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TECHNICAL DATASHEET · AIRPORT & HELIPORT PORTABLE LIGHTING · BATTERY-POWERED OMNIDIRECTIONAL LIGHTS

Polaris V3 Taxiway, Emergency RGBW & Unserviceability

EcoSolaris code **ECO-AL-3653** | Ordering code **AL-192/193/194-01-XX** | **Made in Romania** Manufactured in the EU





Compact range of omnidirectional battery-powered portable lights with four built-in solar panels: Taxiway (blue, AL-192), Unserviceability (red, AL-193) and Emergency RGBW (AL-194). Aluminium body with hardened glass dome, IP67, for temporary, emergency, back-up or permanent use.

BRIGHTNESS STEPS
1%, 3%, 10%, 30%, 100%

EMERGENCY RGBW AUTONOMY (STANDARD)
red 144 h, blue 480 h, green 96 h, white 96 h

EMERGENCY RGBW AUTONOMY (COMPACT)
red 43 h, blue 144 h, green 28 h, white 28 h

AUTONOMY CONDITIONS
new, fully charged battery, 20 °C

Price on request | **EcoSolaris technical support · Dubai**

Technical specifications

Product codes	AL-192-01-BL (Taxiway), AL-193-01-RE (Unserviceability), AL-194-01-RGBW (Emergency RGBW)
Taxiway intensity (blue)	2 cd omnidirectional, steady (ICAO compliant at 100% only)
Emergency RGBW intensities	red 10 cd, blue 2 cd, green 50 cd (omnidirectional); white 100 cd
Brightness steps	1%, 3%, 10%, 30%, 100%
Power consumption at 100%	Taxiway 0.2 W; Unserviceability 0.5 W; RGBW: 1 W red, 0.3 W blue, 1.5 W green/white
Standard version	lead-acid or $LiFePO_4$ battery 12 V – 12 Ah, solar panels 4×5 W, 9.3 kg
Compact version	$LiFePO_4$ battery 3.6 V – 12 Ah, solar panels 4×2 W, 4 kg
Taxiway autonomy	approx. 720 h (standard) / approx. 216 h (compact)
Unserviceability autonomy	approx. 288 h (standard) / approx. 85 h (compact)
Emergency RGBW autonomy (standard)	red 144 h, blue 480 h, green 96 h, white 96 h
Emergency RGBW autonomy (compact)	red 43 h, blue 144 h, green 28 h, white 28 h
Autonomy conditions	new, fully charged battery, 20 °C
Battery protection	main LEDs switch off below 10.5 V; automatic disconnection below 10.2 V
LED lifespan	100 000 h
Operating temperature	-20 °C to +55 °C
Degree of protection / humidity	IP67 / 0–100%
Radio	LoRa 868 MHz (Europe) / 915 MHz (USA) / optional 433 MHz, up to 10 km line of sight

Features

- Four built-in solar panels (one per side) plus DC connector for external charging
- Local push-button control with 4 battery status LEDs
- Radio control via handheld remote (one-way) or base station and Polaris application (two-way)
- ARCAL: 3 clicks = 10%, 5 clicks = 30%, 7 clicks = 100%
- RGBW version: four selectable colours – red, blue, green, white – each with photocell mode
- Battery disconnection for transport (press and hold over 3 s)

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
- TP 312E – Aerodrome Standards and Recommended Practices
- FAA AC 150/5345-46F
- Part 139 (Aerodromes) Manual of Standards
- 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, invisible to the naked eye, NVG (night-vision goggles) compatible: 1 or 2 IR LEDs added to the code
- Photocell sensor – automatic day/night switching
- One-way or two-way radio control (LoRa 868 MHz Europe / 915 MHz USA / optional 433 MHz)
- Built-in GPS
- ARCAL – pilot activation by microphone clicks
- Lead-acid or optional $LiFePO_4$ battery
- Standard version (12 V – 12 Ah, 4×5 W) or compact version ($LiFePO_4$ 3.6 V – 12 Ah, 4×2 W)
- Mounting directly on the ground, on a base plate with frangible coupling, or on a ground screw with bushing and frangible coupling

Ordering code structure

AL - 192/193/194 - 01 - XX

AL	Series indicator (airfield lighting)
192	Polaris V3 Taxiway
193	Polaris V3 Unserviceability
194	Polaris V3 Emergency RGBW
01	Number of visible LEDs (02 / 03 with one or two IR LEDs, suffix /IR)
BL / RE / RGBW	Colour: blue / red / red-green-blue-white

Compatible accessories

AL-232-AX	Fixing system for Polaris V3
AL-229-AX	Ground mounting screw
AL-165-AX	Polaris radio remote control
AL-165-EM1-AX	Radio remote with colour buttons (RGBW version)

Applications

Temporary taxiway edge marking · **Marking unserviceable areas and works** · **Emergency and back-up lighting when the fixed system fails** · **Non-precision approach airports and heliports** · **Remote, military or temporary airstrips without mains power**