

PRODUCT



in cooperation with



SOLARWATT Battery vision (single phase version)

Inverter vision one 1.0

Battery vision top pack 1.0 (2.6 kWh)

Battery vision pack 1.0 (2.6 kWh)

Battery vision, Solarwatt's powerful battery system: the single phase version of Battery vision consists of Inverter vision one and Battery vision packs. The components are perfectly matched and guarantee optimum efficiency. The modular design can be flexibly adapted to many customer requirements.

- 5.2 to 18.2 kWh usable energy
- Can be installed as DC- or AC-battery, suitable for both new installations and retrofittable to existing PV systems
- Quick and easy installation via plug connections
- Can be installed indoors and outdoors
- Backup power functionality
- Remotely updatable
- Fullfills the requirements of the 'Safety guidelines for Li-ion household battery systems' and the European battery regulation

Battery vision was developed for sector coupling:

An EV-charger or other devices can be easily connected, reducing energy costs. The SOLARWATT Manager controls charging and discharging to ensure an optimal use of the available PV power and / or time-variable power grid tariffs.

Note: Solarwatt also features a three phase version of Inverter vision which can be used with the same battery packs. Documentation is available as a separate datasheet.

BENEFITS

- Top charging / discharging performance (up to 900 W per kWh)
- High level Solarwatt safety
- Exclusive BMW design
- Data stored on European servers

SERVICE

Warranty¹⁾

10 years after successful warranty activation
Installation and removal costs are covered in the event of a warranty claim

Simple return policy

as per electrical and electronic equipment legislation

Sales & Service

support available from the local team

SOLARWATT Manager ready

perfect system integration for sector coupling

1) Exceptions apply for retrofitting/subsequent purchases of extra Battery vision packs. The warranty conditions for SOLARWATT Battery vision apply.

BATTERY VISION TOP PACK 1.0	BATTERY VISION PACK 1.0	
Cell Technology	LiFePO ₄	
Total energy capacity	2.9 kWh	
Usable energy	2.6 kWh	
Usable energy capacity	45 Ah	
Nominal voltage	57.6 V _{DC}	
Voltage range	52.2 - 65.7 V _{DC}	
Max. charge/discharge current	50 A / 50 A	
Number of battery modules per system	2 to 7 in series	
Operating temperature charge	0 °C to +55 °C	
Operating temperature discharge	-10 °C to +55 °C	
Storage temperature	-20 °C to +55 °C	
Cooling method	passive cooling system for silent operation	
Relative humidity	≤ 100 % (outdoor)	
Maximum efficiency	> 95 % (round trip efficiency)	
IP rating	IP65 (indoor/outdoor)	
Connectors ¹⁾	Power plug & socket with integrated communication (touch-proof and reverse polarity protected)	
Interface	Data, DC, Ground	Ground
Display	Status LED, SoC LED, BMS LED	Status LED
Supported devices	SOLARWATT Inverter vision one 1.0, SOLARWATT Inverter vision three 1.0	
Dimensions (W x H x D)	570 mm x 182 mm x 436 mm	570 mm x 120 mm x 436 mm
Mass	37.0 kg	33.5 kg
Housing	Robust metal enclosure	
Warranty ²⁾	10 years	
Cycles ³⁾	≥ 10,000	
DC switches	integrated (manually and automatically)	
Installation location	max. 2,000 m AMSL, indoor and outdoor	
Installation method	Floor stacking	
Battery module designation acc. to IEC 62620	IFPP/42/151/108/[[(18S)XS]E/-10+50/95	

CERTIFICATIONS AND STANDARDS

Tested in accredited labs:

EN IEC 62619:2022 (VDE 0510-39)

EN 62477-1:2012 (VDE 0558-477-1)

UN 38.3

VDE-AR-E 2510-50 (Draft 2nd ed.) for battery alone

and in combination with inverter

Safety Guidelines for Li-ion household battery system, Version 1.0

KIT short checklist (full points)

EN 61000-6-2 (VDE 0839-6-2)

EN 61000-6-3 (VDE 0839-6-3)

VDE pre-standards for (EU) 2023/1542 (batteries regulation):

Art. 10 & Annex IV (Performance and Durability)

Art. 12 & Annex V (Safety of stationary battery energy storage systems)

Art. 14 & Annex VII (Information on state of health)

For CE and UKCA marking:

(EU) 2023/1542 (Batteries Regulation)

2014/35/EU (LVD)

2011/65/EU (ROHS) (voluntary)

2014/30/ EU (EMC)

In compliance with the product requirements in fire safety standards:

BVES Guidelines Preventive and protective fire security with large scale

lithium ion storage System, 2nd Ed. 2021 (Germany, only requirements that are

also applicable for residential storage systems)

OIB Richtlinie 2 (2023, Austria, no specific battery room required for indoor

installation of Battery vision)

PAS 63100:2024 (UK)

In general for all fire safety standards:

The system has passed the propagation test according to EN IEC 62619 cl.

7.3.3 (no fire outside the system, no enclosure rupture)

Cells also separately tested to following standards:

UN38.3 (Rev. 7)

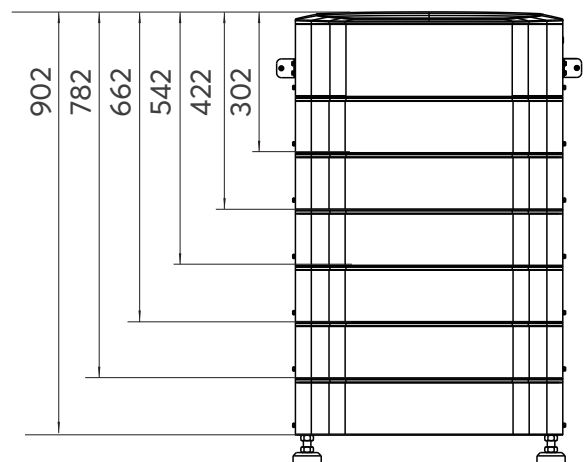
EN IEC 62619:2022

EUCAR hazard level 3 (no venting, no fire, or flame; no rupture; no explosion.

Weight loss <50% of electrolyte weight)

UL 9540A (2019), UL 1642:2020 ed. 6, UL 1973:2018 (2nd ed.)

DIMENSIONS



- 1) The battery poles are voltage-free when the battery is removed.
- 2) Exceptions apply for retrofitting/subsequent purchases of extra Battery vision packs. The warranty conditions for SOLARWATT Battery vision apply.
- 3) Determined at the cell level under laboratory conditions at 25°C, 90% DoD, reduced charging current from 90% SoC

INVERTER VISION ONE 1.0	(3.0 kW)	(3.7 kW)	(4.6 kW)	(5.0 kW)	(6.0 kW)
DC					
Max. input power PV	6,000 W	7,400 W	9,200 W	10,000 W	12,000 W
MPPT A / MPPT B	A 3,000 W / B 3,000 W	A 3,700 W / B 3,700 W	A 4,600 W / B 4,600 W	A 5,000 W / B 5,000 W	A 6,000 W / B 6,000 W
Max. input voltage	600 V				
Start-up input voltage	75 V				
Rated input voltage	360 V				
MPPT operating voltage range	80 V to 550 V				
Max. input current	16 A / 16 A				
Max. short-circuit current	20 A / 20 A				
No. of independent MPP trackers	2				
No. of strings per MPP tracker	1				
AC					
Max. AC Input Power	6,000 VA	7,680 VA	9,200 VA	10,000 VA	12,000 VA
Max. AC Input Current	27.3 A	34.9 A	41.8 A	45.5 A	54.5 A
Rated Output Power	3,000 W	3,680 W	4,600 W	5,000 W	6,000 W
Max. Output Apparent Power	3,300 VA	4,048/3,680 ¹⁾ VA	5,060 VA	5,500 VA	6,000 VA
Rated Output Current	13.6 A	16.7/16 ¹⁾ A	20.9 A	22.7 A	27.3 A
Max. Output Current	15.0 A	18.4 A	23.0 A	25.0 A	30.0 A
Rated grid voltage	220 V / 230 V / 240 V				
Rated grid frequency	50 Hz / 60 Hz				
Power factor	1 (adjustable from 0.8 leading to 0.8 lagging)				
THDi	< 3 % @ rated power				
Parallel operation	three devices				
BACKUP					
Max. Output Apparent Power	3,000 VA	3,680 VA	4,600 VA	5,000 VA	6,000 VA
Peak Output Apparent Power (60s)	3,600 VA	4,400 VA	5,500 VA	6,000 VA	7,200 VA
Max. Current	13.6 A	16.7 A	20.9 A	22.7 A	27.3 A
Rated output voltage	220 V / 230 V / 240 V				
Rated output frequency	50 Hz / 60 Hz				
Power factor	1 (adjustable from 0.8 leading to 0.8 lagging)				
THDv (linear load)	< 2 % @ rated power				
Switch time	< 20 ms				
EFFICIENCY					
Euro Efficiency inverter	95.26 %	95.7 %	96.23 %	96.3 %	96.33 %
Max. Efficiency inverter	97.01 %	97.08 %	97.04 %	97.08 %	97.08 %
Max. battery charge efficiency (PV to BAT) (@full load)	98.50 %				
Max. battery discharge efficiency (BAT to AC) (@full load)	97.00 %				
NOMINAL / MAX. POWER BATTERY FOR CHARGING AND DISCHARGING					
2x Battery vision pack 5.2 kWh	3,000 W / 3,000 W	3,680 W / 3,680 W	4,600 W / 4,600 W	4,600 W / 5,000 W	4,600 W / 5,250 W
3 to 7 Battery vision pack 7.8 to 18.2 kWh	3,000 W / 3,000 W	3,680 W / 3,680 W	4,600 W / 4,600 W	5,000 W / 5,000 W	6,000 W / 6,600 W
POSSIBLE CONFIGURATIONS WITH SOLARWATT BATTERY VISION					
Qt. Battery vision top pack	1	1	1	1	1
Qt. Battery vision pack	1	2	3	4	5
Total energy capacity	5.8 kWh	8.6 kWh	11.5 kWh	14.4 kWh	17.3 kWh
Usable energy	5.2 kWh	7.8 kWh	10.4 kWh	13.0 kWh	15.6 kWh
Nom. voltage	115.2 Vdc	172.8 Vdc	230.4 Vdc	288.0 Vdc	345.6 Vdc
Voltage range	104.4 - 131.4 Vdc	156.6 - 197.1 Vdc	208.8 - 262.8 Vdc	261.0 - 328.5 Vdc	313.2 - 394.2 Vdc

1) 3,680 VA, 16 A for G98

GENERAL INFORMATION

Dimensions (WxHxD)	472 mm x 426.5 mm x 188 mm
Mass	22 kg
Installation	Wall mounted
Topology	Non-isolated
Cooling method	Natural
Noise emission	35 db
Installation location	up to 2,000 m above sea level
Operating temperature	-25 °C to +60 °C
Storage temperature	-40 °C to +70 °C
Relative humidity	≤ 100 % (outdoor)
IP rating	IP65
Standby consumption	< 15 W
Monitoring	Inverter: LC Display Pro app, Home app, Manager portal Data stored on European servers
Communication	LAN, Bluetooth, Wifi, RS485, USB

BATTERY CONNECTION

Battery type	SOLARWATT Battery vision top pack 1.0 SOLARWATT Battery vision pack 1.0
Battery voltage	80 to 480 V
Max. charge/discharge Current	40 A
Communication interface	CAN (communication with inverter, upgrade BMS)

CERTIFICATIONS AND STANDARDS

EN 62109-1:2011 (VDE 0126-14-1)
EN 62109-2:2011 (VDE 0126-14-1)
EN 61000-6-2 (VDE 0839-6-2)
EN 61000-6-3 (VDE 0839-6-3)
EN IEC 63000:2019

In compliance with EU and UK directives and regulations (CE/UKCA)

2014/35/EU (LVD)
2011/65/EU (RoHS) (voluntary)
2014/30/ EU (EMC)
2014/53/EU (RED)

Grid codes:

VDE-AR-N 4105:2018
TOR Erzeuger Typ A, OVE-Richtlinie R25:2020
CEI 0-21: 2022-03, CEI 0-21:V1 2022-11, CEI 0-21:V2 2024-01,
CEI 0-21:V2/EC 2024-03
EREC G98-1:2022, G99-1:2022, G100:2022
UNE 217001:2020, 217002:2020 (RD 647/2020)
EN 50549-1:2019
C10/11:2021

* DDSU 666 is part of the scope of delivery of the Inverter vision one

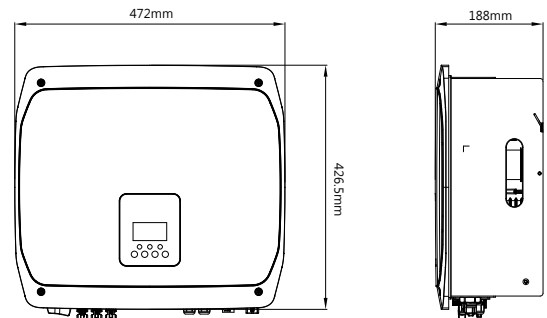
PROTECTION

Insulation monitoring	yes
Residual current monitoring	yes
DC reverse polarity protection	yes
Battery reverse protection	yes
Anti-islanding protection	yes
AC short-circuit protection	yes
AC Overcurrent/ overvoltage protection	yes
Leakage current protection	yes
DC switch	yes
Battery wake-up function	yes
Overvoltage category	III
AC/DC overvoltage protection	AC: type III/ DC: type II
Protection class	I
AFCI	yes

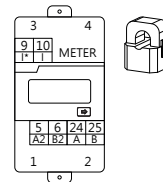
SUPPORTED DEVICES

Meter	Meter DTSU 666 and DDSU 666 (Solarwatt version)*
Manager	SOLARWATT Manager flex 1.0 SOLARWATT Manager flex 1.5 SOLARWATT Manager rail

DIMENSIONS



INCLUDED IN THE DELIVERY



1-phase meter DDSU 666 with Solarwatt firmware