

Remote Power.
Engineered to Endure.

Energy storage, power conversion and monitoring for commercial, industrial and off-grid sites. Designed and supported in Australia since 1985.

1985
Founded on the world's first universal MPPT

50 MW+
Solar connected through AERL MPPTs

1 supplier
Complete portfolio, storage to monitoring

Global
Deployed worldwide and in every Australian state

Who We Are

AERL is an Australian energy systems company. We design, integrate and support the power systems that keep critical sites running, from mine sites and pipelines to telecommunications towers, farms and commercial buildings.



The AERL team

AERL was founded in 1985 by Stuart Watkinson to commercialise the Power Optimizer, the world's first universal maximum power point tracker (MPPT). Four decades on, we engineer our own power conversion, energy storage, monitoring and earth-fault detection products in Queensland, and integrate them with selected partner platforms.

Our test is the one that drove that first MPPT: technology only matters if it works under real conditions, year after year.

Core Capabilities

Power electronics design 01
In-house hardware, firmware and software. MPPT charge controllers, DC-DC converters and cathodic protection.

Energy storage 02
LiFePO4 storage from 5 kWh modules to MWh-scale banks, at 48 V, 120 V and high voltage.

System design and integration 03
Sizing, product selection and integration with Selectronic, Victron, Solinteg and other inverters and generators.

Engineering services 04
Project engineering for remote and industrial power systems, from concept and specification to commissioning.

Monitoring and control 05
Nexus Gateway, Nexus HMI and Nexus EMS on site, for local data, displays and energy management.

Fleet platform 06
AERL Cloud: cloud-based monitoring and control for any CAN or Modbus enabled device. Fleet triage and management.

Remote O&M management 07
Remote operations and maintenance: we watch your sites, triage alarms and manage faults to resolution.

Protection and specialist DC 08
EarthGuard insulation monitoring for PV and battery buses; CoolPro ICCP for pipeline cathodic protection.

Lifecycle support 09
Australian technical support, commissioning guides, configuration software, warranty and repair.

Track Record

1985
World's first universal MPPT
The Power Optimizer, field-trialled with the US Department of Energy and PG&E. It became the AERL MAXIMIZER™.

1990s
Industrial applications
Cathodic protection controllers for oil, gas and water pipelines, used worldwide.

2017
A new chapter
Relaunched under Peter Watkinson with renewed investment in research and development.

Today
Energy systems company
Storage, conversion, monitoring and integrated systems, deployed across Australia.

Products and Solutions

One supplier, the complete system

Category	Products	What it does
Energy storage	**LiFe² · Kakadu 120 · Tanami HV**	48 V modules to 51.2 kWh per cabinet; 88.4 kWh cabinets scaling to 1.41 MWh; high-voltage storage to 72.6 kWh per cabinet.
Integrated systems	**All-In-One · All-In-One MAX**	Hybrid inverter, battery, BMS, fire suppression and thermal management in one cabinet. 25 kW to 125 kW; 64 kWh to 257 kWh.
Hybrid inverters	**Solinteg M2HT 25–50 kW, 75–125 kW**	CSIP-AUS certified; diesel-generator support on the 25–50 kW models. AERL is the exclusive authorised Australian distributor.
Solar charge controllers	**CoolMax SRX · CoolMax SRX-R**	MPPT charge controllers with high input voltage and up to 200% PV oversizing, wall-mount or 2U rack.
Monitoring and control	**Nexus Gateway · Nexus HMI · Nexus EMS · AERL Cloud**	Site gateways, a touch display and energy management; a cloud platform for any CAN or Modbus device.
Protection and specialist	**EarthGuard EG-600 / EG-600-SC · CoolPro**	Insulation monitoring for DC systems to 600 Vdc; solar-powered impressed current cathodic protection.

Sectors We Serve

Mining and resources
Off-grid and hybrid power for remote operations; cathodic protection for oil, gas and water pipelines.

Telecommunications
48 V lithium storage and MPPT solar charging for unattended sites.

Agribusiness
Hybrid inverters and battery storage with diesel-generator support.

Off-grid and remote infrastructure
Solar, storage and remote monitoring where there is no grid to fall back on.

Grid-tied commercial
Integrated storage cabinets and certified hybrid inverters for backup and peak shaving.

Utilities and networks
Storage, solar charging and monitoring for electricity network operators.

Trusted By

Among the energy, resources and utility operators that rely on AERL equipment:

Santos APA epic energy RioTinto western power HORIZON POWER

Why AERL

- Forty years of MPPT and power electronics engineering
- Open integration: CAN, RS485, Modbus RTU and TCP
- Built for heat, dust and unattended remote sites
- Hardware, firmware and software designed in-house
- Australian technical support, from design to service
- Published documentation and free AERL Link software



Let’s talk about your project.

COMPANY

Australian Energy Research Laboratories
Founded 1985
Trading entity: AERL Pty Ltd
ABN 87 653 916 477

HEAD OFFICE

1/75 Bluestone Circuit
Seventeen Mile Rocks QLD 4073
Australia

CONTACT

1800 950 865
Sales: sales@aerl.com.au
Support: support@aerl.com.au

aerl.com.au

Capability Statement
Rev 1.1.0 · November 2026

© 2026 AERL Pty Ltd

Information correct at November 2026 and subject to change. Customer names identify AERL customers only; all trademarks are the property of their owners.