

Obelux

High intensity LED obstruction light with IR



www.chscontrols.se

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

High intensity obstruction lights type B with IR



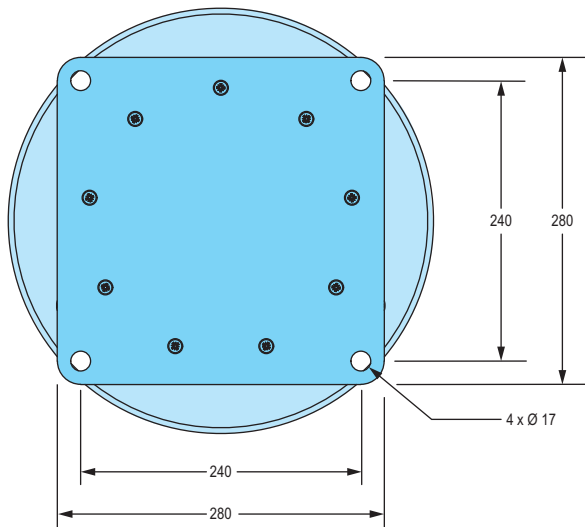
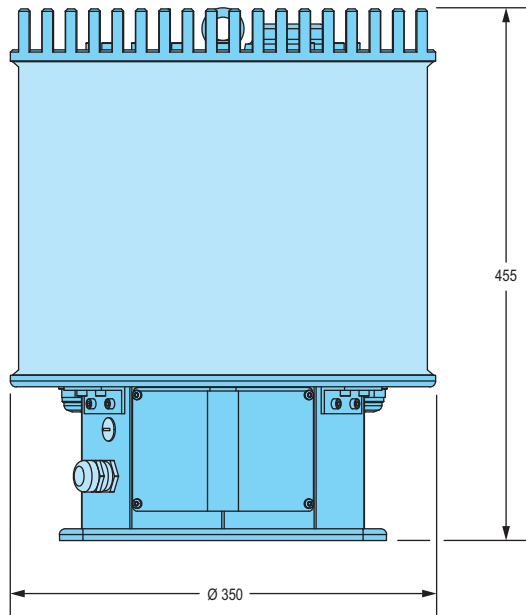
Catalogue numbers - Obstruction lights type B, 100 000 cd

Supply voltage	Catalogue numbers	Swedish E number	Weight kg/each	Packing size
230 VAC	ALPOBH100IRCCV230GI	7769119	27	1

Technical data

Supply voltage		230 VAC 50/60 Hz
Features		
Light intensity	LED	Day: 100 000 cd, twilight: 20 000 cd, night: 2000 cd Flashing, selectable 20/40 flashes per minute
Light angle, white light	IR Horizontal Vertical	850 nm, >500 mW/sr >0° - ≤+2° 360° > 3°
Duty		Day, twilight and night
Overvoltage protection		Included
Alarm contact		Included, change-over contact, 250 VAC/8 A, 30 VDC/5 A
Heater		Included, turns on below 10°C, power consumption 40 W
GPS synchronisation		Included
Modbus		Contact CHS Controls for Modbus RS-485 communication
Light source		
Type		White LED with IR
LED light expectancy		>175 000 hours
Power consumption	Day Twilight Night	200 W 50 W 20 W
Design		
Material		Anodized marine grade aluminium, glass dome, AISI 316 stainless steel screws
Terminals		Terminals, supply voltage 0,5-4 mm ² , alarm contact 0,2-1,5 mm ² M16 EMC cable gland, cable diameter 5-10 mm M25 EMC cable gland, cable diameter 11-17 mm
Installation		Mounting plate with 4 fixing points for standing installation
Environment		
Ambient temperature		-40 - +55°C
Ingress protection, IEC 60529		IP 65
Standard, certificate		
ICAO		ICAO Annex 14 Volume 1, Eight Edition 2018 High Intensity Obstruction Lights type B
Local regulations, Nordic	Sweden Finland Norway	Transportstyrelsen TSFS 2020:88 Traficom regulations for obstruction lights Luffartstilsynet FOR-2014-07-15-980
CE		EMC directive 2014/30EU, IEC 61000-6-2, IEC 61000-6-4, RoHS
Warranty		5 years

Dimensions, mm



CHS Controls AB
Florettgatan 33
254 67 Helsingborg, Sweden
Phone +46 42386100
chs@chscontrols.se, www.chscontrols.se