Medium-Intensity Red Obstruction Light

FAA L-864, L-885

OBELUX
AVIATION LIGHTS

WWW.OBELUX.COM

Optical characteristics

► 2 000 cd
► color aviation RED
► NVG compliant infrared (850nm)
► Horizontal beam 360°
► Vertical beam > 3°

Medium-Intensity Red Obstruction Light
LED Aviation Obstruction Lights

Obelux medium-intensity stand-alone red 2 000 cd model is used for marking tall structures, such as wind turbines, transmission masts, chimneys, broadcast masts, bridges, etc. It is designed for demanding offshore conditions, for instance for use in offshore wind turbines. The product offers unique features such as integrated fault monitoring, photocell, GPS synchronization and cold climate version. It supports both stand-alone and RS-485 Modbus operation as a part of Obelux aviation light system network.

Specifications met

FAA Advisory Circular
AC 150/5345-43J:
Specification for Obstruction Lighting
Equipment, 3/11/2019
FAA L-864, L-885

Key Features

► Design lifetime more than 20 years
► Based on LED technology
► 2 000 cd RED flashing
► Supports both stand-alone and RS-485 Modbus operations
► Suitable for Offshore environment
► Built-in GPS synchronisation
► Built-in photocell
► Built-in cold climate version (CCV), i.e. temperature-controlled smart heater
► Built-in fault monitoring
► Dry contact alarm relay
► Visibility sensor interface controlled luminous output levels 10%, 30%, and 100%
► Hot start for radar-controlled systems
► Easy to chain (no need for junction box)
► Embedded Web Server
► 5-year warranty
► Option for 10-year warranty, the longest in the industry

Electrical Characteristics

► Operating voltage (AC): 100-240V_{AC}, 50Hz / 60Hz ± 6%
► Operating voltage (DC): 10-60V_{DC}
► Flash rates: 20/30/40/60 fpm
► Meets standards
  • EMC (Emissions): EN 61000-6-4
  • EMC (Immunity): EN 61000-6-2
► Power consumption for ICAO AC/DC versions (excluding CCV consumption):
  • 11W @ Night (RED+IR, 30 fpm)
  • 21W @ Night (RED+IR, 60 fpm)
► Type 2 overvoltage protection (varistor between L and PE and between L and N)
► Recommended cables (Outdoor) for AC versions:
  • Power (L-N-PE): 3x1,5mm² or 3x2,5mm² shielded
  • Power + Data/ Relay: 6x1,5mm² or 6x2,5mm² shielded

Smart Heater

► 15W, thermostat controlled
► Input voltage monitoring to detect battery/charger operation (DC models)
► Turns heater off in battery power (DC models)
  • Settable threshold to input voltage in which the heater will be disabled
  • Enables lower power consumption during battery discharge
► Cold climate version (CCV) prolongs the life of the obstruction light
► Power consumption can be ignored in autonomic calculations
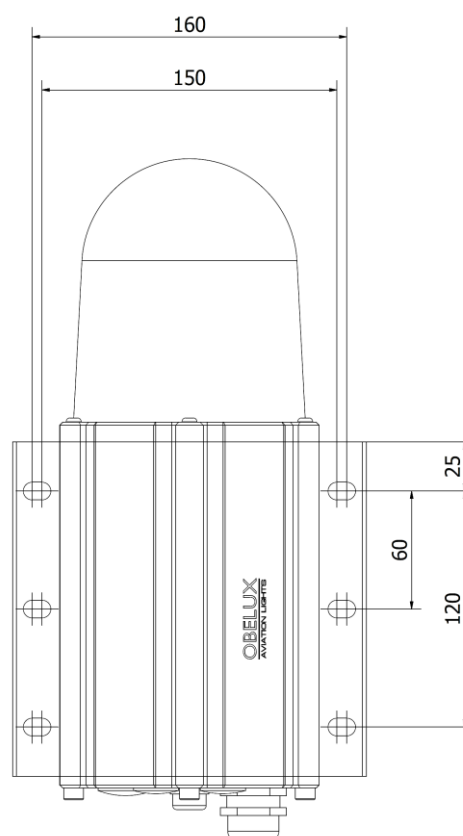
Additional Factory-Installed Options

► 4x Input and 4x Output Interface
► 4-port Ethernet switch Interface (2x fiber SC multimode Female, 2x Ethernet copper RJ-45)
► 1-port Ethernet Interface (1x Ethernet copper RJ-45)
► 10-year warranty

Optional Controllers

► CP Series (Ethernet TCP/IP and RS-485 ModBus, AC or DC)
► CP-M1 Series (RS-485 ModBus, AC or DC)
  • Option: GSM LTE (4G)

Mechanical Characteristics

► Anodized, marine grade aluminum body and end parts
► AISI 316 acid-proof stainless-steel screws
► Glass dome
► Degree of protection IP66
► Operating temperature range -40...+55 °C
► Storage temperature range -40...+55 °C
► Height 347 mm, width 160 mm
► Weight 4,3 kg (without mounting set)
► Easy to chain via Data cable and via Power cable (no need for junction box)
► 2 x M25 (for 6-17 mm cable) cable glands and 2 x M20 (for 6-12 mm cable) cable glands

Product codes

In product codes -GAM, G = GPS, A = alarm relay, M = Modbus

Order code	FAA	Output	Operating voltage	IR	Photocell	Alarm Relay	RS-485 Modbus	GPS	Heater (CCV)
AC MODELS									
MI-FAA-AC-A	L-864, L-885	2 000 cd	100-240VAC	Yes	Yes	Yes	No	No	Yes
MI-FAA-AC-GAM	L-864, L-885	2 000 cd	100-240VAC	Yes	Yes	Yes	Yes	Yes	Yes
DC MODELS									
MI-FAA-DC-A	L-864, L-885	2 000 cd	10-60VDC	Yes	Yes	Yes	No	No	Yes
MI-FAA-DC-GAM	L-864, L-885	2 000 cd	10-60VDC	Yes	Yes	Yes	Yes	Yes	Yes

Configuration

Stand-alone mode

Flashing mode is selected with DIP switches 1-3.

DIP switch			Flashing mode
1	**2**	**3**	**Night**
off	off	off	2,000cd red and infrared (flashing) *
on	off	off	2,000cd red (flashing)
off	on	off	Reserved
on	on	off	Reserved
off	off	on	Reserved
on	off	on	Reserved
off	on	on	Reserved
on	on	on	Reserved

Flashing rate is selected with DIP switches 4-5.

DIP switch		Flash rate (flashes per minute, FPM)
4	**5**	
off	off	20
on	off	30 *
off	on	40
on	on	60

Photocell operation is configured with DIP switch 6.

DIP switch	Photocell mode
6	
off	Photocell is disabled *
on	Photocell controls the light

With DIP switch 7, the light can be set to Master or Slave mode. In Master mode, the light can monitor and control a network of lights. The Master light uses its alarm relay if any of the lights has an alarm. Software configuration is required for the Master/Slave operation. If the light isn't used as a Master, set the light in Slave mode.

DIP switch 7	Master/Slave mode
off	Slave *
on	Master

Turn off DIP switch 8 for correct operation.

DIP switch 8	Operating mode
off	Stand-alone *
on	Modbus

* Factory default

Modbus mode (-GAM models)

Configuration DIP switches 1-5 are used to set the light a Modbus address. Duplicate addresses on the same bus are not allowed. Give each device a unique address. The addresses need to be set from lowest to highest in order. E.g. if 3 devices are used, they need to be in addresses 1, 2 and 3.

DIP switch					Modbus Address
1	2	3	4	5	
on	off	off	off	off	Address 01
off	on	off	off	off	Address 02
on	on	off	off	off	Address 03
off	off	on	off	off	Address 04
on	off	on	off	off	Address 05
off	on	on	off	off	Address 06
on	on	on	off	off	Address 07
off	off	off	on	off	Address 08
on	off	off	on	off	Address 09
off	on	off	on	off	Address 10
on	on	off	on	off	Address 11
off	off	on	on	off	Address 12
on	off	on	on	off	Address 13
off	on	on	on	off	Address 14
on	on	on	on	off	Address 15
off	off	off	off	on	Address 16
on	off	off	off	on	Address 17
off	on	off	off	on	Address 18
on	on	off	off	on	Address 19
off	off	on	off	on	Address 20
on	off	on	off	on	Address 21
off	on	on	off	on	Address 22
on	on	on	off	on	Address 23
off	off	off	on	on	Address 24
on	off	off	on	on	Address 25
off	on	off	on	on	Address 26
on	on	off	on	on	Address 27
off	off	on	on	on	Address 28
on	off	on	on	on	Address 29
off	on	on	on	on	Address 30
on	on	on	on	on	Address 31

DIP switch	
6	Reserved

DIP switch 7 must be off (Slave mode).

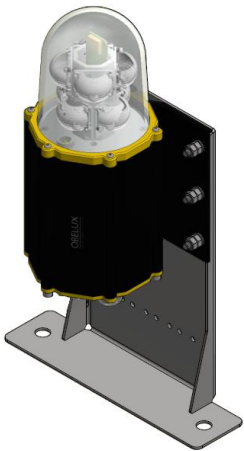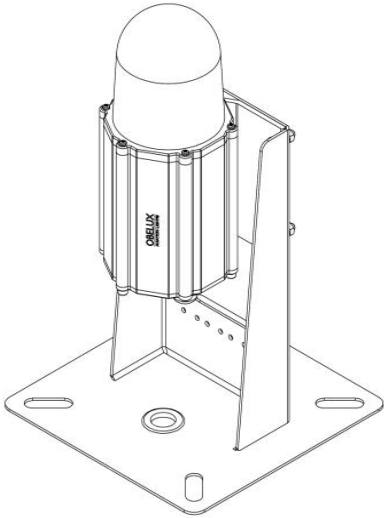| DIP switch	Master/Slave mode
7	
off	This device is slave *
on	This device is master

The light is in Modbus mode when DIP switch 8 is on. Light is being controlled with an Obelux controller.

DIP switch	Operating mode
8	
off	Standalone
on	Modbus

The RS-485 bus should be terminated with the on-board 120 ohm resistors on both ends of the communications bus. To terminate the RS-485 bus, switch the RS-485 termination DIP switch to the ON position in these devices.

Available mounting set options

Obelux MS-MI-H01 and MS-MI-H02 (290 mm wide)
These mounting sets include:

- ► 1 x Mounting Bracket
- ► 4 x M8x30 A4 DIN933 Screws
- ► 4 x M8 A4 DIN125 Washers
- ► 8 x M8 A4 DIN934 Nuts

All fasteners are AISI316 acid-proof stainless steel.

► **Order Code MS-MI-H01** (Mounting Bracket as AISI304 acid-proof stainless steel)
► **Order Code MS-MI-H02** (Mounting Bracket as AISI316 acid-proof stainless steel)

Obelux MS-MI-H03
This mounting set includes:

- ► 1 x Mounting Bracket
- ► 4 x M8x30 A4 DIN933 Screws
- ► 8 x M8 A4 DIN125 Washers
- ► 8 x M8 A4 DIN934 Nuts
- ► 1 x Grommet Ø 35/27mm

All fasteners are AISI316 acid-proof stainless steel.

► **Order Code MS-MI-H03** (Mounting Bracket as AISI316 acid-proof stainless steel)

Obelux MS-MI-V01
This mounting set includes:

- ► 2 x M8 U-bolt
- ► 8 x M8 A4 DIN934 Nuts
- ► 4 x M8 A4 DIN125 Washers

All fasteners are AISI316 acid-proof stainless steel.

► **Order Code MS-MI-V01**