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TECHNICAL DATASHEET · AIRPORT PORTABLE LIGHTING · COMPACT HI RUNWAY LIGHTS, NIMH BATTERY

Polaris V2 High Intensity

EcoSolaris code **ECO-AL-2889**

Ordering code **AL-167/168/169/170/171-07-XX**

Made in Romania Manufactured in the EU





Compact range of high-intensity portable runway lights with aluminium body, glass dome and NiMH battery, for any type of airport. Light distribution, colours and intensities follow ICAO Annex 14; the edge light has two directional beams and one omnidirectional beam for circling.

REL MAXIMUM CONSUMPTION AT 100%	BATTERY
15 W	**rechargeable NiMH 12 V – 2.7 Ah**
REL AUTONOMY (100/30/10/3/1%)	AUTONOMY CONDITIONS
2 / 6 / 20 / 60 / 200 h	**new battery, 100% charged, 20 °C**

Price on request

EcoSolaris technical support · Dubai

Technical specifications

Range (code – function – intensity)	AL-167-06-GR threshold (THR) 10 000 cd; AL-168-02-RE threshold wing (THR-W) 10 000 cd; AL-168-02-RE runway end (END) 2500 cd; AL-169-10-WH approach (APH) 20 000 cd; AL-170-07-WH runway edge (REL) 10 000 cd; AL-171-05-GR-RE threshold end (THR-END) 10 000 cd / 2500 cd
REL – average main beam at 100%	white 10 000 cd; yellow 4000 cd; red 1500 cd (ICAO Annex 14 Vol. I, fig. A2-10)
Omnidirectional beam (REL, circling)	50 cd at all azimuths up to 15° vertical (ICAO Annex 14, 5.3.9.9)
Toe-in (REL)	3.5° for 45 m wide runways; 4.5° for 60 m wide runways
REL maximum consumption at 100%	15 W
Battery	rechargeable NiMH 12 V – 2.7 Ah
REL autonomy (100/30/10/3/1%)	2 / 6 / 20 / 60 / 200 h
Autonomy conditions	new battery, 100% charged, 20 °C
Charging time	15 h with individual charger or rack; solar – weather dependent
Solar panel	minimum 20 W, optional 30 or 40 W
Brightness steps	1%, 3%, 10%, 30%, 100%
LED lifespan	100 000 h
Radio	LoRa 868 MHz (Europe) / 915 MHz (USA) / optional 433 MHz, up to 10 km line of sight
Operating temperature	-55° to +55°
Degree of protection / humidity	IP68 / 0–100%
Weight (REL)	3 kg

Features

- Compact aluminium body and hardened glass dome
- Three beams on the edge light: two directional and one omnidirectional for circling
- Steady light with 5 steps: 1%, 3%, 10%, 30%, 100%
- Local control, handheld remote or base station with Polaris application
- Sensors: temperature, GPS, LED current and voltage, battery voltage, charging current, ambient light
- ARCAL: 3 clicks = 10%, 5 clicks = 30%, 7 clicks = 100%
- Materials resistant to saline environments and anti-condensation valve

Standards and compliance

- ICAO Annex 14, Volume I – Aerodromes
- IEC TS 61827 – electrical installations for lighting and beaconing of aerodromes; characteristics of inset and elevated luminaires for aerodromes and heliports
- Measured chromaticity within ICAO Annex 14 Vol. I, fig. A1-1b colour ranges (solid-state aeronautical ground lights)

Materials and construction

- Housing: powder-coated aluminium, RAL 1004 (aviation yellow)
- Disperser: hardened glass
- Cable gland: nickel-plated brass
- Fasteners: stainless steel
- Anti-condensation valve fitted

Configuration options

- Infrared (IR) LEDs for NVG (night-vision goggles) compatibility
- Night-only operation with photocell
- One-way or two-way radio control (LoRa 868 / 915 MHz, optional 433 MHz)
- Built-in GPS
- ARCAL – pilot activation
- Solar panel: minimum 20 W, optional 30 or 40 W
- Mounting on a base plate or tripod, including solar panel stand

Ordering code structure

AL - 167/168/169/170/171 - XX - XX

AL	Series indicator (airfield lighting)
167	Threshold (THR), green
168	Threshold wing (THR-W) / runway end (END), red – as per source list
169	Approach (APH), white
170	Runway edge (REL), WH/WH, WH/YE or WH/RE
171	Threshold end (THR-END), green/red
XX	Number of LEDs (+1 with IR, e.g. AL-170-08-WH/YE/IR-4,5)
XX	Colour and options: IR, toe-in 3.5 / 4.5 (e.g. AL-170-07-WH/YE-3,5)

Compatible accessories

AL-141-AX	Polaris photovoltaic panel
AL-165-AX	Polaris radio remote control
AL-159-AX	Polaris base station
AL-173-AX	Tripod
AL-102-AX	Φ260 mm base plate
AL-213-AX	Frangible coupling 2.5″ for Polaris V2 & Vista

Applications

Precision-approach airports – temporary high-intensity lighting

Temporary lighting during runway works

Emergency and back-up lighting when the fixed system fails

Coastal airfields (salt-resistant materials)

Remote, military or temporary airstrips without mains power