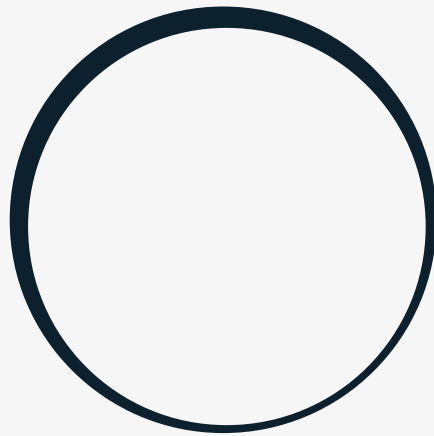




sonnen

Clean and affordable energy for everyone is the biggest challenge of our time.

Our goal is a world in which everyone is able to cover their energy needs with a decentralized and clean energy source.



sonnen

energy is yours



History

Wildpoldsried Origin



- Founded in 2008
- First domestic all-in-one energy storage system
- 20,000+ units sold



- Circa 275 employees
- In excess of 150 R&D staff
- All Manufacture / Q&A process in Germany

Developing Market



2010

- Germany

2011

- Austria

2013

- Switzerland

2015

- Italy

2016

- USA
- UK
- Australia

2017+

- Brazil, Mexico
- South Africa
- Rest of Europe
- Asia

Product Evolution



V1
Sonnenbatterie



V2
Sonnenbatterie
Classic &
RWE Storage
Compact



V3
Sonnenbatterie
Comfort, RWE
Storage
Storage
Comfort Plus
& Vaillant eloPACK



V3.1
Sonnenbatterie
Comfort Business,
RWE Storage
Compact Business



V4
SolarWorld
Sunpac LiOn



V6
Sonnenbatterie
eco 6.0



V7.6
Sonnenbatterie
eco 5.0
RWE Storage eco



V6.5
RWE Storage Flex



V7
Sonnenbatterie
eco 7.0



V7.5
RWE Storage
Flex II



V7.6
Vaillant eloPACK
VSE



V7.7
SolarWorld
SunPac LiOn New



V8.0
Sonnenbatterie
eco 8.0x



V8.2
Sonnenbatterie
eco 8.2



sonnen

Product Overview

Cutting Edge Design



eco - white



eco - black



eco – white incl. extension cabinet



eco - silver

Residential Product Australia – eco 8 – AC Coupled

Technical Data sonnenBatterie



	eco 8.2/2	eco 8.2/4	eco 8.2/6	eco 8.2/8	eco 8.2/10	eco 8.2/12	eco 8.2/14	eco 8.2/16
Grid Version (single phase)								
Rated inverter power (W) (charging/discharging)	1,500	2,000	2,500	2,500	2,500	2,500	2,500	2,500
Maximum inverter efficiency	93 %							
Variety ¹ (2-10 kWh)								
Weight kg	71	112	137	162	187	-	-	-
Dimensions H/W/D cm	70/64/22	137/64/22	137/64/22	137/64/22	137/64/22	-	-	-
Variety ¹ (2-16 kWh)								
Weight kg	71	123	148	173	198	223	248	273
Dimensions H/W/D cm	70/64/22	184/64/22	184/64/22	184/64/22	184/64/22	184/64/22	184/64/22	184/64/22
	eco 8.0/2	eco 8.0/4	eco 8.0/6	eco 8.0/8	eco 8.0/10	eco 8.0/12	eco 8.0/14	eco 8.0/16
Grid Version (three phase)								
Rated inverter power (W) (charging/discharging)	1,500	2,500	3,000	3,300	3,300	3,300	3,300	3,300
Maximum inverter efficiency	96 %							
Variety ¹ (2-10 kWh)								
Weight kg	55	96	121	146	171	-	-	-
Dimensions H/W/D cm	70/64/22	137/64/22	137/64/22	137/64/22	137/64/22	-	-	-
Variety ¹ (2-16 kWh)								
Weight kg	55	107	132	157	182	207	232	257
Dimensions H/W/D cm	70/64/22	184/64/22	184/64/22	184/64/22	184/64/22	184/64/22	184/64/22	184/64/22

Residential Product Australia – eco 8 – Hybrid

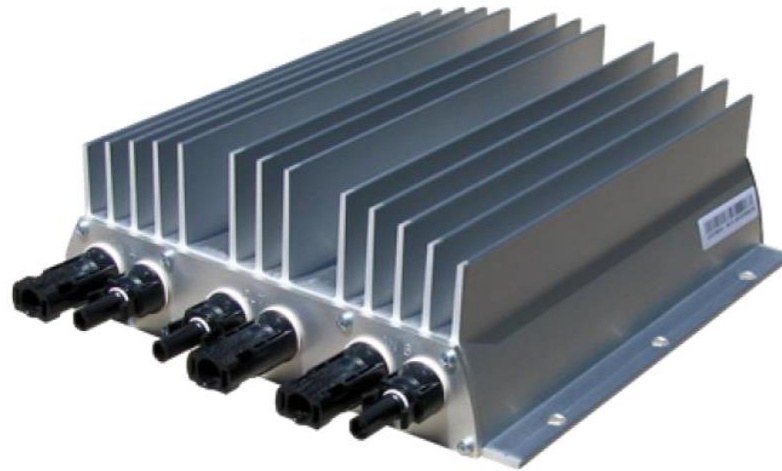
Technical Data sonnenBatterie hybrid



	hybrid 2	hybrid 4	hybrid 6	hybrid 8	hybrid 10	hybrid 12	hybrid 14	hybrid 16
Usable battery capacity (kWh)	2,0	4,0	6,0	8,0	10,0	12,0	14,0	16,0
Variety¹ (2 kWh – 10 kWh)								
Weight kg	53	88	115	142	169	-	-	-
Dimensions H/W/D cm	70/64/22	137/64/22	137/64/22	137/64/22	137/64/22	-	-	-
Variety¹ (2 kWh – 16 kWh)								
Weight kg	53	93	120	147	174	201	228	255
Dimensions H/W/D cm	70/64/22	184/64/22	184/64/22	184/64/22	184/64/22	184/64/22	184/64/22	184/64/22
Rated inverter power (W) (charging/discharging)	1.500	2.500	3.000	3.300	3.300	3.300	3.300	3.300
Maximum input power at maximum active output power	5,5 kWac							
Maximum recommended PV power	6,4 kWp (5,5 kWac)							
Maximum inverter efficiency	96 %							
Maximum battery efficiency	98 %							
Max. efficiency (PV-power grid)	98,6 %							
Input voltage (DC)	250 – 845 VDC (3,5 kWac) 250 – 1.000 VDC (5,5 kWac)							
Ambient temperature range	5 °C – 40 °C							

Residential Product Australia – eco 8 – Hybrid

Dual MPPT Input Option



Dual MPPT Specification:

Input

Max Vdc per input:	585Vdc
Max Amp per input:	11A
MPPT tracking range:	200-460Vdc
No of inputs:	2

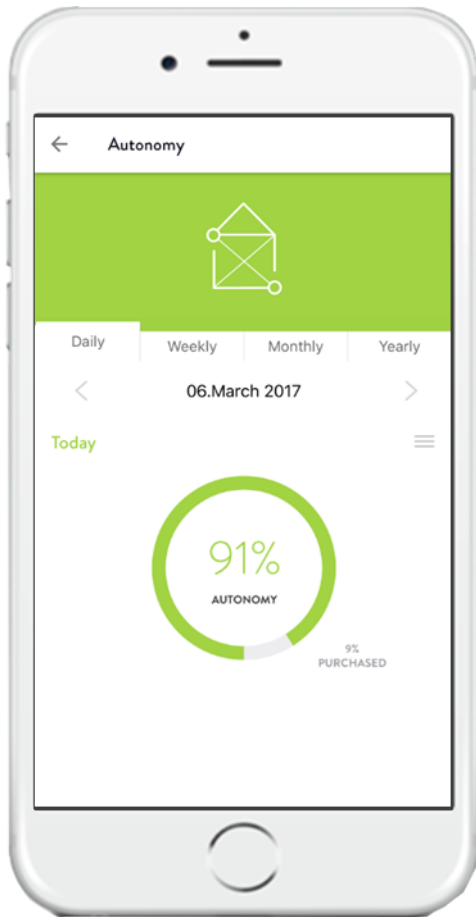
Output

Max Vdc Output:	0-570Vdc
Max Amp Output:	12A
Max Cont. Power Out	6.3kWdc
Efficiency (Max/CEC/Euro):	99.4/99.1/99.0

Mechanical

Connector Type:	Amphenol H4
Dimensions (mm):	259 x 220 x 80
Weight:	3.8 kg
Operational Temp Range:	-40 °C to +75 °C
Cooling:	Convection
Ingress:	IP 66
Max System Voltage:	600Vdc
Certification:	ETL to UL 1741; IEC 61000-6-1, IEC 61000-6-3, IEC 62109; CE Declaration

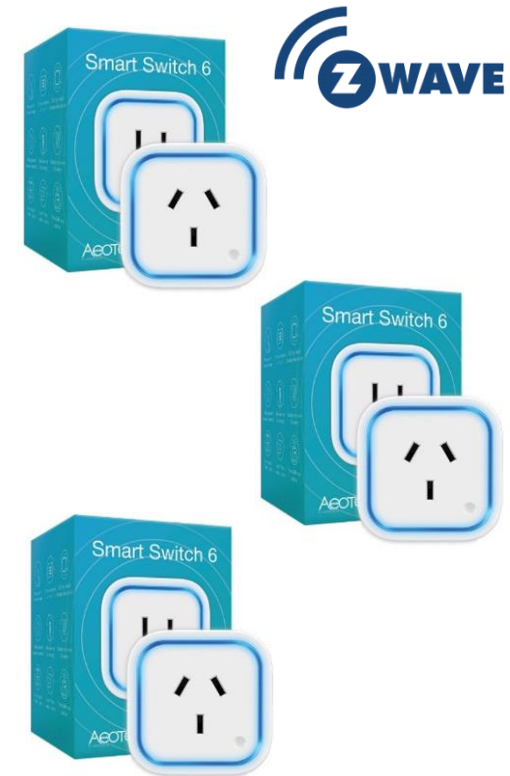
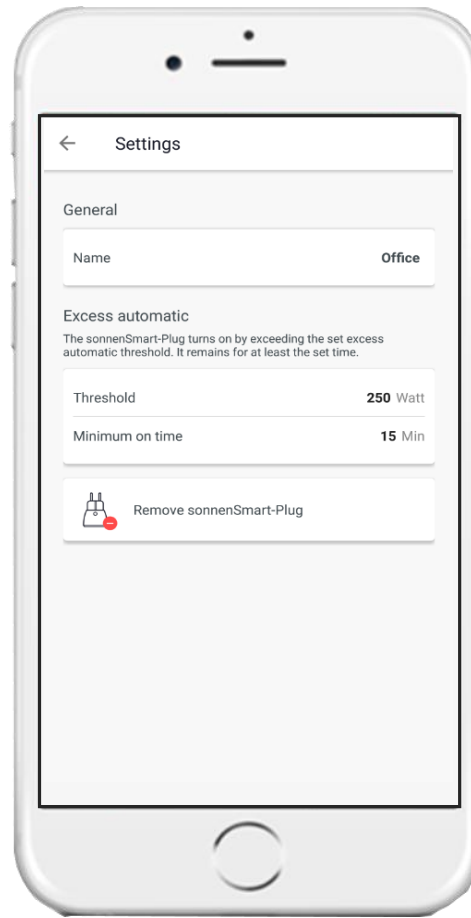
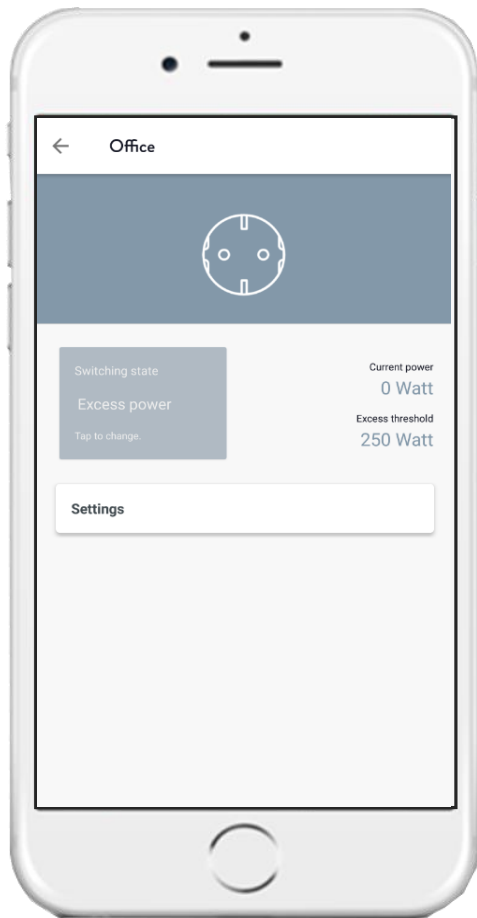
Simply Intelligent



- Maximisation of Self-Sufficiency
- Learns the user's profile
 - Energy Production
 - Energy Consumption
 - Energy Habits
- Predictive intelligent algorithm
- Delivering constant best energy outcome
 - Knowledge of the users profile
 - Knowledge of the current and predicted production
 - Knowledge of the weather
 - Knowledge of the time of year
 - Knowledge of the day of the week
- Managing smart loads

Smartphone Energy Management

Z-Wave Socket Control



Maximum Customer Benefit

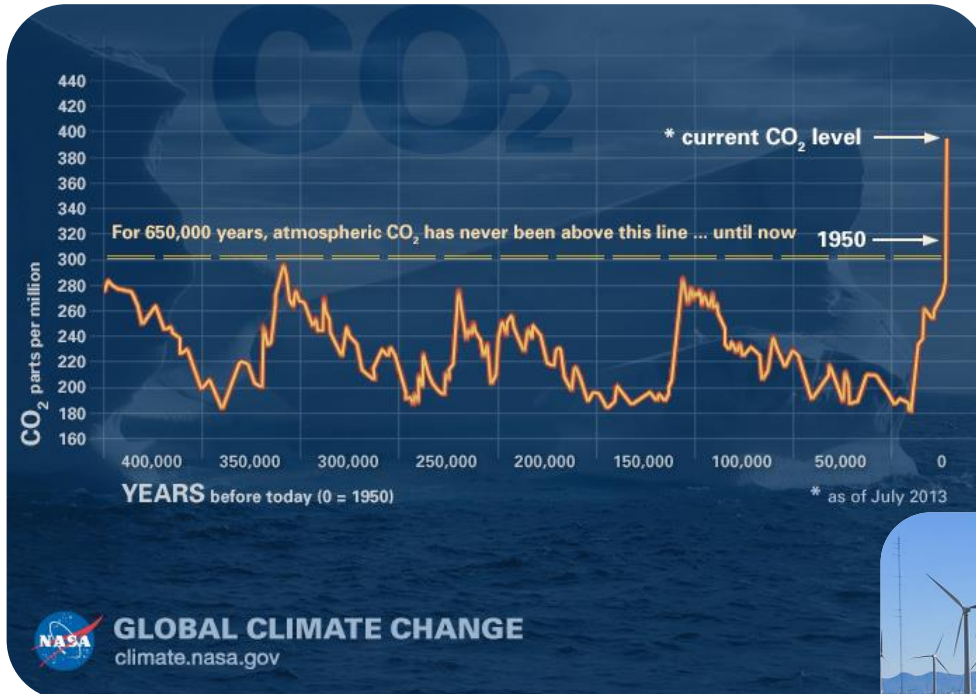


- Very simple to install
 - Wall mounted / floor mounted
- Retro fit & new install / expansion products
- Very simple to commission
 - No customer control required
- Backup option available
- 10,000 cycles @ 100% DOD
 - LiFePO4 batteries
- 20 year design life
 - High quality German, and European components
- Safe, reliable and proven



Features, Advantages, Benefits

Why Store Energy in Batteries?



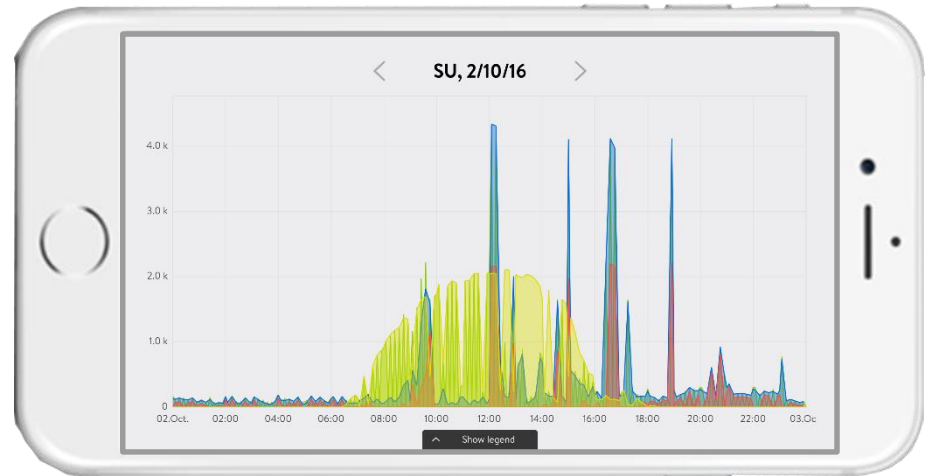
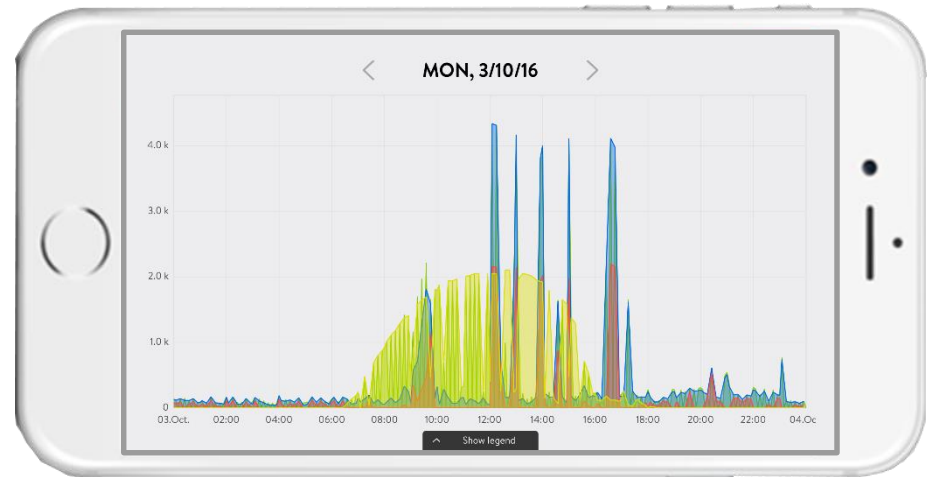
- » Climate Change
- » Power Security
- » Reduced Energy Costs
- » Energy Independence



- » Issues with Base Load
- » Unpredictable Yields
- » High Peaks match Low Consumption

Dynamic Energy Management

- **Feature**
 - Constantly monitoring and adjusting the charge / discharge / control ratio to best suit self-consumption
- **Advantage**
 - Optimization of self-consumption / autonomy
- **Benefit**
 - Higher self-consumption / autonomy
 - Reduced ROI / cost per kWh
 - Fully managed system ensuring long system life



Future Proofed System

○ Feature

- sonnenProtect
- sonnenHeater
- sonnenThermostat
- sonnenCharger
- sonnenCommunity
- sonnenFlat
- Smart home optimisation



○ Advantage

- Already developed solution for tomorrow

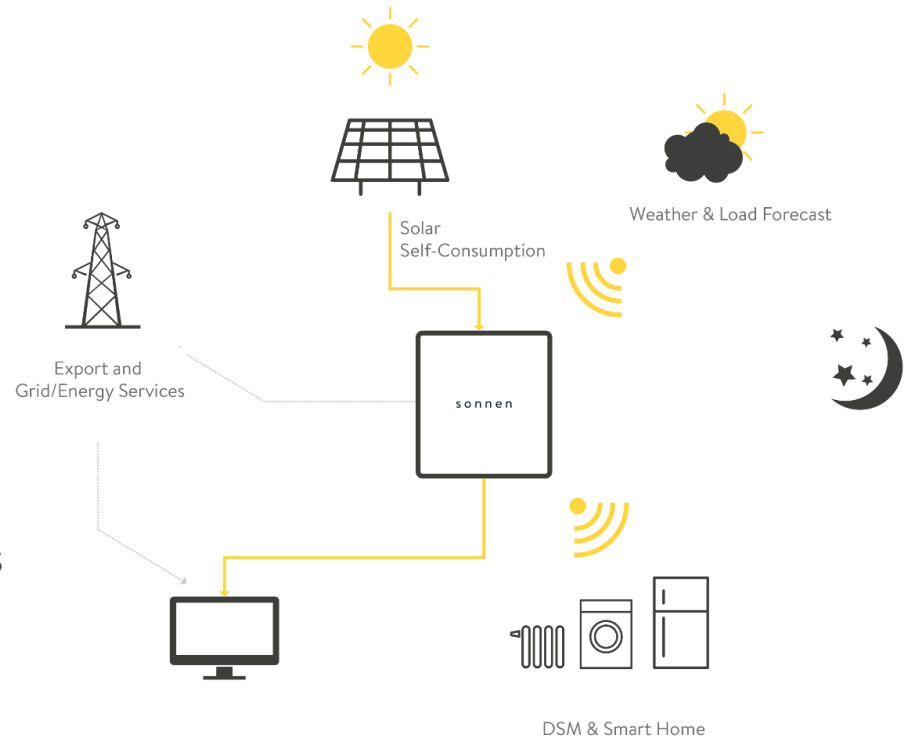
○ Benefit

- Add-ons, upgrades and ongoing customer relationship.
- All-in-one system able to adapt with smarter living options



Real Time Connectivity

- **Feature**
 - Permanent internet connection to HQ & all other systems.
- **Advantage**
 - Weekly software updates
 - Real time control & management
- **Benefit**
 - Maximum ability to support customers
 - Ability to remotely assess and adjust system setup and performance
 - Ongoing product developing and refinement of the product and solutions



Safe, Reliable and Proven

- **Feature**
 - Sony LiFePO4 Batteries
 - Designed to go in the home
 - Independently test and verified
 - 20,000 units in the field proving reliability
 - Real time visualization and system reporting
- **Advantage**
 - Super safe proven and tested battery technology
 - Robust service and support structure
- **Benefit**
 - Reliability and reassurance for the customer
 - Reduced risk and supplier responsibility



- Dynamic Energy Management
 - Future Proofed System
 - Real Time Connectivity
 - Safe, Reliable, Proven





Sonnen eco 8 Series
Installation Procedure



Sonnen eco 8 Series Product Specification

sonnen eco 8.0 – Three Phase – AC Coupled

Technical Data

sonnenBatterie	eco 8.0/2	eco 8.0/4	eco 8.0/6	eco 8.0/8	eco 8.0/10	eco 8.0/12	eco 8.0/14	eco 8.0/16
System data (AC)								
Nominal voltage	400 V							
Nominal frequency	50 Hz							
Nominal power	1,500 W	2,500 W	3,000 W	3,300 W	3,300 W	3,300 W	3,300 W	3,300 W
Nominal current	2,2 A	3,6A	4,5 A	4,8 A	4,8 A	4,8 A	4,8 A	4,8 A
Mains connection	three-phase, L1 / L2 / L3 / N / PE							
Mains topology	TN / TT							
Mains connection fuse	miniature circuit breaker type B 10 A - 16 A							
Battery data (DC)								
Cell technology	lithium iron phosphate (LiFePO ₄)							
Usable capacity	2.0 kWh	4.0 kWh	6.0 kWh	8.0 kWh	10 kWh	12 kWh	14 kWh	16 kWh
Nominal voltage	51.2 V							
Dimensions / weight with small extension cabinet (from 2 kWh up to 10 kWh)								
Dimensions (H/B/T) in cm	70/64/22	137/64 /22	137/64 /22	137/64 /22	137/64 /22	-	-	-
Weight in kg	53	88	115	142	169	-	-	-
Dimensions / weight with big extension cabinet (from 2 kWh up to 16 kWh)								
Dimensions (H/B/T) in cm	70/64/22	184/64 /22	184/64 /22	184/64 /22	184/64 /22	184/64 /22	184/64 /22	184/64 /22
Weight in kg	53	93	120	147	174	201	228	255

sonnen eco 8.0 – Three Phase – AC Coupled

Technical Data

sonnenBatterie	eco 8.0/2	eco 8.0/4	eco 8.0/6	eco 8.0/8	eco 8.0/10	eco 8.0/12	eco 8.0/14	eco 8.0/16
Power meter								
Voltage measurement inputs	Nominal voltage (AC): 230 V (L-N), 400 V (L-L) max. connectible conductor cross-section: 1.5 mm ²							
Clamp-on current transformer	Max. measurable current: 60 A							
Safety								
Protection class	I (PE conductor)							
Degree of protection	IP21							
Ambient conditions								
Ambient temperature range	5°C ... 30°C							
Storage temperature range	0°C ... 40°C							
Transport temperature range	-15 °C ... 40°C							
Max. rel. humidity	90%							
Permissible installation altitude	2000 m above sea level							
Additional ambient conditions	<ul style="list-style-type: none"> • Installation room can be ventilated • Free from vibrations • Free from dust (especially flour dust or sawdust) • Free from corrosive and explosive gases (ammonia content max. 20 ppm) • No direct sunlight • Even floor, suitable for heavy loads • Free access to the installation location • The currently applicable building codes must be observed 							

sonnen eco 8.1 – Three Phase – DC Hybrid

Technical Data

	sonnenBatterie hybrid 8.1-3.5	sonnenBatterie hybrid 8.1-5.5		sonnenBatterie hybrid 8.1-3.5	sonnenBatterie hybrid 8.1-5.5
AC-Output			Dimensions H/W/D in cm		
Nominal voltage	400 V		Main cabinet (up to 2 kWh)	70/64/22	
Nominal frequency	50 Hz		Main cabinet + small extension cabinet (up to 10 kWh)	137/64/22	
Nominal power	3,500 W	5,500 W	Main cabinet + big extension cabinet (up to 16 kWh)	184/64/22	
Nominal current	5.1 A	8.0 A	Weight		
Mains connection	three-phase, L1 / L2 / L3 / N / PE		Main cabinet	36 kg	
Mains topology	TN / TT ¹		Small extension cabinet	16 kg	
Mains connection fuse	miniature circuit breaker Typ B 10 A – 16 A		Big extension cabinet	27 kg	
Photovoltaic (PV) input			Battery module	27 kg	
Number of PV inputs / MPP-Tracker	1		Power meter		
Min. input voltage	250 V		Voltage measurements inputs	Nominal voltage (AC): 230 V (L-N), 400 V (L-L) max. connectable conductor cross-section: 1,5 mm ²	
Max. input voltage	1,000 V		Clamp-on current transformer	Max. measurable current: 60 A (standard), optional up to 400 A	
MPP voltage range	510 V ... 800 V		Safety		
Max. input current	11 A		Protection class	I (PE conductor)	
Max. input power	5,620 W		Degree of protection	IP21	
Max. recommended nominal power of the PV system	4.2 kW _p	6.4 kW _p	Rated short-time withstand current (I _{cw})	3,000 A	
Battery (DC)			Ambient conditions		
Cell technology	lithium iron phosphate (LiFePO ₄)		Ambient temperature range	5 °C ... 30 °C	
Nominal voltage	51.2 V		Storage temperature range	0 °C ... 40 °C	
Min. number of battery modules	1		Transport temperature range	-15 °C ... 40 °C	
Max. number of battery modules	8		Max. rel. humidity	90 %, non-condensing	
Usable capacity (battery module)	2,0 kWh		Permissible installation altitude	2,000 m above sea level	
Usable capacity (total)	Depends upon the number of battery modules installed: 2.0 kWh 4.0 kWh 6.0 kWh 8.0 kWh 10.0 kWh 12.0 kWh 14.0 kWh 16.0 kWh				
Nominal power when charging and discharging	Depends upon the number of battery modules installed: 1500 W for one battery module (2 kWh), 2500 W for two battery modules (4 kWh), 3000 W for three battery modules (6 kWh), 3300 W from four battery modules (ab 8 kWh)				
			Additional ambient conditions	<ul style="list-style-type: none"> • Even floor, suitable for heavy loads. • Free from corrosive and explosive gases (ammonia content max. 20 ppm). • Free from dust (especially flour dust or sawdust). • Free from vibrations. • Free access to the installation location. • Installation room can be ventilated. 	

sonnen eco 8.2 – Single Phase – AC Coupled

Technical Data

sonnenBatterie	eco 8.2/2	eco 8.2/4	eco 8.2/6	eco 8.2/8	eco 8.2/10	eco 8.2/12	eco 8.2/14	eco 8.2/16
System data (AC)								
Nominal voltage	230 V							
Nominal frequency	50 Hz							
Nominal power	1,500 W	2,000 W	2,500 W	2,500 W	2,500 W	2,500 W	2,500 W	2,500 W
Nominal current	6.5 A	8.7A	13.0 A	13.0 A	13.0 A	13.0 A	13.0 A	13.0 A
Mains connection	single-phase, L / N / PE							
Mains topology	TN / TT							
Mains connection fuse	miniature circuit breaker type B 16 A							
Battery data (DC)								
Cell technology	lithium iron phosphate (LiFePO ₄)							
Usable capacity	2.0 kWh	4.0 kWh	6.0 kWh	8.0 kWh	10 kWh	12 kWh	14 kWh	16 kWh
Nominal voltage	51.2 V							
Dimensions / weight with small extension cabinet (from 2 kWh up to 10 kWh)								
Dimensions (H/B/T) in cm	70/64/22	137/64 /22	137/64 /22	137/64 /22	137/64 /22	-	-	-
Weight in kg	53	88	115	142	169	-	-	-
Dimensions / weight with big extension cabinet (from 2 kWh up to 16 kWh)								
Dimensions (H/B/T) in cm	70/64/22	184/64 /22	184/64 /22	184/64 /22	184/64 /22	184/64 /22	184/64 /22	184/64 /22
Weight in kg	53	93	120	147	174	201	228	255

sonnen eco 8.2 – Single Phase – AC Coupled

Technical Data

sonnenBatterie	eco 8.2/2	eco 8.2/4	eco 8.2/6	eco 8.2/8	eco 8.2/10	eco 8.2/12	eco 8.2/14	eco 8.2/16
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Power meter

Voltage measurement inputs	Nominal voltage (AC): 230 V (L-N), 400 V (L-L) max. connectible conductor cross-section: 1.5 mm ²
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Clamp-on current transformer	Max. measurable current: 60 A
------------------------------	-------------------------------

Safety

Protection class	I (PE conductor)
------------------	------------------

Degree of protection	IP21
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Ambient conditions

Ambient temperature range	5°C ... 30°C
---------------------------	--------------

Storage temperature range	0°C ... 40°C
---------------------------	--------------

Transport temperature range	-15 °C ... 40°C
-----------------------------	-----------------

Max. rel. humidity	90%
--------------------	-----

Permissible installation altitude	2000 m above sea level
-----------------------------------	------------------------

Additional ambient conditions	<ul style="list-style-type: none"> • Installation room can be ventilated • Free from vibrations • Free from dust (especially flour dust or sawdust) • Free from corrosive and explosive gases (ammonia content max. 20 ppm) 	<ul style="list-style-type: none"> • No direct sunlight • Even floor, suitable for heavy loads • Free access to the installation location • The currently applicable building codes must be observed
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sonnen eco 8 Series

Technical Data – DC (Battery) Charge Rates

sonnenBatterie	eco 8.2/2	eco 8.2/4	eco 8.2/6	eco 8.2/8	eco 8.2/10	eco 8.2/12	eco 8.2/14	eco 8.2/16
90% Charge Duration (hrs)	1.5	1.5	2	2.5	3	3.5	4	4.5
Annual kWh's	2500	3300	4400	5500	6600	7700	8800	9900
Daily kWh's	6.85	9.04	12.05	15.07	18.08	21.10	24.11	27.12
Battery Capacity kW's	2	4	6	8	10	12	14	16
Nominal DC Battery Voltage	51.2	51.2	51.2	51.2	51.2	51.2	51.2	51.2
Battery Ahr Capacity	39.1	78.1	117.2	156.3	195.3	234.4	273.4	312.5
90% Battery Ahr Capacity	35.2	70.3	105.5	140.6	175.8	210.9	246.1	281.3
DC Charging Rate (Amps)	23.4	46.9	52.7	56.3	58.6	60.3	61.5	62.5
Nominal AC Supply (Vac)	230	230	230	230	230	230	230	230
In AC Terms Battery Ahr Rate	8.7	17.4	26.1	34.8	43.5	52.2	60.9	69.6
AC Charge Rate (Amps)	5.8	11.6	13.0	13.9	14.5	14.9	15.2	15.5



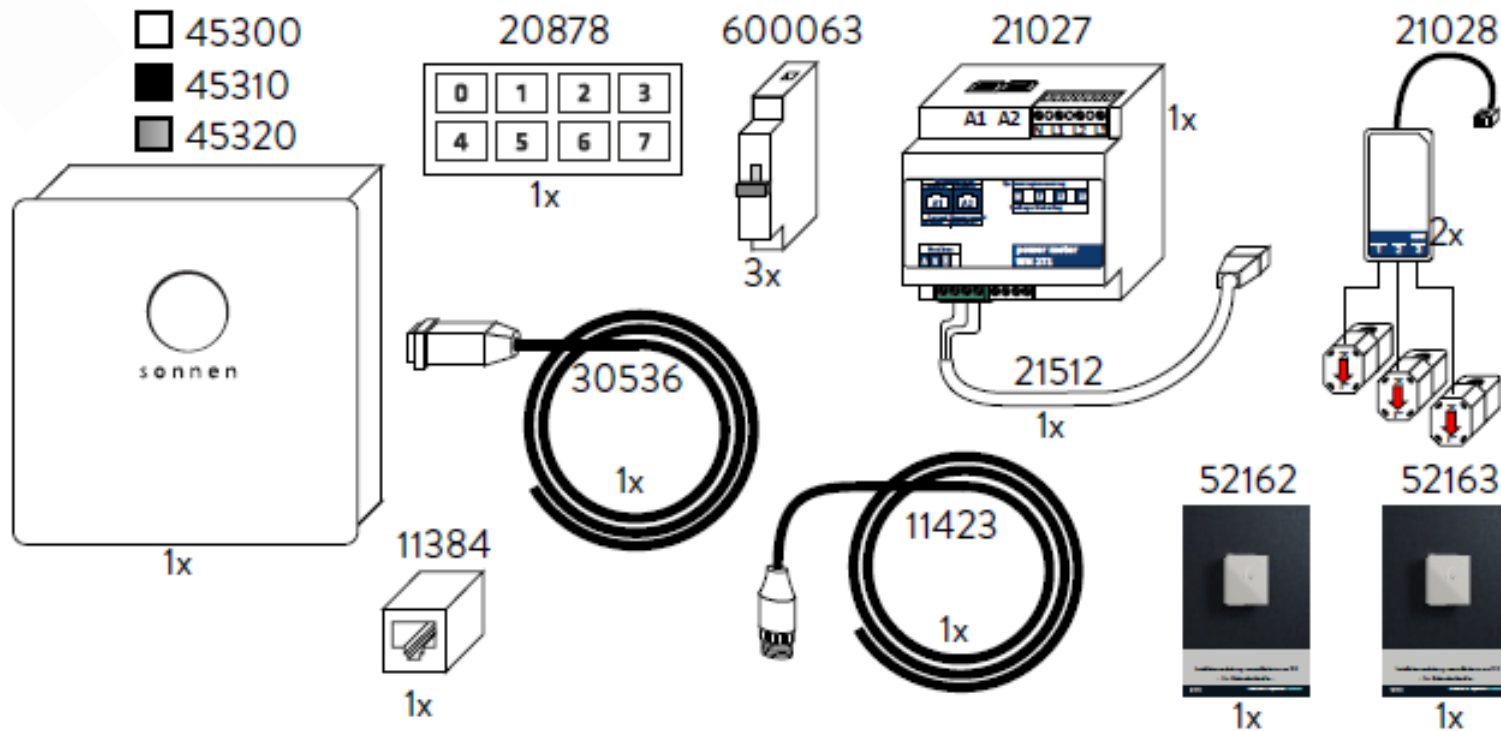
Sonnen eco 8 Series Bill of Materials

sonnen eco 8.0 / 8.1 – Three Phase System Components



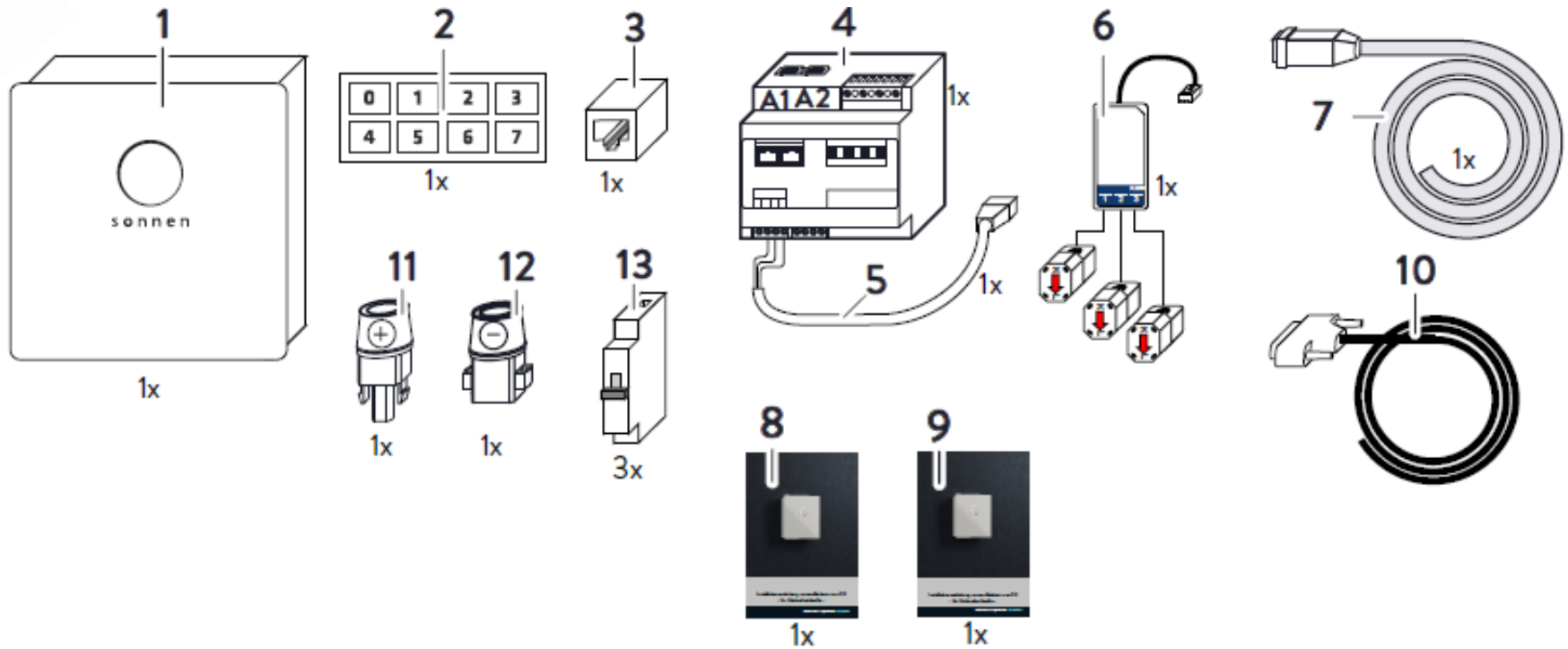
sonnen eco 8.0 – Three Phase – AC Coupled

System Components – Main Cabinet



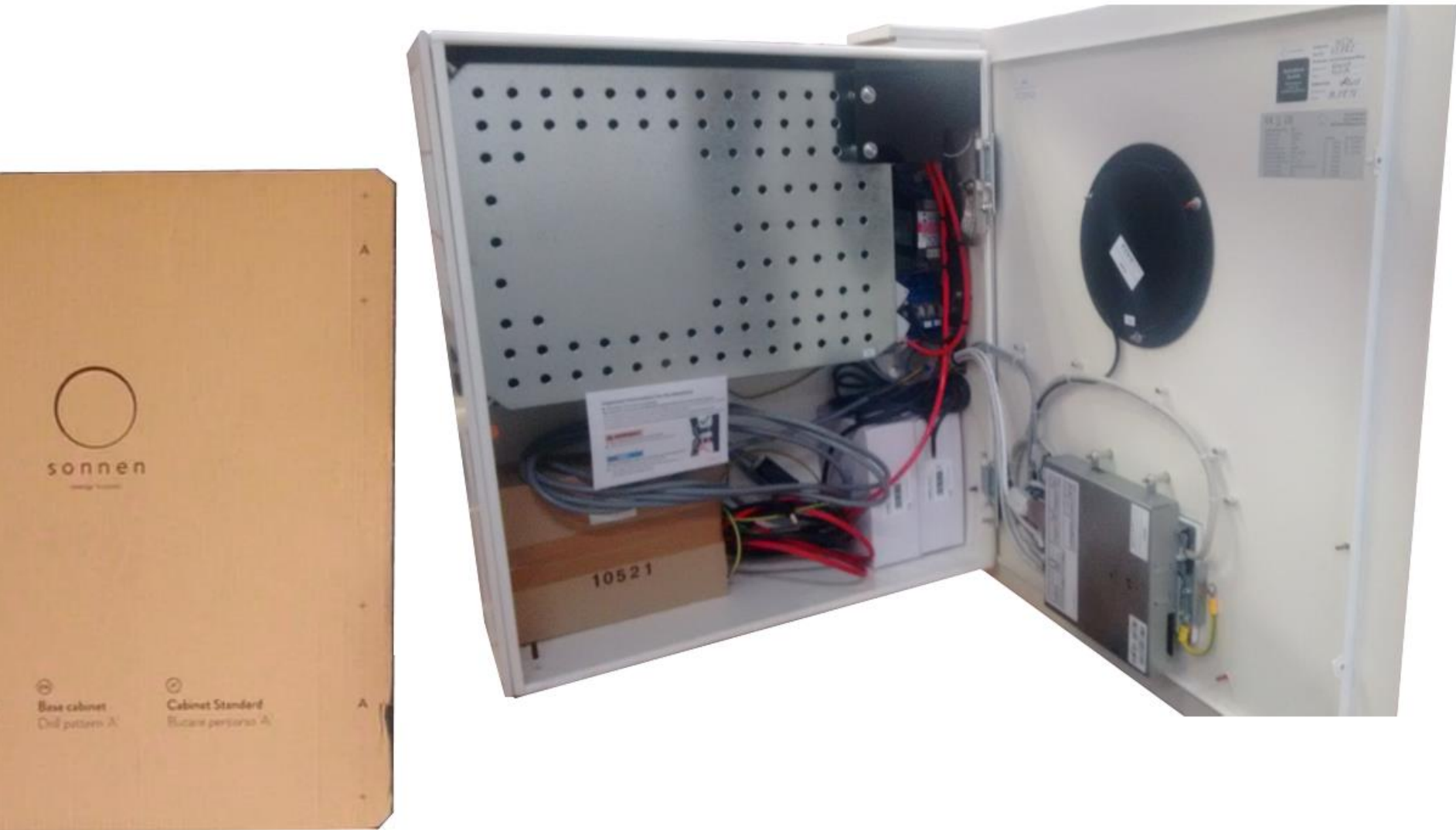
sonnen eco 8.1 – Three Phase – DC Hybrid

System Components – Main Cabinet



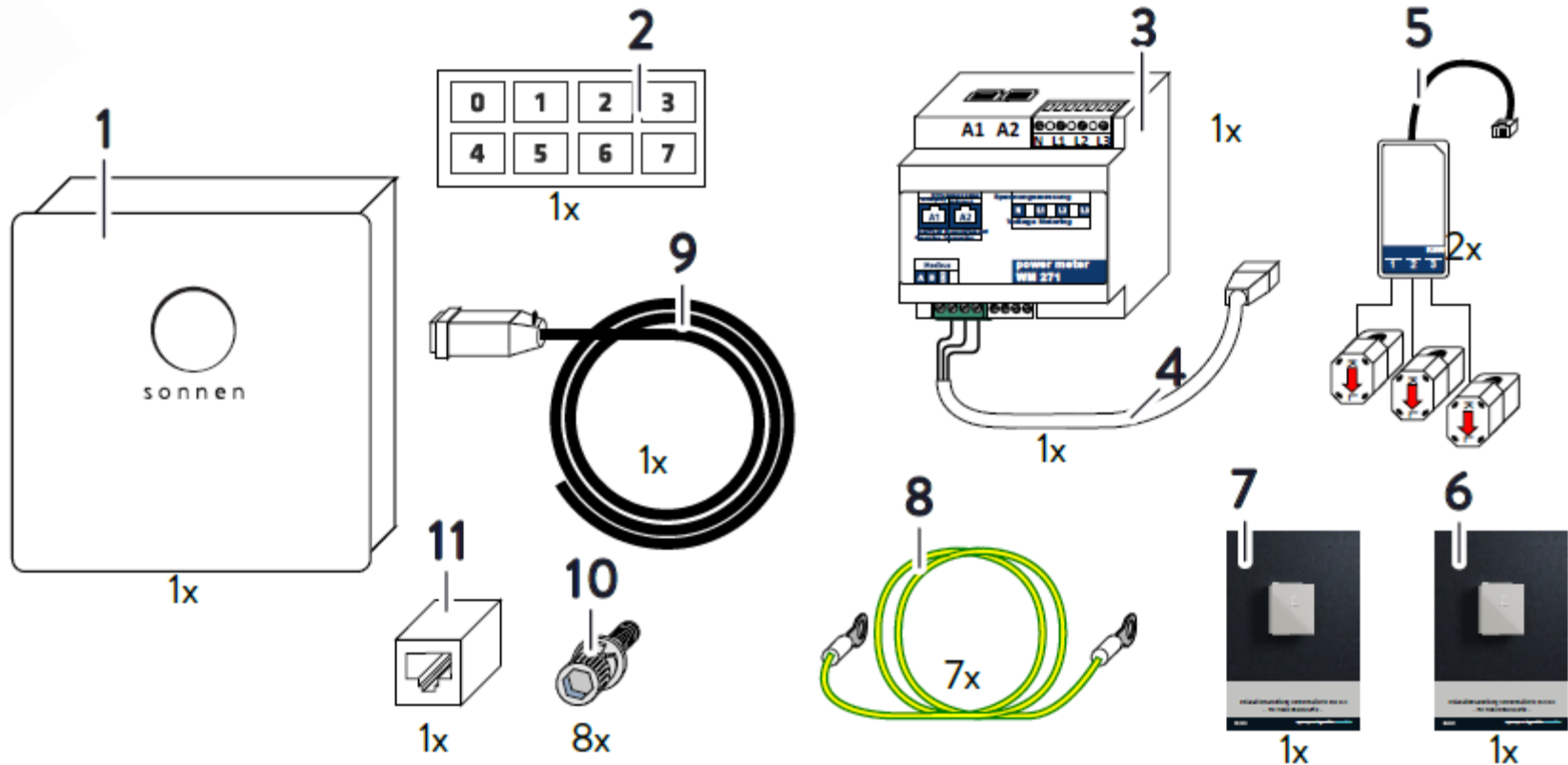
sonnen eco 8.2 – Single Phase

System Components



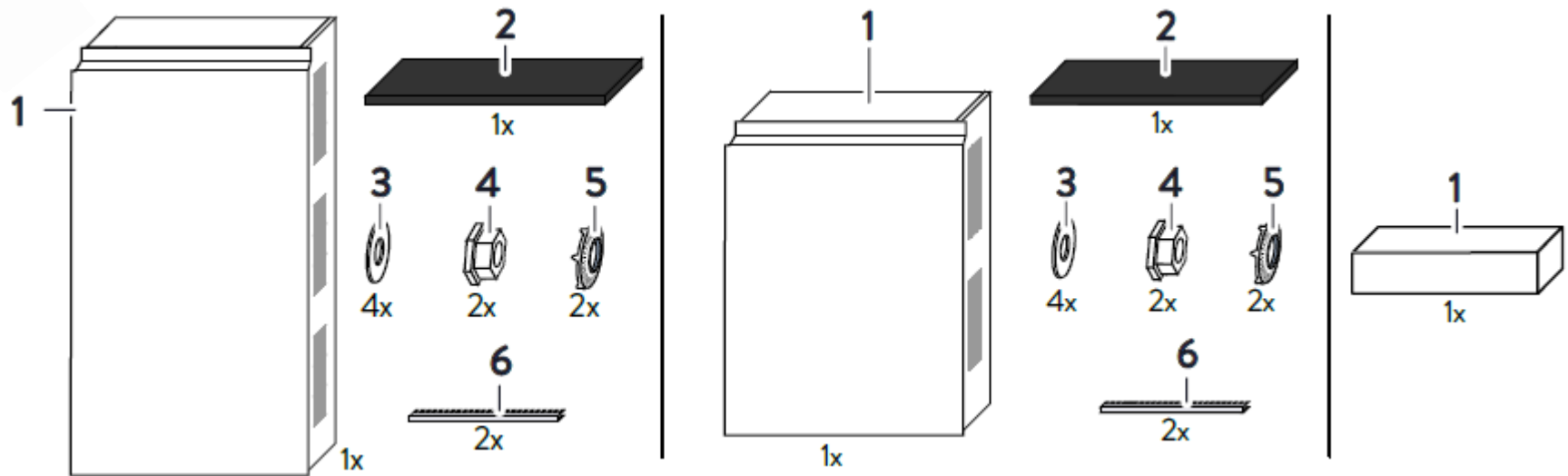
sonnen eco 8.2 – Single Phase

System Components – Main Cabinet



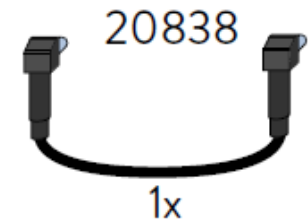
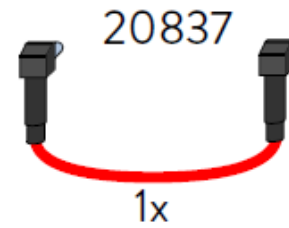
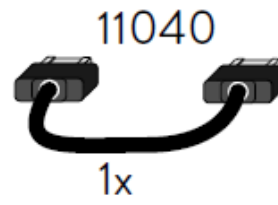
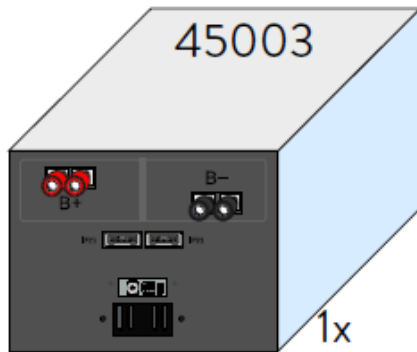
sonnen eco 8 Series

System Components Extension Cabinets & Pedestal



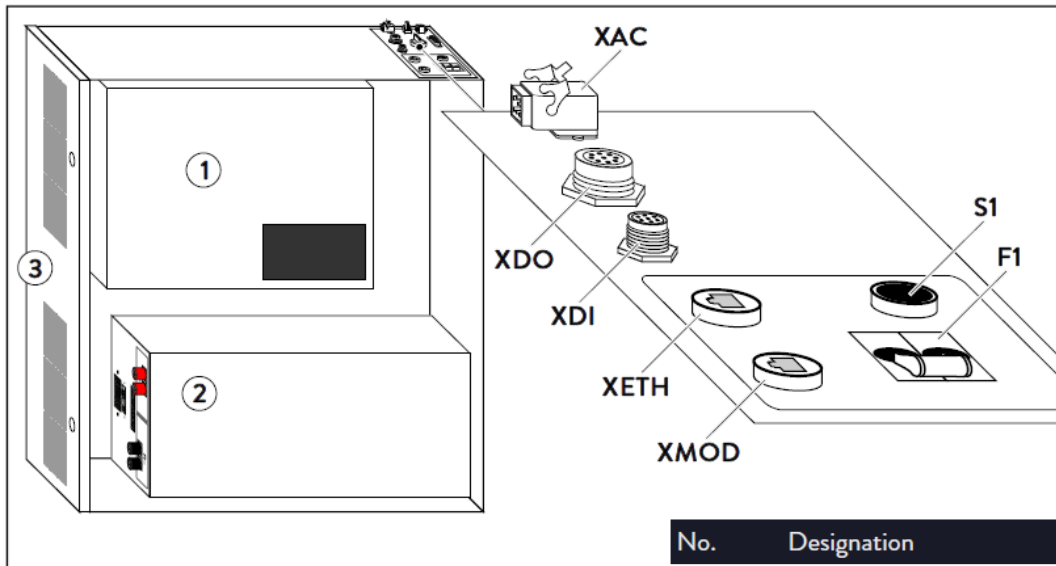
sonnen eco 8 Series

System Components – Battery Module



sonnen eco 8.0 – Three Phase – AC Coupled

System Components



No.	Designation	Function
1	Battery inverter	Conversion of batteries' direct current into alternating current
2	Battery module	Storage of electrical power
3	Filter plate	Holder for filter pad
F1	fuse switch	On/off switch for storage system
XAC	Mains connection socket	Sending and receipt of digital signals
XDI	Digital inputs	Interface to receive digital signals
XDO	Digital outputs	Interface to emit digital signals
XETH	Ethernet port	Data connection to router for home network
XMOD	Modbus port	Data connection to power meter
S1	switch	Pressed during the switch-on procedure

sonnen eco 8.0 – Single Phase – AC Coupled

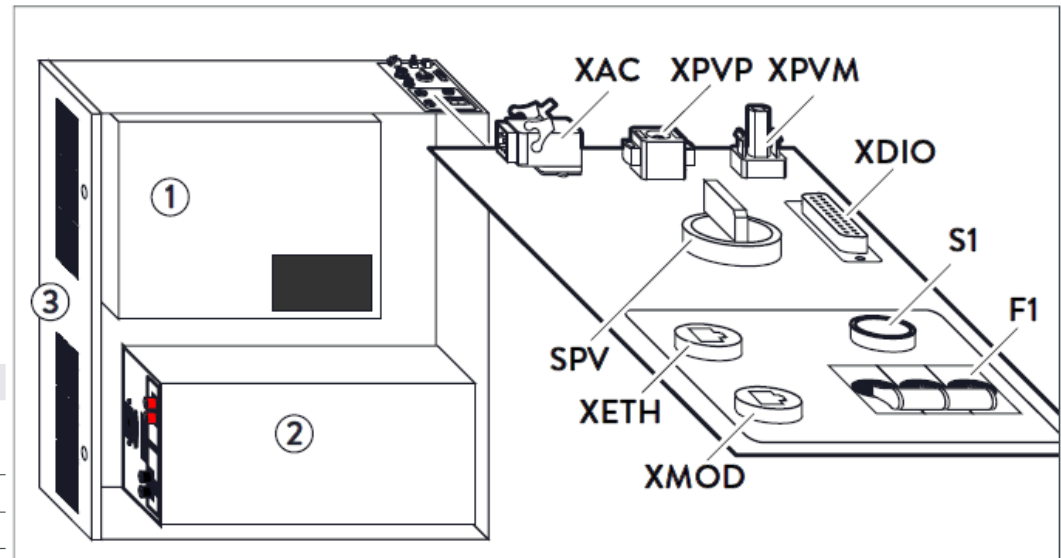
System Component Descriptions

10044	Self-lockung nur	21545	Pedestal (color silver)
10562	Washer	30536	AC cable
11040	BMS communication line 30 cm	21724	Earth conductor
11082	Fuse plug	45003	Battery module
11123	Locking nut	45302	Big extension cabinet (color white)
11384	RJ45 coupling	45312	Big extension cabinet (color black)
11423	Contect disc	45322	Big extension cabinet (color silver)
20837	DC line red	45303	Small extension cabinet (color white)
20838	DC line black	45313	Small extension cabinet (color black)
20878	Sticker numbering for battery modules	45323	Small extension cabinet (color silver)
21027	Power meter	45300	Main cabinet (color white)
21028	KSW60-3 current transformer	45310	Main cabinet (color black)
21512	Modbus line	45320	Main cabinet (color silver)
21515	Levelling mat	52163	Operating instructions
21543	Pedestal (color black)	52162	Installation instructions
21544	Pedestal (color white)	600063	B6 miniature circuit breaker

sonnen eco 8.1 – Three Phase – DC Hybrid

System Components

No.	Designation	Function
1	Battery inverter	Conversion of batteries' direct current into alternating current.
2	Battery module	Storage of electrical power.
3	Filter plate	Holder for filter pad.
XAC	Mains connection	Connection to the public electrical supply network.
XPVM	PV minus connection	Connection to the minus wire from the photovoltaic system.
XPVP	PV plus connection	Connection to the plus wire from the photovoltaic system.
XDIO	Digital inputs and outputs	Interface to emit and receive digital signals.
XETH	Ethernet port	Data connection to router for home network.
XMOD	Modbus port	Data connection to power meter.
S1	Switch S1	Pressed during the switch-on procedure (see 6.2 – p. 61).
SPV	PV disconnecter	Switch to isolate all poles of the DC connection between the photovoltaic system and the inverter.
F1	Circuit breaker F1	Switch to isolate all poles of the DC connection between the battery and the inverter.



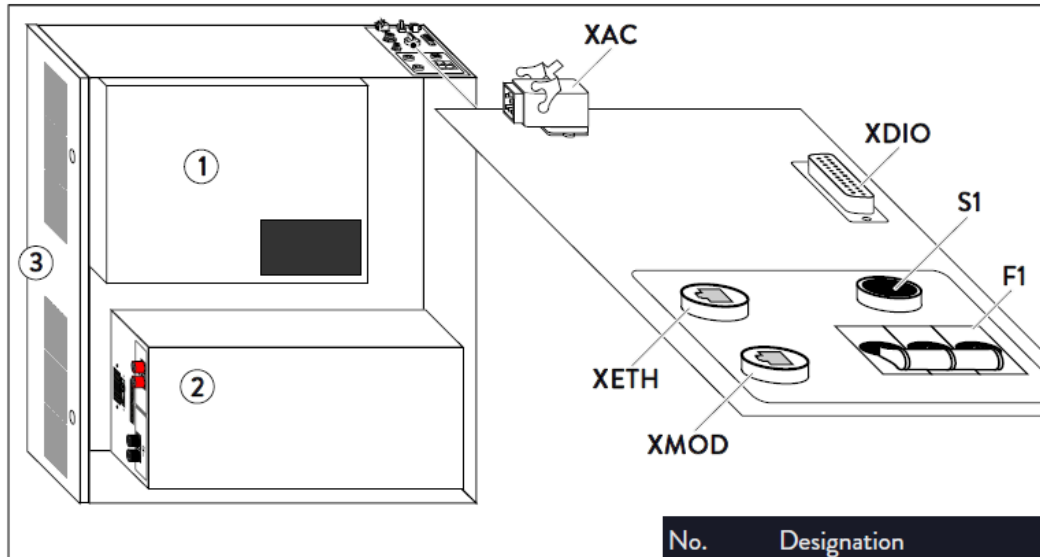
sonnen eco 8.1 – Three Phase – DC Hybrid

System Component Descriptions

A Scope of delivery for main cabinet	B Scope of delivery for battery module	C Scope of delivery for big extension cabinet (optional)
1 Main cabinet 8.1-3.5 or 8.1-5.5	1 Battery module	1 Big extension cabinet
2 Numbering for battery modules	2 Fuse plug	2 Levelling mat
3 RJ-45 coupling	3 BMS communication line	3 Washer
4 Power meter WM 271	4 DC line red	4 Locking nut
5 Modbus line	5 DC line black	5 Contact disc
6 Current transformer KSW60-3		6 Edge protection
7 Mains line	D Scope of delivery for small extension cabinet (optional)	E Scope of delivery for Pedestal (optional)
8 Installation instructions	1 Small extension cabinet	1 Pedestal
9 Operating instructions	2 Levelling mat	
10 Signal line	3 Washer	
11 PV plug-in connector plus	4 Locking nut	
12 PV plug-in connector minus	5 Contact disc	
Additional for AU:	6 Edge protection	
13 Miniature Circuit Breaker B16		

sonnen eco 8.2 – Single Phase – AC Coupled

System Components



No.	Designation	Function
1	Battery inverter	Conversion of direct current into alternating current
2	Battery module	Storage of electrical power
3	Filter plate	Holder for filter pad
F1	fuse switch	On/off switch for storage system
XAC	AC supply connection	Connection to the public electrical mains
XDIO	Digital In- and Outputs	Interface to emit and receive digital signals
XETH	Ethernet port	Data connection to router for home network
XMOD	Modbus port	Data connection to power meter
S1	switch	Pressed during the switch-on procedure

sonnen eco 8.2 – Single Phase – AC Coupled

System Component Descriptions

11040	BMS communication line 30 cm
11082	Fuse plug
11384	RJ45 coupling
20837	DC line red
20838	DC line black
20878	Sticker numbering for battery modules
21027	Power meter
21028	KSW60-3 current transformer
21512	Modbus line
21515	Levelling mat
21543	Pedestal (color black)
21544	Pedestal (color white)
21545	Pedestal (color silver)
21684	AC cable

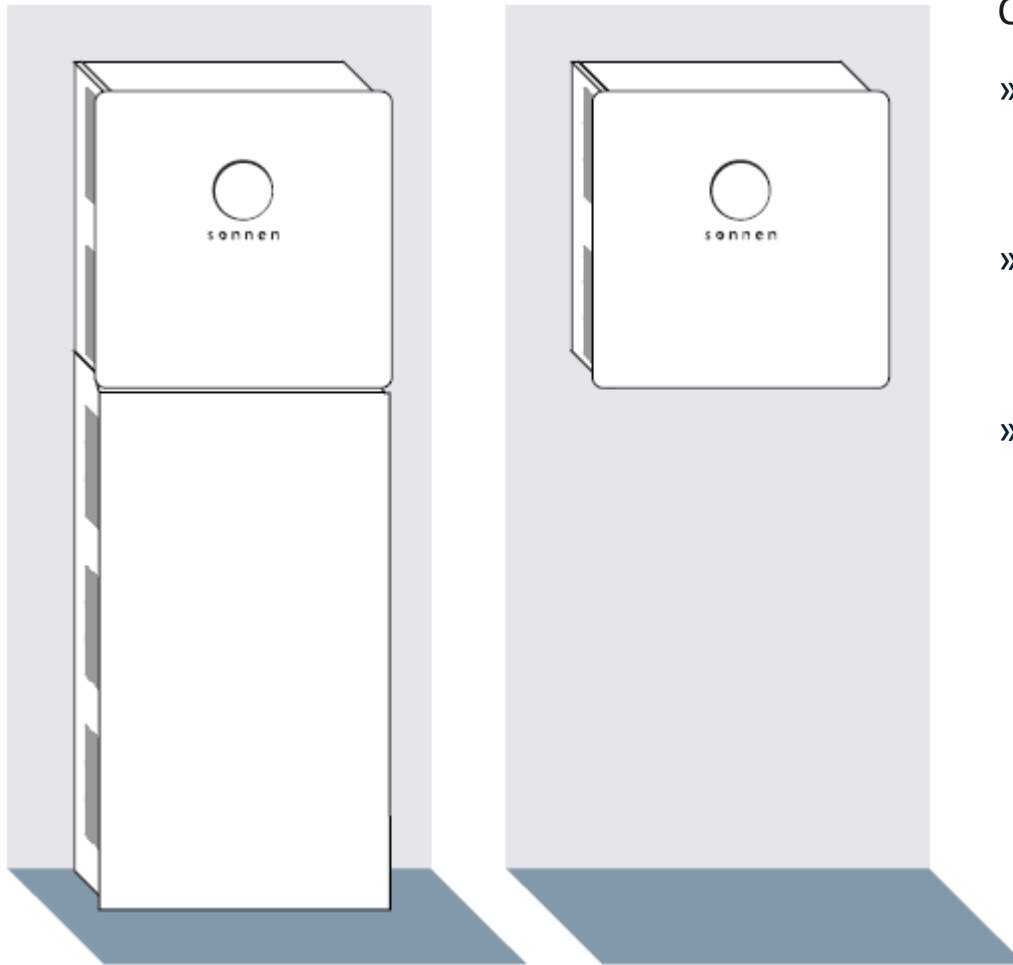
21724	Earth conductor
45003	Battery module
45302	Big extension cabinet (color white)
45312	Big extension cabinet (color black)
45322	Big extension cabinet (color silver)
45303	Small extension cabinet (color white)
45313	Small extension cabinet (color black)
45323	Small extension cabinet (color silver)
45720	Main cabinet (color white)
52186	Operating instructions
52187	Installation instructions
600063	B6 miniature circuit breaker



Sonnen eco 8 Series Mounting the Enclosures

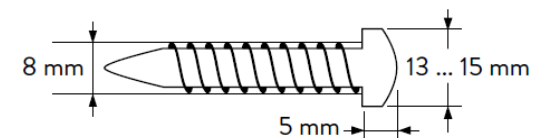
sonnen eco 8 Series

Location Selection

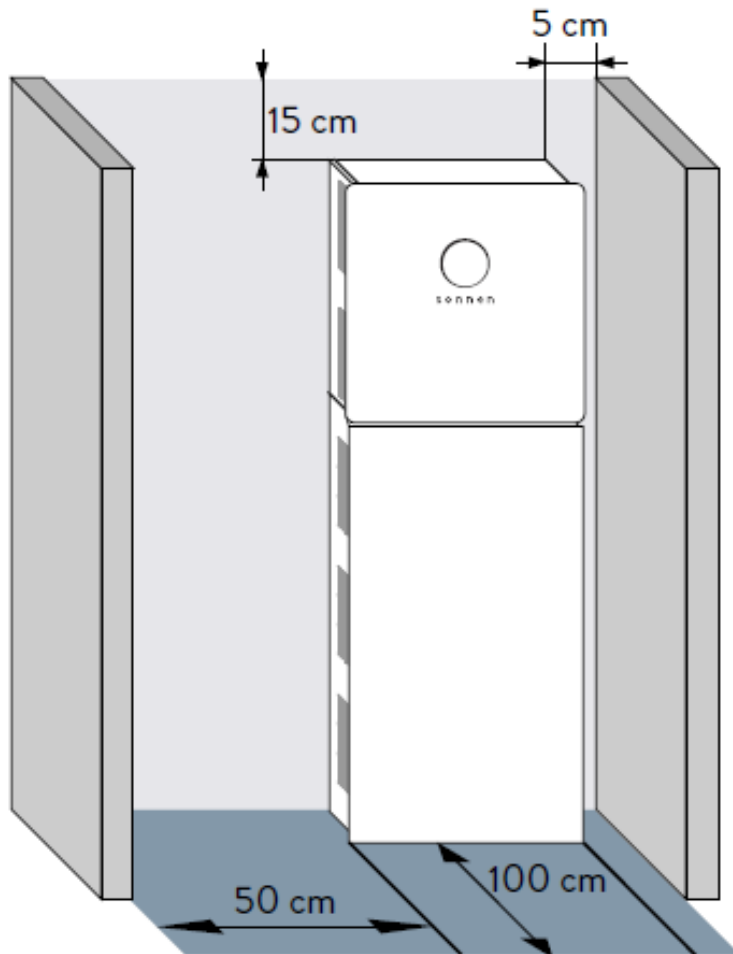


Component Options.

- » The storage system with the optional extension cabinet must be floor mounted.
- » A storage system without the optional extension cabinet must be mounted to the wall with screws.
- » Use only screws with the following properties:
 - » The diameter of the screw head (see figure) must be between 13 mm and 15 mm.
 - » The screw diameter must be 8 mm.
 - » The screw head must not exceed 5mm.



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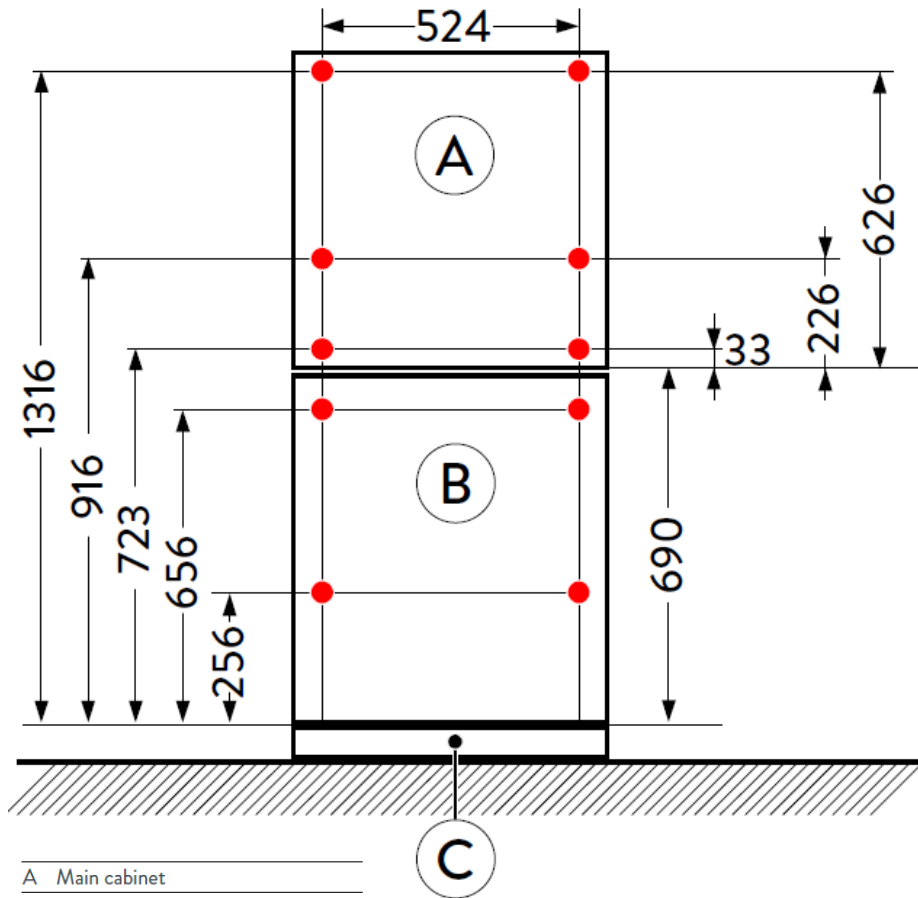


Observing minimum distances.

- » Observe the specified minimum distances to neighbouring objects.
- » The minimum distances ensure that:
 - » there is sufficient heat dissipation, the storage system door can be opened easily and
 - » there is sufficient space for maintenance work.

sonnen eco 8 Series

Setting Out Main Cabinet Plus Small Extension Cabinet (up to 10 kWh)



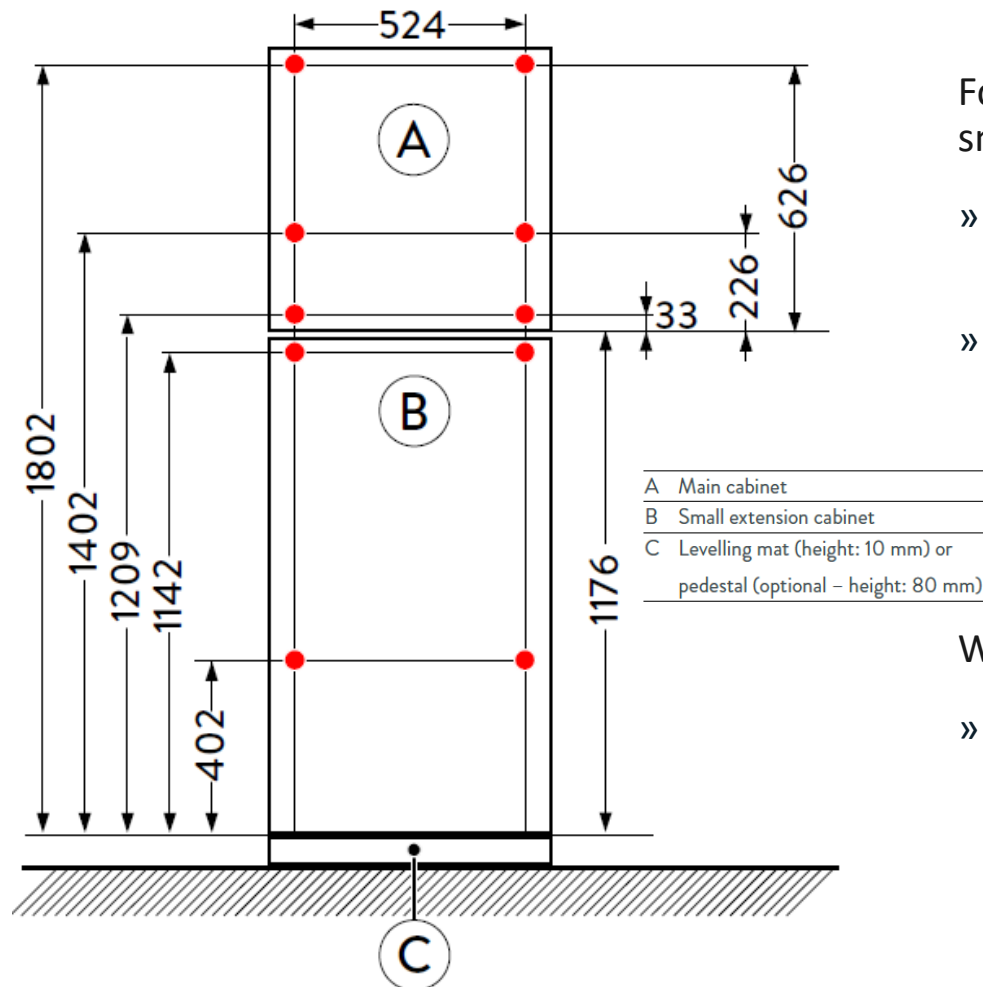
- A Main cabinet
- B Small extension cabinet
- C Levelling mat (height: 10 mm) or pedestal (optional - height: 80 mm)

For storage systems consisting of main and small extension cabinet:

- » Drill the holes shown in red in figure on the left.
- » Note that the storage system must be placed on the levelling mat or the pedestal (C).

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Setting Out Main Cabinet Plus Large Extension Cabinet (up to 16 kWh)



For storage systems consisting of main and small extension cabinet:

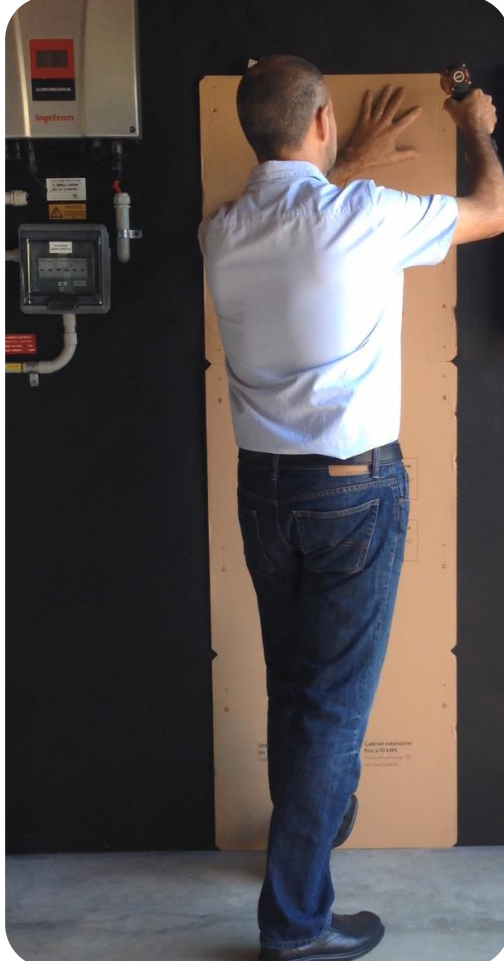
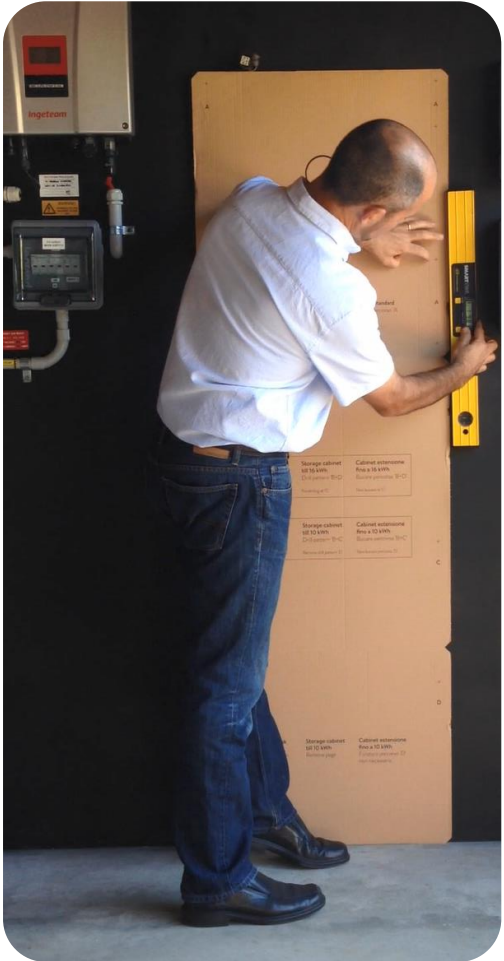
- » Drill the holes shown in red in figure on the left.
- » Note that the storage system must be placed on the levelling mat or the pedestal (C).

Without extension cabinet:

- » If the storage system is used without extension cabinet it is a good idea to observe the dimensions provided in one of the two figures. That way no new holes need to be drilled if the storage system is extended at a later time.

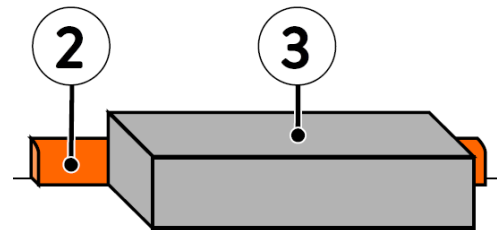
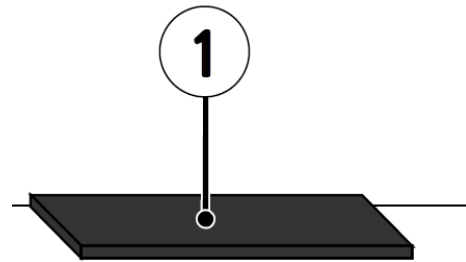
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Mounting Template



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Levelling Mat or the Pedestal



The levelling mat (1) is part of the scope of delivery for the extension cabinet. It is used to compensate uneven floors.

Alternatively the extension cabinet can be placed on an optional pedestal (3) instead of the levelling mat.

This is helpful if the extension cabinet doesn't meet flush with the wall (e.g. because a skirting board is mounted)..

» Place the levelling mat or the pedestal at the preferred installation location.

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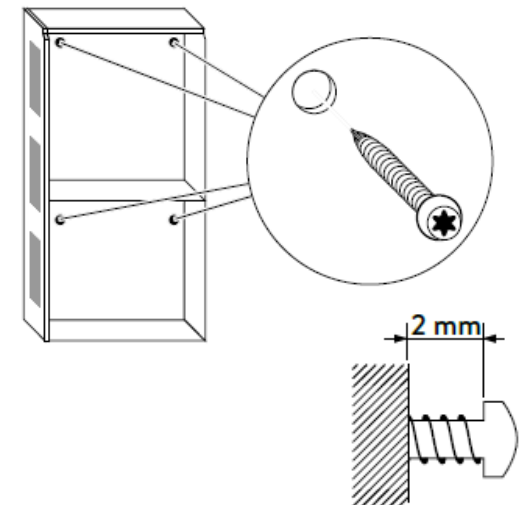
Mounting the Extension Housing



There are keyhole fixings on the rear of the main cabinet.

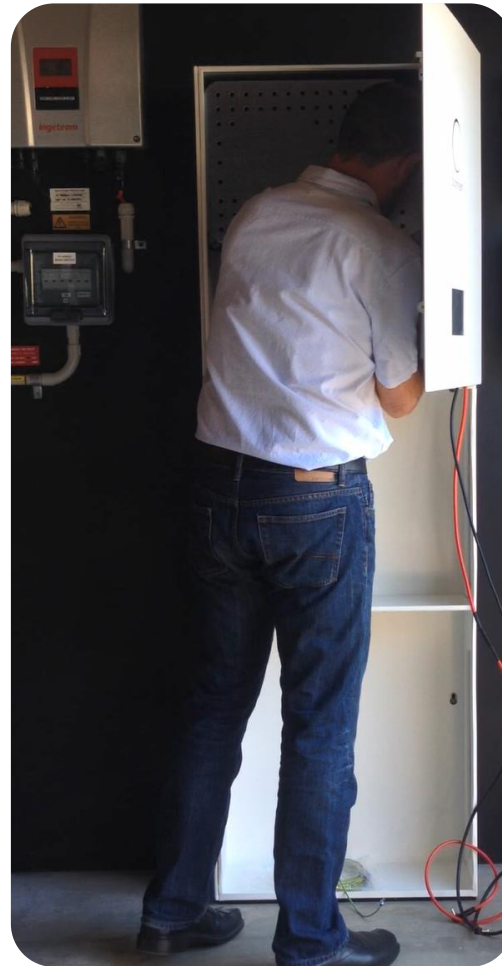
The main cabinet is mounted using these attachments..

- » The screw should not be completely screwed in.
- » The screw head should protrude from the wall by approx. 2 mm

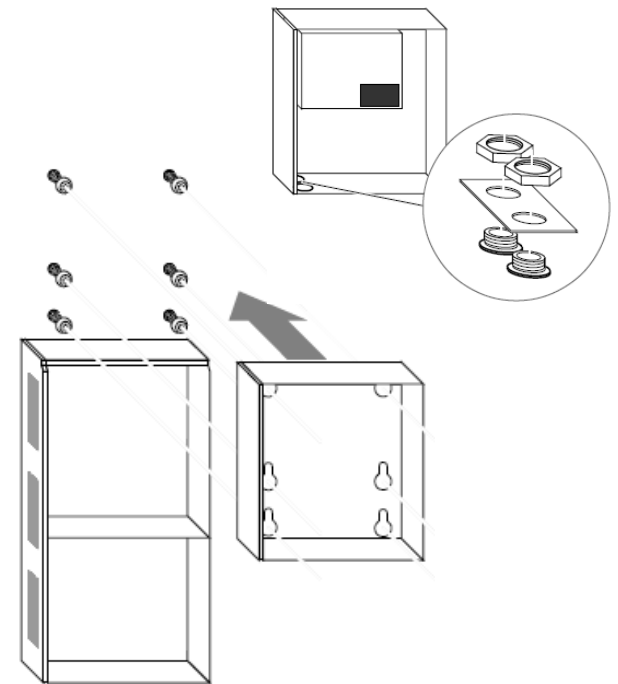


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Mounting the Main Cabinet



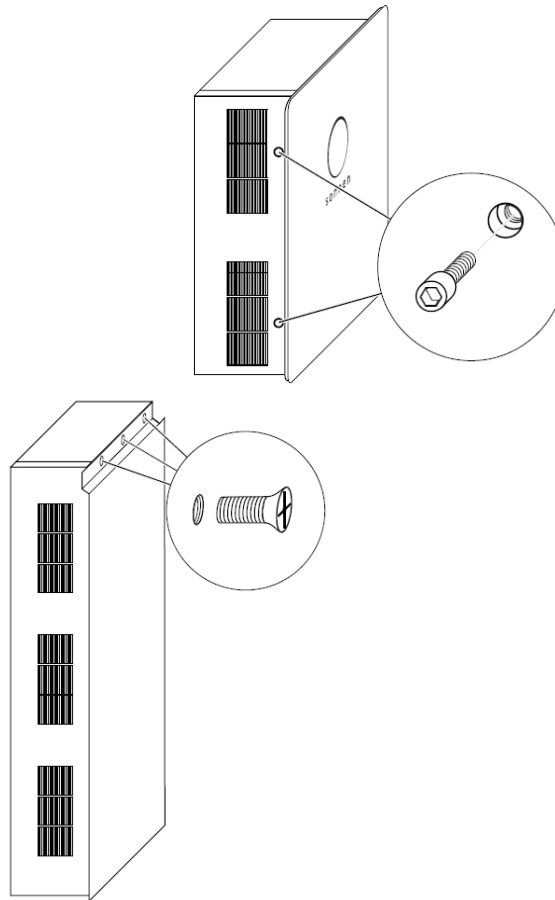
Remove the blind caps that are located at the bottom of the main cabinet.



Hang the main cabinet on the previously mounted screws.

sonnen eco 8 Series

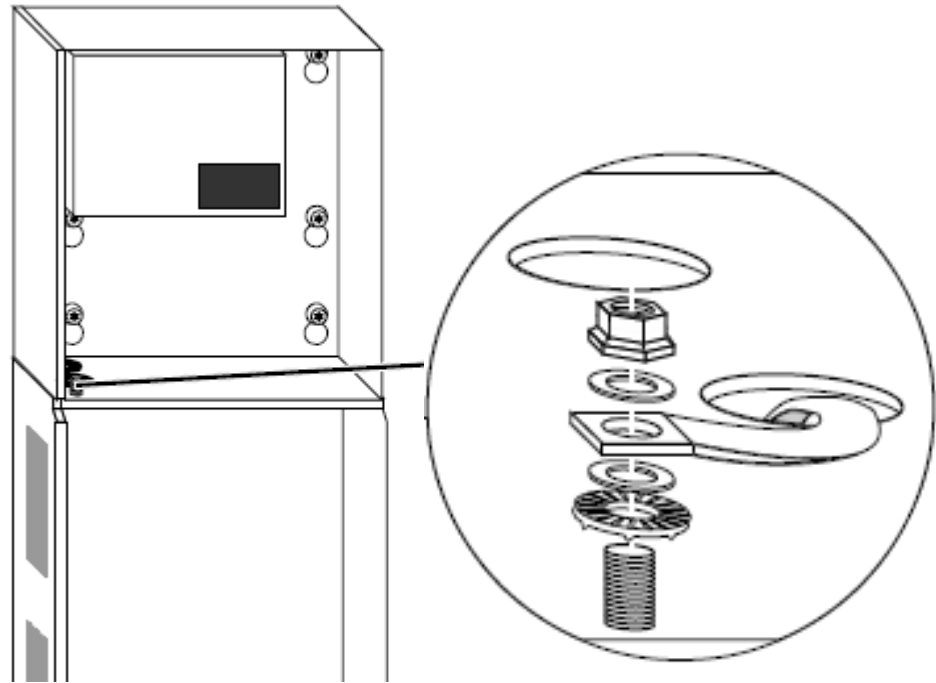
Opening the Main Cabinet Doors & Extension Housing Cover



» x2 allen screws on the left hand side of the main cabinet, plus the three screws on the extension housing, the main cabinet door is hinged, the extension housing cover slides up.

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Earthing Both Cabinets

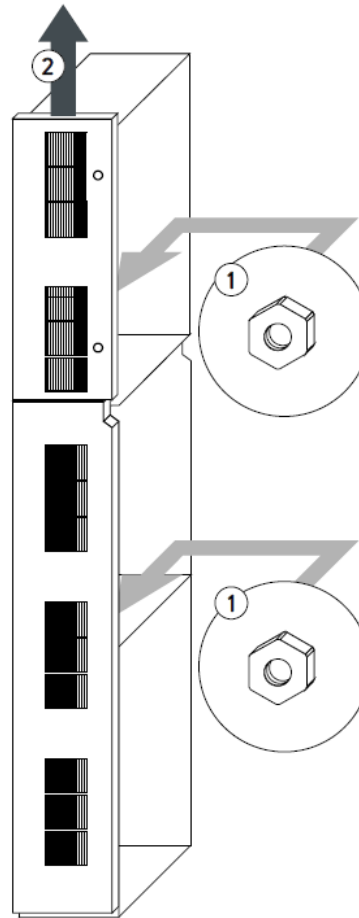
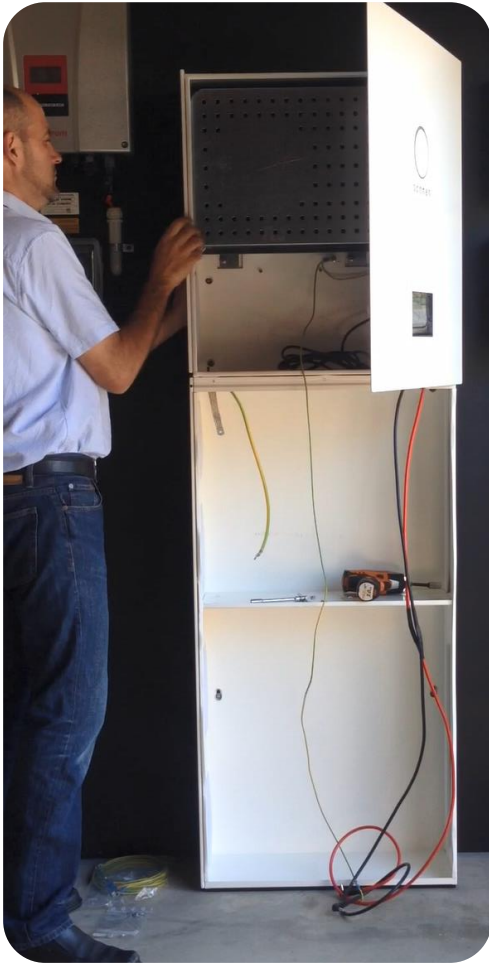


A flat braided earth connector strap is already fitted to the extension cabinet.

- » Connect the other end of the earth conductor to the earth bolt in the main cabinet.

sonnen eco 8 Series

Removing the Filter Plate Access Panels



» Remove both retaining nuts and slide the panels upwards to release.



Sonnen eco 8 Series Battery Module Installation

sonnen eco 8 Series

Warnings

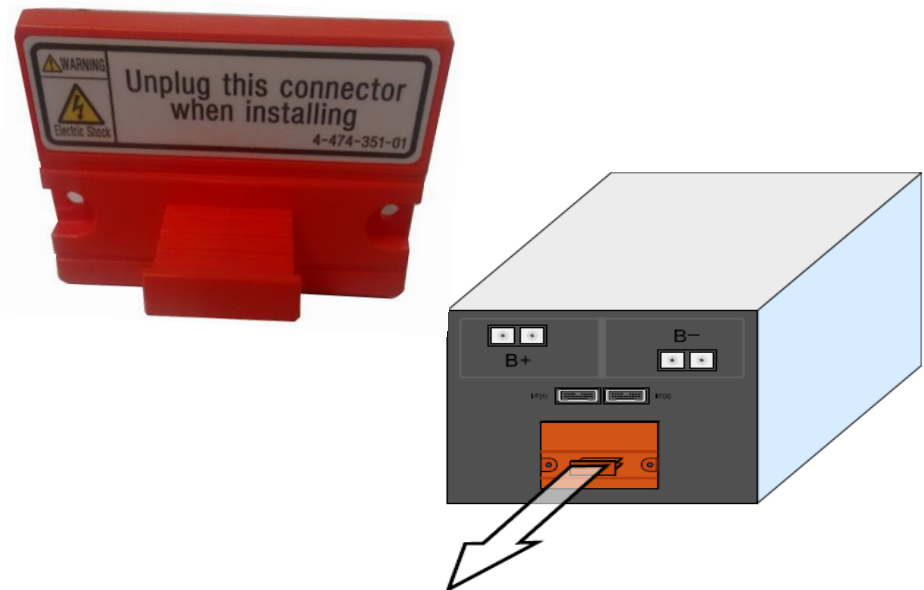
WARNING

Risk of Burns:

- » Very high short-circuit currents are possible and the following must be observed when working with the battery modules:
- » The battery module is activated when the fuse connector is plugged in. The voltage runs between the plus and minus contacts of the battery module (nominal voltage of battery modules 51.2 V DC).
- » The battery module is deactivated when the fuse connector is unplugged. No voltage runs between the plus and minus contacts of the battery module. If all interconnected battery modules are deactivated, it is safe to work on a battery module.

When working on the DC circuit:

- » Set aside metal jewellery.
- » Switch off the storage system.
- » Switch off the series fuse.
- » Fuse connectors on all battery modules are supplied separately do not install until commissioning system.

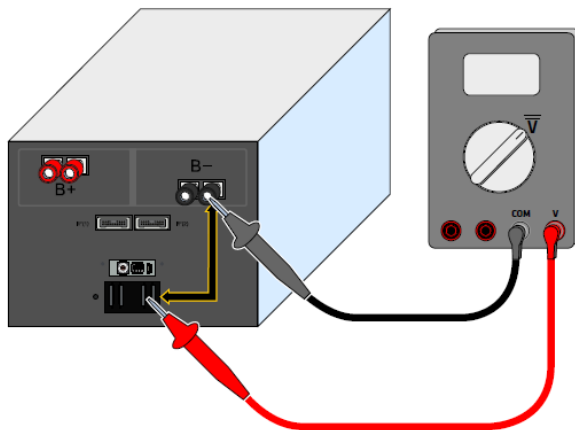


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Voltage Deviation

Differing battery module voltages lead to high compensating currents when the storage system is switched on.

- » Measure the voltages between the internal plus and minus poles of all battery modules (see figure below) and note these down.
- » The battery modules are only allowed to be installed if the maximum deviation between the measured voltages is less than 1 V.
- » If the deviation is greater than 1 V notify the service team.



sonnen eco 8 Series

Modules Addresses



Apply the stickers to the modules, numbering will start at zero.

- » Always start with number 0
- » Number the battery modules before installing them



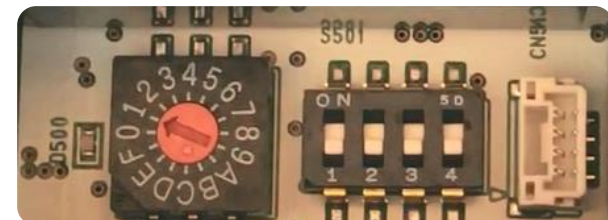
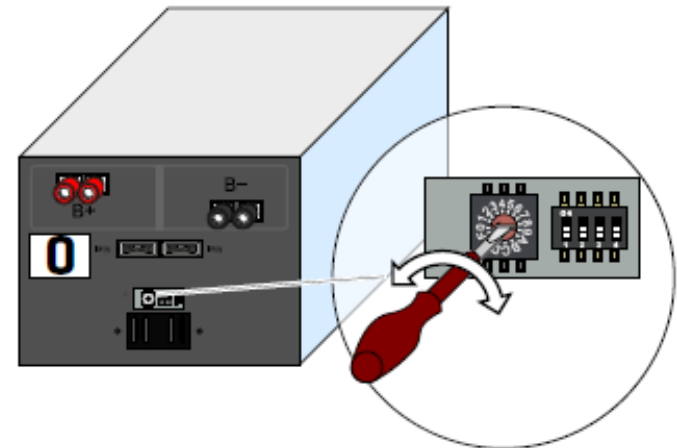
sonnen eco 8 Series

Modules Addresses



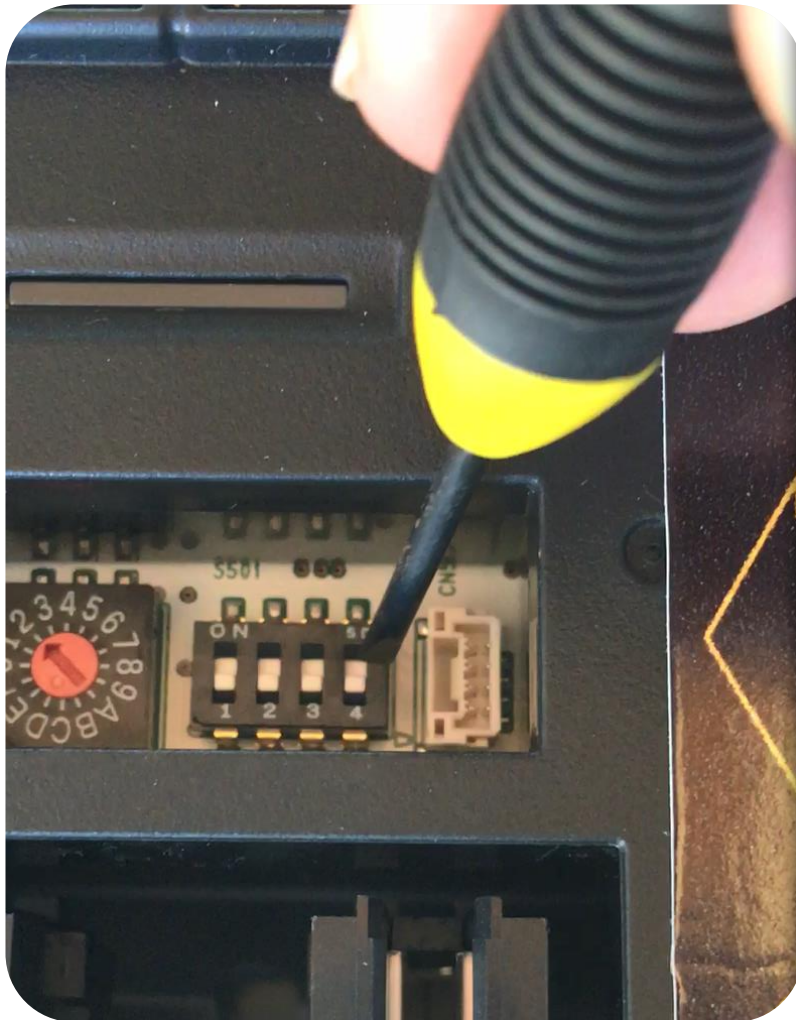
Set the communication addresses for the battery modules using the rotary switch.

» The communication address needs to match the number of the battery module.



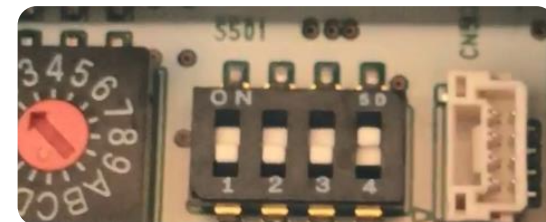
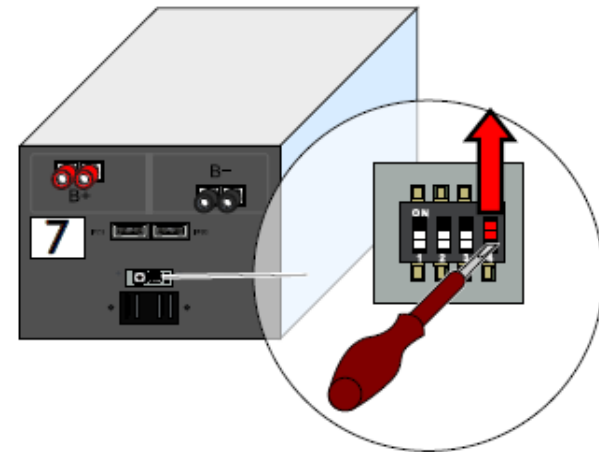
sonnen eco 8 Series

Modules Addresses



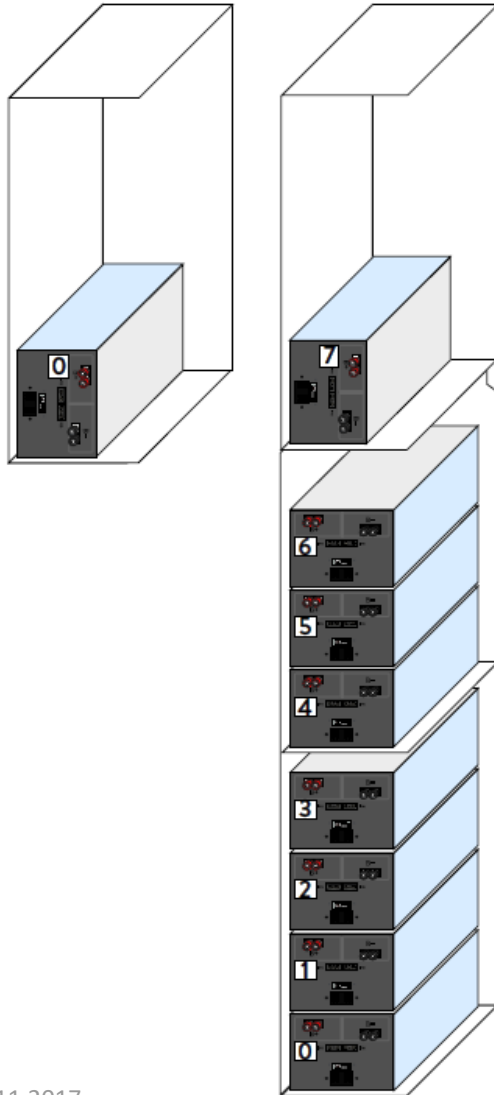
Slide the termination switch (switch 4) of the battery module with the highest number (switch position ON).

» Ensure that the termination switches of all other battery modules are in switch position OFF.



sonnen eco 8 Series

Module Positioning



If no extension cabinet is used:

- » Position the battery module as shown in the left part of the image.

If the extension cabinet is used:

- » Position the battery modules as shown in the right part of the image.

If the extension cabinet is used but not completely full:

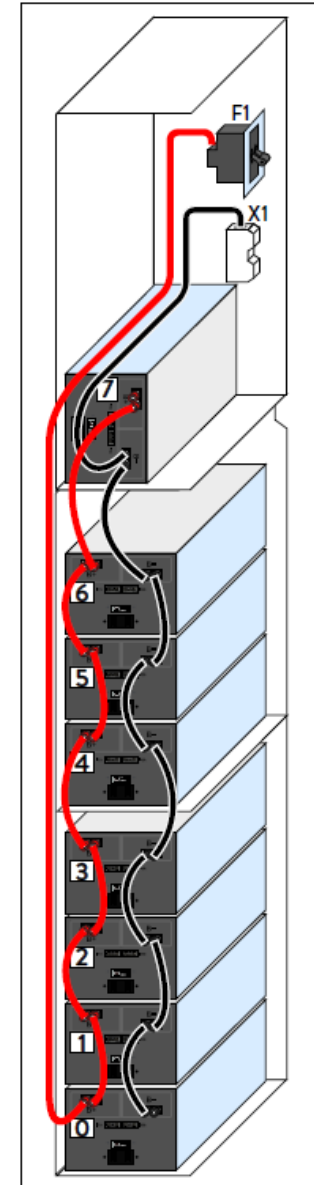
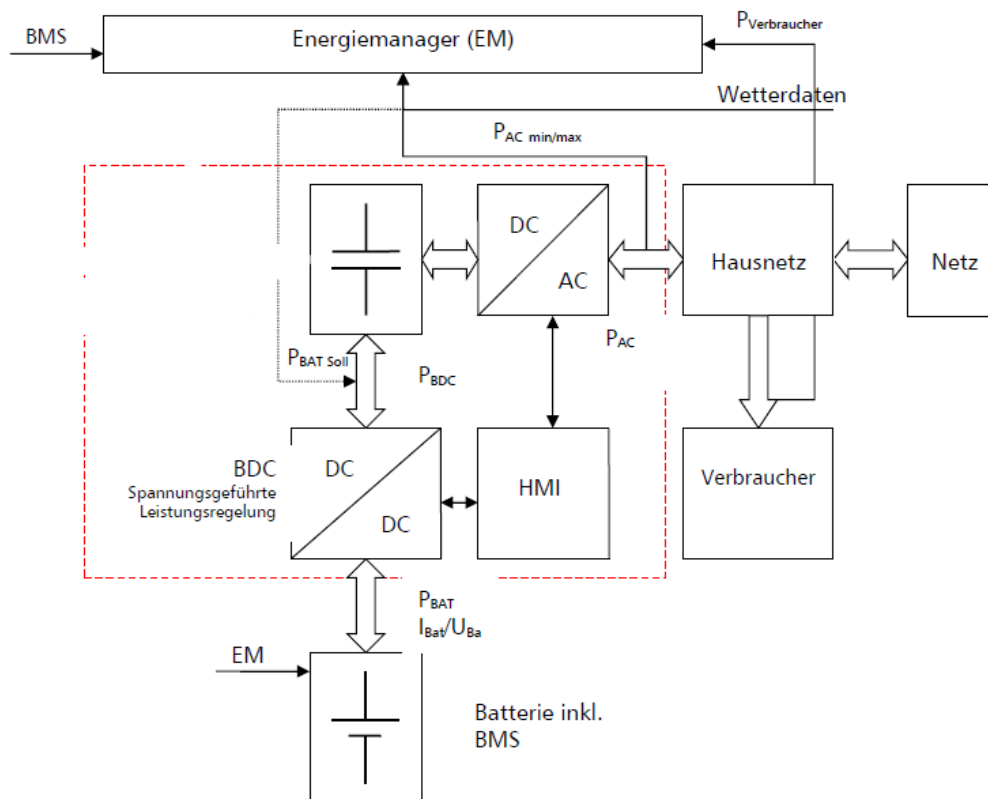
- » Position the battery modules from the floor up without any gaps between numbering the lowest module as 0.

sonnen eco 8.0 / 8.1 – Three Phase

Module Grounding

Grounding of the battery modules in the three phase eco 8 series systems is not required due to the inverter topology:

» The DC/DC converter from the battery to DC/AC inverter is galvanically isolated.

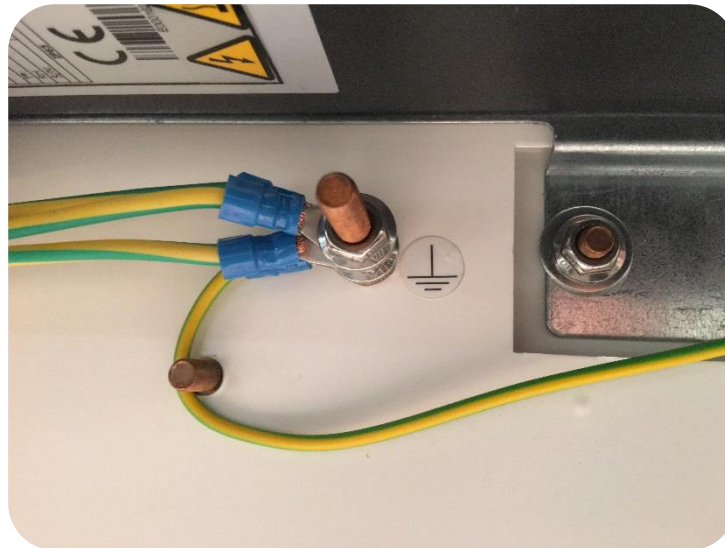


sonnen eco 8.2 – Single Phase

Module Grounding

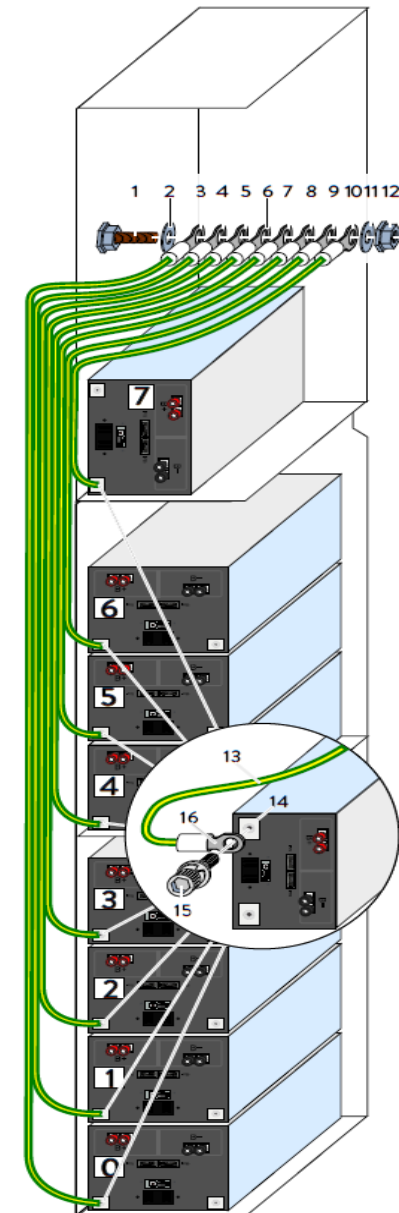
Grounding of the battery modules is required due to the embedded inverter topology:

» Connect all earthing wires to the earthing pin in the main cabinet.



» Take care of the positioning of the components to the cable lugs have to be arranged circularly.

» Connect the other end of the earth conductors to either of the earth connections of the battery modules.



sonnen eco 8 Series

Battery Module DC Cable Connections

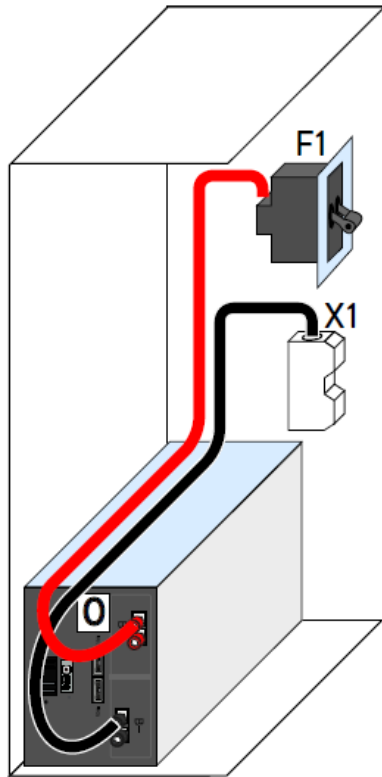


Incorrectly connected DC lines can cause a short circuit and thus high heat generation. Improperly connected DC lines can also create high resistance at the point of contact. As very high currents flow through the DC circuit, this high contact resistance can lead to great loss of energy (electrical energy is converted into heat).

- » Check all plug connections. Only red lines are allowed to be plugged into red sockets. Only black lines are allowed to be plugged into black sockets.
- » Ensure that all DC lines are plugged into the sockets all the way.
- » Ensure that all battery modules are connected in parallel, i.e. all plus poles of the battery modules are connected together (red to red). Likewise, ensure that all minus poles of the battery modules are connected together (black to black).

sonnen eco 8 Series

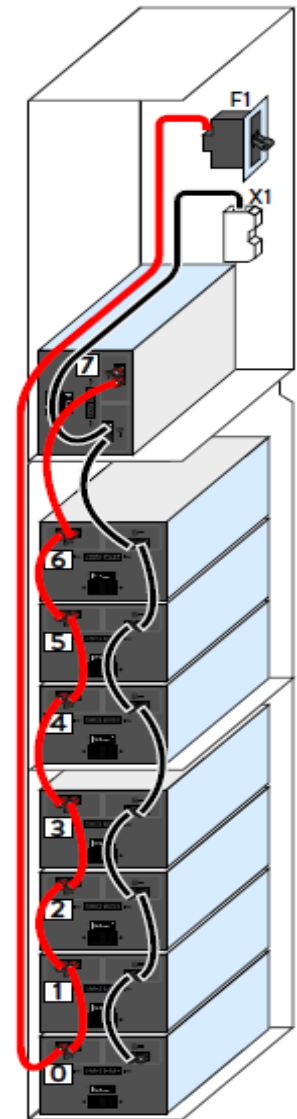
Battery Module DC Cable Connections



Reverse
polarity
protection

Connect the DC battery cables as shown, observe the following points.

- » The plus cable must be connected to the plus terminal of battery module numbered 0.
- » The negative cable must be connected to the negative terminal of the very last battery module (that with the highest number).
- » All new generation eco 8 series modules have polarity protection so positive cannot be plugged into the negative terminal or vice versa. Polarity protected modules can be identified by the blue circular sticker on all packaging
- » With a sonnen eco 8.xx/2 this is both terminal of battery module 0.
- » with a sonnen eco 8.xx/4 this is battery module 1.
- » with a sonnen eco 8.xx/6 this is battery module 2, and so on...
- » with a sonnen eco 8.xx/16 this is battery module 7.

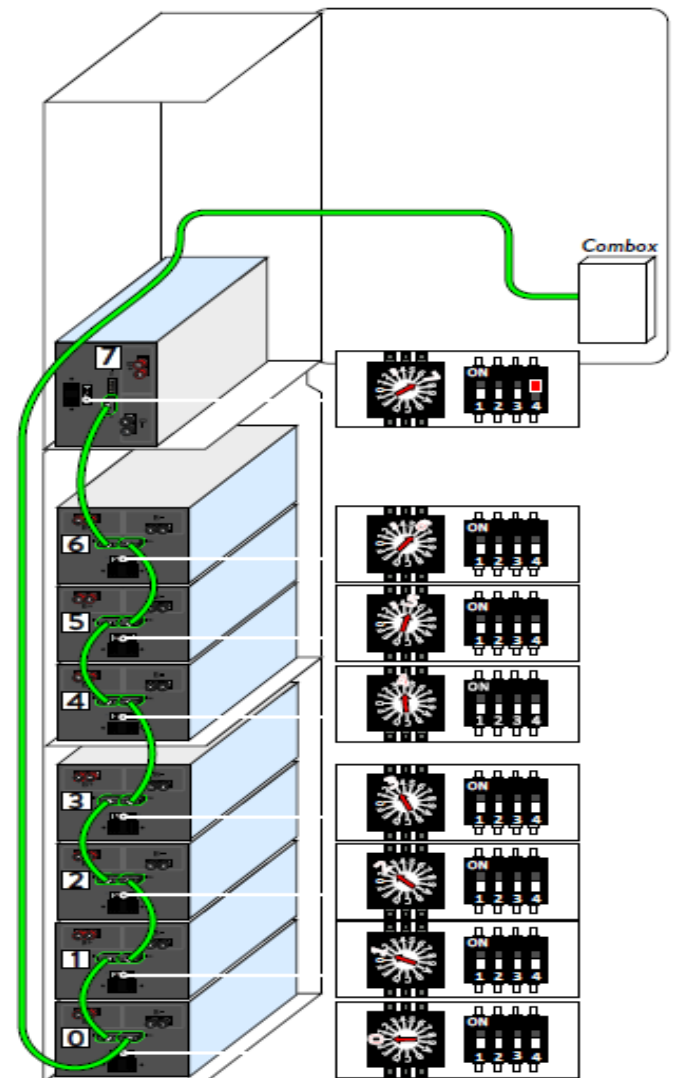
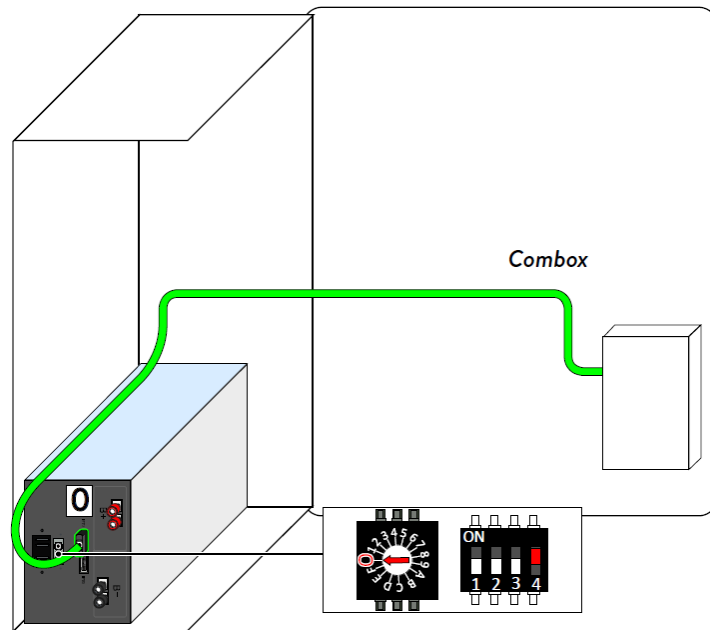


sonnen eco 8 Series

Battery Module BMS Cable Connections

Connect the BMS cables as shown.

- » The main (longest) BMS cable must be connected to the plus terminal of battery module numbered 0.



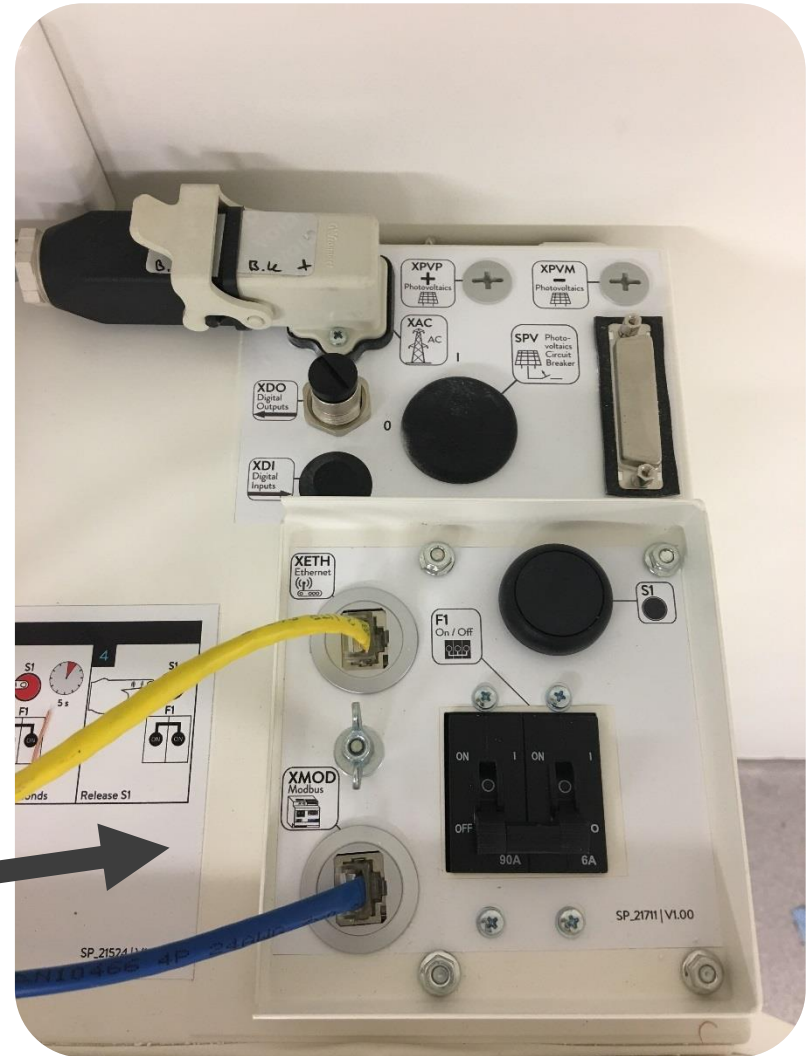


Sonnen eco 8 Series Connections Panel

sonnen eco 8.0 – Three Phase Connection Panel

Remove wingnut to access panel.

» The start/stop switch, triple pole isolator, Modbus and Ethernet terminals are then accessible.



sonnen eco 8.2 – Single Phase Connection Panel



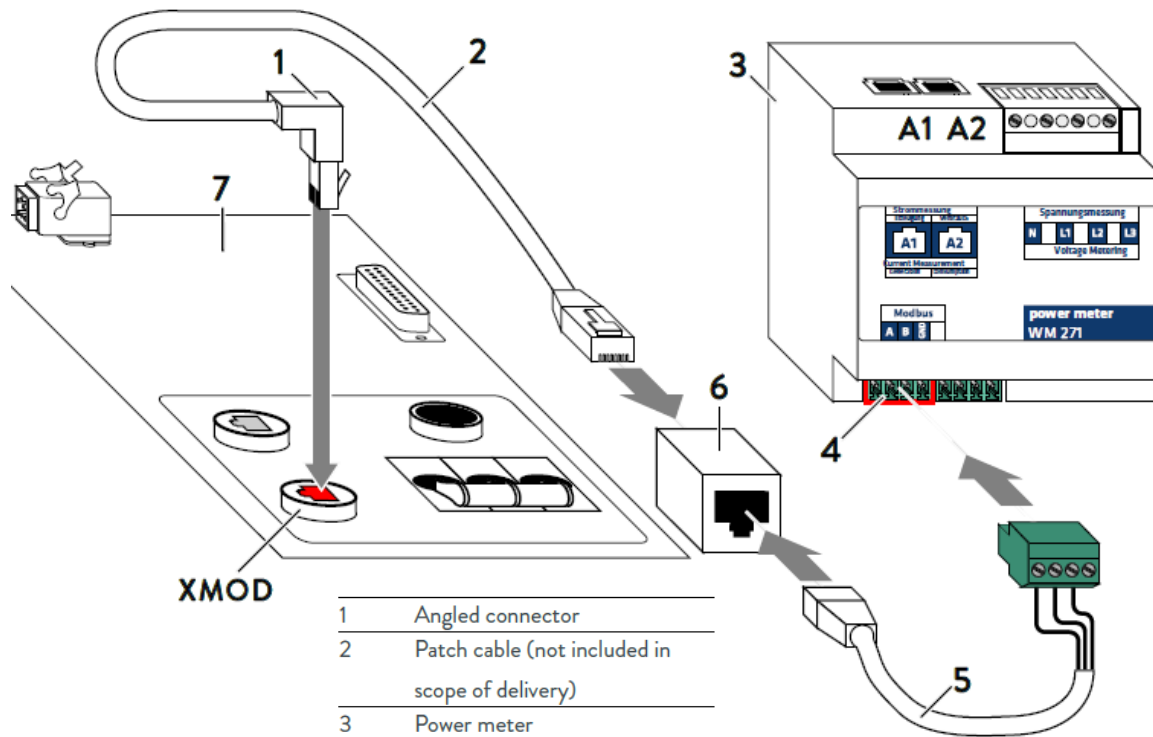
Remove wingnut to access panel.

» The start/stop switch, triple pole isolator, Modbus and Ethernet terminals are then accessible.



sonnen eco 8 Series

Modbus Line



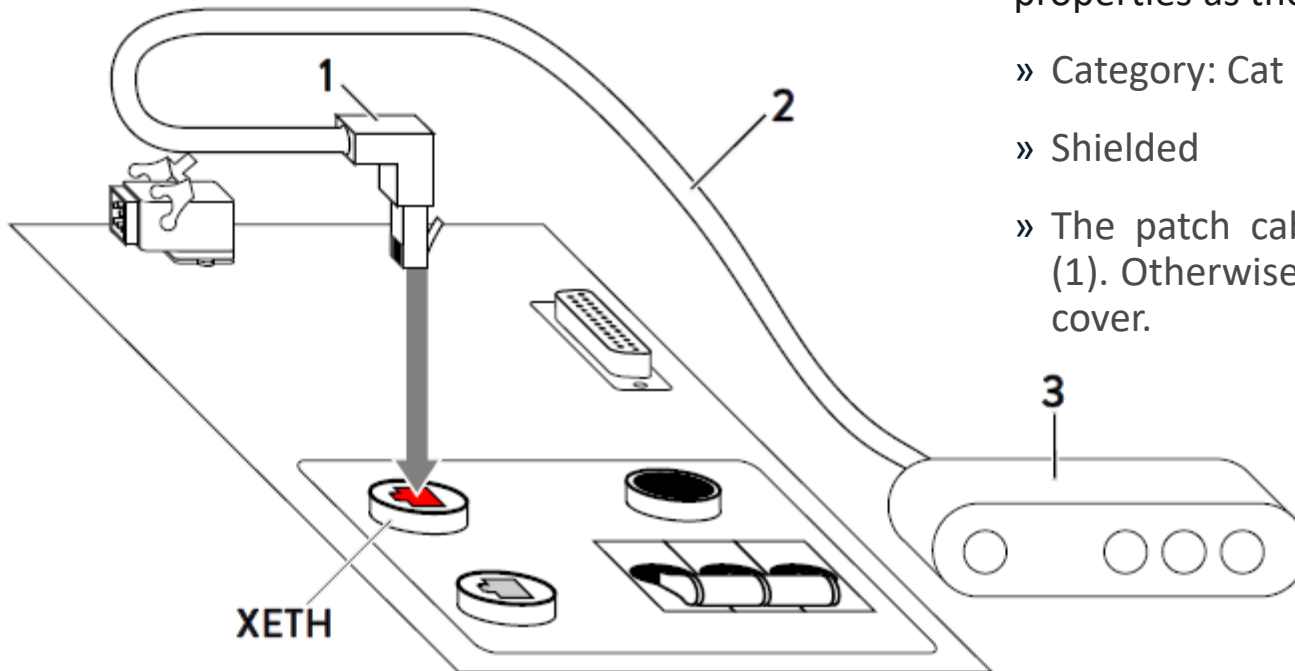
- | | |
|---|--|
| 1 | Angled connector |
| 2 | Patch cable (not included in scope of delivery) |
| 3 | Power meter |
| 4 | Modbus terminal strip |
| 5 | Modbus line
A- = white/blue
B+ = blue
GND = brown |
| 6 | RJ45 coupling |
| 7 | Ports on top of the main cabinet
XMOD Modbus port |

Measurement data is transmitted from the power meter to the storage system using the Modbus line:

- » Category: Cat 5 e
- » Shielded
- » The patch cable has an angled connector (1). Otherwise it is not possible to close the cover.
- » Connect the patch cable (1) as shown in the following figure.

sonnen eco 8 Series

Ethernet Connection



- | | |
|------|---|
| 1 | Angled connector |
| 2 | Patch cable (not included in scope of delivery) |
| 3 | Router of the home network |
| XETH | Ethernet port |

Use a patch cable with the following properties as the Ethernet line:

- » Category: Cat 5 e
- » Shielded
- » The patch cable has an angled connector (1). Otherwise it is not possible to close the cover.

- » The storage system automatically establishes the connection to the internet once the Ethernet line has been correctly connected.



Sonnen eco 8 Series AC Power Connection

sonnen eco 8.0/8.1 – Three Phase

Electrical Connections – Main AC Connection

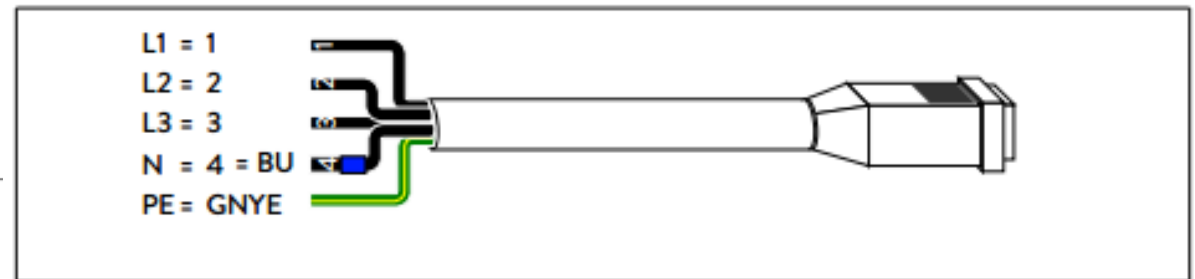
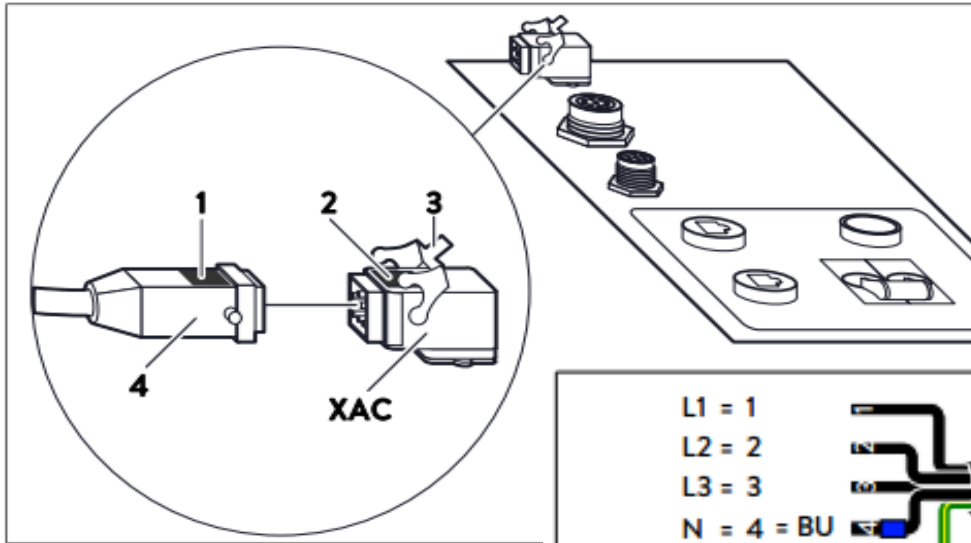


Figure 28: Numbered mains line

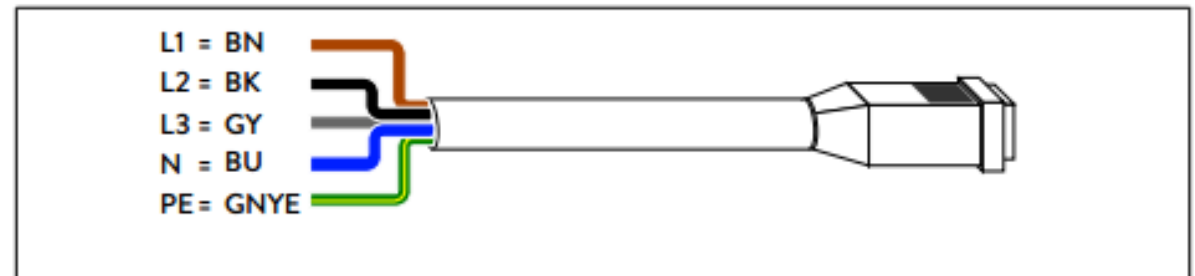


Figure 29: Color-coded mains line

sonnen eco 8.2 – Single Phase

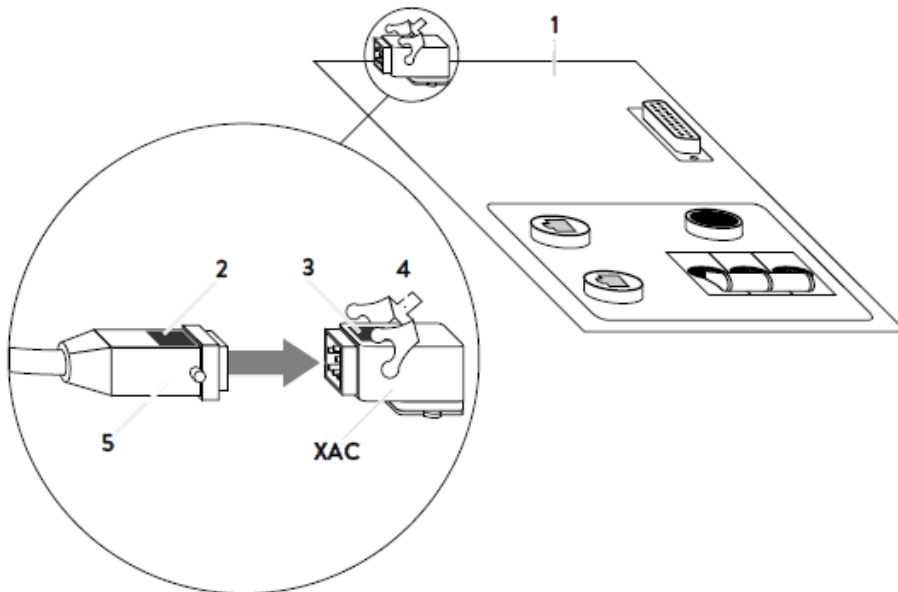
Electrical Connections – Main AC Connection



The following points must be observed when carrying out electrical work on the storage system or on the electrical supply:

- » Disconnect the relevant electrical circuits.
- » Secure against anyone switching on the device again.
- » Check that the device is disconnected from the power supply.

Only authorised electricians are permitted to carry out electrical work..

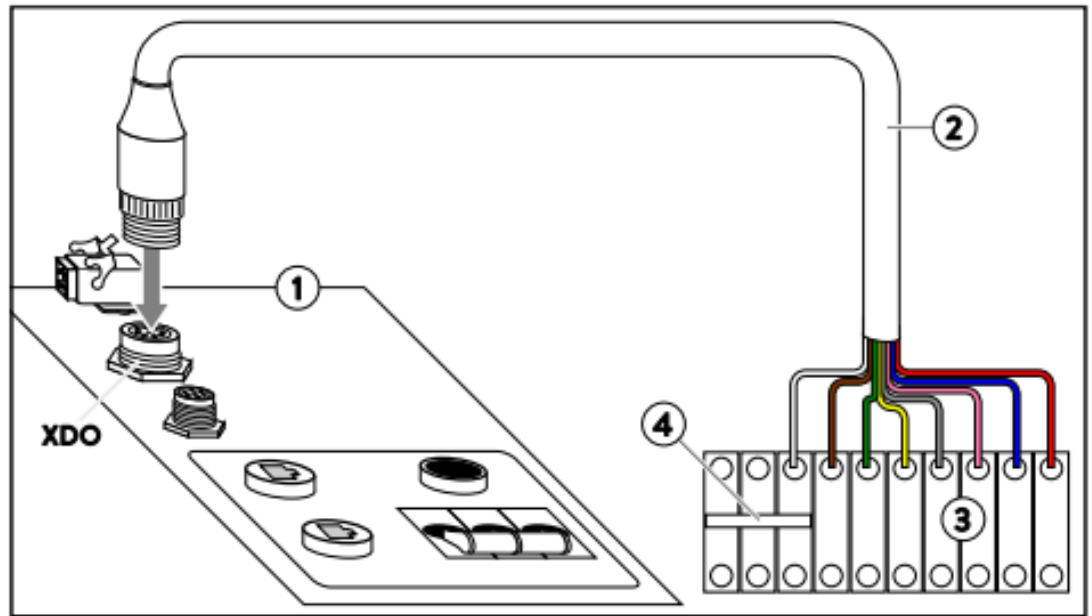


1	Top side of the storage system
2	Label
3	Label
4	Locking device
5	Plug of the AC line
XAC	AC supply connection

sonnen eco 8.0/8.1 – Three Phase

Electrical Connections – Digital Output

The digital output connects allow for the control of self-consumption relays as well as PV reduction control.



- 1 Signal line
- 2 Signal line
- 3 Terminal strip
- 4 Bridge for connecting terminals

XDO Digital outputs

Wire colour	Wire cross-section	Voltage	Max. Amperage	Function
white	0,25 qmm	0 VDC	350 mA	Earth (GND)
brown	0,25 qmm	24 VDC	50 mA	DO self-consumption switch
green	0,25 qmm	24 VDC	50 mA	DO PV reduction 1
yellow	0,25 qmm	24 VDC	50 mA	DO PV reduction 2
grey	0,25 qmm	24 VDC	50 mA	DO min/max SoC
blue-red	0,25 qmm	24 VDC	50 mA	DI CHP
grey-pink	0,25 qmm	24 VDC	50 mA	Supply voltage 24 V DC

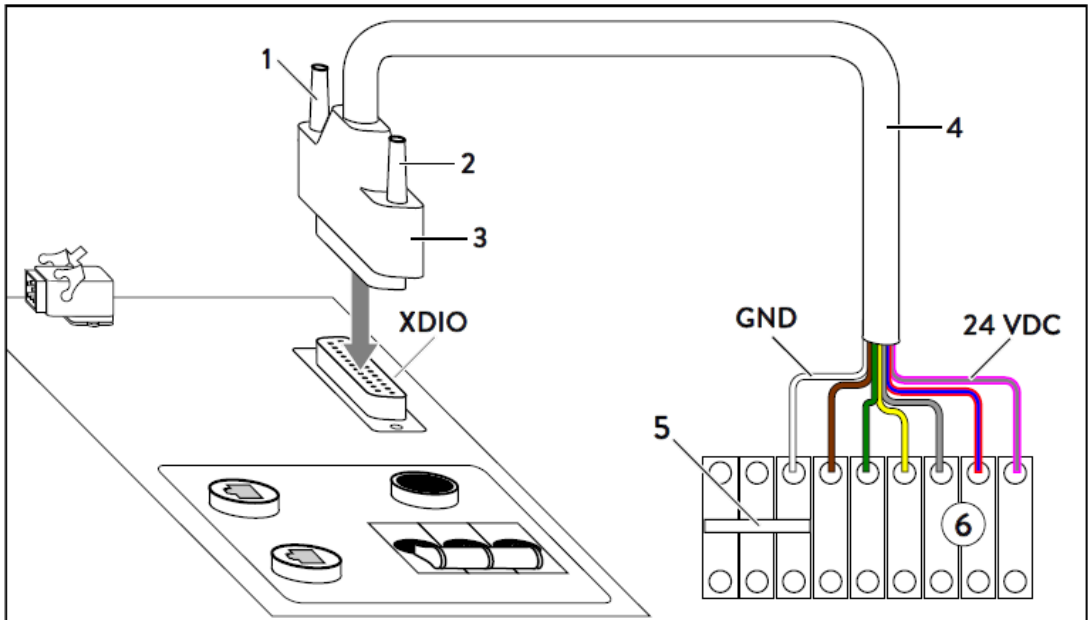
» Pre-wired cable

» Terminal Block Required

sonnen eco 8.2 – Single Phase

Electrical Connections – Digital Output

The digital output connects allow for the control of self-consumption relays as well as PV reduction control.



- 1, 2 Knurled screw
- 3 Male connector
- 4 Signal line
- 5 Bridge for connecting terminals
- 6 Terminal strip

XDIO Digital inputs and outputs

Wire colour	Wire cross-section	Voltage	Max. Amperage	Function
white	0,25 qmm	0 VDC	350 mA	Earth (GND)
brown	0,25 qmm	24 VDC	50 mA	DO self-consumption switch
green	0,25 qmm	24 VDC	50 mA	DO PV reduction 1
yellow	0,25 qmm	24 VDC	50 mA	DO PV reduction 2
grey	0,25 qmm	24 VDC	50 mA	DO min/max SoC
blue-red	0,25 qmm	24 VDC	50 mA	DI CHP
grey-pink	0,25 qmm	24 VDC	50 mA	Supply voltage 24 V DC

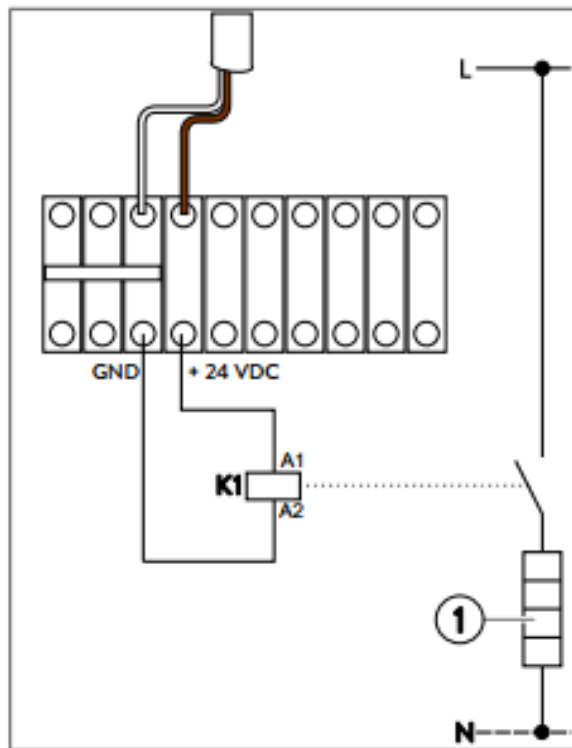
» Pre-wired cable

» Terminal Block Required

sonnen eco 8 Series

Electrical Connections – Digital Output – Self-Consumption Relay

Self-Consumption relay for turning on/off high loads such as water heaters or pumps



As an example, a heating element (1) can be activated/deactivated using the self-consumption switch.

In this case it is a good idea to set the nominal power of the heating element as the switch-on threshold.

Note that suitable safety measures must be in place to prevent the heating medium from overheating.

- » Relay Control
- » On/Off









sonnen eco 8 Series

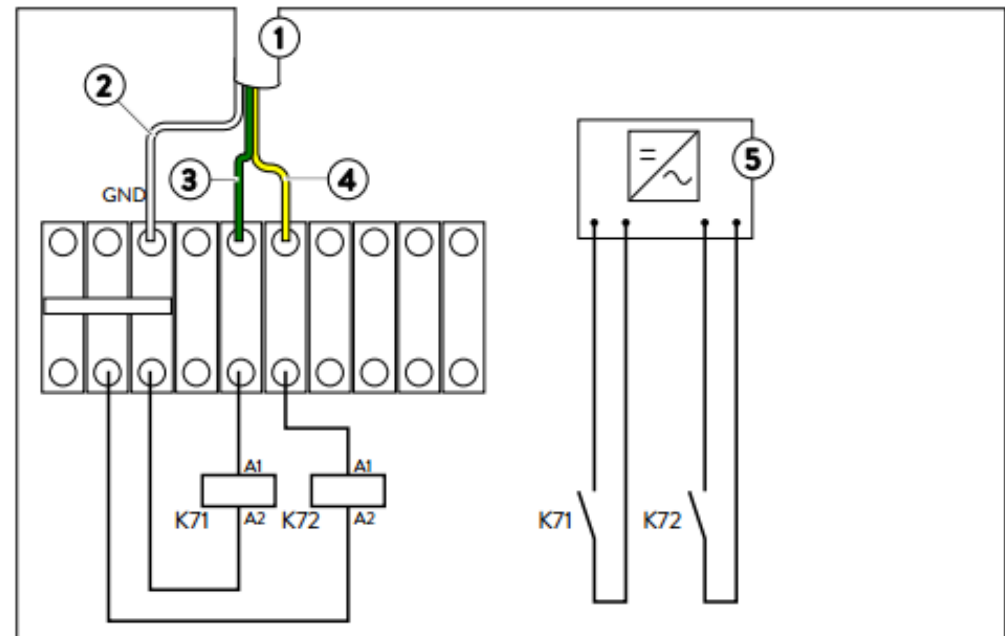
Electrical Connections – Digital Output – PV Reduction

Dual MPPT PV Reduction is controllable

Figure 31:
PV Reduction

1	Signal line
2	Earth (GND)
3	DO PV reduction 1
4	DO PV reduction 2
5	PV inverter with suitable interface for power control
K71	External relay (not included in scope of delivery)
K72	External relay (not included in scope of delivery)

Level	K71	K72
0		
1		
2		
3		



» Relay Control

» On/Off

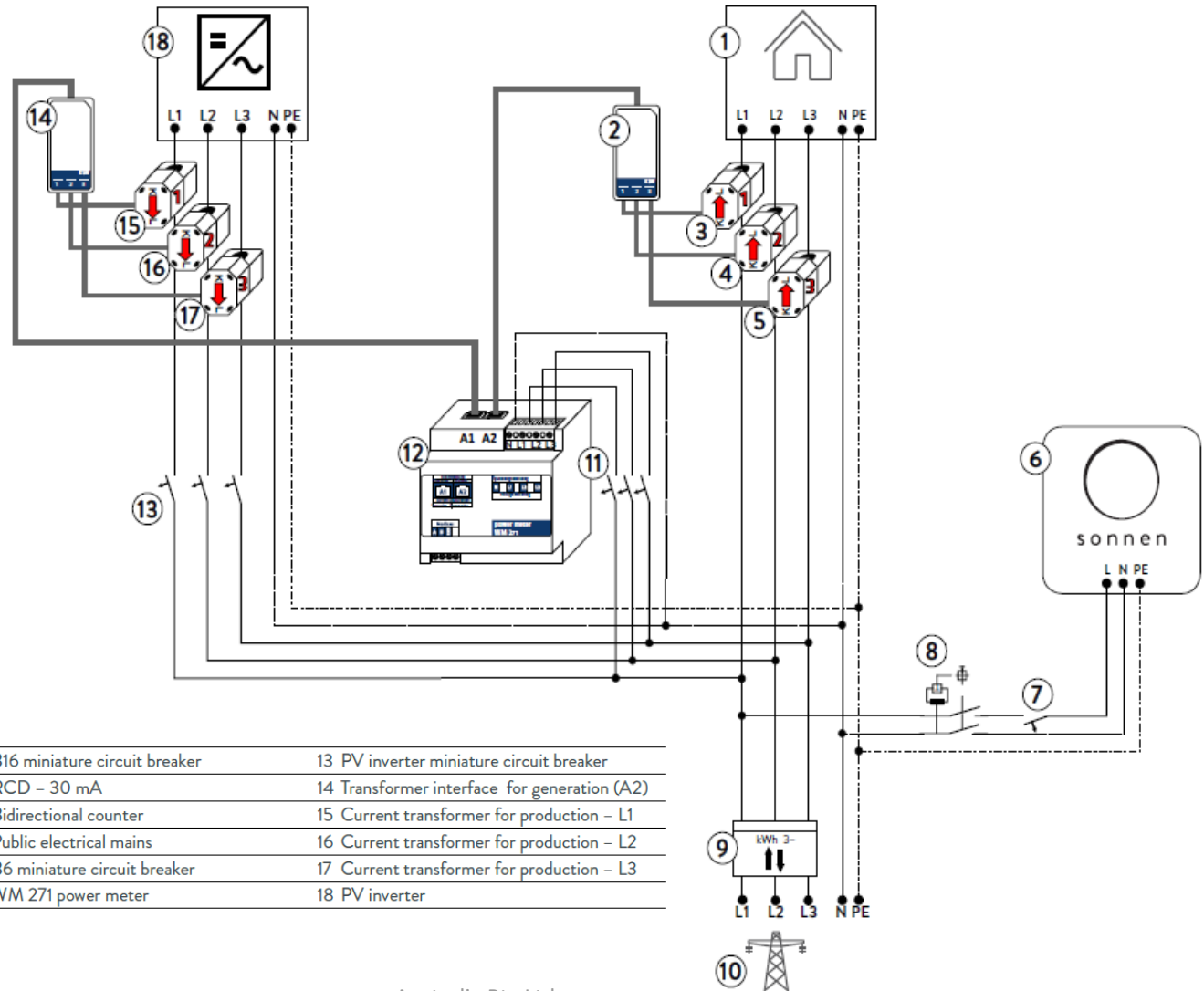


Sonnen eco 8 Series

Meter Installation & Configuration

sonnen eco 8.0 – Three Phase – AC Coupled

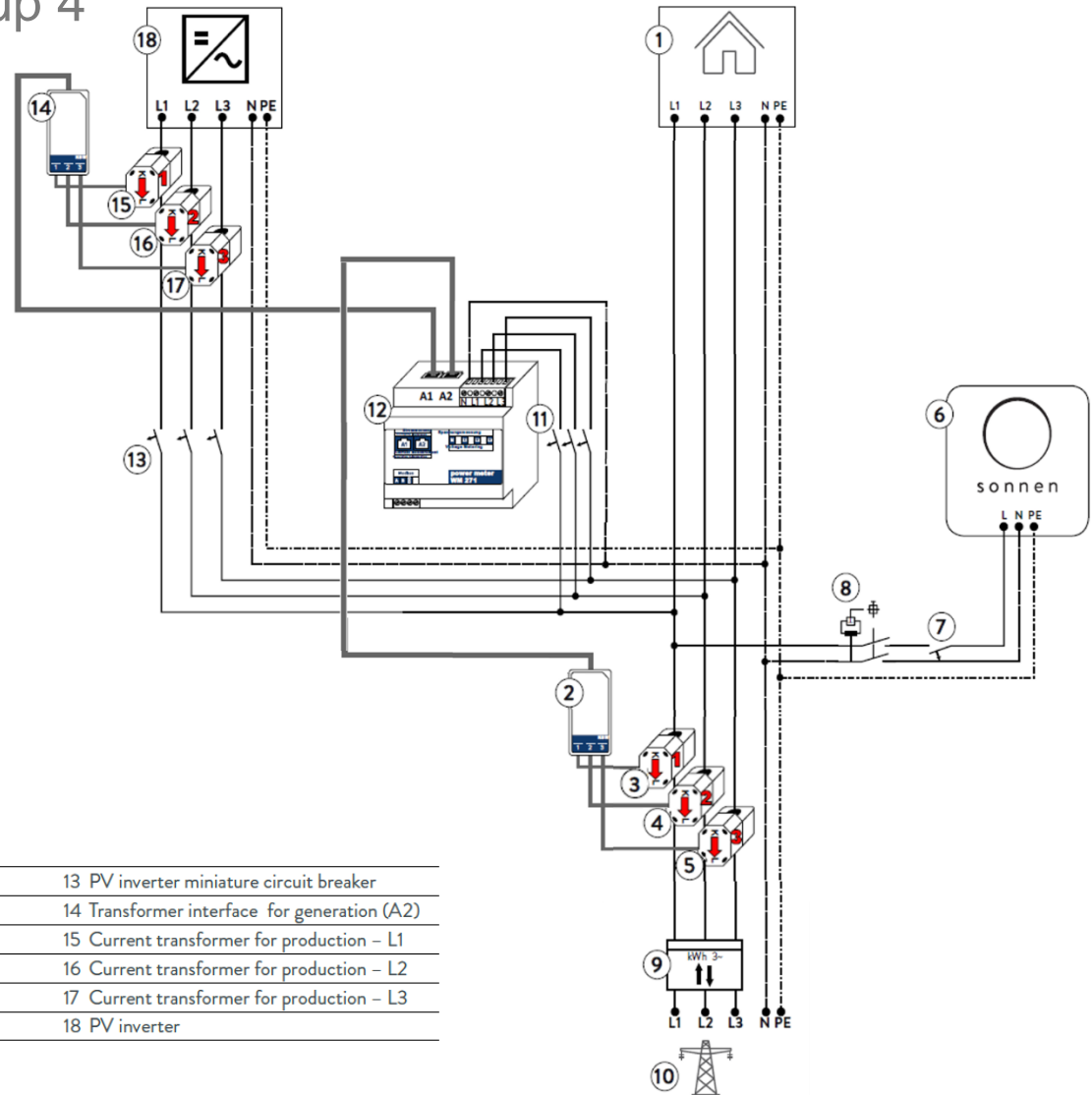
Metering Connections – Setup 1



1 Consumers in building	7 B16 miniature circuit breaker	13 PV inverter miniature circuit breaker
2 Transformer interface for consumption (A2)	8 RCD – 30 mA	14 Transformer interface for generation (A2)
3 Current transformer for consumption – L1	9 Bidirectional counter	15 Current transformer for production – L1
4 Current transformer for consumption – L2	10 Public electrical mains	16 Current transformer for production – L2
5 Current transformer for consumption – L3	11 B6 miniature circuit breaker	17 Current transformer for production – L3
6 Storage system	12 WM 271 power meter	18 PV inverter

sonnen eco 8.0 – Three Phase – AC Coupled

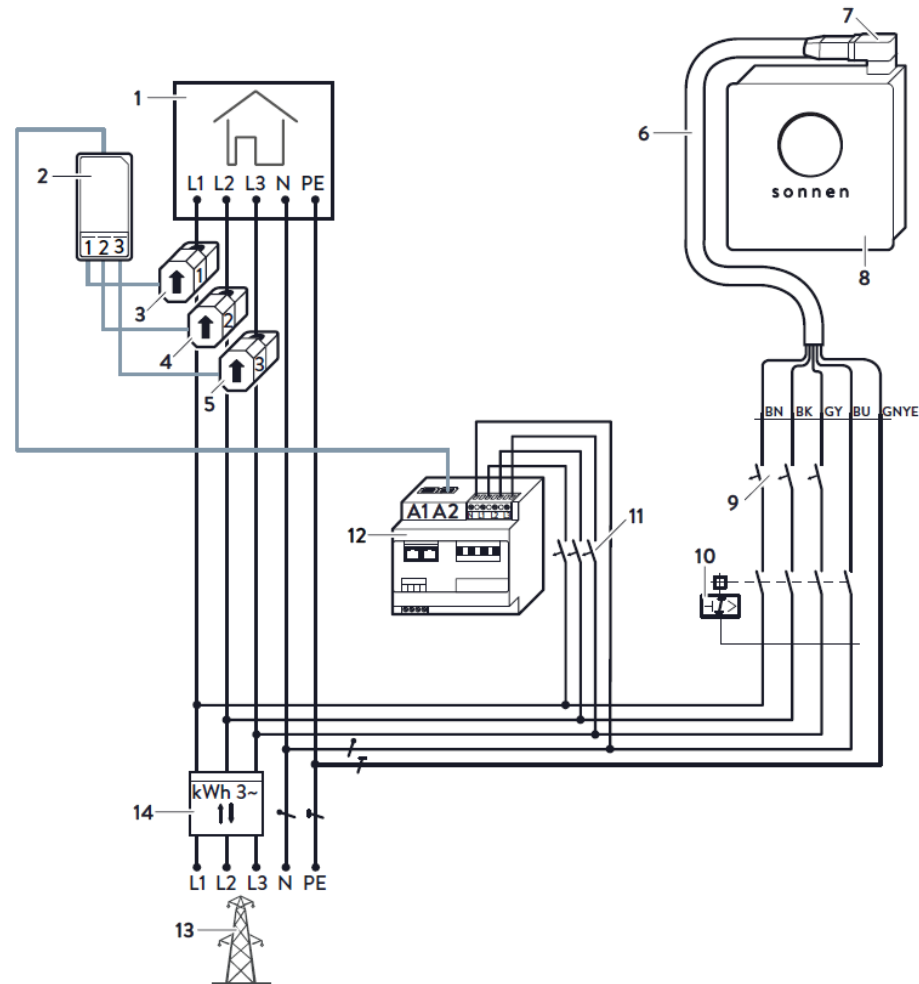
Metering Connections – Setup 4



1 Consumers in building	7 B16 miniature circuit breaker	13 PV inverter miniature circuit breaker
2 Transformer interface for consumption (A2)	8 RCD – 30 mA	14 Transformer interface for generation (A2)
3 Current transformer for consumption – L1	9 Bidirectional counter	15 Current transformer for production – L1
4 Current transformer for consumption – L2	10 Public electrical mains	16 Current transformer for production – L2
5 Current transformer for consumption – L3	11 B6 miniature circuit breaker	17 Current transformer for production – L3
6 Storage system	12 WM 271 power meter	18 PV inverter

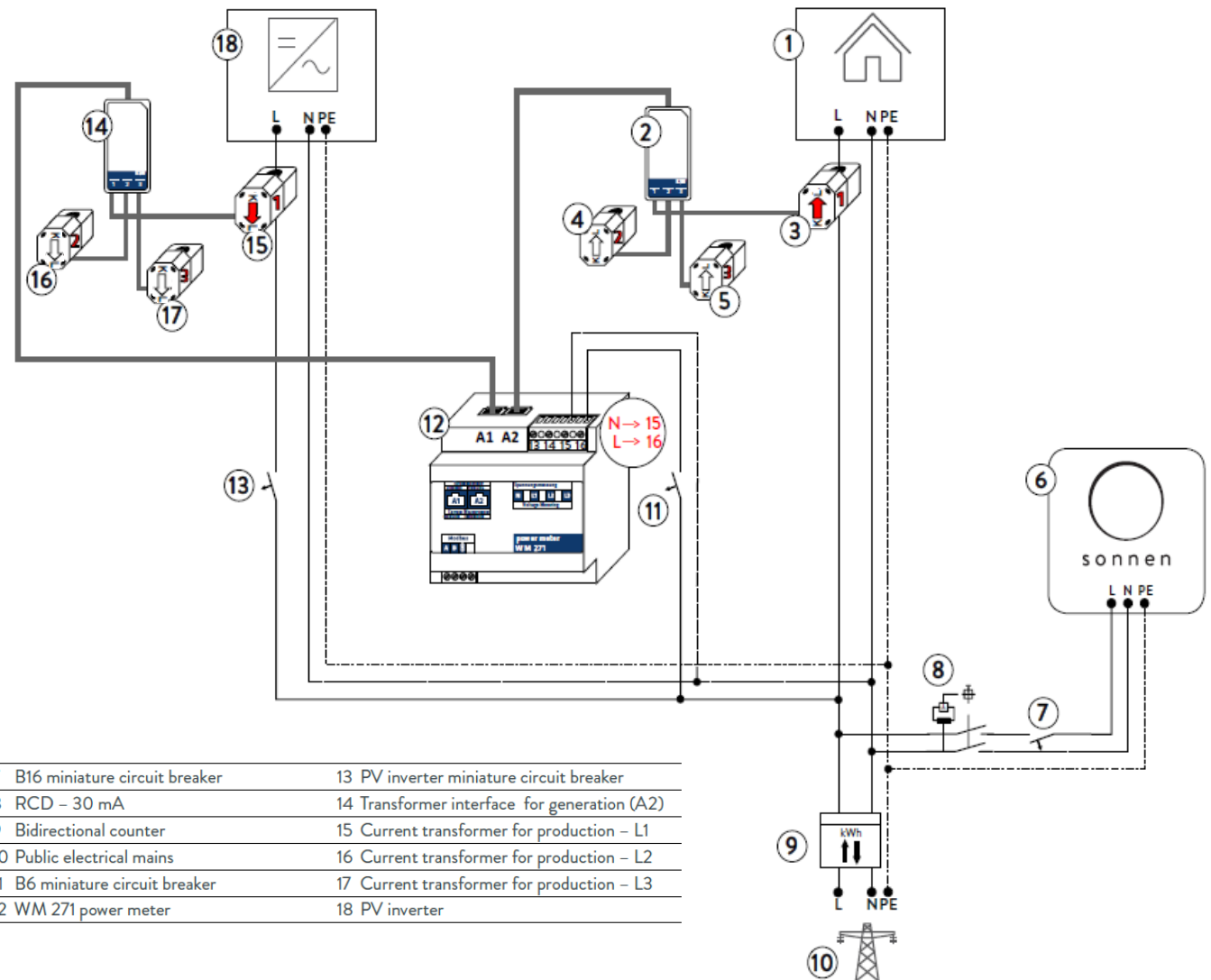
sonnen eco 8.1 – Three Phase – DC Hybrid Metering Connections

- 1 Consumers in building
- 2 Transformer interface for consumption (A2)
- 3 Current transformer for consumption – L1
- 4 Current transformer for consumption – L2
- 5 Current transformer for consumption – L3
- 6 Mains line
- 7 Mains connection socket XAC
- 8 Storage system
- 9 Miniature circuit breaker B16
- 10 RCD (necessary in networks in TT earthing)
- 11 Miniature circuit breaker⁴
- 12 Power meter WM 271
- 13 Public electrical mains
- 14 Bidirectional counter



sonnen eco 8.2 – Single Phase

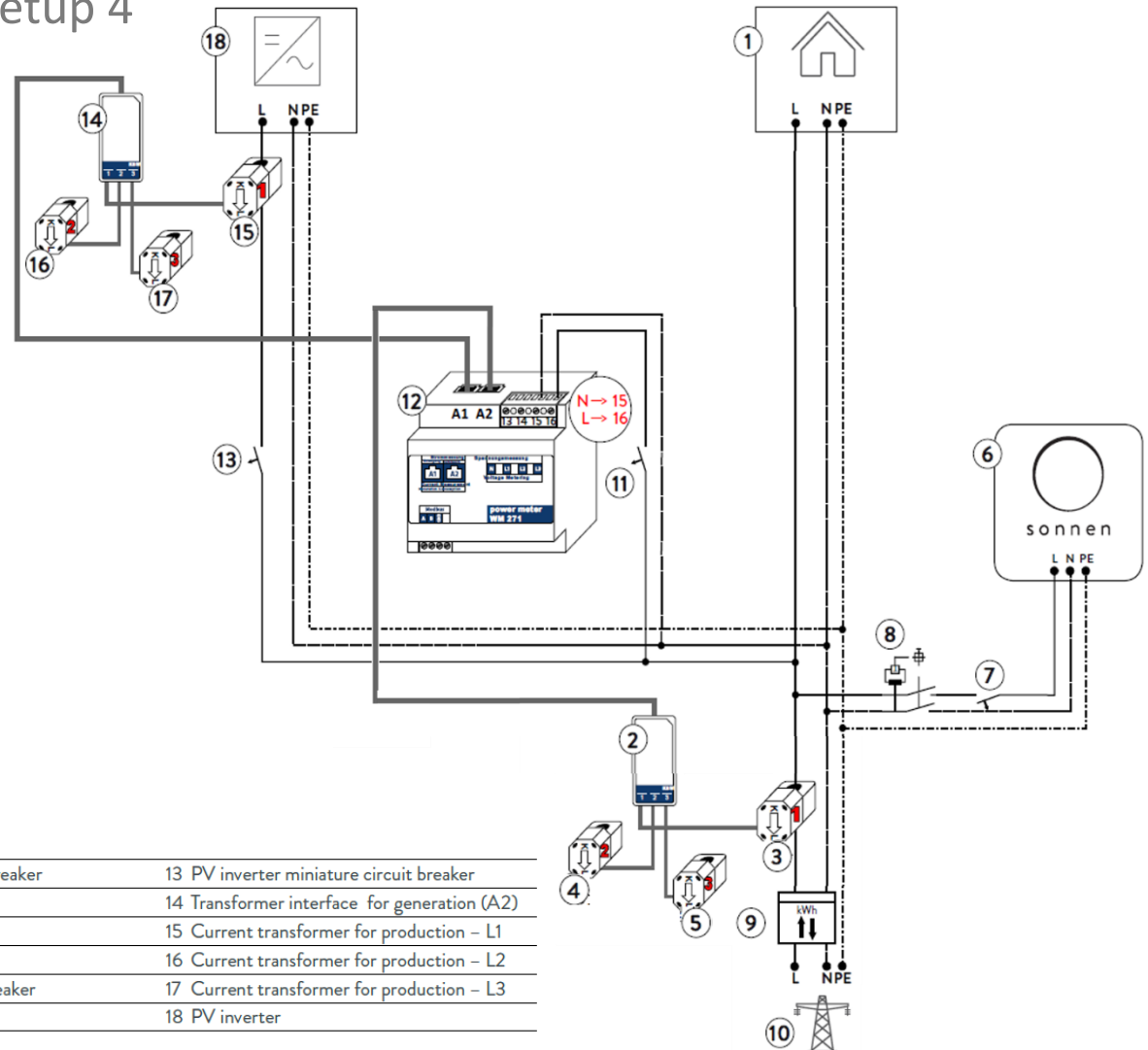
Metering Connections – Setup 1



1 Consumers in building	7 B16 miniature circuit breaker	13 PV inverter miniature circuit breaker
2 Transformer interface for consumption (A2)	8 RCD – 30 mA	14 Transformer interface for generation (A2)
3 Current transformer for consumption – L1	9 Bidirectional counter	15 Current transformer for production – L1
4 Current transformer for consumption – L2	10 Public electrical mains	16 Current transformer for production – L2
5 Current transformer for consumption – L3	11 B6 miniature circuit breaker	17 Current transformer for production – L3
6 Storage system	12 WM 271 power meter	18 PV inverter

sonnen eco 8.2 – Single Phase

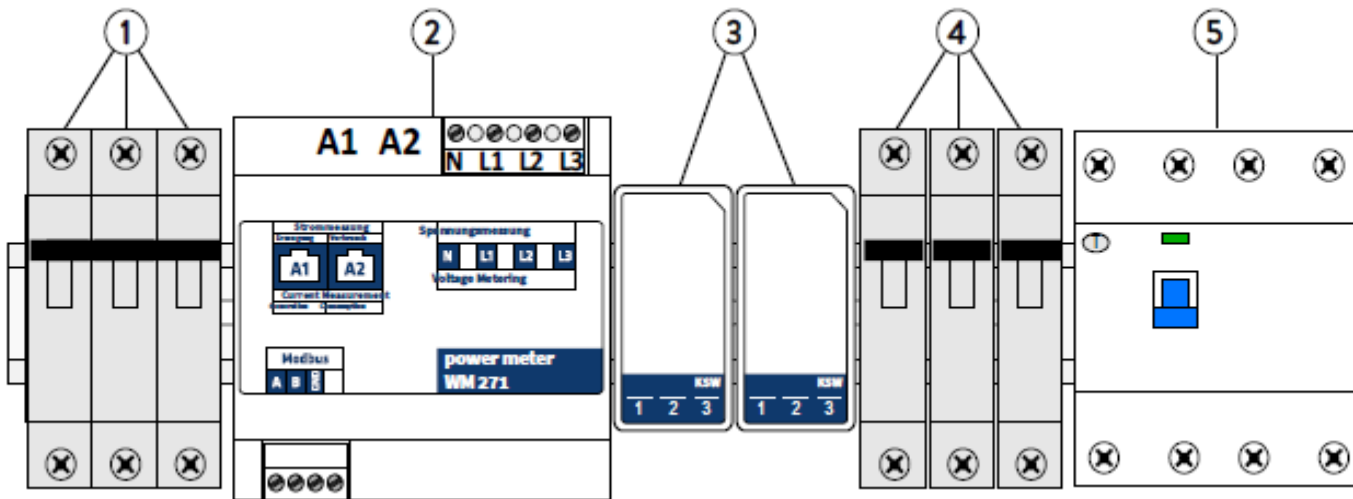
Metering Connections – Setup 4



1 Consumers in building	7 B16 miniature circuit breaker	13 PV inverter miniature circuit breaker
2 Transformer interface for consumption (A2)	8 RCD – 30 mA	14 Transformer interface for generation (A2)
3 Current transformer for consumption – L1	9 Bidirectional counter	15 Current transformer for production – L1
4 Current transformer for consumption – L2	10 Public electrical mains	16 Current transformer for production – L2
5 Current transformer for consumption – L3	11 B6 miniature circuit breaker	17 Current transformer for production – L3
6 Storage system	12 WM 271 power meter	18 PV inverter

sonnen eco 8.0 – Three Phase – AC Coupled

Meter Board Components

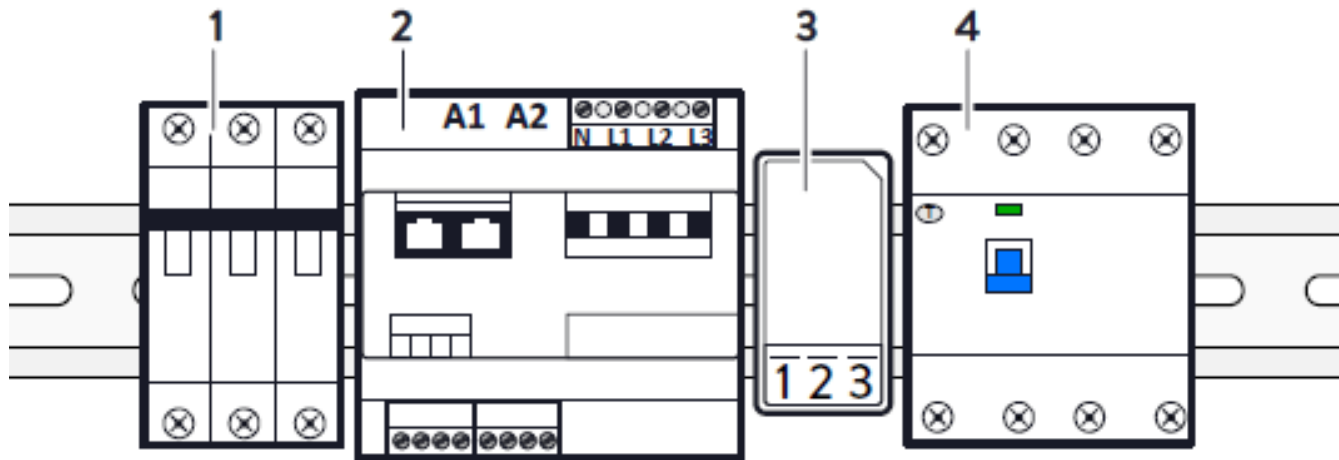


15 to 25 cm of free space on a mounting rail is required for placing the components.

- » The 16A 3-pole miniature circuit breaker (1) protects the main AC connection to the storage system.
- » The power meter (2) and the transformer interfaces (3) are used to measure the consumption and generation of power in the building.
- » The three miniature circuit breakers (4) protects the AC supply to the meter input that is for measuring the voltage of the power meter (2).
- » The RCD (5) is optional, it used it protects against high touch voltage in the event of a fault.

sonnen eco 8.1 – Three Phase – DC Hybrid

Meter Board Components

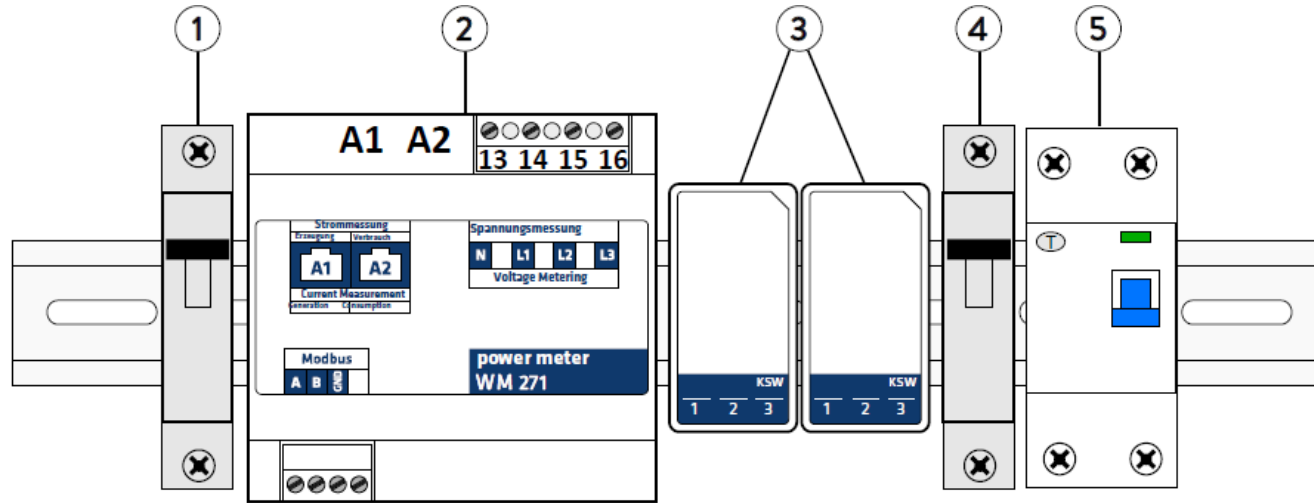


15 to 25 cm of free space on a mounting rail is required for placing the components.

- » The 16A 3-pole miniature circuit breaker (1) protects the main AC connection to the storage system.
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- » The three miniature circuit breakers (4) protects the AC supply to the meter input that is for measuring the voltage of the power meter (2).
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sonnen eco 8.2 – Single Phase – AC Coupled

Meter Board Components

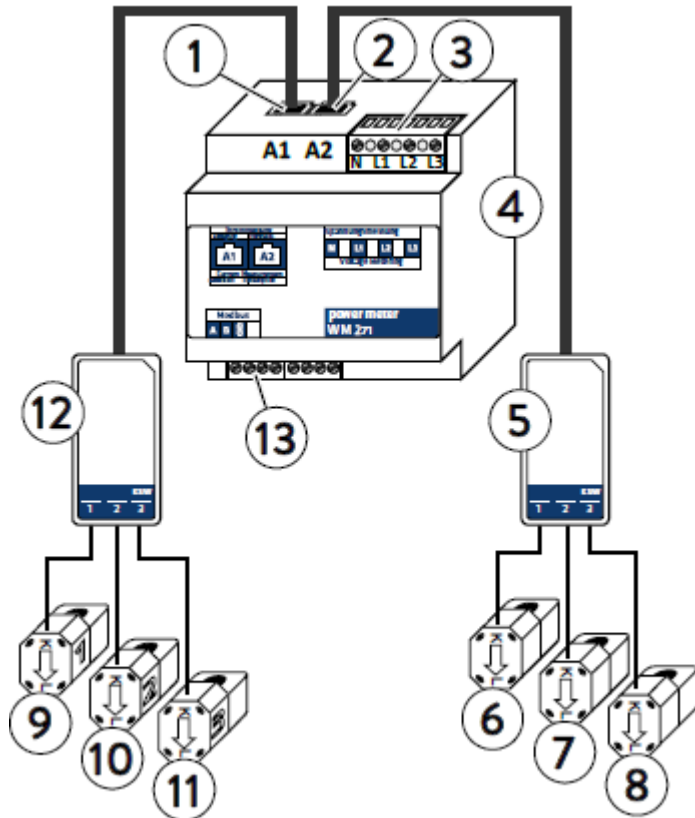


15 to 25 cm of free space on a mounting rail is required for placing the components.

- » The 16A miniature circuit breaker (1) protects the main AC connection to the storage system.
- » The power meter (2) and the transformer interfaces (3) are used to measure the consumption and generation of power in the building.
- » The miniature circuit breaker (4) protects the AC supply to the meter input that is for measuring the voltage of the power meter (2).
- » The RCD (5) is optional, it used it protects against high touch voltage in the event of a fault.

sonnen eco 8 Series

Power Meter & CT's



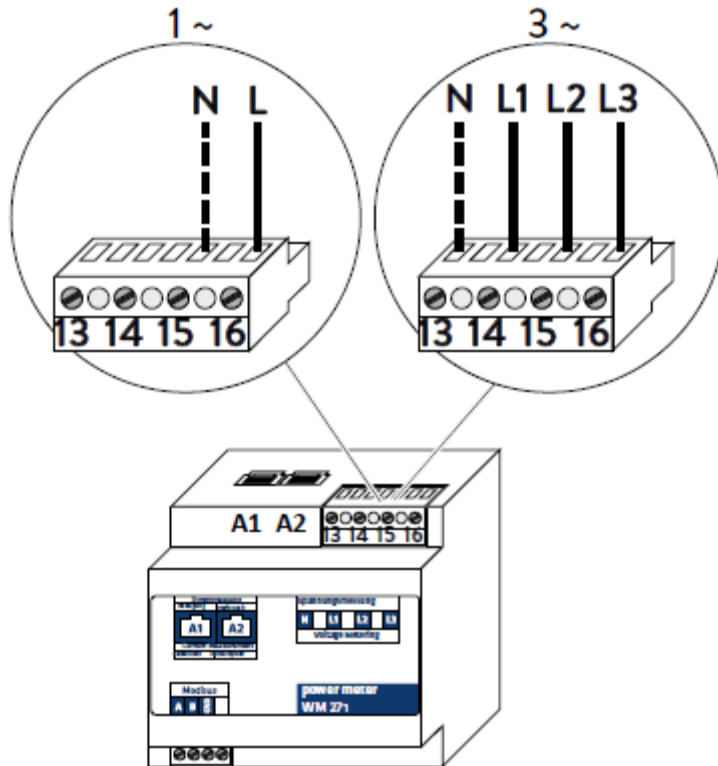
The following points must be observed when connecting the power meters:

» AC power is connected to the voltage measurement terminal strip (3) and must be protected by the supplied 6A miniature circuit breaker.

- 1 A1 – input for generation
- 2 A2 – input for consumption
- 3 Voltage measurement terminal strip
- 4 Power meter
- 5 Transformer interface for consumption
- 6, 7, 8 Clamp-on current transformer for consumption – L1, L2, L3
- 9, 10, 11 Clamp-on current transformer for generation – L1, L2, L3
- 12 Transformer interface for generation
- 13 Modbus terminal strip

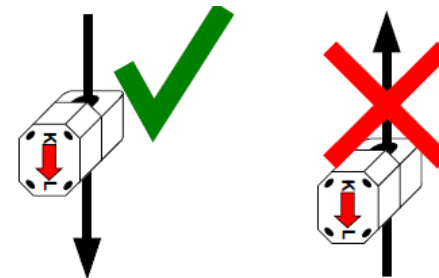
sonnen eco 8 Series

Power Meter & CT's



The AC connection to the voltage terminal strip depends on the number of phases.

- » For a single-phase (1~) system the terminal strip must be wired using ports 15 and 16.
- » For a three-phase (3~) system the terminal strip must be wired using ports 13, 14, 15 & 16.
- » The split core current transformers (CT's) are clamped across the cables being measured.
- » The energy flow direction of the CT must be observed for accurate monitoring.
- » The energy flow in the line must run from K to L.



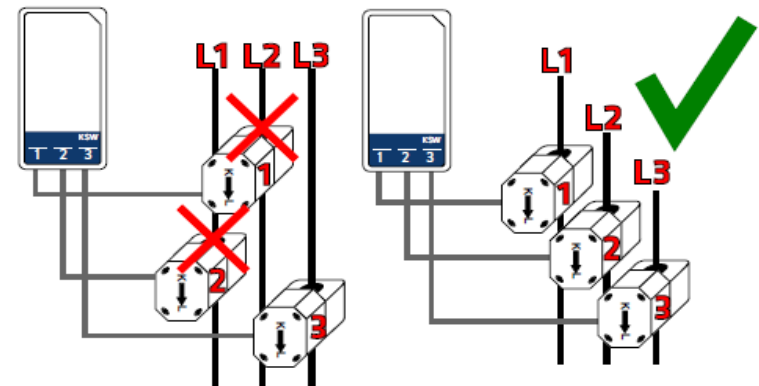
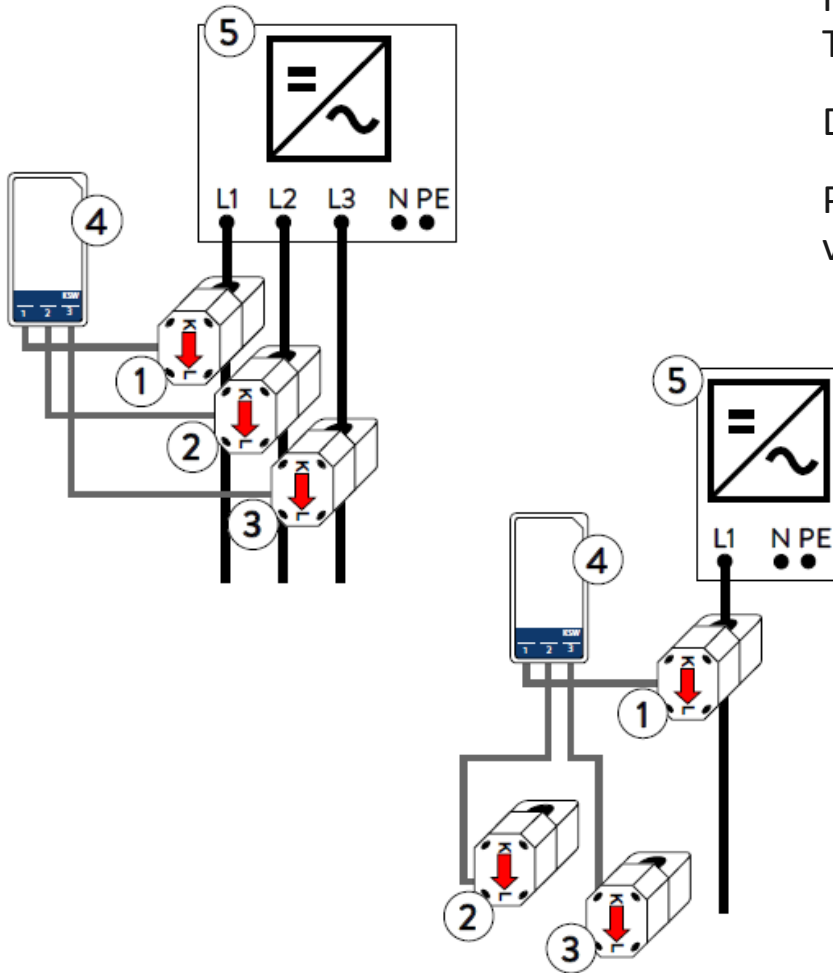
sonnen eco 8 Series

Power Meter & CT's

For a single-phase installation only use a single (a) CT. The other two CT's must not be connected.

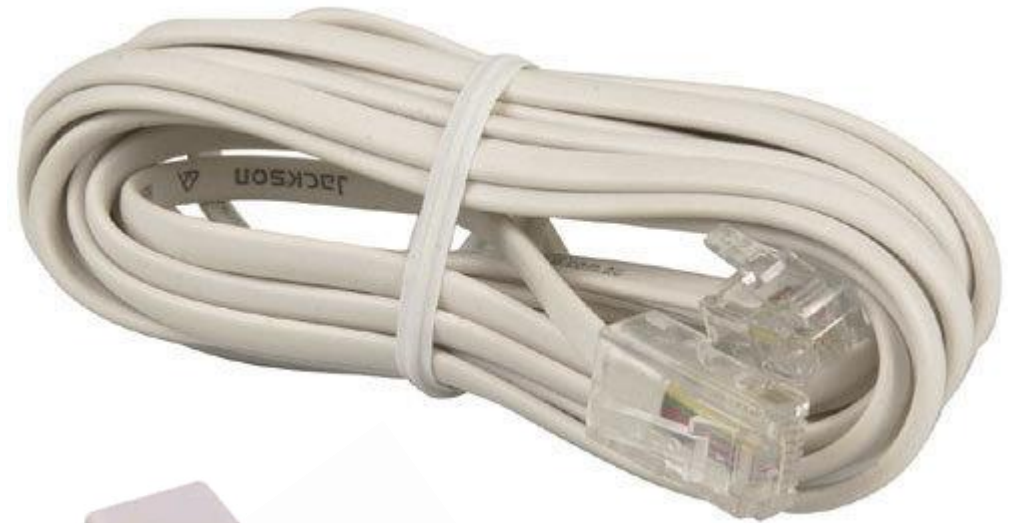
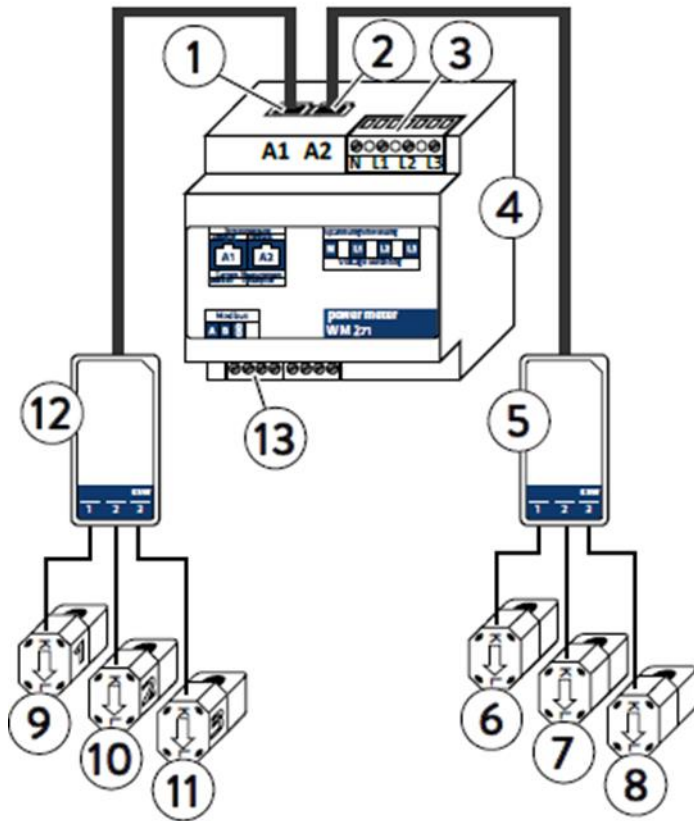
Do not confuse the phases.

Power measurement only works if the current and voltage of the same phase are measured.



sonnen eco 8 Series

Transformer Interface RJ12 Route Extension

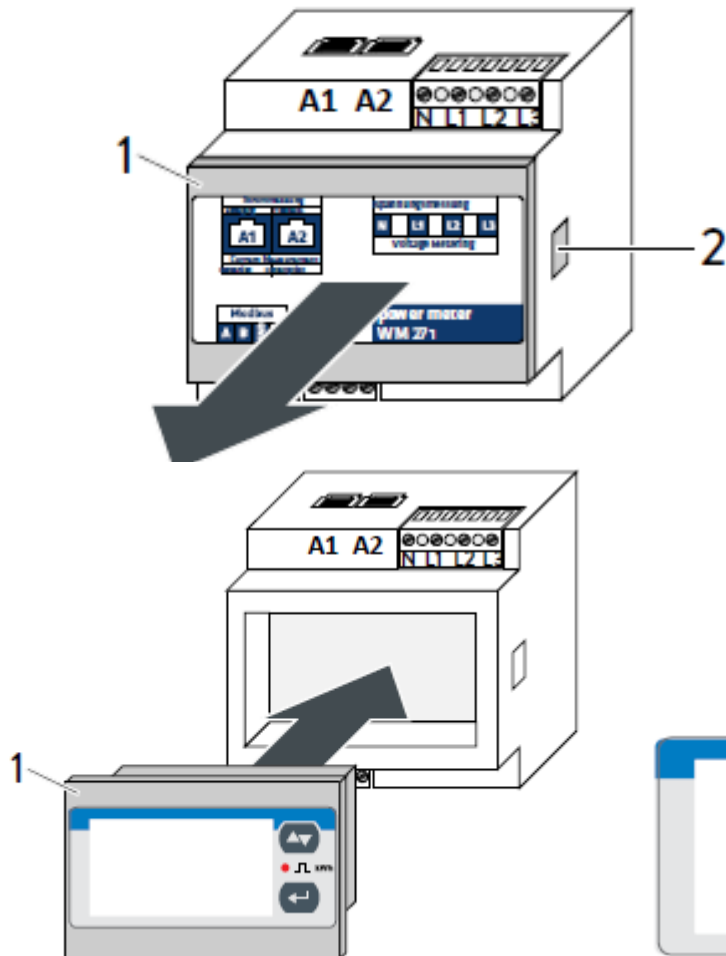


sonnen eco 8 Series

Meter Screen & Programming

As standard the meters are supplied for single-phase installations and the basic screen only will be supplied.

For 3-phase installations the meter will need to be re-programmed.



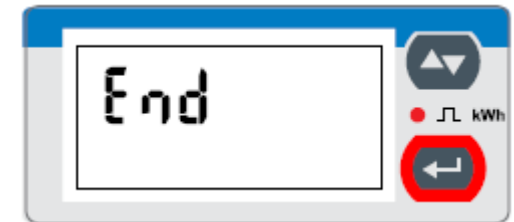
» Remove rotate and replace the touch display.

» Supply the power meter with energy.

» Press for a longer period of time until the password entry screen appears.

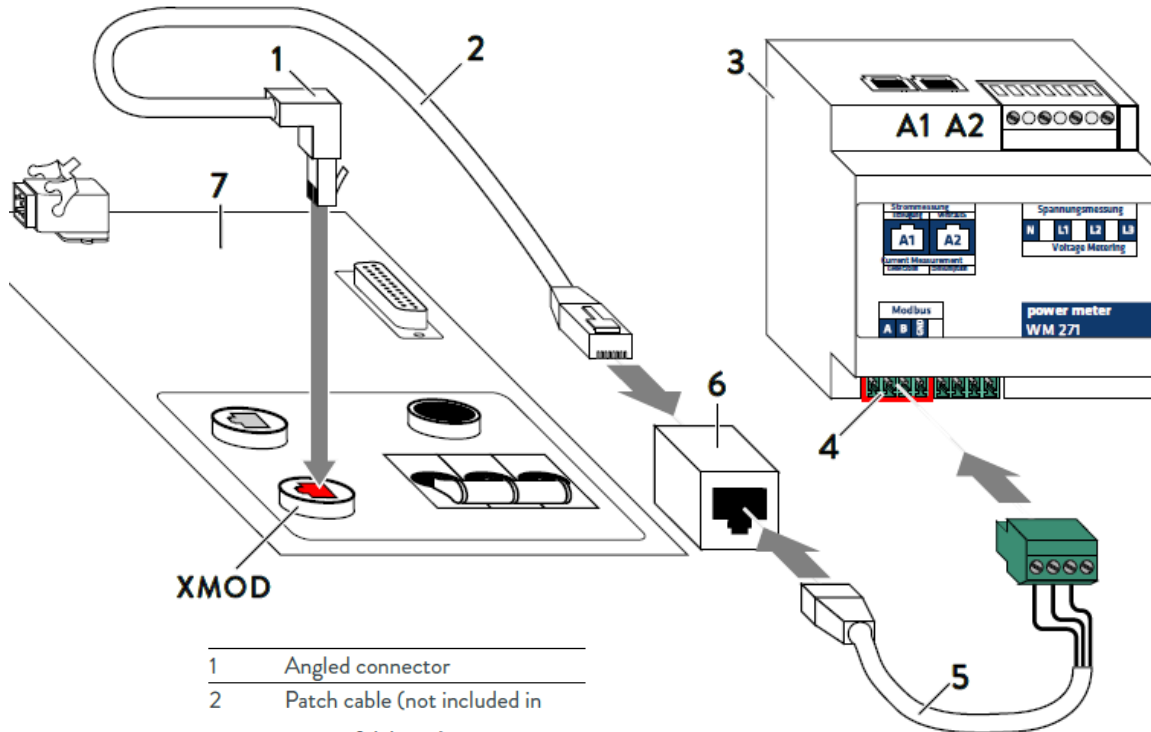
» Follow the instructions in the manual provided for the six stages to setup the meter

» For configuration Setup 4 the Easy Connect function will need to be de-actioated, this is achieved also via the LCD meter screen.



sonnen eco 8 Series

Modbus Connection



- | | |
|---|---|
| 1 | Angled connector |
| 2 | Patch cable (not included in scope of delivery) |
| 3 | Power meter |
| 4 | Modbus terminal strip |
| 5 | Modbus line |
| | A- = white/blue |
| | B+ = blue |
| | GND = brown |
| 6 | RJ45 coupling |
| 7 | Ports on top of the main cabinet |
| | XMOD Modbus port |

Measurement data is transmitted from the power meter to the storage system using the Modbus line:

- » Category: Cat 5 e
- » Shielded
- » The patch cable has an angled connector (1). Otherwise it is not possible to close the cover.
- » Connect the patch cable (1) as shown in the following figure.





Sonnen eco 8 Series

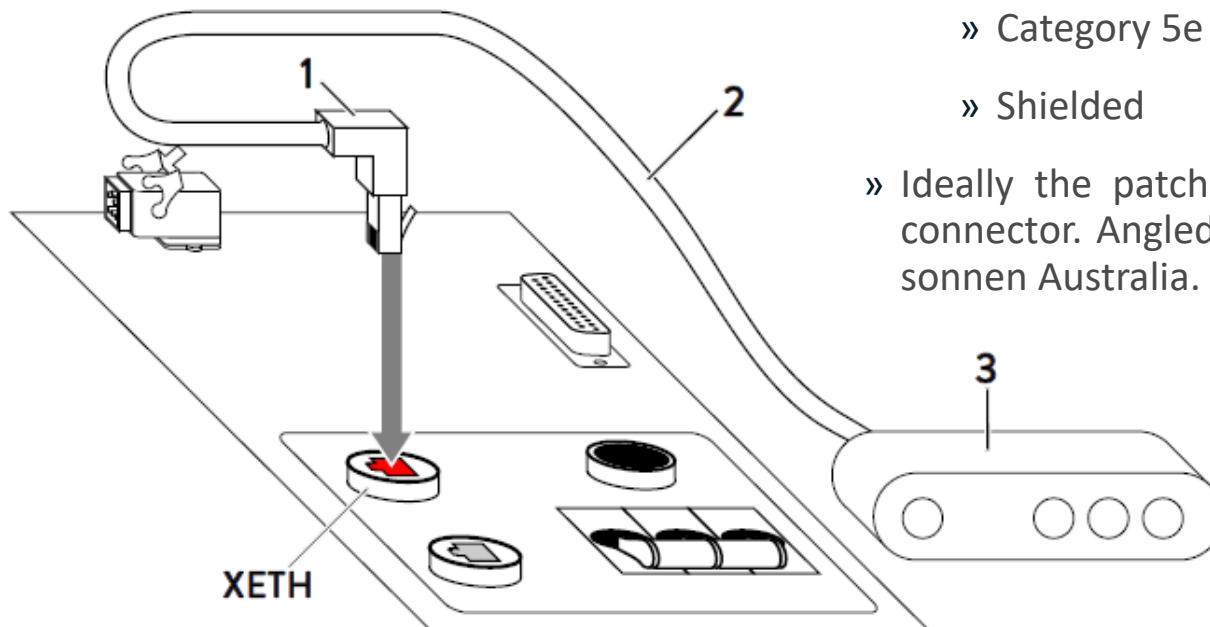
Internet / Ethernet Connections

sonnen eco 8 Series

Ethernet Connection

Use a patch cable with the following properties as the Ethernet cable:

- » Category 5e
- » Shielded
- » Ideally the patch cable should have an angled connector. Angled accessories are available from sonnen Australia.



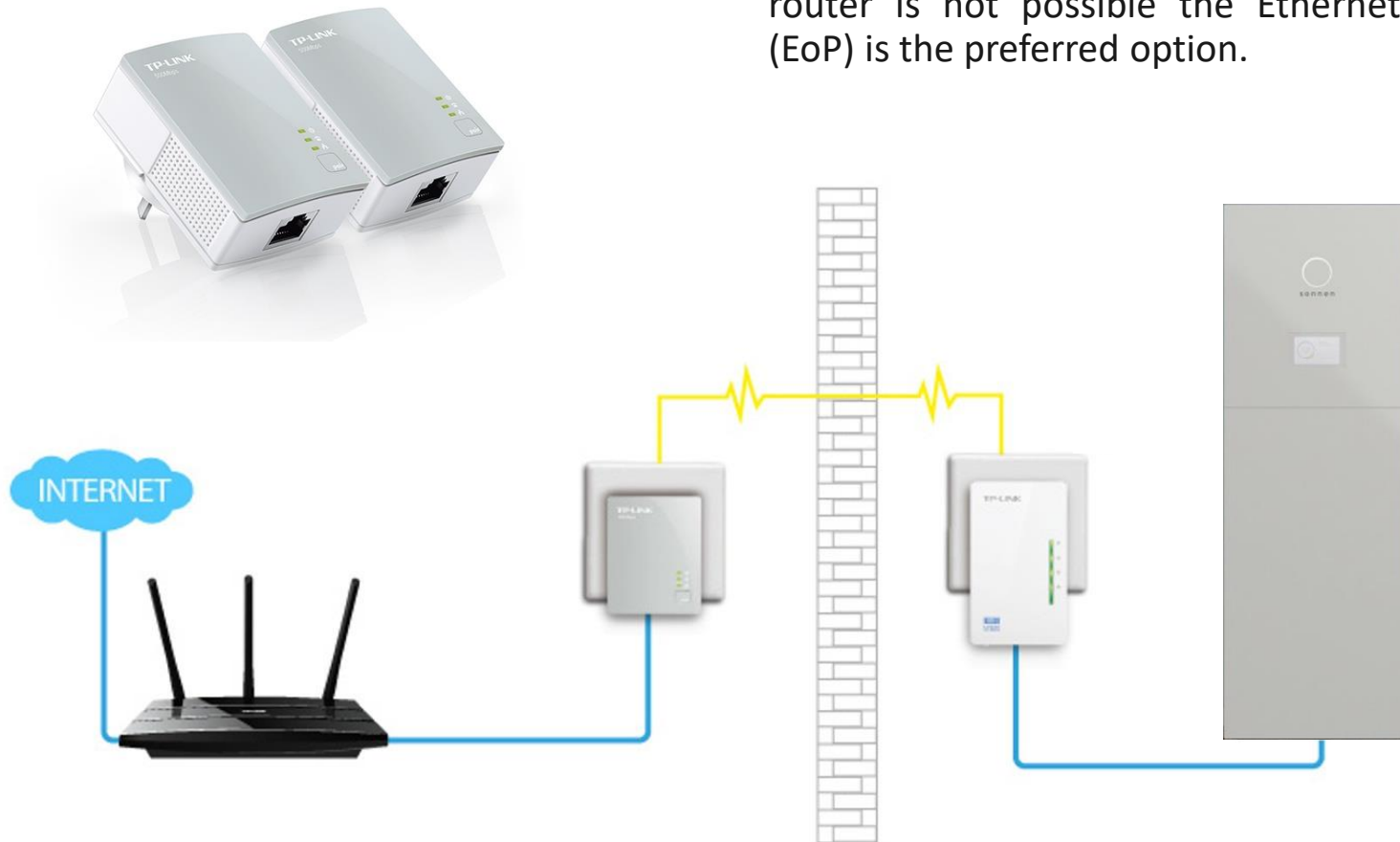
- | | |
|------|---|
| 1 | Angled connector |
| 2 | Patch cable (not included in scope of delivery) |
| 3 | Router of the home network |
| XETH | Ethernet port |

- » Once connected the storage system will automatically establish a connection to the internet once the Ethernet line has been correctly connected.

sonnen eco 8 Series

Ethernet Connection – EoP Option

Where a direct Ethernet cable connection to the router is not possible the Ethernet over Power (EoP) is the preferred option.





Sonnen eco 8 Series Z-Wave Control

sonnen eco 8 Series

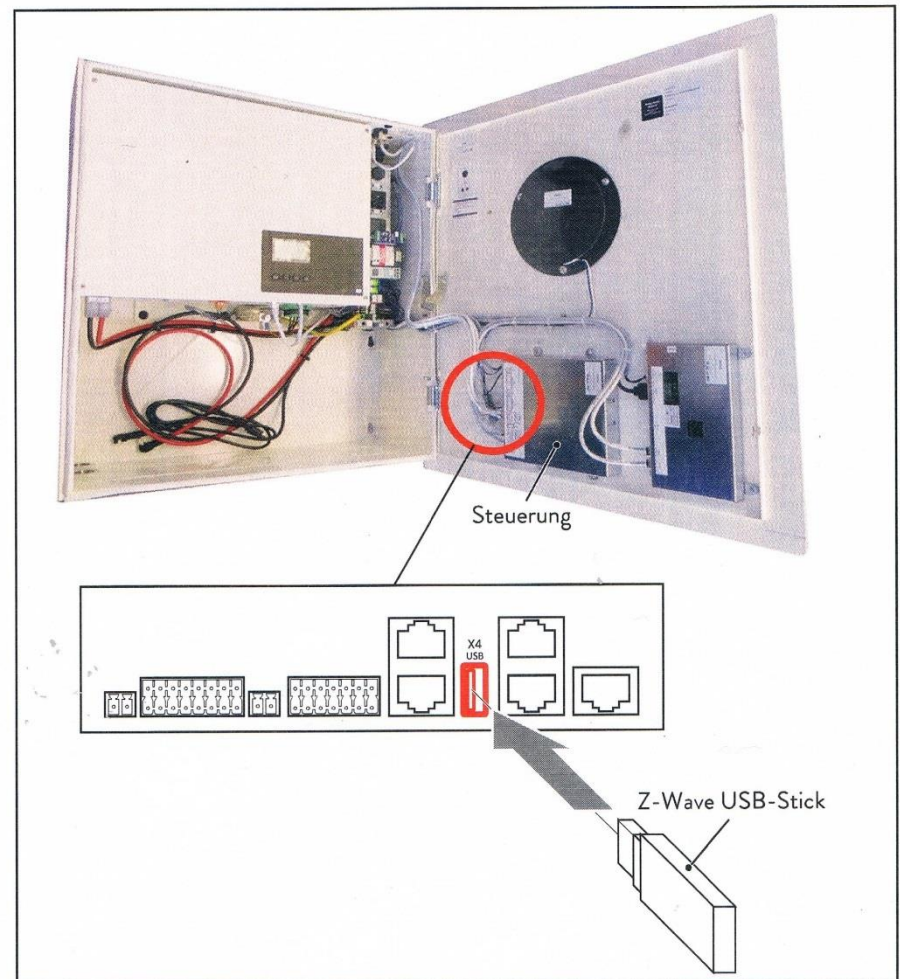
Z-Wave Control

The Z-Wave USB is supplied within the accessory kit of the main unit:

- » Insert the Z-Wave USB into the dedicated port of the PLC mounted on the rear of the main cabinet door.

Technical specifications:

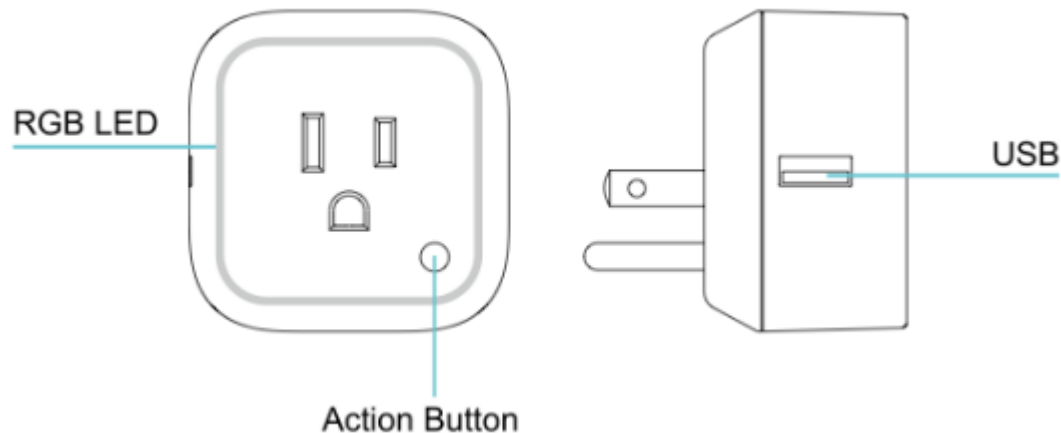
- » Max standby power: 0.5W.
- » USB output: DC 5V±0.3V, 1000mA.
- » Operating temperature: 0 C to 40 C .
- » Relative humidity: 8% to 80%.
- » Operating distance: Up to 100 feet/30 metres indoors or 300 feet/100 metres outdoors.
- » AC Input: 230V 50Hz Max 10A
- » Operating Frequency: 921.42MHz



sonnen eco 8 Series

Z-Wave Control

The Smart Switch 6 is a low-cost Z-Wave plug-in module specifically used to enable Z-Wave command and control (on/off) of any plug-in tool. It can report immediate wattage consumption or kWh energy usage over a period of time. In the event of power failure, non-volatile memory retains all programmed information relating to the unit's operating status.

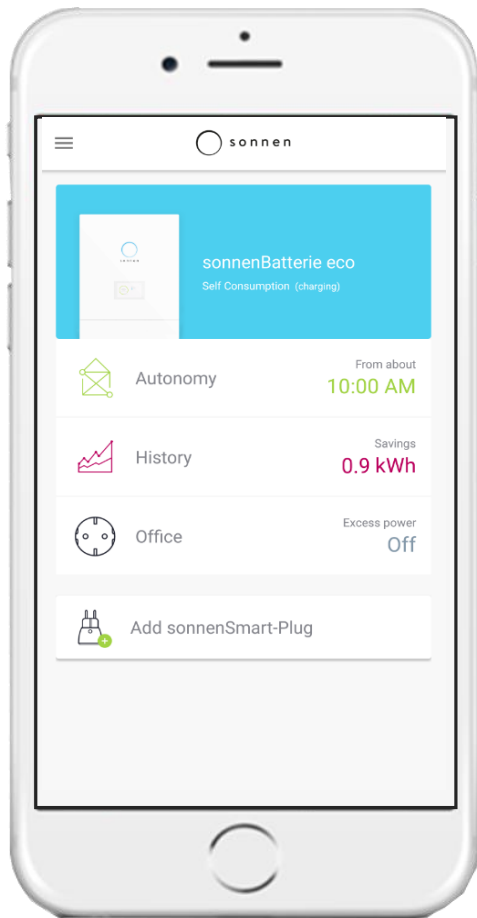


Its surface has Smart RGB LED, which can be used for indicating the output load status or strength of the wireless signal. You can configure its indication colour according to your preference.

Smart Switch 6 is also a security Z-wave device and supports Over The Air (OTA) feature for the product's firmware upgrade.

sonnen eco 8 Series

Z-Wave Control



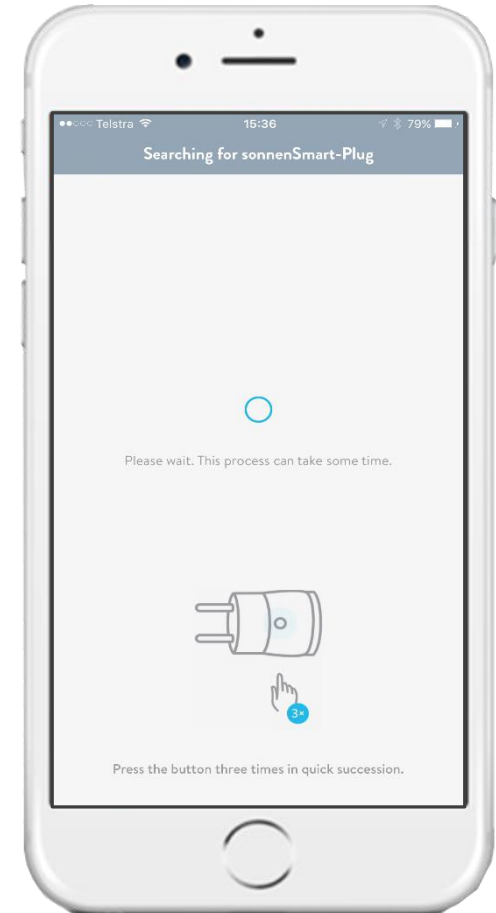
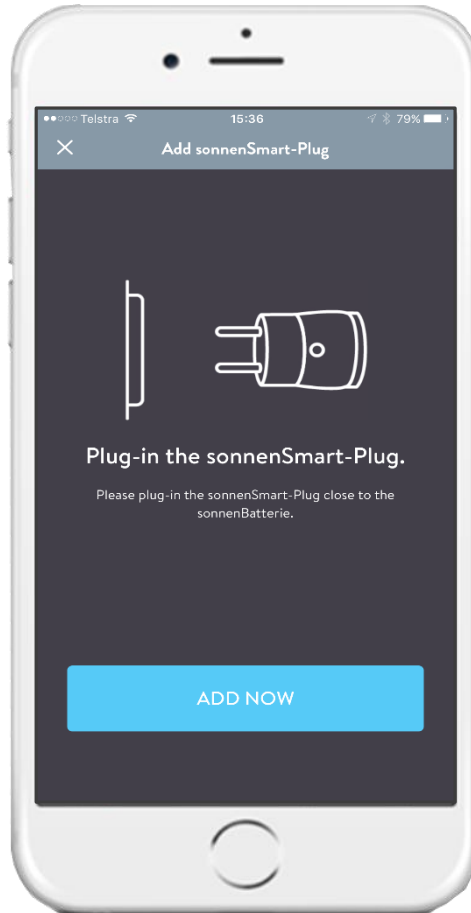
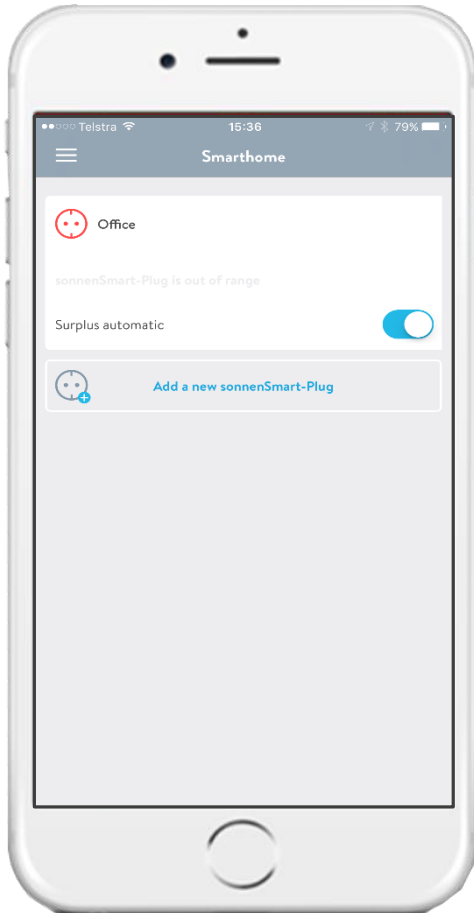
Once the USB has been inserted into the PLC, plug a Z-Wave Smart Switch 6 Socket into a wall outlet at least 3 meters from the sonnen eco8.2 unit.

Via the Smartphone App select the 'Smart-Plugs' setting to proceed.



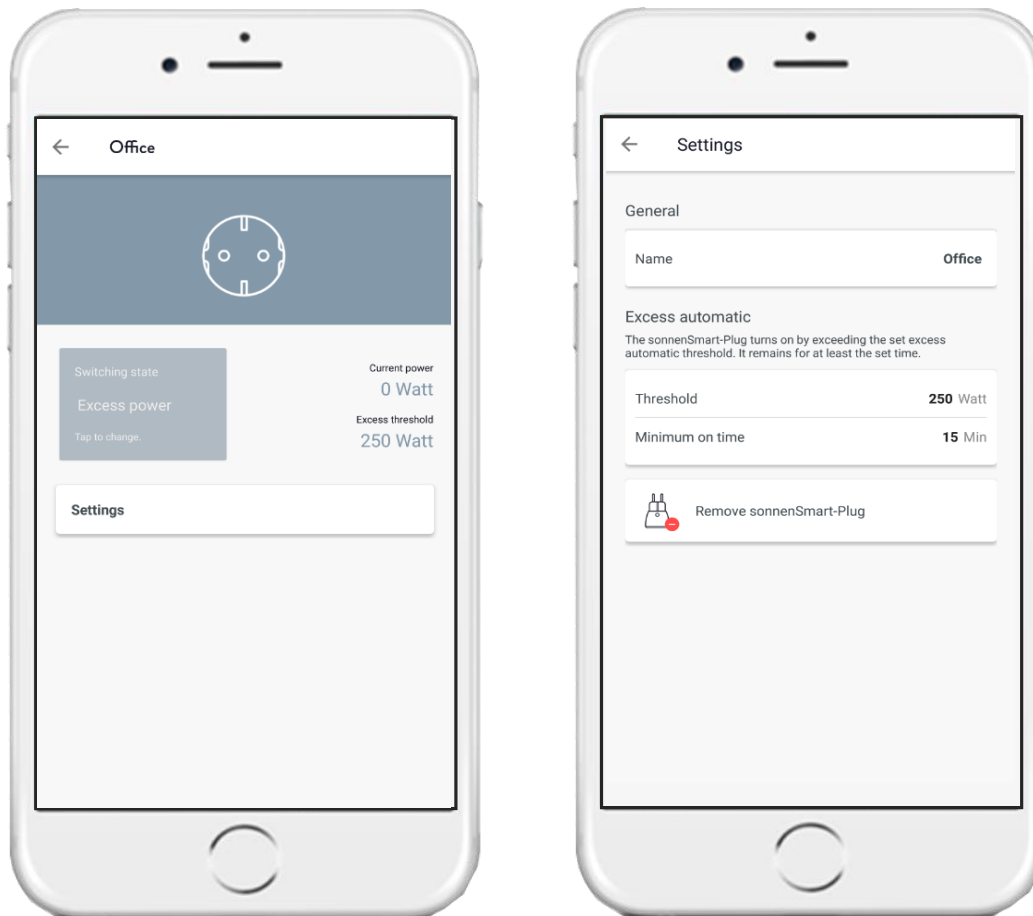
sonnen eco 8 Series

Z-Wave Control



sonnen eco 8 Series

Z-Wave Control

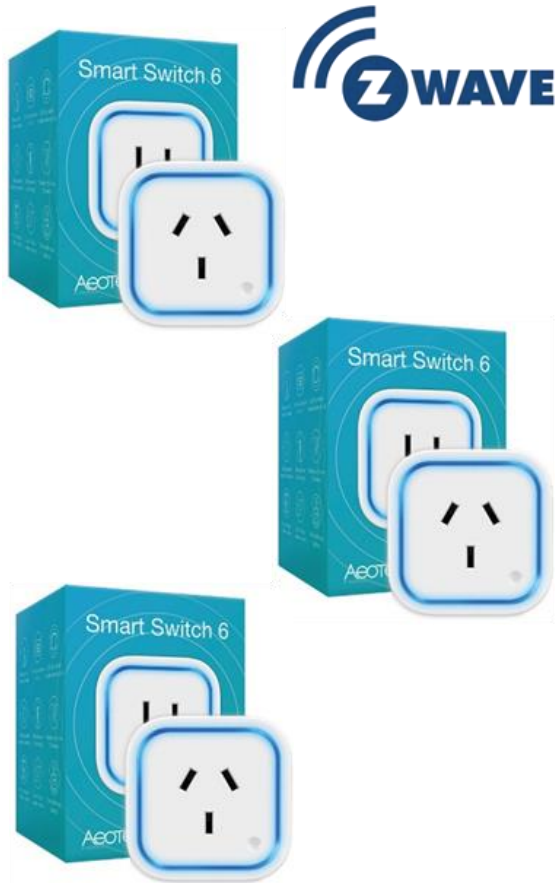


The device will then pair with the sonnen unit and you will be prompted to name the socket from a list of existing name or set your own.

You will then be able to set the surplus modes and auto or manual parameters.

sonnen eco 8 Series

Z-Wave Control



At some stage you may wish to reset all of your Smart Switch's settings to their factory defaults.

To do this, press and hold the Action Button for 20 seconds and then release it. Your Smart Switch will now be reset to its original settings, and the green LED will be solid for 2 seconds and then remain in gradient status as a confirmation.





AS/NZS Standards
Labelling Requirements

sonnen eco 8 Series

Installation Commissioning – Standards for Batteries in Buildings

Decisive Voltage Classification (DVC)

» Under fault conditions, DVC-A circuits are permitted to have voltages up to the DVC-B limits for a maximum of 0.2s.

Decisive Voltage Classification (DVC)	Limits of Working Voltage V		
	AC Voltage U_{ACL} r.m.s.	AC Voltage U_{ACPL} peak	DC Voltage U_{DCL} mean
A	≤25 (16)	≤35.4 (22.6)	≤60 (35)
B	50 (33)	71 (46.7)	120 (70)
C	50 (>33)	>71 (>46.7)	>120 (>70)

sonnen eco 8 Series

Installation Commissioning – AS/NZS Requirements

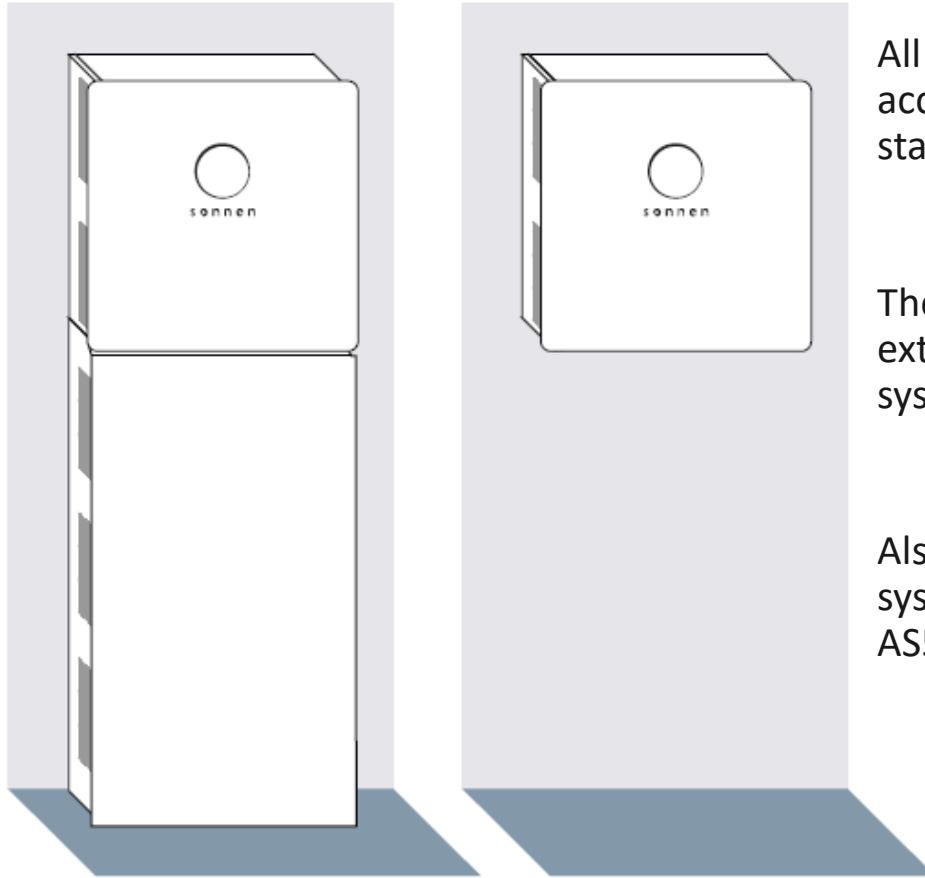
Main Battery Isolation Point,

- » The battery bank shall be capable of being readily isolated from the power system. Battery isolation equipment should be mounted outside the battery enclosure.



sonnen eco 8 Series

Installation Commissioning – AS/NZS Labelling Requirements



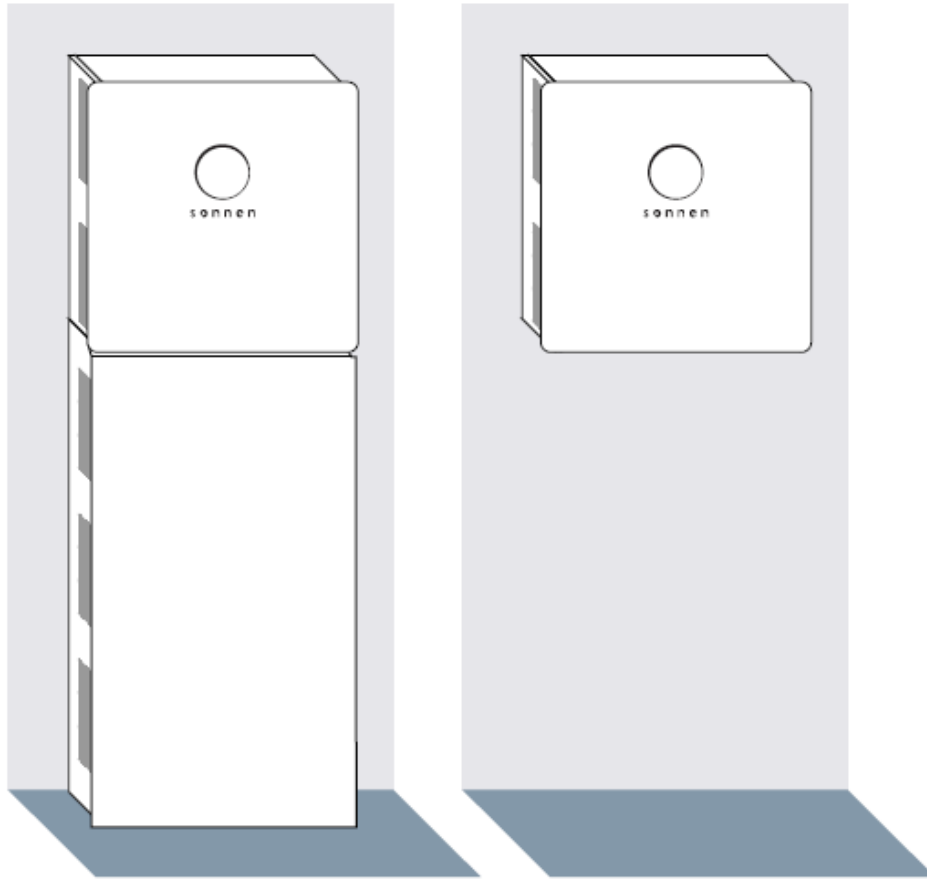
All electrical equipment shall be marked (labelled) according to the requirements for marking to local standards and regulations when applicable.

The labelling for battery storage system is more extensive than a standard grid connected solar system.

Also additional labels will be require for ESS system that are not currently covered by AS4777, AS5033 or AS4509.

sonnen eco 8 Series

Installation Commissioning – AS/NZS Labelling Requirements



SHUTDOWN PROCEDURE

Step 1:

Switch of main AC switch labelled 'ESS Main Switch' located in main switch board of premises.

Step 2:

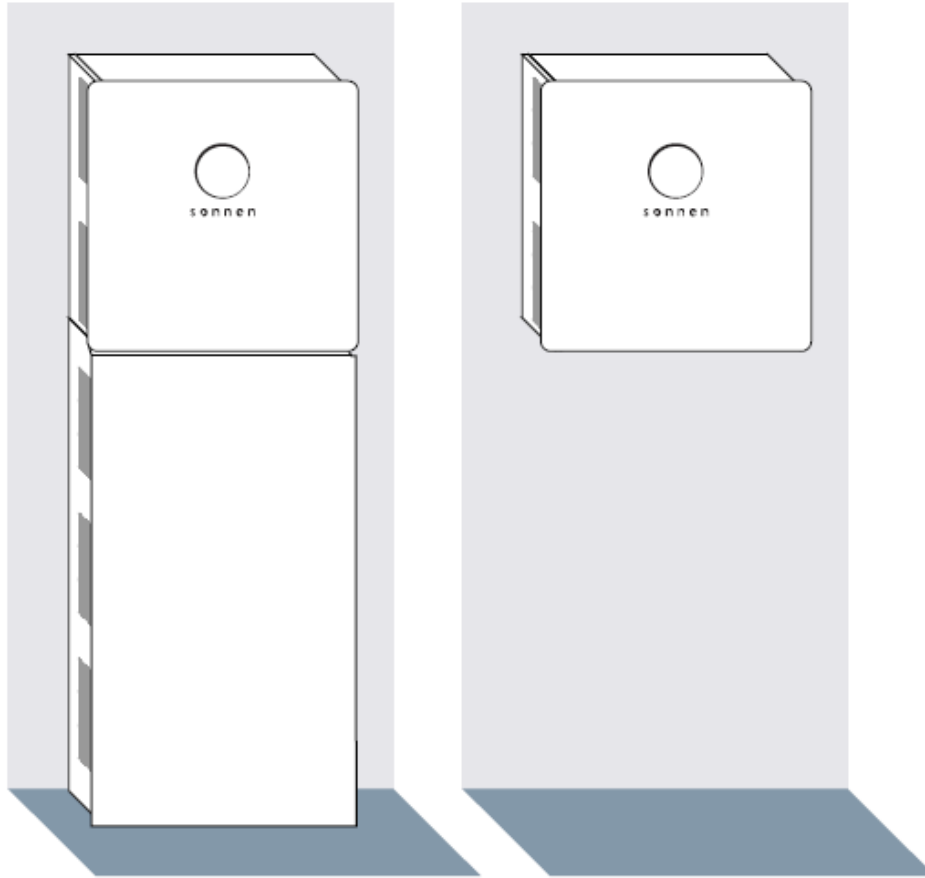
Remove switch cover of sonnen unit located on the top right hand side of unit.

Step 3:

Switch off the main sonnen isolator / on/off switch labelled F1.

sonnen eco 8 Series

Installation Commissioning – AS/NZS Labelling Requirements



sonnen eco 8 Series

Installation Commissioning – Labelling Guide

TN001 – Australian Labelling Guide

In accordance with Australian Standards, the Clean Energy Council installation guidelines as well as DNSP's throughout Australia the installation of a sonnen unit also requires various labelling and notices to be positioned within the installation location as explained within the tech note.

Labels Supplied

AU-LB-001	Shutdown Procedure
AU-LB-002	Battery Chemistry Designation
AU-LB-003	ESS RCD
AU-LB-004	ESS Main Switch
AU-LB-005	ESS Meter
AU-LB-006	Meter Supply

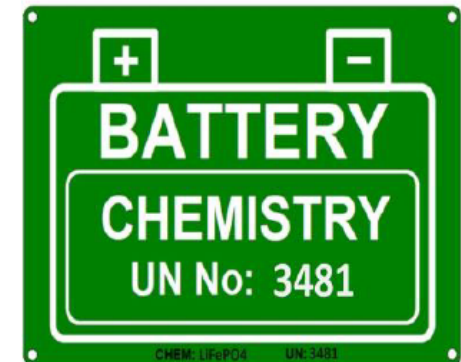


SHUTDOWN PROCEDURE

Step 1:
Switch of main AC switch labelled 'ESS Main Switch' located in main switch board of premises.

Step 2:
Remove switch cover of sonnen unit located on the top right hand side of unit.

Step 3:
Switch off the main sonnen Isolator / on/off switch labelled F1.



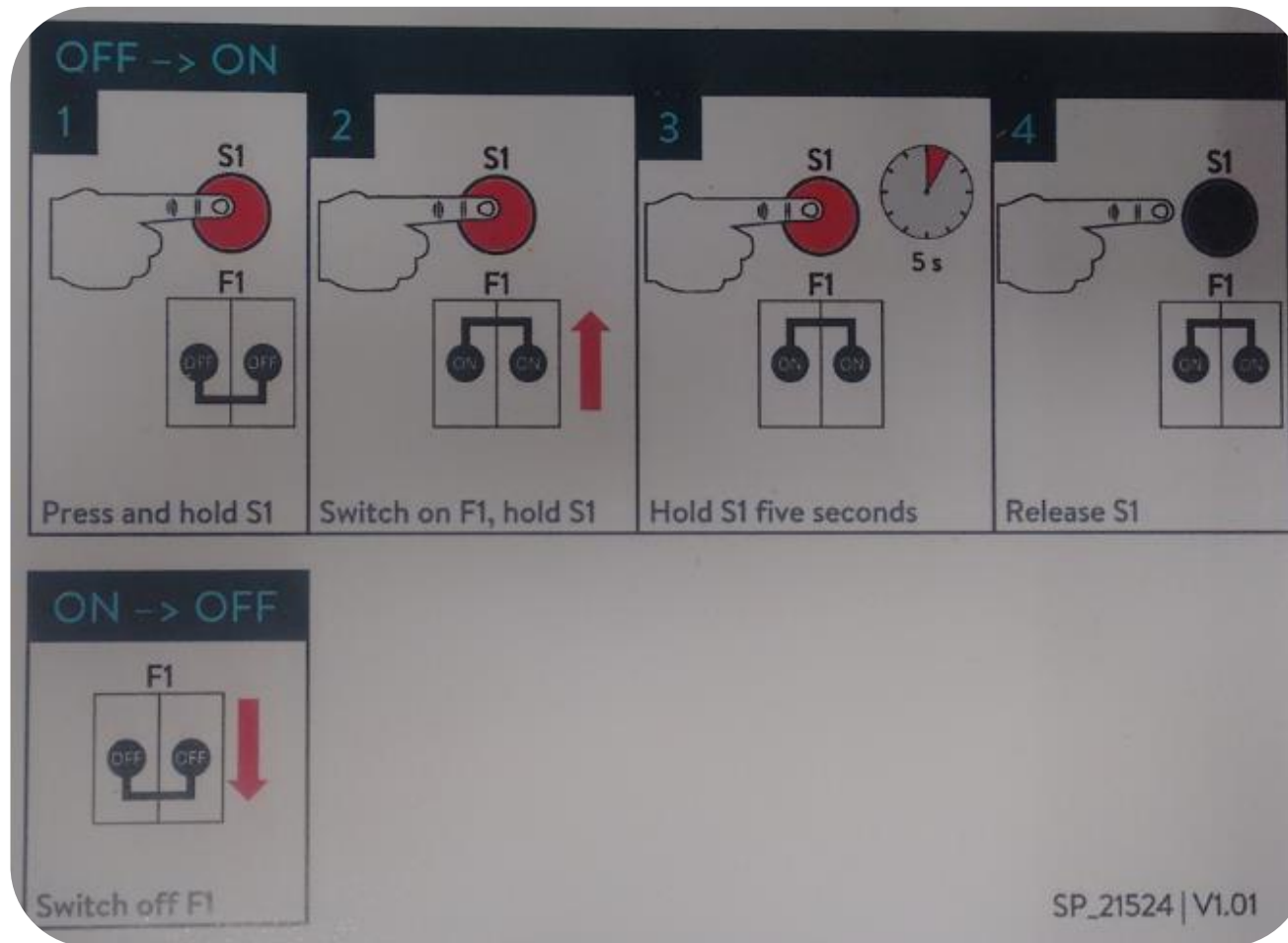
sonnen eco 8 Series

Installation Commissioning – Labelling Guide



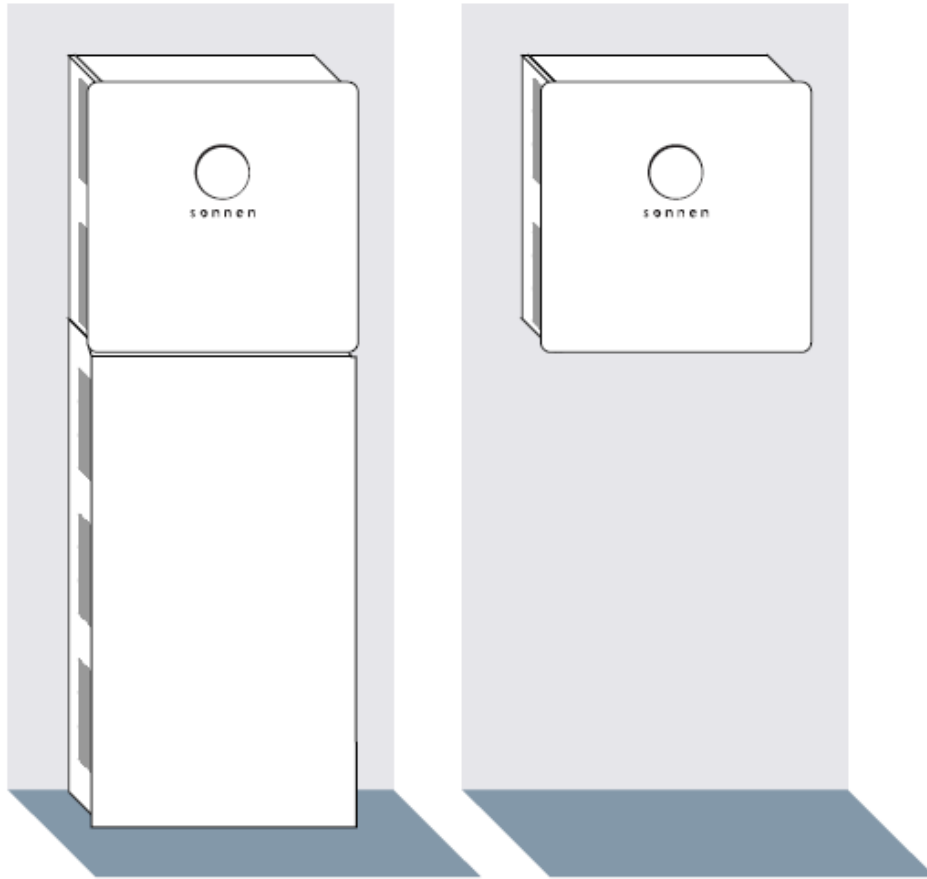
sonnen eco 8 Series

Installation Commissioning – AS/NZS Labelling Requirements



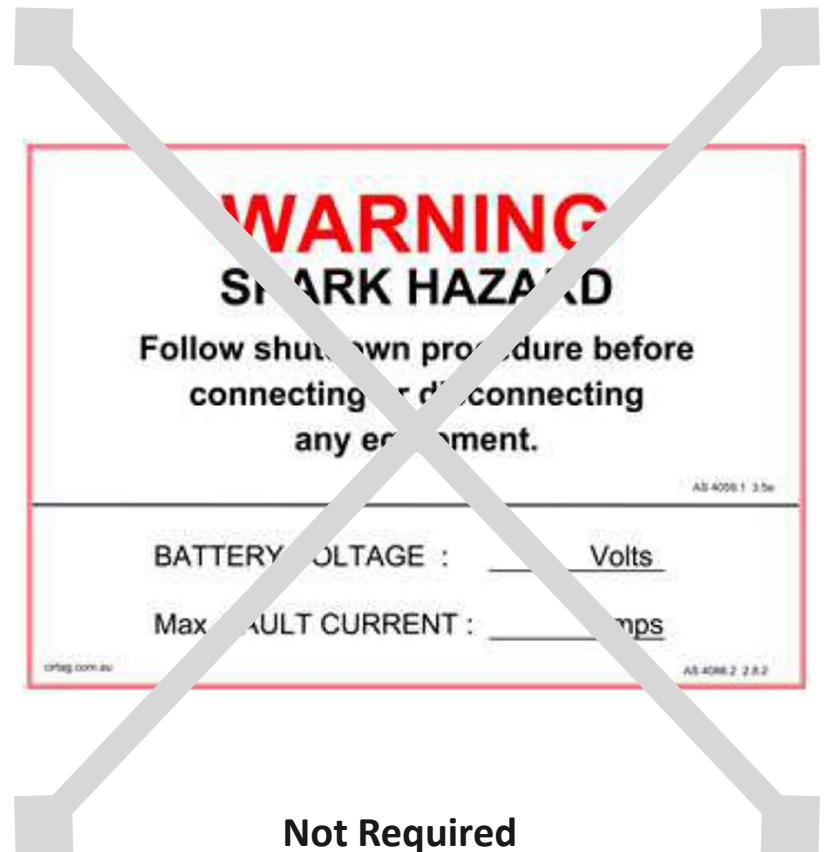
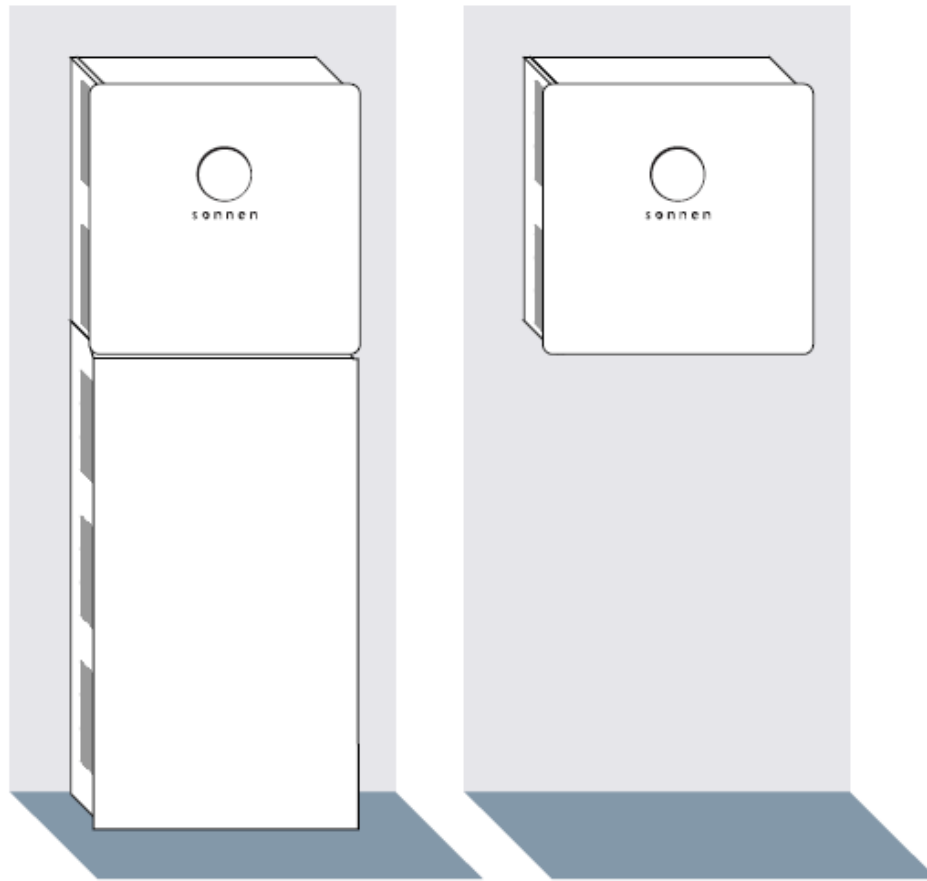
sonnen eco 8 Series

Installation Commissioning – AS/NZS Labelling Requirements



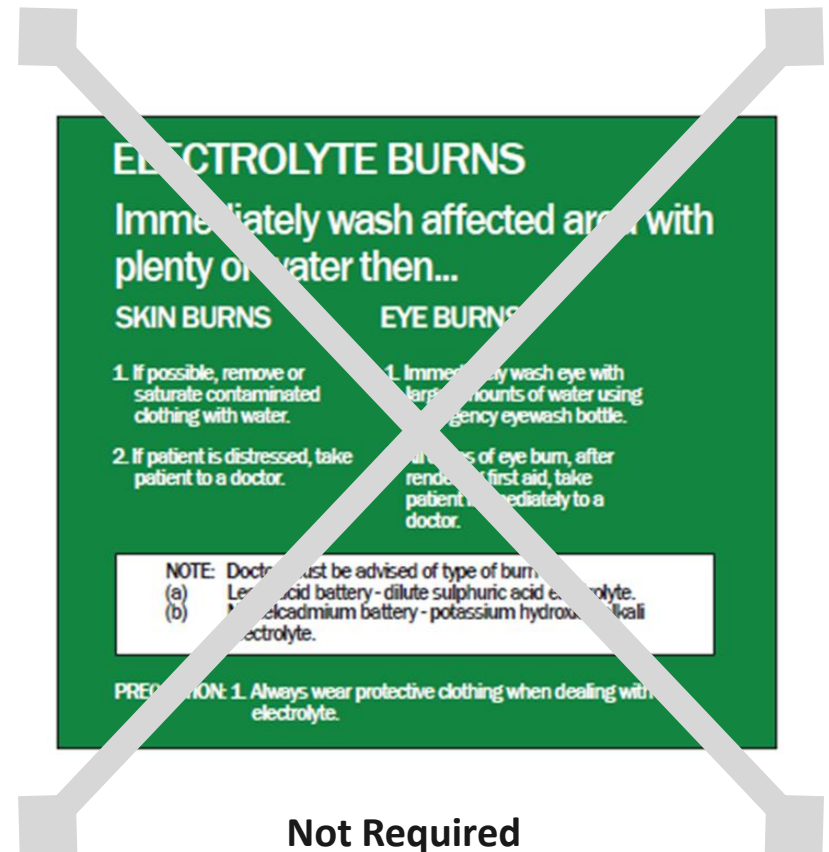
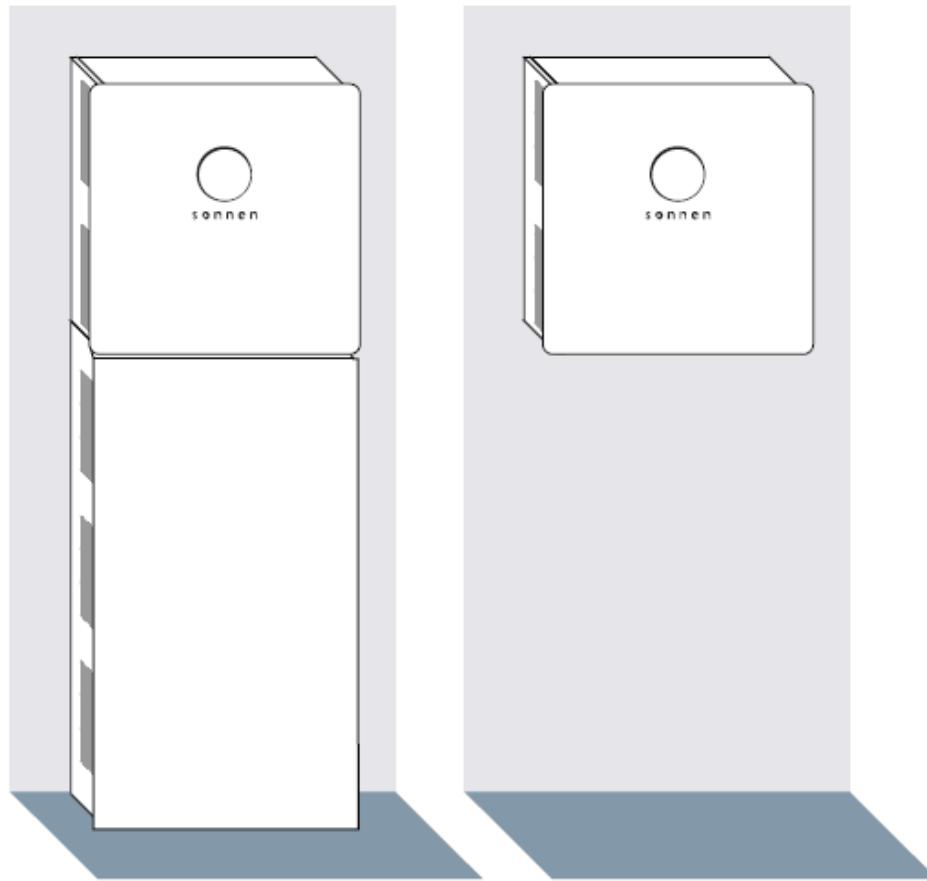
sonnen eco 8 Series

Installation Commissioning – AS/NZS Labelling Requirements



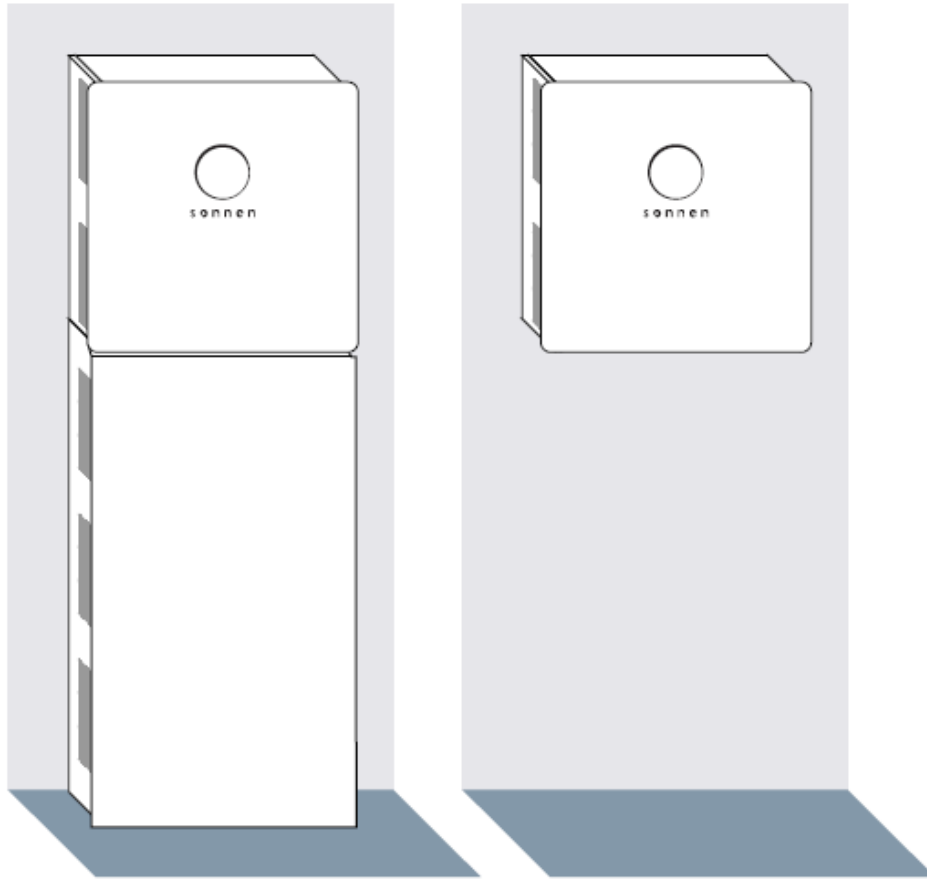
sonnen eco 8 Series

Installation Commissioning – AS/NZS Labelling Requirements



sonnen eco 8 Series

Installation Commissioning – AS/NZS Labelling Requirements



sonnen eco 8 Series

Installation Commissioning – AS/NZS Bollard Requirements

In section 4.1.3 External Influences of AS/NZS 3000 it states that;

All electrical equipment shall have the characteristics appropriate to the condition to which it is likely to be exposed, to ensure that the electrical equipment is able to function properly at the intended point of installation.

The characteristics may comprise –

(a) Suitable design and construction properties of the electrical equipment

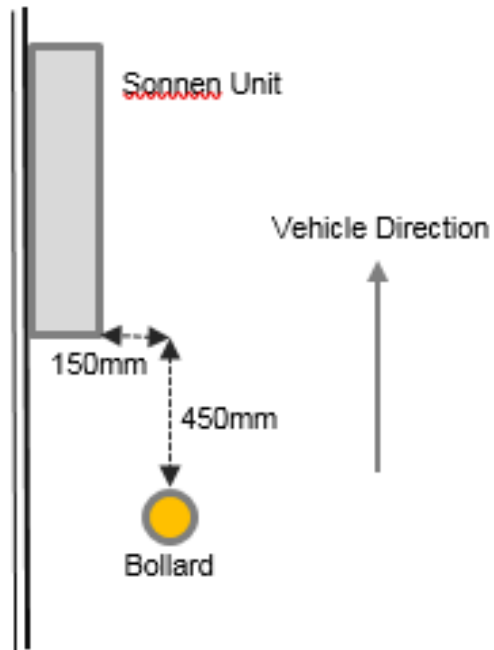
or

(b) Additional means, provided as part of the electrical installation that do not adversely affect the operation of the electrical equipment, to effectively protect against the presence and extent of relevant environmental and other influences.

Damage from external influences may include a series of potential risks and as per AS/NZS3000 as it covers situations arising from exposure to one or any combination as appropriate, the primary purpose of this tech note and risks associated with installation the sonnen unit within a garage location is the risk of mechanical damage mainly from a vehicular collision.

sonnen eco 8 Series

Installation Commissioning – AS/NZS Bollard Requirements





Sonnen eco 8 Series

Pre-Commissioning Installation Checks

sonnen eco 8 Series

Installation Commissioning Checks

OK	Points to check
<input type="checkbox"/>	The installation location meets the requirements.
<input type="checkbox"/>	All DC lines are completely and correctly connected.
<input type="checkbox"/>	The Modbus line is correctly connected.
<input type="checkbox"/>	The Ethernet line is correctly connected.
<input type="checkbox"/>	The AC supply is correctly connected.
<input type="checkbox"/>	The AC line meets the requirements of all local and national guidelines for line dimensions.
<input type="checkbox"/>	The dimensions of the miniature circuit breaker installed in the AC line are correct.
<input type="checkbox"/>	A residual current device (RCD) has been correctly installed.



Installer Setup

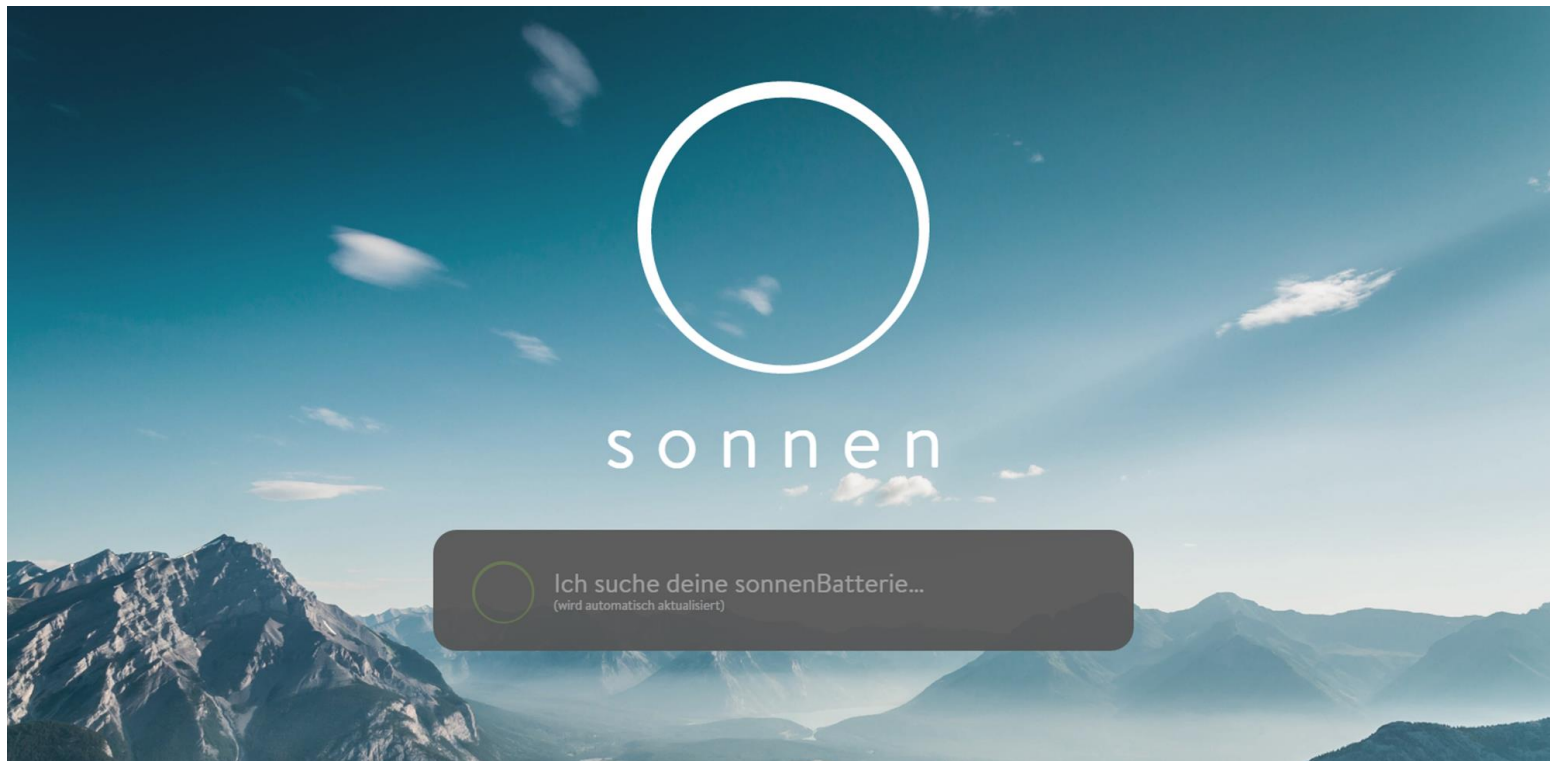
User Monitoring & Smartphone App



Sonnen Installer Setup

Sonnen – System Commissioning

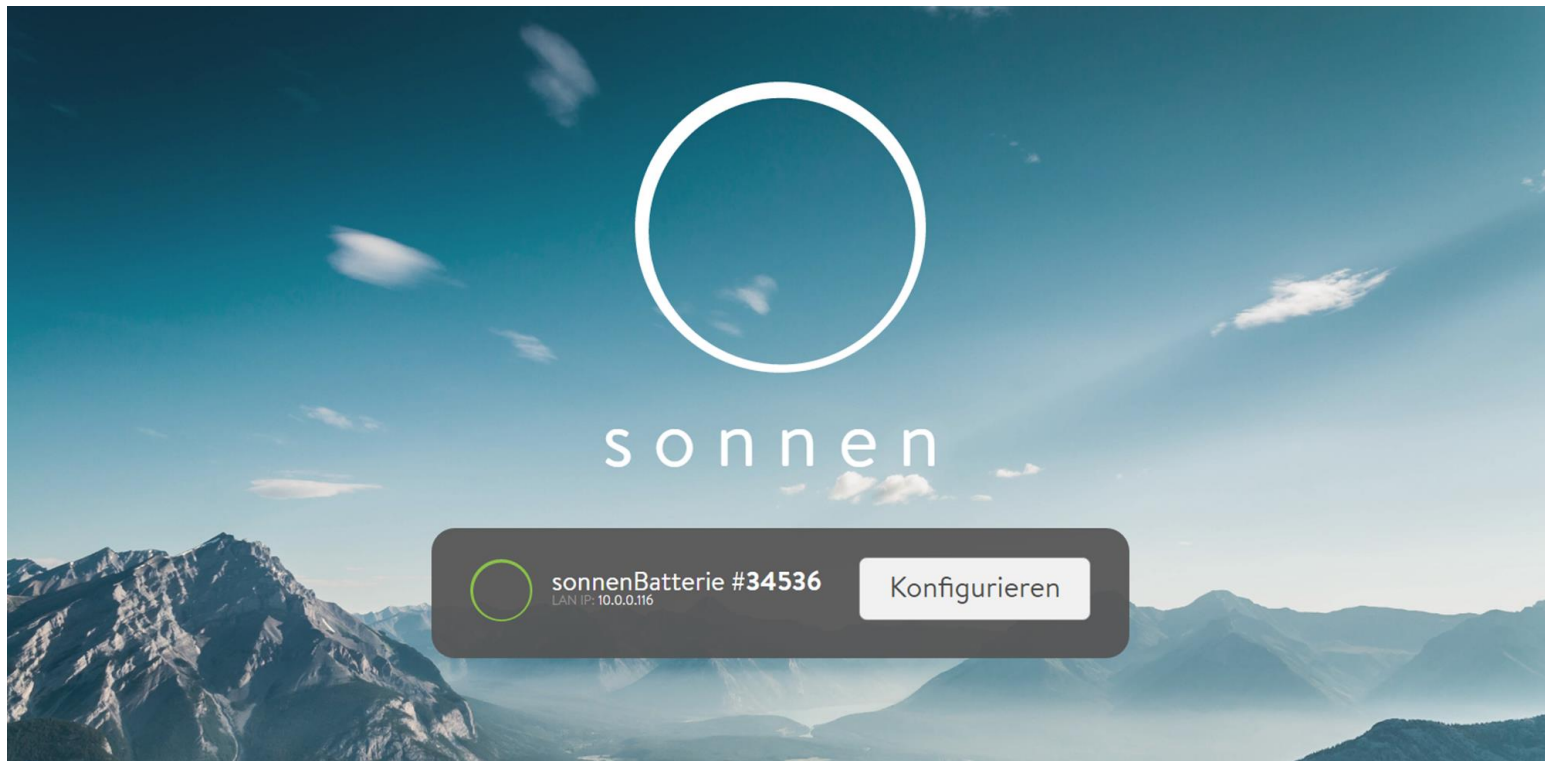
Installer Login & Setup of Complete Installation



Within the local network (i.e. with a laptop connected to the clients router) the installer will need to type <https://finde-meine.sonnenbatterie.de/> into the search engine search bar.

Sonnen – System Commissioning

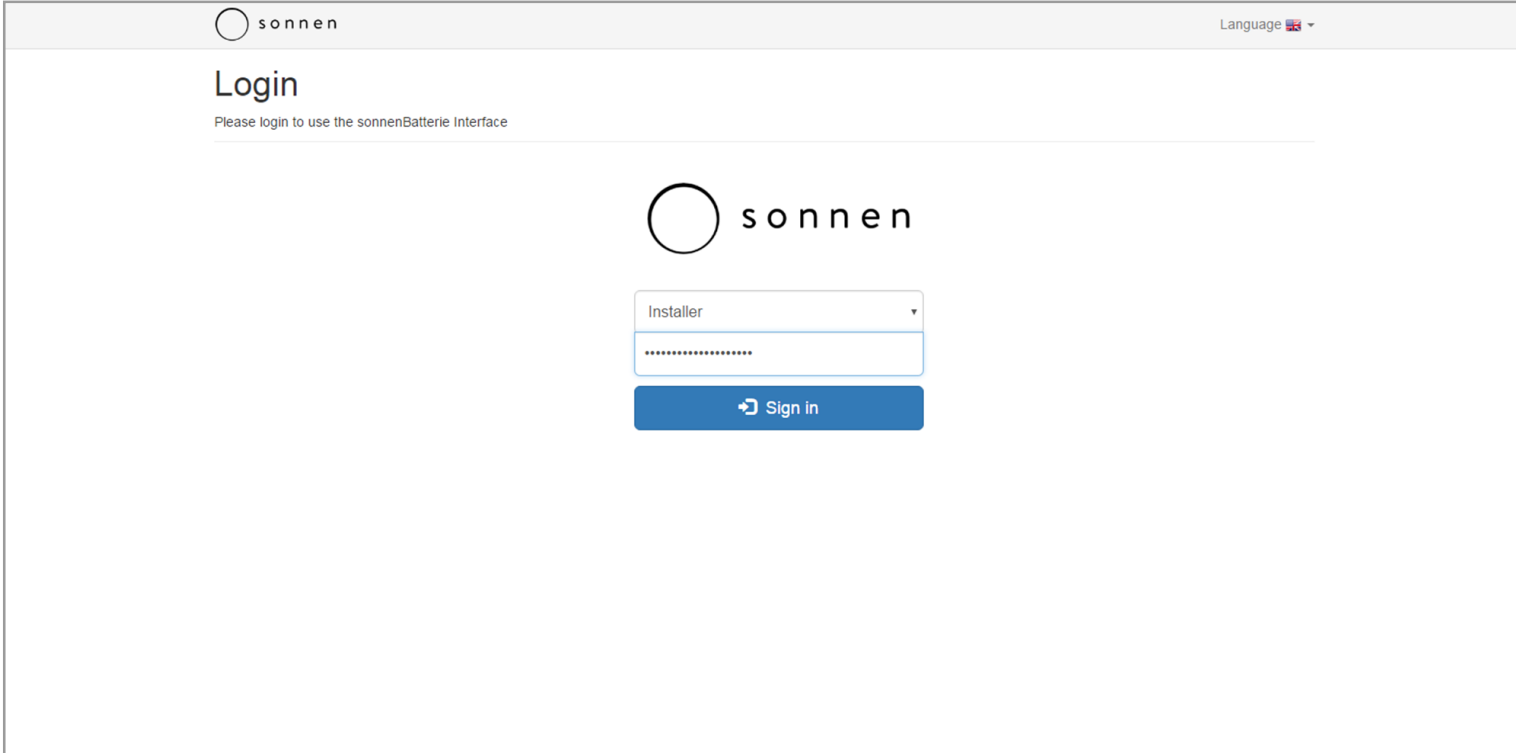
Installer Login & Setup of Complete Installation



Assuming the Sonnen eco8.2 unit is connected to the clients router the automatic search will then show the serial number of the unit installed as a button label 'Konfigurieren' (Configuration) will then show, press this to continue.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



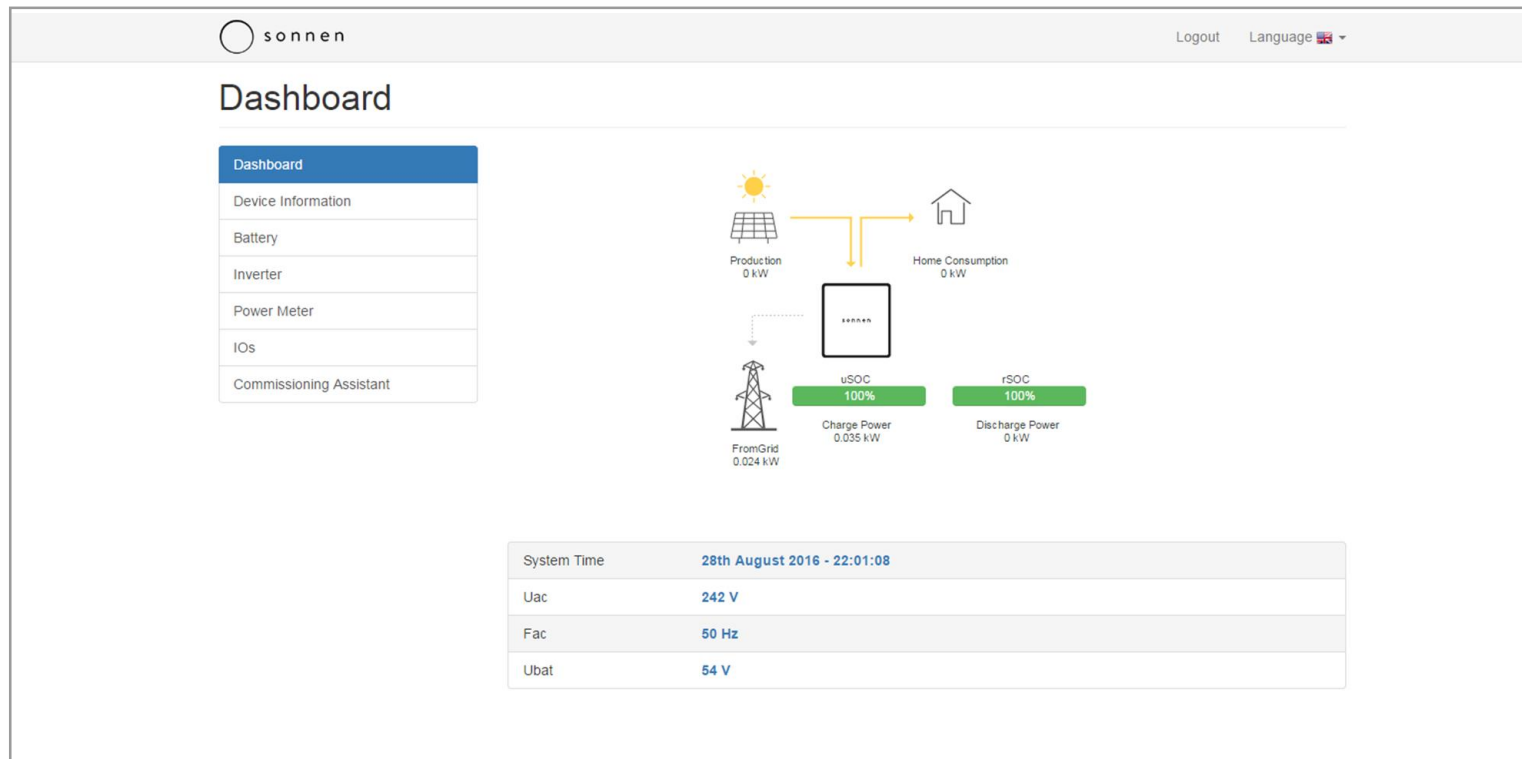
The screenshot shows the Sonnen installer login page. At the top left is the Sonnen logo and at the top right is a language selection dropdown. The main heading is 'Login' with a subtext 'Please login to use the sonnenBatterie Interface'. Below this is a large Sonnen logo. Underneath the logo is a dropdown menu currently set to 'Installer'. Below the dropdown is a password input field with a masked password of 12 dots. At the bottom is a blue 'Sign in' button with a right-pointing arrow icon.

Select the 'Installer' option from the drop down menu

Enter 'Sonnen@Installer2016' as the password

Sonnen – System Commissioning

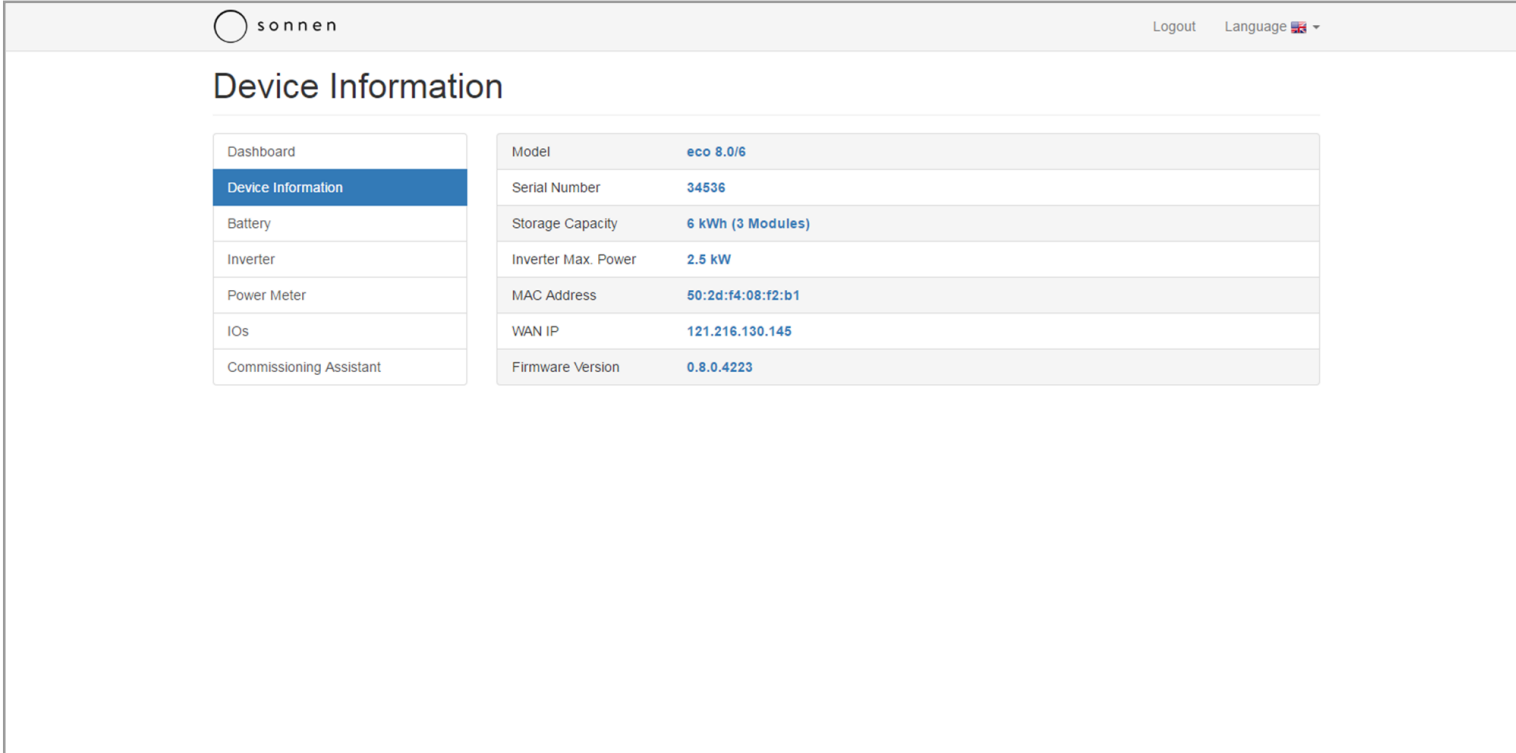
Installer Login & Setup of Complete Installation



The 'Dashboard' screen will then be shown, this gives a basic overview of the systems current status

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



The screenshot shows the Sonnen installer web interface. At the top left is the Sonnen logo, and at the top right are links for 'Logout' and 'Language' with a flag icon. The main heading is 'Device Information'. On the left is a navigation menu with options: Dashboard, Device Information (highlighted in blue), Battery, Inverter, Power Meter, IOs, and Commissioning Assistant. The main content area displays a table of system parameters:



Model	eco 8.0/6
Serial Number	34536
Storage Capacity	6 kWh (3 Modules)
Inverter Max. Power	2.5 kW
MAC Address	50:2d:f4:08:f2:b1
WAN IP	121.216.130.145
Firmware Version	0.8.0.4223

The 'Device Information' can then be viewed,
gives a basic overview of the systems parameters

this

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation

 sonnen
Logout Language 

Battery

- Dashboard
- Device Information
- Battery
- Inverter
- Power Meter
- IOs
- Commissioning Assistant

Name	Value	Unit
chargecurrentlimit	0	ma
cyclecount	1	count
dischargecurrentlimit	88800	ma
fullchargecapacity	123000	mah
maximumcelltemperature	21	c
maximumcellvoltage	3374	mv
maximummodulecurrent	-59	ma
maximummoduledcvoltage	53782	mv
minimumcelltemperature	20	c
minimumcellvoltage	3354	mv
minimummodulecurrent	-63	ma
minimummoduledcvoltage	53777	mv
relativestateofcharge	100	%
remainingcapacity	122766	mah
stateofhealth	100	%

The 'Battery' option when selected will give an overview of all of the battery parameters and settings, these are view only parameters

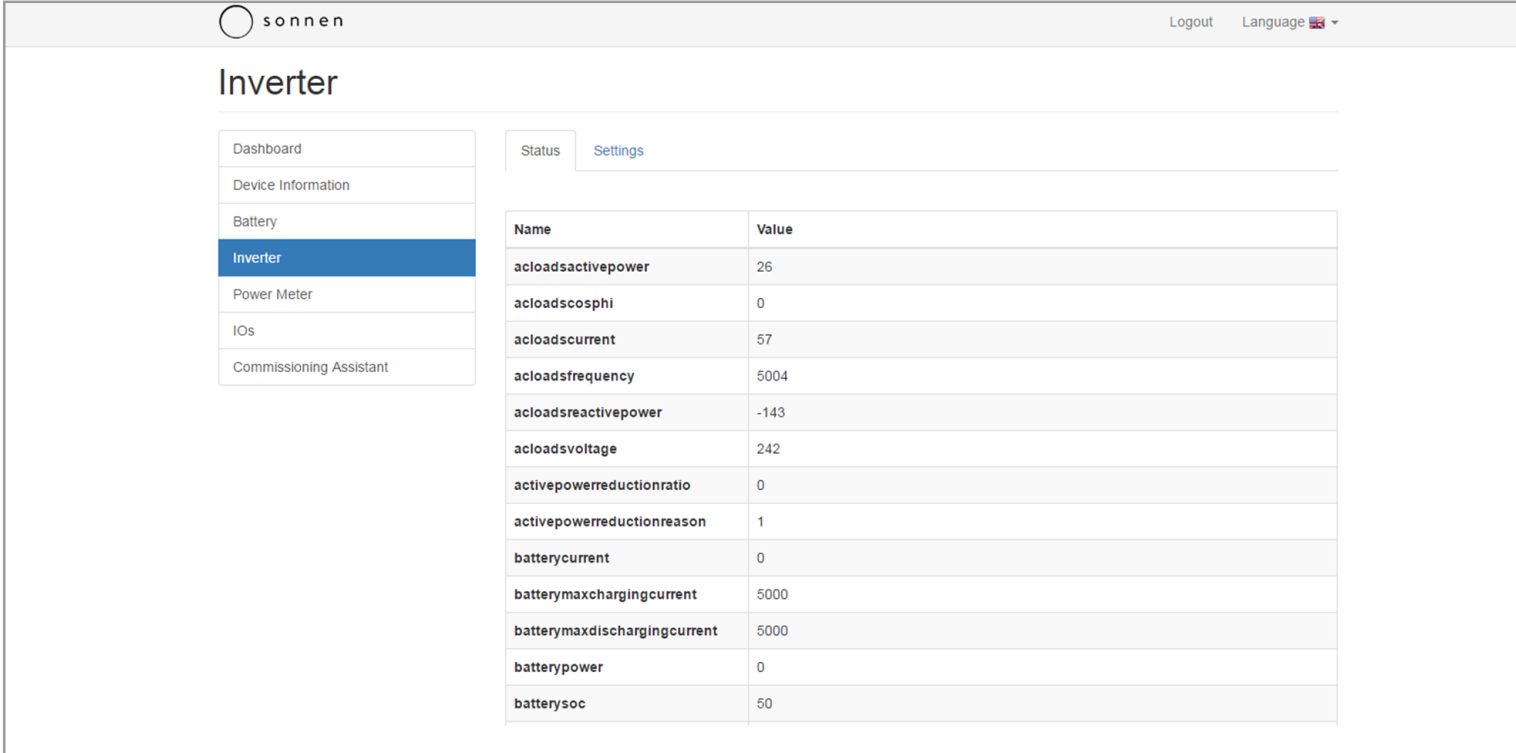
14.11.2017

sonnen Australia Pty Ltd

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Sonnen – System Commissioning

Installer Login & Setup of Complete Installation





The screenshot shows the Sonnen system commissioning interface. At the top left is the Sonnen logo, and at the top right are 'Logout' and 'Language' options. The main heading is 'Inverter'. On the left is a navigation menu with options: Dashboard, Device Information, Battery, Inverter (highlighted), Power Meter, IOs, and Commissioning Assistant. On the right, there are two tabs: 'Status' and 'Settings' (selected). Below the tabs is a table of inverter parameters.

Name	Value
acloadsactivepower	26
acloadscosphi	0
acloadscurrent	57
acloadsfrequency	5004
acloadsreactivepower	-143
acloadsvoltage	242
activepowerreductionratio	0
activepowerreductionreason	1
batterycurrent	0
batterymaxchargingcurrent	5000
batterymaxdischargingcurrent	5000
batterypower	0
batterysoc	50

The 'Inverter' option when selected will give an overview of all of the inverter parameters and settings, these are view only parameters

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation

 sonnen
Logout Language 

Power Meter

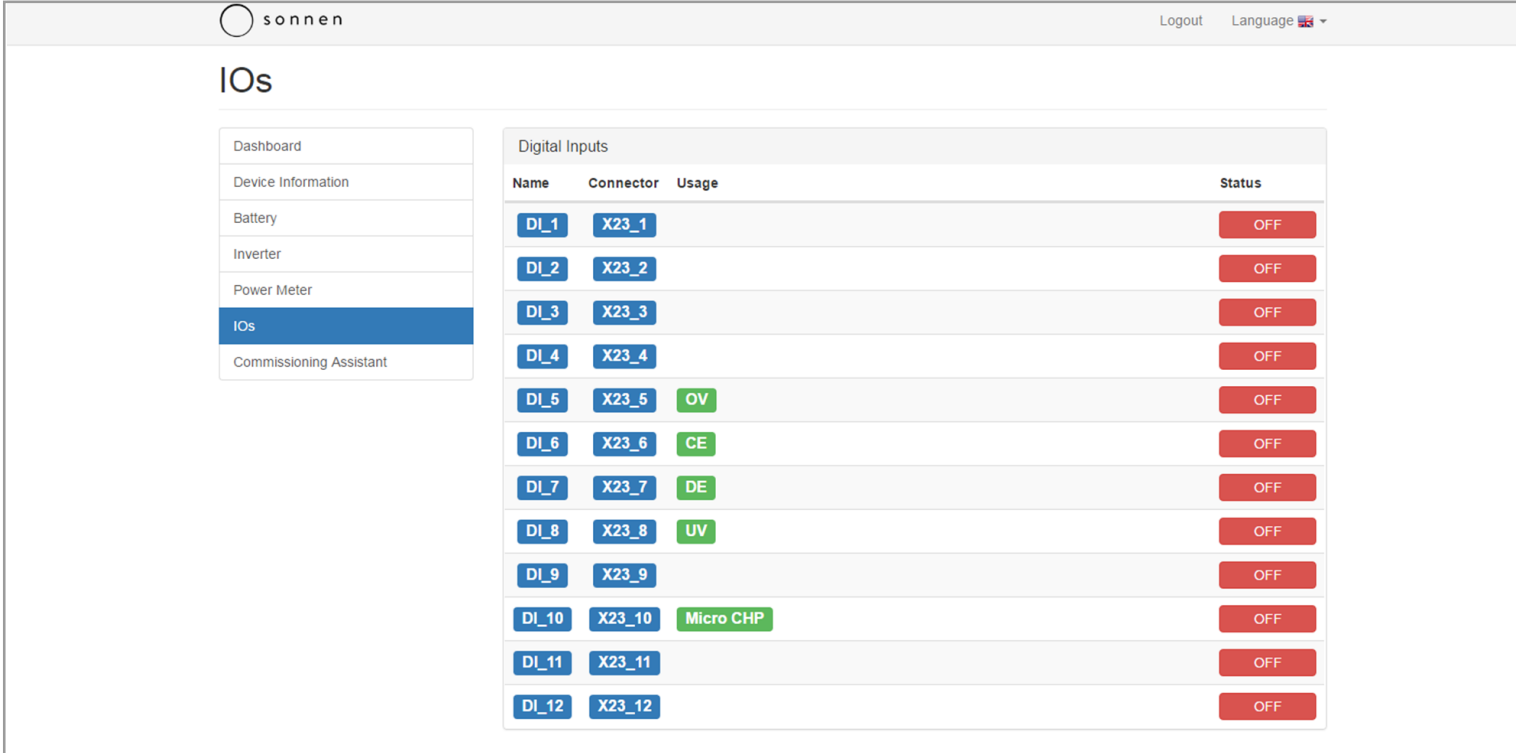
- Dashboard
- Device Information
- Battery
- Inverter
- Power Meter
- IOs
- Commissioning Assistant

Name	Meter 1	Meter 2
a_i1	0	0
a_i2	0	0
a_i3	0	0
channel	1	1
deviceid	4	5
direction	production	consumption
error	-1	-1
v_i1_i2	0	0
v_i1_n	242	0
v_i2_i3	0	0
v_i2_n	0	0
v_i3_i1	0	0
v_i3_n	0	0
va_total	0	0
var_total	0	0
w_total	0	0

The 'Power Meter' option when selected will give an overview of all of the metering parameters and settings, these are view only parameters

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



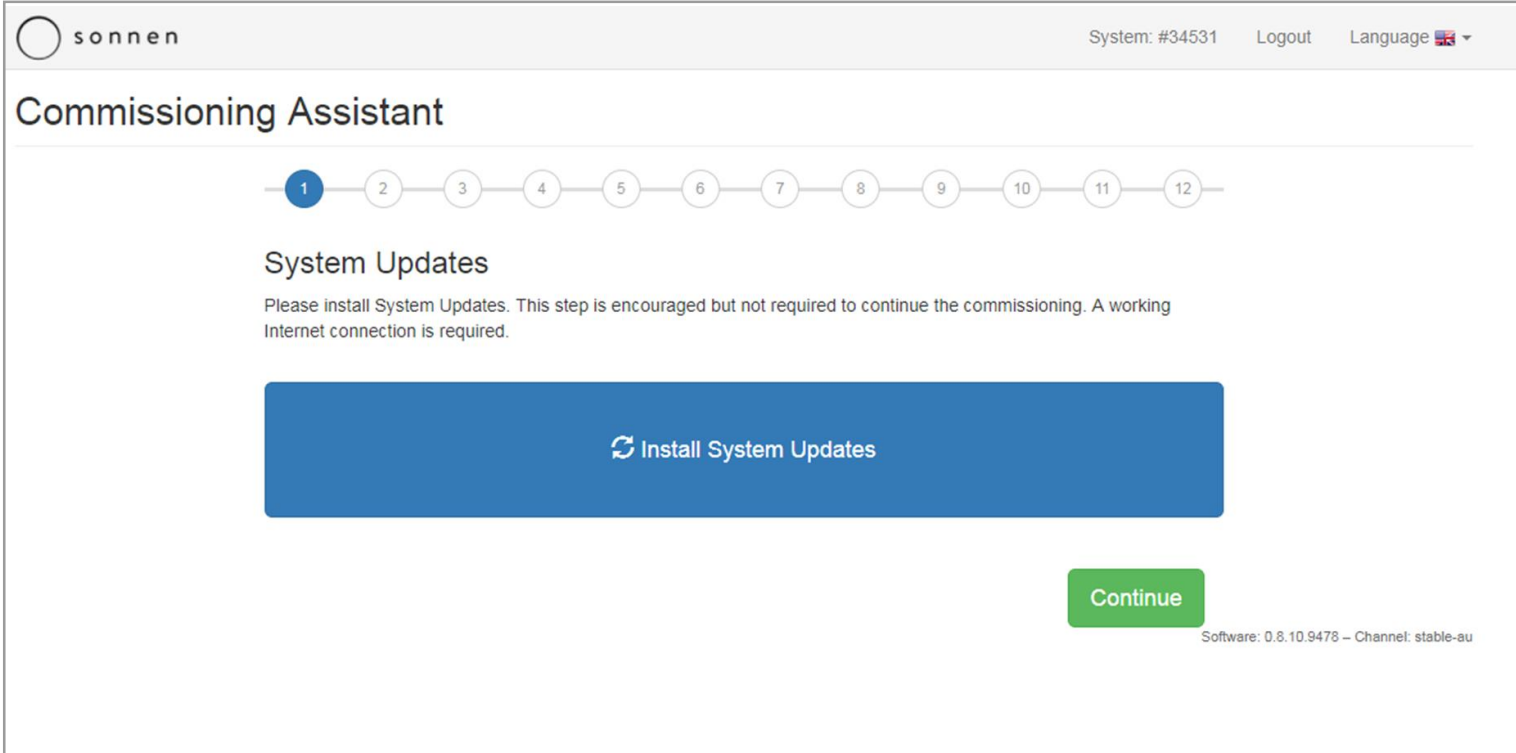
The screenshot shows the 'IOs' configuration page in the Sonnen installer. A sidebar on the left contains navigation links: Dashboard, Device Information, Battery, Inverter, Power Meter, **IOs** (highlighted), and Commissioning Assistant. The main area is titled 'Digital Inputs' and contains a table with the following data:


Name	Connector	Usage	Status
DI_1	X23_1		OFF
DI_2	X23_2		OFF
DI_3	X23_3		OFF
DI_4	X23_4		OFF
DI_5	X23_5	OV	OFF
DI_6	X23_6	CE	OFF
DI_7	X23_7	DE	OFF
DI_8	X23_8	UV	OFF
DI_9	X23_9		OFF
DI_10	X23_10	Micro CHP	OFF
DI_11	X23_11		OFF
DI_12	X23_12		OFF

The 'IOs' option when selected will give an overview of all of the digital inputs and outputs options and settings, this function with a small hardware accessory will be added to the eco 8.0 products shortly.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation




sonnen System: #34531 Logout Language 

Commissioning Assistant

1 2 3 4 5 6 7 8 9 10 11 12

System Updates

Please install System Updates. This step is encouraged but not required to continue the commissioning. A working Internet connection is required.

 Install System Updates

Continue

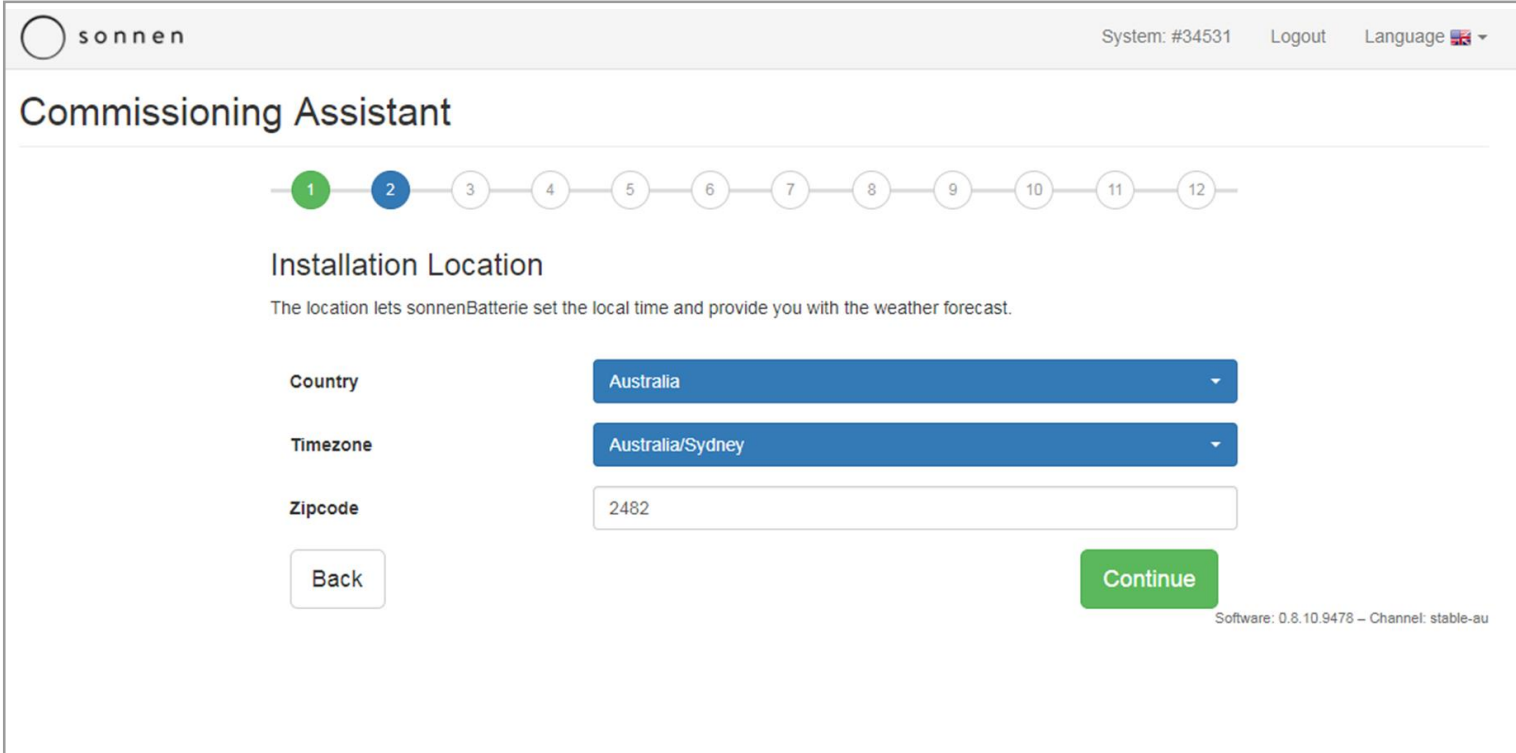
Software: 0.8.10.9478 – Channel: stable-au


The 'Commissioning Assistant' is the main area of focus for an installer to setup and start-up the eco 8.0 product.

Firstly you have the option to install the system updates – This is optional

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



sonnen System: #34531 Logout Language 

Commissioning Assistant

1 2 3 4 5 6 7 8 9 10 11 12

Installation Location

The location lets sonnenBatterie set the local time and provide you with the weather forecast.

Country Australia

Timezone Australia/Sydney

Zipcode 2482

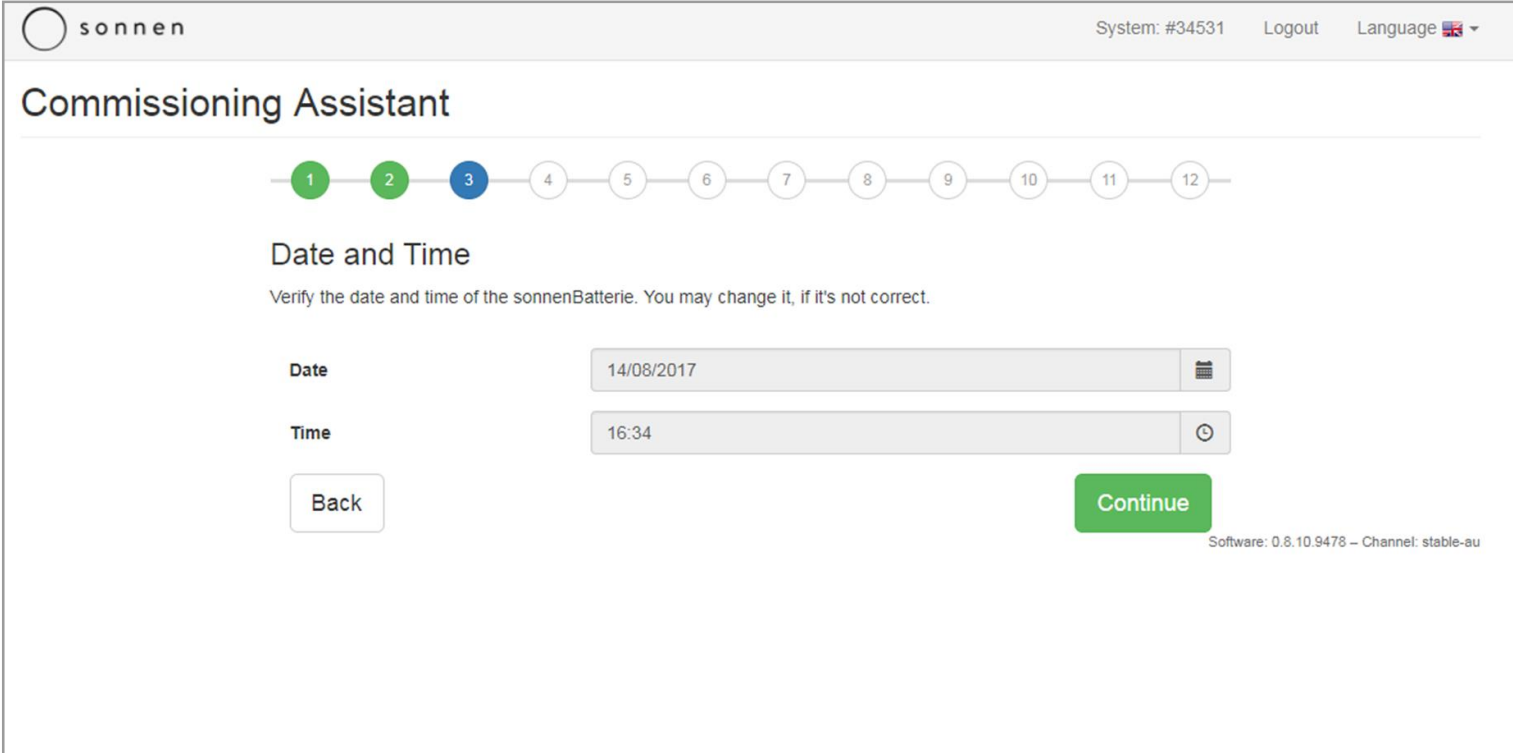
[Back](#) [Continue](#)


Software: 0.8.10.9478 – Channel: stable-au

Enter the information as required, for the 'Timezone' simply select the closest major capitol within the same time zone.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation




sonnen System: #34531 Logout Language 


Commissioning Assistant

1 2 3 4 5 6 7 8 9 10 11 12

Date and Time

Verify the date and time of the sonnenBatterie. You may change it, if it's not correct.

Date 14/08/2017 

Time 16:34 

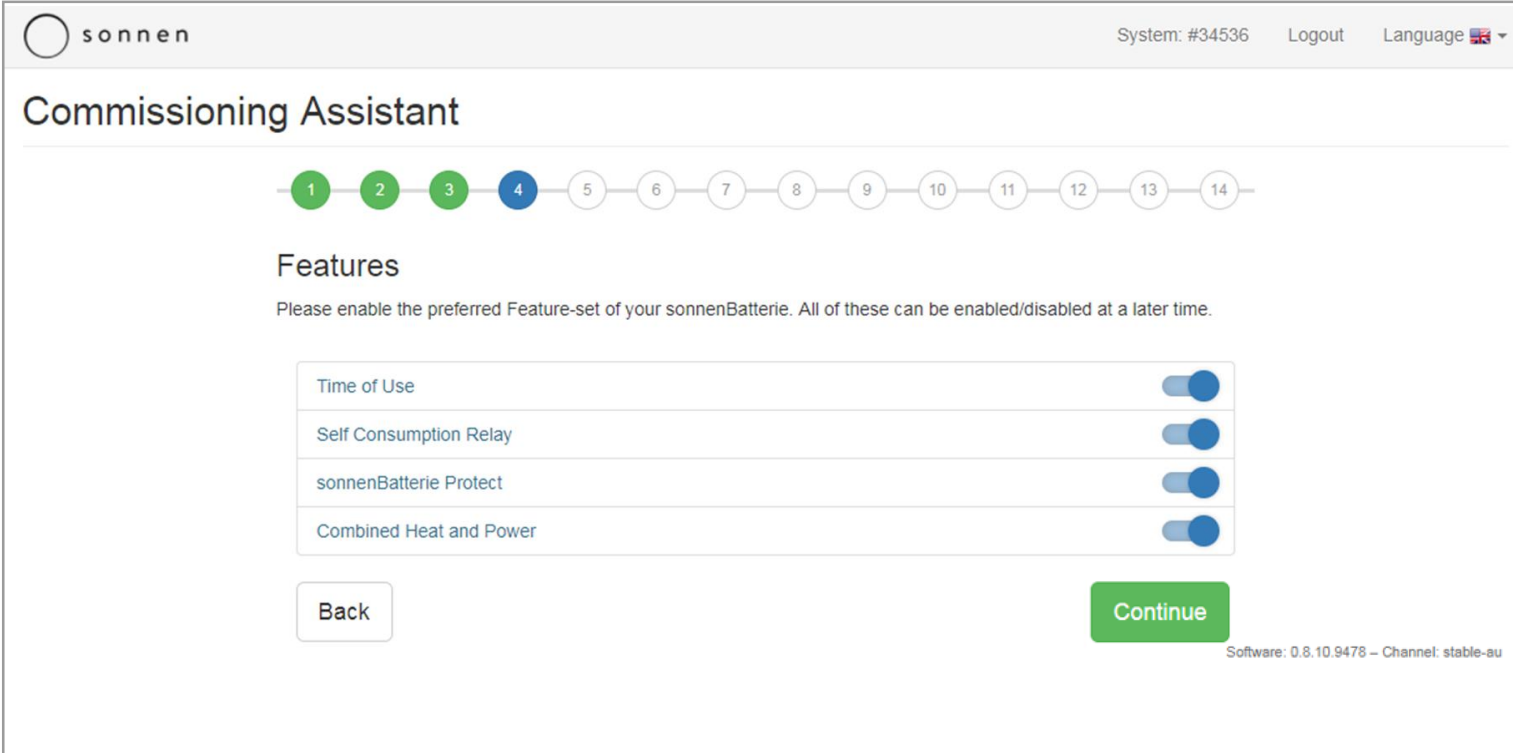
[Back](#) [Continue](#)


Software: 0.8.10.9478 – Channel: stable-au

The date and time need to be checked – These will self-populate.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



sonnen System: #34536 Logout Language 

Commissioning Assistant

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Features

Please enable the preferred Feature-set of your sonnenBatterie. All of these can be enabled/disabled at a later time.

Time of Use	<input checked="" type="checkbox"/>
Self Consumption Relay	<input checked="" type="checkbox"/>
sonnenBatterie Protect	<input checked="" type="checkbox"/>
Combined Heat and Power	<input checked="" type="checkbox"/>

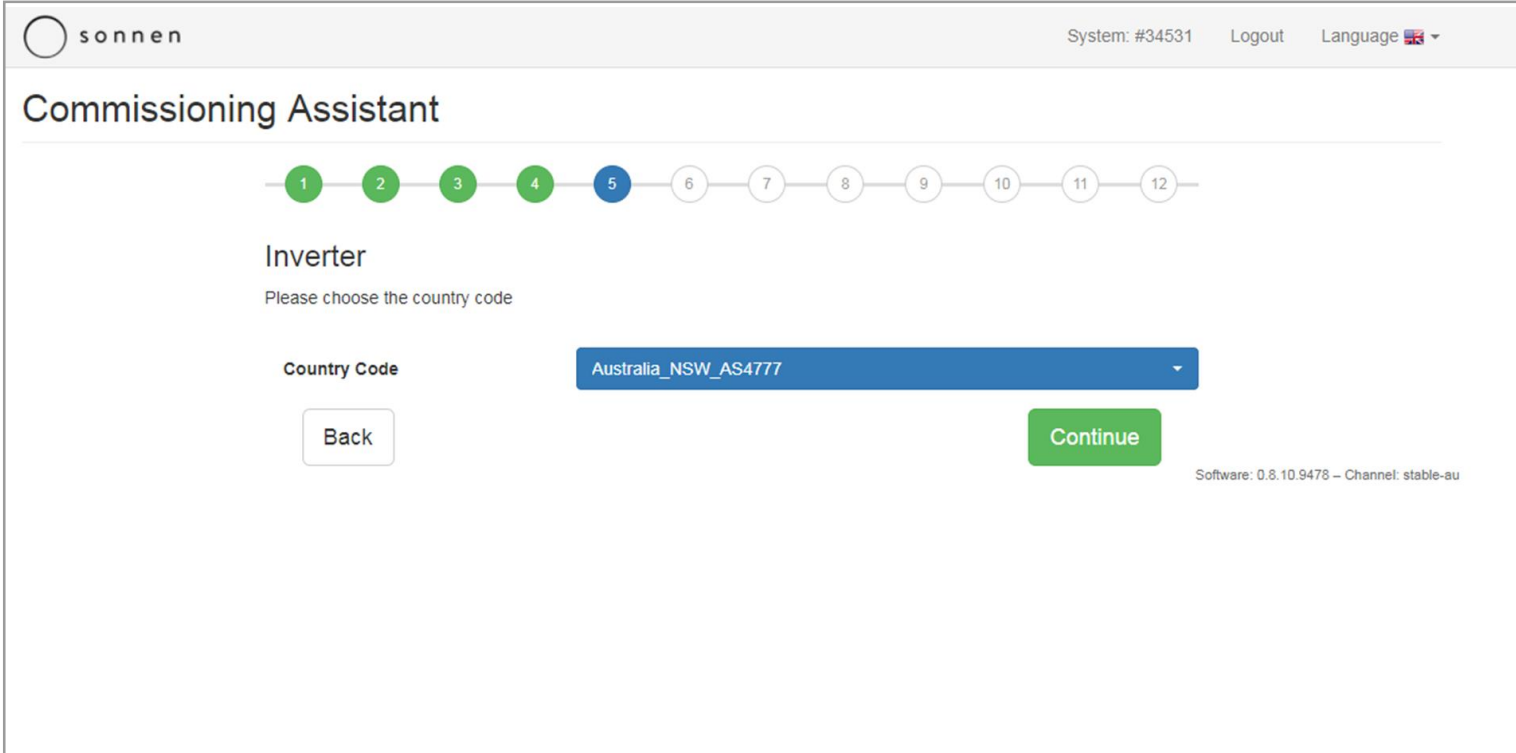
Back Continue


Software: 0.8.10.9476 – Channel: stable-au

Select whichever advanced features are installed and/or required to be commissioned.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



sonnen System: #34531 Logout Language 

Commissioning Assistant

1 2 3 4 5 6 7 8 9 10 11 12

Inverter

Please choose the country code

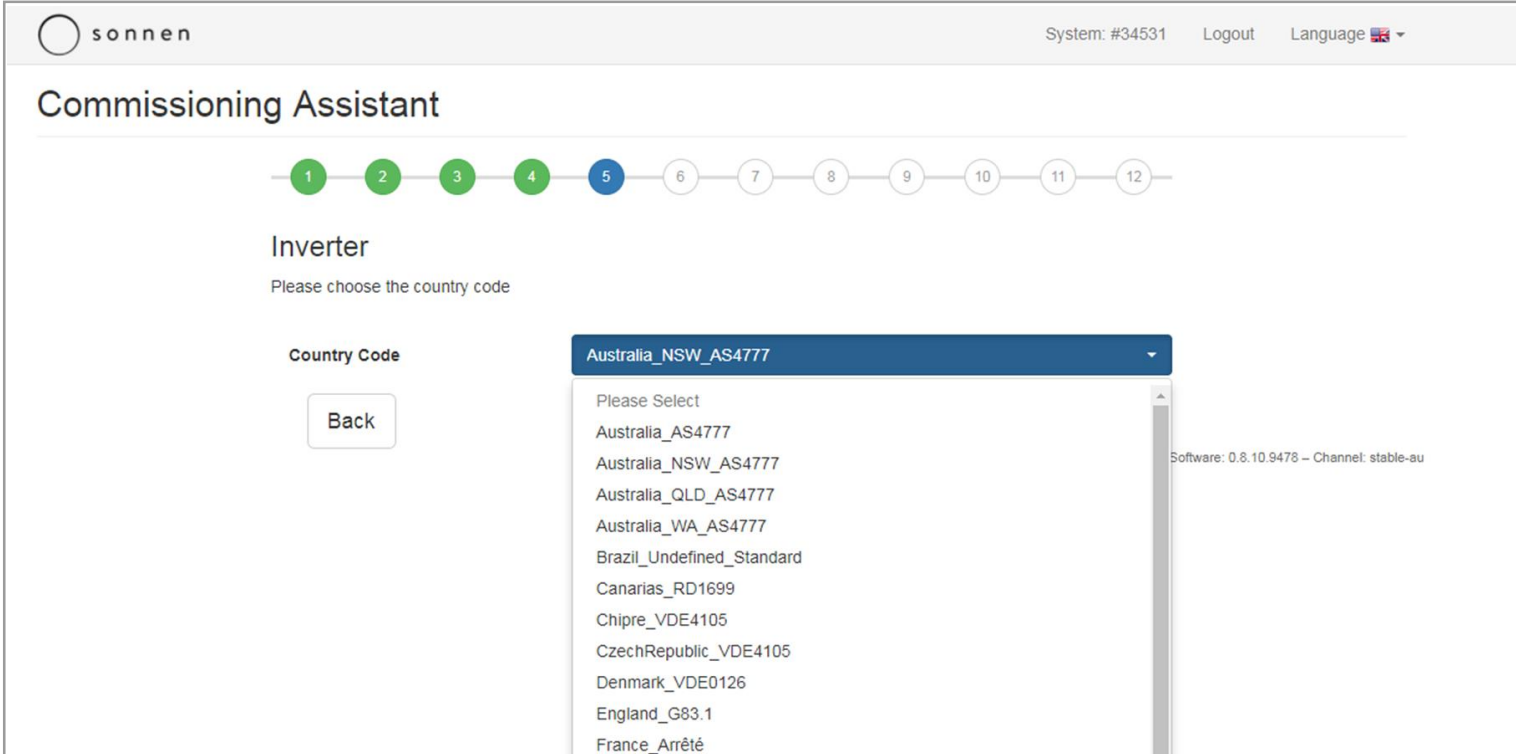
Country Code


Software: 0.8.10.9478 – Channel: stable-au

The inverters country / operating standard code then needs to be set.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



sonnen System: #34531 Logout Language 

Commissioning Assistant

1 2 3 4 5 6 7 8 9 10 11 12

Inverter

Please choose the country code

Country Code

Back

Australia_NSW_AS4777

Please Select

Australia_AS4777

Australia_NSW_AS4777

Australia_QLD_AS4777

Australia_WA_AS4777

Brazil_Undefined_Standard

Canarias_RD1699

Chipre_VDE4105

CzechRepublic_VDE4105

Denmark_VDE0126

England_G83.1

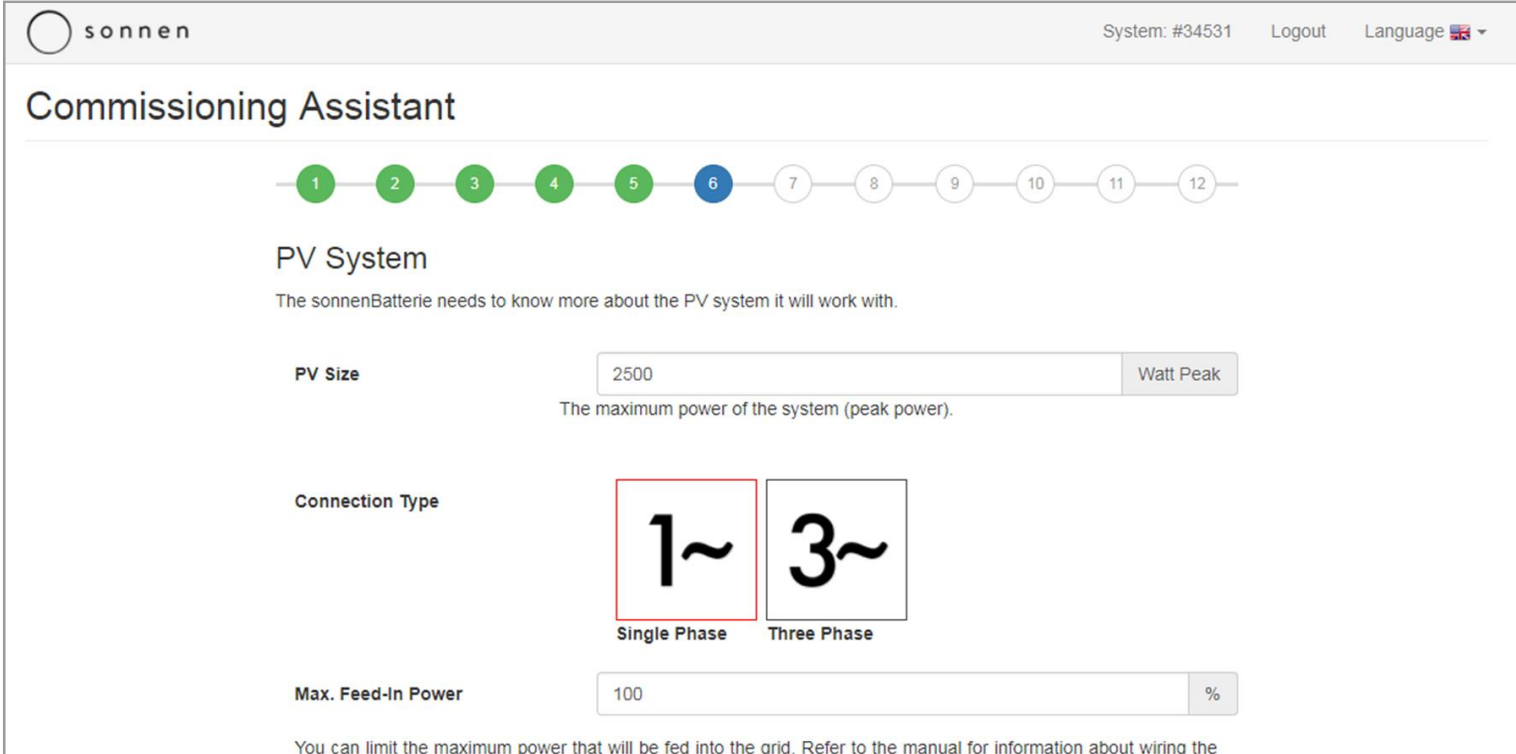
France_Arrêté


Software: 0.8.10.9478 - Channel: stable-au

The inverters country / operating standard code then needs to be set.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



sonnen System: #34531 Logout Language 

Commissioning Assistant

1 2 3 4 5 6 7 8 9 10 11 12

PV System

The sonnenBatterie needs to know more about the PV system it will work with.

PV Size Watt Peak
The maximum power of the system (peak power).

Connection Type

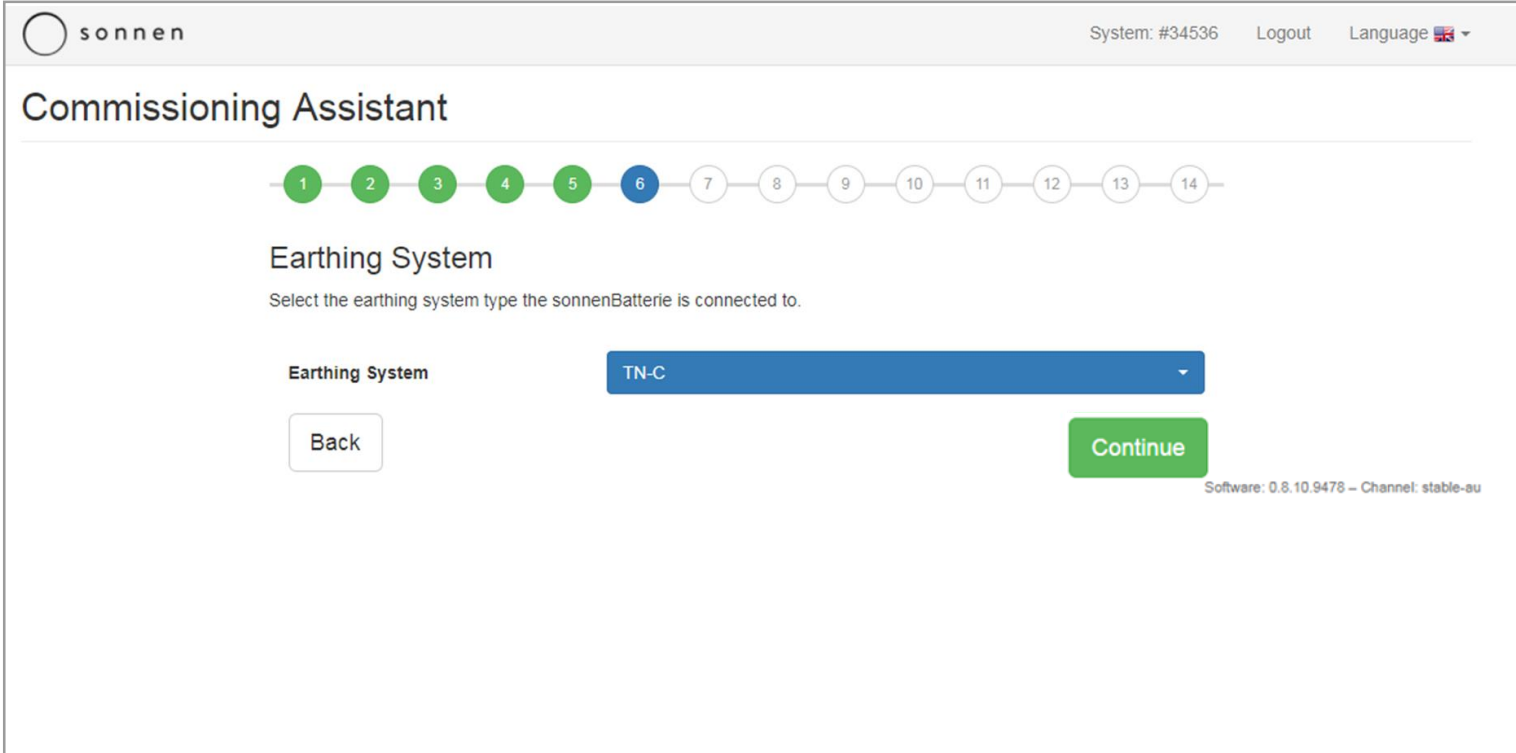
1~ **3~**
Single Phase Three Phase


Max. Feed-In Power %
You can limit the maximum power that will be fed into the grid. Refer to the manual for information about wiring the

The installed PV size needs to then needs to be set – Please note the value is in Watt’s!

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



sonnen System: #34536 Logout Language 

Commissioning Assistant

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Earthing System

Select the earthing system type the sonnenBatterie is connected to.

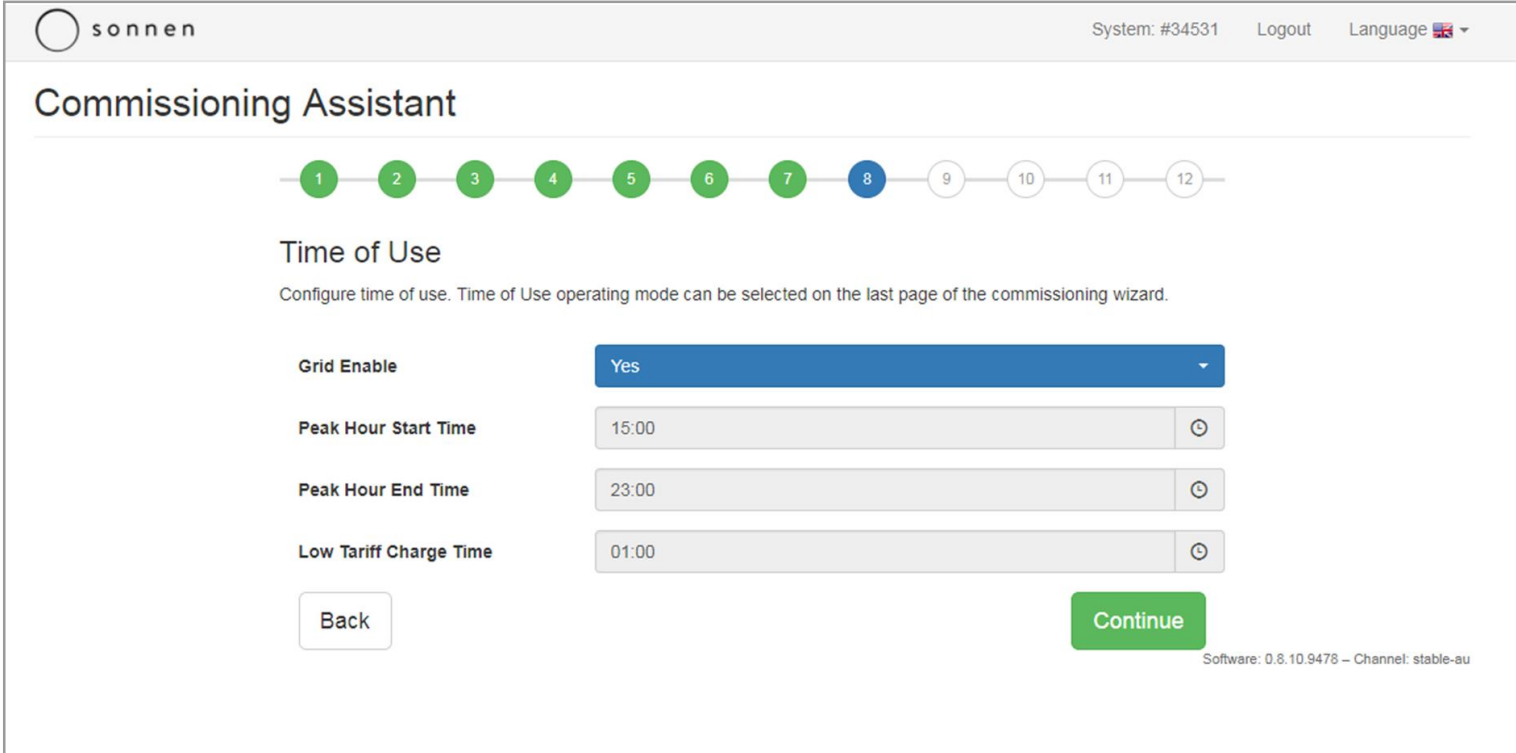
Earthing System


Software: 0.8.10.9478 - Channel: stable-au

The 'Earthing System' type needs to be set, a tech note from Sonnen Australia exists to explain the options in more detail, however for the majority of Australian installation the TN-C option should be selected.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



sonnen System: #34531 Logout Language 

Commissioning Assistant

1 2 3 4 5 6 7 8 9 10 11 12

Time of Use

Configure time of use. Time of Use operating mode can be selected on the last page of the commissioning wizard.

Grid Enable Yes

Peak Hour Start Time 15:00

Peak Hour End Time 23:00

Low Tariff Charge Time 01:00

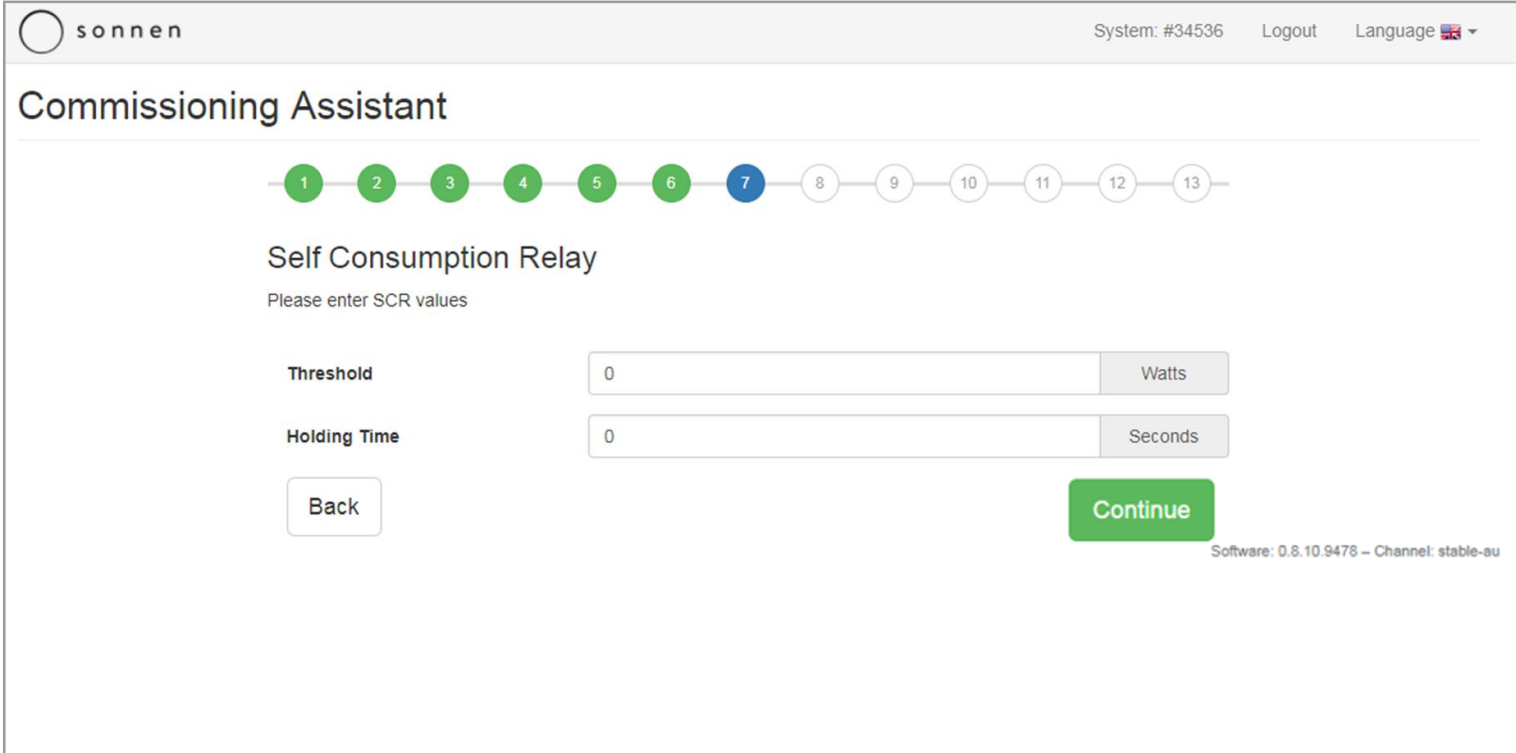
Back Continue


Software: 0.8.10.9478 – Channel: stable-au

If the 'Time of Use' setting has been selected then enter the time ranges as required.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



sonnen System: #34536 Logout Language 

Commissioning Assistant

1 2 3 4 5 6 7 8 9 10 11 12 13

Self Consumption Relay

Please enter SCR values

Threshold Watts

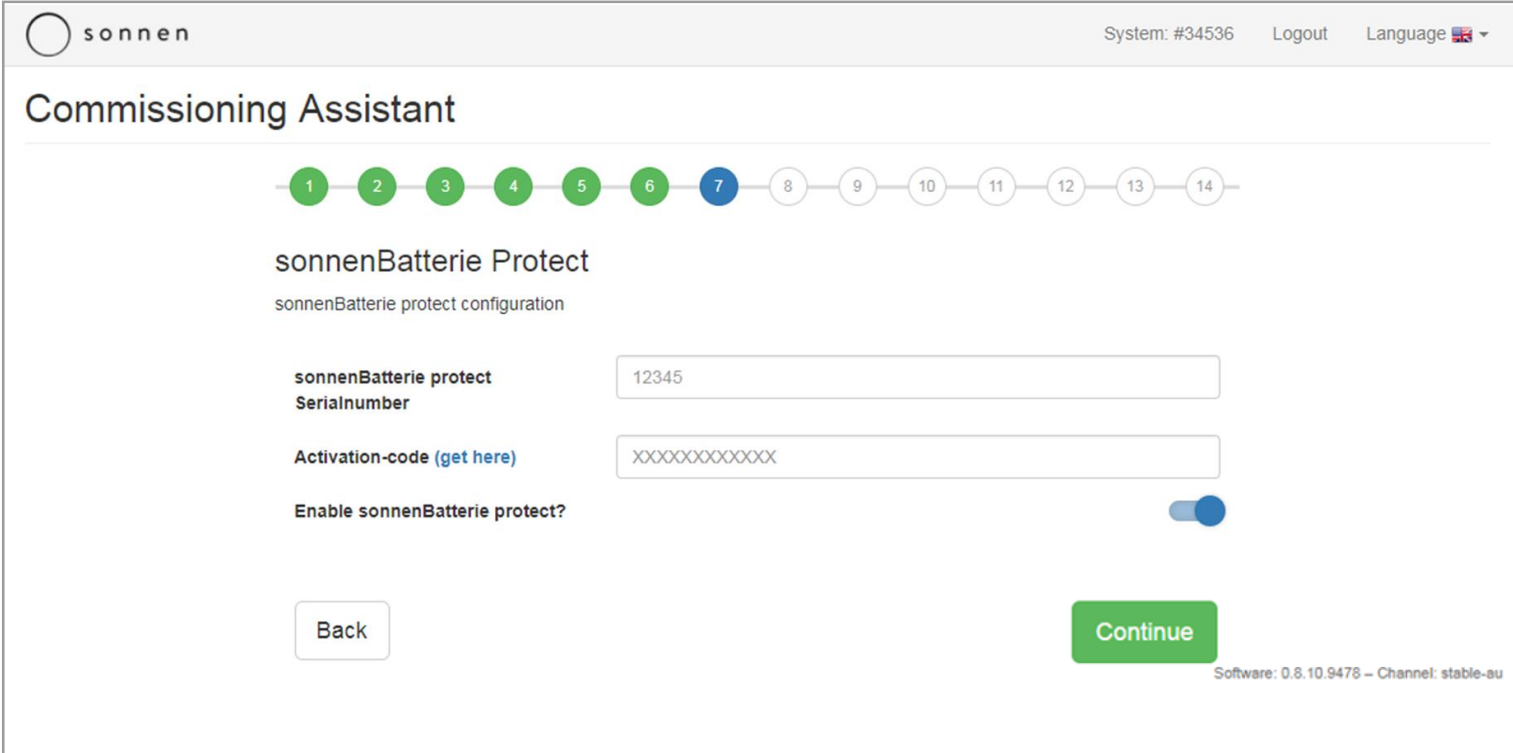
Holding Time Seconds


Software: 0.8.10.9478 – Channel: stable-au

If the 'Self Consumption relay' setting has been selected then enter the minimum energy to be delivered to the output as well as the holding time range as required.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



sonnen System: #34536 Logout Language 

Commissioning Assistant

1 2 3 4 5 6 7 8 9 10 11 12 13 14

sonnenBatterie Protect

sonnenBatterie protect configuration

sonnenBatterie protect Serialnumber

Activation-code ([get here](#))

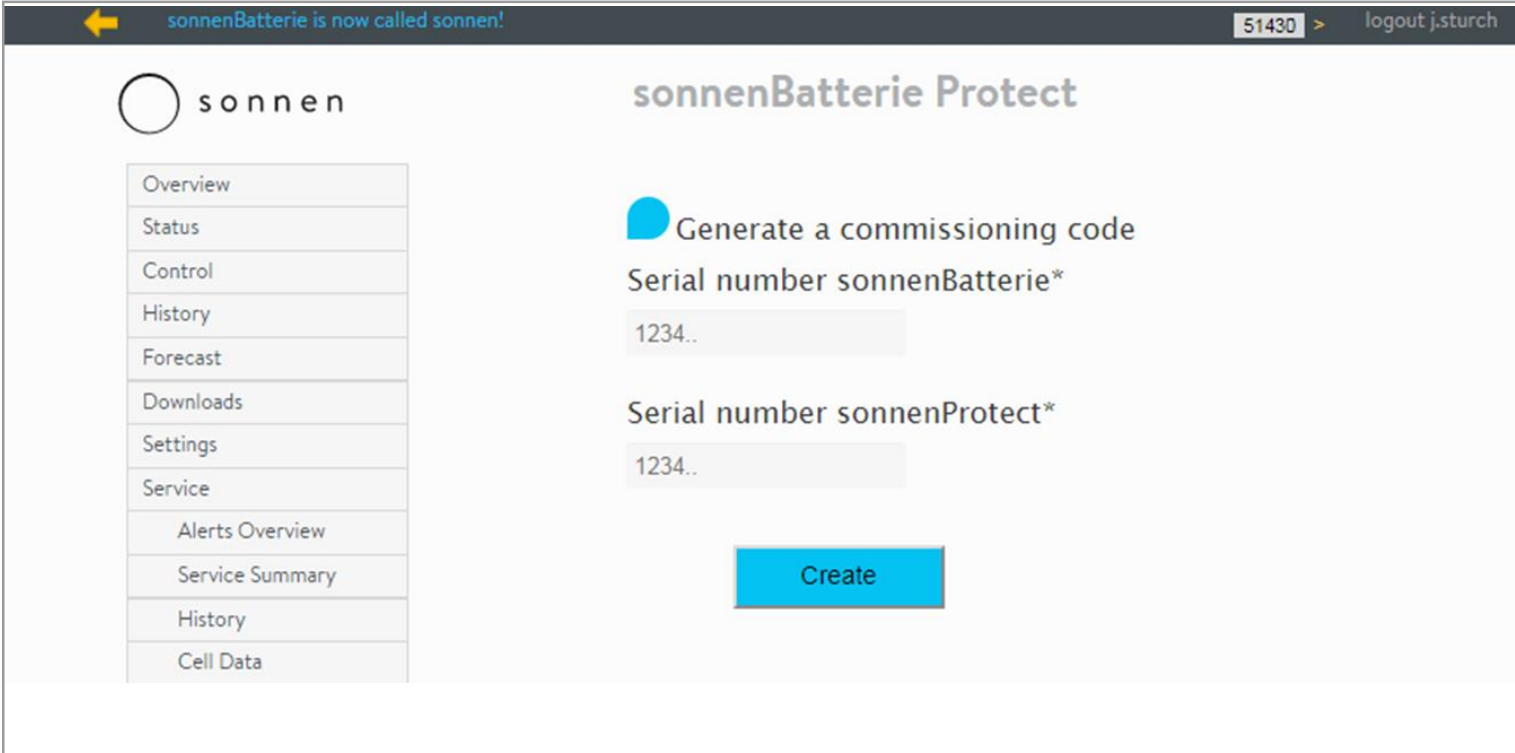
Enable sonnenBatterie protect?

Software: 0.8.10.9478 – Channel: stable-au

If the 'sonnenProtect' has been installed then insert the data and follow the prompted steps as required.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation

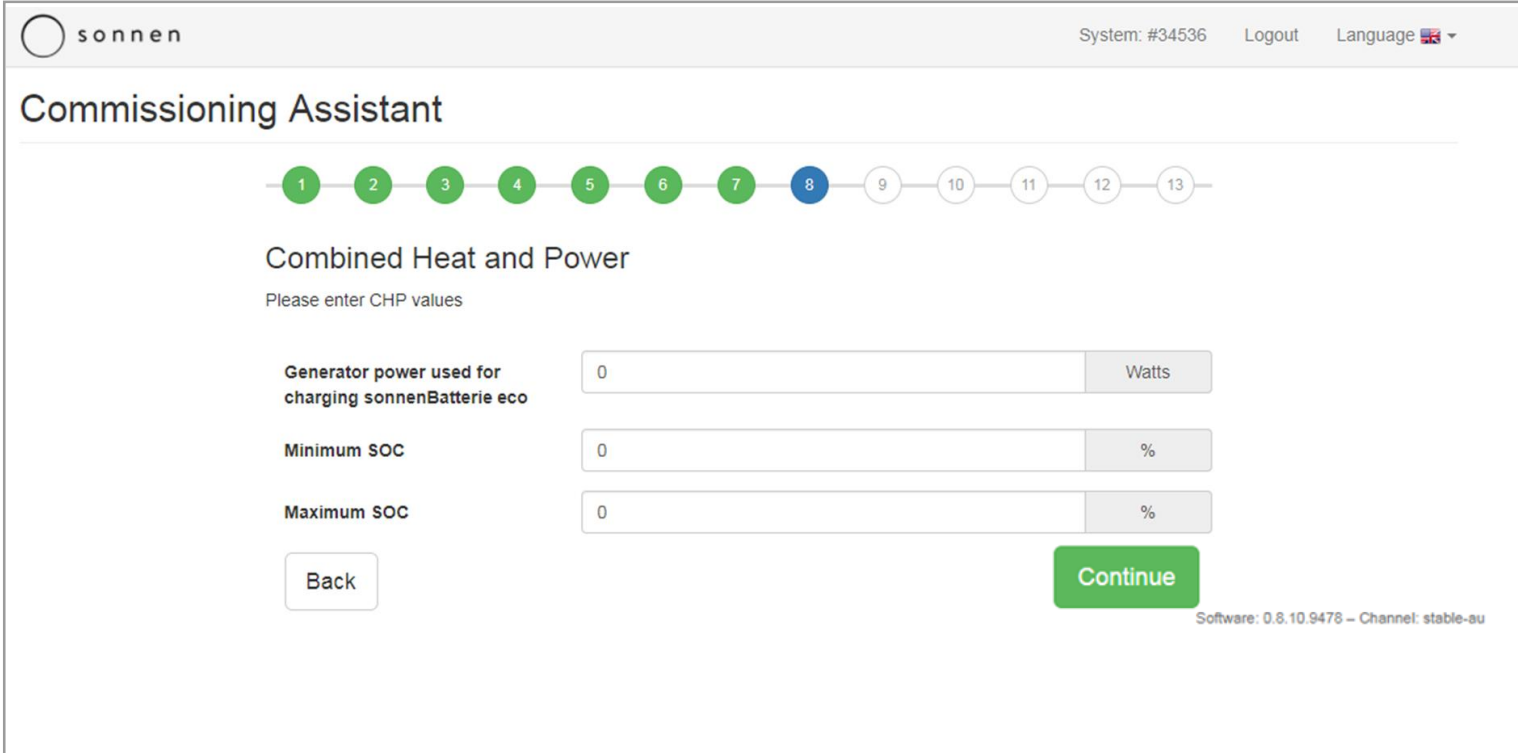



The screenshot shows a web browser window with a dark header bar. On the left, a yellow arrow points to the text "sonnenBatterie is now called sonnen!". On the right, the user ID "51430" and "logout j.sturch" are visible. The main content area features the Sonnen logo on the left and the title "sonnenBatterie Protect" on the right. A sidebar menu on the left lists: Overview, Status, Control, History, Forecast, Downloads, Settings, Service, Alerts Overview, Service Summary, History, and Cell Data. The main content area has a blue circular icon followed by the text "Generate a commissioning code". Below this, there are two input fields: "Serial number sonnenBatterie*" with the value "1234.." and "Serial number sonnenProtect*" with the value "1234..". A blue "Create" button is positioned below the second input field.

If the 'sonnenProtect' has been installed then you will also be prompted to create the commissioning code as required.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



sonnen System: #34536 Logout Language 

Commissioning Assistant

1 2 3 4 5 6 7 8 9 10 11 12 13

Combined Heat and Power

Please enter CHP values

Generator power used for charging sonnenBatterie eco Watts

Minimum SOC %



Maximum SOC %

Software: 0.8.10.9478 – Channel: stable-au


If the 'Combined Heat and Power' setting has been selected then charge power and the SOC ranges as required.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation


System: #34531
Logout
Language 

Commissioning Assistant



Add Meter Setting

Meter	Direction	Modbus Id	Channel	Action
Please Select ▼	Please Select ▼	Please Select ▼	Please Select ▼	New

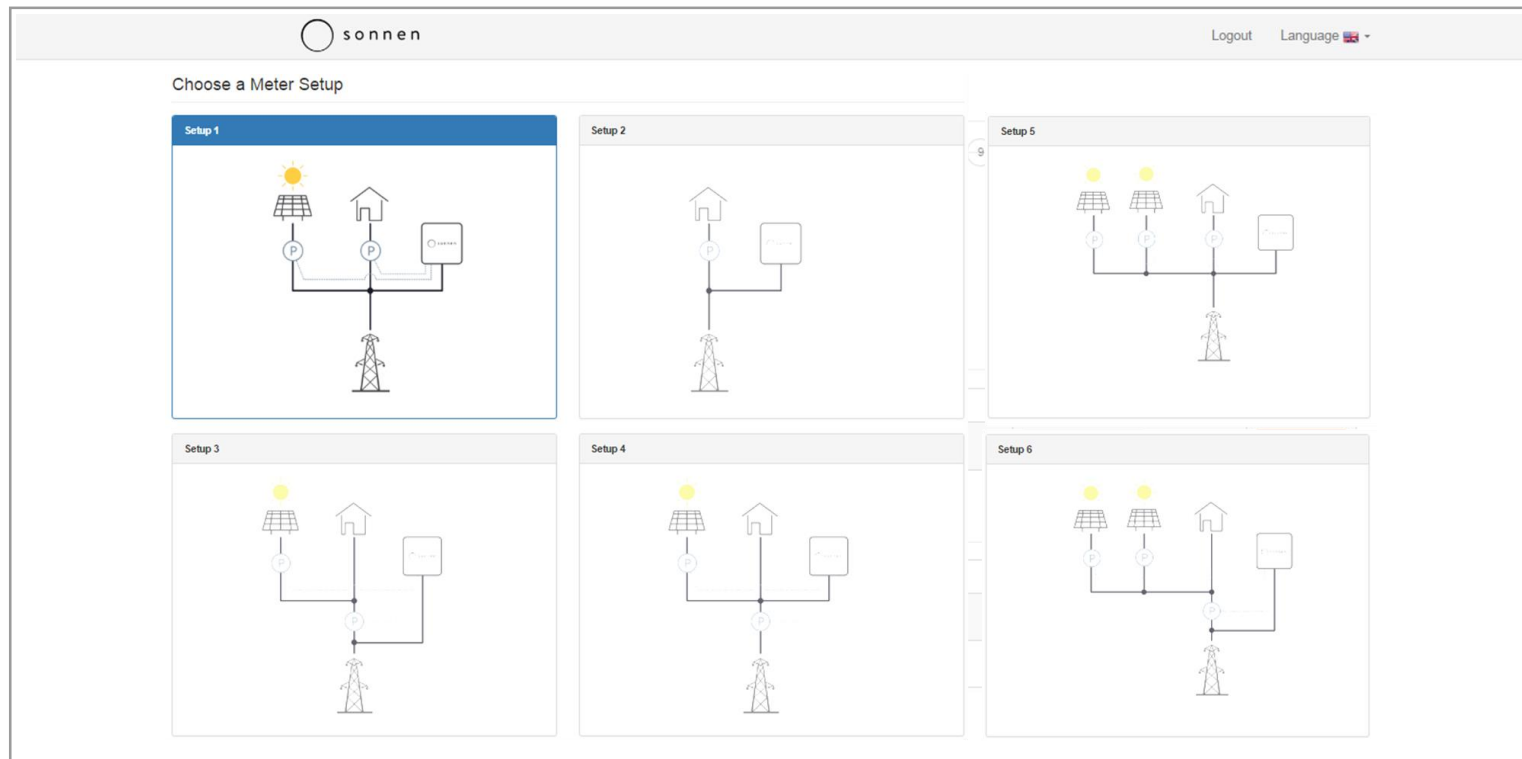
Existing Meter Setting

Meter	Direction	Modbus Id	Channel	Action
WM271	Production	4	1	Delete
WM271	Consumption	4	2	Delete

The 'Power Meter' settings should atomically populate the settings area field. If they don't then the installer will need to adjust to the above values.

Sonnen – System Commissioning

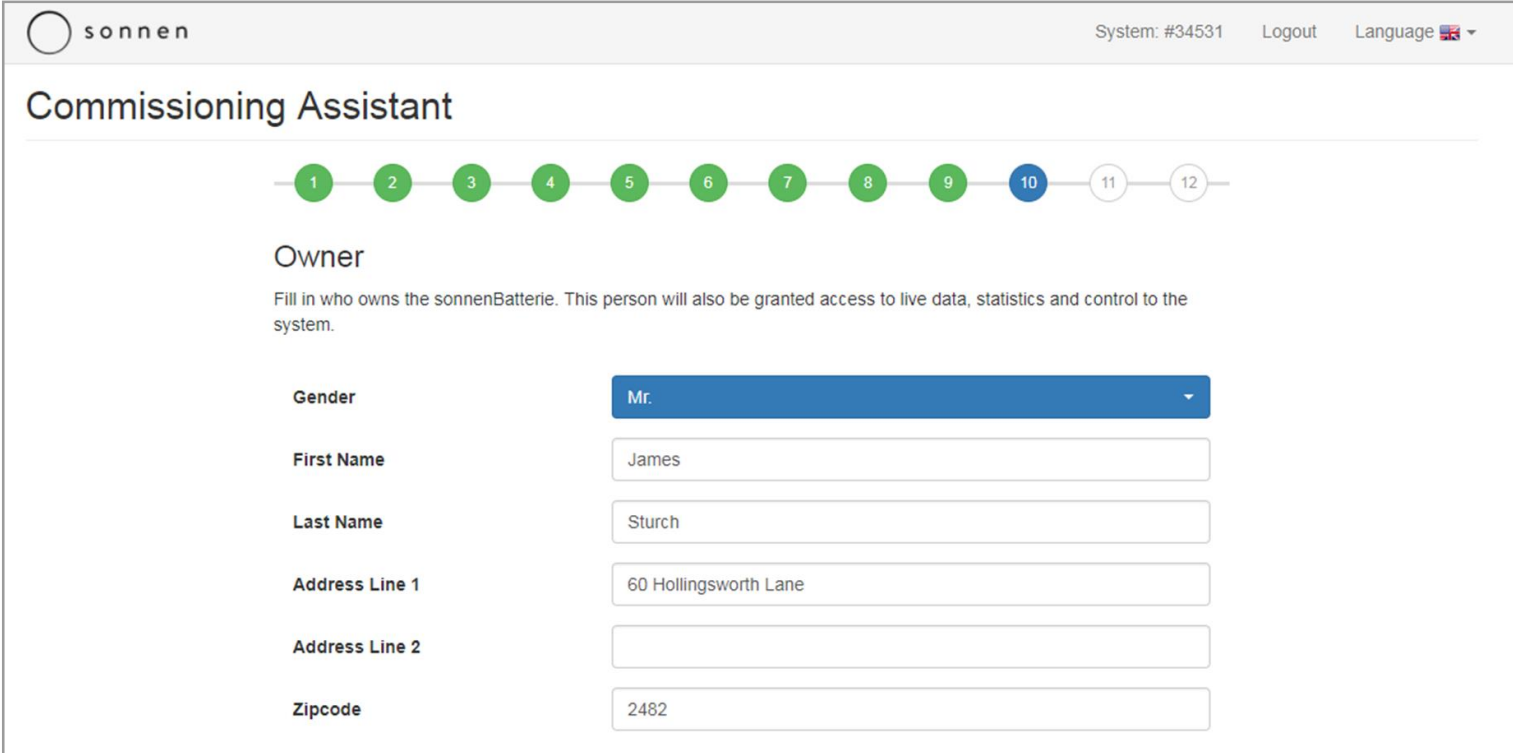
Installer Login & Setup of Complete Installation




The 'Power Meter' illustration however will need to match the wiring configuration adopted at the installation.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



sonnen System: #34531 Logout Language 

Commissioning Assistant

1 2 3 4 5 6 7 8 9 10 11 12

Owner

Fill in who owns the sonnenBatterie. This person will also be granted access to live data, statistics and control to the system.

Gender

First Name

Last Name

Address Line 1

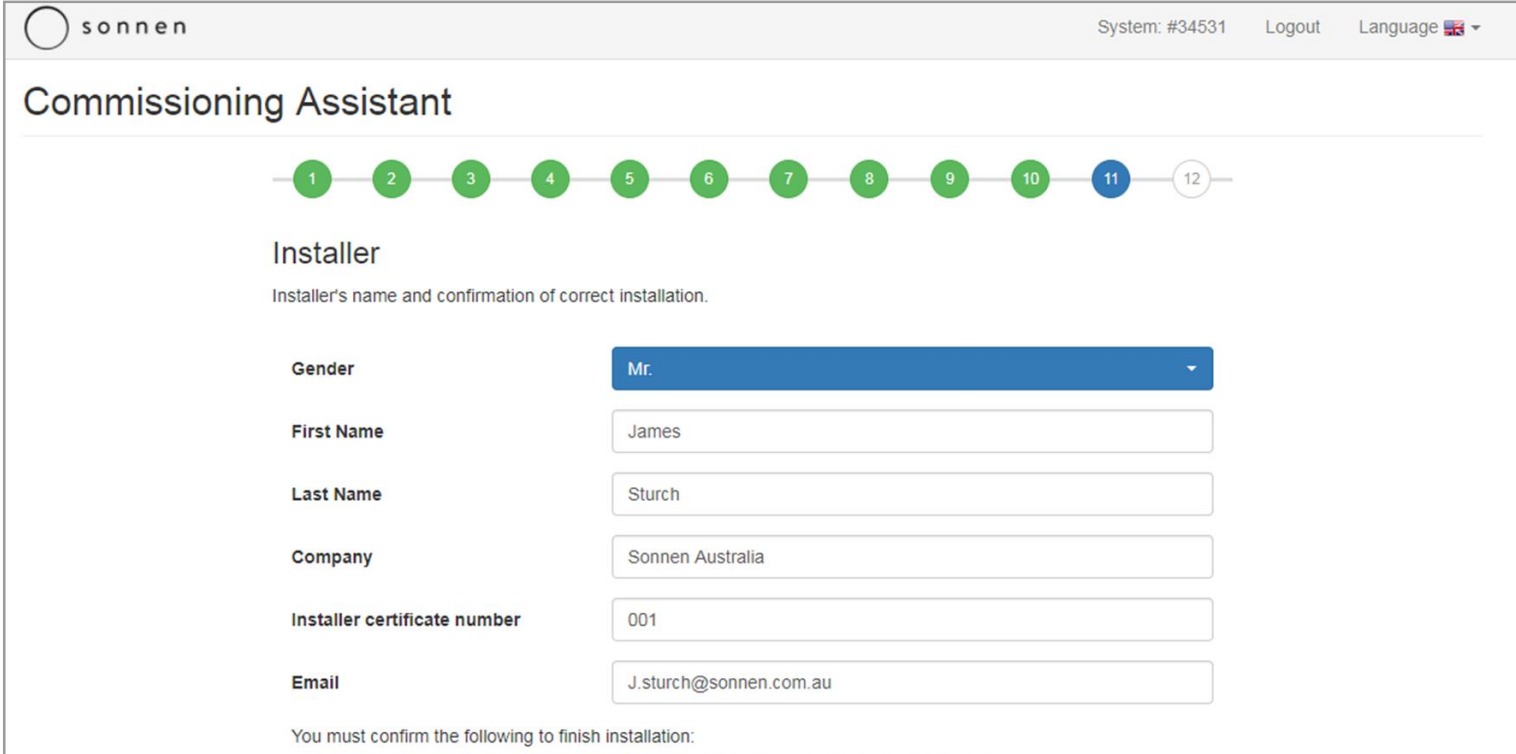
Address Line 2


Zipcode

Enter the systems owners details as prompted.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation



sonnen System: #34531 Logout Language 

Commissioning Assistant

1 2 3 4 5 6 7 8 9 10 11 12

Installer

Installer's name and confirmation of correct installation.

Gender

First Name

Last Name

Company

Installer certificate number

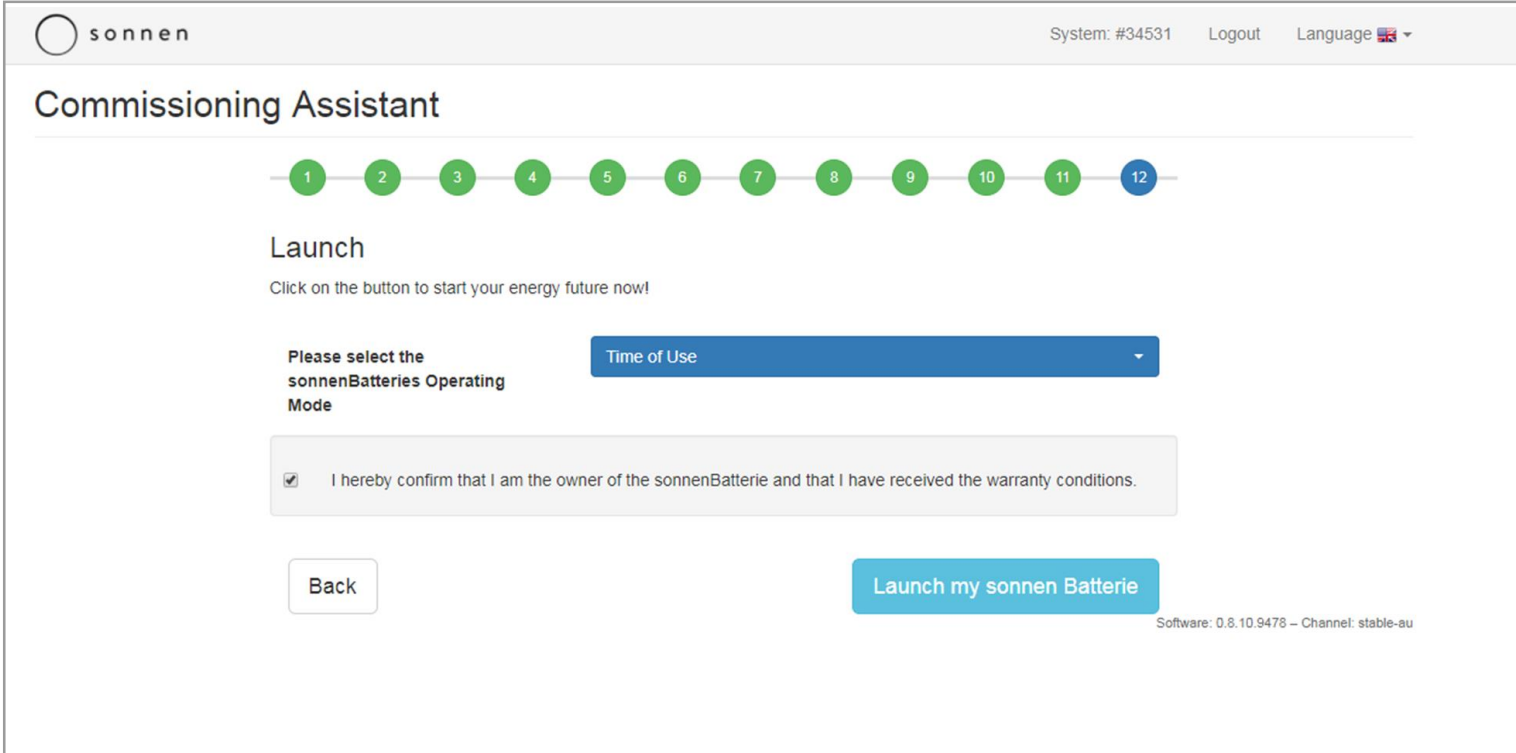
Email

You must confirm the following to finish installation:

Enter the systems installer details as prompted and check the confirmation box to continue.

Sonnen – System Commissioning

Installer Login & Setup of Complete Installation

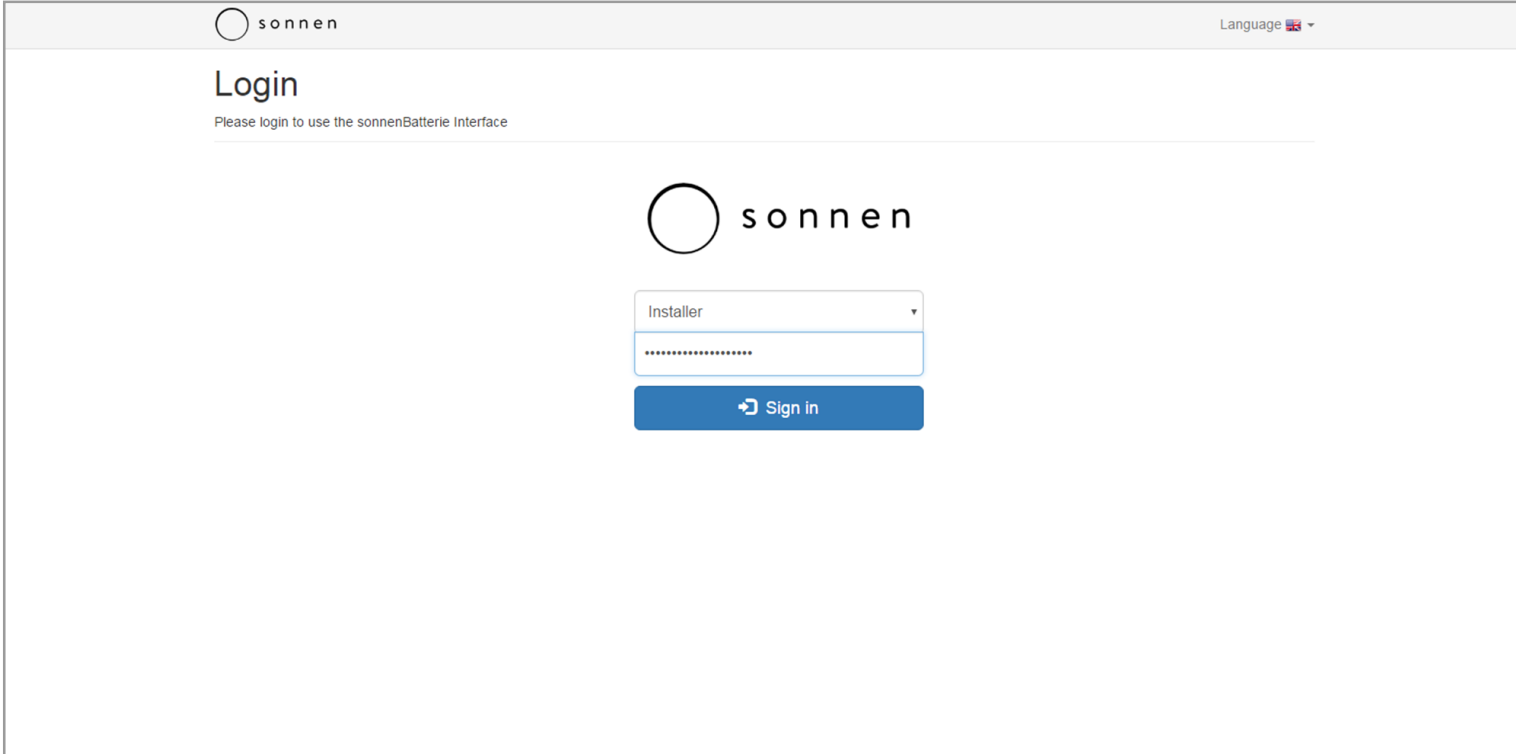



The screenshot shows the Sonnen Commissioning Assistant web interface. At the top left is the Sonnen logo. At the top right, it displays 'System: #34531', 'Logout', and 'Language' with a flag icon. The main heading is 'Commissioning Assistant'. Below this is a progress bar with 12 steps, where step 12 is highlighted in blue. The current step is 'Launch', with the instruction 'Click on the button to start your energy future now!'. There is a dropdown menu for 'Time of Use' and a section for 'Please select the sonnenBatteries Operating Mode'. A confirmation box contains a checked checkbox and the text 'I hereby confirm that I am the owner of the sonnenBatterie and that I have received the warranty conditions.'. At the bottom, there are 'Back' and 'Launch my sonnen Batterie' buttons. The footer text reads 'Software: 0.8.10.9476 – Channel: stable-au'.

Check the final confirmation box, select the appropriate operating mode and the Sonnen commissioning will be complete.

Sonnen – System Commissioning


Installer Login & Setup of Complete Installation



sonnen Language 


Login

Please login to use the sonnenBatterie Interface



Installer ▾

.....

 Sign in

Once launched the installer will be brought back to the initial login screen.




Sonnen User Portal

Sonnen – User Portal

Registration

solar battery is now basking!



registration

Please login with your serial number and password at:

User name:


Password:

[Log In](#)

For the demo mode using a user name and password each 'demo'

START
solar battery
SUN COMMUNITY
VISION
PRESS

JOBS
EVENTS
CONTACT
IMPRINT
Conditions

 Advice hotline
0800 929 33 40


sunbathe GmbH
in Innovation Park Allgäu
Am Riedbach 1
87499 Wildpoldsried Email: info@sonnenbatterie.de

From any internet browser the end user will need to type <https://meine.sonnenbatterie.de/login> into the search engine search bar and enter the user name (unit serial number) and the password provided on the welcome letter supplied with the eco 8.2 product.

Sonnen – User Portal

Demo Login

solar battery is basking now!



registration


Please login with your serial number and password at:

User name:

Password:

[Log in](#)

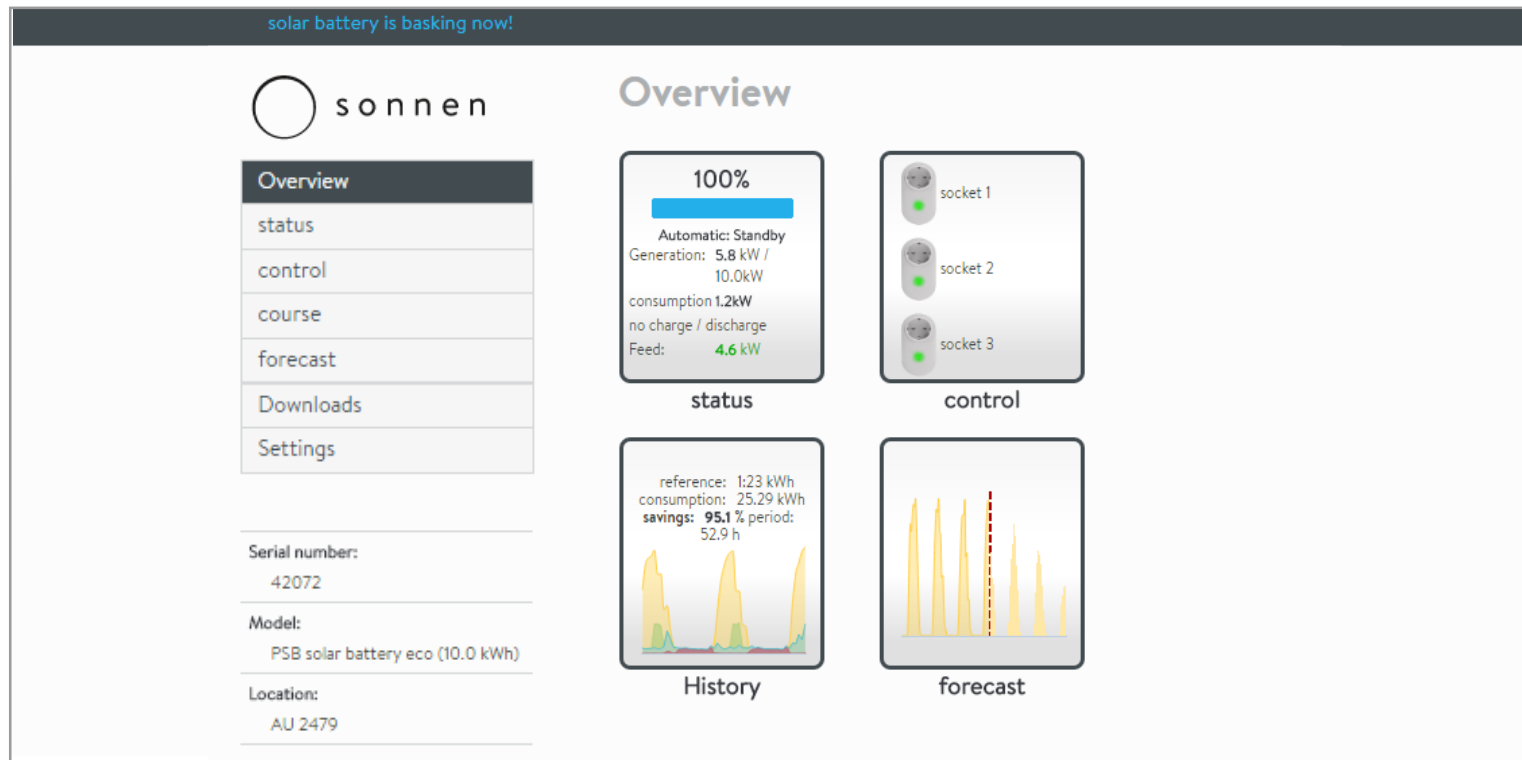
For the demo mode using a user name and password each 'demo'

START	JOBS	 Advice hotline 0800 929 33 40 sunbathe GmbH in Innovation Park Allgäu Am Riedbach 1 87499 Wildpoldsried Email: info@sonnenbatterie.de
solar battery	EVENTS	
SUN COMMUNITY	CONTACT	
VISION	IMPRINT	
PRESS	Conditions	
TRAINING	DATA PROTECTION	

For a demo of the Partner Login web portal login as: User Name: demo, Password: demo

Sonnen – User Portal

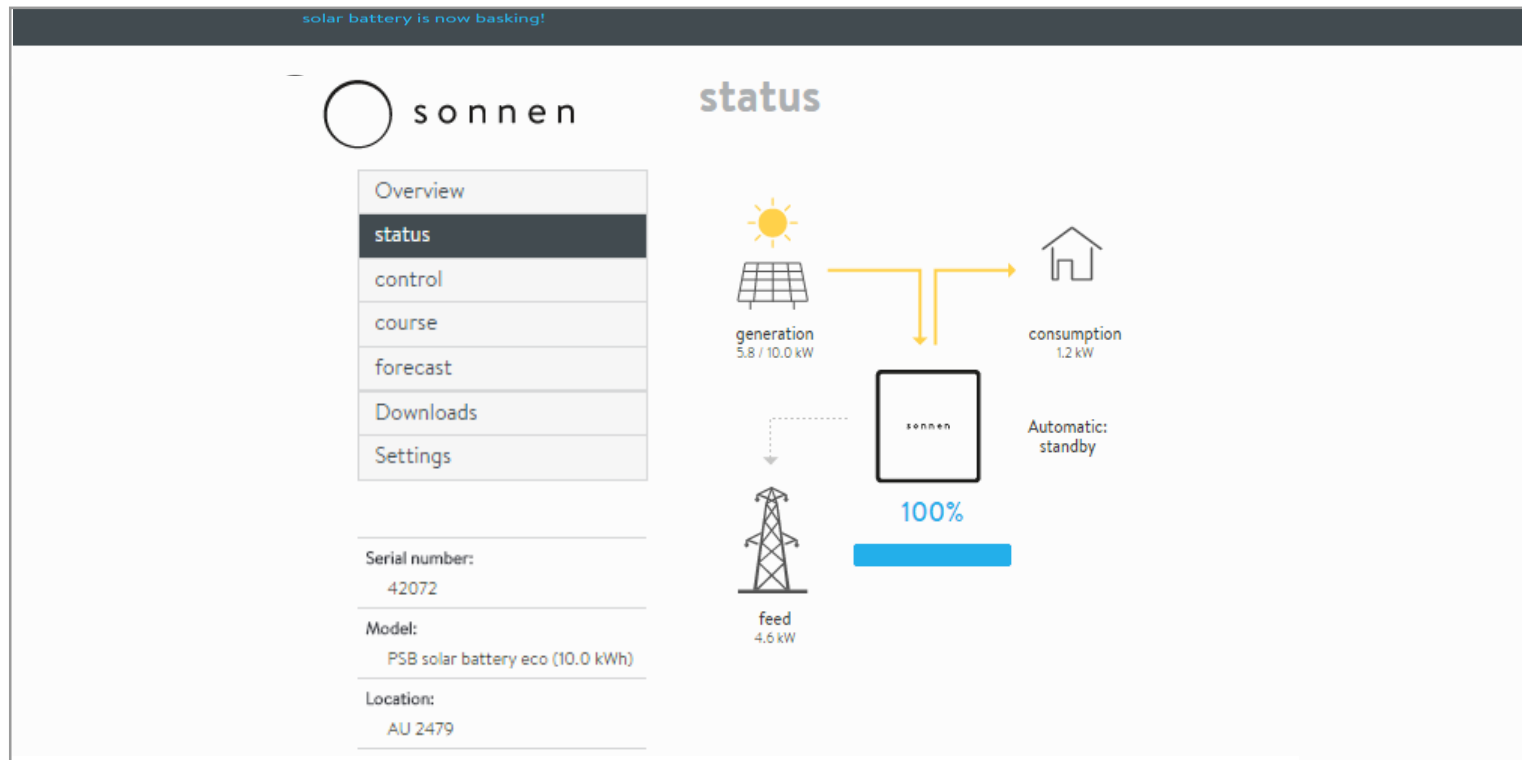
Overview



Once the user portal launches the overview page will then be seen. From here the system status, history, forecast and the control sockets can be observed.

Sonnen – User Portal

Status




The status page shows a live graphic display of the overall function of the installation.

Sonnen – User Portal

Control

solar battery is now basking!


sonnen


control

- Overview
- status
- control
- course
- forecast
- Downloads
- Settings

Serial number:
42072


Model:
PSB solar battery eco (10.0 kWh)


Location:
AU 2479



Charge level: 100%

1






Outlet 1 To: 0W

0:04 kWh


2



Socket 2 To: 0W

0:01 kWh

3



Socket 3 To: 1949W

2:36 kWh

4

Assuming that the Z-Wave sockets have been installed, the control page allows user to observe the appliances consumption as well as adjust the parameters and sockets in use.

Sonnen – User Portal

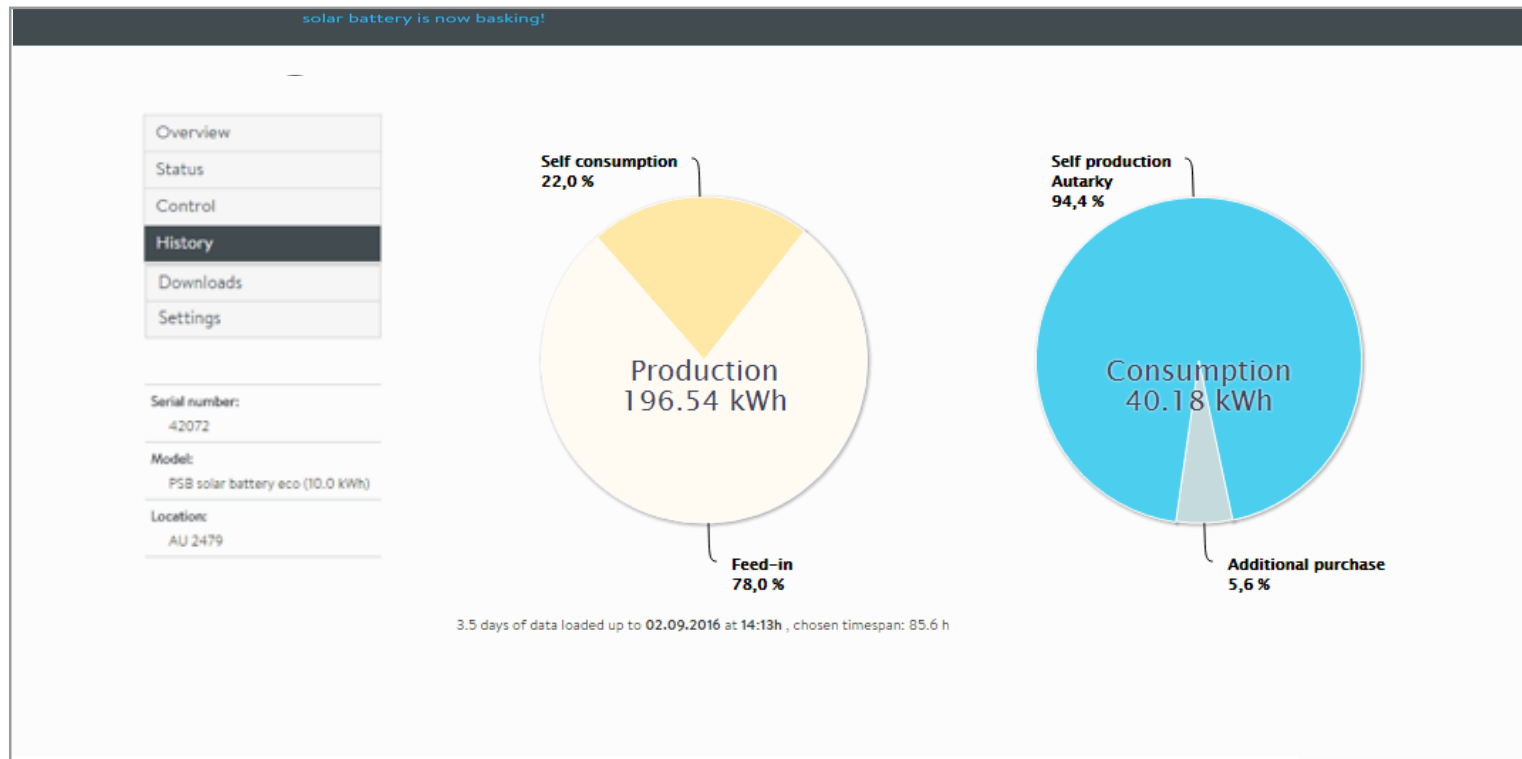
History



The history option will allow the user an interactive graph that will display all of the charge, consumption, PV production and discharge values. The graph date range and duration can be adjusted as desired.

Sonnen – User Portal

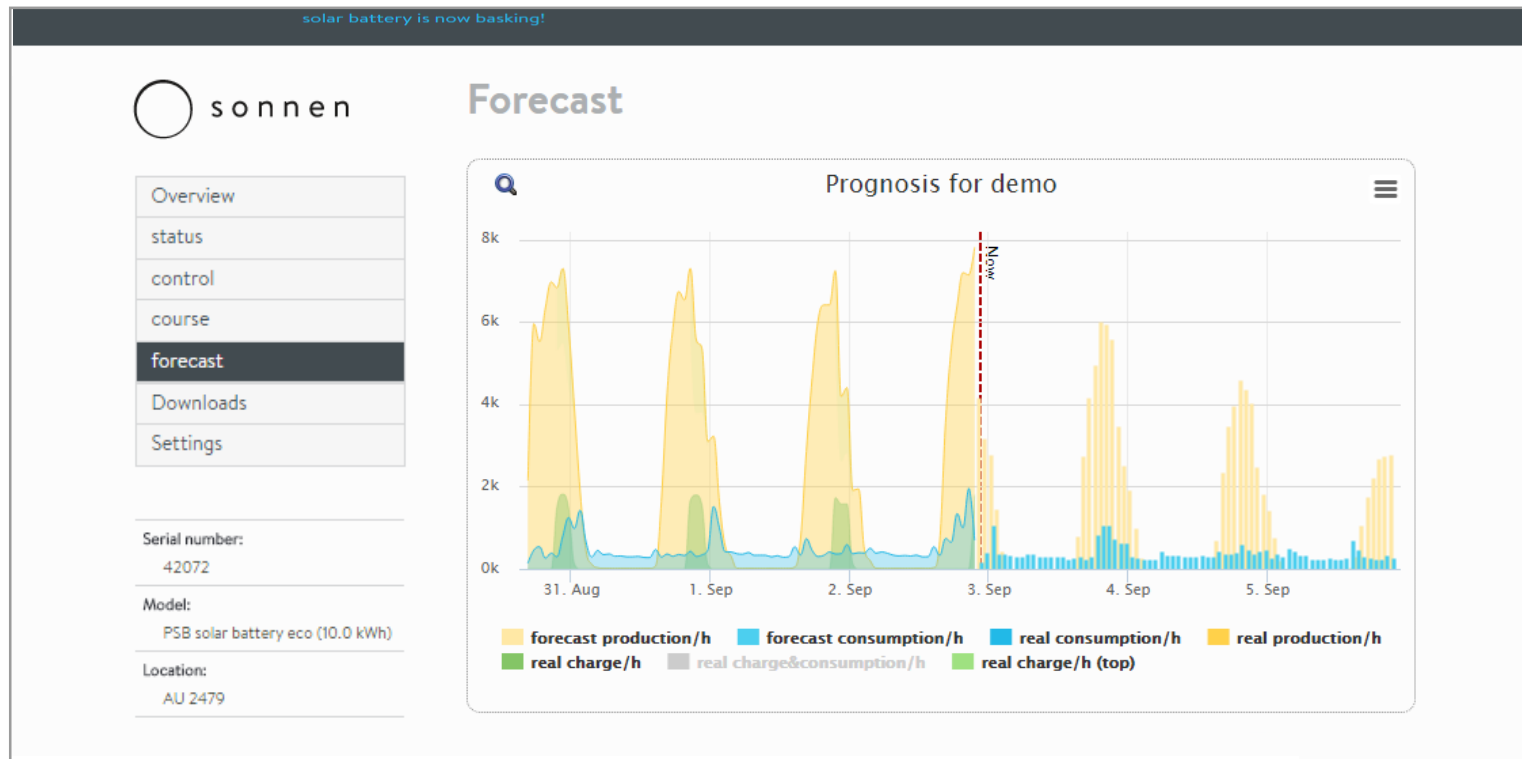
History



In addition to the interactive graph the history selection will also illustrate the key production and consumption parameters in pie chart form.

Sonnen – User Portal

Forecast




The forecast selection combines the system history view with the internal sonnen self learning algorithm as well as weather data to not only forecast the PV production but also the overall consumption. From this data the system will forecast the most efficient method for self consumption over the coming period..

Sonnen – User Portal

Forecast

← solar battery is now basking!
Sunbattery is now sunbathing!
42072



- Overview
- status
- control
- course
- forecast
- Downloads
- Settings

Serial number:
42072

Model:
PSB solar battery eco (10.0 kWh)

Location:
AU 2479

Downloads

Measurement data ⓘ

- Measurement data of the system in watts in CSV format
- Working values of the system in watts hours in CSV format
- Measurement data of the self-consumption radio sockets in watts in CSV format
- Working values of the self-consumption radio sockets in watts hours in CSV format
- All working values of the system in watts hours in CSV format (SAB)

Documents

If you are not sure which is your sunbattery model, please look at the label attached to the sunbattery. You can find this either on the inside or outside the side of the sunbattery. ⓘ

- General documents
- sonnenbatterie classic
- sunbathing comfort
- sunbatteries eco 5
- sunbatteries eco 6
- sunbatteries eco 7
- sunbattery eco 8
- solar battery hybrid
- sunbathing pro

The forecast selection combines the system history view with the internal sonnen self learning algorithm as well as weather data to not only forecast the PV production but also the overall consumption. From this data the system will forecast the most efficient method for self consumption over the coming period..

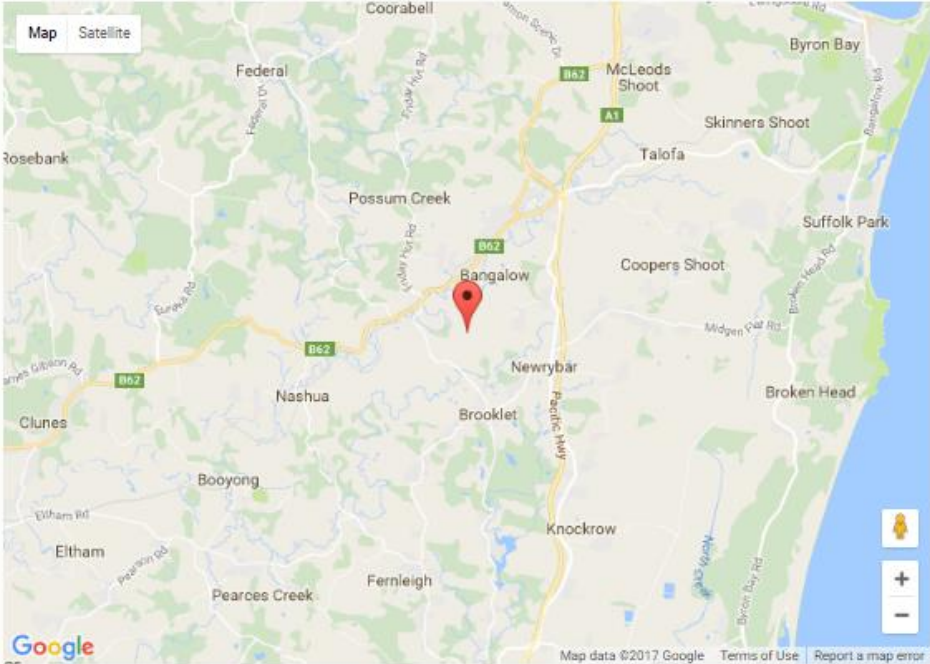
Sonnen – User Portal

Location

solar battery is now basking!

Overview
status
control
course
forecast
Downloads
Settings

Serial number:	42072
Model:	PSB solar battery eco (10.0 kWh)
Location:	AU 2479



When the location description is selected a map will appear showing the exact position of the installation in real time.



Sonnen Partner Login

Sonnen – Partner Login

Location



AT | AUS | DE | EN | IT | UK | USA

[sonnenBatterie](#) [Vision](#) [Contact](#) [Press](#) | [Partnerlogin](#)



It's time to declare your
independence -
sonnenBatterie

A clean and affordable energy supply for all is finally
here.

Sonnen – Partner Login

Registration

solar battery is now basking!

Register your own access

Do not you have access to our portal? Here you can register.
You can register here your own access.

Personal data

Salutation, Name, Firstname:

Company:

Street, House number:

Zip-code, City:

Country:

email:

Telephone number:

Username and password:

Username:

Password:

Password confirmation:


Please create an unique username and a strong password that nobody else than you know. Please take into account that the username should contain only lowercases, the point (.), the hyphen (-) and the underscore (_). The password should have minimum 6 characters, minimum one lower-case letter, one upper-case letter and one numeric character.

To register for the Partner Login web portal visit:
<https://my.sonnen-batterie.com/register>.

Sonnen – Partner Login

Demo Login

solar battery is now basking!



registration


Please login with your serial number and password at:

User name:

Password:

[Log in](#)

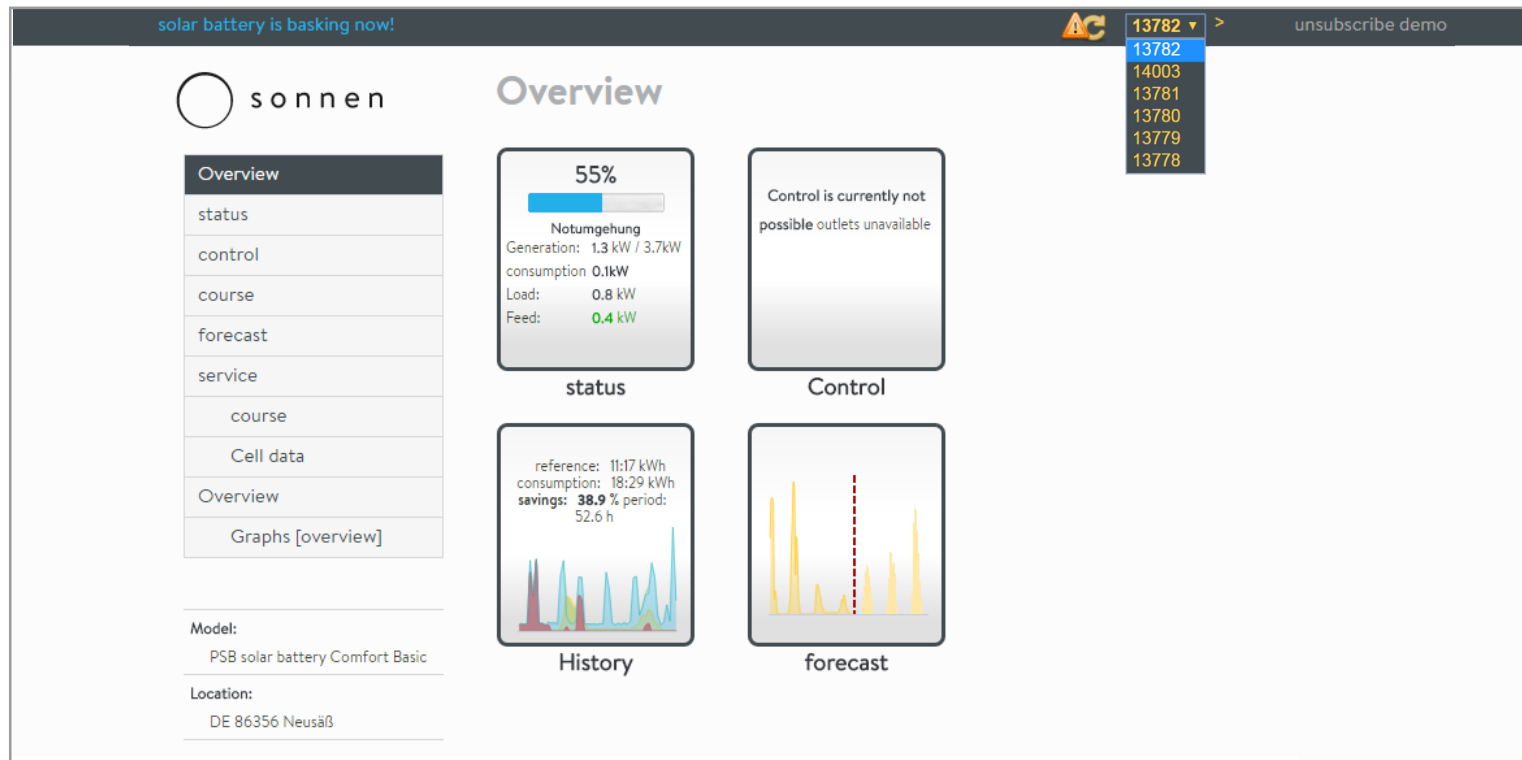
For the demo mode using a user name and password each 'demo'

START	JOBS	 Advice hotline 0800 929 33 40 sunbathe GmbH in Innovation Park Allgäu Am Riedbach 1 87499 Wildpoldsried Email: info@sonnenbatterie.de
solar battery	EVENTS	
SUN COMMUNITY	CONTACT	
VISION	IMPRINT	
PRESS	Conditions	
TRAINING	DATA PROTECTION	

For a demo of the Partner Login web portal login as: User Name: demo, Password: PartnerDemo

Sonnen – Partner Login

Overview

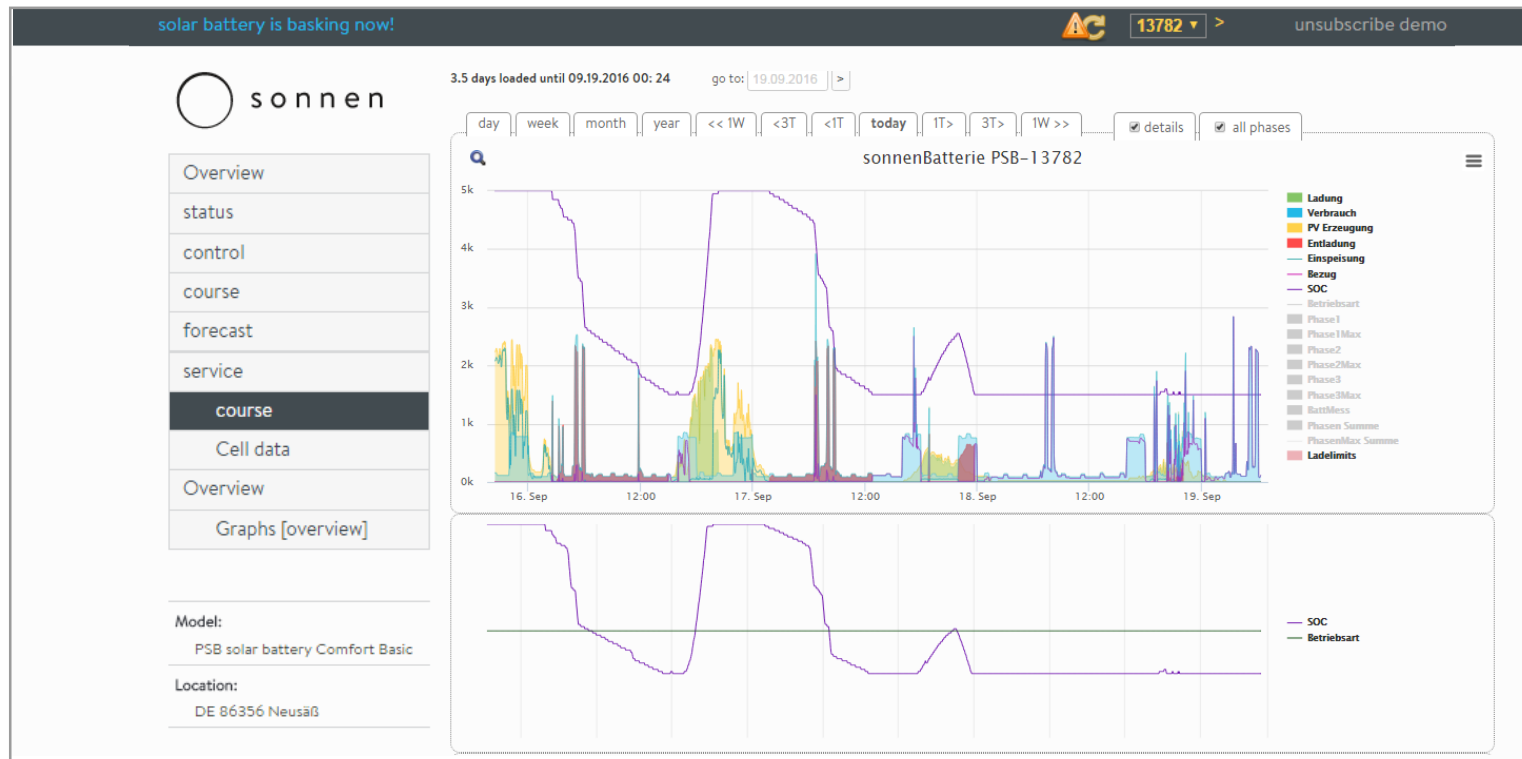


- 13782
- 14003
- 13781
- 13780
- 13779
- 13778

With the Partner Login multiple systems can be added to the account.

Sonnen – Partner Login

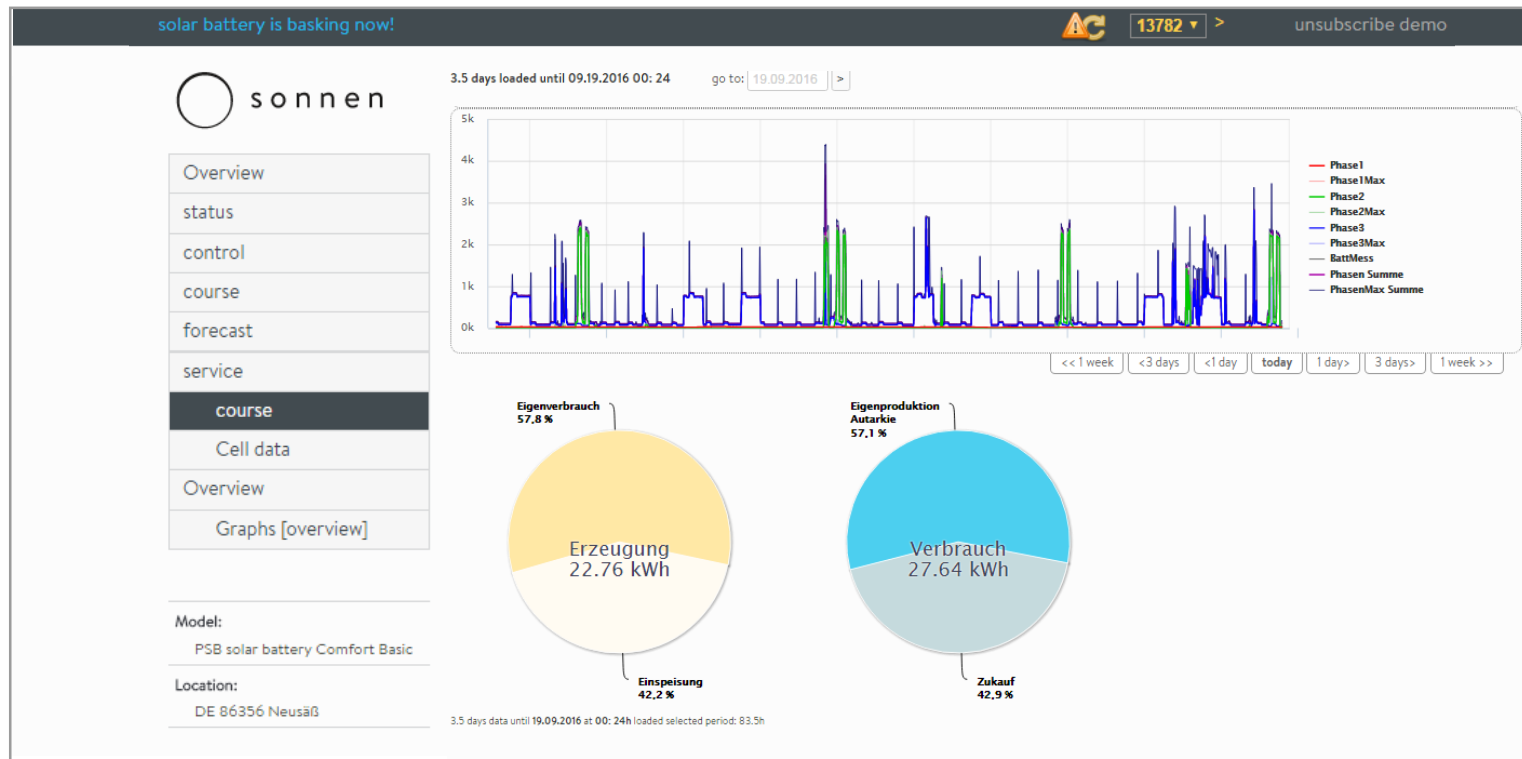
Service - History



The Service/History data shows comprehensive system information over varying date ranges and time selections.

Sonnen – Partner Login

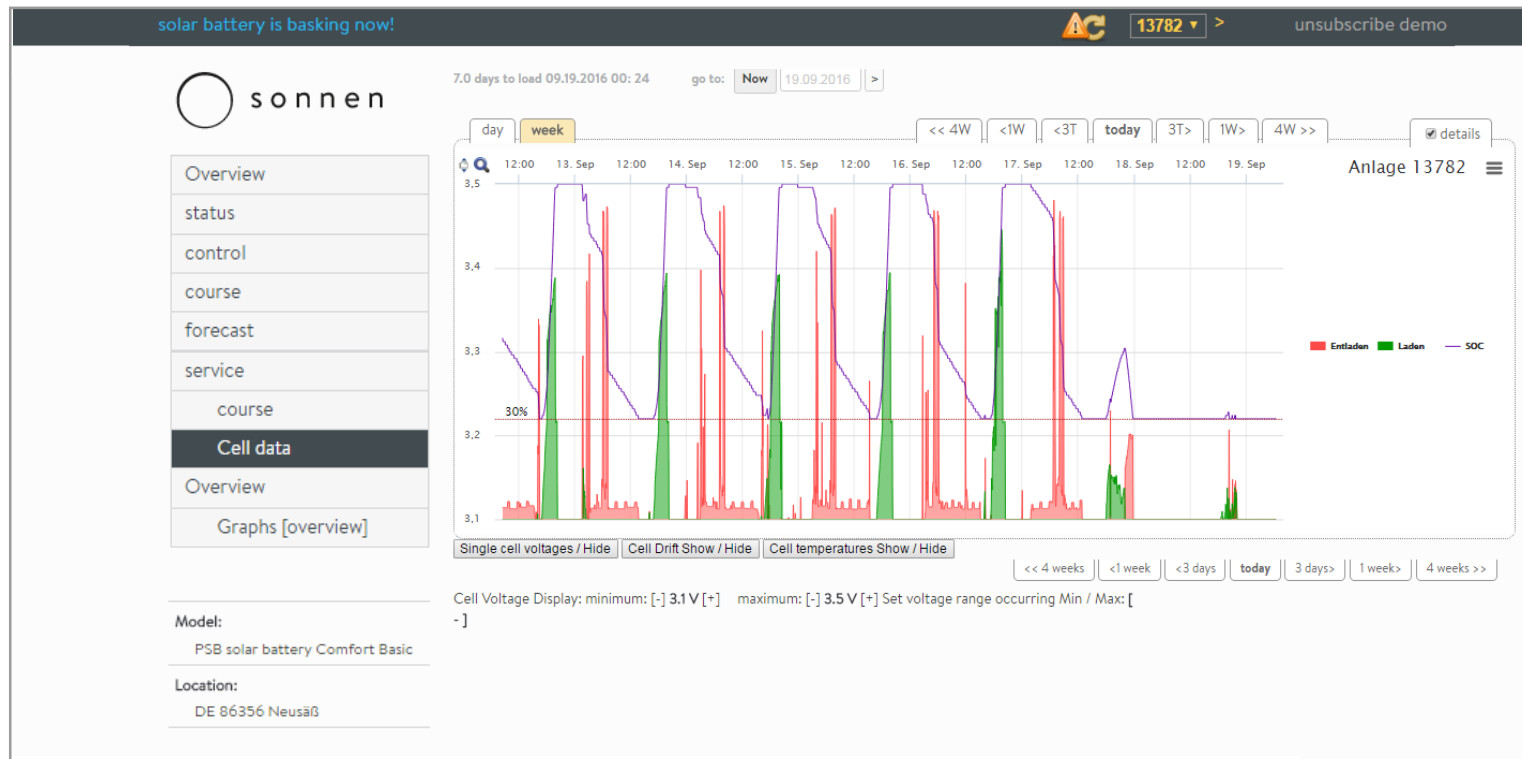
Service - History



The Service/History data shows comprehensive system information over varying date ranges and time selections.

Sonnen – Partner Login

Service – Cell Data




The Service/Cell data shows comprehensive battery information over varying date ranges and time selections for specific battery modules.

Sonnen – Partner Login

Service – Cell Data

solar battery is basking now! 13782 > unsubscribe demo



- Overview
- status
- control
- course
- forecast
- service
- course
- Cell data
- Overview
- Graphs [overview]**

Model:
PSB solar battery Comfort Basic

Location:
DE 86356 Neusäß

Plant Overview: 13782-13778

6 plants loaded, of which 6 with and 0 without current data - Watchlist is from [turn on]


Facilities per page: 25 **50** 100 200 500 All


system number	access	diagram	SOC / mode	Commission information
13782 solar battery Comfort Basic	ST			DEMO battery 5 David Klatt
14003 solar battery Comfort L	ST			DEMO battery 6
13781 solar battery Comfort M	ST			DEMO battery 4 Erna Müller

The Graphs [overview] section allows the user to be able to see at a glance all of the systems within their group as well as the basic performance data.

Sonnen – Partner Login

Service – Cell Data

solar battery is basking now!
 13782 >
unsubscribe demo




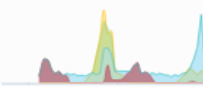
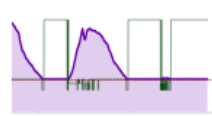

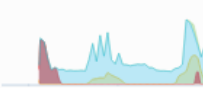
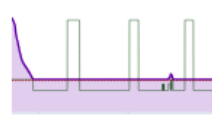


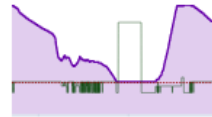
- Overview
- status
- control
- course
- forecast
- service
- course
- Cell data
- Overview
- Graphs [overview]

Model:
PSB solar battery Comfort Basic

Location:
DE 86356 Neusäß

Plant Overview: 13782-13778

6 plants loaded, of which 6 with and 0 without current data - Watchlist is from [turn on]

13780 solar battery Comfort M	ST 			DEMO battery 3 John Doe
13779 solar battery Comfort M	ST 			DEMO battery 2 David Mayr
13778 solar battery Comfort M	ST 			DEMO battery 1 Kurt Karlson

Facilities per page:
 25
50
100
200
500
All

The Graphs [overview] section allows the user to be able to see at a glance all of the systems within their group as well as the basic performance data.



Sonnen Smartphone App

Sonnen – Smartphone Apps

Download Options



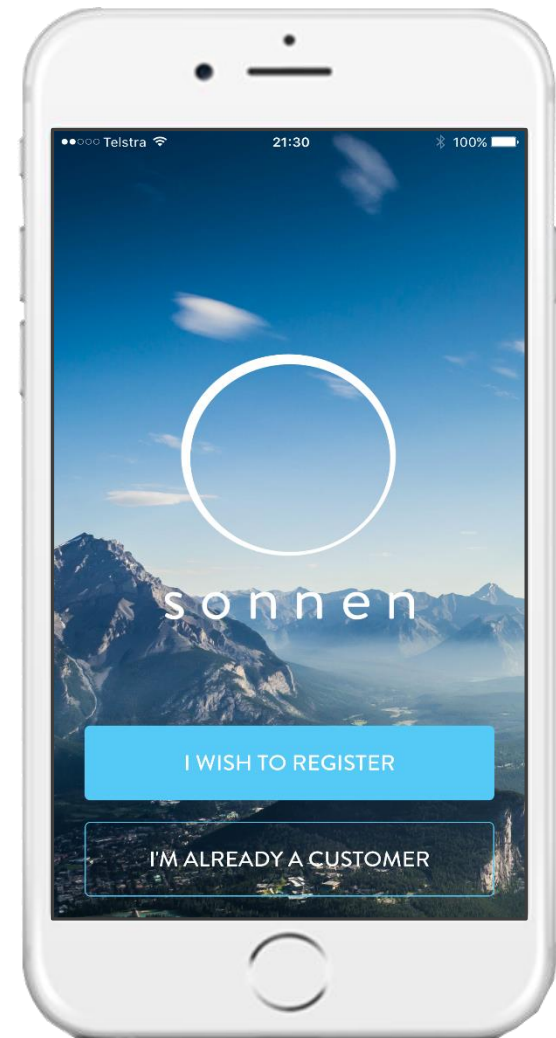
sonnen

sonnen GmbH Productivity



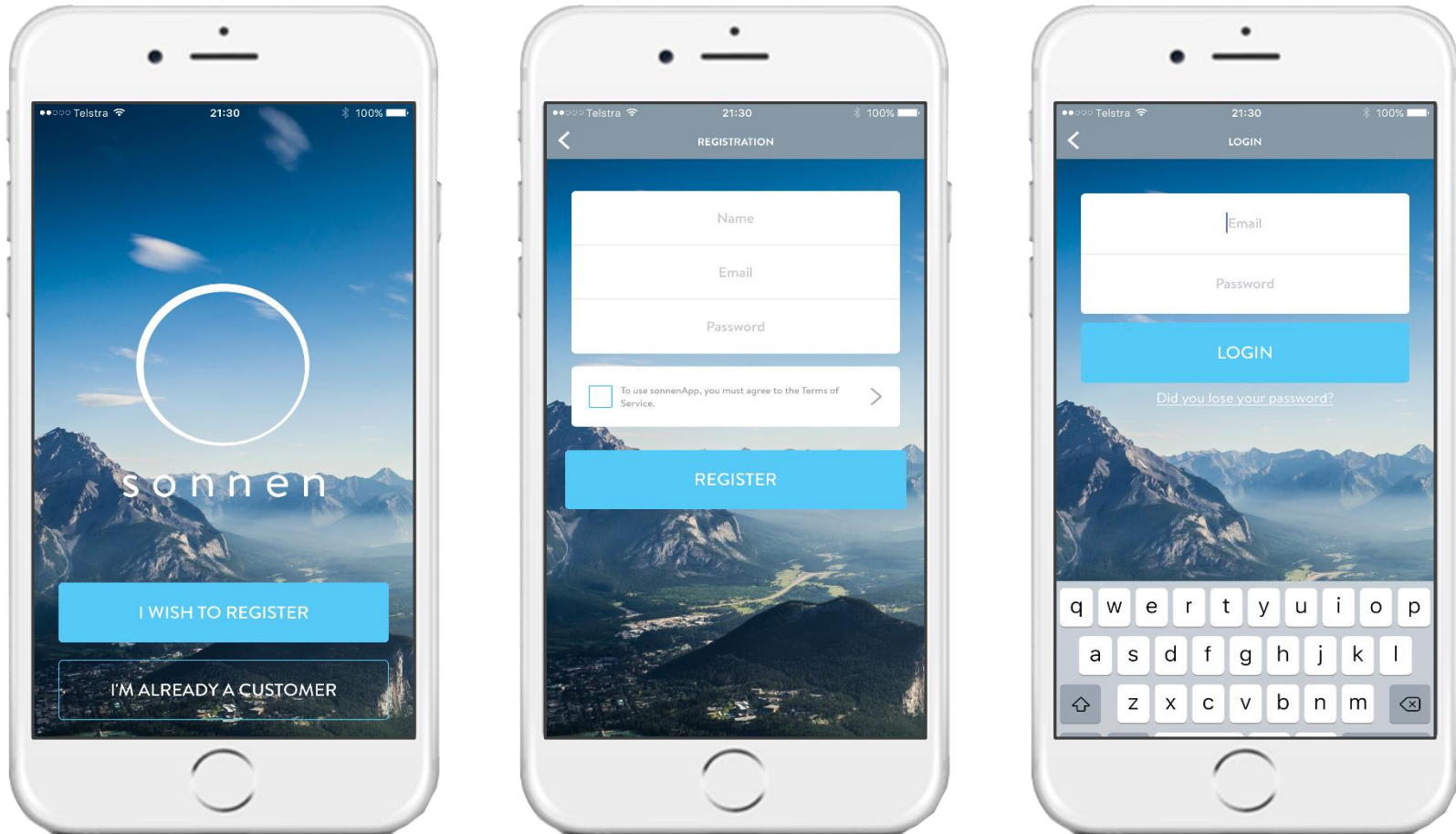
The sonnen App can be downloaded for free from either Google play or the App Store.

Once downloaded you will either need to register or enter your details



Sonnen – Smartphone Apps

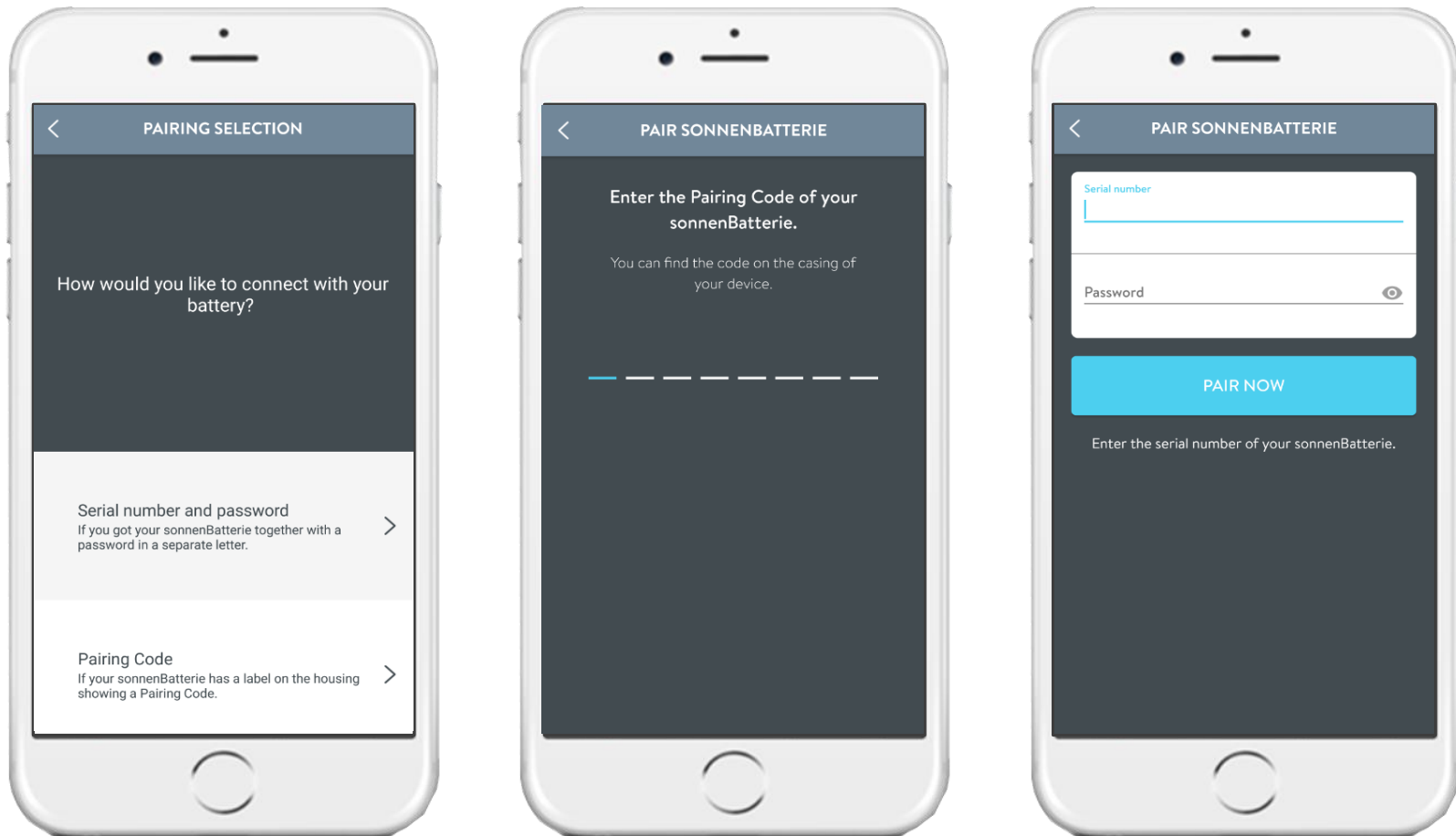
Registration



To register simply enter a name, email address and create a password. Once these details have been submitted a confirmation email will be sent, you can then log into the App.

Sonnen – Smartphone Apps

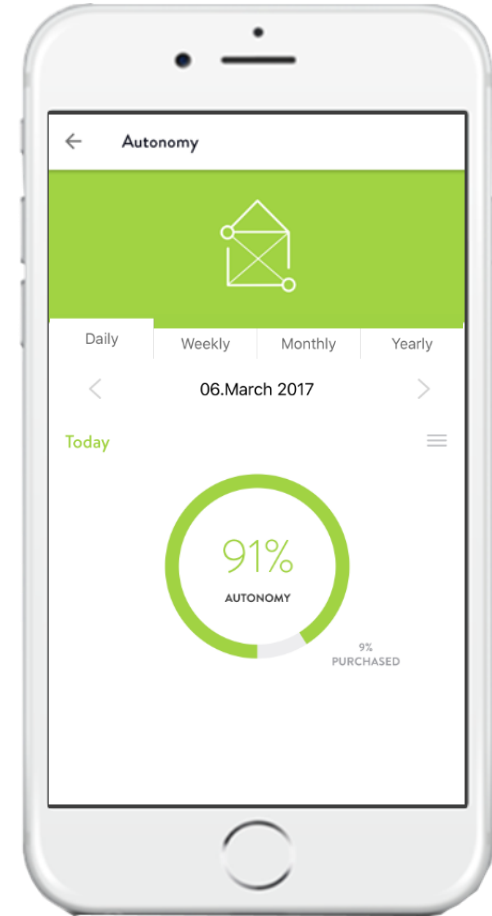
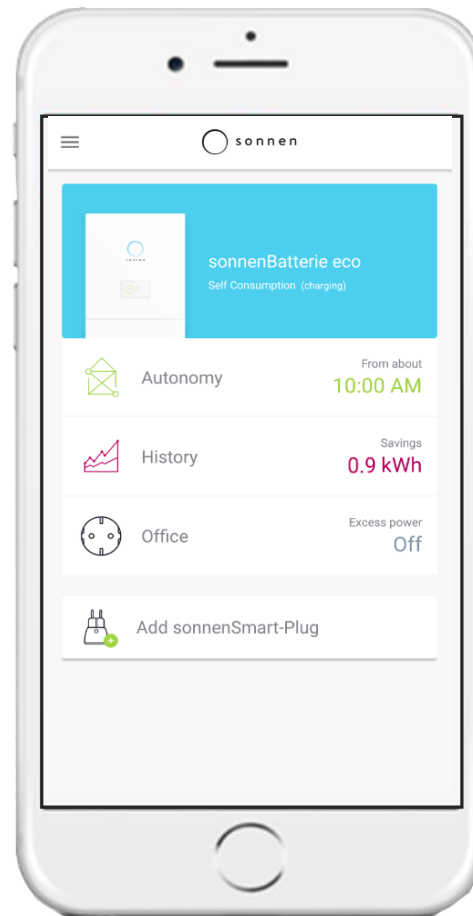
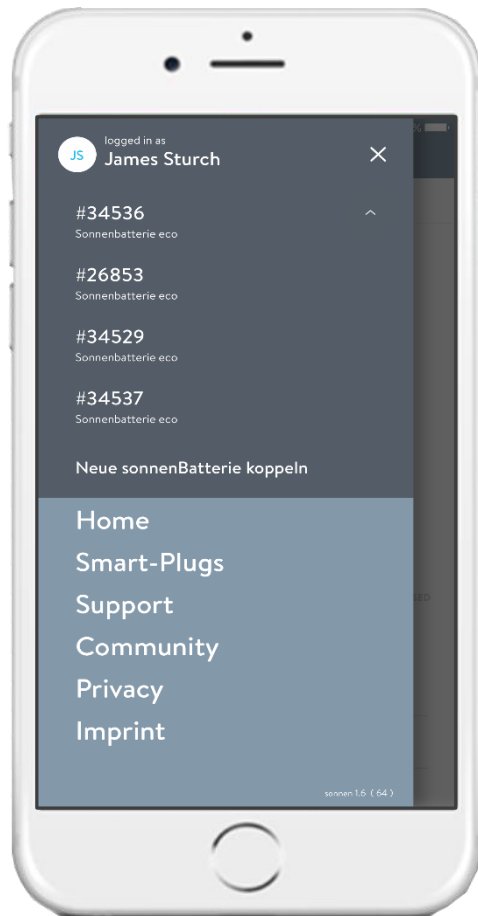
Registration



Once registered you can either view in demo mode of an example installation or connect into an existing installation. If a pairing code has supplied use this, alternatively enter the details from the systems welcome letter

Sonnen – Smartphone Apps

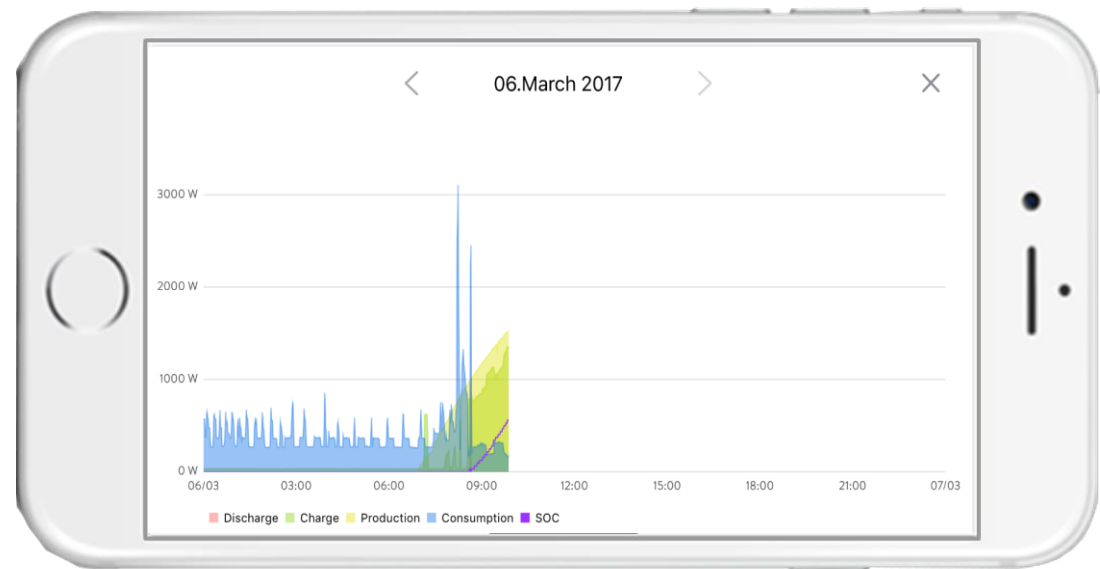
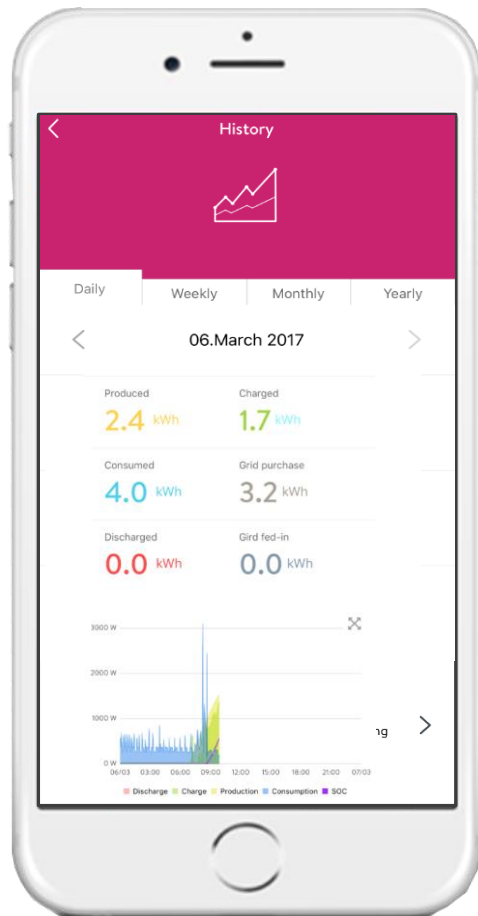
System Selection & Autonomy



You can register multiple system if desired. Either select a installation or alternatively the overview page will automatically load with your single registered system. The overview shows the level of autonomy as well as individual power flow characteristics.

Sonnen – Smartphone Apps

System History



The History section will allow you to view Daily, Month, Weekly and Yearly data, this By touching the graph or the small X the screen will rotate and a graph will be shown that allows for more specific product and consumption data. This information set can be manipulated to show different date ranges and durations.

Sonnen – Smartphone Apps

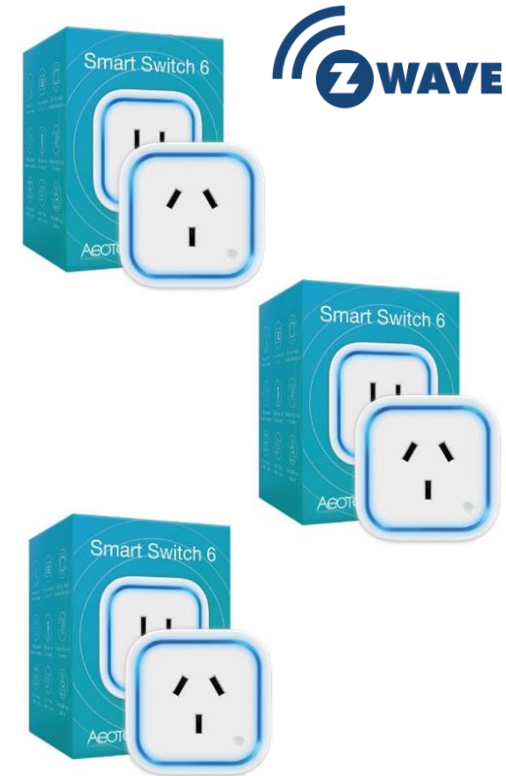
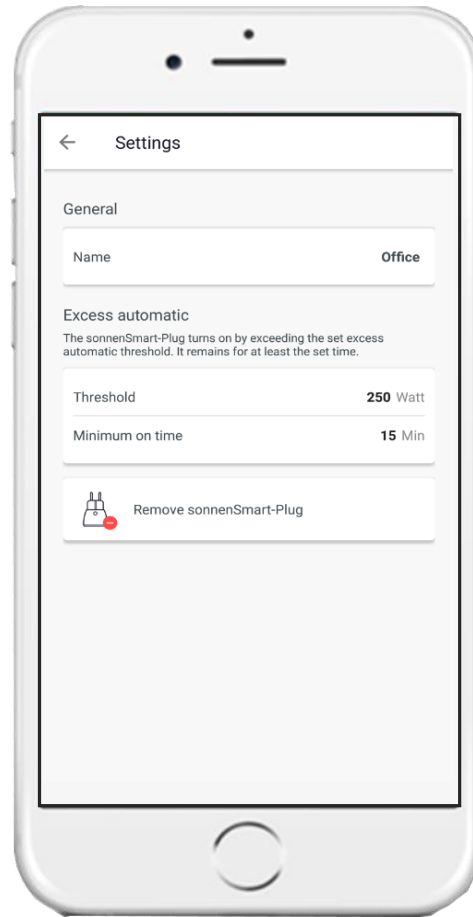
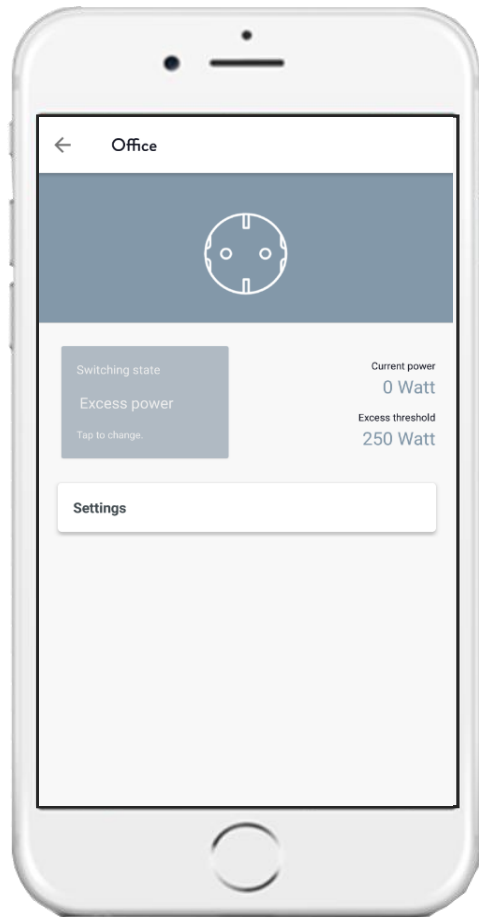
System Selection & Overview



By rotating the smartphone screen a graph will be shown that allows for more specific product and consumption data. This information set can be manipulated to show different date ranges and durations.

Sonnen – Smartphone Apps

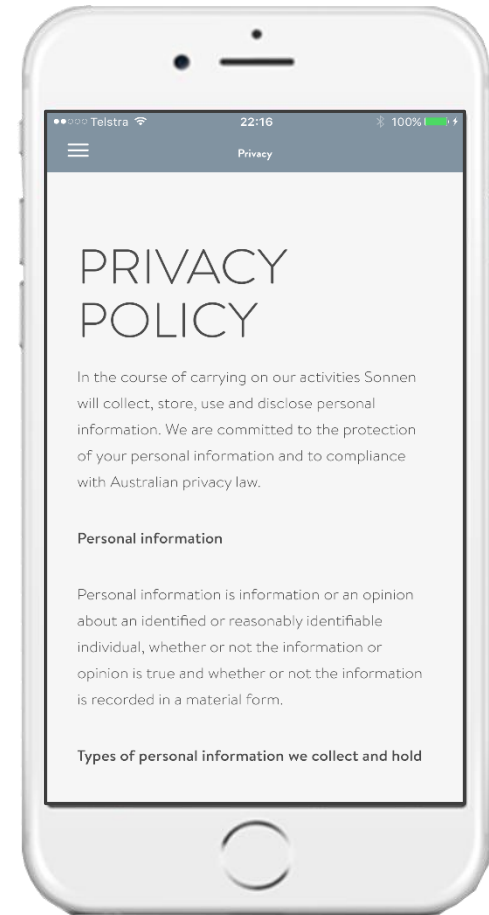
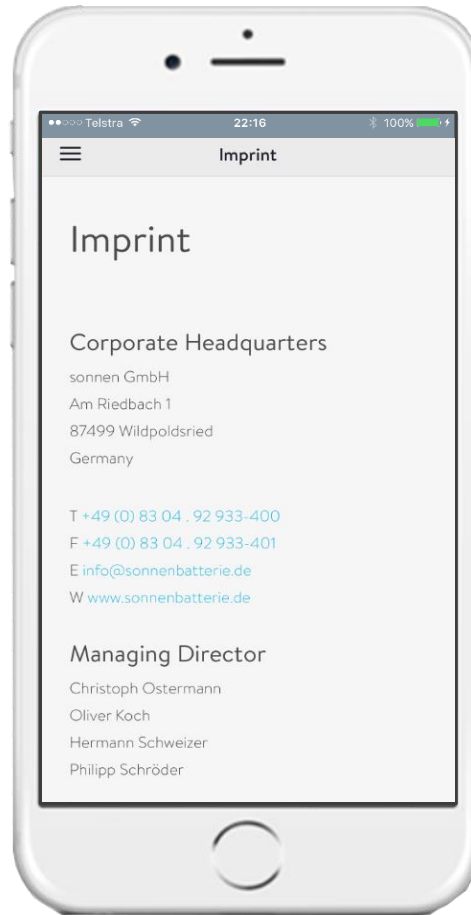
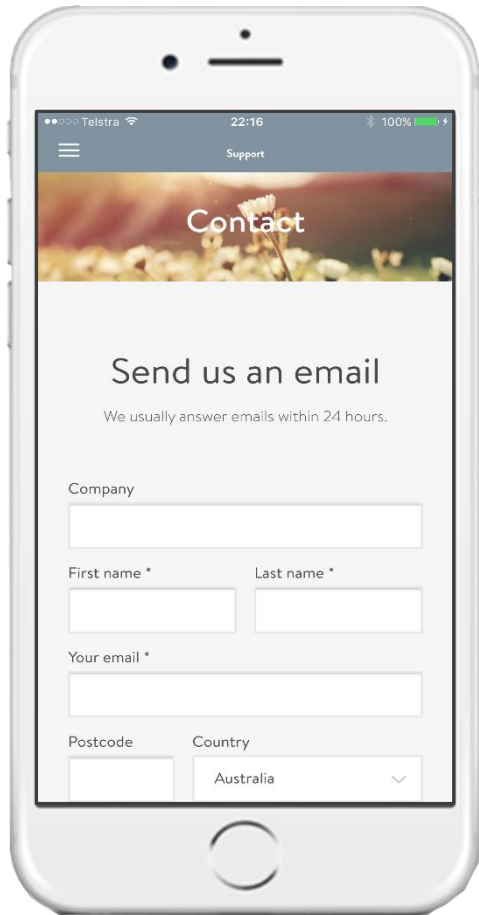
Z-Wave Socket Control



If the Z-Wave sockets have been installed, the Smart Plugs screen allows the user to observe the appliances consumption as well as adjust the parameters and sockets in use.

Sonnen – Smartphone Apps

System Support & Further Information



Any support related questions can be sent to sonnen direct from the App, additional sonnen contact info the sonnen Privacy policy are available from the App directly.



Sonnen eco 8 Series
System registration

Sonnen – Commissioning Report

Upon completion of the sonnen system installation and commissioning the following report document needs to be completed by the installer as well as be signed by the system owner and submitted to sonnen Australia for registration.

Copies of the document should be emailed to:

support@sonnen.com.au



Sonnen Australia Pty Ltd
 Level 20, Tower A
 821 Pacific Highway, Chatswood
 NSW
 ACN 611 337 547
 0408 802 388
support@sonnen.com.au

Sonnen Australia – Commissioning Report

The completed commissioning report must be sent to the following email address within 5 working days of successful commissioning:
support@sonnen.com.au

Commissioning details		
Storage system serial number:	Date of commissioning:	
Operator details		
Surname, first name	Street	Post code, town
Telephone	Email address	
Storage system location (only required if location is different from the address above)		
Street	Post code, town	
Specialist company details		
Company	Street	Post code, town
Telephone	Email address	
Details on electrician carrying out the work		
Name	Company	Certification number
Details on network topology (mark off the applicable network)		
<input type="checkbox"/> TT <input type="checkbox"/> TN-S <input type="checkbox"/> TN-C-S <input type="checkbox"/> TN-C <input type="checkbox"/> TN-C (classic earthing)		
Details on PV system		
Feed-in: <input type="checkbox"/> one-phase <input type="checkbox"/> three-phase	Feed-in via phase: <input type="checkbox"/> L1 <input type="checkbox"/> L2 <input type="checkbox"/> L3	
Nominal power of PV system		
Special notes/points to be addressed		
Electrician's declaration		
I confirm that my details are correct. The storage system was installed and commissioned by me in the proper manner. I followed the installation instructions in doing so.		
Place, date	Electrician's signature	
Operator's declaration		
I confirm that my details are correct.		
Place, date	Operator's signature	

Sonnen – Commissioning Images

Upon completion of the sonnen system installation and commissioning the following key images need to be submitted along with the commissioning document and submitted to sonnen Australia.

Images should be emailed to:

support@sonnen.com.au



Sonnen Australia Pty Ltd
 Level 20, Tower A
 821 Pacific Highway, Chatswood
 NSW
 ACN 611 337 547
 0408 802 388
support@sonnen.com.au

Sonnen Australia – Commissioning Report – Image Requirement


To assist Sonnen with our installation and final commission Q&A process we require installers to provide the following pictures after every installation of a Sonnen system to be submitted to support@sonnen.com.au along with the completed commissioning report:



Complete System (Door Closed)



Complete System (Door Open)



Sonnen Connections (Cover Removed)



MDF / Main Switch Board



Battery Module Connections



Meter Wiring / Connections

Please forward as many images as required to cover all of the installation areas requested.



Sonnen Support Australia & New Zealand

support@sonnen.com.au

www.SonnenSupportAustralia.com.au



sonnen