PRODUCT

in cooperation with

SOLARWATT Battery vision
(three phase version)

Inverter vision three 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 three phase version of Battery vision consists of Inverter vision three and Battery vision packs. The components are perfectly matched and guarantee optimum efficiency. The modular design can be flexibly adapted to many customer requirements.

- 7.8 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, heat pump 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 single-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 1,1 kW per kWh)
- High level Solarwatt safety
- Exclusive BMW design
- Data stored on European servers

SERVICE

Warranty[1)]
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.

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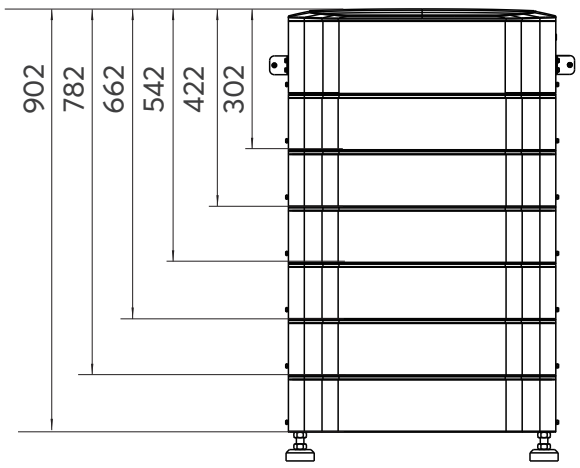
	BATTERY VISION TOP PACK 1.0	BATTERY VISION PACK 1.0
Cell Technology	$LiFePO_4$	
Total energy capacity	2.9 kWh	
Usable energy	2.6 kWh	
Usable energy capacity	45 Ah	
Nominal voltage	57.6 V_{DC}	
Voltage range	52.2 - 65.7 V_{DC}	
Max. charge/discharge current	50 A / 50 A	
Number of battery modules per system	2 to 7 in series	
(Optimum) Operating temperature charge	(+20 °C to +45 °C)	0 °C to +55 °C
(Optimum) Operating temperature discharge	(+20 °C to +45 °C)	-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[2]	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	39.5 kg	33.5 kg
Housing	Robust metal enclosure	
Warranty[1]	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

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INVERTER VISION THREE 1.0	(5.0 kW)	(6.0 kW)	(8.0 kW)	(9.9 kW)	(10.0 kW)	(12.0 kW)	(15.0 kW)
DC							
Max. input power PV	11,000 W	13,200 W	17,600 W	18,000 W	18,000 W	22,500 W	22,500 W
MPPT A / MPPT B / MPPT C	10,000 / 10,000 / 10,000						
Max. input voltage	1,000 V						
Min. Operating PV Voltage	90 V						
Start-up input voltage	140 V						
Rated input voltage	620 V						
MPPT operating voltage range	120 V to 900 V						
Max. input current	20 A / 20 A / 20 A						
Max. short-circuit current	25 A / 25 A / 25 A						
No. of independent MPP trackers	3						
No. of strings per MPP tracker	1 + 1 + 1						
AC							
Max. AC Input Power	6,000 VA	7,200 VA	9,600 VA	12,000 VA	12,000 VA	14,400 VA	16,000 VA
Max. AC Input Current (per phase)	9.1 A	10.9 A	14.5 A	18.2 A	18.2 A	21.8 A	24.2 A
Rated Output Power	5,000 W	6,000 W	8,000 W	9,900 W	10,000 W	12,000 W	15,000 W
Max. Output Apparent Power	5,500 VA	6,600 VA	8,800 VA	9,900 VA	11,000 VA	13,200 VA	16,500 VA
Rated Output Current (per phase)	7.6 A	9.1 A	12.1 A	15.0 A	15.2 A	18.2 A	22.7 A
Max. Output Current (per phase)	8.3 A	10.0 A	13.3 A	15.0 A	16.7 A	20.0 A	25.0 A
Rated grid voltage	400/230 Vac; 380/220 Vac, 3L/N/PE						
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	ten devices						
BACKUP							
Max. Output Apparent Power	5,000 VA	6,000 VA	8,000 VA	10,000 VA	10,000 VA	12,000 VA	15,000 VA
Peak Output Apparent Power (60s)	6,000 VA	7,200 VA	9,600 VA	12,000 VA	12,000 VA	14,400 VA	15,000 VA
Max. Current (per phase)	7.2 A	8.7 A	11.6 A	14.5 A	14.5 A	17.4 A	21.7 A
Rated output voltage	400/230 Vac; 380/220 Vac, 3L/N/PE						
Rated output frequency	50 Hz / 60 Hz						
Power factor	1 (adjustable from 0.8 leading to 0.8 lagging)						
THDv (linear load)	< 3 % @linear load						
Switch time	< 20 ms						
EFFICIENCY							
Euro Efficiency	97.2 %						
Max. Efficiency	98.2 %						
MAX. POWER BATTERY FOR CHARGING AND DISCHARGING							
3x Battery vision pack 7.8 kWh	6,000 W	7,200 W	9,600 W	9,850 W	9,850 W	9,850 W	9,850 W
4x Battery vision pack 10.4 kWh	6,000 W	7,200 W	9,600 W	12,000 W	12,000 W	13,100 W	13,100 W
5 to 7x Battery vision pack 13 to 18.2 kWh	6,000 W	7,200 W	9,600 W	12,000 W	12,000 W	14,400 W	15,000 W

POSSIBLE CONFIGURATIONS WITH SOLARWATT BATTERY VISION					
Qt. Battery vision top pack	1	1	1	1	1
Qt. Battery vision pack	2	3	4	5	6
Total energy capacity	8.6 kWh	11.5 kWh	14.4 kWh	17.3 kWh	20.2 kWh
Usable energy	7.8 kWh	10.4 kWh	13.0 kWh	15.6 kWh	18.2 kWh
Nom. voltage	172.8 Vdc	230.4 Vdc	288.0 Vdc	345.6 Vdc	403.2 Vdc
Voltage range	156.6 - 197.1 Vdc	208.8 - 262.8 Vdc	261.0 - 328.5 Vdc	313.2 - 394.2 Vdc	365.4 - 459.9 Vdc

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GENERAL INFORMATION

Dimensions (WxHxD)	630 mm x 456 mm x 228 mm
Mass	33,5 kg
Installation	Wall mounted
Topology	Non-isolated
Cooling method	5.0 to 10.0 kW: natural 12.0 to 15.0 kW: fan cooling
Noise emission	5.0 to 12.0 kW: < 40 dB 15.0 kW: < 55 dB
Installation location	up to 4,000 m above sea level (derating exceeding 2.000 m)
Operating temperature	-25 °C to +60 °C (derating at +45°C)
Storage temperature	-40 °C to +70 °C
Relative humidity	≤ 100 % (outdoor)
IP rating	IP65
Standby consumption	20 W
Monitoring	Inverter: LC Display Pro app, Home app, Manager portal Data stored on European servers
Communication	LAN, Bluetooth, Wifi, RS485, USB
Warranty[1]	10 years product warranty

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 II / DC: type II
Protection class	I
AFCI	yes

BATTERY CONNECTION

Battery type	SOLARWATT Battery vision top pack 1.0 SOLARWATT Battery vision pack 1.0
Battery voltage	150 to 800 V
Max. charge/discharge Current	50 A
Communication interface	CAN (communication with inverter, upgrade BMS)

SUPPORTED DEVICES

Meter	Meter DTSU 666 (Solarwatt version)[2]
Manager	SOLARWATT Manager flex 1.0 SOLARWATT Manager flex 1.5 SOLARWATT Manager rail
Supplementary products	SOLARWATT Battery vision backup booster

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-Richtline 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 Amentment 7, G99-1:2022 Amendment, G100:2022 Amendment 2

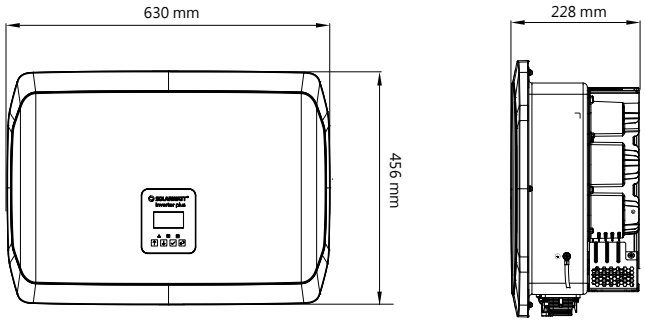
UNE 217001:2020, 217002:2020 (RD 647/2020)

EN 50549-1:2019

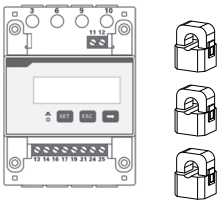
C10/11:2021

1) The warranty conditions for SOLARWATT Battery vision apply.
2) DTSU 666 is part of the scope of delivery of the Inverter vision three

DIMENSIONS



INCLUDED IN THE DELIVERY



3-phase meter DTSU 666 with Solarwatt firmware

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Solarwatt GmbH | Maria-Reiche-Str. 2a | 01109 Dresden | Germany |
T +49-351-8895-555 | F +49-351-8895-100 | solarwatt.com
Certified acc. to DIN EN ISO 9001, 14001, 45001, 50001