Light shapes the city of tomorrow.

PUBLIC LIGHTING · SOLAR · CONNECTED

SMART CITY

WIRELESS MESH NETWORK

SOLAR LIGHTING CATALOGUE

2026

Decorative column & road luminaire · MPPT-ATMANI-AI controller

DSLS

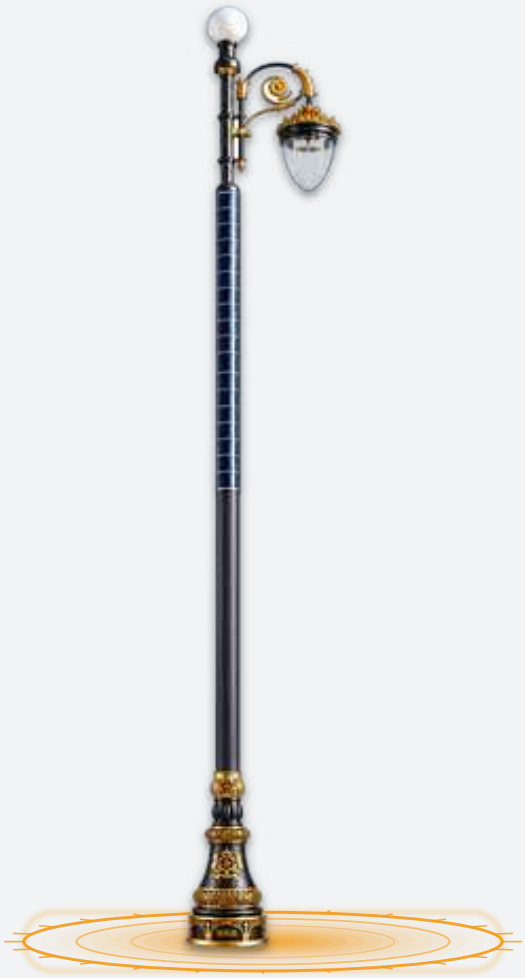
Digital-Smart Lighting Solutions

D-SLS SOLAR LIGHTING · TWO VERSIONS, ONE BRAIN

The same MPPT-ATMANI-AI controller drives both streetlights — only the way of capturing the sun changes

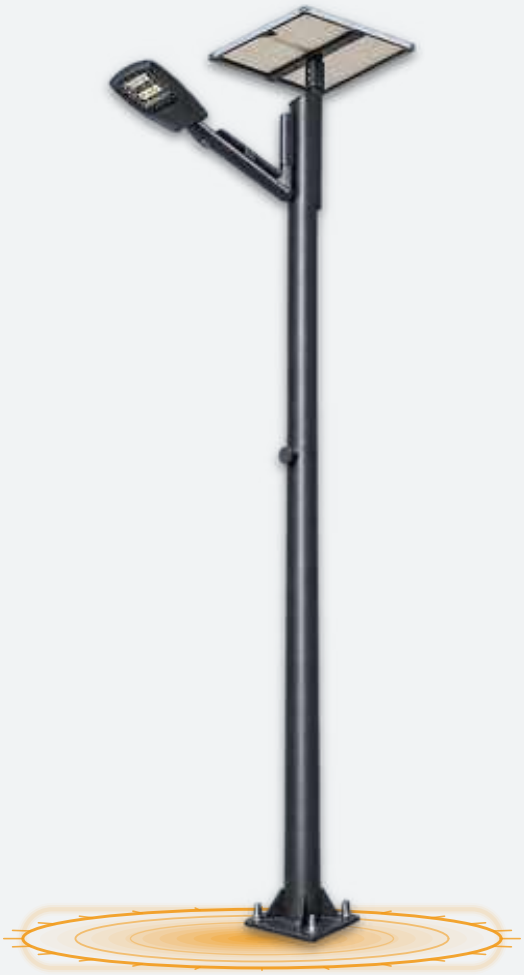
VERSION A — DECORATIVE COLUMN

Ref. D-SLS-28 S 20-150 · cylindrical glass photovoltaic shaft



VERSION B — TOP-MOUNTED PANEL

Ref. D-SLS-4 20-150 S · adjustable flat panel at pole top



A · Collection integrated into the pole

Cells under glass all around the shaft: 360° light capture, no visible panel — for historic centres, squares and promenades.

B · Flat top-mounted panel

Monocrystalline panel facing due south, tilted to latitude: maximum yield — for roads, rural routes and off-grid areas.

MPPT-ATMANI-AI	20 – 150 W	3 nights	TALQ 2.7.1
controller common to both versions	LED power	reference autonomy	LidarMesh remote management

COMPARISON · DECORATIVE COLUMN OR TOP-MOUNTED PANEL?

Two answers to the same need: choose by site and desired look

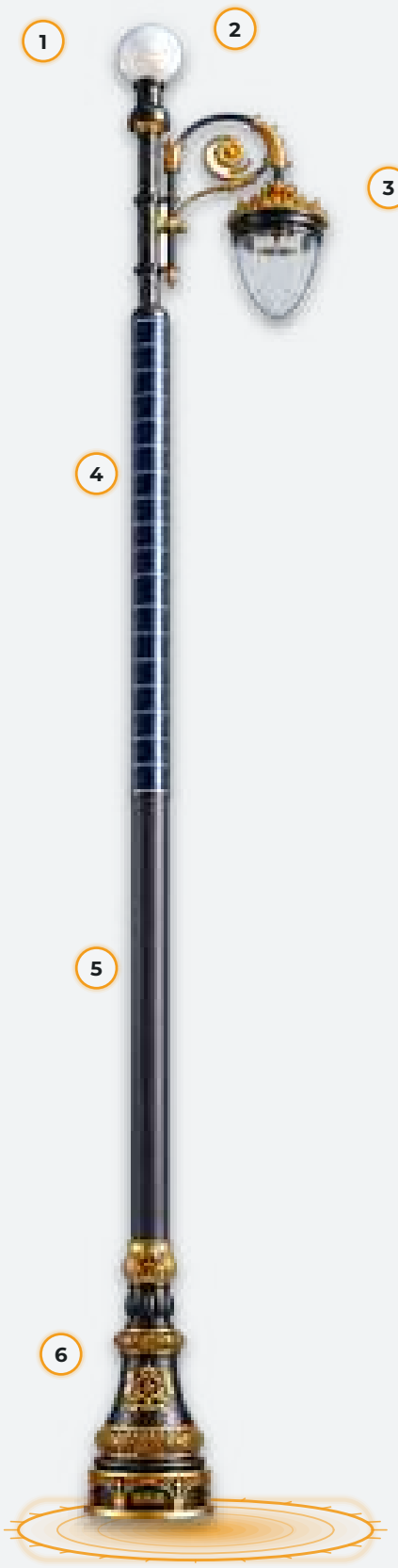
CRITERION	A · DECORATIVE COLUMN	B · TOP-MOUNTED PANEL
Reference	D-SLS-28 S 20-150	D-SLS-4 20-150 S
Solar capture	Cylindrical glass PV shaft · 360°	Flat monocrystalline panel at the pole top
Orientation	None — captures from all azimuths	Due south, tilt to latitude
Capture efficiency	Good — surface spread around the pole	Maximum — surface facing the sun
Peak power	Limited by shaft surface	Up to 400 Wp depending on panel
Luminaire	D-SLS-23 crown lantern + globe finial	D-SLS LED road luminaire (3 sizes)
LED power	20 – 150 W (hybrid beyond the shaft)	20 – 150 W
Aesthetics	Heritage: gilded bracket, royal skirt	Functional: anthracite pole, straight arm
Wind load	Low — no panel	Higher — panel to be sized
Vandalism	Cells protected under glass	Panel out of reach at the pole top
Controller	**MPPT-ATMANI-AI**	**MPPT-ATMANI-AI**
Applications	Historic centres, squares, parks	Roads, rural roads, car parks, off-grid

One installed base, two versions, one supervision

Both versions share the same controller, the same remote-management platform and the same options: a fleet can mix decorative columns in the city centre and top-panel streetlights on the outskirts, supervised on a single LidarMesh map.

VERSION A · SOLAR DECORATIVE COLUMN

A complete, autonomous set: light, energy and intelligence integrated in a single column



1 Light finial — globe version
Addressable RGBW + amber · anti-theft signal to customer's choice

2 Gilded ornamental bracket
scroll bracket, gold finish — carries the lantern

3 D-SLS-23 crown lantern
20 – 150 W · 187 lm/W · indirect reflector ρ ≥ 98 % · ogival diffuser

4 Cylindrical glass photovoltaic shaft
harvests light over 360° · no panel at pole top

5 Integrated MPPT-ATMANI-AI controller
MPPT · 16S storage · D4i + DT8 LED driver · TALQ 2.7.1

6 Royal skirt — ref. JUPROYEC
black & gold, royal emblem, zellige · registered design no. 30164

20 – 150 W LED power	**187 lm/W** lantern efficacy
360° solar harvesting	**3 nights** reference autonomy
0 connection · trenching	**TALQ 2.7.1** remote management

Indirect reflector (inter-reflection) — reflectance ≥ 98 %

Satin aluminium reflector optics, the LED is never seen directly: reflected, anti-glare light, no PMMA lens. Reflectance ≥ 98 %, ULOR 0 %, asymmetric road distribution. One-piece LED matrix, screw-removable.

OVERVIEW

VERSION A · COMPOSITION — ONE REFERENCE, ONE PRICE

Everything needed to operate the light point is included in the supply

1

D-SLS-23 crown lantern

20 – 150 W · LUSSO-5050AUX LED · 187 lm/W · D4i + DT8 driver · clear ogival diffuser.

2

Ornamental bracket

Scroll crook with rosette, gold finish — lantern fixed on pole top.

3

Globe light finial

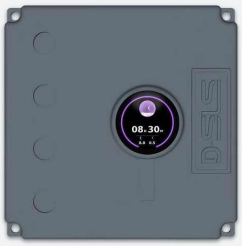
1 – 10 W addressable RGBW + amber · IP65 / IK10 · anti-theft signal of choice.

4

Photovoltaic shaft

Cylindrical glass panel integrated into the pole — 360° capture, no orientation needed.

5



MPPT-ATMANI-AI controller

MPPT · BMS 16S · 400 W LED driver · weather AI · AMOLED · TALQ 2.7.1.

6

Royal skirt JUPROYEC

Black & gold base — royal emblem, zellige · registered design no. 30164.

Included in the supply

- Integrated 16S storage — supercapacitors or lithium (LiFePO4)
- Internal wiring and plug-in connectors
- Factory settings: dimming profiles, reserve, DALI addresses
- Commissioning and operator training

Options

- LidarMesh CMS remote management (TALQ 2.7.1)
- LiDAR-ATMANI-AI node — dimming on detection
- Hybrid solar + grid mode or backup on power failure
- Colour, frieze and decoration defined on order

VERSION A · CYLINDRICAL GLASS PHOTOVOLTAIC SHAFT

Energy harvested by the pole itself

360° capture

The cylindrical surface receives sun from morning to evening, whatever the street's orientation: no azimuth or tilt adjustment.

Integrated, discreet, protected

Cells under glass, integrated in the shaft: no panel on the pole top, less wind load and no target for vandalism.

Measured output

The controller traces the shaft's I-V curve: shading, soiling or degradation are detected and reported remotely.

ENERGY CHAIN

PV shaft (cylindrical · glass) → MPPT (18 – 58 V · V2G) → 16S storage (supercap / LiFePO4) → LED driver (D4i + DT8) → Lantern (D-SLS-23)

All energy is managed by the MPPT-ATMANI-AI controller, housed in the assembly.

Reference sizing — 3 nights of autonomy

LED power	Lantern flux	PV peak power	Usable storage
20 W	3 740 lm	60 Wp	300 Wh
60 W	**11 220 lm**	**150 Wp**	**800 Wh**
100 W	18 700 lm	250 Wp	1 350 Wh
150 W	28 050 lm	400 Wp	2 000 Wh

Project-specific sizing

The photovoltaic shaft is sized to reach the required peak power; the controller's AI adapts the reserve each night to the weather forecast. Beyond the shaft's capacity, hybrid solar + grid mode takes over. Each project is subject to an irradiation study and a sizing note.

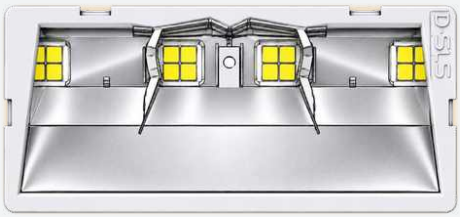
VERSION B · SOLAR STREETLIGHT WITH TOP-MOUNTED PANEL

Ref. D-SLS-4 20-150 S — roads, rural routes and off-grid areas

1. **Monocrystalline PV panel**
   at pole top, oriented and tilted · aluminium frame
2. **D-SLS LED road luminaire**
   20 – 150 W · 187 lm/W · indirect reflector ρ ≥ 98 % · LED never directly visible
3. **MPPT-ATMANI-AI controller**
   housed in the pole · 16S storage · AMOLED display
4. **Anthracite steel pole**
   straight arm · 4-anchor-bolt base plate

20 – 150 W	187 lm/W	≤ 400 Wp	3 nights
LED power	luminaire efficacy	panel at top	reference autonomy

Indirect reflector (inter-reflection) — reflectance ≥ 98 % — D-SLS signature



Satin aluminium reflector optics, the LED is never seen directly: reflected, anti-glare light, no PMMA lens. Reflectance ≥ 98 %, ULOR 0 %, asymmetric road distribution. One-piece LED matrix, screw-removable.

VERSION B · TOP-MOUNTED PANEL & SIZING

One luminaire in three sizes, panel and storage sized for 3 nights

Adjustable panel

Monocrystalline under tempered glass, aluminium frame: due-south azimuth and tilt set on installation according to latitude.

Measured output

The controller traces the panel's I-V curve: soiling, shading or theft detected and reported remotely.

Out of reach

Panel and luminaire at the pole top, controller housed in the shaft: no component accessible from the ground.

Reference sizing — 3 nights of autonomy, LiFePO4 storage

Luminaire	LED power	Flux · 187 lm/W	Peak panel	Usable storage
Size S	20 W	3 740 lm	60 Wp	300 Wh
Size S	50 W	9 350 lm	150 Wp	750 Wh
Size M	**60 W**	**11 220 lm**	**150 Wp**	**800 Wh**
Size M	100 W	18 700 lm	250 Wp	1 350 Wh
Size L	120 W	22 440 lm	300 Wp	1 600 Wh
Size L	150 W	28 050 lm	400 Wp	2 000 Wh

Size S 20 – 50 W
residential streets, paths, car parks

Size M 60 – 100 W
urban roads, secondary roads

Size L 120 – 150 W
main roads, junctions

Project-specific sizing

Reference values for average sunshine; every project is subject to a solar study and a sizing note. The controller's AI adapts the reserve each night to the forecast weather. The three sizes share the same body, the same indirect reflector ρ ≥ 98 % and the same controller: only the number of LED modules, the panel peak power and the storage capacity change.

COMMON CONTROLLER · MPPT-ATMANI-AI

The same controller equips the decorative column and the top-panel streetlight

Autonomy display readable from the ground

18 – 58 V
PV input · bidirectional MPPT

16S BMS
supercap / lithium · active balancing

400 W
CW/WW LED driver · D4i + DT8

IP66
die-cast aluminium housing

Predictive AI

Reserve adapted to forecast rain and cloud: the lantern runs for several nights without sun.

Multi-chemistry storage

Supercapacitors for extreme climates (−40 °C) or lithium for long autonomy — same board.

Lantern control

Tunable white CW/WW 2700 – 6500 K, D4i + DT8 dimming, thermal derating, GPS astronomical calendar.

Field maintenance

AMOLED display, NFC without opening, USB-C, replaceable fuse — diagnostics at the pole base.

Safety & anti-theft

WireGuard VPN, signed OTA with rollback, GPS + accelerometer anti-theft with alarm.

Connected node

DALI-2 / D4i, Zhaga Book 18 receptacle, self-healing MESH, TALQ 2.7.1 remote management.

SYSTEM ARCHITECTURE

Complete energy chain and on-board control

ENERGY CHAIN

PV panel — 18 – 58 V → **MPPT** — bidirectional · V2G → **16S pack** — supercap / lithium · BMS → **400 W LED driver** — CW/WW · D4i + DT8 → **LED** — matrix

monitoring & dimming

ON-BOARD CONTROL

Control & sensors — dual MCU · GPS · NFC · AMOLED · industrial memory → **Standardised interfaces** — DALI-2 / D4i · Zhaga Book 18 · energy metering → **LidarMesh CMS** — TALQ 2.7.1 · D-SLS Cloud Infrastructure

All energy, from PV cell to LED, flows through a single board: measured, protected and controlled — and reported to the CMS in real time.

ARCHITECTURE

WHAT SETS US APART

Technical choices rarely found on the market

Multi-chemistry, same board

Supercapacitors for extreme climates (−40 °C, exceptional cycle life) or lithium for long autonomy: a software profile, not new electronics.

Bidirectional V2G

The converter returns stored energy to the grid or a microgrid — the streetlight becomes an energy asset.

Native D4i + DT8

Tunable white, standardised diagnostic and energy data, Zhaga Book 18 receptacle for sensors and nodes.

TALQ 2.7.1 interoperable

Remote management speaks the market standard: the city is never locked into our platform.

Field maintenance

AMOLED diagnostic display, NFC configuration without opening, replaceable fuse: designed for municipal teams.

Controlled chain

Electronics, firmware, IP66 mechanics and cloud platform designed by D-SLS — a single accountable contact.

FOUR POWER SUPPLY SCENARIOS, ONE PRODUCT

The operating mode is configured — not wired

Stand-alone — off-grid

PV + storage only: zero grid connection, zero trenching. Weather AI sizes the reserve to last several nights without sun.

Pitch: Rural roads, isolated sites, urban extensions

Hybrid solar + grid

Solar first, seamless grid back-up: the bill melts away, continuity is absolute.

Pitch: Urban renewal on existing network

Backup on power cut

The grid supplies power; at the slightest outage, the pack takes over seamlessly — street lighting remains a safety service.

Pitch: Main roads, pedestrian crossings, sensitive areas

V2G — discharge

Surplus energy flows back to the grid or a local microgrid: the lighting stock becomes an energy asset.

Pitch: According to the country's regulatory framework

CLEAN PANELS, GUARANTEED OUTPUT

From detected dust to a scheduled cleaning round

1 — Periodic I-V scan

The controller traces the panel's current-voltage curve — automatically, without intervention.

2 — AI analysis

The signature is compared with the site reference, corrected for weather and season.

3 — Soiling index

Each light point reports its soiling rate and estimated yield loss.

4 — Optimised cleaning

The CMS maps the panels to clean and schedules grouped rounds — no more wasted trips.

In dusty areas, soiling can cost more than **20 %** of solar output. Here it is measured from the office — and cleaning becomes a **quantifiable maintenance contract**.

POWER SCENARIOS · BOTH VERSIONS

The operating mode is configured — not wired

Stand-alone — off-grid

PV shaft + storage only: zero connection, zero trenching. Weather AI sizes the reserve for several sunless nights.

Hybrid solar + grid

Solar first, seamless grid back-up: the bill melts away, continuity is absolute.

Backup on power cut

The grid supplies power; at the slightest outage, storage takes over seamlessly — lighting remains a safety service.

REMOTE MANAGEMENT & DETECTION · OPTIONS

Every street light becomes a measuring and control point

LidarMesh CMS

Map of every light point, state of charge, solar yield, alarms and history — TALQ 2.7.1 interoperable.

LiDAR-ATMANI-AI node

Image-free detection of pedestrians, cyclists and vehicles: light rises on approach and saves energy the rest of the night.

MESH network

Each street light relays its neighbours; a single gateway serves a whole section.

Optimised cleaning

PV shaft soiling index reported by each point: cleaning rounds planned from the office.

Night profile

Typical scenario: 100 % at dusk, programmed dimming in the middle of the night, instant boost on LiDAR detection, back to 100 % before dawn — the energy reserve is preserved for sunless nights.

FEATURES & CODING

COMMON TO BOTH VERSIONS

Controller	MPPT-ATMANI-AI · PV input 18 – 58 V · bidirectional MPPT · 400 W LED driver · IP66
Storage	16S — supercapacitors or lithium (LiFePO4) · active-balancing BMS · SoC / SoH
Autonomy	3 reference nights · AI predictive reserve based on weather
Modes	Off-grid stand-alone · hybrid solar + grid · backup on outage
LED control	D4i + DT8 · tunable white 2700 – 6500 K · GPS astronomical calendar
Connectivity	DALI-2 / D4i · Zhaga Book 18 · WiFi 6 · BLE · IPv6 · MESH · GPS
Remote management	TALQ 2.7.1 · LidarMesh CMS · WireGuard VPN · signed OTA
Maintenance	AMOLED display · NFC without opening · USB-C · I-V scan of the solar collector

Order references

D-SLS-28 S 20-150
Solar decorative column
D-SLS-23 lantern · globe finial · glass PV shaft · royal skirt

D-SLS-4 20-150 S
Solar streetlight with top-mounted panel
D-SLS LED road luminaire · adjustable PV panel · steel pole

MPPT-ATMANI-AI
Controller only
To fit an existing luminaire or pole

Combinable options

- **LD** LidarMesh remote manag
- **LDR** LiDAR-ATMANI-AI node
- **HYB** hybrid solar + grid
- **W10** 10-year warranty

Sales & technical contact

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