

## ProCharge Ultra

- Power Factor Corrected -  
Power Pack



IP 22



IBEX innovation award  
Louisville, KT



UK magazine:  
Sailing Today

USA magazine:  
Sail

### Press release:

With our years of experience in this market everything we could possibly think of was combined into this product range, resulting in the **Ultimate Battery Charger**. However, do not take our word for it, this was recently confirmed on its first competitive test with **Sailing Today Magazine** where it won **Premium Product** against the toughest competitors (Mastervolt and Victron plus others). It was described as **"this has to be the most flexible marine charger on the market today"**. Similarly, the **Pro Charge Ultra** won the innovation award at **IBEX Kentucky 2010**, the largest International Boat building Exhibition in the USA where the **Pro Charge Ultra** has been recently released onto the market.

### IUoUo predictive 4 stage constant current

Safety Certified by:



To Standards:  
UL 1236 SB  
CSA C22.2-107.2



EN ISO 13297  
Small Craft Directive  
RoHS compliant

### Automatic Desulphation / Equalization

Every 7-10 days the **Pro Charge Ultra** undertakes a desulphation / equalisation and anti-stratification program which keeps your batteries young and rejuvenated.

### Voltage + Current LED display

2 LED matrix displays. The left matrix displays the voltage output from the charger and the right matrix displays the current leaving the charger.

### Performance monitoring LED bar

A bar of LEDs display the percentage to which the **Pro Charge Ultra** battery charger is operating at. This is easily and quickly recognised at a glance and can be easily analysed.

### 32 LED display

32 LEDs built in to the front panel provides all the necessary information about the charger including: charging status, battery chemistry select, temperature and voltage warnings along with many others.

### Redundant safety system

In the event of a failure of the processor provides another safety system to shut off the device. Doubling the levels of security.

### Variable fan speed

The internal temperature of the device ultimately runs the speed of the fan. This guarantees a minimum possible noise.

So called **'thermostatically controlled force draft cooling'**

### Programmable power reduction

The **Pro Charge Ultra** can also charge with variable performance levels. The following performance levels available are: 100%, 75%, 50% & 25%. This can be controlled via the front panel or via programming the remote control. Power reduction is often used if the power supply to the charger is inadequate (e.g. small generator) but still enables competent levels of battery charging. Another benefit of power reduction is to reduce fan noise, as less heat is liberated.

### Three isolated charge outputs (PCU 12V/10A has 2 outputs)

The **Pro Charge Ultra** has 3 isolated charging outputs. Thus, 3 batteries or battery banks can charge without the batteries themselves being interconnected, e.g. Starter, domestic and generator starter battery. If an output is not required is, then a bridge is required between the outputs.

### Small, lightweight and powerful

The **Pro Charge Ultra** series is characterised by its very compact, low weight and small footprint structure. The 12V / 60A model only weighs



12v 10 amp to 40 amp  
24 v 20 amp



12v 50 amp & 60 amp  
24 v 30 amp

### What size of charger do I need?

Most companies recommend a battery charger to be about 10% of the amp hr capacity of the batteries requiring to be charged. However, if you have a gen set onboard and you wish to charge your batteries faster - to save fuel, then depending on your budget, you can easily double the charger size to reduce your generator running hours and achieve the charge faster.

### Larger requirements?

After your final calculations are made and you require a larger charger than the Sterling range, because they are digital chargers, **can be added together**. For larger requirements simply add units (2-3-4 etc) together to meet your requirements. Multiple smaller units can offer some advantages over 1 larger unit: They tend to be lower cost, have a built in redundancy (in event of one failing) and enables you to switch one off in the event of low shore power facility.

### Global Application

The **Pro Charge Ultra** will operate with AC voltages ranging from 80V-270VAC (40- 70Hz) and DC voltages of 130-320VDC.

### Power Factor Correction

Power efficiency of the **Pro Charge Ultra** is significantly higher than its predecessors. The PCU runs at >90% efficiency and the power factor is rated at 0.99PFC this is in contrast to a non-PFC charger which runs at approximately 65% efficiency. Thus, the same power output with a reduced power input saving you money on kilowatt-hours. Other major benefits of PFC allows the unit to run off a dirty/modified/quasi sine wave from a generator (example). The other advantage of this technique is less heat is liberated during operation, therefore reduced use of fan.

### Synchronized Rectification

Modern, synchronized rectification with MOSFET technology makes the **Pro Charge Ultra** Series 9% more effective. Less heat liberated and increased efficiency are also features of this latest technology. **Elegant yet functional design**

The **Pro Charge Ultra** housing was designed by a renowned American product designer. In the foreground stands optimal function and clean lines. The housing is made of plastic and the back is made of well protected metal plate with the latest corrosion coatings, all other metal fixture and fittings are stainless steel or non ferrous.

### Splash protection

For vertical mounting, the unit has drip water protection. The protection class is IP22. It meets the requirements of the ABYC drip test.

### 11 preset charging algorithms & 1 custom set

The **Pro Charge Ultra** has 11 different charging characteristics for corresponding types of batteries: Gel, AGM, sealed, open, calcium, LiFePO<sub>4</sub>. If these should not suffice there is 1 customizable setting which the user can set themselves - simply enter the absorption and float voltages then press enter and the settings save.



**Specification**  
 110 x 68 x 20 mm including  
 10 metres of cable  
 Unique remote housing can be surface mounted, recess mounted or flush mounted

**New features on this product surpassing that of standard battery chargers include:**

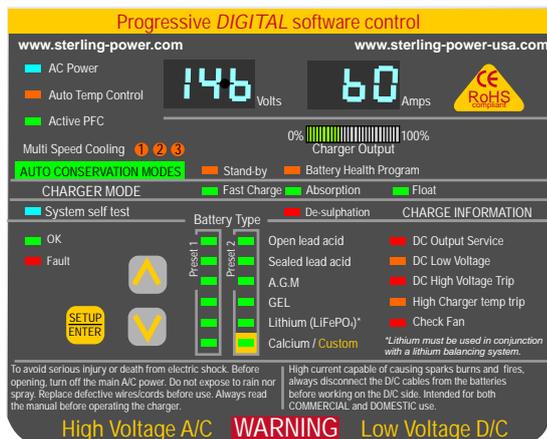
- 1) **11 pre-programmed battery curves including:** Open/Sealed lead acid, AGM, Gel, LiFePO<sub>4</sub>.
- 2) **1 custom set**, can be set from charger, unlike our competitors there is no need for a computer to do this operation, all can be done from the front panel.
- 3) **2 x digital meters** for current and voltage measurement and a 32 LED information display.
- 4) **1 x power meter** to show what reserve power left in the unit.
- 5) **PFC**, active, up to 0.99 PF, ensuring efficient power conversion, up to almost 90% as opposed to about 60% for older, non-PFC technology.
- 6) **% power reduction** to allow unit to work with restricted power available (available on local control or remote control panel).
- 7) **De-sulphation** auto cycle built in to software.
- 8) New, low activity, standby mode to increase battery life.
- 9) Battery health program every 7-10 days.
- 10) **Multiple speed fan control**. This reduces unnecessary fan noise experienced by the customer, even though the new extreme efficiency reduces the need for fans. At high ambient temperatures (40-50 deg C), however, fans would still be required to ensure operation.
- 11) **Primary** (processor digitally controlled) and an emergency backup **secondary** (analogue controlled) high voltage trip.
- 12) 32 LED information panel to ensure maximum information transmitted to owner.
- 13) Internal scan and systems check to ensure product is okay.
- 14) **Remote control option**.
- 15) **Small footprint and light weight**.
- 16) Include battery temperature sensor to give temperature compensation and high temp trip.
- 17) As with all our marine chargers all metals used are non-ferrous or heavily protected, so no corrosion.
- 18) **New synchronised rectification** output as opposed to diode output, giving up to an extra 9% efficiency.
- 19) **Conforms to ABYC drip test**, is waterproof from water directly dropped on to the top of the unit (+/- 17 deg) if installed correctly (vertically).
- 20) **Thermostatically controlled force draft cooling**.
- 21) The printed circuit boards are conformal coated for high humidity and salt air operations.

### Remote Control (optional)

With the optional remote control can many features can be operated from a distance and all important information can be read. The Remote control can be used both as an installation or attached as a mounted unit.

Information from the remote control

- Charging voltage (V) and charge current (A)
- Charging stage and duration
- Configured Battery Type
- Temperature of the charger
- Temperature of the battery
- Error Messages

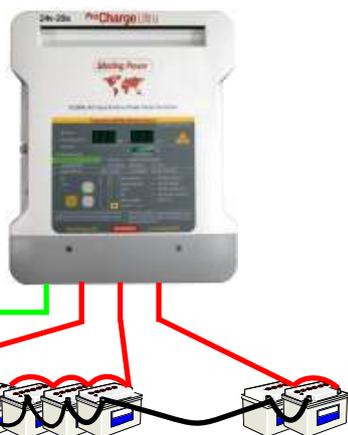


### Pro Charge Ultra front panel

Local Information Center  
 32 x LED display panel  
 2 x LED digital meters  
 1 x digital power meter

#### 12V / 60A model, all other units pro rata

Input voltage range	80-270V	40-70 Hz
Power Factor at 230V	0.976	
Efficiency	90.4%	
Full load current ( 110/230v )	9.8/4.6 amps	
Total Harmonic Distortion	2.4% voltage	
Total Harmonic Distortion	2.4% current	
Ripple noise ( R.M.S. )	14mV	
Ground leakage	0.5 mA	
Generator/ mains power required to run unit ( watts )		
12 v 20 amp approx	350 watts	<b>EN61000-3-2</b>
12 v 30 amp approx	500 watts	<b>EN61000-3-3</b>
12 v 40 amp approx	600 watts	<b>EN50081-1</b>
12 v 50 amp approx	750 watts	<b>EN60335-2-29</b>
12 v 60 amp approx	900 watts	
24 v 20 amp approx	600 watts	
24 v 30 amp approx	900 watts	
voltmeter accuracy	+/- 1%	
ammeter accuracy	+/- 1%	



Pro Charge Ultra 80-270 V 40-70 Hz a/c input						
D/C voltage	Amps	Number of outputs	Size L x W x D mm	Weight kg	Part nos	
12	10	2	260 x 215 x 90	2.0	PCU1210	
12	20	3	260 x 215 x 90	2.0	PCU1220	
12	30	3	260 x 215 x 90	2.0	PCU1230	
12	40	3	260 x 215 x 90	2.0	PCU1240	
12	50	3	315 x 215 x 90	3.0	PCU1250	
12	60	3	315 x 215 x 90	3.0	PCU1260	
For larger current requirements simply add 2 or more units together.						
24	20	3	260 x 215 x 90	2.0	PCU2420	
24	30	3	315 x 215 x 90	3.0	PCU2430	
Remote control plus 10 metres of cable				110 x 68 x 20	0.05	PCUR

## Battery Chemistry Module

You may have a requirement to mix you battery types ( chemistry ) ie AGM and Traction or voltages ie 12 and 24 v , in which case please look at our new range of **Battery Chemistry Modules** designed to simply add to this product and acheive the perfect battery mixture

