



SP-401H SOLAR RUNWAY END LIGHT

HIGH INTENSITY



		Compliance: ICAO Annex 14 Vol. I (7th. Edition, July 2016)
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FEATURES

- Applicable for IFR Runways (CAT I, II, III)
- Controlled via wireless mesh type network
- Operates on solar energy
- Hybrid version available: solar + 230 VAC / 6.6A

APPLICATION

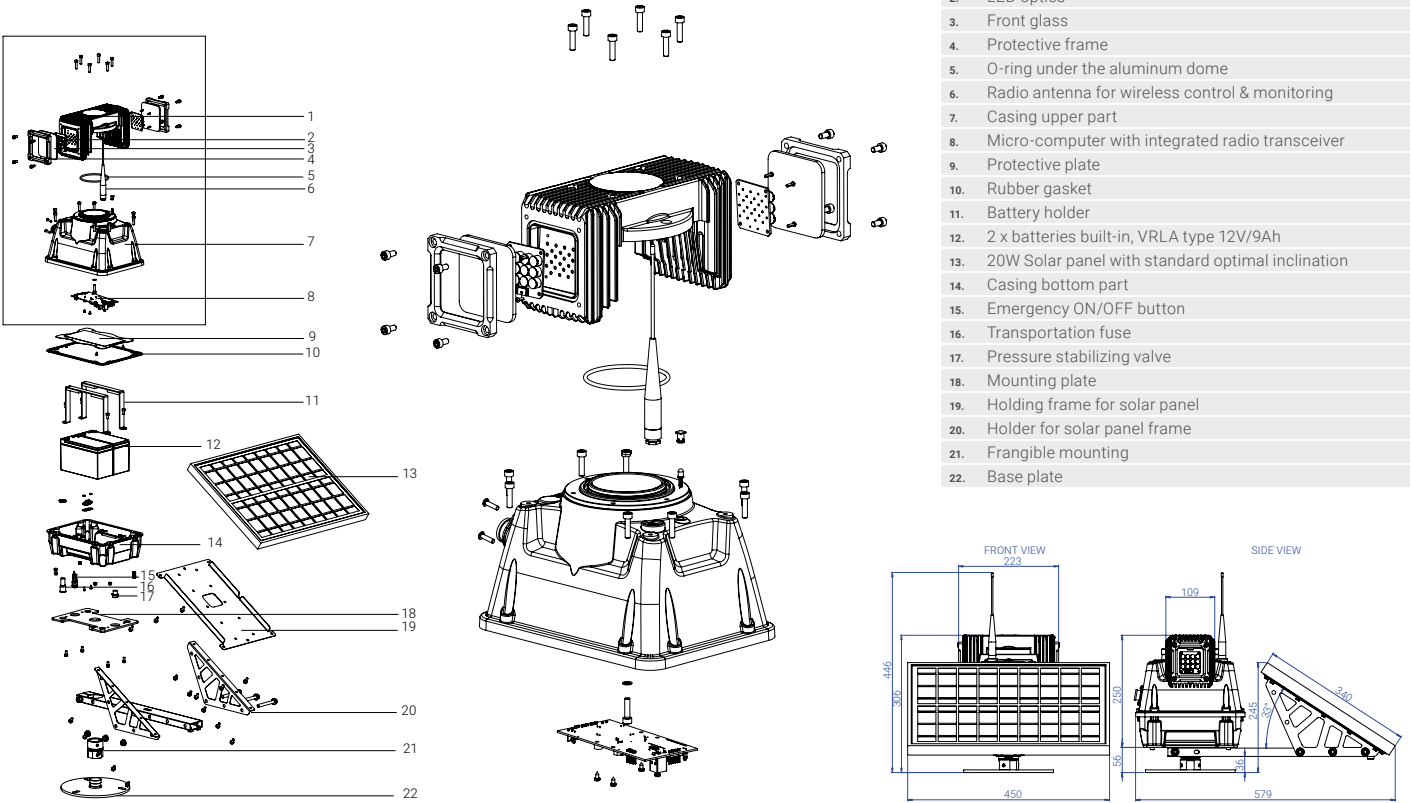
Unidirectional optics; designed for permanent usage on Precision Approach Runways (CAT I, II, III) in regions without access to electricity.

TECHNICAL SPECIFICATIONS

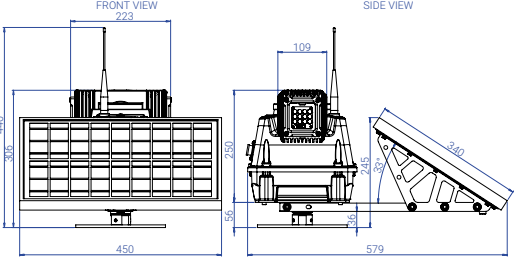
Optics	
	<ul style="list-style-type: none"> • 2.700 cd light output (tested by accredited laboratory) • Uni directional type • LED life span: 100.000 hrs • Maximum power consumption: 5 W • Color: red • User-replaceable
Battery	
Standard battery	<ul style="list-style-type: none"> • 2x built-in batteries, user-replaceable, air transportable • Autonomy: 380 hrs (minimum intensity) • Total capacity: 216W (2x9Ah/12V) • Deep-cycle VRLA, 12V/9Ah (available worldwide) • Lifespan: 1.200 cycles (designed for 4-5 years)
Cyclon battery (Arctic Pack)	<ul style="list-style-type: none"> • 1x built-in battery, user-replaceable, air transportable • Autonomy: 210 hrs (minimum intensity) • Total capacity: 120W (10Ah/12V) • Lifespan: 300 cycles (designed for 10-15 years)
Solar Power Supply	
	<ul style="list-style-type: none"> • 20W solar panel, separately installed • Polycrystalline type (optional: monocrystalline) • Lifespan: 15 years • MPPT-Temp / Built-in inverter 12-36V/2A
Control & Monitoring	
	<ul style="list-style-type: none"> • Wireless mesh type network • Operating frequency: 868 MHz (optional 2.4GHz or 433 Mhz) • Operating range: up to 1.5 km, relayed (each light is a repeater) • Operating Modes: <ul style="list-style-type: none"> Steady / Flashing / Dusk till dawn Visible / Infrared (optional) / Visible + Infrared (optional) • Activation options: <ul style="list-style-type: none"> Via ALCMS Computer Interface (requires UR-201) Via UR-201 Control & Monitoring Unit Via UR-101 Handheld Controller
Casing & Components	
	<ul style="list-style-type: none"> • Materials <ul style="list-style-type: none"> Optical head: aluminum, glass covered by antireflective layer Casing: Lexan polycarbonate, UV-stabilized,color: aviation yellow Mounting: galvanized steel (optional: marine grade stainless steel) Frangible mounting: aluminum (tested by accredited laboratory) • Detachable antenna • Pressure stabilizing valve, transportation fuse • Battery level indicator • Carrying handle (optional) • Casing lifespan: 15 years • Dimensions (LxWxH): 579 mm x 450 mm x 306 mm • Weight: 14,1 kg

Safety & Reliability	
	<ul style="list-style-type: none"> • Five levels of protection against system failure • Secondary power supply: backup battery • Real-time monitoring via ALCMS (Airfield Lighting Control and Monitoring System) • Emergency ON/OFF button
Environmental Conditions	
	<ul style="list-style-type: none"> • Temperature range: -20 to 50 °C (-4 to 122 °F) Optional: -40 to 80 °C (-40 to 176 °F) • Ingress protection: IP-67 (tested by accredited laboratory) • Jet blast resistance: 480 kph (tested by accredited laboratory)
Compliance	
Photometric & Chromaticity	ICAO, Annex 14th, Volume I, 7th Edition dated July 2016. clause 5.3.11.5 & clause 5.3.1.11 (red direction), Appendix 1, Figure A1-1b
Jet Blast Resistance	ICAO, Annex 14th, Volume I, 8th Edition dated July 2018. Doc 9157, Part 6, clause 3.2.2 & clause 4.9.1 FAA AC 150/5345-50B dated September 2007, clause 3.2.2
Frangibility	ICAO Doc 9157 AN901 Aerodrome Design Manual Part 6, 1st Edition dated 2006, clause 4.9 ICAO, Annex 14th, Volume I, 8th Edition dated July 2018, clause 5.3.1.3 FAA AC 150-5345-46E clause 3.4.2.1 FAA AC 150/5220-23, clause 3.2
Secondary Power Supply	ICAO, Annex 14th, Volume I, 7th Edition dated July 2016, clause 8.1.8 - 8.1.9 & clause 8.1.11
CE Declaration of Conformity	2014/53/UE RED Directive, clauses 3.1a, 3.1b, 3.2 2011/65/UE ROHS Directive, clause 4.1
Accredited Laboratory Testing	
Photometric & Chromaticity	Intertek Laboratory
Jet Blast Resistance	Warsaw Institute of Aviation The Laboratory of Aerodynamics
Frangibility	Laborex Research Laboratory
Ingress Protection	EMAG Institute of Innovative Technologies
Electromagnetic Compatibility	Military Institute of Armament Technology

TECHNICAL DRAWING



- 1. Aluminum radiator
- 2. LED optics
- 3. Front glass
- 4. Protective frame
- 5. O-ring under the aluminum dome
- 6. Radio antenna for wireless control & monitoring
- 7. Casing upper part
- 8. Micro-computer with integrated radio transceiver
- 9. Protective plate
- 10. Rubber gasket
- 11. Battery holder
- 12. 2 x batteries built-in, VRLA type 12V/9Ah
- 13. 20W Solar panel with standard optimal inclination
- 14. Casing bottom part
- 15. Emergency ON/OFF button
- 16. Transportation fuse
- 17. Pressure stabilizing valve
- 18. Mounting plate
- 19. Holding frame for solar panel
- 20. Holder for solar panel frame
- 21. Frangible mounting
- 22. Base plate



PHOTOMETRIC PERFORMANCE

9°		Red													SP-401 RUNWAY END CAT I, CAT II, CAT III																				
															TEST AREA			REQUIRED				RESULTS													
8.5°										2011	2082	2133	2161	2130	2051	1940																			
8°										1842	2002	2114	2224	2275	2283	2246	2177	2059																	
7.5°																																			
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V/H	-9	-8	-7,5	-7	-6	-5,5	-5	-4	-3	-2	-1	0	1	2	3	4	5	5,5	6	7	7,5	8	9												

SHIPPING DATA

Item	Dimensions of Package (LxWxH)	Gross Weight
SP-401 Lighting Unit	490 mm x 360 mm x 570 mm	16 kg
SP-401 Lighting Unit, NO BATTERIES	490 mm x 360 mm x 570 mm	10,8 kg