

PVing PARKS

PVS2-R



Solar canopy for instant self-consumption with charging for electric vehicles

Description

The **PVingPARK PVS2-R** canopy is a solar photovoltaic canopy solution that incorporates a fully integrated charging system for electric vehicles within its structure. This charging station and its associated electrical safeguards are specifically designed to be custom-fitted at the foot of the canopy, ensuring the easy assembly and operability of the system.

This solution allows electricity to be produced when the sun is out, thus covering part of the installation's electricity needs, as well as providing power to charge the electric vehicles as well.

The **PVS2-R** solution includes the following components:

- HalfCell monocrystalline photovoltaic modules (120 cells)
- **PVS2-R** canopy structure
- Network-connected photovoltaic inverters.
- **Urban PVS** charger (two Type-2 sockets, two optional Shucko sockets)
- Electrical protection panel for electric vehicle charging (integrated into the canopy).

Additionally, the solution can be supplemented with PV electrical protection and control panels. These panels include both the protective devices for the DC part (**StringBox**) and the AC safeguards at the inverter outlet (**CombinerBox**), as well as the control equipment to guarantee zero feed-in to the grid:

- **DPC** (Dynamic power controller for zero feed-in)
- **CVM-E3-MINI** power analyzer (three-phase installations).

This system offers the following advantages:

- Reduction in electricity consumed from the power grid and lower atmospheric CO₂ emissions
- Protection for outdoor car parks
- Up to four EVC feeds per canopy base, ensuring the charging needs are covered at every position
- Modular system that can be adapted to the dimensions/sockets available.

Applications

- Charging station concept: electric vehicle charging with back-up solar generation.
- Photovoltaic installations in buildings with no usable roof space to install conventional photovoltaic panels
- Ideal for facilities with open parking and daytime consumption (supermarkets, petrol stations, shopping centres, industries, etc.).

Technical specifications of the photovoltaic canopy

Electrical specifications	Peak power	5... 21 kWp (Other powers available)*
	Type of network*	1 x 230 V single-phase (M2M) 3 x 230/400 V three-phase
	DC electrical safeguards	Overvoltages, 15 A fuses and isolator
	AC electrical safeguards	Overvoltages, circuit breaker, earth leakage
Construction specifications	Number of sockets *	2... 8 vehicles (depending on model)
	Structure material	S355N galvanised steel, anodized aluminium sections and SS screws
	Surface treatment	Epoxy 60-80 micron primer and 60-80 micron paint. Protection rating C4-H.
Monitoring and control (optional)	DPC	Anti-dump device to control feed-in to the grid. RD244/2019 certified
	PV-Monitor-M	Energy monitoring via web
	TRH16	String voltage and current analyzer
Standards	Structure tested and certified in accordance with the CTE (Technical Building Code) and Eurocode.	

* Other types on request.

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Urban PVS technical specifications

Connection	Connector type	Type II (as per IEC 62196-2) and/or Schuko
	Type of charge	Charge in Mode 1/2 (Schuko) Charge in Mode 3 (as per IEC 61851-1)
Electrical specifications	Input voltage	230 VAC / 400 VAC
	Tolerance	± 10%
	Input frequency	50... 60 Hz
	Output voltage	230 VAC / 400 VAC
	Maximum output current	16 A/32 A depending on type
	Output power range	3,6/7,2/22 kW
	Power measurement (Urban 20) Energy measurement (Urban 20)	Meter (MID Class 1 EN 50470-3) Meter (MID Class 1 EN 50470-3)
Electrical safeguards	Residual current protection	RCD Type A (30 mA)
	Thermal-magnetic protection	MCB (curve C)
Interface	Marker light	RGB indicator light for charging status
	Access control	RFID card
	RFID working frequency (URBAN 20)	ISO / IEC 14443A/B MIFARE Classic / DESFire EV1 ISO 18092 / ECMA-340 NFC 13.56 MHz
Communications	Type	Ethernet, 3G (optional)
	Protocol	OCPP, XML
Construction specifications	Enclosure	Metal with external ventilation
	Dimensions	247 mm x 725 mm x 111 mm
	Weight	15 kg
	Mechanical protection rating	IK 10
	Protection Rating	IP 44
Safety	Dimensions of protective frame	360 x 720 x 208 mm (URBAN T24MIX) 360 x 540 x 170 mm (URBAN T22 / M22)
	Category III-300 VAC (EN 61010) Electric shock protection via class-II dual insulation	
Standards	EN 61851-1: 2001 part1, IEC 61000, IEC 60364-4-41, IEC 61008-1, IEC 60884-1, IEC 60529, IEC 61010, UNE-EN 55011, ISO 14443A	

Photovoltaic canopy items

Canopies (PVS2-R)	Code	Sockets	PV power (kWp)	Inverters	# of legs	Dimensions (width x height x depth)
PVS2-R M2M	E6PR02.	2	5,025	1 x 5 kW	1	5040 x 3488 x 4982
PVS2-R M2T	E6PR20.	2	5,025	1 x 5 kW	1	5040 x 3488 x 4982
PVS2-R M3T	E6PR23.	3	8,04	1 x 8.2 kW	2	8000 x 3488 x 4982
PVS2-R M4T	E6PR24.	4	10,05	1 x 10 kW	2	10000 x 3488 x 4982
PVS2-R M5T	E6PR25.	5	13,065	1 x 12.5 kW	2	13000 x 3488 x 4982
PVS2-R M6T	E6PR26.	6	15,075	1 x 14 kW	3	15000 x 3488 x 4982
PVS2-R M8T	E6PR27.	8	20,1	1 x 17.5 kW	4	20000 x 3488 x 4982

Charging point items

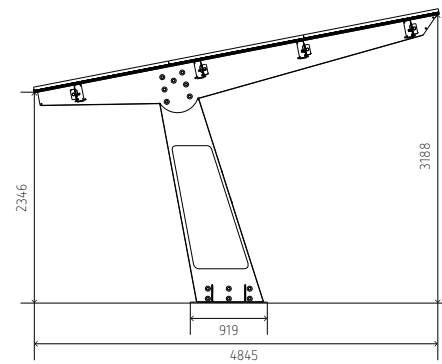
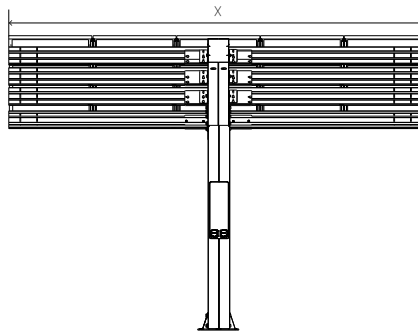
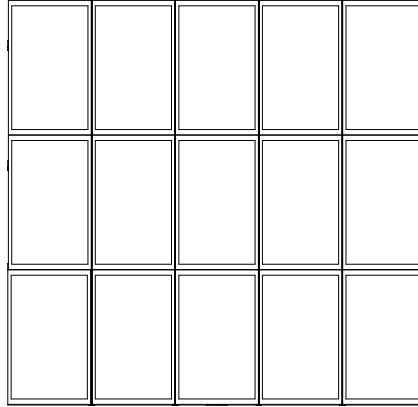
Type	Code	No. of connectors	Connector type	Power Supply	Electrical specifications
URBAN-PVS M22 SPD LTK 4G	V106520014400	2	Type II	Single-phase Single-phase	230 VAC, 32 A, 7,2 kW 230 VAC, 32 A, 7,2 kW
URBAN-PVS T22 SPD LTK 4G	V106520014400	2	Type II	Three-phase Three-phase	400 VAC, 32 A, 22 kW 400 VAC, 32 A, 22 kW
URBAN-PVS T24-MIX SPD LTK 4G	V106570014400	4	2x Type II / 2x Schuko	Three-phase / Single-phase	400 VAC, 32 A, 22 kW / 230 VAC, 16 A, 3,6 kW

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Dimensions PVS2-R



Sockets	Beam	X
2	5000 mm	5000 mm
4	10000 mm	10000 mm
5	13000 mm	13000 mm