

Magellan Case Study

Microgrid Stand Alone Power System (SPS)
Remote Community near Tom Price

Customer	Hybrid Systems Australia
Location	Near Tom Price, WA
Product	10kVA inverter plus 35kWh battery bank
Date	January 2019



SCOPE

Magellan Power designed and manufactured the Stand Alone Power System: 10kVA Single Phase SPS with Diesel Generator and Solar inverter.

SOLUTION:

The product is designed for ensuring secure and reliable power generation with minimal human intervention. It combines quality power electronic components with an advanced microgrid control system to deliver modular and reliable power generation for critical loads.



10kW inverter plus 35kWh battery bank



OPERATION:

The power system generates electricity during normal conditions using the bidirectional inverter fed from the battery banks. If there is solar power available, then the PV inverter will start, feed the load and recharge the batteries. If there is insufficient solar or excessive load, then the diesel generator will start to supplement the solar power and keep the batteries from discharging excessively.

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FULL LIST OF EQUIPMENT PROVIDED:

Model no. 10kW Magellan inverter	10kW inverter 240VAC 50Hz IN/OUT
Inverter Enclosure	Industrial grade C200 enclosure. Dimensions: 800mm x 800mm x 2000mm (W x D x H) IP – 42 rated. Enclosure included inverter, distribution board, solar and generator synchronizing system.
Battery Bank	The battery bank will be made of 2 air-conditioned 256VDC, 27.5kWh Magellan Battery Banks with Lithium Ion phosphate modules. Each bank included integrated BMS.
Battery enclosure	Industrial grade C200-2 enclosure with integrated air conditioning. Dimensions: 1600mm x 800mm x 2000mm (W x D x H) IP – 42 rated

CIRCUIT DESCRIPTION

Refer to Block Diagram below and System Wiring Diagram 18473-1 SINGLE PHASE SPS SLD for circuit description.

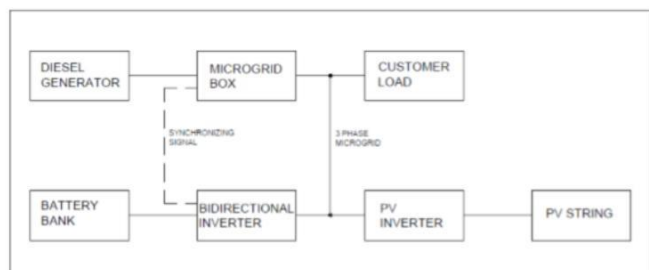


Figure 1. System Block Diagram

