

EarthGuard

Insulation Monitoring

For PV & Battery Storage Systems



Product Description

Utilizing proprietary detection techniques, the AERL EarthGuard Insulation Monitoring Device simultaneously monitors the unearthed PV Array (60 - 300V) and Battery Storage System (48/120V) for conductor insulation degradation.

Installed on the battery bus, the EarthGuard monitoring device satisfies the earth fault detection requirements of both AS/NZS 5033:2014 & AS/NZS 5139:2019 with onboard audio/visual alarms and an alarm relay output for external fault indication.

Featuring support for full integration with AERL's CoolMax SRX charge controller range, EarthGuard can be utilized in an integrated arrangement or as a standalone device for use with approved third-party controllers, power conversion equipment and battery systems.

Device Features

- 60 – 300V PV Monitoring Range
- Supports 48V & 120V Batteries
- One EarthGuard Per System ¹
- High Accuracy Detection
- Audio & Visual Alarms
- Alarm Indication Relay

¹ When used with AERL CoolMax SRX regulators.

General Specifications	
Parameter	Typical
Weight	1.2 kg
Dimensions (L x W x H)	140 x 230 x 110 mm
Enclosure Type	Indoor Type 1 / IP20
Operating Temperature	-25 to 60°C
Storage Temperature	-25 to 80°C
Connection Terminals	Screwless Terminals (0.25 mm ² -> 5.25 mm ²)

Low Voltage Side	EG 300
Input Power (12V Input)	10 – 14 Vdc (12V Nominal)
Max Power Consumption (12V Input)	120mA
Input Power (5V Input – USB C)	4.5 – 5.5 Vdc (5V Nominal)
Max Power Consumption (5V Input)	290mA
Alarm Indication Relay	Signal (Dry Contact)

High Voltage Side	EG 300
PV Array Monitoring Range	60 – 300 Vdc
Supported Battery Voltages	48 Vdc 120 Vdc
Input Load Under Test	0.5 Mohm
Input Load Not Under Test	300 Mohm
Leakage Trip Current <small>(+/-10%)</small>	> 80uA > 210uA
Isolation to Low Voltage Side	1000V (Transient)

Standards	EG 300
Electrical Safety	AS/NZS 3100:2017
EMC (Domestic)	AS/NZS 61000.6.3:2012