EcoStore 10kW AC Coupled Battery Inverter

The EcoStore is a small, light, flexible and user friendly 10kVA single phase battery inverter.

Its small size, light weight, advanced features and flexibility make it the perfect choice for a number of battery inverter applications.

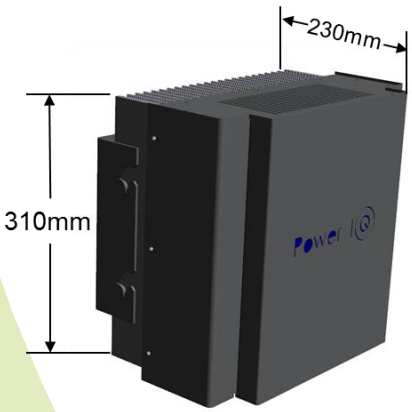
It is an AC coupled battery inverter, making it easy to couple with a wide range of solar PV inverters.

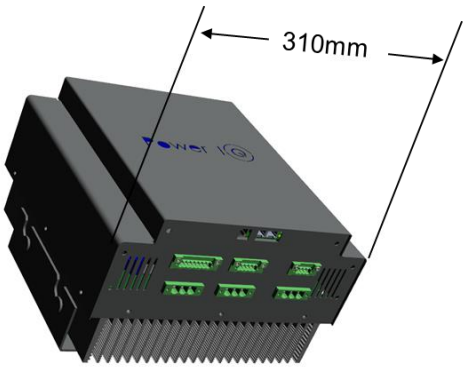
It has full four quadrant power capability able to sink or source any combination of real and reactive power up to 10kVA.

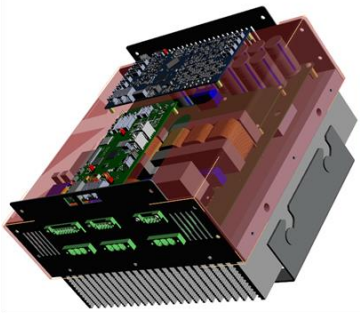
Powerful, Yet Small & Light, with no fan

The EcoStore is rated at 10kVA at 50°C, yet measures only 310mm x 310mm x 230mm making it the most compact battery inverter for its power on the market. Furthermore it weighs in at only 17kg, a small fraction of most competitors. And even more impressively it does not need a fan which eliminates the key maintenance and reliability headache of battery inverters.

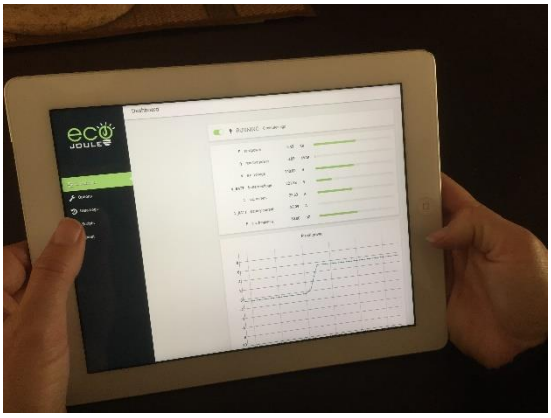
This compact and light design is made possible by a industry leading efficiency of 98%.







User Friendly, Powerful



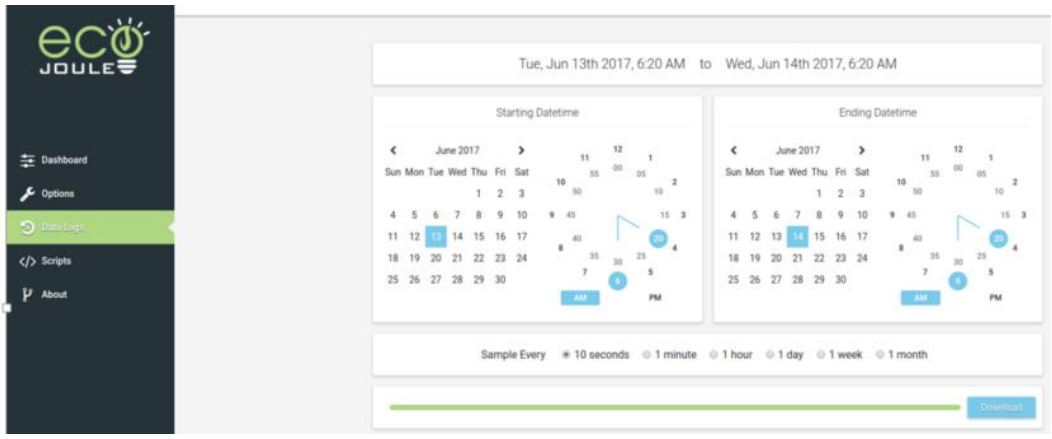
Setup and Monitoring from a Browser

The EcoStore runs a web server on the device, allowing setup and monitoring from any connected smart device capable of running a browser (tablet, laptop, smartphone).

Parameter settings are clear and easy to understand.

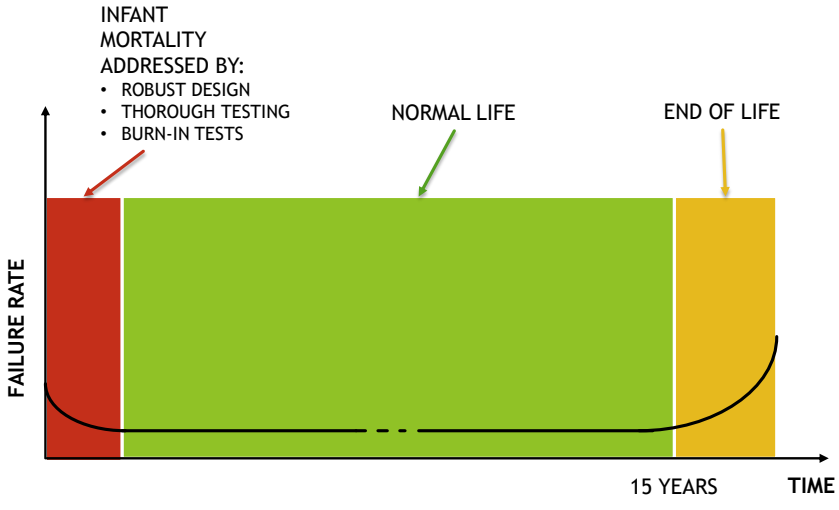
Users are able to monitor (and even graph) real time quantities such as real or reactive power, state of charge, current, voltage and so on in real time.

The EcoStore has a rich datalogging capability, able to log up to 4GB of historical recorded data. Users can access this data via an intuitive tool allowing fine or course data to be downloaded depending on the time period of interest and the bandwidth of communications connection.



Data Download Tool

Reliability in Product DNA



- Reliability designed in from start.
- No fans or moving parts.
- 15 year design life
- Top quality componentry.
- Thorough testing.
- Production control.
- Burn-in tests.

Unmatched Flexibility

The EcoStore has a built-in sandboxed development environment available for advanced users to utilise. This allows users to program custom applications using a scripting language without fear of breaking any of the standard software functions. This opens up a host of possibilities, allowing users to make the storage unit behave exactly as they want in any particular application.

```
22
23  -- delta power limit on power ramp up
24  local dp_limit_up = p_max * t_s / t_ramp_up
25  -- delta power limit on power ramp down
26  local dp_limit_down = -p_max * t_s / t_ramp_down
27
28  if smoothing_method == 'filter' then
29      -- filter measured PV output power with 1st order filter
30      p_pv_filt = p_pv_filt_1 * (1 - t_s / t_filt) + p_pv * t_s / t_filt
31
32      -- update (k-1) filter values
33      p_pv_filt_1 = p_pv_filt
34
35  elseif smoothing_method == 'ramp' then
36
37    local delta_p_in = (p_pv - p_pv_filt_1) / t_s
38
39    if delta_p_in > dp_limit_up then
40      p_pv_filt = p_pv_filt_1 + dp_limit_up
41    elseif delta_p_in < dp_limit_down then
```

Fringe of Grid Capability

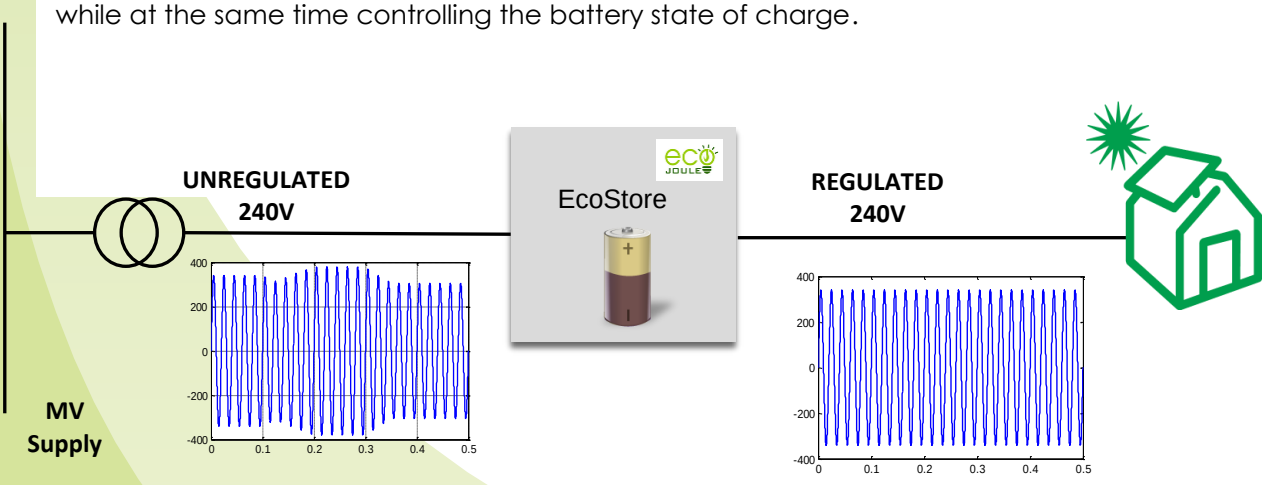
The EcoStore was conceived with Fringe of Grid applications in mind. Apart from the standard energy shifting functions and on and off grid capability it has two unique functions developed for Fringe of Grid Applications:

Customer Voltage Control

Often customers in fringe of grid areas experience poor quality of supply with their voltage often dropping below acceptable limits during high load periods. The EcoStore can boost or buck customers' voltage by up to 10% without using battery energy, thereby providing the customers with a regulated and stable supply.

Advanced Automatic Peak Load Reduction

The EcoStore can perform peak load reduction on constrained feeders by automatically sensing when the feeder is nearing constraint and performing the appropriate control action while at the same time controlling the battery state of charge.



TECHNICAL SPECIFICATIONS

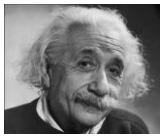
MODEL	EcoStore-10kVA
Continuous Rating	10kVA
Reactive Power Capability	-10kVAr to 10kVAr
Grid Connected & Standalone capability	Yes
Ambient Temperature	-10°C to 50°C
Operating AC Voltage Range	220 - 255 V
Battery Nominal Voltage	200 - 300 Vdc
Battery type	Lithium-ion / Lead acid
Battery Communications	CAN, RS485
Cooling	Passive (Fan-less)
Efficiency	98% at full load
Harmonics (THD)	<3% at full load
Effective Output Switching Frequency	48kHz
External Communications	Ethernet
Anti-islanding	Passive and Active as per AS/NZS 4777
Mechanical Protection	IP20
Dimensions (H x W x D)	310mm x 310mm x 230mm
Weight	17kg
Electromagnetic Compatibility	AS/NZS 61000.6.3:2012
Standards Compliance	AS/NZS 4777: 2015, EN 50178: 1998

INDUSTRY LEADING DESIGN

EcoJoule Pty Ltd was established to provide high quality, reliable and cost effective power electronics solutions to the electricity utility industry. Its founders bring together industry leading expertise and experience in power electronics, software and power systems design having spent many years in senior R&D positions for major multinational companies. We merge the design quality and discipline of a multinational with the flexibility and agility of a technology company.

We believe that power electronics based devices will help to transform the electricity grid into a flexible, intelligent and sustainable system able to provide lower cost, more environmentally friendly power services to consumers.

EcoJoule Pty Ltd is based in Brisbane, Australia and is 100% privately held. Our motto of "Simply Smart Power Solutions" derives from our aim to merge smart design with simplicity.



"Everything should be made as simple as possible, but no simpler" Albert Einstein

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