WORLD’S SAFEST RUNWAY LIGHTING

SOLAR LED RUNWAY LIGHTING FOR NON-PRECISION AIRPORTS

PORTABLE AIRFIELD LIGHTING TRAILER FOR MILITARY AND CIVIL
ABOUT S4GA

S4GA is a Government-owned company that designs, manufactures and supplies world’s safest runway lighting for Non-Precision Airports. S4GA Lighting Systems are compliant with ICAO standards and certified by INTERTEK.

OUR APPLICATIONS

Thessaloniki International Airport, Greece
Dhaalu Airport, Maldives
Jijiga Airport, Ethiopia
Military Airbase, Libya
Military Airbase, Argentina
Mining Company Airport, Ivory Coast
Chartres – Champhol Aerodrome, France
Domestic Airports, Seychelles
Domestic Airports, Sierra Leone
Domestic Airports, Europe

OUR SOLUTIONS

FOR NON-PRECISION AIRPORTS Complete permanent solar LED airfield lighting system

FOR AIRPORT CONSTRUCTION Temporary airport lighting

TRAILER FOR MILITARY & CIVIL Portable airfield lighting trailer

FOR HELIPADS Portable helipad lighting

BECOME S4GA PARTNER

S4GA is open for a long-term partnership with reliable companies doing business on local markets. For airport systems integrators, we offer full training and technical project support.

TRAINING
Product training in your country
Product training in S4GA office in Poland
Online training materials for your engineers

PROJECT DELIVERY SUPPORT
On-site project supervision
Online technical support and consulting
Meetings with End Customer

AFTER-SALES SUPPORT
Installation manuals
Online technical support
Troubleshooting materials

TROUBLE SHOOTING MATERIALS
Troubleshooting manuals
Online webinars
Video tutorials
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COMPLETE SOLAR LED RUNWAY LIGHTING FOR NON-PRECISION AIRPORTS

— SOLUTION: COMPLETE LIGHTING SYSTEM

AIRFIELD LIGHTING  
SOLAR PAPI  
AGL CONTROL AND MONITORING  
SOLAR POWER SUPPLY  
SOLAR WDI

— APPLICATION: NON-PRECISION AIRPORT

For Non-Precision Airports with increasing flight traffic, located in remote regions with high photovoltaic potential and unavailable electrical infrastructure, we offer a complete solar powered LED runway lighting system compliant with ICAO standards and certified by INTERTEK.
SP-401 LED ELEVATED RUNWAY EDGE LIGHT

MEDIUM INTENSITY

TECHNICAL SPECIFICATIONS

**Optics**
- 1.200 cd light output
- Combined type, omnidirectional and bidirectional
- LED lifespan: 100,000 hrs
- Maximum power consumption: 9W
- NVG-compatible (optional)
- Color: white / white, white / yellow, white / red, red / yellow
- User-replaceable

**Battery**
- 2 x built-in batteries
- Autonomy: 180 hrs (minimum intensity)
- Total capacity: 216W (2x9Ah/12V)
- Lifespan: 216 cycles
- Designed for 4.5 years
- Air transportable
- User-replaceable
- Standard type, available worldwide

**Solar Power Supply**
- 20W solar panel, separately installed
- Poly- or monocrystalline type
- Standard optimal inclination (upon request)
- Lifespan: 15 years
- Built-in inverter 12-36V/2A

**Certification**
- ICAO, Annex 14th, Volume 1, 7th Edition dated July 2016, clause 5.3.9.9 & Appendix I, Figure A1-1b

**Operating Modes**
- Steady / Flashing / Dusk till dawn
- Visible / Infrared (optional) / Visible + Infrared (optional)

**Control & Monitoring**
- Wireless mesh type network
- Up to 1.5 km operating range
- Activation options:
  - Via UR-201 Control & Monitoring Unit
  - Via ALCMS Computer Interface
  - Via UR-101 Handheld Controller
- Emergency ON/OFF button
- Self-diagnostics
- Real-time monitoring via ALCMS (Airfield Lighting Control and Monitoring System)

**Environmental Conditions**
- Temperature range: -20 to 50 ºC (-4 to 122 ºF)
- Ingress protection: IP-67
- Wind Speed: 160 kph

**Casing And Components**
- Casing made of UV-stabilized Lexan polycarbonate
- Outer UV-resistant glass dome
- Detachable antenna
- Pressure stabilizing valve: yes
- Battery level indicator: yes
- Carrying handle (optional)
- Casing lifespan: 15 years
- Casing color: aviation yellow
- Frangible mounting compliant with ICAO regulations
- Dimensions (LxWxH): 528 mm x 450 mm x 442 mm
- Weight: 12.4 kg

APPLICATION

Medium intensity, combined optics (bi- and omnidirectional); designed for permanent usage at Non-Precision Runways located in regions without access to electricity and high photovoltaic potential.
## TECHNICAL DRAWING

1. Aluminum adapter for glass dome
2. Rubber protection
3. Glass dome
4. LED optics, combined type omni- and bidirectional
5. Radio antenna for wireless control & monitoring
6. Micro-computer with integrated radio transceiver
7. Rubber protection
8. UV-stabilized Lexan polycarbonate casing
9. Emergency ON/OFF button
10. Charging port for solar panel
11. Protective plate
12. 2 x batteries built-in, VRLA type 12V/9Ah
13. 20W Solar panel with standard optimal inclination
14. Frangible mounting
15. Solar holder

---

## PHOTOMETRIC PERFORMANCE

### White Direction 1
- Average Intensity 750 cd
- Average Intensity 950 cd
- Average Intensity 1,200 cd

### White Direction 2
- Average Intensity 750 cd
- Average Intensity 950 cd
- Average Intensity 1,200 cd

---

## SHIPPING DATA

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimensions of Package (LxWxH)</th>
<th>Gross Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP-401 Lighting Unit with accessories</td>
<td>600 mm x 400 mm x 360 mm</td>
<td>13 kg</td>
</tr>
</tbody>
</table>
SP-401 LED ELEVATED RUNWAY THRESHOLD END LIGHT

FEATURES
- Operates 365 days on solar energy
- Wireless mesh control
- 280 hrs of light autonomy

APPLICATION
Bidirectional optics; designed for permanent usage at Non-Precision Runways located in regions without access to electricity and high photovoltaic potential.

TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Optics</th>
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</tr>
</thead>
<tbody>
<tr>
<td>320(red)/450(green) cd light output</td>
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<tr>
<td>Bidirectional, unidirectional type</td>
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<tr>
<td>LED lifespan: 100.000 hrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum power consumption: 1.8 W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NVG-compatible (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color: red/green, red, green</td>
<td></td>
<td></td>
</tr>
<tr>
<td>User-replaceable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Battery</th>
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</thead>
<tbody>
<tr>
<td>2 x built-in batteries</td>
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<td></td>
</tr>
<tr>
<td>Autonomy: 280 hrs (minimum intensity)</td>
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<td></td>
</tr>
<tr>
<td>Total capacity: 216W (2x9Ah/12V)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deep-cycle VRLA, 12V/9Ah</td>
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<td></td>
</tr>
<tr>
<td>Lifespan: 1,200 cycles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Designed for 4-5 years</td>
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<tr>
<td>Air transportable</td>
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</tr>
<tr>
<td>User-replaceable</td>
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<tr>
<td>Standard type, available worldwide</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Solar Power Supply</th>
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</thead>
<tbody>
<tr>
<td>20W solar panel, separately installed</td>
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<td></td>
</tr>
<tr>
<td>Poly- or monocrystalline type</td>
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<td></td>
</tr>
<tr>
<td>Standard optimal inclination (upon request)</td>
<td></td>
<td></td>
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<tr>
<td>Lifespan: 15 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Built-in inverter 12-36V/2A</td>
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<td>ICAO, Annex 14th, Volume I, 7th Edition dated July 2016, clause 5.3.10.9/5.3.11.4 &amp; Appendix 1, Figure A1-1b</td>
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<thead>
<tr>
<th>Operating Modes</th>
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<tbody>
<tr>
<td>Steady / Flashing / Dusk till dawn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visible / Infrared (optional) / Visible + infrared (optional)</td>
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</table>

<table>
<thead>
<tr>
<th>Control &amp; Monitoring</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Wireless mesh type network</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to 1.5 km operating range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activation options:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Via UR-201 Control &amp; Monitoring Unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Via ALCMS Computer Interface</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Via UR-101 Handheld Controller</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency ON/OFF button</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-diagnostics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real-time monitoring via ALCMS (Airfield Lighting Control and Monitoring System)</td>
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<td></td>
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<table>
<thead>
<tr>
<th>Environmental Conditions</th>
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</thead>
<tbody>
<tr>
<td>Temperature range: -20 to 50 ºC (-4 to 122 ºF)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingress protection: IP-67</td>
<td></td>
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<tr>
<td>Wind Speed: 160 kph</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Casing And Components</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing made of UV-stabilized Lexan polycarbonate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outer UV-resistant glass dome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detachable antenna</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure stabilizing valve: yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battery level indicator: yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrying handle (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casing lifespan: 15 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casing color: aviation yellow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frangible mounting compliant with ICAO regulations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions (LxWxH): 528 mm x 450 mm x 442 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight: 12,4 kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**TECHNICAL DRAWING**

1. Aluminum adapter for glass dome
2. Rubber protection
3. Glass dome
4. LED optics, bi- or unidirectional type
5. Radio antenna for wireless control & monitoring
6. Micro-computer with integrated radio transceiver
7. Rubber protection
8. UV-stabilized Lexan polycarbonate casing
9. Emergency ON/OFF button
10. Charging port for solar panel
11. Protective plate
12. 2 x batteries built-in, VRLA type 12V/9Ah
13. 20W Solar panel with standard optimal inclination
14. Frangible mounting
15. Solar holder

**PHOTOMETRIC PERFORMANCE**

- Red Direction
  - Average Intensity 30 cd
  - Average Intensity 70 cd
  - Average Intensity 320 cd

- Green Direction
  - Average Intensity 60 cd
  - Average Intensity 90 cd
  - Average Intensity 450 cd

**SHIPPING DATA**

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<td>SP-401 Lighting Unit with accessories</td>
<td>600 mm x 400 mm x 360 mm</td>
<td>13 kg</td>
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</tbody>
</table>
SP-401 LED ELEVATED APPROACH LIGHT

TECHNICAL SPECIFICATIONS

Optics
- 1.200 cd light output
- Unidirectional type
- LED lifespan: 100,000 hrs
- Maximum power consumption: 3.9W
- NVG-compatible (optional)
- Color: white
- User-replaceable

Battery
- 2 x built-in batteries
- Autonomy: 180 hrs (minimum intensity)
- Total capacity: 216W (2x9Ah/12V)
- Deep-cycle VRLA, 12V/9Ah
- Lifespan: 1,200 cycles
- Designed for 4-5 years
- Air transportable
- User-replaceable
- Standard type, available worldwide

Solar Power Supply
- 20W solar panel, separately installed
- Poly- or monocrystalline type
- Standard optimal inclination (upon request)
- Lifespan: 15 years
- Built-in inverter 12-36V/2A

Certification
- ICAO, Annex 14th, Volume I, 7th Edition dated July 2016, clause 5.3.9.9 & Appendix 1, Figure A1-1b

Operating Modes
- Steady / Flashing / Dusk till dawn
- Visible / Infrared (optional) / Visible + infrared (optional)

Control & Monitoring
- Wireless mesh type network
- Up to 1.5 km operating range
- Activation options:
  - Via UR-201 Control & Monitoring Unit
  - Via ALCMS Computer Interface
  - Via UR-101 Handheld Controller
- Emergency ON/OFF button
- Self-diagnostics
- Real-time monitoring via ALCMS (Airfield Lighting Control and Monitoring System)

Environmental Conditions
- Temperature range: -20 to 50 ºC (-4 to 122 ºF)
- Ingress protection: IP-67
- Wind Speed: 160 kph

Casing And Components
- Casing made of UV-stabilized Lexan polycarbonate
- Outer UV-resistant glass dome
- Detachable antenna
- Pressure stabilizing valve: yes
- Battery level indicator: yes
- Carrying handle (optional)
- Casing lifespan: 15 years
- Casing color: aviation yellow
- Frangible mounting compliant with ICAO regulations
- Dimensions (LxWxH): 528 mm x 450 mm x 442 mm
- Weight: 12.4 kg

APPLICATION
Unidirectional optics; designed for permanent usage at Non-Precision Runways located in regions without access to electricity and high photovoltaic potential.
TECHNICAL DRAWING

PHOTOMETRIC PERFORMANCE

1. Aluminum adapter for glass dome
2. Rubber protection
3. Glass dome
4. LED optics, unidirectional type
5. Radio antenna for wireless control & monitoring
6. Micro-computer with integrated radio transceiver
7. Rubber protection
8. UV-stabilized Lexan polycarbonate casing
9. Emergency ON/OFF button
10. Charging port for solar panel
11. Protective plate
12. 2 x batteries built-in, VRLA type 12V/9Ah
13. 20W Solar panel with standard optimal inclination
14. Frangible mounting
15. Solar holder

Gross Weight: 13 kg
Dimensions of Package (LxWxH): 600 mm x 400 mm x 360 mm

Item | Dimensions of Package (LxWxH) | Gross Weight
--- | --- | ---
SP-401 Lighting Unit with accessories | 600 mm x 400 mm x 360 mm | 13 kg
## TECHNICAL SPECIFICATIONS

### Optics
- 11 cd light output (peak)
- Omnidirectional type
- LED lifespan: 100,000 hrs
- Maximum power consumption: 0,6 W
- NVG-compatible (optional)
- Color: blue
- User-replaceable

### Battery
- 2 x built-in batteries
- Autonomy: 600 hrs (minimum intensity)
- Total capacity: 216W (2x9Ah/12V)
- Deep-cycle VRLA, 12V/9Ah
- Lifespan: 1.200 cycles
- Designed for 4-5 years
- Air transportable
- User-replaceable
- Standard type, available worldwide

### Solar Power Supply
- 20W solar panel, separately installed
- Poly- or monocrystalline type
- Standard optimal inclination (upon request)
- Lifespan: 15 years
- Built-in inverter 12-36V/2A

### Compliance

### Operating Modes
- Steady / Flashing / Dusk till dawn
- Visible / Infrared (optional) / Visible + Infrared (optional)

### Control & Monitoring
- Wireless mesh type network
- Up to 1.5 km operating range
- Activation options:
  - Via UR-201 Control & Monitoring Unit
  - Via ALCMS Computer Interface
  - Via UR-101 Handheld Controller
- Emergency ON/OFF button
- Self-diagnostics
- Real-time monitoring via ALCMS (Airfield Lighting Control and Monitoring System)

### Environmental Conditions
- Temperature range: -20 to 50 ºC (-4 to 122 ºF)
- Ingress protection: IP-67
- Wind Speed: 160 kph

### Casing And Components
- Casing made of UV-stabilized Lexan polycarbonate
- Outer UV-resistant glass dome
- Detachable antenna
- Pressure stabilizing valve: yes
- Battery level indicator: yes
- Carrying handle (optional)
- Casing lifespan: 15 years
- Casing color: aviation yellow
- Frangible mounting compliant with ICAO regulations
- Dimensions (LxWxH): 528 mm x 450 mm x 442 mm
- Weight: 12,4 kg

### FEATURES
- Operates 365 days on solar energy
- Wireless mesh control
- 600 hrs of light autonomy

### APPLICATION
Omnidirectional optics; designed for permanent usage at Non-Precision Runways located in regions without access to electricity and high photovoltaic potential.
1. Aluminum adapter for glass dome
2. Rubber protection
3. Glass dome
4. LED optics, omnidirectional type
5. Radio antenna for wireless control & monitoring
6. Micro-computer with integrated radio transceiver
7. Rubber protection
8. UV-stabilized Lexan polycarbonate casing
9. Emergency ON/OFF button
10. Charging port for solar panel
11. Protective plate
12. 2 x batteries built-in, VRLA type 12V/9Ah
13. 20W Solar panel with standard optimal inclination
14. Frangible mounting
15. Solar holder

**TECHNICAL DRAWING**

**PHOTOMETRIC PERFORMANCE**

**SHIPPING DATA**

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimensions of Package (LxWxH)</th>
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<tbody>
<tr>
<td>SP-401 Lighting Unit with accessories</td>
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<td>13 kg</td>
</tr>
</tbody>
</table>
SP-401 LED ELEVATED OBSTRUCTION LIGHT

TYPE A LOW INTENSITY

Compliance:

FEATURES
- Operates 365 days on solar energy
- Wireless mesh control
- 280 hrs of light autonomy

APPLICATION
Low intensity obstruction aviation light; designed for usage as Obstacle light in Airports or Helipads located in regions without access to electricity and high photovoltaic potential.

TECHNICAL SPECIFICATIONS

Optics
- 37 cd light output (peak)
- Omnidirectional type
- LED lifespan: 100,000 hrs
- Maximum power consumption: 1.8 W
- NVG-compatible (optional)
- Color: red
- User-replaceable

Battery
- 2 x built-in batteries
- Autonomy: 280 hrs (minimum intensity)
- Total capacity: 216W (2x9Ah/12V)
- Deep-cycle VRLA, 12V/9Ah
- Lifespan: 1,200 cycles
- Designed for 4-5 years
- Air transportable
- User-replaceable
- Standard type, available worldwide

Solar Power Supply
- 20W solar panel, separately installed
- Poly- or monocrystalline type
- Standard optimal inclination (upon request)
- Lifespan: 15 years
- Built-in inverter 12-36V/2A

Certification
- ICAO, Annex 14th, Volume I, 7th Edition dated July 2016, Table 6-2 & Appendix 1, Figure A1-1b

Operating Modes
- Steady / Flashing / Dusk till dawn
- Visible / Infrared (optional) / Visible + Infrared (optional)

Control & Monitoring
- Wireless mesh type network
- Up to 1.5 km operating range
- Activation options:
  - Via UR-201 Control & Monitoring Unit
  - Via ALCMS Computer Interface
  - Via UR-101 Handheld Controller
- Emergency ON/OFF button
- Self-diagnostics
- Real-time monitoring via ALCMS (Airfield Lighting Control and Monitoring System)

Environmental Conditions
- Temperature range: -20 to 50 ºC (-4 to 122 ºF)
- Ingress protection: IP-67
- Wind Speed: 160 kph

Casing And Components
- Casing made of UV-stabilized Lexan polycarbonate
- Outer UV-resistant glass dome
- Detachable antenna
- Pressure stabilizing valve: yes
- Battery level indicator: yes
- Carrying handle (optional)
- Casing lifespan: 15 years
- Casing color: aviation yellow
- Frangible mounting compliant with ICAO regulations
- Dimensions (LxWxH): 528 mm x 450 mm x 442 mm
- Weight: 12.4 kg
1. Aluminum adapter for glass dome
2. Rubber protection
3. Glass dome
4. LED Optics, omnidirectional type
5. Radio antenna for wireless control & monitoring
6. Micro-computer with integrated radio transceiver
7. Rubber protection
8. UV-stabilized Lexan polycarbonate casing
9. Emergency ON/OFF button
10. Charging port for solar panel
11. Protective plate
12. 2 x batteries built-in, VLRA type 12V/9Ah
13. 20W Solar panel with standard optimal inclination
14. Frangible mounting
15. Solar holder

**PHOTOMETRIC PERFORMANCE**

![Graph showing photometric performance comparison]

**SHIPPING DATA**

<table>
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<tr>
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<td>600 mm x 400 mm x 360 mm</td>
<td>13 kg</td>
</tr>
</tbody>
</table>
# SOLAR PAPI
## PRECISION APPROACH PATH INDICATOR

### FEATURES
- Simple Design
- Sharp Color Transition
- Controlled Positioning
- User-Replaceable Optic Elements
- Corrosion Resistant

### TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Optics</th>
<th>Power Supply</th>
<th>Wireless Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Two-projector PAPI unit</td>
<td>• Solar power supply (check Solar Engine brochure)</td>
<td>• Via UR-201 Control &amp; Monitoring Unit</td>
</tr>
<tr>
<td>• Halogen lamp standard type 200W, PK30d</td>
<td>• 230 VAC (requires PAPI Controller)</td>
<td>• Via UR-101 Handheld Controller</td>
</tr>
<tr>
<td>• Vertical adjustment: 0 - 10°</td>
<td>• Optional 6.6A electrical power supply</td>
<td>• Via ALCMS Computer Interface</td>
</tr>
<tr>
<td>• Transition: Better than 3 minutes of arc on beam axis</td>
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<td></td>
</tr>
<tr>
<td>• Filter: Dichroic on borosilicate glass Signal Red to BS 1376</td>
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</tr>
<tr>
<td>• Azimuth range: +8˚ (ICAO), +10˚ (FAA) or +15˚ (CAP 168)</td>
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<td></td>
</tr>
</tbody>
</table>

### Environmental Conditions
- Temperature range: -20 to 50 ºC (-4 to 122 ºF)
- Ingress protection: IP-65
- Wind Speed: 160 kph

### Casing And Components
- PROJECTORS: 1.6mm aluminium sheet, black anodized external surface of covers aviation yellow epoxy paint
- FASTENERS: stainless steel, monel
- BASES: Cast aluminium, heat treated and stabilised, black anodised finish
- PILLAR COUPLING: Malleable iron, hot dipped zinc coated
- SUPPORT PILLARS: Aluminium alloy tubing, natural anodised
- FRANGIBLE FOOT: Cast aluminium, natural anodised
- BALL JOINTS: Glass filled black nylon
- Color: aviation yellow

### Compliance
- User-Replaceable Optic Elements
- Corrosion Resistant

### APPLICATION
Halogen two-projector PAPI with solar power supply; designed for permanent usage at Non-Precision Runways located in regions with unavailable electrical infrastructure and high photovoltaic potential.

### PAPI VISUAL INDICATION

- TOO HIGH
- SLIGHTLY HIGH
- ON GLIDE PATH
- SLIGHTLY LOW
- TOO LOW
PHOTOMETRIC PERFORMANCE

White/Red Light emitted Luminous intensity (cd)

<table>
<thead>
<tr>
<th>Angle (°)</th>
<th>0</th>
<th>0.5</th>
<th>1</th>
<th>1.5</th>
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<th>4</th>
<th>5</th>
<th>6</th>
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<td>178920</td>
<td>35400</td>
<td>17040</td>
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<td>3.5</td>
<td>351620</td>
<td>176400</td>
<td>35240</td>
<td>17000</td>
<td>49000</td>
<td>65310</td>
<td>65290</td>
<td>46500</td>
<td>49690</td>
<td>49340</td>
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<tr>
<td>3</td>
<td>346920</td>
<td>174000</td>
<td>35000</td>
<td>17000</td>
<td>48900</td>
<td>65230</td>
<td>65210</td>
<td>46430</td>
<td>49630</td>
<td>49290</td>
</tr>
<tr>
<td>2.5</td>
<td>341420</td>
<td>171200</td>
<td>34120</td>
<td>16860</td>
<td>48700</td>
<td>65140</td>
<td>65140</td>
<td>46360</td>
<td>49550</td>
<td>49240</td>
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<tr>
<td>2</td>
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<td>33730</td>
<td>16800</td>
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<td>1.5</td>
<td>333600</td>
<td>164600</td>
<td>33450</td>
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<td>48500</td>
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<td>49140</td>
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<tr>
<td>1</td>
<td>330320</td>
<td>161200</td>
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<td>16700</td>
<td>48300</td>
<td>64960</td>
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<td>327500</td>
<td>158000</td>
<td>33100</td>
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<td>49410</td>
<td>49060</td>
</tr>
</tbody>
</table>

Transition

<table>
<thead>
<tr>
<th>Item</th>
<th>Minimum Intensity for cone to ±2.0° (head) and ±2.0° (sent)</th>
<th>Minimum Intensity for cone to ±4.0° (head) and ±2.0° (sent)</th>
<th>Minimum Intensity for cone to ±6° (head) and ±3° (sent)</th>
<th>Minimum Intensity for cone to ±8° (head) and ±3.5° (sent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zone 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zone 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zone 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Zones for ICAO Annex 14, Vol 1 (2013), Fig A2-23 shown

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimensions of Package (LxWxH)</th>
<th>Gross Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAPI, 4 x Projector Unit</td>
<td>560 x 650 x 750 mm</td>
<td>52 kg</td>
</tr>
<tr>
<td>Clinometer</td>
<td>360 x 290 x 100 mm</td>
<td>1 kg</td>
</tr>
</tbody>
</table>
**SOLAR WIND DIRECTION INDICATOR**

**APPLICATION**

SAGA WDI is airport windsock compliant with ICAO standards; designed for permanent usage at Non-Precision Runways located in regions with unavailable electrical infrastructure and high photovoltaic potential.

**FEATURES**

- Easy Installation
- Weather Resistant
- Illuminated, Solar Powered

**TECHNICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Physical</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• MAST: Height 7.40 m (adjustable)</td>
<td></td>
</tr>
<tr>
<td>Reinforced mast: yes</td>
<td></td>
</tr>
<tr>
<td>• WIND SOCK: Dimensions 100 x 450 cm</td>
<td></td>
</tr>
<tr>
<td>Color: Red/White</td>
<td></td>
</tr>
<tr>
<td>Swivel Frame: yes</td>
<td></td>
</tr>
<tr>
<td>• Protection: galvanized steel</td>
<td></td>
</tr>
<tr>
<td>• Mounting: anchorage block</td>
<td></td>
</tr>
<tr>
<td>• Braces dimensions: 3x120 cm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Illumination</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Internal lighting</td>
<td></td>
</tr>
<tr>
<td>• Obstruction light: type A LED obstacle light installed on top of the mast</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power Supply</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• SOLAR ENGINE 280W solar panel</td>
<td></td>
</tr>
<tr>
<td>2 x batteries 100Ah/12V</td>
<td></td>
</tr>
<tr>
<td>• 230 VAC power supply (optional)</td>
<td></td>
</tr>
<tr>
<td>• 6.6 A electrical grid (optional)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental Conditions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Minimum temperature: -60ºC</td>
<td></td>
</tr>
<tr>
<td>• Humidity: 100%</td>
<td></td>
</tr>
<tr>
<td>• Wind Speed: 160 kph</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Certification</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• CE-EN60947-1</td>
<td></td>
</tr>
<tr>
<td>• CEI60364, NF G15-100</td>
<td></td>
</tr>
<tr>
<td>• 2014/35/UE</td>
<td></td>
</tr>
<tr>
<td>• ISO 9001:2008</td>
<td></td>
</tr>
</tbody>
</table>
TECHNICAL DRAWING

WIND DIRECTION INDICATOR PHOTOS

1. WIND SOCK
2. LED OBSTACLE LIGHT
3. INTERNAL LIGHT
4. REINFORCED MAST
5. ANCHORAGE BLOCK
6. SOLAR ENGINE
7. CONCRETE FOUNDATIONS
UR-201 CONTROL AND MONITORING UNIT

FEATURES
- Airfield Lighting Control Panel
- Automatic Failure Alarm via SMS
- Remote Activation of Airfield Lighting (via SMS, via VHF)
- Remote Airfield Lighting Diagnostics

CE COMPLIANCE
- 2014/35/UE
- 2014/30/UE
- 2011/65/UE

UR-201 Control & Monitoring Unit is a hardware element of S4GA ALCMS. It is designed to provide User with ability to remotely control and monitor S4GA Solar LED Runway Lighting.

UR-201 Unit can be optionally equipped with computer-based ALCMS offering real-time individual light monitoring (check ALCMS Basic, ALCMS Advanced product brochures)
**TECHNICAL SPECIFICATIONS**

**Control & Monitoring**
- Adjust lighting intensity: Yes
- Select operating mode: Yes
- Remote monitoring of the SP-401 unit(s) key parameters: Yes
- Automatic failure alarm (via SMS): Battery level of any lighting unit drops below 30%
- Any lighting unit stops responding to UR-201
- Power supply of UR-201 Units stops

**Communication between Remote Control Unit and the Lights**
- Type: Wireless
- Operating Range: Up to 1,500 meters
- Radio transceiver (frequency/power output): 868 MHz, 16 mW
- External antenna: Yes

**External Switches**
- On / Off: Yes
- Light intensity: Yes, 3 (1 for each group)
- Operating mode: Yes, 3 (1 for each group)
- Timer: Yes
- Remote: Yes

**Power Source**
- Primary power source: 90 – 240 VAC
- Back-up power source: Battery 18Ah, 12V
- Back-up battery operating time: 24 hrs

**Remote Activation**
- VHF (pilot radio): Yes
- GSM (cell phone): Yes

**Lighting Protection**
- Separate lightning arrester: Yes
- Lightning arrester grounding: Yes

**External Ports**
- VHF antenna: Yes
- Lighting system antenna: Yes
- GSM antenna: Yes
- USB: Yes
- HDMI: Yes

**ACCESSORIES INCLUDED**

**CABLES**
- • VHF cable, length 10 m
- • 868 MHz cable, length 10 m

**ANTENNAS**
- • 868 MHz antenna
- • GSM Antenna 3G/4G
- • VHF antenna comet AB380

**SHIPPING DATA**

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimensions of Package (LxWxH)</th>
<th>Gross Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>UR-201 Unit</td>
<td>650 mm x 510 mm x 350 mm</td>
<td>18 kg</td>
</tr>
<tr>
<td>Accessories (cables, antennas)</td>
<td>1500 mm x 100 mm x 20 mm</td>
<td>8 kg</td>
</tr>
</tbody>
</table>
ALCMS BASIC

AIRFIELD LIGHTING CONTROL & MONITORING SYSTEM

SYSTEM OVERVIEW

S4GA ALCMS is an Airfield Lighting Control and Monitoring System designed to provide full remote control and monitoring of solar LED runway lighting from the TWR or maintenance room. S4GA ALCMS consists of Computer Interface integrated in UR-201 Control and Monitoring Unit. It features open interface for integrating with existing AGL control system.

FEATURES

• Individual Light Status Display
• 3 Groups of Lights
• 3-step Light Intensity Setup
• Operating Mode Setup

CONTROL

• Grouping of entire airfield lighting in 3 major groups
• Control of entire lighting system and groups of lights
• 3-step intensity level setup for a particular group of runway lights and PAPI
• Operating modes setup: flashing, dusk-till-dawn, pilot-activated, GSM-activated
• Timer setup (for pilot-activated and GSM-activated modes)

ALCMS Basic is designed for airports with simple runway lighting system. Typically, it includes a runway and one taxiway leading to an apron. ALCMS Basic allows to control entire system and groups of lights separately (e.g. runway, threshold and taxiway lights) as well as report about individual light statuses.

• Real-time monitoring YES
• Automatic failure alarm YES
• Operating mode setup YES
• Individual light status indication YES
• Grouping of airfield lights 3
• Light intensity steps 3
• Separate taxiways control N/A
• Airfield layout N/A

For airports with more advanced AGL system (including multiple taxiways, approach lighting, temporarily closed areas), S4GA offers ALCMS Advanced.
### MONITORING

- Real-time individual light status monitoring: battery level, charging speed, temperature, operating status, charging efficiency of solar panel
- Monitoring of UR-201 Control Module: GSM signal strength, back-up battery level, power connection
- Immediate light failure detection and report: light unavailable, critical battery level
- Color indication of current status in 4 monitored areas: Lamps, Power, GSM, VHF
- Color indication of current light status:
  - RED: LAMP IS OFFLINE
  - AMBER: THE BATTERY LEVEL IS BELOW 30%
  - GREY: THE UNIT IS 100% OPERATIONAL

### ADMIN MANAGEMENT

- Adding, editing and deleting users
- Setting/changing passwords
- 3 levels of access: Master, Admin, User

### ACCESSORIES INCLUDED

- HDMI cable
- Power cable
- Wireless set: keyboard + mouse
- 24' TV Monitor

### SHIPPING DATA

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimensions of Package (LxWxH)</th>
<th>Gross Weight</th>
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<tbody>
<tr>
<td>ALCMS Set (24' screen, cables, keyboard, mouse)</td>
<td>620 mm x 205 mm x 460 mm</td>
<td>10 kg</td>
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</table>
ALCMS ADVANCED
AIRFIELD LIGHTING
CONTROL & MONITORING SYSTEM

SYSTEM OVERVIEW
S4GA ALCMS is an Airfield Lighting Control and Monitoring System designed to provide full remote control and monitoring of solar LED runway lighting from the TWR or maintenance room. S4GA ALCMS consists of Computer Interface integrated in UR-201 Control and Monitoring Unit. It features open interface for integrating with existing AGL control system.

FEATURES
- Custom Airfield Layout
- Individual Light Status Display
- Custom Grouping of Lights
- 5-step Light Intensity Setup
- Operating Mode Setup

CONTROL
- Grouping of entire airfield lighting in major groups
- Control of entire lighting system and groups of lights
- Individual control of separate taxiways
- 5-step intensity level setup for a particular group of lights
- Operating modes setup: flashing, dusk-till-dawn, pilot-activated, GSM-activated
- Timer setup (for pilot-activated and GSM-activated modes)

ALCMS Advanced is designed for airports with advanced AGL system (including multiple taxiways, approach lighting, temporarily closed areas). This type computer interface has advanced features like customized airfield layout and more detailed grouping of lights (e.g. control of separate taxiways).

- Real-time monitoring YES
- Automatic failure alarm YES
- Operating mode setup YES
- Individual light status indication YES
- Grouping of airfield lights 3+
- Light intensity steps 5
- Separate taxiways control YES
- Airfield layout YES

For airports with simple runway lighting system (runway edge, threshold and one taxiway), S4GA offers ALCMS Basic.

RUNWAY APPROACH SELECTION

CONTROL INTERFACE
REMOTE CONTROL PANEL
AIRFIELD LIGHTING PANEL
APRON LIGHTING PANEL
---

**MONITORING**

- Real-time individual light status monitoring: battery level, lamp status, connection status, charging speed, temperature, charging efficiency of solar panel
- Monitoring of UR-201 Control Module: GSM signal strength, back-up battery level, power connection
- Immediate light failure detection and report: light unavailable, critical battery level
- Color indication of current light status:

```plaintext
- RED: LAMP IS OFFLINE
- AMBER: THE BATTERY LEVEL IS BELOW 30%
- GREY: THE UNIT IS 100% OPERATIONAL
```

**UR-201 CONTROL UNIT STATUS**

**ADMIN MANAGEMENT**

- Adding, editing and deleting users
- Setting/changing passwords
- 3 levels of access: Master, Admin, User

**ACCESSORIES INCLUDED**

- 24'' TV Monitor
- Wireless set: keyboard + mouse
- HDMI cable
- Power cable

**SHIPPING DATA**

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimensions of Package (LxWxH)</th>
<th>Gross Weight</th>
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<tbody>
<tr>
<td>ALCMS Set (24'' screen, cables, keyboard, mouse)</td>
<td>620 mm x 205 mm x 460 mm</td>
<td>10 kg</td>
</tr>
</tbody>
</table>

---

**MONITORING INTERFACE**

**ADMIN INTERFACE**

**LEVELS OF ACCESS**

**ADDS, EDITING, DELETING USER**

**INDIVIDUAL LIGHT STATUS**

**ALCMS ADVANCED**

**OBLIGATORY REQUIRES UR-201 TO BE SUPPLIED.**

**+ HARDWARE**
SOLAR ENGINE

FOR PAPI AND OTHER AIRFIELD LIGHTING EQUIPMENT

---

FEATURES

- Applicable For Different Airfield Lighting Equipment
- 20% More Energy Efficient Solar Panel
- All Consisting Parts Are User-Replaceable
- Adjustable Solar Engine Size

---

APPLICATION

S4GA Solar Engine is designed to power PAPI or other airfield lighting equipment. It consists of premium quality Q.ANTUM solar panel and VICTRON power bank.

---

1. **SOLAR PANEL**
   CAPACITY : 640 W
   Q CELL Solar panel collects solar energy 20% more effective than other solar panels

2. **POWER BANK**
   CAPACITY: 2640 W
   Stores solar energy and powers airport infrastructure connected to Power Bank

---

3. Airfield lighting equipment is connected to Power Bank and powered by solar energy

---

EXAMPLES OF S4GA SOLAR ENGINES

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www.solutions4ga.com
SOLAR PANEL

Q.ANTUM DUO TECHNOLOGY

2 X Q.PEAK SOLAR PANELS
TOTAL POWER OUTPUT: 640 W

SUPPORTIVE FRANGIBLE LEGS
NON-CORROSIVE STEEL FRAME

Q.ANTUM TECHNOLOGY:
LOW LEVELISED COST OF ELECTRICITY
Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 19.9%.

ENDURING HIGH PERFORMANCE
Long-term yield security with Anti LID Technology, Anti PID Technology¹, Hot-Spot Protect and Traceable Quality Tra.Q”.

EXTREME WEATHER RATING
High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).

STATE OF THE ART MODULE TECHNOLOGY
Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.

TECHNICAL SPECIFICATIONS

General
- 2 x Q.PEAK DUO-G5 solar panels
- Front Cover: 3.2 mm thermally pre-stressed glass with antireflection technology
- Back Cover: composite film
- Frame: Black anodized aluminium
- Cell: 6 x 20 monocrystalline Q.ANTUM solar half cells
- Connector: Multi-Contact, MC4, IP65 and IP68
- Dimensions: 1685 x 1000 x 32 mm
- Weight: 18.7 kg

Electrical
- Total Engine Size: 640 W (2 x 320 W)
- Nominal Power: 315-330 Wp
- Maximum system voltage: 1000 V

Control & Monitoring
- Operating temperature: -40 to 85°C
- Wind/Snow Load: 4000/5400 Pa

Certification
- VDE Quality Tested, IEC 61215 (Ed. 2); IEC 61730 (Ed. 1), Application class A
- DIN EN 50380

TECHNICAL DRAWING

[Diagram showing the technical specifications of the solar panel]
## SOLAR POWER BANK

### MULTIPLUS C12/800/35 INVERTER CHARGER

- **Power Control:** Yes
- **Transfer Switch (A):** 16
- **Parallel and 3-phase operation:** Yes
- **Dimensions:** [LxWxH]: 375 x 214 x 110 mm
- **Weight:** 10 kg

### INVERTER / CHARGER

#### General

- **MultiPlus C12/800/35 Inverter Charger**
- **Power Control:** Yes
- **Transfer Switch (A):** 16
- **Parallel and 3-phase operation:** Yes
- **Dimensions:** [LxWxH]: 375 x 214 x 110 mm
- **Weight:** 10 kg

#### Inverter

- **Input voltage range (V DC):** 9,5 – 17 V, 19 – 33 V, 38 – 66 V
- **Output voltage:** 230 VAC ± 2%
- **Frequency:** 50 Hz ± 0.1%

#### Charger

- **Input voltage range:** 187-265 VAC
- **Input frequency:** 45 – 65 Hz

#### Environmental Conditions

- **Temperature Range:** -40 to 85°C
- **Ingress Protection:** IP21
- **Humidity:** 95%

#### Compliance

- **Safety:** EN 60335-1, EN 60335-2-29
- **Emission, Immunity:** EN 55014-1, EN 55014-2, EN 61000-3-3
- **Automotive Directive:** 2004/104/EC

### CHARGE CONTROLLER

#### General

- **BlueSolar Charge Controller MPPT 100/50**
- **Dimensions:** [LxWxH]: 70 x 186 x 130 mm
- **Weight:** 1,3 kg

#### Electrical

- **Battery Voltage:** 12/24V Auto Select
- **Rated charge current:** 50 A
- **Nominal PV power, 12V 1a,b): 700 W**
- **Nominal PV power, 24V 1a,b): 1400 W**
- **Max. PV short circuit-current:** 60 A
- **Maximum PV open circuit voltage:** 180 V
- **Maximum efficiency:** 98%
- **Protection:** battery reverse polarity (fuse, not user accessible) / PV reverse polarity / Output short circuit / Over Temperature

#### Environmental Conditions

- **Temperature range:** -30 to +60°C
- **Humidity:** 95%

#### Compliance

- **Safety:** EN/IEC 62109-1 / UL 1741 / CSA C22.2
- **NEMA protection class:** NEMA 4
- **IK Code:** IK08
- **Material:** galvanized steel
- **Dimensions:** [LxWxH]: 300 x 800 x 600 mm
- **Ingress Protection:** IP66

### BATTERY

#### General

- **Victron Energy Battery Gel and AGM series**
- **Lifespan:** 1.200 cycles
- **Designed for 5 years**
- **Air-transportable**
- **User-replaceable**
- **Dimensions:** [LxWxH]: 238 x 240 x 522 mm
- **Weight:** 65 kg

#### Electrical

- **Nominal Voltage:** 12V
- **Nominal Capacity:** 220 Ah
- **Total capacity:** 2640 W (12V x 220Ah)

#### Environmental Conditions

- **Temperature range:** -40 to 85°C

### ENCLOSEMENT

- **NEMA protection class:** NEMA 4
- **IK Code:** IK08
- **Material:** galvanized steel
- **Dimensions:** [LxWxH]: 300 x 800 x 600 mm
- **Ingress Protection:** IP66

---

**TECHNICAL DRAWING**
PORTABLE AIRFIELD LIGHTING TRAILER FOR MILITARY AND CIVIL

CONTROL & MONITORING UNIT
LOW BATTERY SMS AUTO REPORTING

UP TO 132X OR

COMPLIANCE

CONTACTLESS CHARGING

Inductive charging:
- Only 10 min required to plug-in 132 lights
- Charging time: 8 hours
- Charging starts instantly

AUTOMATIC LIGHT FAILURE REPORTING VIA SMS

Automatic Reporting via SMS
System sends User notifications about light failures:
- Low battery level
- The light is out of the runway

TRAILER PRODUCTS

SP-401 LED RUNWAY EDGE LIGHT

SP-401 LED RUNWAY THRESHOLD END LIGHT

SP-401 LED TAXIWAY LIGHT

UR-101 HANDHELD CONTROLLER
WORLD’S SAFEST RUNWAY LIGHTING

---

**TRAILER**

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Set 1:</th>
<th>Set 2:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>132 X airfield lights</td>
<td>86 X airfield lights</td>
</tr>
<tr>
<td>Charging Of Lights</td>
<td>Inductive type (contactless) via power cable (optionally)</td>
<td></td>
</tr>
<tr>
<td>Power Source</td>
<td>110 – 230Vac Diesel generator (optionally) Solar engine (optionally)</td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>Walls: aluminium</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chasis: stainless steel</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Aviation yellow, olive green</td>
<td></td>
</tr>
<tr>
<td>Suitable For Air Transport</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

---

**SP-401 LED ELEVATED AIRFIELD LIGHT**

<table>
<thead>
<tr>
<th>Optics</th>
<th>Runway edge light</th>
<th>Runway threshold end light</th>
<th>Taxiway light</th>
</tr>
</thead>
<tbody>
<tr>
<td>Led type</td>
<td>Led lifespan 100,000 Hrs</td>
<td>Led lifespan 100,000 Hrs</td>
<td>Led lifespan 100,000 Hrs</td>
</tr>
<tr>
<td>Combined type of bidirectional and omnidirectional</td>
<td>bidirectional</td>
<td>omnidirectional</td>
<td></td>
</tr>
<tr>
<td>Light Output</td>
<td>1,200 cd</td>
<td>320(red)/450(green) cd</td>
<td>11 cd</td>
</tr>
<tr>
<td>Optics Color</td>
<td>White / White</td>
<td>White / Red</td>
<td>White / Red</td>
</tr>
<tr>
<td>Autonomy</td>
<td>180 Hours</td>
<td>280 Hours</td>
<td>600 Hours</td>
</tr>
<tr>
<td>Battery</td>
<td>2 X built-in batteries, VRLA deep-cycle type, 9Ah/12V each battery User-replaceable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>Inductive charging in a trailer, charging time ~ 8 hours</td>
<td>2 X separately installed solar panels, total power output: 10W</td>
<td></td>
</tr>
<tr>
<td>Casing / Dome</td>
<td>Uv-stabilized Lexan polycarbonate</td>
<td>Glass dome</td>
<td>Color: aviation yellow</td>
</tr>
<tr>
<td>Dimensions</td>
<td>300 x 245 x 185 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>7 Kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**UR-101 HANDHELD CONTROLLER**

<table>
<thead>
<tr>
<th>Operating Range</th>
<th>Up to 1,500 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>Automatically modulated and encrypted Radio transceiver: 868 mhz Operation frequency: provided by S4GA</td>
</tr>
<tr>
<td>Autonomy</td>
<td>48 Hrs</td>
</tr>
<tr>
<td>Battery</td>
<td>Lithium-ion battery, 7V/4Ah</td>
</tr>
<tr>
<td>Lighting System Control</td>
<td>Lights intensity setup Operating modes setup (steady/flashing)</td>
</tr>
<tr>
<td>Casing</td>
<td>Non-corrosive powder coated steel Color: black</td>
</tr>
<tr>
<td>Compliance</td>
<td>2014/35/UE 2014/30/UE 2011/65/UE 1999/5/EC</td>
</tr>
</tbody>
</table>

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**TRAILER DIMENSIONS**