

# Obelux

Low intensity LED obstruction light with IR



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## Regulations

### Obstruction lights

Obstruction lights, steady burning or flashing, are used to warn air traffic for high structures. It can be tall buildings, chimneys, masts, cranes, high bridges or similar. There are two major international standards for obstruction lights, ICAO (International Civil Aviation Organization, a UN organization) and the FAA (Federal Aviation Administration, USA). The standards differ slightly, they are normally used as a base for local regulations. Regulations in Sweden are based on ICAO and Swedish Transport Agency's regulations TSFS 2020:88.

In general, objects with a height of 45 m above ground level or higher should be marked with one or more obstruction light. Objects during erection and for temporary use, for example a crane at a building site, should also be marked.

Depending on the height, the object should be marked with low intensity, medium intensity or high intensity light and/or be marked with colour.

General recommendations in Sweden are

- Objects with a height of 45-150 m above the ground surface must be colour marked, marked with low intensity lights.
- Objects with a height above 150 m above the ground surface must be marked with low and high intensity obstruction lights in several levels
- Single wind turbines with a height of 45-150 m above the ground surface including the rotor must be marked with red flashing medium intensity obstruction light on the nacelle. There are special regulations for wind parks.

There may be special local requirements for some obstacles like power lines, anchored balloons and similar obstacles. Some obstacles must be marked with additional lights in several levels.

In Sweden, groups of obstacles with a height of 150 m or lower, there the highest is marked with medium intensity light, other obstacles with the same or lower height located within a radius of 450 m, may not be marked.

Obstruction lights are normally installed at the highest point of the object and should have 360° horizontal visibility. If this requirement cannot be

achieved with one light, additional lights must be installed. In Sweden, an antenna with a height of 12 m or higher, located on a marked obstacle, must also be marked with a low intensity light. Obstruction lights on a chimney shall be placed 1-3 m below the outlet if smoke will affect the visibility. For obstacles with large spreading marked with low intensity light, shall the lights be located in intervals not exceeding 45 m in horizontal spread.

#### Low intensity obstruction lights

Low intensity obstruction lights have red light. ICAO Type A (> 10 cd) are used on and close to airports, Type B (>32 cd) are for general use. Type E (>32 cd flashing) are normally not used in Sweden. The obstruction lights should have 360° horizontal beam spread and 10° vertical beam spread.

#### Medium intensity obstruction lights

Medium intensity obstruction lights Type B should have red flashing lights, 20-60 fpm (flashes per minute). The light intensity should exceed 2000 cd. Several medium intensity obstruction lights should flash in synchronization, GPS synchronization.

#### High intensity obstruction lights

High intensity obstruction lights Type B should have white flashing lights, 40-60 fpm. The light intensity should exceed 100 000 cd at day, exceed 20 000 cd at twilight and exceed 2000 cd at night. Several high intensity obstruction lights should flash in synchronization, GPS synchronization.

#### LED as a light source

Modern obstruction lights use LED as a light source. LED has many advantages, lower energy consumption, longer service life and reduced maintenance requirements. One disadvantage is that LED are not visible to pilots using Night Vision Device (NVD). Therefore, Swedish Transport Agency require that in addition to visible light, obstruction lights with LED should also be equipped with IR light (infrared light) that is visible with NVD equipment. In the latest regulations, the requirements for the IR light have been strengthened so that it must radiate in the entire vertical plane. Obelux low intensity obstruction lights comply to this requirement.

## LED obstruction lights

### Low intensity obstruction lights type A/B/E with IR



#### Catalogue numbers - Obstruction lights type B/E, 32 cd

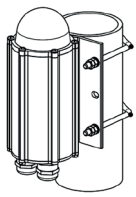
Supply voltage	Catalogue numbers	Swedish E number	Weight kg/each	Packing size
100-250 VAC	ALPOBLI-AC-32-IR-A	7769093	1,3	1
10-60 VDC	ALPOBLI-DC-32-IR-A	7769099	1,3	1

#### Catalogue numbers - Obstruction lights type A, 10 cd

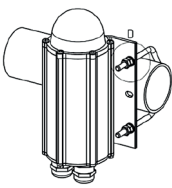
100-250 VAC	ALPOBLI-AC-10-IR-A	7768921	1,3	1
10-60 VDC	ALPOBLI-DC-10-IR-A	7769092	1,3	1

Contact CHS Controls for solar powered low intensity obstruction lights

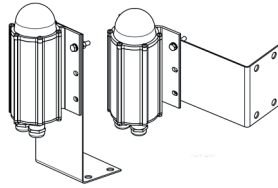
## Mounting sets



ALPOBMS-HV80



ALPOBMS-RW



ALPOBMS-WT5

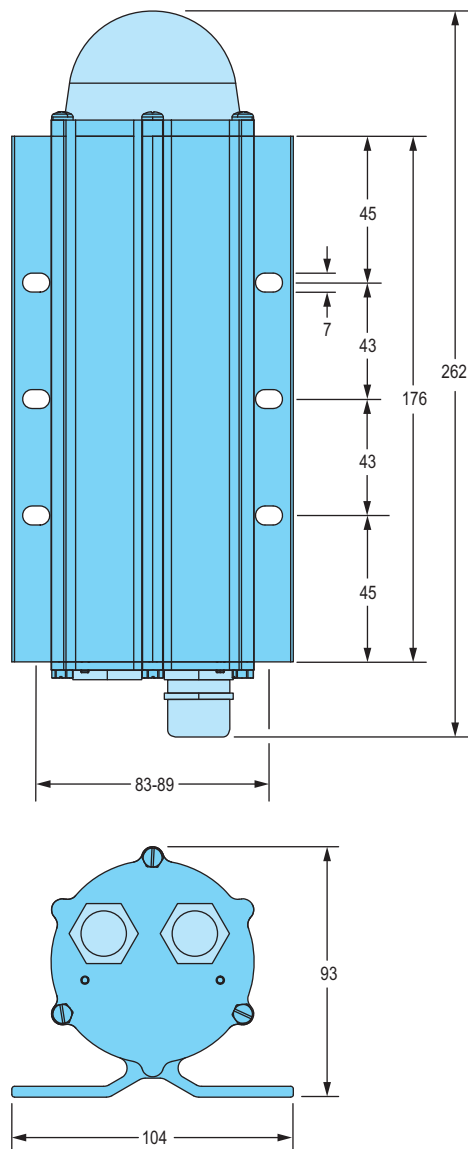
## Catalogue numbers

Description	Catalogue numbers	Swedish E number	Weight kg/each	Packing size
Horizontal/vertical mounting to 33-80 mm pipe, AISI 316 stainless steel	ALPOBMS-HV80	7769108	0,1	1
Roof/wall mounting 90° angle, AISI 316 stainless steel	ALPOBMS-RW		0,6	1
Standing mounting for wind turbines Ø17 mm cc 240 mm, AISI 316 st. steel	ALPOBMS-WT5		1,6	1

## Technical data

Supply voltage	10-60 VDC, 100-250 VAC 50/60 Hz		
<b>Features</b>			
Light intensity	LED	10/32 cd, steady burning or flashing, selectable 20/30/40 flashes per minute	
	IR	850 nm, >3 mWsr >+5° - ≤+90°, >25 mW/sr >0° - ≤+5°	
Light angle, red light	Horizontal	360°	
	Vertical	>10°	
Duty	Selectable 24 hour or dusk-to-dawn operation threshold selectable 200/400/1600 lx		
Overvoltage protection	Included, Type 2		
Alarm contact	Included, change-over, 250 VAC/8 A, 30 VDC/1 A		
Heater	Included, turns on below 10°C, power consumption 7 W		
Other features	Contact CHS Controls for Modbus RS-485 communication/GPS sync.		
<b>Light source</b>			
Type	Red LED with IR		
LED life expectancy	>100 000 hours		
Power consumption	Type A, 10 cd	1 VA/0,85 W	
	Type B/E, 32 cd	1,3 VA/1,4 W	
<b>Design</b>			
Material	Anodized marine grade aluminium, glass dome, AISI 316 stainless steel screws		
Terminals	Terminals 1,5-4 mm², 2xM25 cable inlets, one M25 cable gland, cable diameter 6-13mm, and one plug included		
Installation	Integral mounting bracket, 6 fixing points, vertical installation to a flat surface		
<b>Environment</b>			
Ambient temperature	-40 - +55°C		
Ingress protection, IEC 60529	IP 65, IP 67 on request		
<b>Standard, certificate</b>			
ICAO	ICAO Annex 14 Volume 1, Eight Edition 2018 Low Intensity Obstruction Lights type A/B/E		
Local regulations, Nordic	Sweden	Transportstyrelsen TSFS 2020:88	
	Finland	Traficom regulations for obstruction lights	
	Norway	Luftfartstilsynet FOR-2014-07-15-980	
CE	EMC directive 2014/30EU, IEC 61000-6-2, IEC 61000-6-4, RoHS		
<b>Warranty</b>			
	5 year warranty, optional 10 year warranty at a price adder		

Dimensions, mm



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