

HIGH CONFIGURATION SERIES

SL-AIO-HC

All-in-One Solar Street Light

PUBLIC DATASHEET | MODELS SL-AIO-HC-120 / SL-AIO-HC-150 | ISSUE 2026.10

Integrated solar power.
Accessible battery service.



Product rendering. Pole shown for mounting context; supply scope is confirmed by project.

120 / 150 W

Featured rated LED powers

250 / 300 W

Monocrystalline Solar Panel
(Monofacial / Bifacial Optional)

25.6 V

Featured 120/150 battery
platform
Removable LiFePO₄;
alternatives by order

5 years

Warranty under
agreed order
terms

For municipal roads, EPC infrastructure packages, public-area lighting and off-grid project procurement.

An integrated aluminium platform combines the PV module, light source, battery and smart MPPT control. The slide-out battery pack is accessed through two retaining screws without opening the main luminaire housing.

01 / ARCHITECTURE

An integrated platform, with service access built in.

The HC architecture keeps the main energy and lighting components in one product assembly while retaining direct access to the battery pack.



Illustration:PV,underside,light source,mounting interface.

The five core elements

1.Bifacial monocrystalline PV

Monocrystalline PV modules are selected by configuration. Featured 120 W / 150 W luminaires use 250 W / 300 W PV reference configurations respectively. Monofacial and bifacial options are available.

2.Road-lighting LED assembly

3030/5050/5054/7070 package options with project-selected optics.

3.Removable energy storage

The 120 W/150 W references use 25.6 V removable packs. Optional 12.8 V designs need separately matched battery, MPPT, BMS and wiring.

4.Smart MPPT control

Light control, time scheduling, programmable dimming and infrared parameter setting.

5.Adjustable mounting

0–30° adjustment with a project-selected pole interface.

Battery access without opening the main housing

Service feature	What it provides
Retaining screws	The battery enclosure can be released and withdrawn from the underside.
Complete battery pack	The pack is replaced as one service unit with its carrying handle / case structure.
Waterproof quick connector	A disconnectable electrical interface supports pack exchange.
Housing retained	The main luminaire housing and PV assembly remain in place during pack service.

Designed for accessible maintenance

This is quick-access service, not tool-free service. One-technician access does not remove the need for safe work-at-height arrangements, pack support or suitable lifting equipment for the complete product.

Illustrations represent the series architecture. LED layout, sensor fitment and mounting details are selected for the ordered configuration.

02 / TECHNICAL SPECIFICATION

Series specifications

Released reference specifications for SL-AIO-HC-120 and SL-AIO-HC-150 only. Other AIO-HC family models remain on the website for preliminary selection; they are not covered by this published datasheet. Calculated reference optical values are identified below.

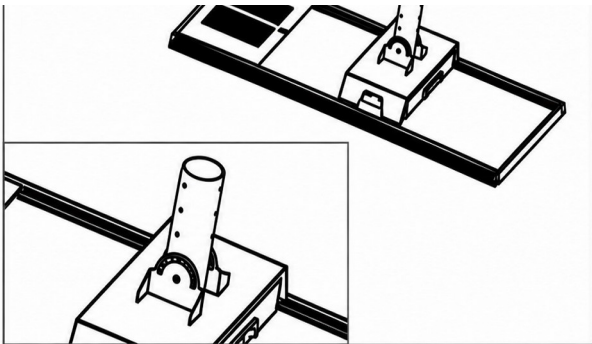
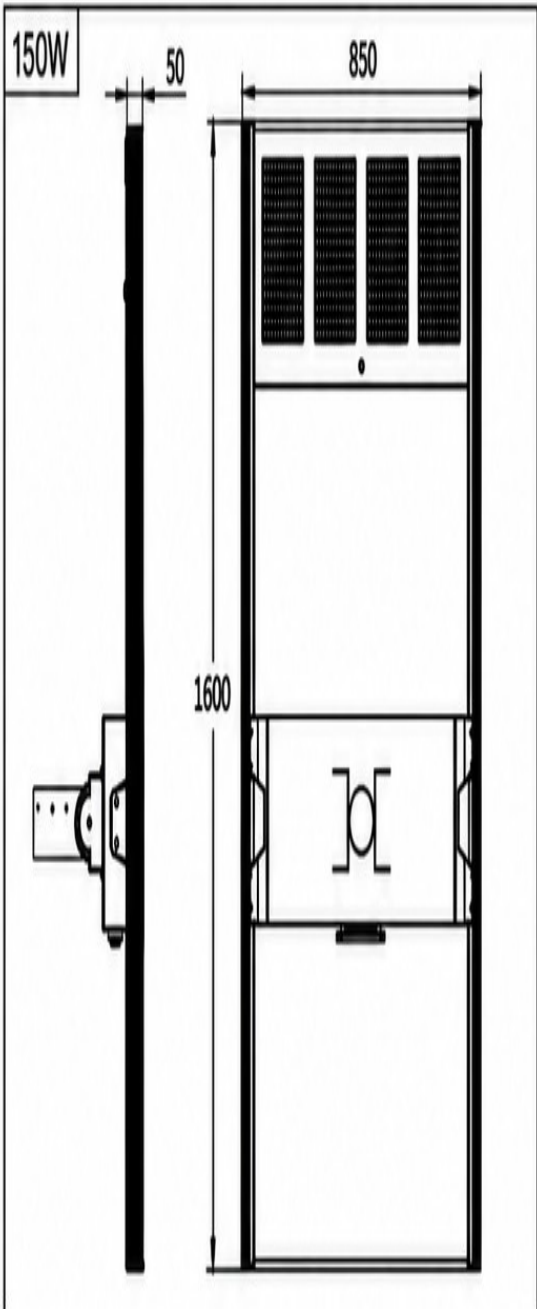
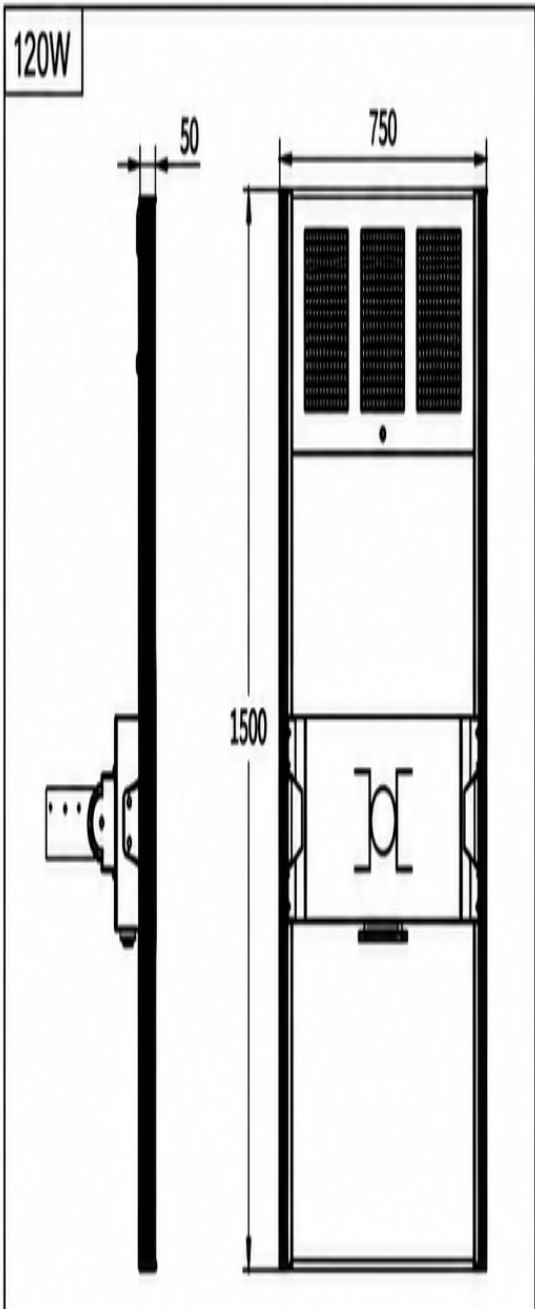
Model No.	SL-AIO-HC-120	SL-AIO-HC-150
Rated LED power	120 W	150 W
Luminaire efficacy ¹	200 lm/W	
Luminous flux	24,000 lm	30,000 lm
Battery chemistry	LiFePO ₄	
Nominal battery voltage	25.6 V (both featured models)	
Nominal battery energy ²	1,715 Wh	2,329 Wh
PV module power	250 W	300 W
PV module technology	Monocrystalline, monofacial / bifacial optional	
Solar Controller	Smart MPPT	
Night operation	Programmable, nominal 12 h	
Product size ³ / L×W×H	1500 × 750 × 50 mm	1600 × 850 × 50 mm
Product weight ³	45 kg	55 kg
IP/IK	IP66 standard / IP65 optional; IK08 (selected enclosure)	
Material	Die-casting Aluminum	
Operating ambient	-30°C~+65°C	
Preliminary pole-height guide	10-12 m	10-15 m
Preliminary spacing guide	25-35m	30-40m

Light-source selection

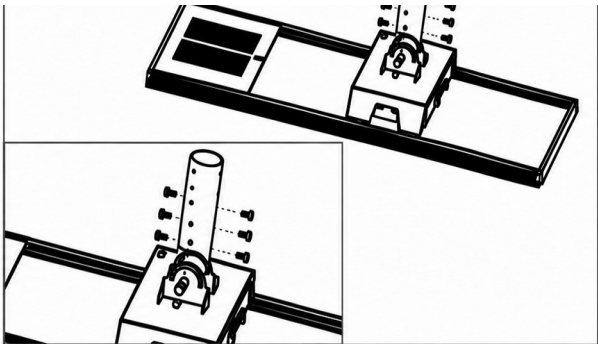
Selection	Series options
LED packages	3030 / 5050 / 5054 / 7070 optional.
LED source options	OSRAM / Philips / San'an; exact manufacturer and part number confirmed in the order specification.
Correlated colour temperature	6000 K standard; 3000 / 4000 / 5000 / 6500 K also available.
Optical distribution	Type II / Type III / Type IV options, matched to the selected optic and photometric file.

¹ Reference flux = rated LED power × 200 lm/W; it is not an LM-79 measurement. Actual efficacy and flux depend on the selected LED, CCT, optics and operating condition. Higher-efficacy project versions, with declared targets of 200–220 lm/W, require a separately confirmed configuration.² Nominal energy = nominal voltage × Ah; usable energy is lower and depends on discharge limits and losses. Published reference energy assumes the stated 25.6 V battery platform; final pack/BMS approval follows the order. ³ Confirm the assembled envelope, mounting hardware and final mass in the order drawing. ⁴ Applicable reports are matched to the selected model before a compliance submission.

SL-AIO-HC-120 / SL-AIO-HC-150 - BODY DIMENSIONS (mm)



Fix bracket on the light.

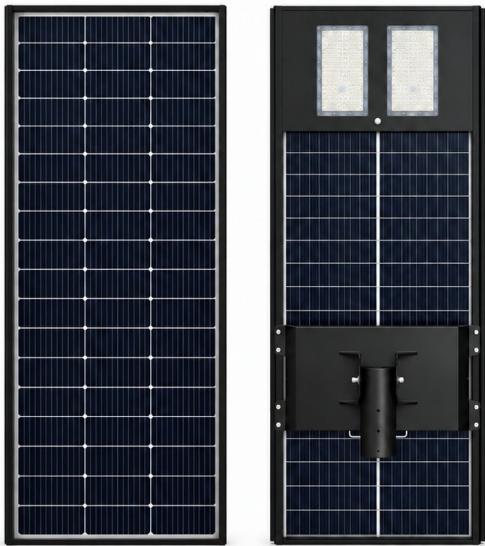


Fix the light on pole.

03 / SOLAR & BATTERY

Bifacial generation.
Removable LiFePO₄ storage.

PV and battery selection must be assessed together with the nightly operating profile, not from the LED wattage alone.



Opposite faces of the integrated solar-light platform, taken from the supplied product rendering.

Bifacial monocrystalline module

The selected module can collect light from both faces. Rear-side contribution is site-dependent; the installation should be reviewed for rear shading, mounting obstruction and surrounding reflective surfaces.

The 250 W and 300 W values identify the selected PV configurations. A fixed rear-side energy gain is not included in the reference calculations in this datasheet.

Nominal pack energy

120 W model: 1,715 Wh
150 W model: 2,329 Wh

Battery voltage selection

Both 12.8V and 25.6V LiFePO₄ battery-system configurations are available. Battery capacity, BMS, controller, connection and current rating must be matched to the selected system.

Battery and energy-system details

Item	Specification / selection requirement
Battery chemistry	Lithium iron phosphate (LiFePO ₄), supplied as a complete removable pack.
Pack connection	Waterproof quick connector; connector certification is component-specific and is checked separately from whole-luminaire compliance.
Specified cycle life ¹	≥6,000 cycles for the selected battery specification; applicable test conditions must accompany a tender claim.
Control protection	Overcharge, over-discharge, reverse-polarity, overtemperature and short-circuit functions in the specified control system.
PV electrical matching	Module operating voltage, open-circuit voltage and controller current limits are confirmed for the selected module and controller.
Energy management	Programme selection, usable battery reserve and solar recharge are reviewed for the project location.

¹ Cycle life is not the same as calendar life or warranty duration. Depth of discharge, temperature, charge/discharge rate and retained-capacity criterion are required to interpret a battery cycle-life report.

Autonomy is a project requirement

Requests for 2–3 or 4–5 reserve nights require an agreed light-output profile and energy calculation. They are not unconditional ratings of the featured battery capacities. A longer reserve may require reduced nightly demand or a different energy-system configuration.

04 / LIGHTING CONTROL

Programme the night. Size the energy around it.

A nominal 12-hour operating window does not mean 12 hours at 100% LED output. Multiple programmes can be selected for traffic, operating hours and energy availability.

Illustrative profile R01	Duration	LED output setpoint
Early evening	3 h	100%
Intermediate period	2 h	70%
Late night	7 h	30%
Total operating window	12 h	/

R01 is a selectable calculation example, not a validated factory programme for every site. The calculation assumes that electrical LED power follows the dimming percentage; confirm actual dimming power and add controller / communications consumption in the final design.

What R01 means for the featured batteries

Calculated reference	120 W model	150 W model
LED-only energy per night	780 Wh	975 Wh
Current Reference Battery Energy	1,715 Wh	2,329 Wh
80% of nominal battery energy	1,372 Wh	1,863 Wh
Storage-only equivalent nights	1.76 nights	1.91 nights
Illustrative daily PV energy	900 Wh	1080 Wh

Under the illustrative solar assumptions, calculated daily PV yield exceeds the R01 LED-only nightly demand by 120 Wh for the 120 W model and 105 Wh for the 150 W model. These margins exclude auxiliary loads, conversion losses, weather variation and ageing. Final energy balance requires project-specific verification.

At equal nominal battery energy, 12.8 V and 25.6 V systems may require different electrical design and components; matching must be confirmed for the ordered configuration.

Confirm light-output and reserve requirements together

At continuous full output for 12 hours, LED-only energy demand is 1,440 Wh for the 120 W model and 1,800 Wh for the 150 W model. Both are below the nominal reference pack energy; however, 120 W demand exceeds the illustrative 80% usable-energy allowance, while the 150 W case leaves a small margin before system losses. Neither calculation establishes guaranteed autonomy.

Standard and optional control functions

Standard control	Project options
Smart MPPT; light control; time control; programmable dimming; infrared remote parameter setting.	PIR or microwave motion sensing; 4G connectivity; GPS; remote monitoring.

Connected functions require the selected controller, communications hardware and project service arrangement. GPS location capability does not by itself provide remote communication.

05 / MECHANICAL INTEGRATION

Mounting, materials and handling information

Use the confirmed assembled drawing when checking the pole interface, handling method and shipment envelope.



Adjustable mounting illustrated on the AIO series.
Pole not included unless specified.

Construction and finish

Aluminium alloy construction with **anodized finish as standard**. An outdoor powder-coated finish is available for project requirements.

Standard appearance: dark grey / black. RAL colour and branding are selected for the project; finish method and colour availability are confirmed together.

Interfaces and adjustment

Pole interface options: Ø60 / Ø76 / Ø80 / Ø96 mm.

Adjustment: 0–30°.

Fasteners: stainless steel; grade and torque are specified in the order documentation.

Select the correct adaptor and verify the actual pole outside diameter, insertion and fixing details. The listed interface options do not imply that one adaptor fits every pole.

Package Reference	SL-AIO-HC-120	SL-AIO-HC-150
Type	120 W	150 W
Parts	Lamp body	
Box Size(L*W*H)mm	1550*800*200	1650*900*200
20GP(for reference)	100sets	85sets
40GP(for reference)	274sets	229sets

Packaging and container-loading quantities are indicative, not shipment commitments. The approved packing list governs orders.

Carton packaging, anti-shock packaging material, with EPE foam, ensure transport safety.

Environmental and structural selection

Declared luminaire ambient range: –30°C to +65°C. This ambient declaration is not a battery charge/discharge temperature specification. The selected battery and controller limits govern the usable system conditions.

No universal wind-speed rating is assigned in this datasheet. Wind loading, mounting angle, pole capacity and foundation conditions are reviewed for the project. At the declared product weights, use a suitable handling and lifting method; battery service access is not a one-person whole-unit installation claim.

06 / SERVICE & OPTIONS

Maintain the pack.
Keep the main assembly.

The removable battery architecture is intended to simplify a planned service visit without dismantling the main luminaire housing.

Battery replacement overview

1.Make the work area safe

Isolate the system using the supplied procedure, secure access and support the battery pack before releasing it.

2.Release the service pack

Loosen the retaining screws, withdraw the pack and disconnect the waterproof interface as instructed.

3.Fit a matched replacement

Use the specified battery voltage, connector and control-compatible pack. Reconnect and secure the replacement.

4.Commission and record

Check connector seating, retainers and lighting operation; record the replacement pack and restored programme.



Detail cropped from the supplied rendering. Service fastener and connector details are defined by the installation document.

Service overview—not an installation manual

Final installation instructions provide the isolation method, fastening torque, access procedure and connector sequence for the supplied configuration. Do not lift the complete unit by the removable battery pack or an electrical lead.

Configuration options

Selection	Available direction
Power range	120 / 150 W reference configurations are formally covered by this issue. 40 / 60 / 80 / 100 W may be selected from the broader AIO-HC family but are not specified or released here.
CCT and optics	6000 K standard; optional CCTs and Type II / III / IV optics.
Control and sensing	Infrared setting as standard; PIR / microwave and 4G / GPS by project.
Finish and branding	Anodized standard; powder-coating, RAL colour and branding options by project.
Operating profile	Multiple programmable schedules; reserve-night requirements assessed against the selected energy configuration.
Battery Platform	12.8 V or 25.6 V LiFePO ₄ battery-system configuration, with a matched pack, MPPT controller, BMS and electrical connections.
LED life specification	≥50,000 h, subject to LED package and operating conditions; this does not define a whole-system life or a specific lumen-maintenance criterion.

07 / ENGINEERING DOCUMENTS

From product selection to a matched submittal

Document support is tied to the selected model, LED assembly, optic, battery and project requirements. Request the required package when submitting the project brief.

Document / evidence	Purpose and release condition
Model datasheet and configuration schedule	Identify power, CCT, optic, PV, battery, control options and final supply scope.
IES / LDT photometry	Requested for the confirmed model and optic. Matched files are issued separately for use in the project lighting calculation.
DIALux / Relux study	Prepared after road geometry, pole layout, lighting criteria and matched photometry are available.
Product / mounting drawing	Confirm the assembled envelope, pole interface, fixing and installation orientation.
Battery, PV and controller specifications	Match electrical ratings, energy capacity, operating limits and functional options to the selected configuration.
Installation / service instructions	Issued for the supplied configuration, including battery-pack service and commissioning requirements.
CE / RoHS / applicable IEC-EN records	Applicable records reviewed against the selected model, component scope and destination requirements.
IP / IK and photometric test records	Provide the applicable report for the relevant housing, luminaire or optical assembly.
LM-79 / LM-80 documentation	LM-79 concerns luminaire photometric/electrical performance; LM-80 evidence is component-level and is not whole-system certification.
Battery transport documents	Applicable UN38.3 test summary and SDS / MSDS, identified for the supplied battery type and shipment.
Salt-spray / corrosion evidence	Applicable test information reviewed on request. No salt-spray duration is declared in this issue.
BOQ / tender matching and deviation notes	Prepared against the buyer's specification, document stage and confirmed delivery scope.
Electrical documentation	The supplied battery, controller and electrical documentation shall match the selected 12.8 V or 25.6 V system architecture.

A consistent model–document relationship

Use one confirmed model and option schedule across the quotation, datasheet, photometry, battery specification, drawings and packing list. Document availability depends on the product configuration, project scope and submission stage.

This datasheet does not certify every available configuration against every listed standard. Certificate holders, report references and the exact model/component applicability are checked in the requested project submission.

08 / PROJECT ENQUIRY

Select the configuration. Then confirm the project.

HC means High Configuration. The base model identifies the product family and rated LED power; the option schedule records the project-specific choices.

HC model	Selection in this issue
SL-AIO-HC-120	120 W LED / 25.6 V 1,715 Wh / 250 W bifacial PV.
SL-AIO-HC-150	150 W LED / 25.6 V 2,329 Wh / 300 W bifacial PV.

What to include with your enquiry

Project input	What to provide
Location and environment	Country / city; shading; dust; coastal exposure; operating temperatures.
Road and mounting geometry	Road width; pole height; spacing; overhang; mounting angle; existing pole details.
Lighting requirements	Required road class or illuminance; uniformity; CCT and optical preference.
Operating and reserve requirement	Night length; full-output periods; dimming restrictions; reserve nights and minimum acceptable output.
Quantity and supply scope	Units; poles / brackets / foundations; spare packs; communications; branding.
Project stage and documents	Budget / tender / procurement stage; BOQ; drawings; test requirements; submission and delivery dates.

Example order description (25.6 V System Configuration)

SL-AIO-HC-120 | 6000 K | Type III | 25.6 V / 1,715 Wh | 250 W bifacial PV | Smart MPPT | infrared setting | dark grey | Ø76 mm interface. Lighting programme and reserve requirement to be confirmed for the project location.

12.8 V configurations are also available subject to confirmed battery energy, capacity, controller, protection and mechanical integration

Delivery: schedule agreed against quantity, configuration, documentation and project milestones. Project configuration and branding options available.

Submit your project requirements

Send the installation location, road layout, operating profile and required documents. Sunlurio will review the configuration and identify the next technical submission.

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