Selling Agent

OLIVER HUME

villawood properties

Communities Designed for Living

South East Water

AQUAREVO

LYNDHURST

DESIGN GUIDELINES - SOLAR BATTERY ADDENDUM – MARCH 2021

Solar Battery Design Guideline Addendum

The information contained within this document is relevant to those purchasers who have qualified to receive the bonus battery. Eligible purchasers who have elected to receive the battery are required to provide this information to their chosen builder to ensure they are aware of the provisions required to be made to their house designs to enable the installation of the battery. It is also the purchaser's responsibility to ensure the chosen solar panel system to be included on the house is compliant with the bonus battery (battery specifications provided below).

PLEASE NOTE:

As outlined within your contract of sale to receive the Battery Offer (5kWh Sonnen Eco9.53/5 Solar battery) the purchaser must:

- Within 9 months of the settlement date make a written request to Villawood (aquarevosolar@villawoodproperties.com) and Bristile (servicevic@bristile.com.au) for the Battery using the battery acceptance form and submit it with the house design plans to the Design Assessment Panel;

- Install a 3.0kW or greater solar PV array in a single phase electrical house connection which complies with the specifications within this document (please note the 5kWh Sonnen Eco9.53/5 Solar battery which forms part of this offer includes an inverter);

- Make the house ready for the installation of the Battery in conjunction with your builder;

- Inform your builder of your intent to accept the Battery Offer and supply all information, details and specifications of the Battery and all other information the builder must allow for in the design and build of the home to enable the installation of the Battery;

- It is the purchaser's responsibility to ensure their solar PV array is compatible with the battery;

- As part of your builders Design Assessment Panel submission details of the proposed solar PV array needs to be provided including; size, location, supplier/installer and brand as well as confirmation that the panels are Tier 1.

Battery installation process guide for purchasers once the build has commenced

- Provide the site NMI (10-11 digit number found on electrical connection paperwork and power bills) and meter number (found on the meter itself), account name on the electricity account, and contact details for the electrical account to Bristile when available;

- Provide call up for the battery and an estimated date for when the site will be ready for installation (permanent power on and house at lock up) to Bristile (call up with minimum 15 business days notice);

- Supply Bristile with photos of the Main switchboard and battery related cables, showing the provisions of the DGL relating to the battery;

- Once all steps above have been completed, and requirements are met, the battery will then be scheduled for installation;

- System inspection will be booked ASAP after the installation, this is carried out by a third party inspector, and is typically at most 15 business days later;

- Grid connection application is completed once electrical inspection paperwork is received, and typically takes the electricity provider up to 10 business days to process;

- Final Handover documentation is provided once grid connection is complete.

Battery installation information for builders

- Provide Single Phase AC cabling between the battery location and the main switchboard of 4mm (if within 3m of the main switchboard) or 6mm (if up to 20m of the switchboard);

- Provide a CAT5 or higher data cable from the battery location to the home internet router location;

- If the battery is to be installed on an internal wall (such as the wall between the garage and the hallway) WSX3 protection (steel conduit) is required on cabling for the battery;

- If the battery is backing onto a habitable room, the wall and roof area within 900mm above/in front of the battery, and 600mm either side need to be non-combustible material, the above areas should also be free of entrances, exits, and non-associated items/appliances;

- Impact protection such as a nib wall or bollard is required where car impact could occur;

- Provide a Cbus cable between the battery location and the main switchboard;

- Provide adequate available electrical poles in the Main Switchboard (minimum 7 poles on a single phase site, 10 poles on a three phase site, where a separate solar inverter is used);

- Cabling must be accessible and easily located.

FURTHER INFORMATION / LINKS:

Aquarevo Design Guidelines:

- https://villawoodproperties.com.au/community/aquarevo/purchaser-information/design-guidelines/

Aquarevo Building Information:

- https://villawoodproperties.com.au/community/aquarevo/purchaser-information/building-information/

Bristile:

- https://bristileroofing.com.au/solar/

Sonnen (battery):

- https://sonnen.com.au/sonnenbatterie/

Technical Note

Date: 19th of July 2018

Project: Aquarevo - Villawood

Purpose

Design and Installation of solar PV array to suit sonnen Hybrid Eco 9.53

Technical Notes

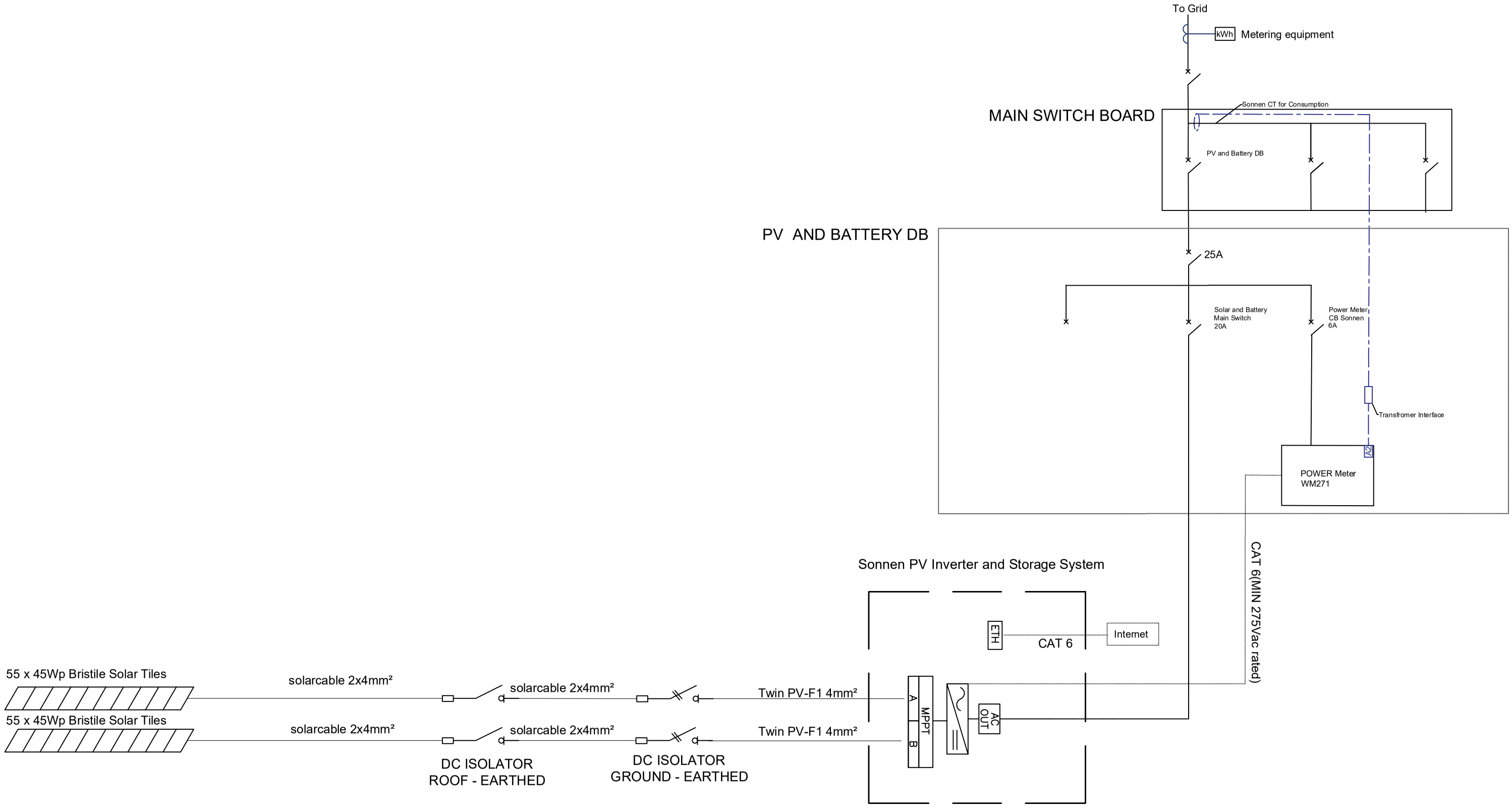
No.	Items
1	**Nominal Inverter Rating** • The nominal AC output of the system is 4.6kW and is single phase, this should be used for grid connection design. • Consideration should be made when oversizing the inverter with PV to comply with the Clean Energy Regulators requirements to create small technology certificates.
2	**PV Input Voltage Window** • The PV Inverter MPPT has a startup voltage of 100VDC and will operate down to 75VDC. • A voltage maximum power window (VMP) of 100VDC – 750VDC should be used but consideration should be made of the maximum allowable VOC of 600VDC in residential buildings.
3	**Inverter MPPT Inputs** • The inverter has 2 MPPT inputs each rated at 13amps with an ISC of 15amps.
4	**System Design** Design example using: • Suntech 300Watt Hypro Solar Modules each input of the inverter can have between 3 (0.9kW) and 13 (3.9kW) solar modules per string. • Suntech 275Watt Poly Solar Modules each input of the inverter can have between 4 (1.1kW) and 14 (3.85kW) solar modules per string.
5	**Sonnen Location** • If mounted in a garage the following applies: o 5kWh or less the Sonnen will be wall mounted, the bottom of the Sonnen must be installed above 1.2 metres from finish floor level and will not require a bollard or nib wall; o Above 5kWh the Sonnen will be ground mounted and will require protection as per AS/NZS 3845:1999 • If installed inside the home the Sonnen cannot be installed in a habitable area. Storage rooms, plant rooms or designated switchboard rooms are acceptable.
6	**Switchboard Configuration and Single Line Diagram** • The switchboard requirements are noted in the attached document Switchboard Layout-Single Phase-Sonnen Hybrid. • The wiring of the PV system and Inverter are shown in the attached document Single Line Diagram.
7	**Internet Connectivity of Sonnen for Monitoring** • The Sonnen unit requires a hardwired internet connection for monitoring and warranty. • The data cable needs to be installed from the location of the internet router to the top of the Sonnen unit, terminated at the Sonnen unit and the router using a Cat 6 8 pin modular socket and wall plate. • The data cable should be Category 6, installed by a licenced cabler with appropriate qualifications and installed as per regulatory requirements.

Approved

Leeson Solar Pty Ltd: Peter Leeson – Managing Director

Bristile Roofing: Kellie Jenkins – Business Development Manager Victoria

Sonnen Australia: Suji Leroux – National Business Development Manager



LEESON SOLAR
REC26438

LEESON GROUP
11/23 SUSAN STREET
ELTHAM, VIC 3095

REV.	DATE	DESCRIPTION	DES.	DRW.	APR.
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A	18/07/18	PRELIMINERY SLD	B.DEV	B.DEV	P.LEE

PROJECT TITLE :

PROJECT LOCATION :

TOWN:
-

DRAWING TITLE :
Single Line Diagram 1 Phase Sonnen DC

FOR INFORMATION ONLY

JOB NO: 00 | SCALE: NTS

DRAWING NO.:
-

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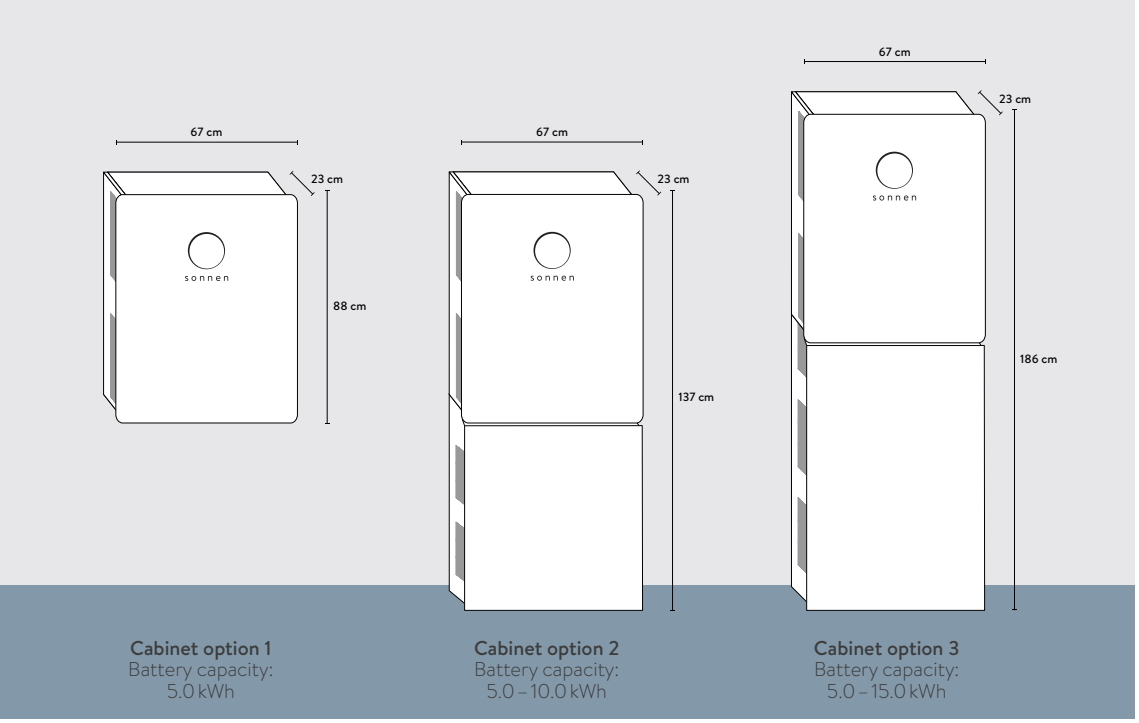
SHEET: 1 of 1 | SIZE: A3

sonnen

Technical Data sonnenBatterie hybrid 9.53

	hybrid 9.53/5	hybrid 9.53/7.5	hybrid 9.53/10	hybrid 9.53/12.5	hybrid 9.53/15
Nominal battery capacity in kWh	5.0	7.5	10.0	12.5	15.0
Depth of discharge (DoD)			90 %		
Cell technology			LFP (Lithium Iron Phosphate)		
Cabinet option 1 (5.0 kWh)					
Weight in kg	81	–	–	–	–
Dimensions (H/W/D) in cm	88/67/23	–	–	–	–
Cabinet option 2 (5.0 kWh - 10.0 kWh)[1]					
Weight in kg	97	120	143	–	–
Dimensions (H/W/D) in cm	137/67/23	137/67/23	137/67/23	–	–
Cabinet option 3 (5.0 kWh - 15.0 kWh)[1]					
Weight in kg	108	131	154	177	200
Dimensions (H/W/D) in cm	186/67/23	186/67/23	186/67/23	186/67/23	186/67/23
Max. charging/discharging power in kW	2.5	3.3	3.3	3.3	3.3
Nominal power			4.6 kW		
Input voltage PV			100 – 750 VDC		
Max. input current PV			13 A		
Number of MPP-Trackers			2		
MPP voltage range			75 – 600 V		



Cabinet option 1
Battery capacity:
5.0 kWh

Cabinet option 2
Battery capacity:
5.0 – 10.0 kWh

Cabinet option 3
Battery capacity:
5.0 – 15.0 kWh

sonnen

Technical Data sonnenBatterie hybrid 9.53

	hybrid 9.53/5	hybrid 9.53/7.5	hybrid 9.53/10	hybrid 9.53/12.5	hybrid 9.53/15
Power factor range	0.9 cap. – 0.9 ind.				
DC connection	Sunclix				
Max. efficiency (battery to grid)	95 %				
Max. efficiency (PV to grid)	97.5 %				
Max. battery efficiency	98 %				
Ambient temperature range	-5 °C – +45 °C[2]				
Dust & water protection	IP30				
Operating mode	single phase				
Tests and directives	SGS TÜV Saar, IEC 62040-1, IEC 62109-1, IEC 62109-2, IEC 62619, UN38.3, IEC 62133, AS/NZS 4777.2				
Battery service life	designed for 20 years				
Warranty	10 years[3]				
Cycles	10,000[3]				

Available options

Multi-Touch-Display	7 inches
sonnenWallmount	installation mount

We reserve the right to make technical changes and updates without prior notice. Specific values, performance data and other information in this data sheet, brochures and other product information, as well as illustrations and drawings in these documents, are solely illustrative and are subject to ongoing revision and modification. We do not warrant the accuracy or completeness of any information in these documents unless otherwise explicitly stated. Only the information in order confirmation documents or purchase contracts is binding.

[1] There are two cabinet versions available. By default, the large cabinet is included (Dimensions H/W/D 98/67/23). If a small cabinet is needed for a storage battery of 5.0 kWh up to 10.0 kWh,this must be specified when ordering. [2] Derating at approx. 35 °C. [3] Warranty on all parts. To learn more about our current warranty terms and conditions, please visit sonnenbatterie.de/en/terms-and-conditions or call our customer hotline and request a copy. · Standard housing color: white. Housing color black only on request.

info@sonnen.com.au · sonnen.com.au

Single Phase DC Sonnen

If insufficient room in main switchboard (MSB) then PV DB required as per SLD.

Sonnen Components Three Phase	Rating	Poles
Battery Protection Circuit Breaker	20 Amp	1
CT Transducer Load		2
Circuit Breaker for Power Meter	6 Amp	1
Power Meter		4
Total Poles		8
Total Poles Required in MSB		**8**

Material	Rating	Quantity
Single Pole Circuit Breaker	20 Amp	1
Single Pole Circuit Breaker	6Amp	1
Bus Bar 3 Poles Long Single Phase	32 Amp	1
Switchboard Requirement 8 Poles		1

Switch Board Configurations

1	2	3	4	5	6	7	8	9
MAIN SWITCH 25AMP	BATTERY/SOLAR CB SONNEN 20AMP	POWER METER SONNEN CB 6AMP	SONNEN POWER METER				CT TRANSDUCER	

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REV.	DATE	DESCRIPTION	DES.	DRW.	APR.
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-	-	-	-	-	-
A	19/07/18	PRELIMINERY SWITCHBOARD CONFIGURATION - AQUAREVO	B.DEV	B.DEV	P.LEE

PROJECT TITLE : Sonnen DC Hybrid Switchboad Req
PROJECT LOCATION : Aquarevo - Victoria
TOWN: -
DRAWING TITLE : Switchboard 1 Phase Sonnen DC

FOR INFORMATION ONLY
JOB NO: BR-110 | SCALE: NTS
DRAWING NO.: BR-000

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