

COLLECTED TECHNICAL DATASHEETS

Lantern Series

Aviation obstruction lighting for tower cranes, mobile cranes and temporary structures. Low and medium intensity lights to ICAO Annex 14, with the control, the twilight switch and the power supply around them.

LIGHT INTENSITY

32 to 2,000 cd

SUPPLY, AC AND DC

12 to 230 V

STANDARD

**ICAO Annex 14
FAA L-810, L-864**

DELIVERY

From stock



Lantern L32, low intensity

Lantern M2K, medium intensity

Compact controller

Local control panel

Photoelectric switch

Solar power kit

Mounting hardware

Contents

This document covers the complete Lantern Series: two light families, the control that switches and monitors them, and the hardware that holds them on a crane. The page numbers run through the whole document.

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2	Which light, where	Height classes and the typical crane layout What ICAO asks for below 45 m and from 45 to 150 m, and where the notification thresholds sit per country.
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5	Lantern M2K	Medium intensity, flashing red, 2,000 cd · 5 to 6 W average The top light for cranes and structures from 45 m, visible from much further out.
7	Control and power	Controller, control panel, twilight switch, solar kit Switching at dusk, alarm on a failed light, and power where the crane has none.
8	Mounting, ordering and standards	Order codes, brackets, versions on request Everything needed to put a complete set on one order.

WHAT WE SUPPLY, AND WHAT WE DO NOT

We supply	The obstruction lights, the control, the twilight switch, junction boxes and mounting hardware, as a complete set, from stock for standard versions
We advise	On the number of lights, the intensity per level, the positions on the crane, the supply and the cabling, based on crane type, height and location
You arrange	Mounting on site, and the notification or permit with the aviation authority. The authority decides what the crane must carry; we help you choose the equipment that meets that decision

HOW TO READ THIS DOCUMENT

Each light family has two pages: what it is and where it goes, then the full specification with the dimensions and the ordering options. Figures are per light unless stated otherwise.

The height rules on page 2 are a guide to the ICAO recommendations and are not a substitute for the decision of the national authority, which can ask for more, or less, than the standard.

Which light, where

An obstruction light marks the height and the extent of a structure for pilots flying low, at night and in poor visibility. On a crane that means the highest point and the outer ends, because the jib is what a helicopter meets first.

THE ICAO HEIGHT CLASSES

Height	Light	Typical on a crane
Below 45 m	Low intensity, steady red, Type B, 32 cd	Lantern L32 at the top and at both jib ends
45 to 150 m	Medium intensity, flashing red, Type B, 2,000 cd, combined with low intensity Type B	Lantern M2K at the top, Lantern L32 at the jib ends and at intermediate levels at most 52 m apart
Above 150 m	Set by the authority, often medium or high intensity white by day	Engineered per project, see the versions on request on page 8

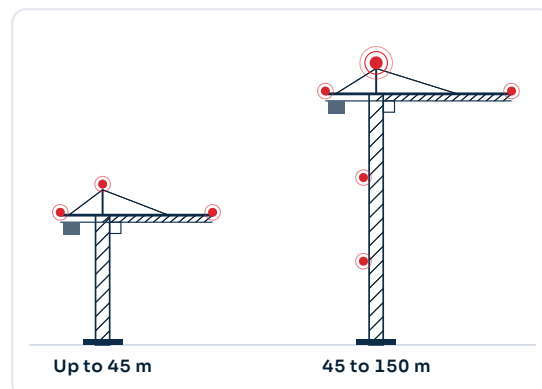
Source: ICAO Annex 14, Volume I, chapter 6. National rules build on it and can differ. The UK Civil Aviation Authority, for example, recommends lights on both ends of the jib, and 32 cd low intensity lights on cranes below 45 m.

WHEN A CRANE HAS TO BE NOTIFIED

Netherlands	From 100 m, to the ILT. Near Schiphol and Lelystad a permit for cranes applies below that height
Germany	From 100 m outside built-up areas and 150 m in cities, and in the protected zones of airports. The Landesluftfahrtbehörde decides
United Kingdom	Above 10 m within 6 km of an aerodrome, and from 100 m anywhere. At least eight weeks ahead for planned work
Belgium, France, Spain	Near airports and above national height limits, via skeyes and the FOD Mobiliteit, the DGAC and AESA respectively

Summary as of September 2026, for orientation only. The authority determines the lighting per crane and per location; check the current rules before the crane is erected.

TYPICAL CRANE LAYOUT



- Low intensity, steady red, 32 cd
- Medium intensity, flashing red, 2,000 cd
- Intermediate levels at most 52 m apart

A tower crane up to 45 m and one between 45 and 150 m. The exact layout follows from the notification.

WHY A TWILIGHT SWITCH

Obstruction lights are required from dusk to dawn and in poor visibility. A photoelectric switch turns them on without anyone on site, which is exactly when a crane stands unattended.

LOW INTENSITY OBSTRUCTION LIGHT

Lantern L32



Shown: Lantern L32, single version with pole anchor.

ICAO Type B	FAA L-810	CE	IP66	Steady red
360°	10 to 60 V DC	110 to 230 V AC		
Plug connector	700 g	From stock		

The workhorse of crane marking. A steady red light of more than 32 cd, all round, that goes on the jib ends, the counter jib and the top of cranes up to 45 m. Light enough for a jib tip, and on a plug connector so it is replaced without opening a junction box at height.

LIGHT INTENSITY	POWER	COVERAGE
>32.5 cd	3 to 4.5 W	360°
WEIGHT	INGRESS	AVERAGE LIFE
0.7 kg	IP66	100,000 h

Power: 3 W on the DC version, 4.5 W on the AC version. Light intensity is the minimum over the horizontal plane, red to the CIE chromaticity boundary.

WHY IT IS SPECIFIED

Built for the jib tip. 700 grams in a glass reinforced plastic body. At the end of a jib every kilogram counts, and a light that is not noticed by the crane is not a structural discussion.

One light for DC and AC cranes. The DC version accepts anything from 10 to 60 V, so 12, 24 and 48 V systems and solar supplies all run on the same article. The AC version runs on 110 to 230 V.

Replaced in minutes. The light plugs into an IP66/68 connector. A technician at the jib end swaps the light, not the wiring.

WHERE IT IS USED

Tower cranes	Top, jib end and counter jib end, and intermediate levels on the mast
Mobile and crawler cranes	Boom tip and top of the lattice, on the crane supply
Luffing jib cranes	Jib tip and A-frame
Temporary structures	Scaffolding towers, masts, formwork on high rise
Existing structures	Chimneys, silos and towers below 45 m

VERSIONS

	DC	AC
Single, steady	LAN-L32-DC	LAN-L32-AC
Double, steady	LAN-L32D-DC	LAN-L32D-AC
Plus infrared	LAN-L32IR-DC	LAN-L32IR-AC
Flashing	LAN-L32F-DC	LAN-L32F-AC
Type A, 10 cd	LAN-L10-DC	LAN-L10-AC

The double version carries two light sources in one housing, so a single failure does not leave the crane dark. The infrared version adds a source visible to night vision goggles, as used by police, air ambulance and military helicopters.

Lantern L32, specification

All values per light. Where the DC and the AC version differ, both are given.

FULL SPECIFICATION

LIGHT

Type	Low intensity obstruction light, ICAO Type B
Light source	LED
Beacon	Steady, flashing 20 to 40 fpm as an option
Colour	Red, to the CIE chromaticity boundary
Light intensity	>32.5 cd
Horizontal coverage	360°
Typical use	Night time

ELECTRICAL

Supply, LAN-L32-DC	10 to 60 V DC
Supply, LAN-L32-AC	110 to 230 V AC
Power consumption	DC 3 W, AC 4.5 W
Connection	Male and female connector, IP66/68, for cable Ø 7 to 13 mm
Cable	2 × 1.5 mm ² , no earth conductor at the light

CONSTRUCTION

Body	Glass reinforced plastic, red, UL94-HB
Cap	Polycarbonate, UL94-V2
Fixing, standard	Stainless steel pole anchor, Ø 25 to 82.5 mm
Fixing, optional	Bracket for L sections and tubes, see page 8
Weight	700 g

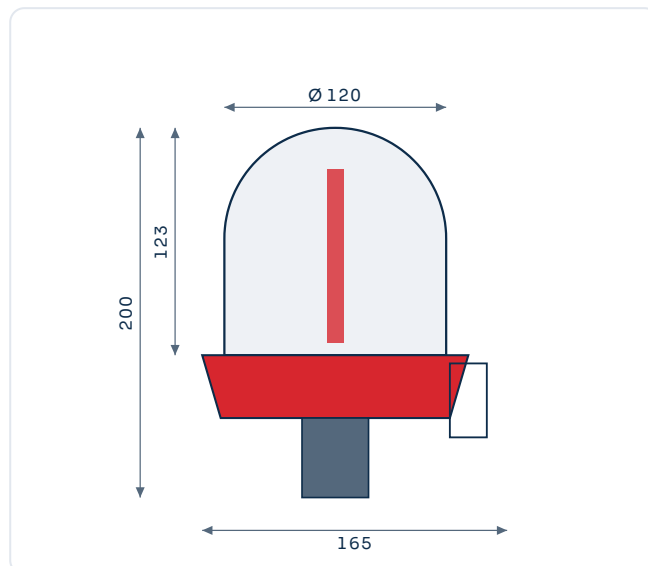
ENVIRONMENT AND LIFE

Ingress	IP66
Ambient, DC	-40 to +55 °C
Ambient, AC	-30 to +55 °C
Average life	100,000 hours

COMPLIANCE

Photometry	ICAO Annex 14, Volume I, low intensity Type B
FAA	AC 150/5345-43J, type L-810
Marking	CE

DIMENSIONS



Dimensions in millimetres. Pole anchor for tubes Ø 25 to 82.5 mm, M6 threaded rod.

OPTIONS

Double (D)	Two light sources in one housing, for redundancy
Infrared (IR)	Added infrared source for night vision goggles
Flashing (F)	20 to 40 flashes per minute instead of steady
Type A (L10)	10 cd, where the authority allows the lower class
Bracket	Hot dip galvanised steel or 316 stainless steel

The DC version on 10 to 60 V is the natural partner of the compact controller and the solar kit on page 7. On a 230 V crane supply the AC version is wired directly through a twilight switch, as in the wiring example on page 7.

MEDIUM INTENSITY OBSTRUCTION LIGHT

Lantern M2K



Shown: Lantern M2K, single version.

ICAO Type B	FAA L-864	CE	IP66
Flashing red	2,000 cd	20 to 40 fpm	12 V DC
24 to 48 V DC	110 to 230 V AC	From stock	

The top light for a crane from 45 m. A red flash of 2,000 cd, all round, seen from far further out than a steady light and read by a pilot as the highest point of the structure. Combined with the Lantern L32 at the jib ends and the intermediate levels.

LIGHT INTENSITY	FLASH RATE	AVERAGE POWER
2,000 cd	20 to 40 fpm	5 to 6 W
COVERAGE	INGRESS	AVERAGE LIFE
360 °	IP66	100,000 h

Average power at 20 flashes per minute and a flash of 500 ms: 5 W on DC, 6 W on AC. Peak power 30 W on DC and 35 W on AC; size the supply on the peak.

WHY IT IS SPECIFIED

A flash is seen first. Against the lights of a city a steady red point disappears. A 2,000 cd flash does not, which is why ICAO puts medium intensity on everything from 45 m.

Low average consumption. Around 5 W average on a flashing light means a small supply, thin cabling and, where the crane has no power, a solar kit that stays within reason.

Synchronised. On a crane or a site with more than one flashing light, the control panel flashes them together so the structure reads as one obstacle.

WHERE IT IS USED

Tower cranes from 45 m	Top of the crane, above the cat head or on the A-frame
Crawler and mobile cranes	Tip of long lattice booms in heavy lifting
Clusters of cranes	Synchronised flashing across a site
Structures from 45 m	Chimneys, masts, towers and high rise under construction
Near airports	Where the authority asks for a flashing top light

VERSIONS

	Code
Single, 12 V DC	LAN-M2K-12
Single, 24 to 48 V DC	LAN-M2K-48
Single, 110 to 230 V AC	LAN-M2K-AC
Double	LAN-M2KD- <i>supply</i>
Plus infrared	LAN-M2KIR- <i>supply</i>
Type C, steady red	LAN-M2KC- <i>supply</i>

Type C is the steady red 2,000 cd version, for authorities that do not allow a flashing light at a given location. The double version stacks two lights in one unit.

Lantern M2K, specification

All values per light, single version. The double version has the same data per light source.

FULL SPECIFICATION

LIGHT

Type	Medium intensity obstruction light, ICAO Type B
Light source	LED
Beacon	Flashing, 20 to 40 flashes per minute
Colour	Red, to the CIE chromaticity boundary
Light intensity	2,000 cd
Horizontal coverage	360°
Typical use	Night time

ELECTRICAL

Supply	12 V DC, 24 to 48 V DC, or 110 to 230 V AC
Average power	DC 5 W, AC 6 W, at 20 fpm and 500 ms
Peak power	DC 30 W, AC 35 W
Connection	Male and female connector, IP68, for cable up to Ø 13 mm
Cable	5 × 1.5 mm ²

CONSTRUCTION

Body	Anodised aluminium
Cap	Polycarbonate
Fixing	M10, bracket for L sections and tubes, see page 8
Radiation shield	Stainless steel AISI 304, ordered separately
Weight	5.5 kg

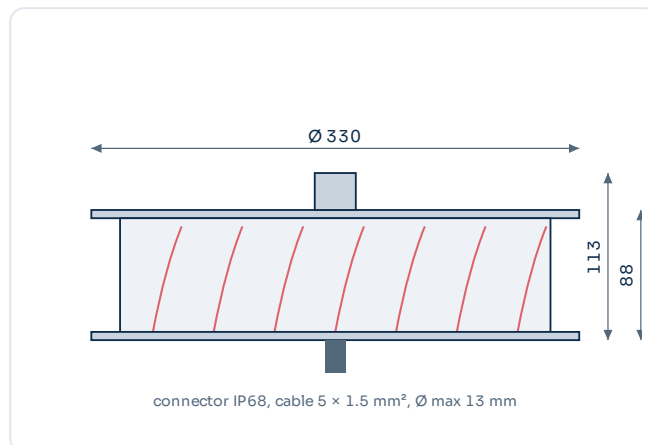
ENVIRONMENT AND LIFE

Ingress	IP66
Ambient	-40 to +55 °C
Average life	100,000 hours

COMPLIANCE

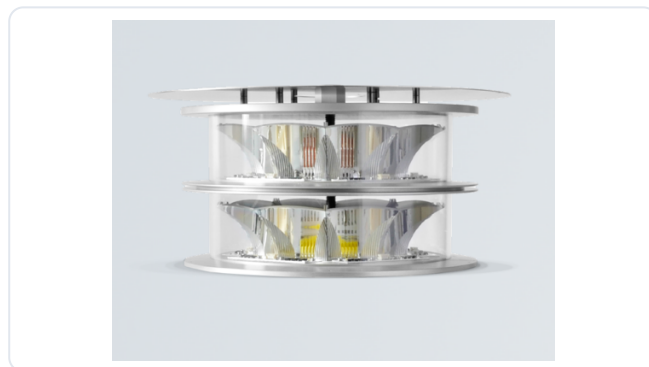
Photometry	ICAO Annex 14, Volume I, medium intensity Type B
FAA	AC 150/5345-43J, type L-864
Marking	CE

DIMENSIONS



Dimensions in millimetres.

DOUBLE VERSION



Two stacked light sources in one unit, for redundancy on the top light. Same connection and bracket as the single version.

OPTIONS

Double (D)	Two light sources, redundancy on the top light
Infrared (IR)	Added infrared source for night vision goggles
Type C (M2KC)	Steady red 2,000 cd instead of flashing
Radiation shield	Stainless steel AISI 304

Control and power

An obstruction light only does its job if it is on at the right moment and if someone knows when it fails. That is the work of the control around the lights.



LAN-C3 · COMPACT CONTROLLER

For a single crane on DC

24 or 48 V DC. Manages three Lantern L32, or two L32 and one flashing M2K. Connects the twilight switch, with an alarm per light (lamp fault and high current) and a general alarm on a dry contact for the site monitoring. IP68.



LAN-CP · LOCAL CONTROL PANEL

For 230 V and for more lights

230 V AC in and out, -20 to +55 °C. Power distribution per level, synchronised flashing, alarm per level on a dry contact, twilight switch management and an AUTO, ON, OFF selector. GRP enclosure with surge arresters on the outgoing lines, IP66. Sized per project.



LAN-PC · PHOTOELECTRIC SWITCH

On at dusk, off at dawn

12, 24 or 48 V DC, 115 V or 230 V AC. Threshold adjustable from 22 to 3,000 lux, factory set at 300 lux. Switch on delay 9 s, off delay 38 s, so passing headlights do not switch it. Die cast aluminium, IP65, -25 to +55 °C, 142 × 117 × 80 mm. Mount facing north or south with a free view of the sky, away from site lighting.

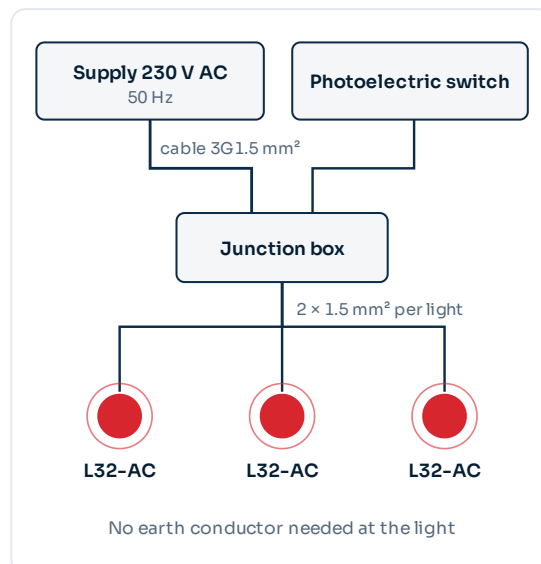


LAN-SOL · SOLAR POWER KIT

Where the crane has no power at night

Solar panel, battery and charge controller on one platform. The panel charges the battery by day, the controller switches the light on at night and runs it from the battery. No external cabling. Sized per project on the lights, the latitude and the required autonomy.

WIRING EXAMPLE



Three Lantern L32-AC on a 230 V crane supply, switched by a twilight switch through one junction box.

ALSO AVAILABLE

Junction box	LAN-JB, for distribution to up to three lights
Remote monitoring	On request: status, alarms and a switch test per light, over GSM
Cable	UV resistant, 3G1.5 mm² supply and 2 × 1.5 mm² per light, per metre

WHICH CONTROL FITS

A tower crane on 230 V with three low intensity lights needs a twilight switch and a junction box. From a flashing top light, or where the site wants an alarm, the controller or the control panel comes in. We advise on the combination with the enquiry.

Mounting, ordering and standards

ORDER CODES

Code	Description
LIGHTS	
LAN-L32-DC	Low intensity Type B, steady red, >32.5 cd, 10 to 60 V DC
LAN-L32-AC	Low intensity Type B, steady red, >32.5 cd, 110 to 230 V AC
LAN-M2K-12	Medium intensity Type B, flashing red, 2,000 cd, 12 V DC
LAN-M2K-48	Medium intensity Type B, flashing red, 2,000 cd, 24 to 48 V DC
LAN-M2K-AC	Medium intensity Type B, flashing red, 2,000 cd, 110 to 230 V AC
Suffix D, IR, F, C	Double, plus infrared, flashing (L32), Type C steady (M2K)

CONTROL AND POWER

LAN-C3	Compact controller, 24 or 48 V DC, up to three lights
LAN-CP	Local control panel, 230 V AC, sized per project
LAN-PC-supply	Photoelectric switch, 12, 24, 48 V DC, 115 or 230 V AC
LAN-JB	Junction box
LAN-SOL	Solar power kit, sized per project

MOUNTING

LAN-BR-HDG	Bracket, hot dip galvanised steel
LAN-BR-SS	Bracket, 316 stainless steel

The brackets take L sections from 50 × 50 to 160 × 160 mm and tubes from Ø 48.3 to 219.1 mm, with a fixing plate adjustable by ±60° in the horizontal plane. They fit both the L32 and the M2K.

STANDARDS AND VERIFICATION

Subject	Standard	Verification
Photometry, L32	ICAO Annex 14, Volume I, low intensity Type B; FAA AC 150/5345-43J, L-810	Declared compliance
Photometry, M2K	ICAO Annex 14, Volume I, medium intensity Type B; FAA AC 150/5345-43J, L-864	Declared compliance
Electrical	CE, Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU	Declaration of conformity
Colour	Red to the CIE chromaticity boundary for aviation signal lights	Declared compliance

BEFORE YOU ORDER

Send us the crane type, the height and the location, and the outcome of the notification if you have it. We advise on lights, positions and control, and put the complete set on one quotation. Standard versions ship from stock. Mounting and the notification stay with you.

PRODUCT PAGE

Height rules per country, the typical layout and the enquiry form.
jelproducts.nl/en/crane-obstruction-lighting/

ON REQUEST

Medium intensity Type A	White flashing, 20,000 cd by day and 2,000 cd by night, FAA L-865, for daytime marking
Dual mode A and B	White by day, red by night in one light, L-865 and L-864
Ex versions	Explosion protected lights for offshore cranes and process areas, on request
Larger quantities	Project deliveries and versions outside the standard, with a lead time

WHAT WE SETTLE AT THE ENQUIRY

Crane	Type, height, jib and counter jib length
Location	Country, distance to airports, notification
Supply	230 V AC, DC on board, or none
Monitoring	Twilight switch only, or alarms
Mounting	Tube, L section or pole anchor

Notes. The authority determines the lighting for each structure; the height classes in this document follow the ICAO recommendations and are given as a guide. Ex versions are supplied on request with the documentation of the version concerned.