



SOLAR
SMOOTHER

WITH SKY EYE
TECHNOLOGY

Solar electricity adaptation is rapidly increasing both here in Australia and internationally. However, the erratic nature of solar generation, caused by passing clouds, can result in power disturbance on the grid.

For example, when clouds cover the sun the amount of electricity generated will drop suddenly, causing this loss to be compensated by the grid. This loss may not be significant for a large, strong grid but it is for a small (weaker) grid. When this happens en-masse the loss of solar generation may be too sharp for the grid to cope with, resulting in sharp rise in demand on the network - thus causing reliability problems.

The Magellan Sky Eye Solar Smoother solves this problem by “smoothing” the PV power. It is a practical, innovative and cost-effective solution which uses real-time information from a Sky Camera to predict cloud motions for periods of 12 mins ahead. The Sky Eye works proactively through using the latest imagery and predictive algorithms together with machine learning software.

It “sees” the approaching weather, by tracking the cloud movement and precisely calculating the moment of impact of the cloud shadow on the solar panels and therefore the solar generation. It then commands the solar inverter to reduce solar generation in a controlled manner, allowing the grid generator to ramp up and take the load again.

FEATURES:

- Made in Australia
- Rugged Industrial Design
- Long Service Life
- Proactive Generation Management – using Sky Imaging
- Zero-Export Management
- Imagery Cloud Detection
- High Efficiency Lithium Batteries
- Online Portal for Remote Monitoring



SOLAR SMOOTHER WITH SKY EYE TECHNOLOGY

SOLAR SMOOTHER BATTERY FOR 50KW PEAK SOLAR INSTALLATION	
Nominal Inverter Capacity	13.8 kW (3 x Single Phase GoodWe GW5048D)
DC Link Voltage	48V
Battery Type	Lithium-ion (3 x LG RESU65)
Nominal Voltage	51.8V
Voltage Range	42V - 58.8V
Battery Brand	LG
Chemistry	NMC
Nominal Battery Module Capacity	19.5kWh
Enclosure	Indoor Installation IP42 - Top Cable Entry
Weight	550kg with battery
Dimension (WxDxH)	1100mm x 800mm x 2000mm
Cooling	Fan Forced
User Interface	Colour touch screen 4:3"
Remote Monitoring Interfaces	PV Output Portal Magellan Portal Internal Website Smartphone App
Communication Interfaces	Wifi/USB
Data Logging	Internal non-volatile memory
Standards Compliance	AS4777.2:2015 AS3100/IEC62109-1/-2 IEC62040-1 C-Tick/EN61000
Options	Remote Monitoring using 3G/ 4G modem

SKY EYE CAMERA SPECIFICATIONS	
Cloud Prediction Range	Up to 12 min
Camera Type	Weather-Proof Fish-eye IP camera with Wide-Dynamic-Range (WDR)
Communication	TCP/IP Ethernet Power-Over-Ethernet (POE) 5W
Enclosure	Weatherproof (IP68) Steel Enclosure L250mm x W160mm x H328mm
Generation Management System	Magellan Solar Gate (refer to the Solar Gate datasheet).
Compatible PV Inverters	SMA/ Fronius/ ABB
Communication	Modbus over TCP/IP and RS485
Zero-Export Capability	Yes

FOR SOLAR INSTALLATIONS LARGER THAN 50KW PEAK,
MULTIPLE 50KW SOLAR SMOOTHERS CAN BE USED.