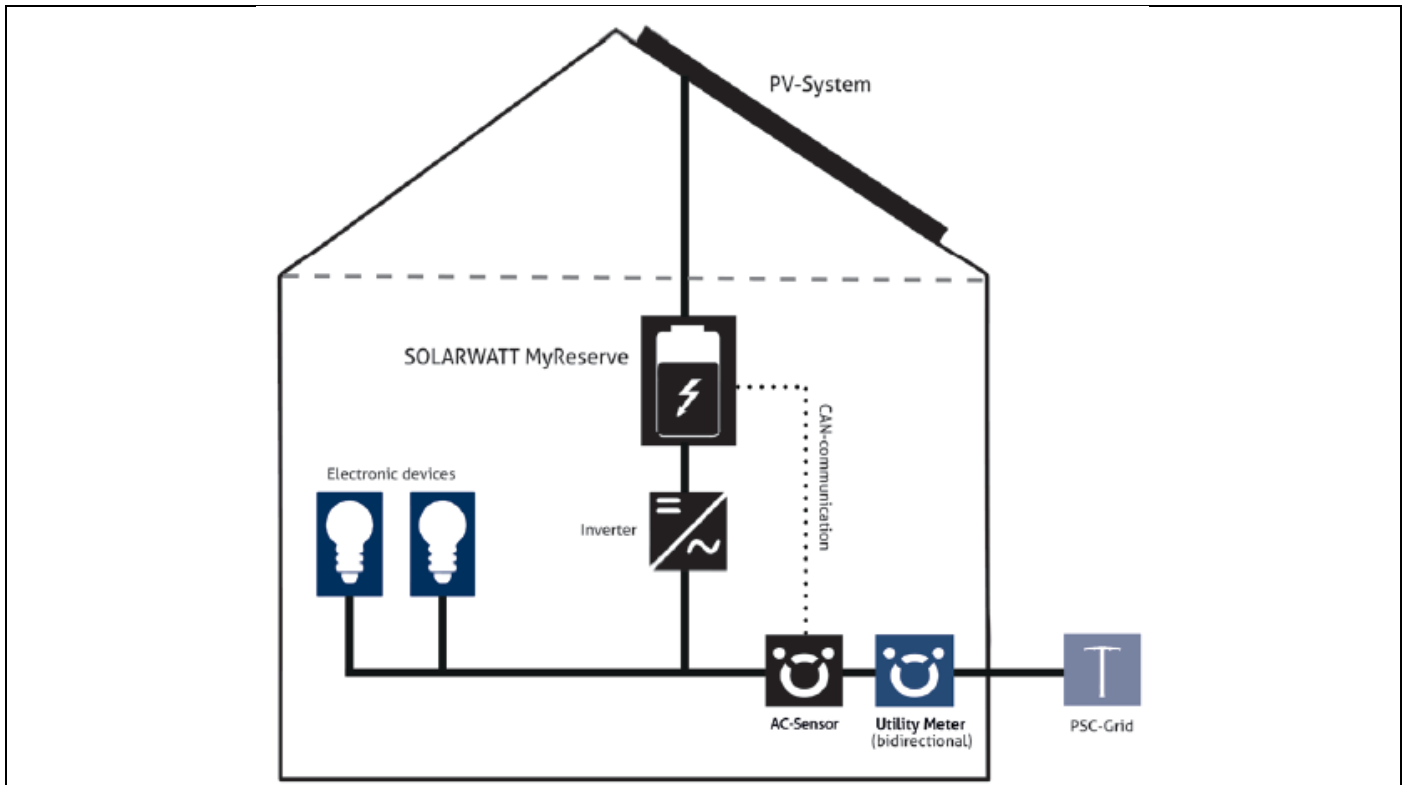


My Reserve 500 Install Guide

System Overview Diagram



Warnings

Disclaimer of Liability and Warranty: This guide does not replace the Owner's Guide and Installation Instructions supplied with the components. Refer to the warranty statement for full warranty terms and conditions.

Installer Responsibilities

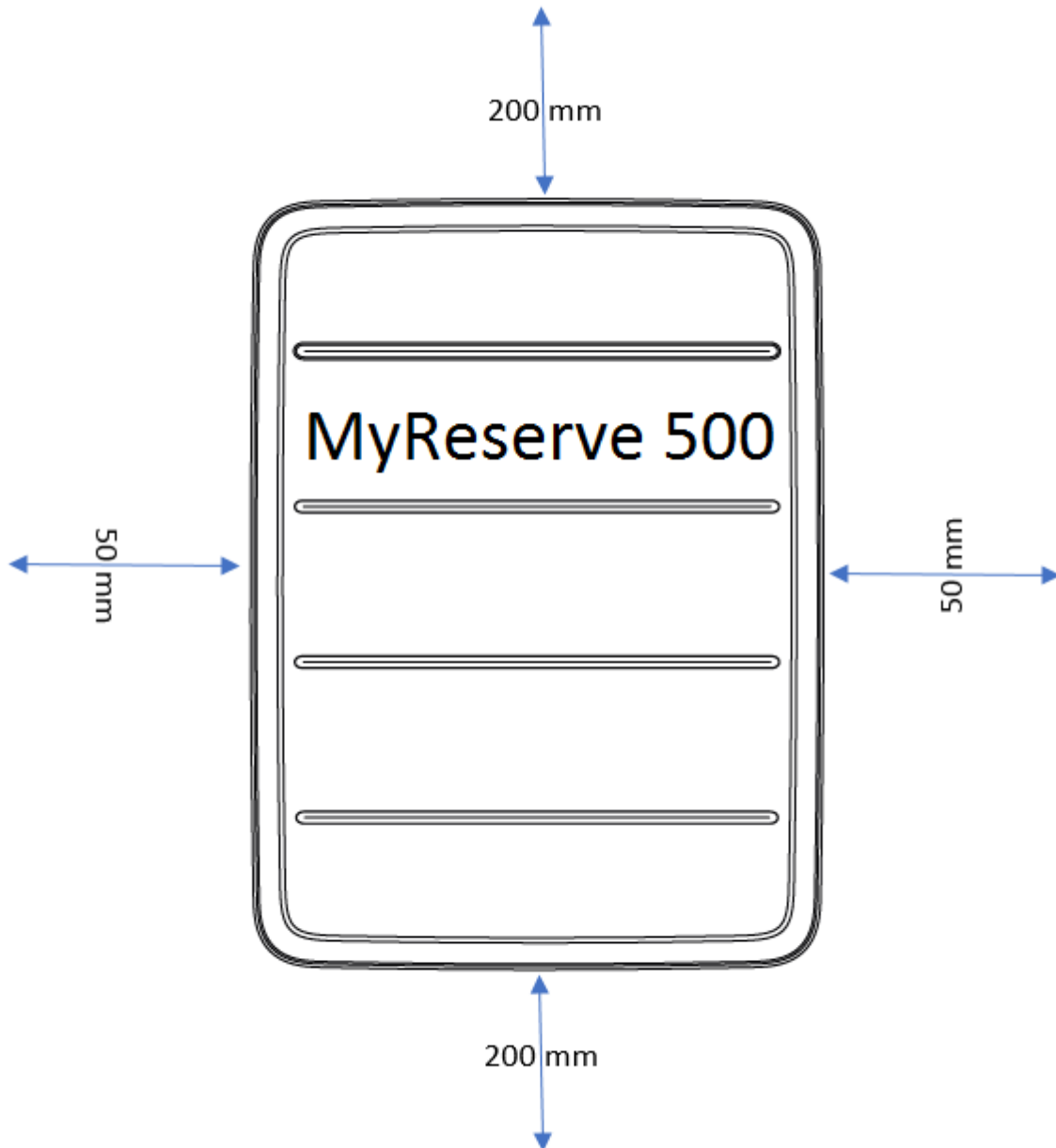
The installer is solely responsible for:

- Observing and conforming to all relevant and current Australian Standards, all relevant Clean Energy Council Accreditation guidelines and all applicable laws, ordinances, regulations, codes of practice and local or national building codes, including any that may have superseded this guide.
- Ensuring that the installation complies with any current regulations including but not limited to; AS/NZS 3000, AS/NZS 5033, AS 4777.1, AS/NZS 1768, and any relevant electrical service and installation rules for the state or territory where the system is installed.
- Ensuring that the Battery system and associated components are appropriate for the particular installation and the installation environment.
- Ensuring only SOLARWATT recommended parts are used. Substitution of parts may void the warranty and invalidate certification.
- Ensuring that mounting fasteners are suitable to support the specified weight of the MyReserve.
- Ensuring safe installation of all electrical aspects of the Battery system.
- Ensuring that the building and building structures are capable of withstanding the additional loads and forces generated as a result of installing the Battery system. If uncertain of mounting structure strength, it is recommended that a structural engineering assessment is completed.
- Ensuring mounting clearance requirements for all components are maintained as specified in the installation manual.
- Ensuring that the MyReserve 500 is installed suitable to the IP31 rating. The MyReserve 500 is rated for indoor installation.

Tools and parts required

- Suitable drill and drill bits
- Anchors depending on mounting surface
- Bootlace Connectors
- Bootlace Crimp tool
- Circuit breaker for MyReserve voltage supply (<15W load)
- Circuit breaker for Energy Manager where installed (<5W load)
- Circuit breaker for AC Sensor (<5W load)
- For 3 phase installs a 3-pole circuit breaker rated no greater than 20A is required
- MyReserve battery lifting tool (Available for purchase)

1 System Layout with Spacing



- MyReserve 500 is IP31 rated. To be installed indoors.
- If installed next to any heat producing items. Maintain at least 500mm from each side.

Cabling and Glands

2

The following cables are required to complete the wiring of the Battery system:

Cable description	Cable type	Conductor Size
Low Voltage (LV) PV array to Battery Interface	A pair of solar DC cables with bootlace connectors and MC4 type connectors	Min 4 mm ²
AC cable	MyReserve voltage supply	As per regulations
Control and monitoring	Shielded twisted pair or Cat 5/6	

*These cables are not supplied by SOLARWATT

Note: Additional conduit terminators / glands may be required depending on the installation location and system orientation.

3

My Reserve AC Cable Sizing

My Reserve AC cabling must be sized and installed in accordance with AS/NZS 3000, AS/NZS 3008 and any local applicable codes. Cables must be selected so that the current carrying capacity is suitable for the maximum fault current.

Installing MyReserve 500

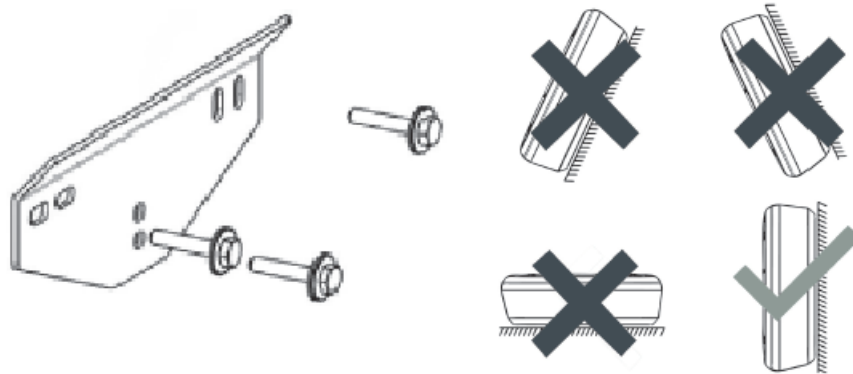


Warning: Location of the MyReserve 500 should comply with IP31 rating. Suggested installation locations are garages, carports.

Avoid installation of MyReserve 500 in direct sunlight or in locations where it may be affected by weather.

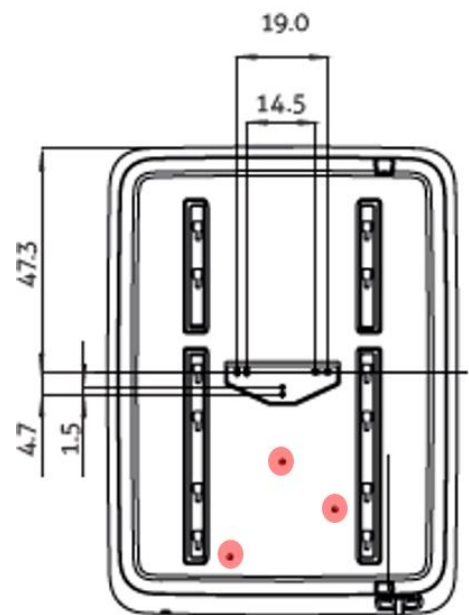
Refer to MyReserve 500 Installation Manual for detailed instructions.

1. Install the wall mount bracket in accordance with MyReserve 500 instructions.



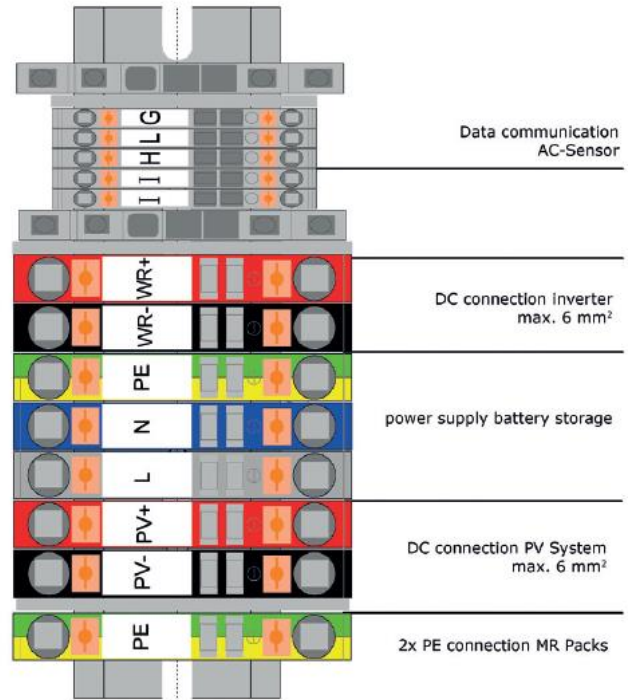
Note : Ensure the mounting material must have a static load-bearing capacity of at least 80 kg.

2. Using the inbuilt lifting handles place the MyReserve 500 onto the installed brackets.
3. Use one of the three indicated holes to secure the MyReserve against accidental removal or theft.
4. Remove the cover from the terminal block on the bottom left hand side of the unit.
5. Follow the wiring connections as listed below.
6. Install batteries as described below.
7. Connect provided earth cables to each battery.
8. Remove dust cover from battery terminal.
9. Connect battery leads ensuring plugs are correctly seated.
10. Double check wiring polarity/connections.
11. Replace terminal block cover.
12. Ensure that MyReserve 500 DC isolator (which is located at the bottom of the unit) is in the "OFF" position.
13. Slide front cover into position.
14. Insert locking screws into the hole of the DC Isolator (only accessible in "OFF" position).
15. Install remaining locking screws in the bottom of the unit.



Wiring Connection Area

- Connect the DC connection cables of the PV system, the PV inverter, the voltage supply and the communication cable to the MyReserve 500. Note for a multi string installation only one array is used for the MyReserve.
- Ensure you confirm the installation configuration is correct by entering the panel information and layout in the Configuration Tool found at www.solarwatt.com.au
- Observe the polarity of the DC cables
- Provide 240V AC to the AC marked terminals in the MyReserve 500 (ensure this supply is earthed to the main switch board)
- All conductors connected must comply with local and national regulations.
- Before connection, remove 12 mm of insulation from the cable ends and fit and crimp the bootlace connectors.
- Use appropriate bootlace connectors for the DC cabling (min 4 mm² cabling)
- Recommended Data cable is shielded twisted pair or Cat 5/6.
- Fit the cover back on the terminal strip. Make sure that the ground cables for the battery module remains accessible for connection to the batteries.

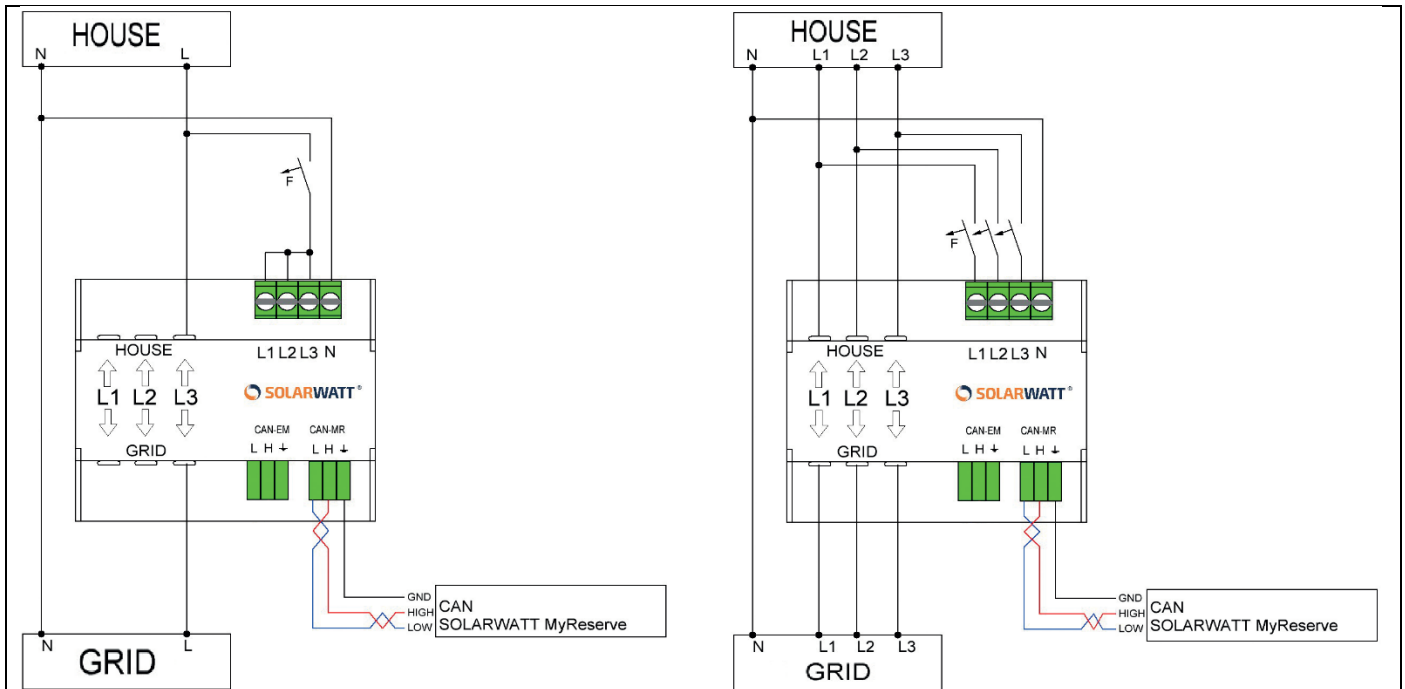


MyReserve 500 Connection Terminal

5

Installation of AC Sensor for systems without Energy Manager

- Install the ACS63 current sensor at or near to the switchboard.
- For single phase installations, run a suitably rated cable from the 'LOAD' side of the MAIN SWITCH through the ACS63 position L3 and back to the switchboard loads.
- Connect AC to the green terminal at the top of the ACS63 sensor.
 - a. For a single-phase installation loop the AC between L1/L2/L3 at the green terminal block. Connect the Neutral.
 - b. For a three-phase installation connect L1, L2, L3 & N. Ensure you follow the same phase rotation as the main cables passing through the larger L1, L2 & L3 current sensor positions.
- Install the Energy Meter directly across the AC output of the inverter.
 - a. The AC output of the Energy Meter MUST be connected to the 'HOUSE' side of the ACS63.
- To avoid long cable runs, Install the Energy Manager and Power Supply near to the MyReserve 500. The Energy Manager can be installed up to 100 metres from the My Reserve.
 - a. Note the Energy Manager Power Supply requires a separately switchable AC power supply. We suggest switching the power supply via a GPO.



Single-phase connection

Three-phase connection

Note: It is important that the HOUSE and GRID markings on the ACS63 are followed. The Grid side is for the power from the Main Switch.

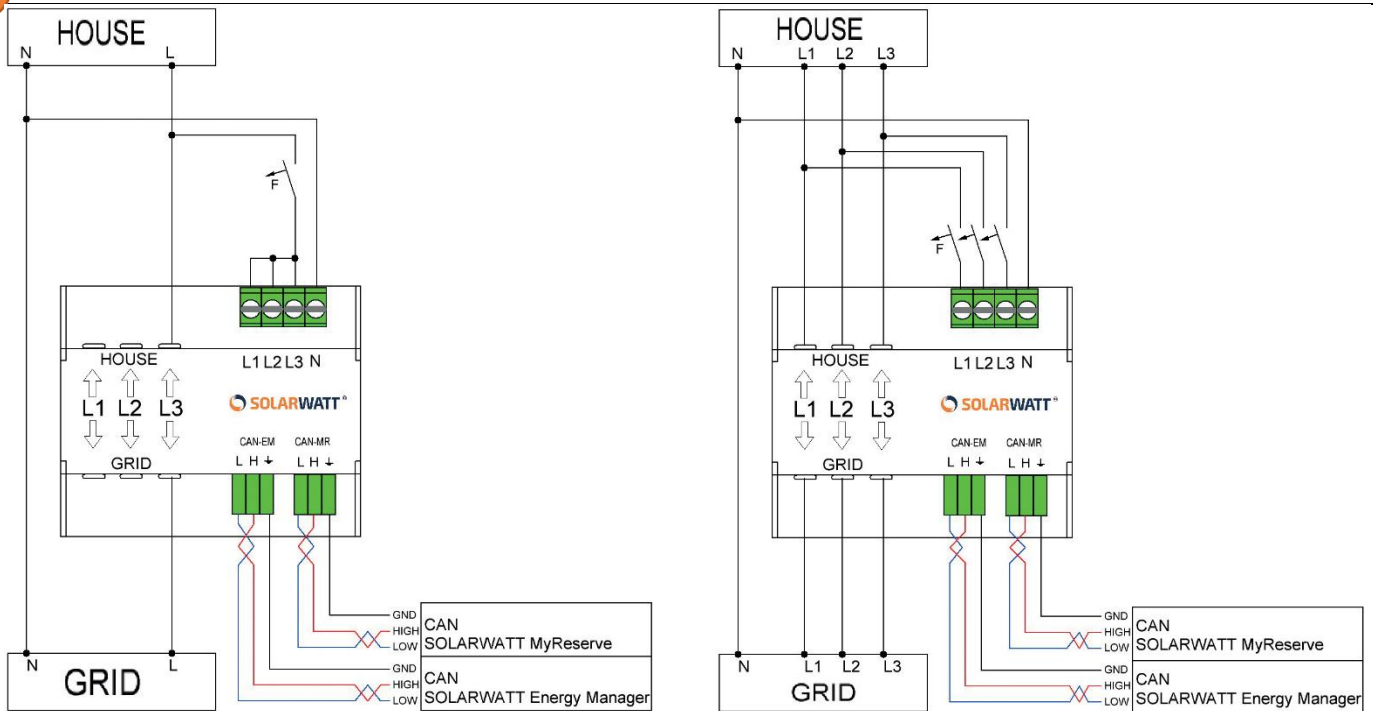
Installing the data cabling:

- Connect the Energy Manager to the client's internet router via the RJ45 socket.
- The remaining data cabling is recommended to be completed using a shielded stranded twisted pair.

Note: To avoid data interference keep the data and AC / DC cables separated.

6

For systems with the optional Energy Manager



Single-phase connection

Three-phase connection

- Install the data cabling between:
 - a. ACS63 and the MyReserve 500 using the CAN+/- & GND connections.
 - b. ACS63 and the Energy Manager using the CAN+/- & GND connections.
 - c. Energy Meter and the S0 input on the Energy Manager using S0-1 +/- connections.

7

AC supplies for the MyReserve 500 and optional Energy Manager

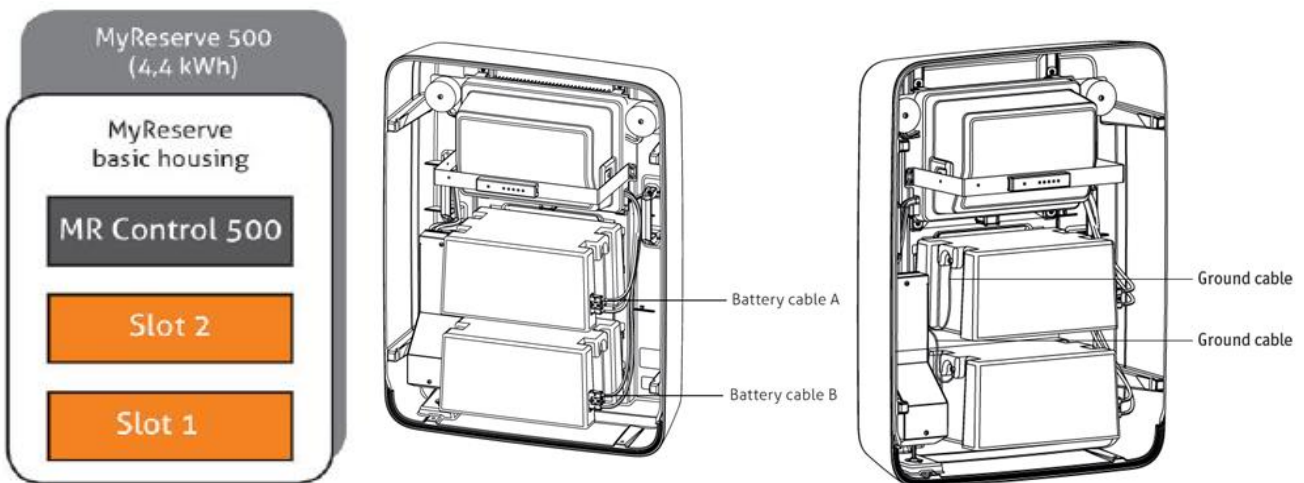
AC power is required for the MyReserve 500 and the Energy Manager. We recommend the use of a DGPO (double general purpose outlet) with a separate switchable outlet for the My Reserve 500 and a separate switchable outlet for the optional Energy Manager.

Wiring the Battery

- In a two-battery system install the lower battery first.
- Slip the battery case lugs into the key hole supports in the MyReserve 500 case. Ensure all 4 lugs have seated correctly.
- Install the second battery following the same procedure.
- An optional battery lifting tool is available for purchase.

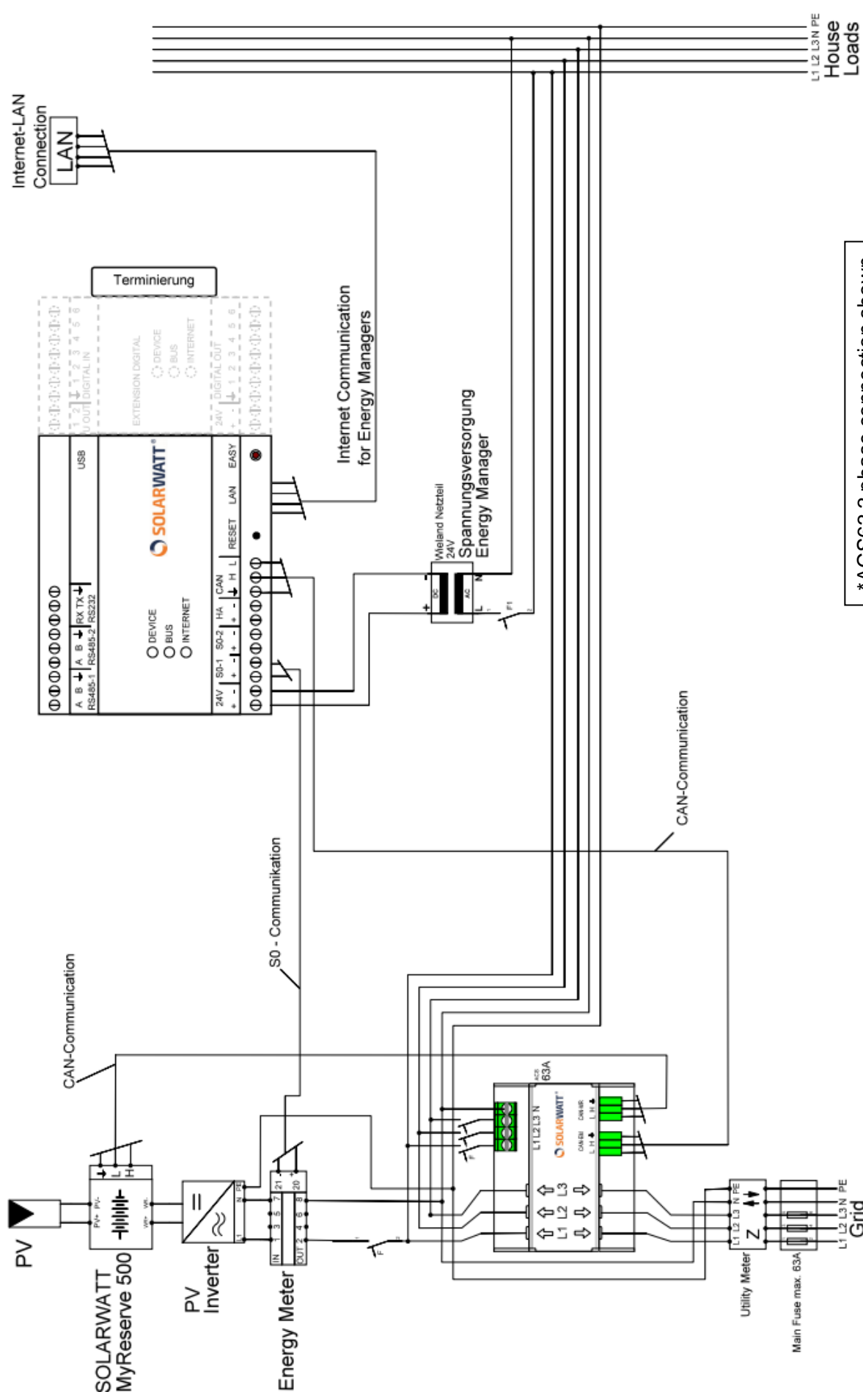
Note:

- a. The use of appropriately sized bootlace connectors and crimping tool are recommended to ensure the best connections for the cabling.
- b. Be careful to ensure correct polarity is maintained when completing the data connections.
- c. DO NOT use the RS485 connections to connect your inverter to the Energy Manager.



Warning: The batteries weigh approx. 25kg each. Be careful to avoid injury when installing. An optional battery lifting tool is available for purchase.

Wiring the Battery, Energy Manager, AC Sensor and Inverter



*ACS63 3 phase connection shown

Labelling

Labels must be constructed to AS 1319 and installed according to AS/NZS 3000, AS 4777.1 and any local regulations. Refer to aforementioned standards for more information.

The purpose of labelling is to clearly indicate that the electrical installation has multiple supplies and which circuits are affected by these supplies. Labelling also identifies the components that isolate the various supplies.

Final checklist

- Check correct polarity of all DC connections.
- Ensure all data connections are connected using bootlace connectors and polarity has been confirmed.
- Ensure the AC output of the inverter is connected to the Energy Meter.
- Ensure the Energy Meter output is connected to the HOUSE or LOAD side of the ACS63.
- Ensure the AC power supply for the Energy Manager is separately switched.
- Ensure the AC power supply for the MyReserve 500 is separately switched.
- Ensure correct segregation between data cables and AC cables.
- Ensure battery earths are connected using supplied screws.
- Ensure the Terminating plug has been installed in the Energy Manager (if installed).
- **Other items:**
 - a. Cover has been replaced on the connection terminals.
 - b. Ensure labelling has been installed at a visible location on the MyReserve.
 - c. Take pictures of the following items as you will need them to establish the warranty and commission the system:
 - i. The unit at the top of the MyReserve is called the MyReserve Control. Take a picture of the serial number usually beginning with a 1Jxxx
 - ii. At the left-hand side of the MyReserve case is the MyReserve Serial number, usually also a 1Jxxx number (different number to the Control number)
 - iii. Take a picture of the serial number of each battery. This number is located at the bottom tight hand corner of the battery when installed.
 - iv. Finally have a look down at the top of the Energy Manager. There you will find the Serial number and password. Both are required to commission the system.

Commissioning

12

- Once all tests have been completed and you are satisfied with the installation, then it's time to turn on the system.
- Please follow the steps in the exact same order.
- Turn on the DC isolator at the bottom of the My Reserve.
- Turn on the inverter following the manufacturers starting procedure for AC & DC.
- Once the inverter has started and is ramping up, turn on the power to the Energy Manager only.
 - The EnergyManager will connect to the customer's internet and will introduce itself to the main portal.
 - Once introduced it will update its firmware and then restart. (Note the firmware update can take some minutes depending on the available internet speed).
 - Once the EnergyManager has restarted the top and bottom green lights will stop flashing.
 - At this moment, you can turn on the AC to the MyReserve.
- The MyReserve will show a variety of lights briefly and will then display a single blue LED then two blue LED's. This configuration of lights shows a successful start and operational status.
- The first blue light shows normal operation and the following two blue lights show the battery charge status. Each light represents a 20% state of charge; therefore 2 blue lights represents up to 40% state of charge.
- The My Reserve has an inbuilt learning algorithm and this algorithm may take up to 7 days to learn it's optimal operating behaviour.