

## LIR Low-Intensity IR Obstruction Lights

ICAO Type A 10cd, Type B&E 32cd, FAA L-810, Infrared 850nm Aircraft Warning Lighting

### Key features

- Based on LED technology
- Extremely reliable -long lifetime
- Low-intensity RED fixed and flashing light
- NVG complaint infrared (IR) light
- Suitable for off-shore use
- Extremely low power consumption
- Incorporated photocell for Day/Night switching
- Both stand-alone (inc alarm signal) and ModBUS
- Lightweight and small -low wind load factor
- Five (5) years warranty

### Optical characteristics

- 10cd fixed or flashing
- 32cd fixed or flashing
- Colour aviation RED
- Horizontal radiation pattern 360°
- Vertical radiation pattern >10°
- Infrared wavelength 850nm (>25 mW/sr)
- Total Radiant Flux 440mW

### Electrical characteristics

- ACW- models, wide AC voltage range:  
Nominal 100...240VAC, Nominal 50 ... 60Hz
- DCW- models, wide DC voltage range:  
Maximum 10...60VDC
- Overvoltage protection
- Day/Night switch function available
- Flash rates: 30 fpm (L-810 F), other fpm available
- Alarm relay function available
- ModBUS (RS-485) operation function available
- Cold climate versions (CCV) available - 7W heater

### Mechanical characteristics

- Anodised marine grade aluminium body and end parts
- AISI316 acid-proof stainless-steel screws
- Glass cover, degree of protection IP65
- Operating temperature range -40...+55 °C
- Height 255mm, diameter 104mm
- Weight 1,3kg (without mounting set)
- Terminal block for 1.5 ...4mm<sup>2</sup>
- Operating temperature range -55°C to + 70°C
- Height 210mm, diameter 104mm, weight 1.1 kg
- Wind load with CEL-MS-EV60 mounting kit @200km/h less than 40N

### Options

- Mounting Sets, see options on pages 4-6



CEL-LIR-Series

T: +44 (0)20 8540 1034  
F: +44 (0)20 8543 3058  
E: info@contarnex.com

Contarnex Europe Limited  
252 Martin Way,  
Morden, Surrey SM4 4AW  
United Kingdom



# LIR Low-Intensity IR Obstruction Lights

ICAO Type A 10cd, Type B&E 32cd, FAA L-810, Infrared 850nm Aircraft Warning Lighting

## ELECTRICAL INSTALLATION INSTRUCTIONS

CEL-LIR series is an obstacle light utilising LED technology. The cabling and installation principles are similar to those of conventional obstacle lights.

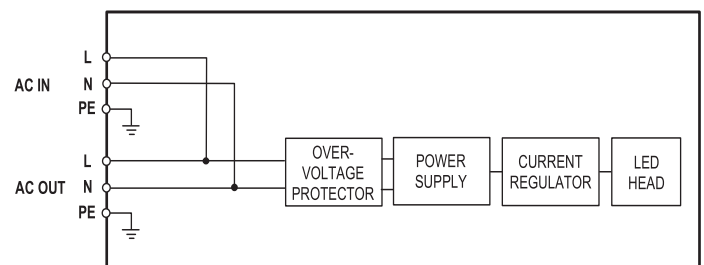
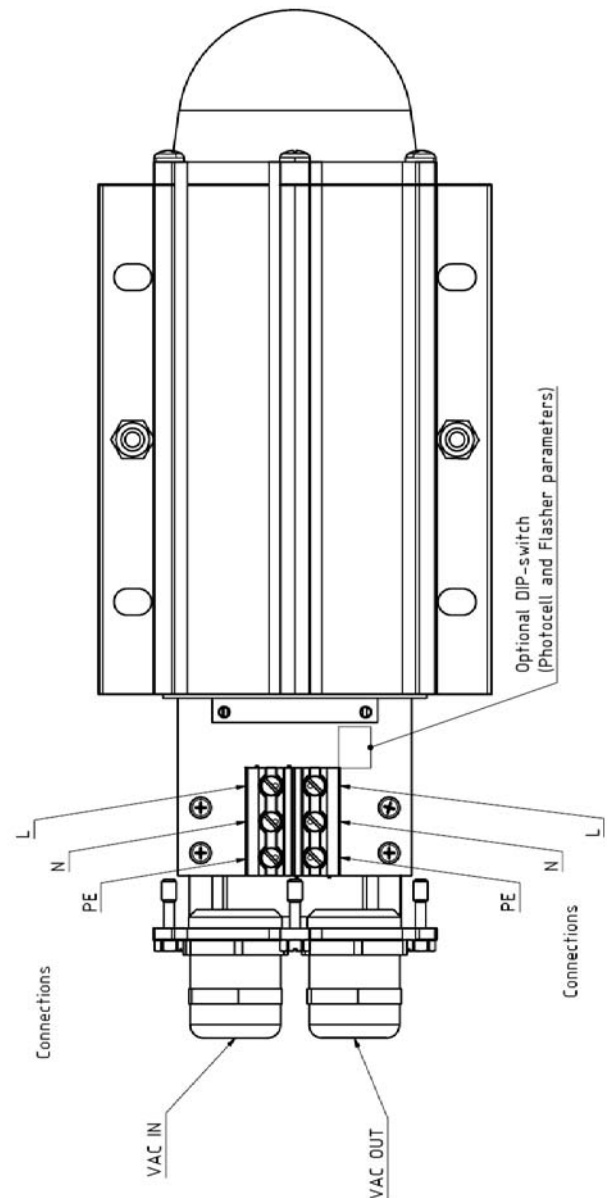
Open the three bottom plate screws. Light assembly slides out from chassis body. Route power and data cables using cable gland(s) on the bottom side of light unit. Connect the cable wires securely to appropriate terminal block connectors. Slide the bottom plate properly in its place and securely tighten all screws. Make sure that all unused glands or gland holes are closed sealed.

### Installation specifications

- Cable gland: M25
- Cable diameter: 11 to 17mm
- Wire diameter: max. 6mm<sup>2</sup>
- Recommended cable: 3x1.5mm<sup>2</sup> or 3x2.5mm<sup>2</sup>

### Options

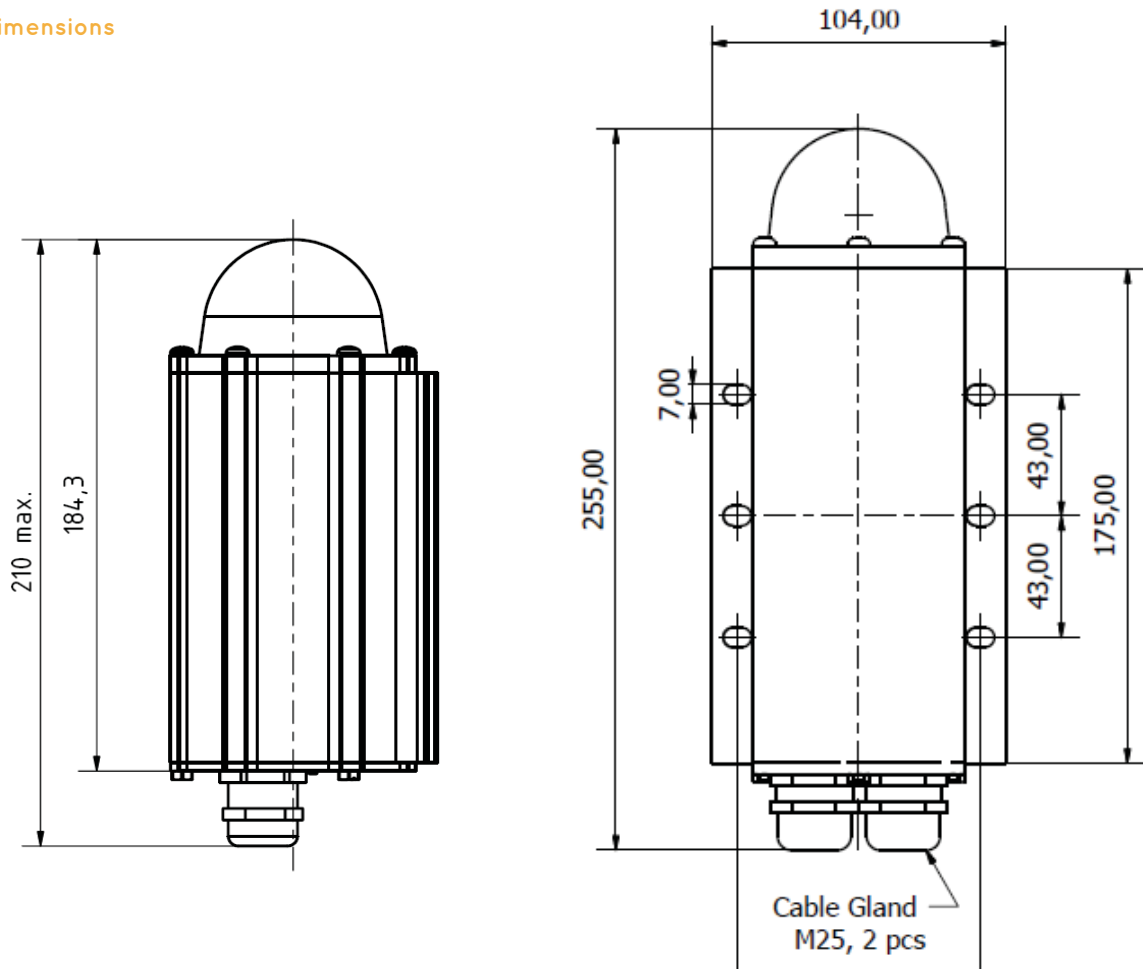
- **CGS-20:** Smaller cable glands  
Set include 2 pcs M20 cable glands with M25-M20 adapters for 7-13mm cables



# LIR Low-Intensity IR Obstruction Lights

ICAO Type A 10cd, Type B&E 32cd, FAA L-810, Infrared 850nm Aircraft Warning Lighting

## Mechanical Dimensions

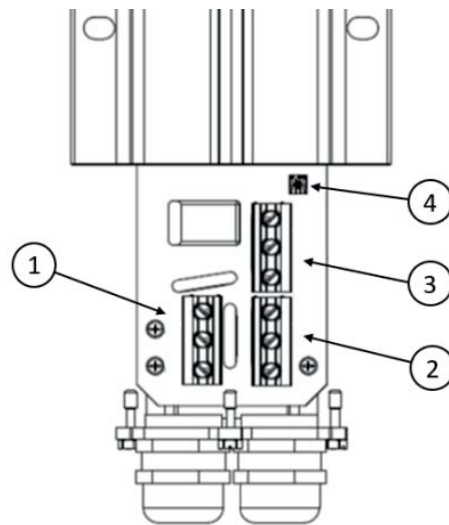


## Order Codes

Order code	ICAO / FAA	Output	Op. voltage	Power cons.	Alarm Relay	Modbus
CEL-LIR-024-F	-	IR	20-40VDC	<5W (@ 33V)	No	No
CEL-LIR-DCW-F	-	IR	10-60VDC	1.5W	No	No
CEL-LIR-ACW-F	-	IR	100-240VAC	4VA	No	No
CEL-LIR-DCW-A	-	IR	10-60VDC	2W	Yes	No
CEL-LIR-ACW-A	-	IR	100-240VAC	4.5VA	Yes	No
CEL-LIR-DCW-I	-	IR	10-60VDC	2W	No	Yes
CEL-LIR-ACW-I	-	IR	100-240VAC	5VA	No	Yes
CEL-LIR10-DCW-F	Type A	10cd+IR	10-60VDC	2W	No	No
CEL-LIR10-ACW-F	Type A	10cd+IR	100-240VAC	5VA	No	No
CEL-LIR10-DCW-A	Type A	10cd+IR	10-60VDC	3W	Yes	No
CEL-LIR10-ACW-A	Type A	10cd+IR	100-240VAC	5.5VA	Yes	No
CEL-LIR10-DCW-I	Type A	10cd+IR	10-60VDC	3W	No	Yes
CEL-LIR10-ACW-I	Type A	10cd+IR	100-240VAC	6VA	No	Yes
CEL-LIR32-DCW-F	Type B, L-810	32cd+IR	10-60VDC	3W	No	No
CEL-LIR32-ACW-F	Type B, L-810	32cd+IR	100-240VAC	6VA	No	No
CEL-LIR32-DCW-A	Type B/E, L-810	32cd+IR	10-60VDC	4W	Yes	No
CEL-LIR32-ACW-A	Type B/E, L-810	32cd+IR	100-240VAC	7VA	Yes	No
CEL-LIR32-DCW-I	Type B/E, L-810	32cd+IR	10-60VDC	4W	No	Yes
CEL-LIR32-ACW-I	Type B/E, L-810	32cd+IR	100-240VAC	7.5VA	No	Yes

# LIR Low-Intensity IR Obstruction Lights

ICAO Type A 10cd, Type B&E 32cd, FAA L-810, Infrared 850nm Aircraft Warning Lighting



**ACW-A and DCW-A**

1. Power Input			
	Mark	Description	Information
- ACW	L	Live	Colour Typically Brown
	N	Neutral	Colour Typically Blue
	PE	Protective earth	Colour Typically Yellow/Green
-DCW	+	Positive	Supply power positive
	-	Negative	Supply power negative
	PE	Protective earth	Protective earth

2. Power Output			
	Mark	Description	Information
- ACW	L	Live	Colour Typically Brown
	N	Neutral	Colour Typically Blue
	PE	Protective earth	Colour Typically Yellow/Green
-DCW	+	Positive	Supply power positive
	-	Negative	Supply Power negative
	PE	Protective earth	Protective earth

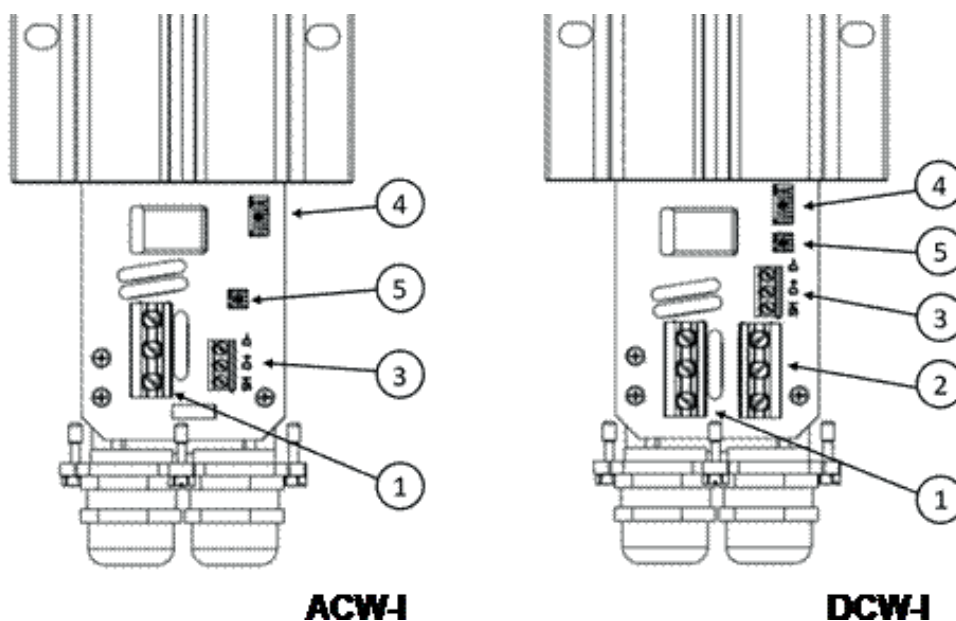
  

3. Alarm Relay			
	Mark	Description	Information
	NO	Normally Open	In Alarm, connected with COM
	COM	Common	Common relay contact
	NC	Normally Connected	Normal operation, connected with COM

## 4 Configuration DIP switches

# LIR Low-Intensity IR Obstruction Lights

ICAO Type A 10cd, Type B&E 32cd, FAA L-810, Infrared 850nm Aircraft Warning Lighting



1. Power Input			
	Mark	Description	Information
- ACW	L	Live	Colour Typically Brown
	N	Neutral	Colour Typically Blue
	PE	Protective earth	Colour Typically Yellow/Green
-DCW	+	Positive	Supply Power Positive
	-	Negative	Supply Power Negative
	PE	Protective earth	Protective Earth

2. Power Input (only DCW version)			
	Mark	Description	Information
-DCW	+	Positive	Supply Power Positive
	-	Negative	Supply Power Negative
	PE	Protective earth	Protective earth

3. RS485 input			
	Mark	Description	Information
	D+	Data +	RS485 non inverting pin
	D-	Data -	RS485 inverting pin
	SH	Shield	Shield

4 Configuration DIP switches

5. RS485 termination DIP switch (DIP4)

# LIR Low-Intensity IR Obstruction Lights

ICAO Type A 10cd, Type B&E 32cd, FAA L-810, Infrared 850nm Aircraft Warning Lighting

## Configuring LIR Series

Basic model (-F version)  
 No DIP configuration is needed.

Stand-alone model (-A version)  
 Configuration DIP switches 1-4 are used to control the photocell mode (enabled/disabled), the threshold values, and the flashing settings.

The factory default setting is all switches OFF (steady-burning mode without photocell control). With the photocell operation enabled, the obstruction light turns on when the ambient light level has dropped below the selected level. The light turns off when the ambient light level has exceeded the selected value. The turn-off and turn-on times are approx. 3 min.

DIP Switch		Operating Mode (Photocell)
1	2	
OFF	OFF	Photocell Disabled
ON	OFF	200 lx
OFF	ON	400 lx
ON	ON	1600 lx

DIP Switch		Flash Rate
3	4	
OFF	OFF	Steady Burn i.e. fixed
ON	OFF	30 flashes per minute
OFF	ON	40 flashes per minute
ON	ON	60 flashes per minute

## ModBUS model (-I version)

Turn on DIP 8 to configure the light in to Modbus (RS-485) operation. Configuration DIP switches 1-4 are used to give the light RS485 bus address. Duplicate addresses on the same bus are not allowed.

DIP Switches				MODBUS Address
1	2	3	4	
on	off	off	off	Address 01
off	on	off	off	Address 02
on	on	off	off	Address 03
off	off	on	off	Address 04
on	off	on	off	Address 05
off	on	on	off	Address 06
on	on	on	off	Address 07
off	off	off	on	Address 08
on	off	off	on	Address 09
off	on	off	on	Address 10
on	on	off	on	Address 11
off	off	on	on	Address 12
on	off	on	on	Address 13
off	on	on	on	Address 14
on	on	on	on	Address 15

RS-485 bus should be terminated with on-board 120ohm resistors on both ends of the communications bus. Turn on DIP4 on from the termination DIP switches.

# LIR Low-Intensity IR Obstruction Lights

ICAO Type A 10cd, Type B&E 32cd, FAA L-810, Infrared 850nm Aircraft Warning Lighting

There are several types of mounting sets available as option:

## CEL-MS-HV80

Mounting set for 33-80mm vertical or horizontal pipe

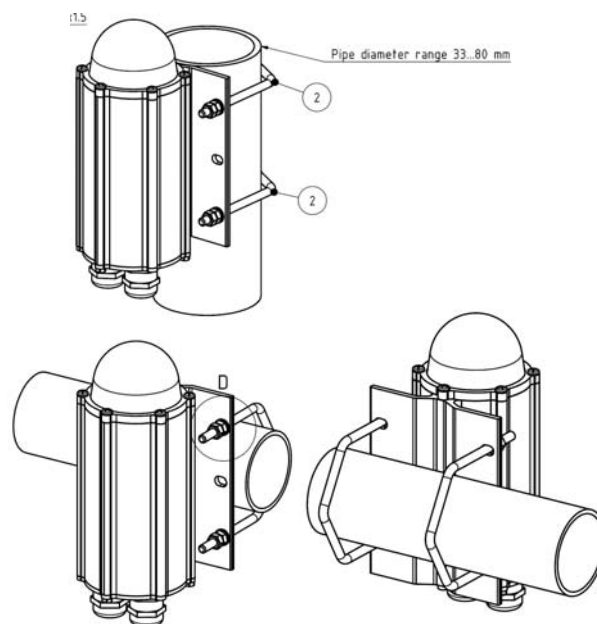
Mounting set include:

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

All parts AISI 316 acid proof steel

More detailed mechanical data: CEL-MS-HV80 datasheet

Order Code: **CEL-MS-HV80**



## CEL-MS-EV60

Mounting set with extension plate for 30-60mm vertical pipe installation

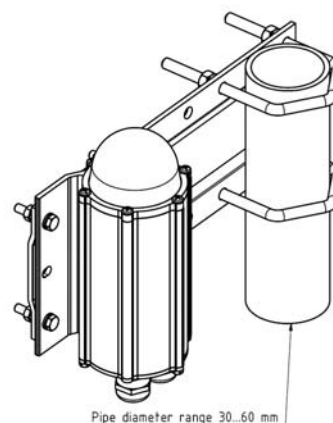
Mounting set include:

- 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 marine grade anodised aluminium, other parts AISI316 acid proof steel

More detailed mechanical data: CEL-MS-EV60 datasheet

Order Code: **CEL-MS-EV60**



## CEL-MS-EV100:

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

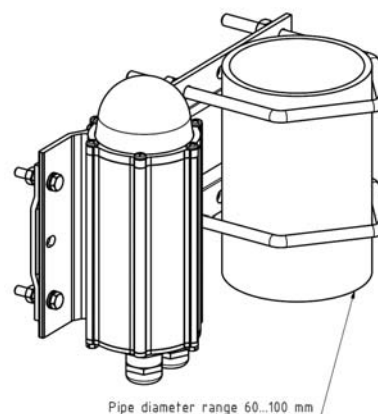
Mounting set include:

- 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 marine grade anodized aluminium, other parts AISI 316 acid proof steel

More detailed mechanical data: CEL-MS-EV100 datasheet

Order Code: **CEL-MS-EV100**



# LIR Low-Intensity IR Obstruction Lights

ICAO Type A 10cd, Type B&E 32cd, FAA L-810, Infrared 850nm Aircraft Warning Lighting

## CEL-MS-EV150:

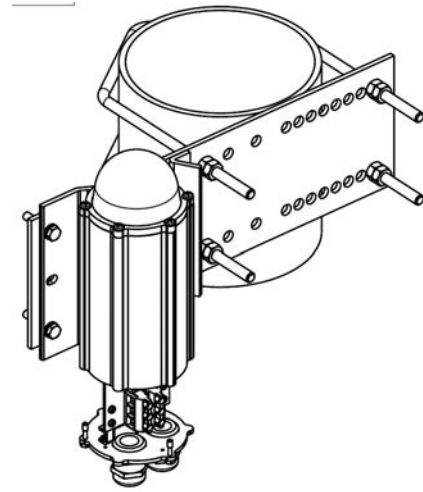
Mounting set with extension plate  
for 100-150mm vertical pipe installation

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 AISI 316 acid proof steel  
More detailed mechanical data: CEL-MS-EV150 datasheet

Order Code: **CEL-MS-EV150**



## CEL-MS-DV60:

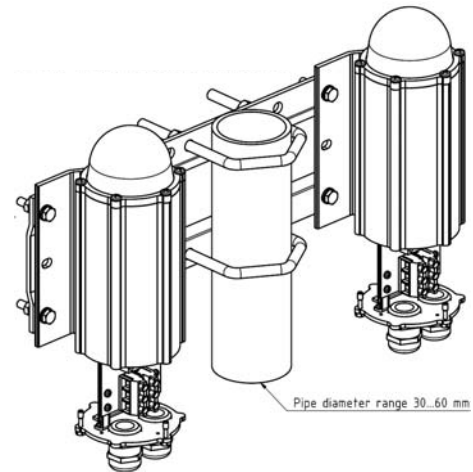
Double mounting set with extension plate  
for 30-60mm vertical pipe installation

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 AISI 316 acid proof steel  
More detailed mechanical data: CEL-MS-DV60 datasheet

Order Code: **CEL-MS-DV60**



## CEL-MS-DV100:

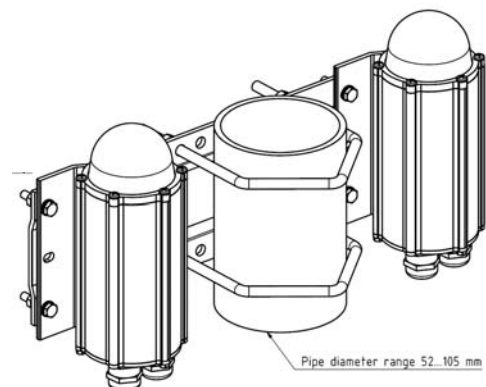
Double mounting set with extension plate  
for 60-100mm vertical pipe installation

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 AISI 316 acid proof steel  
More detailed mechanical data: CEL-MS-DV100 datasheet

Order Code: **CEL-MS-DV100**





# LIR Low-Intensity IR Obstruction Lights

ICAO Type A 10cd, Type B&E 32cd, FAA L-810, Infrared 850nm Aircraft Warning Lighting

## CEL-MS-RW

Mounting set for horizontal plate or wall installation

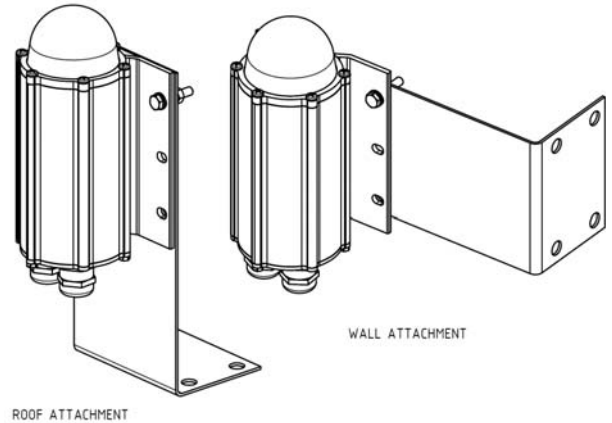
Mounting set include:

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

All parts AISI 316 acid proof steel

More detailed mechanical data: CEL-MS-RW datasheet

Order Code: **CEL-MS-RW**



## CEL-MS-LV U

Mounting set for L and V -shape profiles

Mounting set include

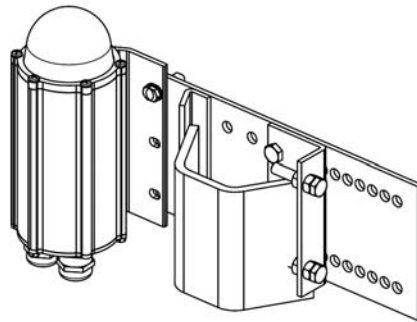
- 1 set accessories for light unit fitting to plate
- 1 pcs extension plate with adjusting plate and accessories

Extension plate hot dip galvanised steel, other parts AISI 316 acid proof steel

More detailed mechanical data: CEL-MS-LVU datasheet

Order Code: **CEL-MS-LVU** (with galvanized extension plate)

**CEL-MS-LVA** (with AISI 316 extension plate)



## CEL-MS-N18

Mounting set for 1" NPT at bottom

More detailed mechanical dimensions: CEL-MS-N1B dataheet

Order Code: **CEL-MS-N1B**

