

# Integrel

ADVANCED POWER GENERATION & CONTROL

## Integrel Smart Charger

### Features

- Highest capacity charge rates of any Marine or RV DC-DC converter/charger
- Models 12V - 768W, 12V - 1536W, 24V - 1536W, 24V - 3072W
- Units can be paralleled for greater capacity
- Battery charge profiles for Lithium-Ion and Lead Acid battery types
- Conditioning profiles allow reclaiming of lost capacity on Lead Acid battery types
- 12V, 24V or Dual voltage configurable
- Compact footprint
- Super efficient. Extremely low parasitic draw and energy loss
- Safe and Smart
  - Battery protection mode.
  - Auto shutdown when battery SOC is too low
  - Input-Output safety fuses
  - Voltage, current and temperature monitors to prevent charger damage
- Works best when combined with an Integrel battery sensor. Can be used stand-alone - Bluetooth & CAN bus comms provide industry-standard monitoring and integration - Can co-exist with parallel solar charging



## 01 Why do I need an intelligent charger?

Boats and RVs are not yet 48V native. Most are still 12V or 24V. You can easily manage these different voltage systems with our intelligent battery to battery charger. This charger ensures 12V or 24V banks are kept properly charged. It does not matter if they are Lead-acid or Lithium-Ion! The Integrel smart charger can use any individual battery manufacturers charge profiles to keep your batteries topped up and in peak performance. The Integrel Smart Charger will keep batteries within safe, manufacturer-recommended operating conditions improving battery bank life and extending your battery investment.

## 02 Reclaim capacity

The charger can also produce conditioning or equalisation voltage which can be used on lead-acid battery banks to reclaim capacity.

## 03 High Capacity AND Stackable

The battery to battery charger has a stackable, modular design which means each module can supply between 80 and 768W that can be “stacked” to up to 1536W at 12V and 3072W at 24V.

## 04 Save on battery weight, space and cost

Reduce your battery bank. The Integrel Smart Charger keeps your low voltage batteries topped up to peak performance levels. This means lower voltage banks can be reduced freeing up critical space, reducing weight and cost.

## 05 Compact and Efficient

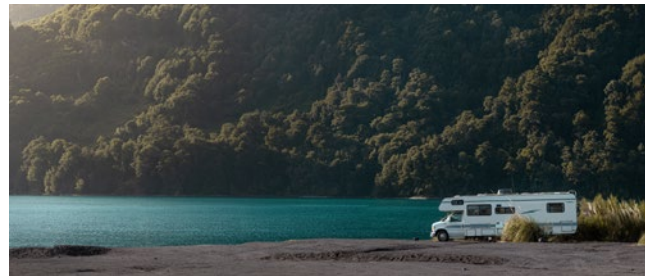
The Integrel Smart Charger comes in 12V, 24V or dual voltage. It has an extremely compact footprint due to the use of the latest components. These also increase efficiency. This efficiency means we can provide a much higher power rating than what is currently available. The modules are designed to have a very low parasitic element, this is done by switching on only the power stages that are required in 80W increments. The modules can also be paralleled for even greater capacity.

## 06 Safety First

The module automatically shuts down when the 48V bank gets too low but before that point the available power output becomes restricted. It can be automatically shut down by a system error for maximum safety. The Smart Charger communicates with the Integrel Smart Switch to provide an additional layer of safety

## 07 Stand-alone or Integrated

The module can work as a stand-alone unit but benefits from being connected to an Integrel battery bank sensor which provides a more accurate charge control and also allows the charger to be mounted anywhere on the boat without the need to worry about voltage drop. The system also connects to the rest of the Integrel system to provide real-time screen



## Specifications

### Battery to battery charger

**Voltage input** 20V to 60V

**Voltage output** 10-16V for 12 voltsystems, 20-32V for 24V systems

**Power output** 0 – 3kW at 12 volt / 0-6kW at 24 Volt in 80W increments CAN addressable and controllable . Bluetooth LE

### Safety

**Prevents 12V/24V back-flow to a disconnected 48V bank** Input and output fuse protected Voltage, current and temperature monitored

### Technologies

**Latest MOSFET technology increases efficiency Planar transformer design decreases footprint and increases efficiency**

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