

# SP-401H SOLAR RUNWAY EDGE LIGHT



**HIGH INTENSITY**

**YELLOW/RED**

				<p><b>Compliance:</b>          ICAO Annex 14 Vol. I (8th. Edition, July 2018)          EASA CS-ADR-DSN          FAA AC</p>
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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**

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

**TECHNICAL SPECIFICATIONS**

<p><b>Optics</b></p> <ul style="list-style-type: none"> <li>• 16.000 cd (yellow) / 2.700 cd (red) light output (tested by accredited laboratory)</li> <li>• Bidirectional type</li> <li>• LED lifespan: 100.000 hrs</li> <li>• Maximum power consumption: 45W</li> <li>• Color: yellow / red</li> <li>• User-replaceable</li> </ul>	<p><b>Safety &amp; Reliability</b></p> <ul style="list-style-type: none"> <li>• Five levels of protection against system failure</li> <li>• Secondary power supply: backup battery</li> <li>• Real-time monitoring via ALCMS (Airfield Lighting Control and Monitoring System)</li> <li>• Emergency ON/OFF button</li> </ul>										
<p><b>Battery</b></p> <table border="1"> <tr> <td data-bbox="89 1146 331 1299">Standard battery</td> <td data-bbox="331 1146 794 1299"> <ul style="list-style-type: none"> <li>• 2x built-in batteries, user-replaceable, air transportable</li> <li>• Autonomy: 180 hrs (minimum intensity)</li> <li>• Total capacity: 216W (2x9Ah/12V)</li> <li>• Deep-cycle VRLA, 12V/9Ah (available worldwide)</li> <li>• Lifespan: 1.200 cycles (designed for 4-5 years)</li> </ul> </td> </tr> <tr> <td data-bbox="89 1299 331 1391">Cyclon battery (Arctic Pack)</td> <td data-bbox="331 1299 794 1391"> <ul style="list-style-type: none"> <li>• 1x built-in battery, user-replaceable, air transportable</li> <li>• Autonomy: 100 hrs (minimum intensity)</li> <li>• Total capacity: 120W (10Ah/12V)</li> <li>• Lifespan: 300 cycles (designed for 10-15 years)</li> </ul> </td> </tr> </table>	Standard battery	<ul style="list-style-type: none"> <li>• 2x built-in batteries, user-replaceable, air transportable</li> <li>• Autonomy: 180 hrs (minimum intensity)</li> <li>• Total capacity: 216W (2x9Ah/12V)</li> <li>• Deep-cycle VRLA, 12V/9Ah (available worldwide)</li> <li>• Lifespan: 1.200 cycles (designed for 4-5 years)</li> </ul>	Cyclon battery (Arctic Pack)	<ul style="list-style-type: none"> <li>• 1x built-in battery, user-replaceable, air transportable</li> <li>• Autonomy: 100 hrs (minimum intensity)</li> <li>• Total capacity: 120W (10Ah/12V)</li> <li>• Lifespan: 300 cycles (designed for 10-15 years)</li> </ul>	<p><b>Environmental Conditions</b></p> <ul style="list-style-type: none"> <li>• Temperature range: -20 to 50 °C (-4 to 122 °F) Optional: -40 to 80 °C (-40 to 176 °F)</li> <li>• Ingress protection: IP-67 (tested by accredited laboratory)</li> <li>• Jet Blast Resistance: 480 kph (tested by accredited laboratory)</li> </ul>						
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<p><b>Solar Power Supply</b></p> <ul style="list-style-type: none"> <li>• 20W solar panel, separately installed</li> <li>• Polycrystalline type (optional: monocrystalline)</li> <li>• Lifespan: 15 years</li> <li>• MPPT-Temp / Built-in inverter 12-36V/2A</li> </ul>	<p><b>Compliance</b></p> <table border="1"> <tr> <td data-bbox="794 1243 1098 1366">Photometric &amp; Chromaticity</td> <td data-bbox="1098 1243 1505 1366">ICAO, Annex 14th, Volume I, 7th Edition dated July 2016, clause 5.3.9.10, Figure A2-10 &amp; clause 5.3.1.11, Figure A2-11, Appendix 1, Figure A1-1b</td> </tr> <tr> <td data-bbox="794 1366 1098 1489">Jet Blast Resistance</td> <td data-bbox="1098 1366 1505 1489">ICAO, Annex 14th, Volume I, 8th Edition dated July 2018. Doc 9157, Part 6, clause 3.2.2 &amp; clause 4.9.1 FAA AC 150/5345-50B dated September 2007, clause 3.2.2</td> </tr> <tr> <td data-bbox="794 1489 1098 1680">Frangibility</td> <td data-bbox="1098 1489 1505 1680">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</td> </tr> <tr> <td data-bbox="794 1680 1098 1758">Secondary Power Supply</td> <td data-bbox="1098 1680 1505 1758">ICAO, Annex 14th, Volume I, 7th Edition dated July 2016, clause 8.1.8 - 8.1.9 &amp; clause 8.1.11</td> </tr> <tr> <td data-bbox="794 1758 1098 1848">CE Declaration of Conformity</td> <td data-bbox="1098 1758 1505 1848">2014/53/EU RED Directive, clauses 3.1a, 3.1b, 3.2 2011/65/EU ROHS Directive, clause 4.1</td> </tr> </table>	Photometric & Chromaticity	ICAO, Annex 14th, Volume I, 7th Edition dated July 2016, clause 5.3.9.10, Figure A2-10 & clause 5.3.1.11, Figure A2-11, 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/EU RED Directive, clauses 3.1a, 3.1b, 3.2 2011/65/EU ROHS Directive, clause 4.1
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<p><b>Control &amp; Monitoring</b></p> <ul style="list-style-type: none"> <li>• Wireless mesh type network</li> <li>• Operating frequency: 868 MHz (optional 2.4GHz or 433 Mhz)</li> <li>• Operating range: up to 1.5 km, relayed (each light is a repeater)</li> <li>• Operating Modes: Steady / Flashing / Dusk till dawn Visible / Infrared (optional) / Visible + Infrared (optional)</li> <li>• Activation options: Via ALCMS Computer Interface (requires UR-201) Via UR-201 Control &amp; Monitoring Unit Via UR-101 Handheld Controller</li> </ul>											
<p><b>Casing &amp; Components</b></p> <ul style="list-style-type: none"> <li>• Materials 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)</li> <li>• Detachable antenna</li> <li>• Pressure stabilizing valve, transportation fuse</li> <li>• Battery level indicator</li> <li>• Carrying handle (optional)</li> <li>• Casing lifespan: 15 years</li> <li>• Dimensions (LxWxH): 579 mm x 450 mm x 306 mm</li> <li>• Weight: 14,1 kg</li> </ul>	<p><b>Accredited Laboratory Testing</b></p> <table border="1"> <tr> <td data-bbox="794 1848 1098 1926">Photometric &amp; Chromaticity</td> <td data-bbox="1098 1848 1505 1926">Intertek Laboratory</td> </tr> <tr> <td data-bbox="794 1926 1098 1993">Jet Blast Resistance</td> <td data-bbox="1098 1926 1505 1993">Warsaw Institute of Aviation The Laboratory of Aerodynamics</td> </tr> <tr> <td data-bbox="794 1993 1098 2027">Frangibility</td> <td data-bbox="1098 1993 1505 2027">Laborex Research Laboratory</td> </tr> <tr> <td data-bbox="794 2027 1098 2072">Ingress Protection</td> <td data-bbox="1098 2027 1505 2072">EMAG Institute of Innovative Technologies</td> </tr> <tr> <td data-bbox="794 2072 1098 2103">Electromagnetic Compatibility</td> <td data-bbox="1098 2072 1505 2103">Military Institute of Armament Technology</td> </tr> </table>	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
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