

POWERSTACK™

Technical Specifications

Overview

PowerStack™ modular solar poles are a sustainable, cost effective way to power safety, security, and smart technologies for your business and community projects.

With totally off-grid vertical solar, you can power lighting, cameras, wireless sensors, and more without the time consuming utility approvals, digging and trenching required by AC power. The unique modular design means PowerStack can be installed almost anywhere and is optimised to capture maximum sunlight for each location.

Installed in under 60 minutes per pole by a two person team, built to last in rugged environments, and delivering a designed 5 day power backup, PowerStack is solar, reimagined.

10

YEAR LIMITED*
WARRANTY

↓ 60

MINUTES
INSTALL TIME

5

DAYS POWER
BACKUP

50-80%

OF PROJECT TIME
SAVED

Key features



Industrial grade
aluminium extrusions



Architectural anodise process



Glassless vertical solar panels



Locally manufactured



Wifi and Bluetooth enabled
out of the box



Vandal resistant design



Concrete-free foundation
for easy install



Customisable modular system
designed for each location



Can withstand winds of up to
250km/hr, floodzone adaptive

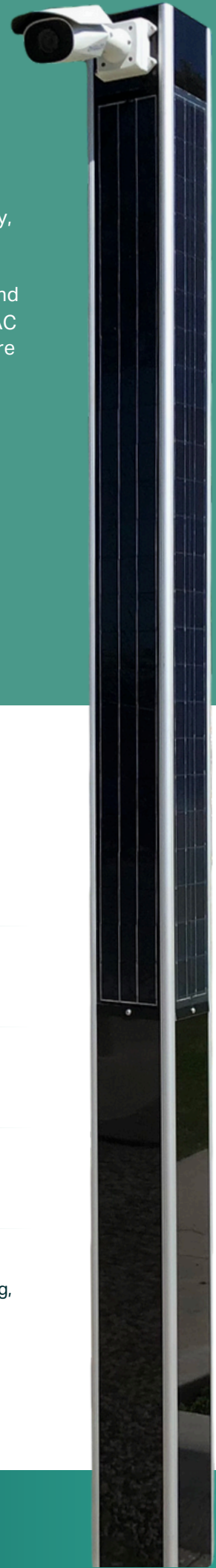


Compatible with majority of
technology providers in lighting,
cameras, sensors



5 day power backup and
10 year limited warranty*

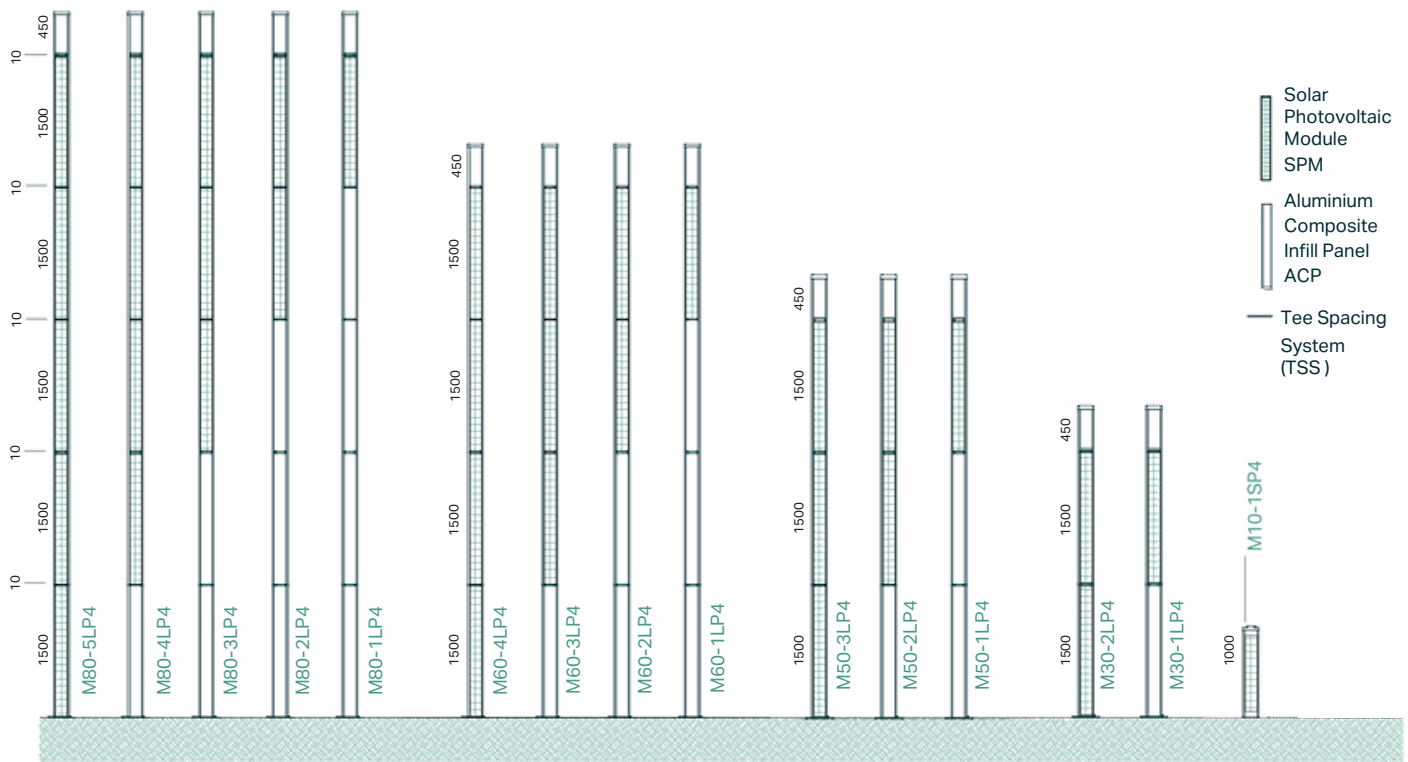
Solar Reimagined.



Model range and ordering information

Pole section measurements provided in mm, rounded to the nearest point.

Core Models: M10-1SP4, M30-2LP4, M50-2LP4, M50-3LP4, M60-3LP4, M60-4LP4, M80-4LP4 and M80-5LP4



All systems are sized for a back up of 5 days in severe inclement weather, in winter sun conditions, based on the load and panels selected. All sizes in model no. are nominal sizes. Core models are typically available for shipping immediately with no minimum order quantity (MOQ), other models available on a 10-12 week lead time with MOQ required.

Pole Type	Solar Panels <i>Standard Configurations in bold</i>	Energy Storage	Operation Profile
APS-M10	1SP4	Up to 3LFP	DN, FN, 9 HRS, 6HRS, 3HRS
APS-M30	1LP4, 2LP4	Up to 15LFP	DN, FN, 9 HRS, 6HRS, 3HRS
APS-M50	1LP4, 2LP4, 3LP4	Up to 20LFP	DN, FN, 9 HRS, 6HRS, 3HRS
APS-M60	1LP4, 2LP4, 3LP4, 4LP4	Up to 25LFP	DN, FN, 9 HRS, 6HRS, 3HRS
APS-M80	1LP4, 2LP4, 3LP4, 4LP4, 5LP4	Up to 30LFP	DN, FN, 9 HRS, 6HRS, 3HRS

Example model number: APS-M50-3LP4-10LFP which refers to a 5m pole with 3 large solar panels on 4 sides and 10 (LFP) batteries.

Pole Height: Heights are nominal, see datasheets for actual heights. Higher poles available upon request as a custom order.

Weight: Weights are indicative, showing unloaded pole without batteries and will vary based on system design.

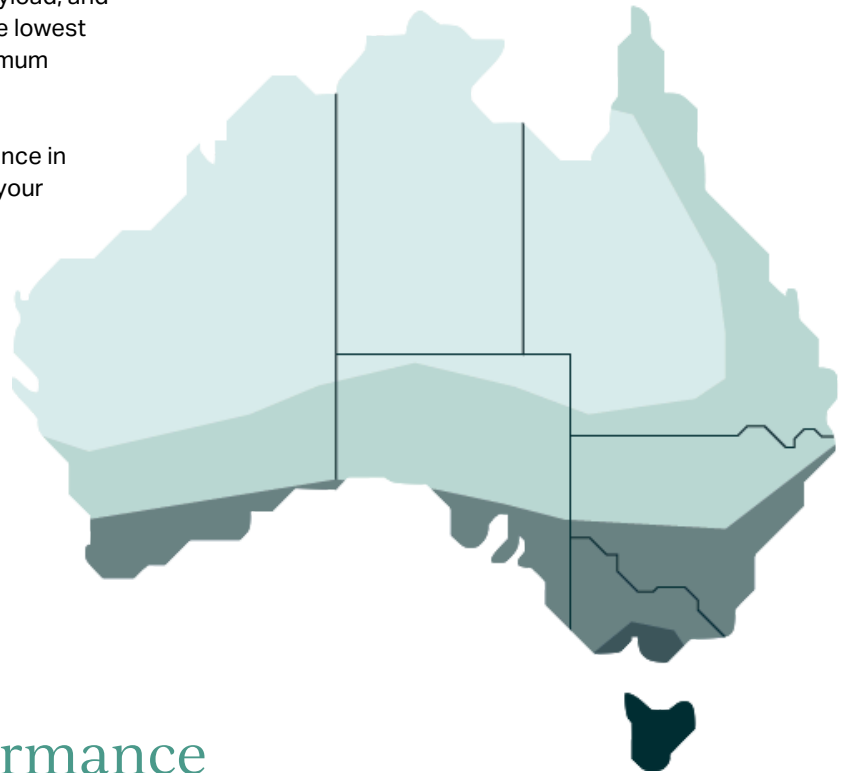
Pole Type	Pole L X W (mm)	Pole Base Plate L X W (mm)	H (mm)	Weight (kg)
APS-M10	175 x 175	175 x 175	1000	Up to 25
APS-M30	175 x 175	305 x 305	3500	Up to 75
APS-M50	175 x 175	305 x 305	5000	Up to 90
APS-M60	175 x 175	305 x 305	6500	Up to 120
APS-M80	175 x 175	305 x 305	8000	Up to 140

DO NOT USE THESE DOCUMENTS FOR FINAL DESIGN AND INSTALLATION. Contact your PowerStack representative to access full technical details.

Zonal performance data

The wattage available from a PowerStack pole is determined by the location, power requirement of the technology payload, and run profiles. PowerStack systems are designed for the lowest annual sunlight hours for each location, ensuring optimum performance year round.

The zones shown below give an indication of the variance in sunlight hours across Australia, for accurate data for your chosen site, please speak to our team.



Example power performance

All figures shown are indicative only, please contact your local PowerStack sales representative to your project requirements.

		Wattage				
	Pole Type	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
Half-night	APS-M10	8	11	15	19	23
	APS-M30	37	53	75	91	113
	APS-M50	56	80	113	136	170
	APS-M60	75	107	151	184	227
	APS-M80	94	135	189	229	267
Full-night	APS-M10	3	4	6	8	10
	APS-M30	16	23	32	39	48
	APS-M50	24	34	48	59	72
	APS-M60	32	46	64	78	97
	APS-M80	40	57	81	98	114
24/7 operation (D/N)	APS-M10	1	2	3	4	5
	APS-M30	8	13	18	22	28
	APS-M50	14	20	28	34	42
	APS-M60	18	26	37	45	56
	APS-M80	23	33	47	57	66

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Technical specifications

General

Energy Source	Solar power
Operating Temperature	-30°C to +60°C
Height	1m to 8m
Warranty	10 years limited*
System Voltage	12V _{DC} <i>Other voltages available, requires external components (ext. sourced)</i>
System Design Life	> 10 years
Wind Resistance	> 250km/hr wind
Impact Rating	IK10

Control Box

Control System	Maximum power point tracking (MPPT) <i>Single MPPT and Double MPPT versions available (excl. Bollard)</i>
Voltage	12V _{DC} <i>Can be boosted to 24V, 48V & other voltages with required accessories (sourced ext.)</i>
Material	Powder coated galvanised sheet metal
Terminal	1mm - 4mm field terminal connections <i>With lever blade disconnect & fuses in control box, located inside top of pole</i>
Remote Access	Access system diagnostic app via Bluetooth

Solar Panel

Technology	Monocrystalline solar photovoltaic cells
Encapsulant	Shatterproof glassless polymer
Power Output	Up to 720W based on size and location
Connection	Waterproof 30A connection system
Life Expectancy	>15 Years

Pole

Material	Industrial grade aluminium
Coating	Architectural anodise
Process	Extruded
Cross Sectional Dimensions (pole)	180mm x 180mm
Cross Sectional Dimensions (base)	Bollard: 180mm x 180mm Poles: 305mm x 305mm
Estimated Life	~ 30 years
Foundation Options	Concrete-free foundation option available <i>System is also compatible with standard pad, pier and above ground concrete foundations.</i>
Color	Black - Other colors available with MOQ

Energy Storage System

Technology	Lithium Iron Phosphate (LiFePO ₄)
Battery Management	Proprietary battery management system
Battery Backup	5 days severe inclement weather based on winter sun hours for location
Battery Voltage	Nominal 12V _{DC}
Thermal	Insulation protection
Replacement	>10 years

Design and Service

Solar	Designed for middle of winter conditions for geolocation
Pole installation	Engineered winch system available from PowerStack
Payload installation	Mounting accessories available from PowerStack
Customisation	Branded infill and other options available <i>Sold separately, minimum order quantities may apply.</i>

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PowerStack reserves the right to make changes at any time in order to supply the best product possible. 10 year limited warranty applies to the PowerStack extrusion and included batteries, provided they are installed and maintained in adherence to PowerStack documentation. For full warranty inclusions and terms, please see current PowerStack warranty documentation. For third-party components, please refer to the relevant manufacturer's information. All pole and base dimensions are nominal.

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