



PRODUCT CATALOGUE

WORLD'S SAFEST RUNWAY LIGHTING



SOLAR LED RUNWAY LIGHTING

FOR NON-PRECISION AIRPORTS

PORTABLE AIRFIELD LIGHTING TRAILER

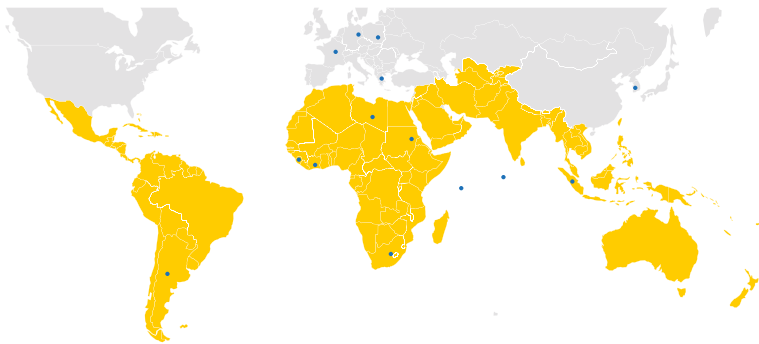
FOR MILITARY AND CIVIL

— 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.

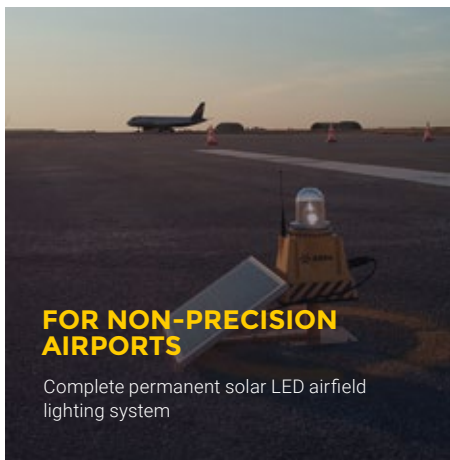
| | | | | | |
|---|--|---|--------------------------------|---|-------------------------|
|  | <p>WORLD'S SAFEST RUNWAY LIGHTING</p> |  | <p>GOVERNMENT-OWNED</p> |  | <p>CERTIFIED</p> |
|---|--|---|--------------------------------|---|-------------------------|

— OUR APPLICATIONS



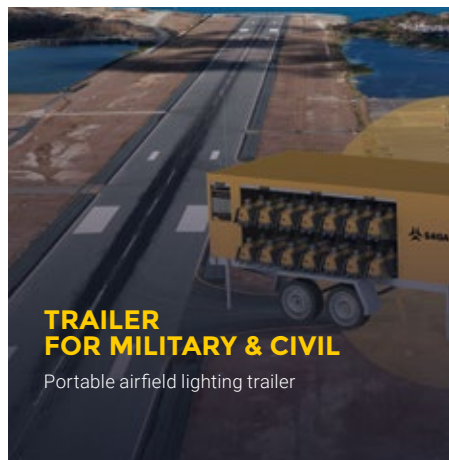
- Thessaloniki International Airport, Greece**
- Dhaalu Airport, Maldives**
- Jijiga Airport, Ethiopia**
- Military Airbase, Libya**
- Military Airbase, Argentina**
- Mining Company Airport, Ivory Coast**
- Chartres – Champhol Aerodrome, France**
- Domestic Airports, Seychelles**
- Domestic Airports,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

— OUR SOLUTIONS



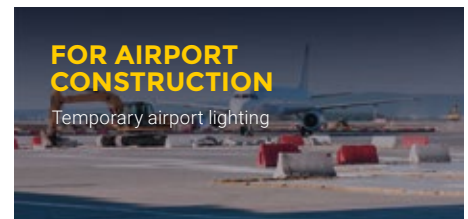
FOR NON-PRECISION AIRPORTS

Complete permanent solar LED airfield lighting system



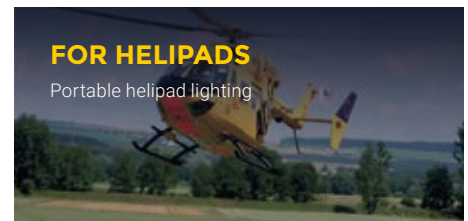
TRAILER FOR MILITARY & CIVIL

Portable airfield lighting trailer



FOR AIRPORT CONSTRUCTION

Temporary airport lighting



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

— TABLE OF CONTENT

| | |
|--|--------------|
| COMPLETE SOLAR LED RUNWAY LIGHTING | 4 |
| AIRFIELD LIGHTS | |
| SP-401 LED Elevated Runway Edge Light..... | 5-6 |
| SP-401 LED Elevated Runway Threshold End Light..... | 7-8 |
| SP-401 LED Elevated Approach Light..... | 9-10 |
| SP-401 LED Elevated Taxiway Edge Light..... | 11-12 |
| SP-401 LED Elevated Obstruction Light Type A..... | 13-14 |
| Solar Precision Approach Path Indicator..... | 15-16 |
| Solar Wind Direction Indicator..... | 17-18 |
| AIRFIELD LIGHTING CONTROL AND MONITORING SYSTEM | |
| UR-201 Control and Monitoring Unit..... | 19-20 |
| ALCMS Basic..... | 21-22 |
| ALCMS Advanced..... | 23-24 |
| SOLAR ENGINE | 25-27 |
| PORTABLE AIRFIELD LIGHTING TRAILER | 28-29 |

COMPLETE SOLAR LED RUNWAY LIGHTING FOR NON-PRECISION AIRPORTS

- 

WORLD'S SAFEST RUNWAY LIGHTING
- 

OPERATES 365 DAYS ON SOLAR
- 

5-LEVEL PROTECTION AGAINST SYSTEM FAILURE

— SOLUTION: COMPLETE LIGHTING SYSTEM



AIRFIELD LIGHTING



SOLAR PAPI



AGL CONTROL AND MONITORING




SOLAR POWER SUPPLY





SOLAR WDI

— APPLICATION: NON-PRECISION AIRPORT

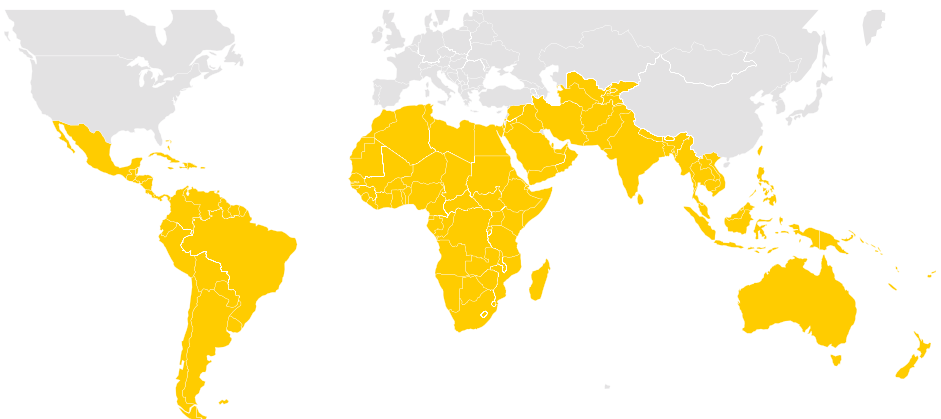
For Non-Precision Airports with increasing flight traffic, located in remote regions with high photovoltaic potential and unavailable electrical infrastructure, we offer a complete solar powered LED runway lighting system compliant with ICAO standards and certified by INTERTEK.

- 

NO ELECTRICAL INFRASTRUCTURE
- 

HIGH PHOTOVOLTAIC POTENTIAL
- 



INCREASING FLIGHT TRAFFIC



SP-401 LED ELEVATED RUNWAY EDGE LIGHT

MEDIUM INTENSITY



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

FEATURES

- Operates 365 days on solar energy
- Wireless mesh control
- 180 hrs of light autonomy
- 1.200 cd light output

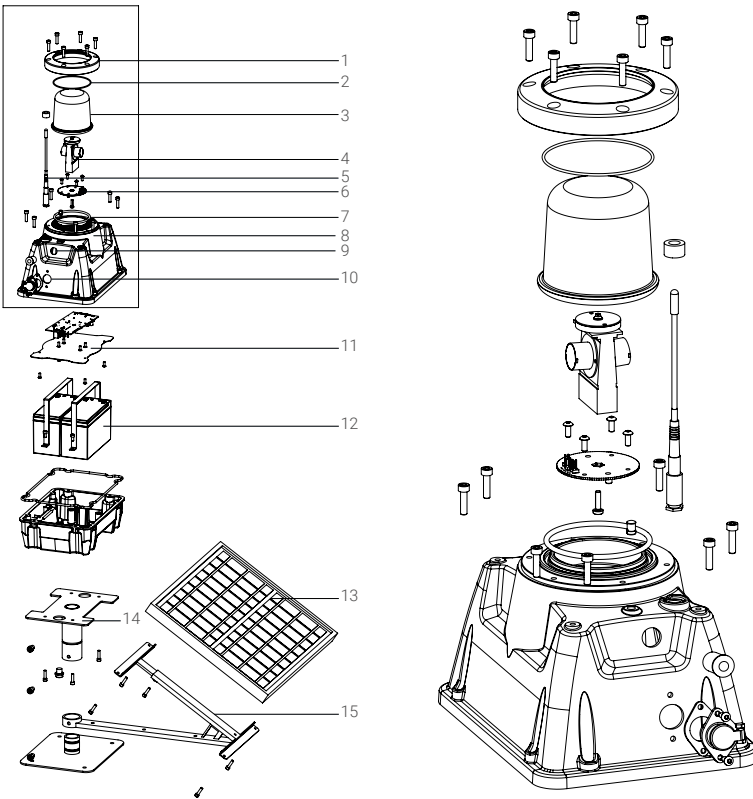
APPLICATION

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.

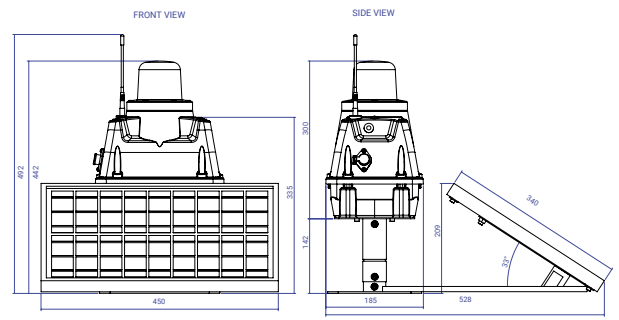
TECHNICAL SPECIFICATIONS

| | |
|--|--|
| Optics <ul style="list-style-type: none"> • 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 | Operating Modes <ul style="list-style-type: none"> • Steady / Flashing / Dusk till dawn • Visible / Infrared (optional) / Visible + Infrared (optional) |
| Battery <ul style="list-style-type: none"> • 2 x built-in batteries • Autonomy: 180 hrs (minimum intensity) • Total capacity: 216Wh (2x9Ah/12V) • Deep-cycle VRLA, 12V/9Ah • Lifespan: 1.200 cycles • Designed for 4-5 years • Air transportable • User-replaceable • Standard type, available worldwide | Control & Monitoring <ul style="list-style-type: none"> • Wireless mesh type network • Up to 1.5 km operating range • Activation options: <ul style="list-style-type: none"> • 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) |
| Solar Power Supply <ul style="list-style-type: none"> • 20W solar panel, separately installed • Poly- or monocrystalline type • Standard optimal inclination (upon request) • Lifespan: 15 years • Built-in inverter 12-36V/2A | Environmental Conditions <ul style="list-style-type: none"> • Temperature range: -20 to 50 °C (-4 to 122 °F) • Ingress protection: IP-67 • Wind Speed: 160 kph |
| Certification <ul style="list-style-type: none"> • ICAO, Annex 14th, Volume I, 7th Edition dated July 2016, clause 5.3.9.9 & Appendix 1, Figure A1-1b • CE Declaration of Conformity: EN 50561-1:2013-12 / EN 61000-4-4:2013-05 / EN 61000-4-5:2014-10 / EN 61000-4-6:2014-04 / EN 61000-4-2:2011 / EN 61000-4-3:2007 / EN 61000-4-1:2007 / EN 62368-1:2015-03 / EN 62321-1:2014-02 / EN 62311:2010 / EN 301 489-1 V2.1.1:2017-08 / EN 300 220-2 V3.1.1:2017-08 | Casing And Components <ul style="list-style-type: none"> • 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 |

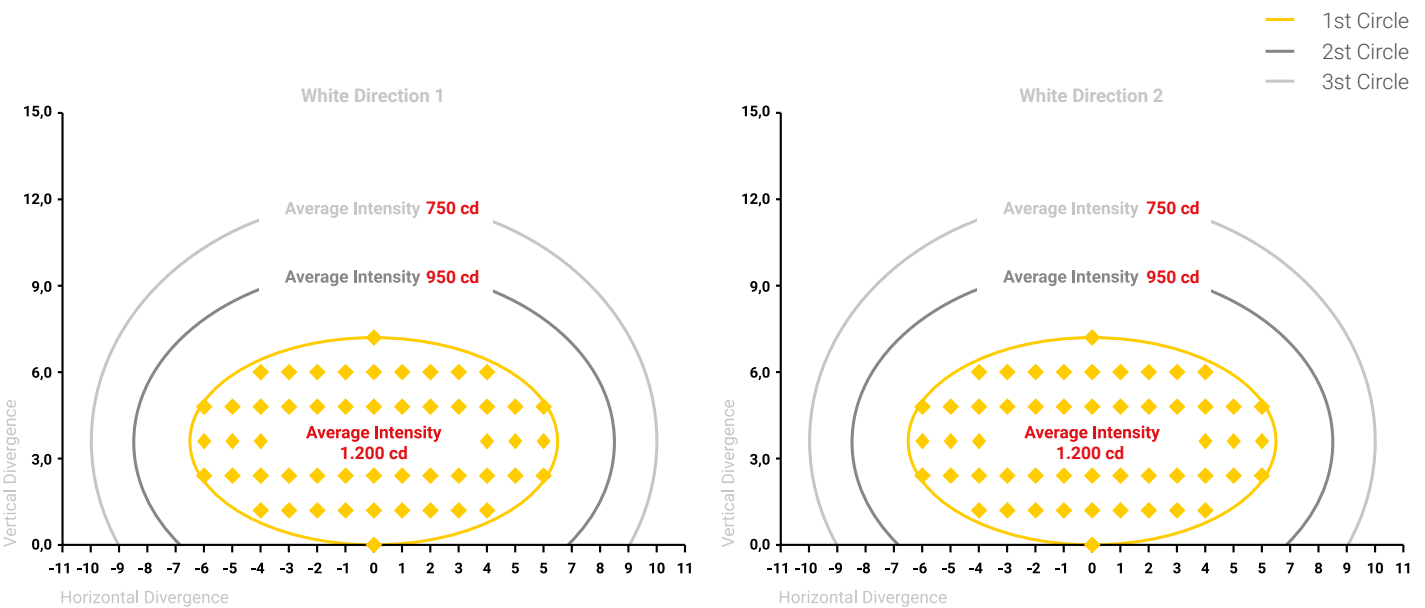
TECHNICAL DRAWING



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





SHIPPING DATA

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

SP-401 LED ELEVATED RUNWAY THRESHOLD END LIGHT



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

FEATURES

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

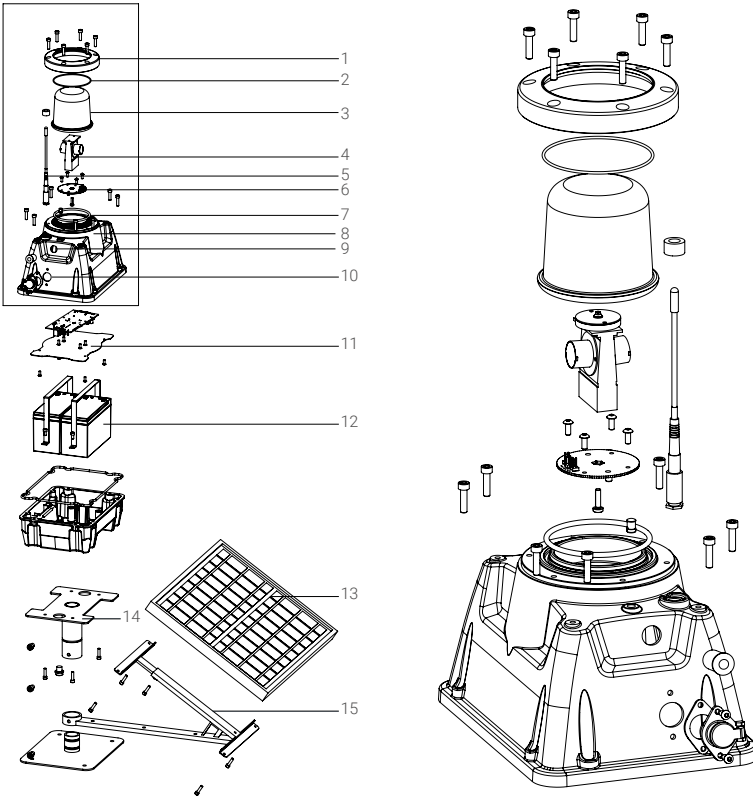
APPLICATION

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

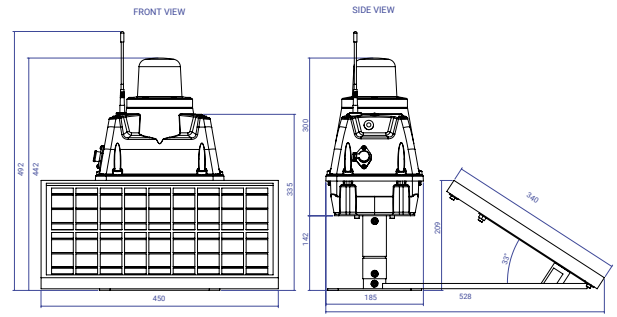
TECHNICAL SPECIFICATIONS

| | |
|--|--|
| Optics <ul style="list-style-type: none"> • 320(red)/450(green) cd light output • Bidirectional, unidirectional type • LED lifespan: 100.000 hrs • Maximum power consumption: 1,8 W • NVG-compatible (optional) • Color: red/green, red, green • User-replaceable | Operating Modes <ul style="list-style-type: none"> • Steady / Flashing / Dusk till dawn • Visible / Infrared (optional) / Visible + Infrared (optional) |
| Battery <ul style="list-style-type: none"> • 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 | Control & Monitoring <ul style="list-style-type: none"> • Wireless mesh type network • Up to 1.5 km operating range • Activation options: <ul style="list-style-type: none"> • 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) |
| Solar Power Supply <ul style="list-style-type: none"> • 20W solar panel, separately installed • Poly- or monocrystalline type • Standard optimal inclination (upon request) • Lifespan: 15 years • Built-in inverter 12-36V/2A | Environmental Conditions <ul style="list-style-type: none"> • Temperature range: -20 to 50 °C (-4 to 122 °F) • Ingress protection: IP-67 • Wind Speed: 160 kph |
| Certification <ul style="list-style-type: none"> • ICAO, Annex 14th, Volume I, 7th Edition dated July 2016, clause 5.3.10.9/5.3.11.4 & Appendix 1, Figure A1-1b • CE Declaration of Conformity: EN 50561-1:2013-12/EN 61000-4-4:2013-05 / EN 61000-4-5:2014-10 / EN 61000-4-6:2014-04 / EN 61000-4-2:2011 / EN 61000-4-3:2007 / EN 61000-4-1:2007 / EN 62368-1:2015-03 / EN 62321-1:2014-02 / EN 62311:2010 / EN 301 489-1 V2.1.1:2017-08 / EN 300 220-2 V3.1.1:2017-08 | Casing And Components <ul style="list-style-type: none"> • 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 |

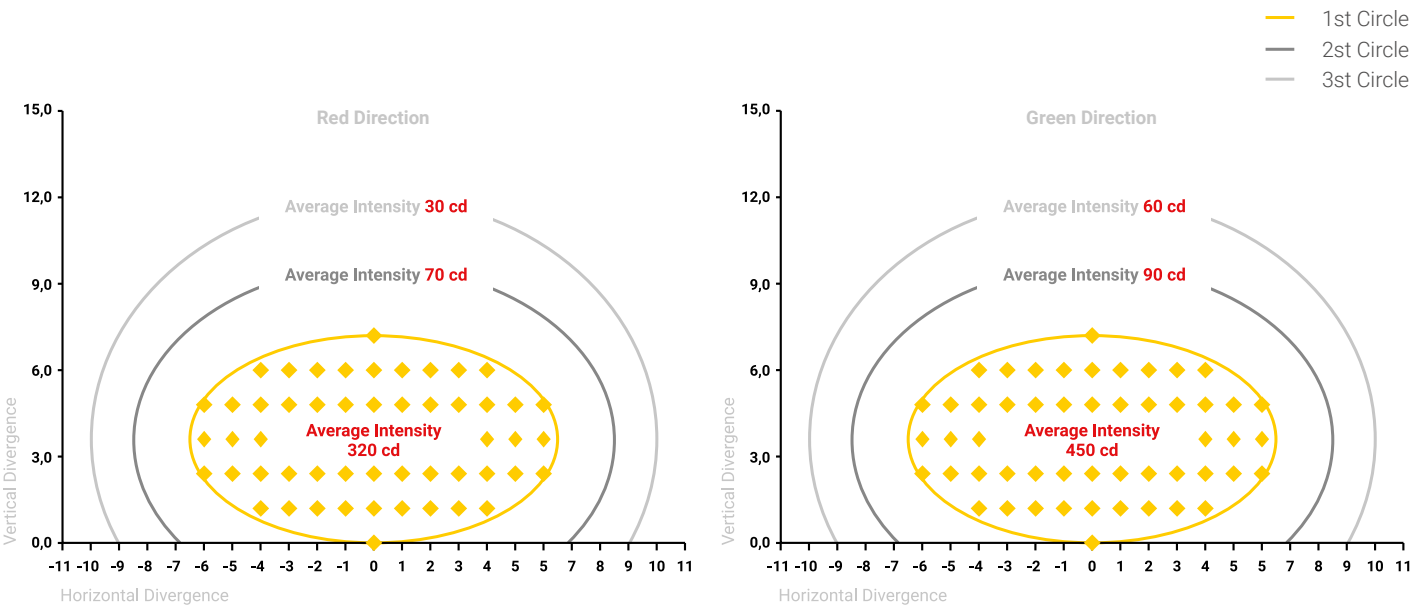
TECHNICAL DRAWING



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





SHIPPING DATA

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

SP-401 LED ELEVATED APPROACH LIGHT



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

- Operates 365 days on solar energy
- Wireless mesh control
- 180 hrs of light autonomy
- 1.200 cd light output

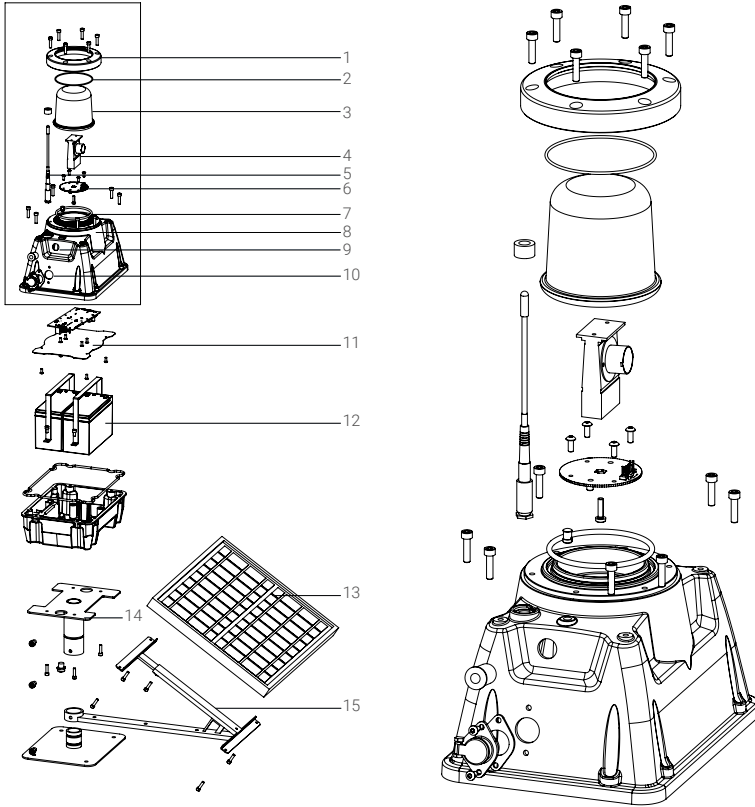
APPLICATION

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

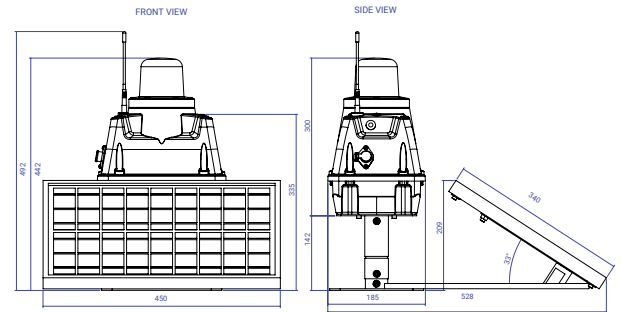
TECHNICAL SPECIFICATIONS

| | |
|--|--|
| Optics <ul style="list-style-type: none"> • 1.200 cd light output • Unidirectional type • LED lifespan: 100.000 hrs • Maximum power consumption: 3,9W • NVG-compatible (optional) • Color: white • User-replaceable | Operating Modes <ul style="list-style-type: none"> • Steady / Flashing / Dusk till dawn • Visible / Infrared (optional) / Visible + Infrared (optional) |
| Battery <ul style="list-style-type: none"> • 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 | Control & Monitoring <ul style="list-style-type: none"> • Wireless mesh type network • Up to 1.5 km operating range • Activation options: <ul style="list-style-type: none"> • 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) |
| Solar Power Supply <ul style="list-style-type: none"> • 20W solar panel, separately installed • Poly- or monocrystalline type • Standard optimal inclination (upon request) • Lifespan: 15 years • Built-in inverter 12-36V/2A | Environmental Conditions <ul style="list-style-type: none"> • Temperature range: -20 to 50 °C (-4 to 122 °F) • Ingress protection: IP-67 • Wind Speed: 160 kph |
| Certification <ul style="list-style-type: none"> • ICAO, Annex 14th, Volume I, 7th Edition dated July 2016, clause 5.3.9.9 & Appendix 1, Figure A1-1b • CE Declaration of Conformity: EN 50561-1:2013-12 / EN 61000-4-4:2013-05 / EN 61000-4-5:2014-10 / EN 61000-4-6:2014-04 / EN 61000-4-2:2011 / EN 61000-4-3:2007 / EN 61000-4-1:2007 / EN 62368-1:2015-03 / EN 62321-1:2014-02 / EN 62311:2010 / EN 301 489-1 V2.1.1:2017-08 / EN 300 220-2 V3.1.1:2017-08 | Casing And Components <ul style="list-style-type: none"> • 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 |

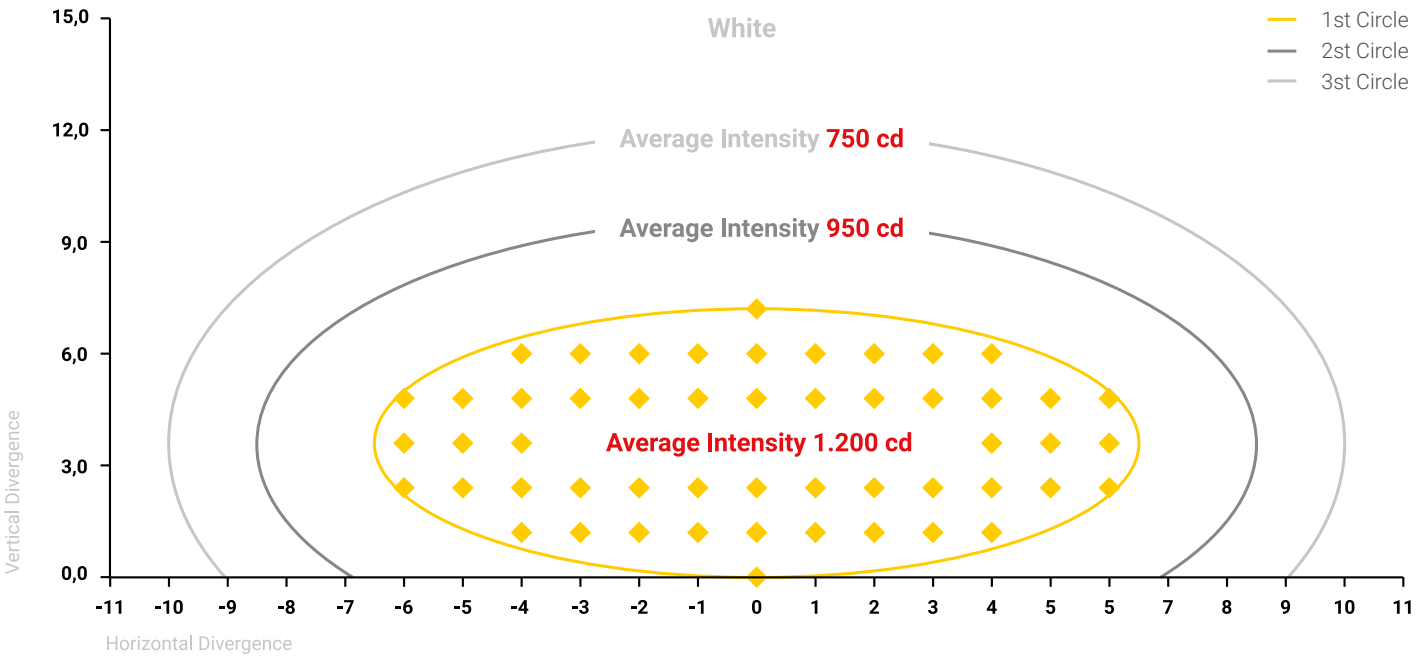
TECHNICAL DRAWING



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



PHOTOMETRIC PERFORMANCE





SHIPPING DATA

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

SP-401 LED ELEVATED TAXIWAY EDGE LIGHT



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

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

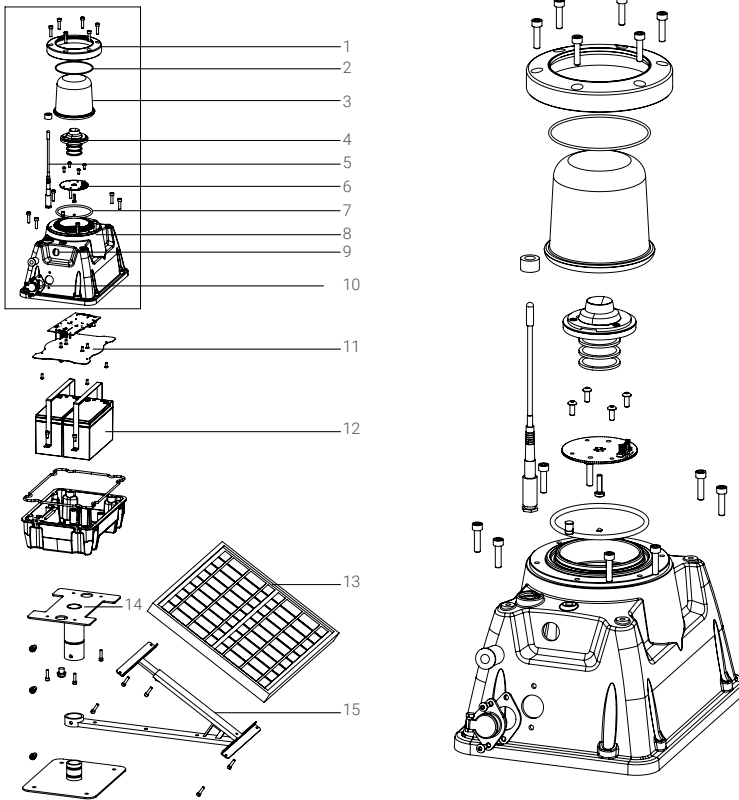
APPLICATION

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

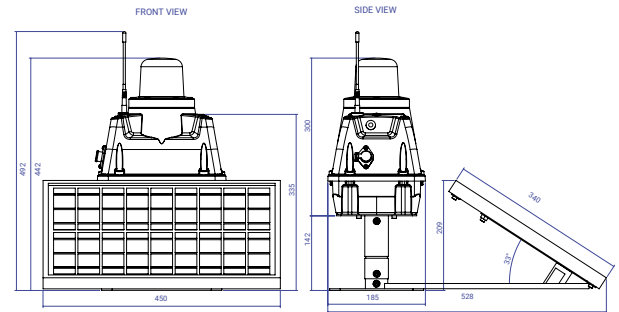
TECHNICAL SPECIFICATIONS

| | |
|---|--|
| Optics <ul style="list-style-type: none"> • 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 | Operating Modes <ul style="list-style-type: none"> • Steady / Flashing / Dusk till dawn • Visible / Infrared (optional) / Visible + Infrared (optional) |
| Battery <ul style="list-style-type: none"> • 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 | Control & Monitoring <ul style="list-style-type: none"> • Wireless mesh type network • Up to 1.5 km operating range • Activation options: <ul style="list-style-type: none"> • 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) |
| Solar Power Supply <ul style="list-style-type: none"> • 20W solar panel, separately installed • Poly- or monocrystalline type • Standard optimal inclination (upon request) • Lifespan: 15 years • Built-in inverter 12-36V/2A | Environmental Conditions <ul style="list-style-type: none"> • Temperature range: -20 to 50 °C (-4 to 122 °F) • Ingress protection: IP-67 • Wind Speed: 160 kph |
| Certification <ul style="list-style-type: none"> • ICAO, Annex 14th, Volume I, 7th Edition dated July 2016, clause 5.3.18.8 & Appendix 1, Figure A1-1b • CE Declaration of Conformity: EN 50561-1:2013-12 / EN 61000-4-4:2013-05 / EN 61000-4-5:2014-10 / EN 61000-4-6:2014-04 / EN 61000-4-2:2011 / EN 61000-4-3:2007 / EN 61000-4-1:2007 / EN 62368-1:2015-03 / EN 62321-1:2014-02 / EN 62311:2010 / EN 301 489-1 V2.1.1:2017-08 / EN 300 220-2 V3.1.1:2017-08 | Casing And Components <ul style="list-style-type: none"> • 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 |

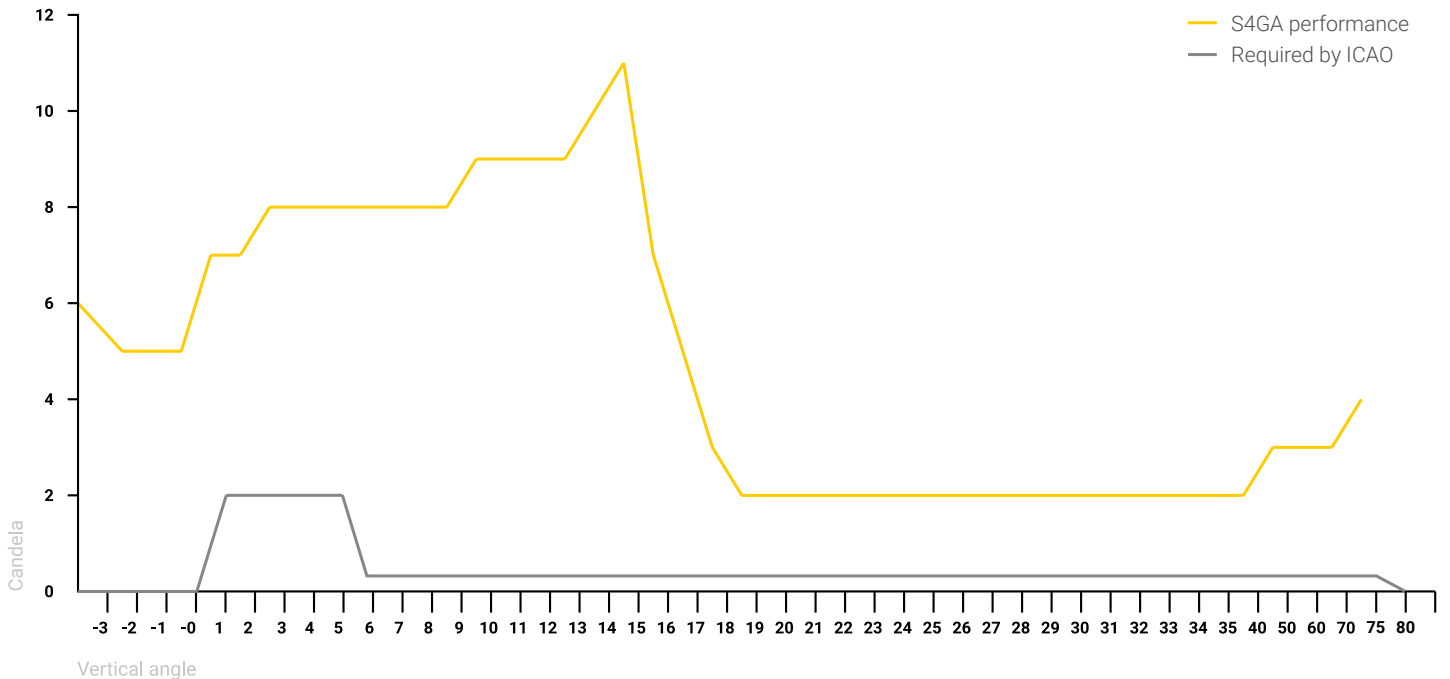
TECHNICAL DRAWING



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



PHOTOMETRIC PERFORMANCE





SHIPPING DATA

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

SP-401 LED ELEVATED OBSTRUCTION LIGHT

TYPE A LOW INTENSITY



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

FEATURES

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

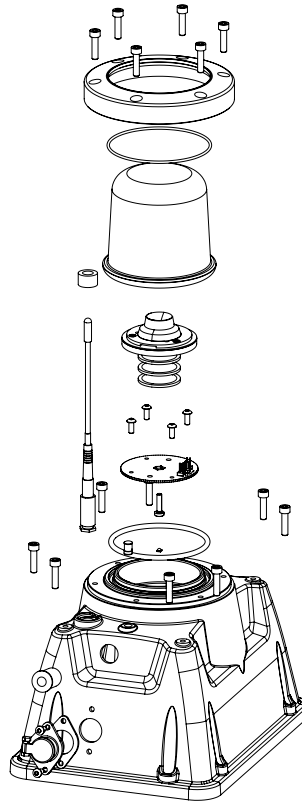
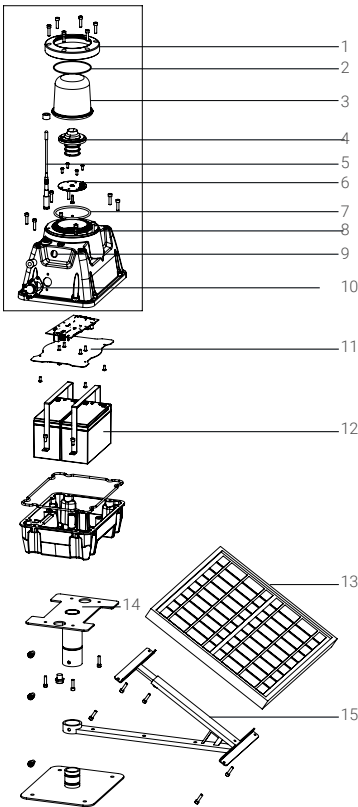
APPLICATION

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.

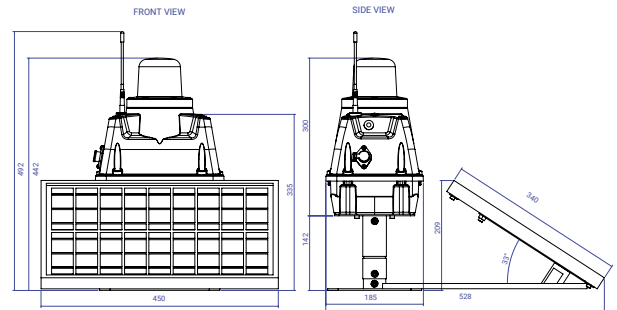
TECHNICAL SPECIFICATIONS

| | |
|---|--|
| Optics <ul style="list-style-type: none"> • 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 | Operating Modes <ul style="list-style-type: none"> • Steady / Flashing / Dusk till dawn • Visible / Infrared (optional) / Visible + Infrared (optional) |
| Battery <ul style="list-style-type: none"> • 2 x built-in batteries • Autonomy: 280 hrs (minimum intensity) • Total capacity: 216Wh (2x9Ah/12V) • Deep-cycle VRLA, 12V/9Ah • Lifespan: 1.200 cycles • Designed for 4-5 years • Air transportable • User-replaceable • Standard type, available worldwide | Control & Monitoring <ul style="list-style-type: none"> • Wireless mesh type network • Up to 1.5 km operating range • Activation options: <ul style="list-style-type: none"> • 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) |
| Solar Power Supply <ul style="list-style-type: none"> • 20W solar panel, separately installed • Poly- or monocrystalline type • Standard optimal inclination (upon request) • Lifespan: 15 years • Built-in inverter 12-36V/2A | Environmental Conditions <ul style="list-style-type: none"> • Temperature range: -20 to 50 °C (-4 to 122 °F) • Ingress protection: IP-67 • Wind Speed: 160 kph |
| Certification <ul style="list-style-type: none"> • ICAO, Annex 14th, Volume I, 7th Edition dated July 2016, Table 6-2 & Appendix 1, Figure A1-1b • CE Declaration of Conformity: EN 50561-1:2013-12 / EN 61000-4-4:2013-05 / EN 61000-4-5:2014-10 / EN 61000-4-6:2014-04 / EN 61000-4-2:2011 / EN 61000-4-3:2007 / EN 61000-4-1:2007 / EN 62368-1:2015-03 / EN 62321-1:2014-02 / EN 62311:2010 / EN 301 489-1 V2.1.1:2017-08 / EN 300 220-2 V3.1.1:2017-08 | Casing And Components <ul style="list-style-type: none"> • 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 |

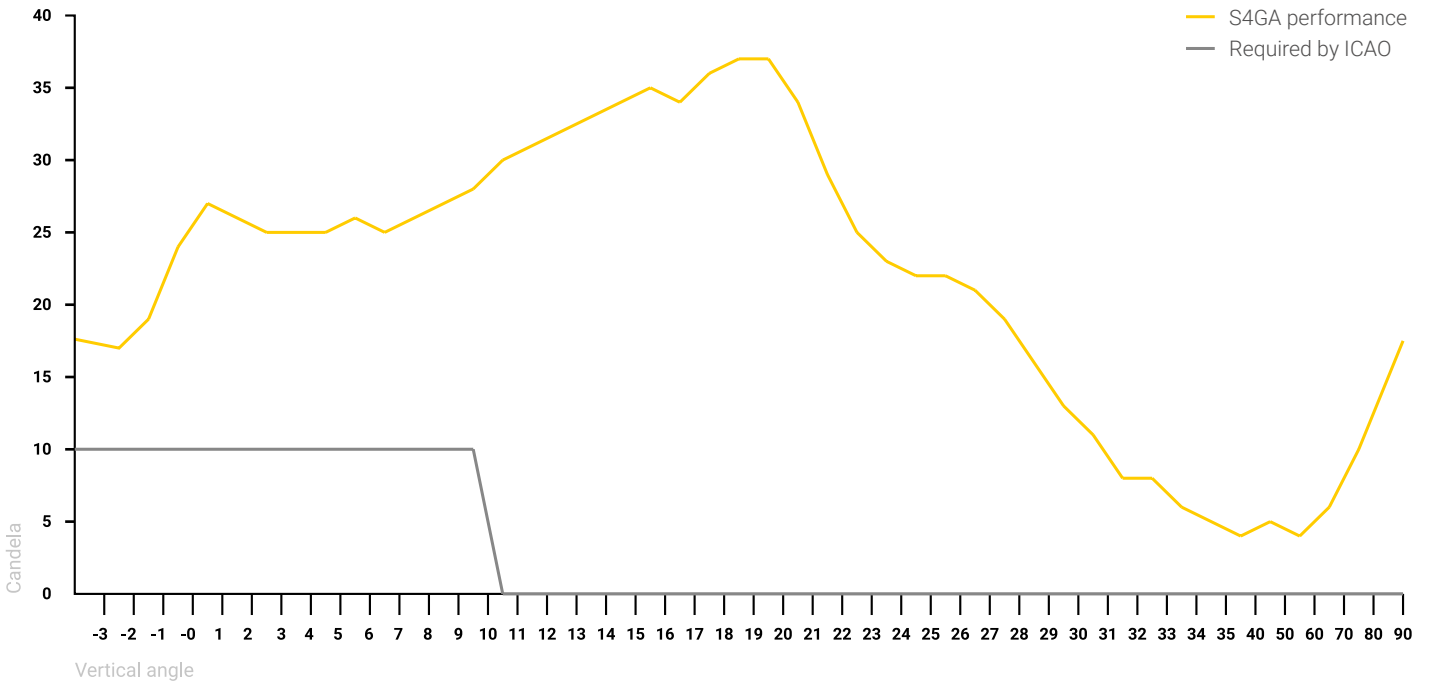
TECHNICAL DRAWING



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

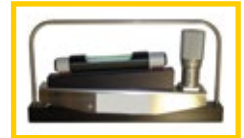


SHIPPING DATA



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

SOLAR PAPI

PRECISION APPROACH PATH INDICATOR



+ CLINOMETER

| | | |
|---|---|--|
|  |  | <p>Compliance: ICAO Annex 14 Vol. I (7th. Edition, July 2016)</p> |
|---|---|--|

FEATURES

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

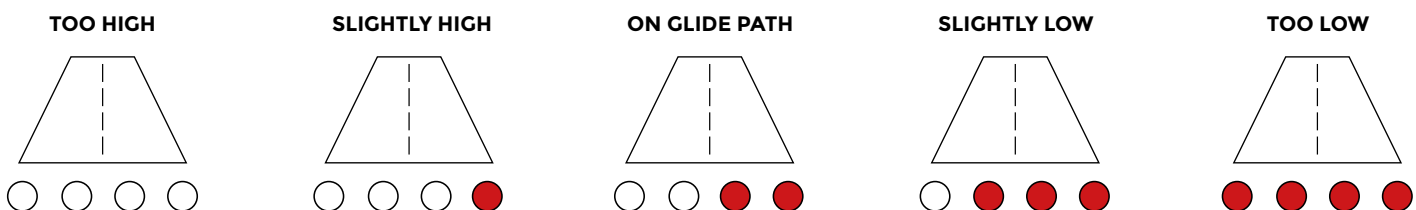
APPLICATION

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.

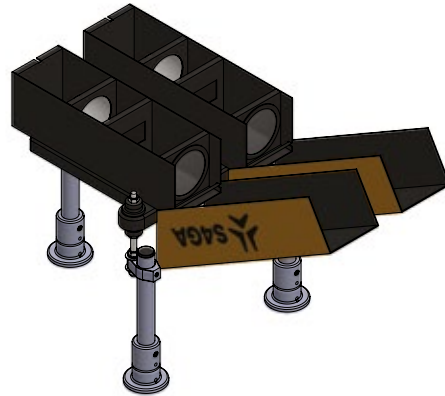
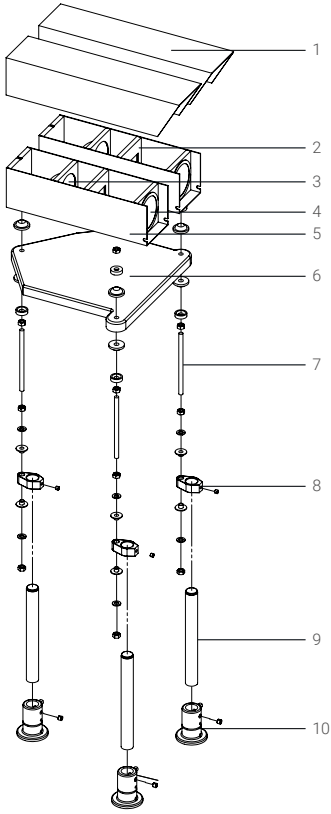
TECHNICAL SPECIFICATIONS

| | |
|--|---|
| <p>Optics</p> <ul style="list-style-type: none"> • Two-projector PAPI unit • Halogen lamp standard type 200W, PK30d • Vertical adjustment: 0 - 10° • Transition: Better than 3 minutes of arc on beam axis • Filter: Dichroic on borosilicate glass Signal Red to BS 1376 • Azimuth range: +8° (ICAO), +10°(FAA) or +15°(CAP 168) | <p>Environmental Conditions</p> <ul style="list-style-type: none"> • Temperature range: -20 to 50 °C (-4 to 122 °F) • Ingress protection: IP-65 • Wind Speed: 160 kph |
| <p>Power Supply</p> <ul style="list-style-type: none"> • Solar power supply (check Solar Engine brochure) • 230 VAC (requires PAPI Controller) • Optional 6.6A electrical power supply | <p>Casing And Components</p> <ul style="list-style-type: none"> • 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 |
| <p>Wireless Control</p> <ul style="list-style-type: none"> • Via UR-201 Control & Monitoring Unit • Via UR-101 Handheld Controller • Via ALCMS Computer Interface | <p>Compliance</p> <ul style="list-style-type: none"> • ICAO, Annex 14th, Volume I, 6th Edition dated 2013, clauses 5.3.5.28 – 5.3.5.40, Figure A2-23 Appendix 1, 2.1.1 |

PAPI VISUAL INDICATION

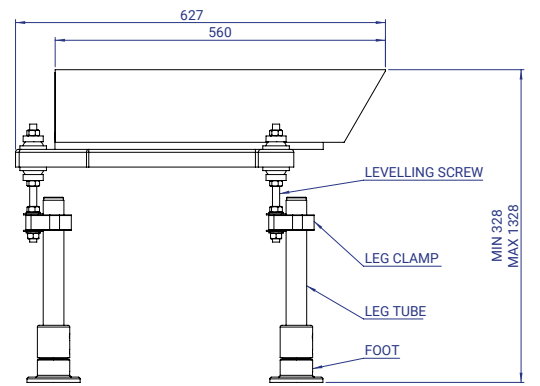
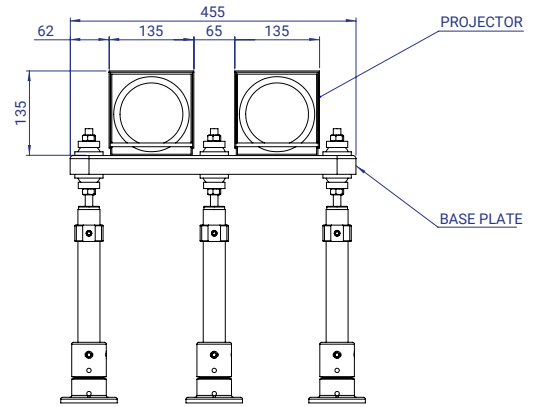


TECHNICAL DRAWING



- 1. Top cover
- 2. Dichroic red/white glass
- 3. Lens
- 4. Front glass
- 5. Projector body
- 6. Base frame
- 7. Aluminium leg
- 8. K.K. Fitting
- 9. Aluminium leg
- 10. Frangible ground fitting

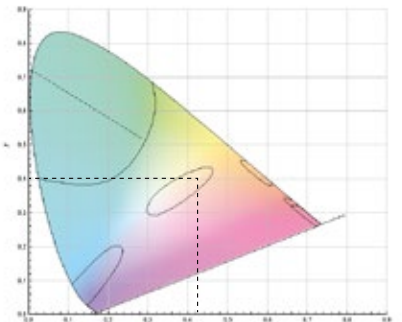
DIMENSIONS



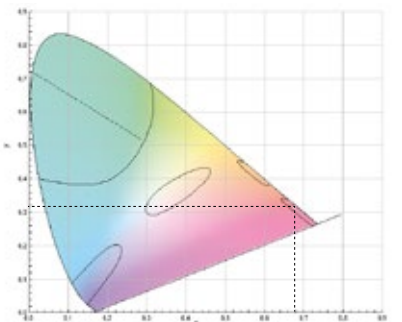
PHOTOMETRIC PERFORMANCE

White/Red Light emitted Luminous intensity (cd)

| Angle (°) | -8 | -6 | -5 | -4 | -3 | -2 | -1,5 | -1 | -0,5 | 0 | 0,5 | 1 | 1,5 | 2 | 3 | 4 | 5 | 6 | 8 | |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------|
| 5 | 10790 | 17156 | 19568 | 34560 | 37660 | 42920 | 45420 | 45840 | 48700 | 49720 | 49600 | 49140 | 48500 | 47860 | 43060 | 30240 | 29160 | 22740 | 10428 | |
| 4,5 | 10040 | 16904 | 23000 | 29960 | 37060 | 45660 | 45800 | 50140 | 52200 | 53580 | 54460 | 54580 | 53920 | 52060 | 47100 | 39060 | 34420 | 26940 | 15136 | |
| 4 | 10526 | 19722 | 21100 | 32880 | 42580 | 43980 | 49820 | 50840 | 50840 | 51720 | 52220 | 53180 | 55120 | 54800 | 52680 | 43740 | 39020 | 27320 | 13278 | |
| 3,5 | 11502 | 20040 | 33760 | 36120 | 44800 | 49040 | 49820 | 50280 | 50680 | 50920 | 52960 | 54140 | 54180 | 54480 | 51000 | 41680 | 38520 | 30540 | 13468 | |
| 3 | 12038 | 15316 | 25400 | 28000 | 47080 | 49340 | 49720 | 49880 | 50140 | 54220 | 54900 | 55380 | 55640 | 55560 | 52660 | 48840 | 41180 | 31340 | 16716 | |
| 2,5 | 14408 | 22720 | 32040 | 43740 | 49560 | 52440 | 56080 | 56080 | 56260 | 57740 | 58100 | 58960 | 58160 | 56440 | 53800 | 45640 | 40040 | 31100 | 14452 | |
| 2 | 13766 | 23480 | 27720 | 42840 | 49680 | 56640 | 58120 | 58940 | 60600 | 61520 | 61720 | 62560 | 62600 | 62080 | 59800 | 53440 | 46880 | 40800 | 21680 | |
| 1,5 | 13796 | 27040 | 38140 | 46840 | 55080 | 58940 | 61260 | 65440 | 67040 | 67200 | 66120 | 66800 | 66340 | 66080 | 61960 | 55960 | 48560 | 39740 | 20300 | |
| 1 | 15226 | 36440 | 45980 | 57400 | 63160 | 68360 | 68360 | 69620 | 70880 | 70900 | 72020 | 71980 | 69500 | 66820 | 64460 | 58500 | 44660 | 35300 | 18446 | |
| 0,5 | 13828 | 28460 | 40100 | 49940 | 59220 | 68060 | 70080 | 72520 | 75840 | 75120 | 74820 | 75140 | 72040 | 71960 | 64720 | 62100 | 49080 | 41080 | 19642 | |
| 0 | 11710 | 20200 | 34640 | 40640 | 46320 | 53460 | 54160 | 54180 | 57200 | 57360 | 56920 | 57200 | 55840 | 54080 | 49300 | 47320 | 35260 | 34740 | 11448 | Transition |
| -0,5 | 3462 | 7814 | 12616 | 12734 | 15272 | 17584 | 18182 | 18464 | 18998 | 18672 | 18398 | 18398 | 17954 | 17844 | 16440 | 14968 | 13388 | 9520 | 5706 | |
| -1 | 2828 | 5836 | 9084 | 11770 | 14350 | 15790 | 16894 | 17844 | 18554 | 18732 | 17838 | 17834 | 17834 | 18092 | 18262 | 14912 | 11796 | 10710 | 5230 | |
| -1,5 | 3104 | 5776 | 8510 | 11550 | 13816 | 15184 | 18350 | 18350 | 18352 | 18428 | 17334 | 16990 | 17136 | 17408 | 13728 | 12828 | 9484 | 7010 | 3830 | |
| -2 | 2788 | 5008 | 8714 | 10332 | 12840 | 12974 | 14776 | 15956 | 17018 | 17206 | 16658 | 16198 | 16112 | 16244 | 15438 | 12746 | 10908 | 7690 | 4336 | |
| -2,5 | 2800 | 4800 | 8266 | 10286 | 12316 | 12992 | 14124 | 15262 | 15512 | 15090 | 15090 | 15048 | 14976 | 14726 | 13010 | 10866 | 8420 | 6422 | 3346 | |
| -3 | 2636 | 4852 | 7740 | 8404 | 11440 | 12198 | 13216 | 13348 | 13854 | 13890 | 13564 | 13564 | 13412 | 13154 | 11096 | 8946 | 8604 | 6484 | 3692 | |
| -3,5 | 2546 | 4108 | 5844 | 7600 | 9828 | 10952 | 11788 | 11860 | 12096 | 12258 | 12336 | 12246 | 12082 | 11512 | 10690 | 9364 | 8010 | 5912 | 3638 | |
| -4 | 2500 | 4308 | 5804 | 7054 | 8672 | 9636 | 10072 | 10722 | 10954 | 10948 | 10888 | 10648 | 10526 | 10372 | 9174 | 8314 | 6430 | 4664 | 3498 | |
| -4,5 | 2486 | 3546 | 3638 | 5284 | 6936 | 8078 | 8078 | 9040 | 9498 | 9644 | 9676 | 9284 | 9070 | 9058 | 8072 | 7828 | 5992 | 4520 | 3280 | |
| -5 | 2466 | 3566 | 4196 | 4998 | 6074 | 6982 | 7436 | 7768 | 8112 | 8180 | 8170 | 8046 | 7802 | 7772 | 6720 | 6252 | 5056 | 4114 | 2950 | |



Variable White



PAPI Red



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

| | |
|--------|---|
| Zone 1 | Minimum intensity for curve to $\pm 2.0^\circ$ (horiz) and $\pm 2.0^\circ$ (vert) |
| Zone 2 | Minimum intensity for curve to $\pm 4.0^\circ$ (horiz) and $\pm 2.5^\circ$ (vert) |
| Zone 3 | Minimum intensity for curve to $\pm 6.0^\circ$ (horiz) and $\pm 3.0^\circ$ (vert) |
| Zone 4 | Minimum intensity for curve to $\pm 8.0^\circ$ (horiz) and $\pm 3.5^\circ$ (vert) |

SHIPPING DATA

| | | |
|--------------------------|-------------------------------|--------------|
| Item | Dimensions of Package (LxWxH) | Gross Weight |
| PAPI, 4 x Projector Unit | 560 x 650 x 750 mm | 52 kg |
| Clinometer | 360 x 290 x 100 mm | 1 kg |

SOLAR WIND DIRECTION INDICATOR

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

APPLICATION

S4GA 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.

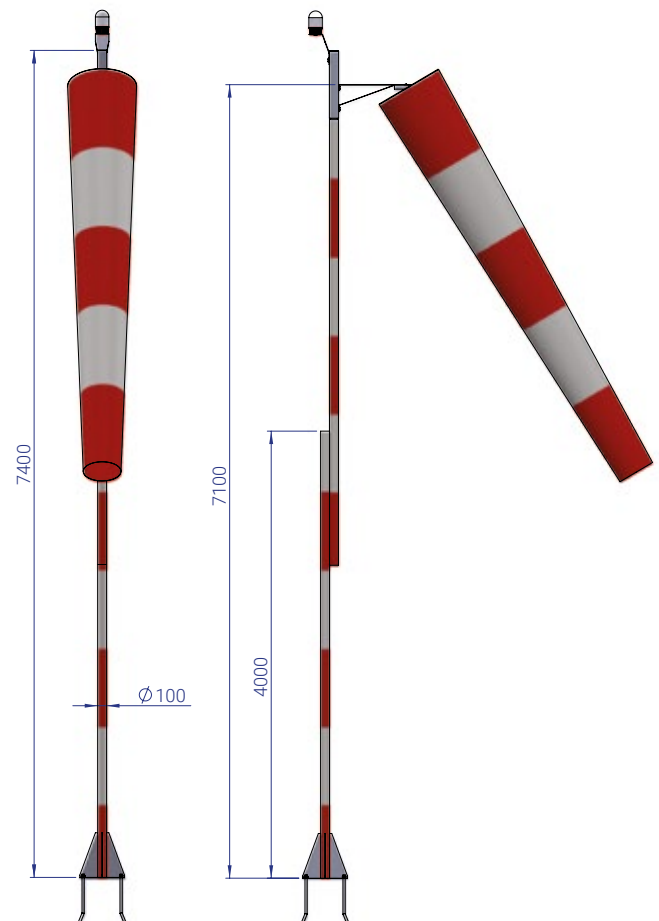
FEATURES

- Easy Installation
- Weather Resistant
- Illuminated, Solar Powered

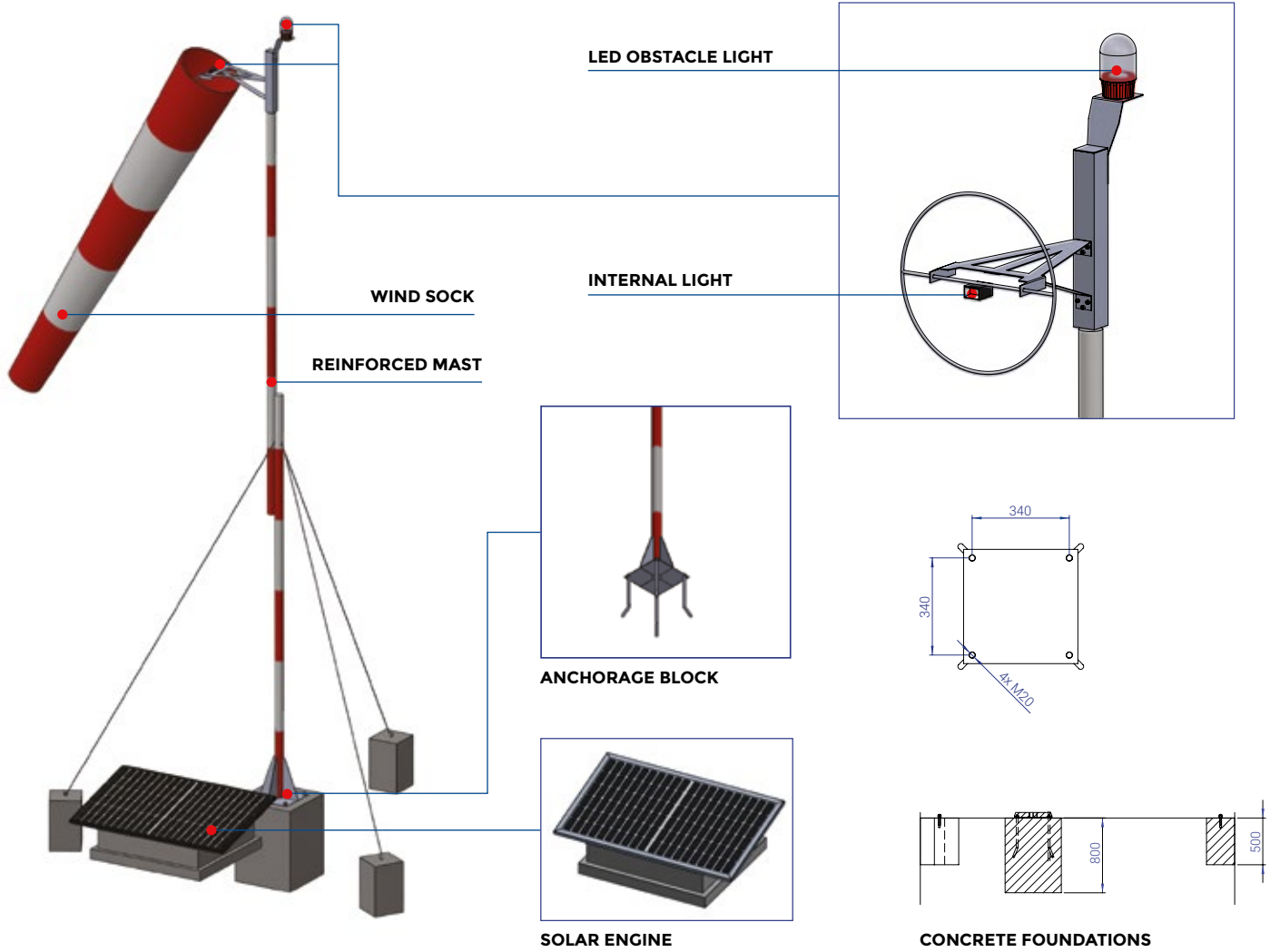


TECHNICAL SPECIFICATIONS

| Physical | |
|--------------------------|--|
| • MAST: | Height 7.40 m (adjustable) Reinforced mast: yes |
| • WIND SOCK : | Dimensions 100 x 450 cm Color: Red/White Swivel Frame: yes |
| • Protection: | galvanized steel |
| • Mounting: | anchorage block |
| • Braces dimensions: | 3x120 cm |
| Illumination | |
| • Internal lighting | |
| • Obstruction light: | type A LED obstacle light installed on top of the mast |
| Power Supply | |
| • SOLAR ENGINE | 280W solar panel 2 x batteries 100Ah/12V |
| • 230 VAC power supply: | (optional) |
| • 6.6 A electrical grid: | (optional) |
| Environmental Conditions | |
| • Minimum temperature: | -60°C |
| • Humidity: | 100% |
| • Wind Speed: | 160 kph |
| Certification | |
| • CE-EN60947-1 | |
| • CEI60364, NF C15-100 | |
| • 2014/35/UE | |
| • ISO 9001:2008 | |



TECHNICAL DRAWING



WIND DIRECTION INDICATOR PHOTOS



UR-201 CONTROL AND MONITORING UNIT

HARDWARE OF ALCMS

FEATURES

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

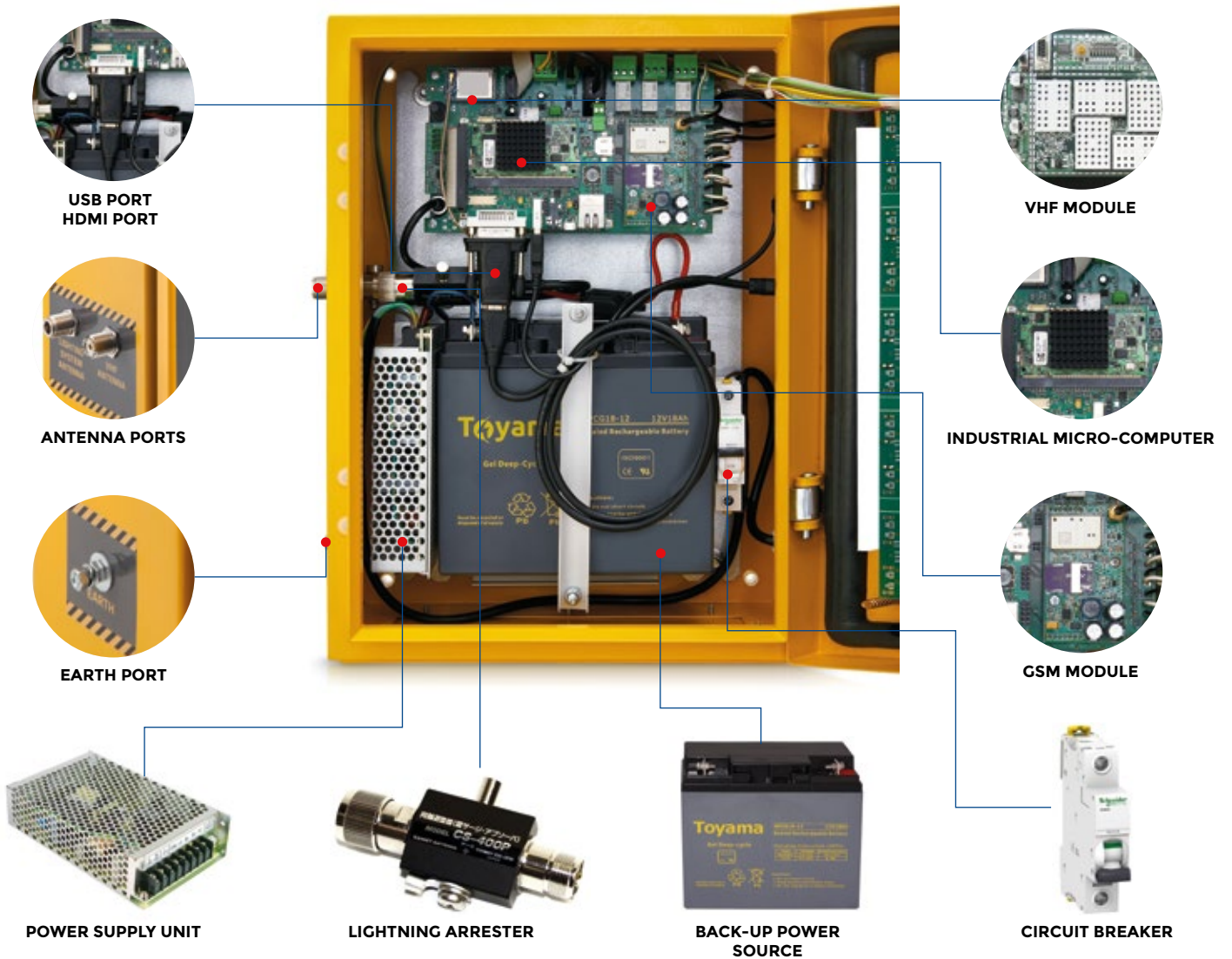
CE COMPLIANCE

- 2014/35/UE
- 2014/30/UE
- 2011/65/UE
- 2014/53/UE Radio Equipment Directive (RED)



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

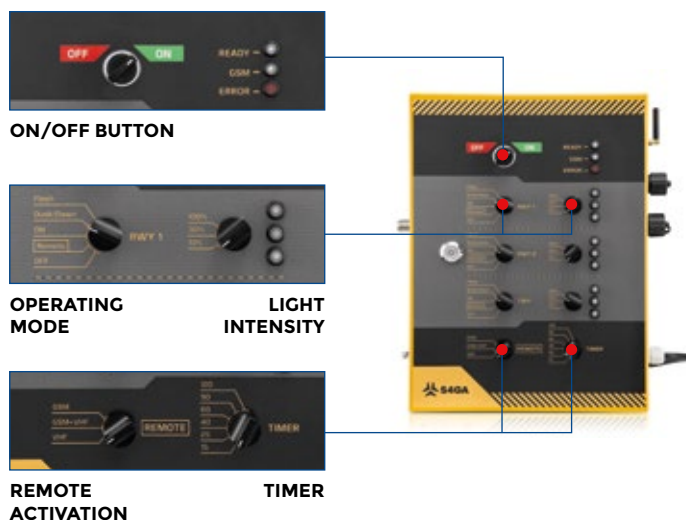
| | |
|-------------------|-----|
| VHF (pilot radio) | Yes |
| GSM (cell phone) | Yes |

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 |



GSM Receiver

| | |
|----------------------------------|---|
| Receiver frequency | 900, 1800 Mhz |
| Recommended antenna | Outdoor / external |
| Operating mode | Gain: 2dBi, VSWR <1.8 |
| | Polarization: vertical |
| External antenna connection type | SMA |
| Sim-card | GSM-provider is selected and supplied by the User according to the network coverage on site |

VHF Scanner

| | |
|------------------------------------|----------------------------------|
| Receiver frequency | 900, 1800 Mhz |
| Operation frequency | Programmable by S4GA |
| Transmission frequency | Scanner does not transmit signal |
| External antenna connection type | UC1, BNC |
| Recommended antenna | Base / outdoor |
| Base antenna radio characteristics | Maximum power: 100W FM |
| | Wind resistance: 60m/s |
| Base antenna signal cable | RF10, 10,3 mm diameter |

Casing

| | |
|-----------------------|----------------------------|
| UV resistance | Yes |
| Material | Powder coated steel |
| Operating Temperature | -20 / + 50 Degrees Celsius |
| Color | Aviation yellow |

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

| Item | Dimensions of Package (LxWxH) | Gross Weight |
|--------------------------------|-------------------------------|--------------|
| UR-201 Unit | 650 mm x 510 mm x 350 mm | 18 kg |
| Accessories (cables, antennas) | 1500 mm x 100 mm x 20 mm | 8 kg |

ALCMS BASIC

AIRFIELD LIGHTING CONTROL & MONITORING SYSTEM



+ HARDWARE

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

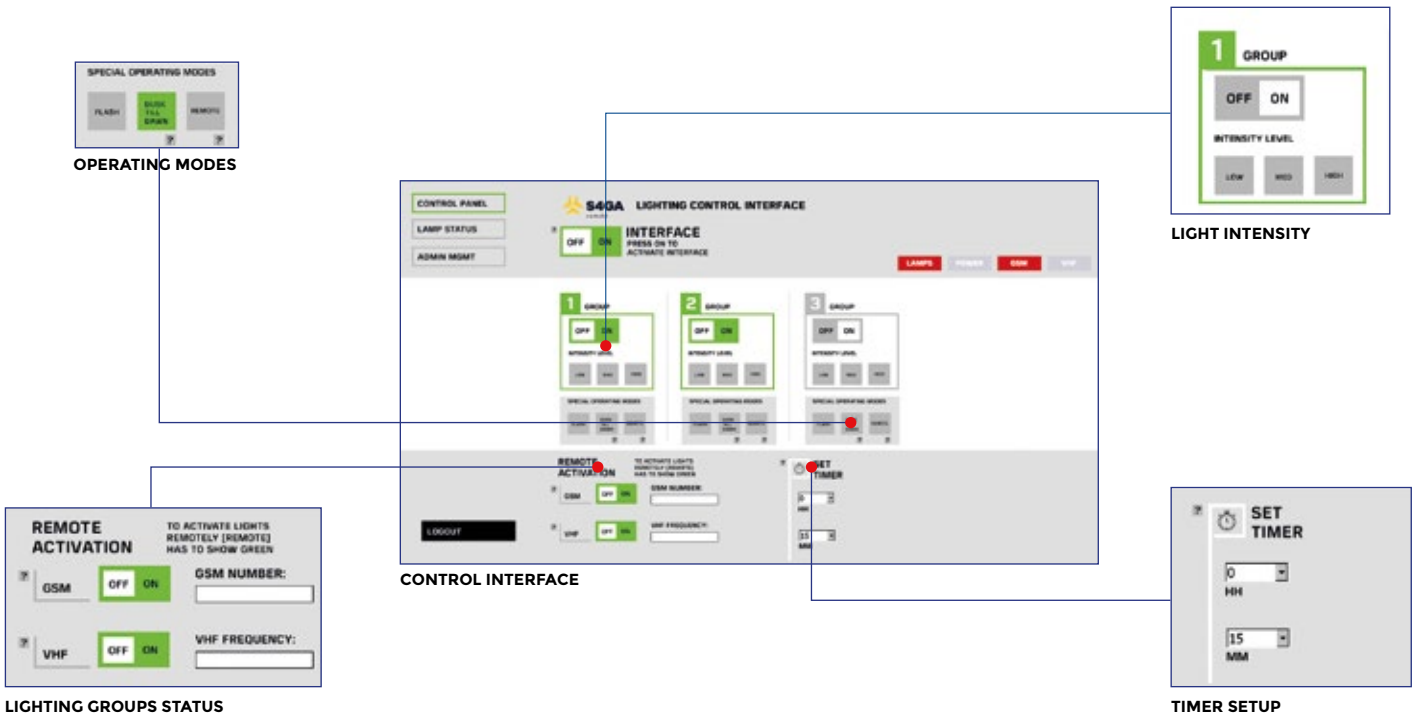
CONTROL

- 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

UR-201 CONTROL UNIT STATUS

MONITORING INTERFACE

MONITORED AREAS STATUS

LIGHTING GROUPS STATUS

INDIVIDUAL LIGHT STATUS

INDIVIDUAL LIGHT ALARM LOG

ADMIN MANAGEMENT

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

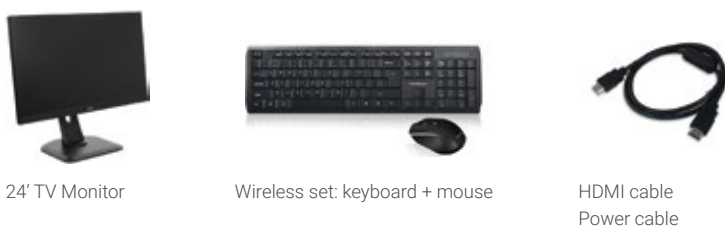
ADDING, EDITING, DELETING USER

LEVELS OF ACCESS

| USER NO. | USER NAME | GROUP |
|----------|-----------|--------------|
| 1 | admin | Admin |
| 2 | test | User |
| 3 | master | Master Admin |

ADMIN INTERFACE

ACCESSORIES INCLUDED



24' TV Monitor

Wireless set: keyboard + mouse

HDMI cable
Power cable

ALCMS BASIC OBLIGATORY REQUIRES UR-201 TO BE SUPPLIED.



+ HARDWARE

SHIPPING DATA

| Item | Dimensions of Package (LxWxH) | Gross Weight |
|---|-------------------------------|--------------|
| ALCMS Set (24' screen, cables, keyboard, mouse) | 620 mm x 205 mm x 460 mm | 10 kg |

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)



+ HARDWARE

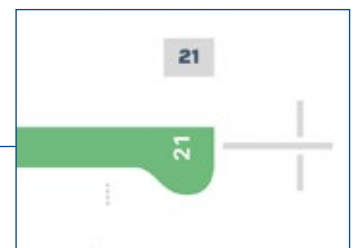
ALCMS Advanced is designed for airports with advanced AGL system (including multiple taxiways, approach lighting, temporarily closed areas). This type computer interface has advanced features like customized airfield layout and more detailed grouping of lights (e.g. control of separate taxiways).

| | |
|--------------------------------------|-----|
| • 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**.



CONTROL INTERFACE



RUNWAY APPROACH SELECTION



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:

RED

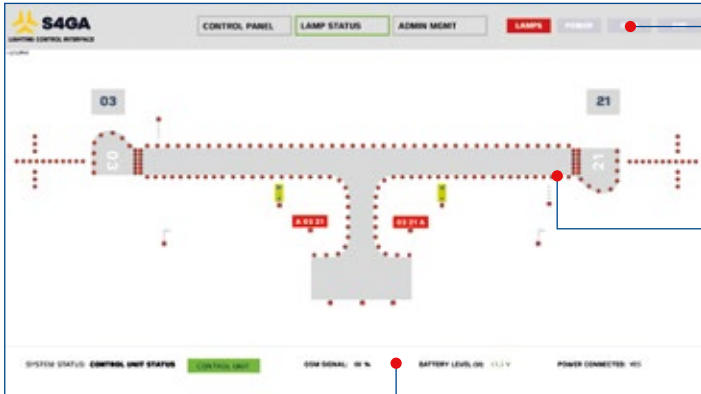
LAMP IS OFFLINE

AMBER

THE BATTERY LEVEL IS BELOW 30%

GREY

THE UNIT IS 100% OPERATIONAL



MONITORING INTERFACE

UR-201 CONTROL UNIT STATUS

GSM SIGNAL: 80 % BATTERY LEVEL (V): 13.2 V POWER CONNECTED: YES

MONITORED AREAS STATUS

LAMPS POWER GSM VHF

Individual Light Status

Lamp 47 0013A200415A6D51

Status: Not available

Connection: offline

Illuminate: n/a

Battery: n/a

Charging speed: -

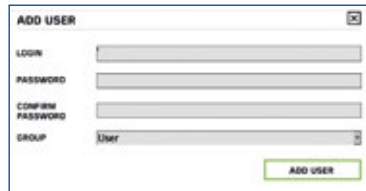
Solar out W: 0 %

Temperature: n/a

Last updated: n/a

ADMIN MANAGEMENT

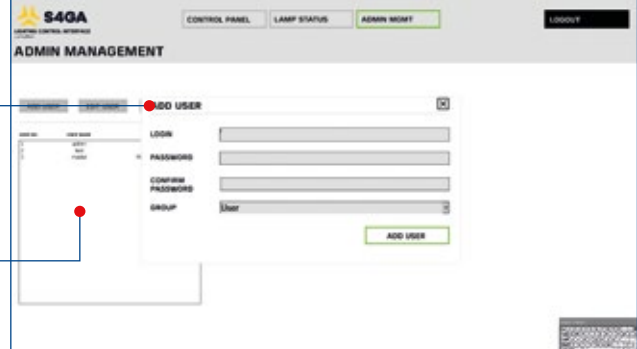
- Adding, editing and deleting users
- Setting/changing passwords
- 3 levels of access: Master, Admin, User



ADDING, EDITING, DELETING USER


| USER NO. | USER NAME | GROUP |
|----------|-----------|--------------|
| 1 | admin | Admin |
| 2 | test | User |
| 3 | master | Master Admin |

LEVELS OF ACCESS




ADMIN INTERFACE


ACCESSORIES INCLUDED



24" TV Monitor



Wireless set: keyboard + mouse



HDMI cable
Power cable

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



+ HARDWARE

SHIPPING DATA

| Item | Dimensions of Package (LxWxH) | Gross Weight |
|---|-------------------------------|--------------|
| ALCMS Set (24" screen, cables, keyboard, mouse) | 620 mm x 205 mm x 460 mm | 10 kg |

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

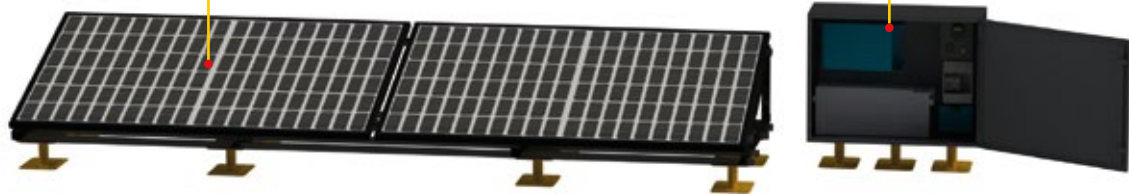
SOLAR PANEL

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



S4GA SOLAR PAPI



S4GA SOLAR WDI



OTHER AIRFIELD LIGHTING EQUIPMENT

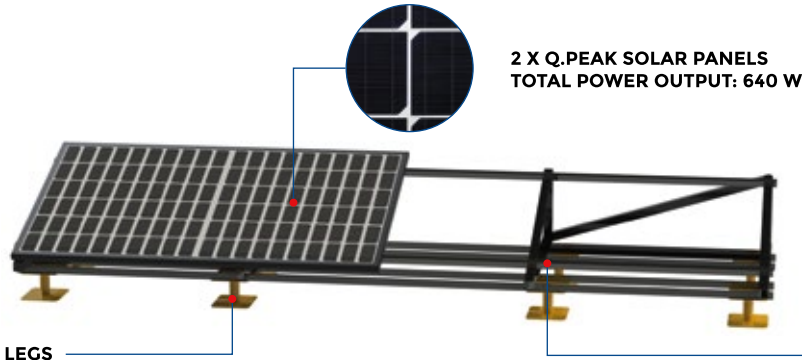
EXAMPLES OF S4GA SOLAR ENGINES



SOLAR PANEL

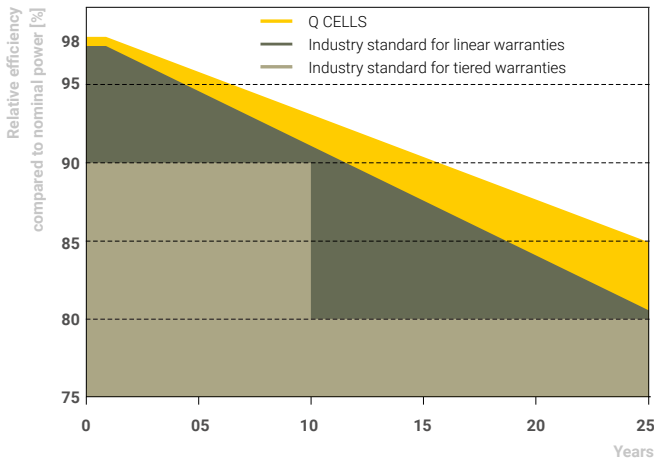
Q.ANTUM DUO TECHNOLOGY

Q CELLS
Engineered in Germany



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

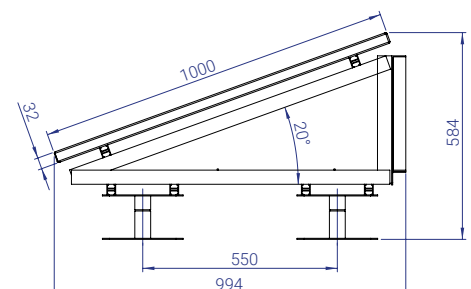
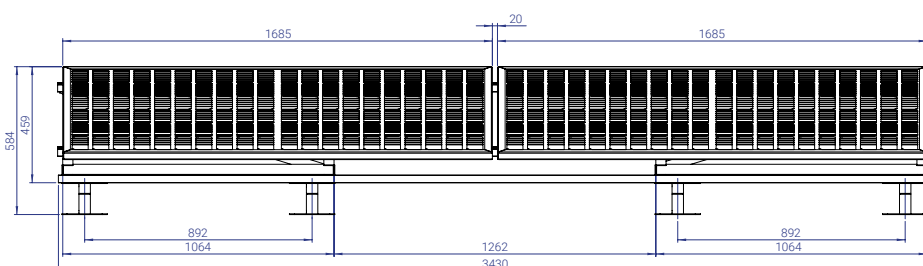
Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.

TECHNICAL SPECIFICATIONS

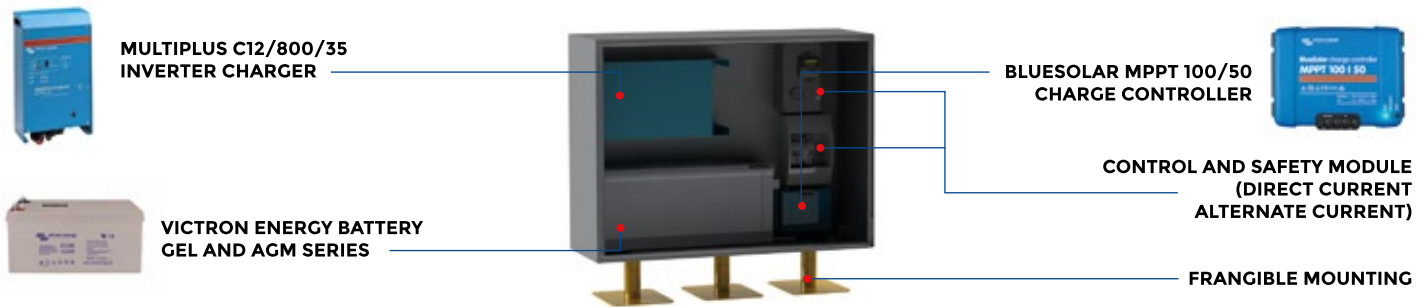
| General | |
|---------|---|
| | • 2 x Q.PEAK DUO-G5 solar panels |
| | • Front Cover: 3.2 mm thermally pre-stressed glass with antireflection technology |
| | • Back Cover: composite film |
| | • Frame: Black anodized aluminium |
| | • Cell: 6 x 20 monocrystalline Q.ANTUM solar half cells |
| | • Connector: 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



SOLAR POWER BANK



INVERTER / CHARGER

| General | |
|--|--|
| • MultiPlus C12/800/35 Inverter Charger | |
| • Power Control: yes | |
| • Transfer Switch (A): 16 | |
| • Parallel and 3-phase operation: yes | |
| • Dimensions [HxWxL]: 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 | |

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 | |

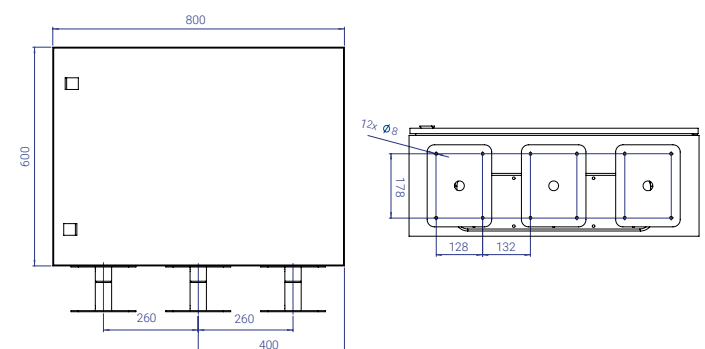
CHARGE CONTROLLER

| 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: 100 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 | |

ENCLOSURE

| |
|--|
| • 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

CONTACTLESS CHARGING

FULL PAPI (BATTERY-POWERED)

ICAO OACI MKAO
國際民航組織

Intertek

COMPLIANCE
ICAO Annex 14 Vol. I (7th Edition, July 2016)

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

TRAILER



| | | |
|-----------------------------------|--|---|
| Capacity | Set 1: 132 X airfield lights | Set 2: 86 X airfield lights 1 X portable full PAPI |
| Charging Of Lights | Inductive type (contactless) via power cable (optionally) | |
| Power Source | 110 – 230Vac Diesel generator (optionally) Solar engine (optionally) | |
| Material | Walls: aluminium Chasis: stainless steel | |
| Color | Aviation yellow, olive green | |
| Suitable For Air Transport | Yes | |

SP-401 LED ELEVATED AIRFIELD LIGHT



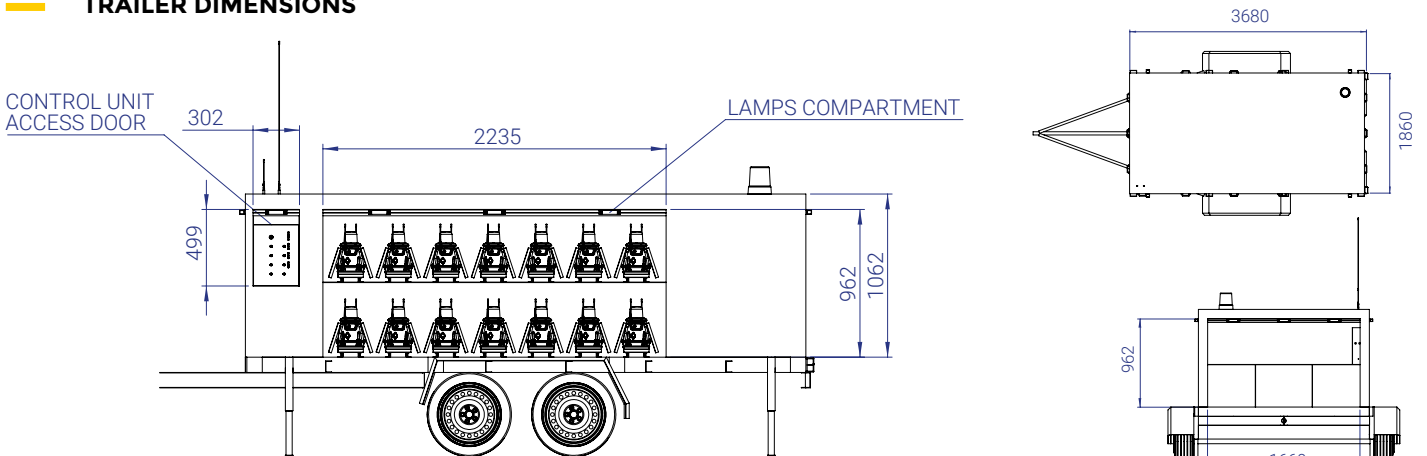
| | | | |
|----------------------|--|--------------------------------------|--------------------------------------|
| Optics | Runway edge light | Runway threshold end light | Taxiway light |
| | Led type Led lifespan 100.000 Hrs | Led type Led lifespan 100.000 Hrs | Led type Led lifespan 100.000 Hrs |
| Light Output | Combined type of bidirectional and omnidirectional | bidirectional | omnidirectional |
| | 1.200 cd | 320(red)/450(green) cd | 11 cd |
| Optics Color | White / White White / Yellow Yellow / Red White / Red | Red / Green | Blue |
| Autonomy | 180 Hours | 280 Hours | 600 Hours |
| Battery | 2 X built-in batteries, VRLA deep-cycle type, 9Ah/12V each battery User-replaceable | | |
| Power Supply | Inductive charging in a trailer, charging time – 8 hours 2 X separately installed solar panels, total power output: 10W | | |
| Casing / Dome | Uv-stabilized Lexan polycarbonate Glass dome Color: aviation yellow | | |
| Dimensions | 300 x 245 x 185 mm | | |
| Weight | 7 Kg | | |

UR-101 HANDHELD CONTROLLER



| | |
|--------------------------------|--|
| Operating Range | Up to 1.500 m |
| Frequency | Automatically modulated and encrypted Radio transceiver: 868 mhz Operation frequency: provided by S4GA |
| Autonomy | 48 Hrs |
| Battery | Lithium-ion battery, 7V/4Ah |
| Lighting System Control | Lights intensity setup Operating modes setup (steady/flashing) |
| Casing | Non-corrosive powder coated steel Color: black |
| Compliance | 2014/35/UE 2014/30/UE 2011/65/UE 1999/5/EC |

TRAILER DIMENSIONS





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NB, E1A 5T8
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506-854-2967

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WORLD'S SAFEST RUNWAY LIGHTING