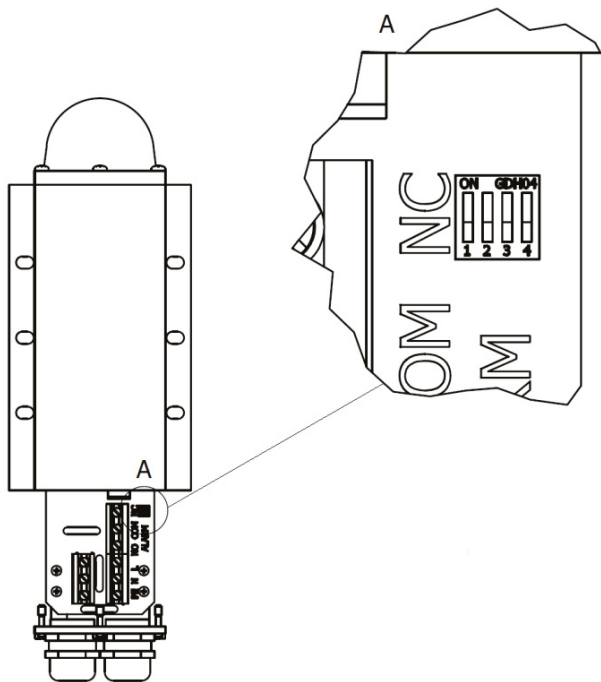
On -PCFL models (built-in photocell and flasher installed), photocell mode (enabled/disabled) and threshold (400 lux, 800 lux or 1600 lux) can be selected by the user using DIP configuration switches.

Open three screws on the bottom of CEL LI-10+IR-xxx-PCFL or LI- 32+IR-xxx-PCFL to gain access to DIP switches. We recommend using a socket wrench but the screws can also be opened with a suitable flat-head screwdriver.



Bottom plate screws

Holding the aviation obstacle light glass dome pointing upwards, the individual DIP switches are numbered 1-4 from left to right (see illustration).



Location of DIP switches on the CEL LI-10+IR and LI-32+IR

Factory default setting is all switches in OFF (steady-burning mode without photocell control).

DIP Switch Settings – Photocell mode		
1	2	Operating mode
OFF	OFF	Photocell disabled
ON	OFF	400 lx
OFF	ON	800 lx
ON	ON	1600 lx

Turn-off time in 3 min, turn-on time is 10 sec. When the photocell operation is enabled, the obstacle light turns on when the ambient light level has dropped below selected level for ten seconds. Light turns off when the ambient light level has exceeded the selected value for more than three minutes.

DIP Switch Settings – Flash mode		
3	4	Operating mode
OFF	OFF	Steady-burning i.e. fixed
ON	OFF	20 flashes per minute
OFF	ON	40 flashes per minute
ON	ON	60 flashes per minute

When the desired configuration is set using the DIP switches, please slide the internal electronics board back to the chassis and tighten three screws on the bottom plate.

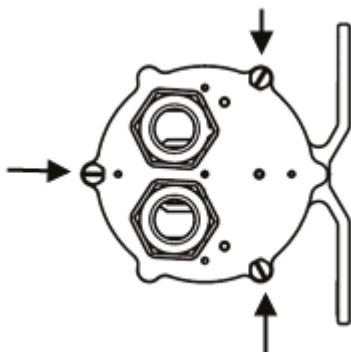
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WIRING CEL LI-xx+IR-xxx-F AND LI-xx+IR-xxx-PCFL

Open three screws on the bottom of this aviation obstacle light to gain access to DIP switches. We recommend using a socket wrench but the screws can also be opened with a suitable flat-head screwdriver.



Bottom plate screws

Connect the power supply cable to the connector block. Connectors with same markings on the other side can be used to daisy-chain these obstacle lights.

Models with -ACW are designed for AC mains power supply and models with -DCW for DC power supply. Allowed operating voltage range is presented in the technical specifications.

Power supply connector markings on -ACW models	
Marking	Description
PE	Protective Earth
N	Neutral
L	Live

Power supply connector markings on -DCW models	
Marking	Description
PE	Protective Earth
-	Negative supply voltage
+	Positive supply voltage

(Optionally; on -PCFL models) Connect the alarm relay.

Alarm relay	
Marking	Description
NO	Normally open
COM	Common
NC	Normally closed

Alarm is also signaled when the obstacle light is without power supply. When the power supply is present, the alarm relay is controlled by the on-board microprocessor.

Slide the internal electronics board back to the chassis and tighten three screws on the bottom plate.