

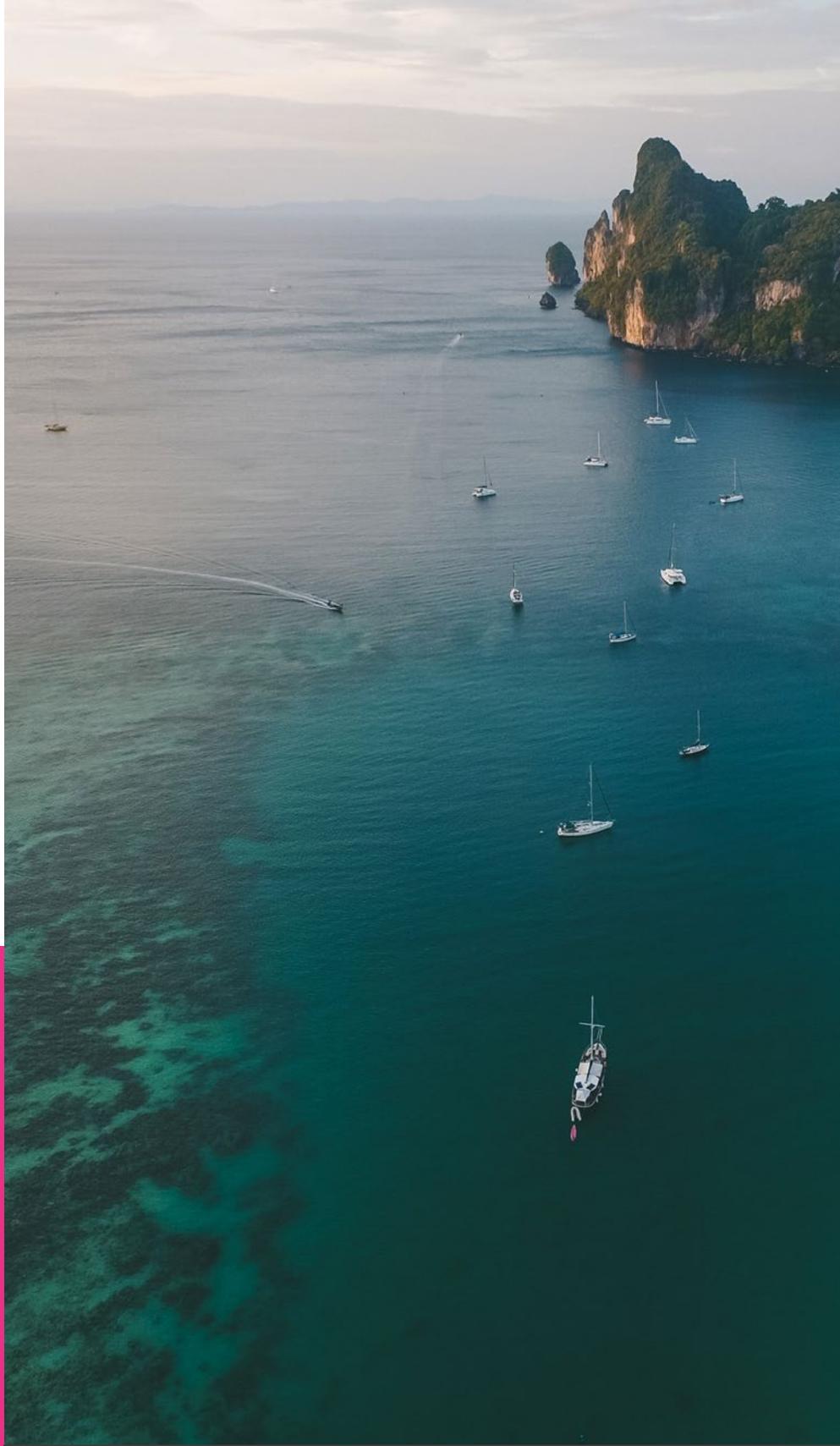
# 240v User Guide

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# Integral

ADVANCED POWER GENERATION & CONTROL

# L I T E



# A simplified version of our award winning Integrel system



*"Integrel Lite is essentially a plug and play version of our award winning Integrel system, simplified for use in the marine or RV worlds. Integrel Lite comes in a pre-configured package thats easy to install yourself. Like its bigger sister...It just simply works!"*

**Will Parkinson**  
Engineering Operations  
Manager - Integrel Solutions

## What is Integrel Lite?

It's the ultimate power generation replacement technology for your Boat or RV - on a budget.

Integrel Lite is a slimmed down version of our main Integrel system. It produces energy without the need of a noisy generator by intelligently taking excess power from an engine and converting it into electricity.

It comes in a pre-configured package that works automatically, simply follow our handy instalation guide and once set up Integrel Lite works in the back-round to collect energy.

This energy is then stored in batteries for later use, so you can enjoy all of your boating or RV mod cons without running that noisy generator!

# How does it work?

The Integrel Lite 240v solution works just like our main Integrel system, providing fully automated energy generation from an engine.



### Simplified.

Integrel Lite uses smart technology to generate up to 6.5kW of electrical power without compromising your engine's performance, the system actively manages output so that your engine is always running at its most fuel efficient.

Whilst the engine runs under normal conditions the excess power is collected through Integrel's smart tech and then stored in Li-Ion batteries. This stored electricity is then always readily available whenever you need to cook, brew a coffee or turn on your AC.

Integrel Lite allows you to use one engine to do 2 jobs, propulsion and energy generation, eliminating the need for a noisy generator or to hook up at a RV park.



01.

Engine runs.



02.

Integrel works its magic.



03.

Electricity is generated.

# How does it differ from our main system?

The differences between Integrel Lite and our main system are:

**Fixed Package** - The main difference between the 2 solutions is that Integrel Lite has a fixed configuration. You cannot choose the inverter/charger option. It has been pre-configured to simplify installation.

**Power Generation** - Integrel Lite can still deliver a whopping constant 6.5kW of charging (140Amps at 48V). The big sister Integrel Solution can deliver up to 9kW.

**Locked Down Configuration** - There is one inverter/charger option. This is a 3kVA inverter charger which has been pre-configured and locked down.

**Single Battery Choice** - We have standardised on Torqeedo Batteries. The Li NMC chemistry gives them the highest power to weight ratio of the available, marine certified, Lithium Ion battery types.

**Battery Configurations** - 7kWh, 14kWh or 21kWh. Integrel Lite supports all battery configurations in 5, 7 and 10kWh increments to 120kWh.

**Pre-configured Wiring Harnesses** - To reduce the amount of installation time, our wiring harnesses have been pre-made for you.

## What's included?

Integrel Lite 240v package contents:

Integrel Lite Generator  
Integrel Argo Bus Data Junction Box  
Integrel Lite Intelligent Controller Limited to 140A  
Integrel Intelligent Controller License Retail  
Integrel Engine Mount Kit(Yanmar & Volvo)  
Integrel Controller Data Loom  
Integrel 5" Display Kit Complete & Fixings  
Integrel Phase Cable Loom  
Integrel Smart Safety Switch 48V  
Integrel Gear Detect Switch Cable  
Torqeedo Li NiMnC batteries 7kWh Pack  
Torqeedo battery frames and straps  
Victron Multiplus - II Inverter/Charger 48/3000/35-32 230V  
Integrel Controller Data Loom  
Integrel Lite user and installation guides  
Cable CAT5 5 Metres x 2

Optional Extras:

Additional 7kWh of battery storage(totalling 14kWh) - **£ 4,450**  
Additional 14kWh of battery storage(totalling 21kWh) - **£ 8,900**  
Victron remote on/off panel switch with cat5 data cable - **£129**



## Price

£10,495 (UK)  
€11,995.00 (EU)

**Warranty : 2 Years Parts and Labour**

Installation not included. For marine installations see our list of [Certified Distributors](#) or carefully read the provided installation guide and videos.



# Specifications

## Integrel Power Generator

Type	High power density, asynchronous
Nominal Output Voltage	48V
Maximum output current	140A (software governed)
Max electrical power at 800 rpm (engine revs)	3.5kW
Max electrical power at 1200 rpm (engine Revs)	6.5kW (software governed)

## Integrel Intelligent Controller

Current sensor type	Stabilized Hall effect sensor with 18-bit ADC
Voltage, current and temperature specs	-77C to 190C +/- 0.5C
Processors	Dual processors for real time data processing and system oversight
Main Controller Loop	10mS response time
Rectifier	High efficiency bridge rectifier with <TV drop across the diodes
Rectifier voltage and current range	Up to 1,600V and 250A with full open circuit tolerance
Onboard memory	96MB for data logging, 8K FRAM
External Switching	Single analog switch
Stabilized DC DC converter	12V to 57.6V at 4A using planar transformers; 94% efficient
RPM Measurement	0 to 15,000 RPM +/- 1 RPM
External Temperature sensing	Sensing for alternator stator, diode pack & electronics
Data communications	J1939/NMEA2000 and proprietary (Argo) CAN, Bluetooth and USB connectivity
Isolation	Fully isolated
Fuel Monitoring	Available on engines with ECU
Status indicator	Traffic light LEDs
Battery types supported	Lithium Ion (LiFePO and NMC), Lead Acid
Battery capacity supported	From 7 to 21kWh in 7kWh increments

## User Interface

Screen	5" colour touch screen with mounting kit and fixings
Integrel App	Optional App for IOS and Android devices

## Low voltage disconnect

Voltage	1mV to 100V +/-1mV
Stand by Power	100 micro A
Temperature sensor	
Autonomous operation	

# Find out more.

If you would like anymore information then please get in contact.



**Contact Us:**

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