

SolPol Solar Lighting Specifications

Autonomous and grid connected solar area lighting

We design the fixture output, solar type, solar generation, battery storage and pole type to suit local sunlight, overcast conditions and the required illumination.



LED fixture selection

Fixture	Output range	Mounting
Contemporary	7–90W	Pole top 1.5–3 in; tenon 1.5–2.4 in
Cobra Head	7–120W	Tenon 1.5–2.4 in
Shoebox	7–90W	5.5 in square pole spacer; tenon option
TWL-IS integrated	7–14W*	Pole top 1.5–3 in; tenon 1.5–2.4 in

*TWL-IS includes a 25W panel (18W effective) and a 160Wh or 320Wh LiFePO4 battery. A separate source table lists 20W; confirm that option before specifying.

Complete system pole options

Material	Overall height	Dimensions and form
Aluminum	12–18 ft	3 in OD / 2.5 in ID; round or square
Steel	12–18 ft	4 in OD at bottom and top
Composite	12–25 ft	5 in OD / 3 in OD

Pole installation: ground screw or partial burial. Overall height is not mounting height; confirm exposed height, embedment and structural suitability for the project.

Additional mounting options

Remote-panel wall-light configurations: aluminum 3.5 in OD / 3 in ID, or stainless steel 4 in bottom OD / 3 in top OD; listed overall height 12–25 ft. Wooden-pole fixture bracket: 1.5 in OD aluminum weldment, screwed to a 6–12 in wooden pole. Final mounting details are supplied with the project design.



Solar Power and Battery Specifications

Solar generation options

Selection	Output	Dimensions and mounting
Remote panel top	Up to 100W	Pole-top swivel
Remote panel side	Up to 100W	Pole-side swivel above fixture
C-8 wrap	40W effective	54 in high; 8 segments; pole 2.375–6 in
C-10 wrap	40W effective	54 in high; 10 segments; pole 6–10 in
I-6 wrap	60W effective	6 ft 6 in high; 2 round segments; pole 2.375–6 in
300W cylinder	300W at STC	1900 ±2 mm high; pole fit confirmed
TWL-IS integrated	25W / 18W effective	Panel built into fixture

300W cylinder: Vmp 21.97V; Imp 13.62A; Voc 25.27V; Isc 14.14A; tolerance ±5%. Monocrystalline; 148 cells (74 per half); panel weight 4 kg as listed; thickness 6 mm. Rear IP68 boxes; 4 mm² cable; MC4. Operating –40°C to +85°C; system max. 1000V; reverse current/fuse 20A; Voc –0.30%/°C; Isc +0.06%/°C; 5-year warranty. Data preliminary; confirm assembled weight and pole fit. Orient remote panels locally; TWL-IS best within ±30° latitude.

Battery selection

Location	LiFePO4 capacity	Installation
Pole side	1200Wh per battery; up to 4	External pole container
Inside pole	320Wh	Inserted from top; minimum 3 in ID
Ground	1200Wh per battery; up to 4	Ground container
TWL-IS fixture	160Wh or 320Wh	Integrated in fixture body

Separate batteries have a stated expected life of 10 years. General charge/discharge range: –10°C to +60°C; charging availability decreases significantly at –15°C. Heated and insulated containers are available for extreme conditions. Increased storage requires corresponding solar generation.

Runtime examples from the source specifications

Configuration	Reported runtime
Pole side 1200Wh at 40W	3.3 days; 50% dimming after 6 hours
Inside pole 320Wh at 10W	3.5 days; 50% dimming after 6 hours
Ground 4 × 1200Wh at 90W	7 days; 50% dimming after 6 hours

Examples are sizing references, not site guarantees. Final runtime depends on the lighting schedule, solar exposure, temperature and successive overcast days.

Controller and photometrics

ActiveLED 1755-E combines the solar controller, battery charger and LED driver. It is integrated in TWL-IS or housed in the battery box or pole. Connections support the fixture, daylight sensor, motion sensor, IR receiver and batteries; auxiliary solar, wind or line power may be used. IES files are available for lighting layouts.

SolPol Model Number Builder

Proposed ordering convention. Select one value for each field. Eco-\$mart confirms component compatibility and site sizing before issuing the final model number and quotation.

SP – [FX] – [W] – [PM] – [H] – [A] – [FM] – [SOL] – [BL] – [Wh] – [PWR] – [OPT]

Configuration variables

Field	Code and selection
SP Product family	SP = SolPol solar lighting
FX Fixture	CT = Contemporary; CH = Cobra Head; SB = Shoebox; TI = TWL-IS
W Fixture watts	Numeric watts, e.g. 10, 20, 40. CT/SB: 7–90W; CH: 7–120W; TI: 7–14W pending confirmation.
PM Pole material	AL = Aluminum; ST = Steel; CP = Composite; EX = Existing support
H Overall pole height	Feet, e.g. 12, 18, 25. AL/ST: 12–18; CP: 12–25; EX: NA.
A Pole installation	GS = Ground screw; DB = Partial burial; EX = Existing support
FM Fixture mounting	PT = Pole top; TN = Tenon; SQ = Square pole spacer; WP = Wooden-pole bracket; WL = Wall mounting
SOL Solar configuration	RTxxx/RSxxx = Remote top/side panel watts (up to 100W); C8/C10 = 40W effective wraps; I6 = 60W effective wrap; CY300 = 300W cylinder; INT = TI integrated panel.
BL Battery location	PS = Pole side; IP = Inside pole; GR = Ground; IF = Integrated in TI
Wh Total battery energy	Numeric Wh: IP = 320; IF = 160 or 320; PS/GR = 1200, 2400, 3600 or 4800.
PWR Power arrangement	AS = Autonomous solar; AX = Auxiliary line power with solar
OPT Additional selections	N = None; MS = Motion sensor; HT = Heated/insulated container; CX = Custom configuration. Add applicable codes with +, e.g. MS+HT.

Example model number

SP-CT-10-CP-18-GS-PT-I6-IP-320-AS-N

Contemporary 10W fixture; composite pole, 18 ft overall; ground screw; pole-top fixture mount; I-6 solar wrap; 320Wh battery inside pole; autonomous solar; no additional selections. Illustrative configuration, subject to design confirmation.

Project information

Customer _____ Project _____
 Location _____ Quantity _____
 Required light level _____ Nightly operating hours _____
 Overcast autonomy target _____ Mounting height above grade _____

Specify finish, color temperature, light distribution, dimming schedule, pole diameter and any special mounting or control requirements in the project notes. These items are confirmed by quotation rather than assigned unverified option codes.

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