



With boat owners in mind, this adaptive, 5-step charger can provide either 30 A or 50 A of charge to each of the three battery banks. The Phoenix 1+1 model provides 3 A to the starter battery and the rest to the 'house' bank. 24 V models are available with 16 A / 25 A charge. The device is Bluetooth enabled, allowing you to monitor the charger and set alarms straight from your phone. This device offers adaptive, intelligent, dynamic charge features.

Any Bluetooth-enabled smart phone, tablet or other device can be used to monitor, to change settings and to update the charger when new software features become available.



Phoenix Smart 12/30 (1+1)

The Phoenix Smart (1+1) has two outputs to charge two battery banks. The second output, limited to approximately 3 A, with a slightly lower output voltage, is intended to top up a starter battery. **The Phoenix Smart (3)** has three full current outputs to charge three battery banks. Each output can supply the full rated output current, but the total of the three outputs combined can never exceed the current rating of the charger.

The charger compensates for voltage drop over the DC cabling by slightly increasing output voltage when the DC current increases.



The **Phoenix Smart Charger** features our well-known 'adaptive' battery management system that can be preset to suit different types of batteries. The 'adaptive' feature will automatically optimise the charge process relative to the way the battery is being used.

When only shallow discharges occur (a yacht connected to shore power for example) the absorption time is kept short in order to prevent overcharging of the battery. After a deep discharge the absorption time is automatically increased to make sure that the battery will be fully charged.

If, in order to quickly charge a battery, a high-charge current in combination with a high-absorption voltage has been chosen, the charger will prevent damage due to excessive gassing by automatically limiting the rate of voltage increase once the gassing voltage has been reached (see the charge curve between 14,4 V and 15,0 V in fig. 2).

The Storage Mode kicks in whenever the battery has not been subjected to discharge for a period of 24 hours. In the Storage Mode float voltage is reduced to 2,2 V/cell (13,2 V for a 12 V battery) to minimise

gassing and corrosion of the positive plates. Once a week the voltage is raised back to the absorption level to 'equalize' the battery. This feature prevents stratification of the electrolyte and sulphation, a major cause of early battery failure.

Also charges Li-ion (LiFePO4) batteries. Charger on-off control can be implemented by connecting a relay or open collector optocoupler output from a Li-ion BMS to the remote on-off port. Alternatively, full control of voltage and current can be achieved with Bluetooth.

The charge algorithm can be programmed with the help of Bluetooth or the VE.Direct interface. Three preprogrammed algorithms can be selected with the mode button (see specifications).

The remote on/off consists of two terminals: Remote H and Remote L. A remote on/off switch or relay contact can be connected between H and L. Alternatively, terminal H can be pulled high, or terminal L can be pulled low.

Features & Benefits:

- Bluetooth Smart enabled
- Phoenix Smart (1+1): two outputs to charge two battery banks
- Phoenix Smart (3): three full current outputs to charge three battery banks
- Automatic voltage compensation
- Adaptive 5-stage charge algorithm: bulk – absorption – recondition – float – storage
- The right amount of charge: variable absorption time
- Preventing damage due to excessive gassing: the Battery Safe mode (see fig. 2)
- Less maintenance and aging when the battery is not in use: the Storage Mode (see fig. 1 & 2)
- Charges Li-ion (LiFePO4) batteries
- Fully programmable charge algorithm
- Remote on-off
- VE.Direct interface
 - For a wired data connection to a colour control panel, PC or other devices.
 - Please see the VictronConnect app under Downloads / Software on the Victron Energy website.
- Programmable relay
 - Can be programmed using the VE.Direct interface or a Bluetooth-enabled device to trip on an alarm or other events



Phoenix Smart 12/50 (3)

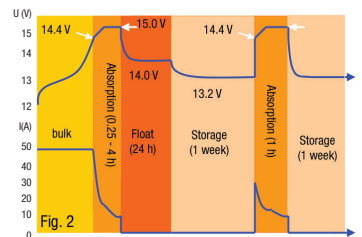
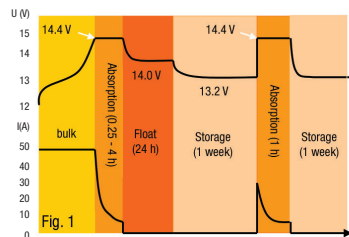
Phoenix Smart IP43 Charger	12 V, 2 outputs		12 V, 3 outputs		24 V, 2 outputs		24 V, 3 outputs	
	12/30 (1+1) Part No.: TBA		12/30 (3) Part No.: TBA		24/16 (1+1) Part No.: TBA		24/16 (3) Part No.: TBA	
	12/50 (1+1) Part No.: T120016943		12/50 (3) Part No.: T120016944		24/25 (1+1) Part No.: TBA		24/25 (3) Part No.: TBA	
Input Voltage	230 Vac (range: 210-250 V)							
DC Input Voltage Range	290-455 Vdc							
Frequency	45-65 Hz							
Power Factor	0.7							
Back Current Drain	AC disconnected: < 0,1 mA AC connected and charger remote off: < 6 mA							
No Load Power Consumption	1 w							
Efficiency	12/30: 94 % 12/50: 92 %		12/30: 94 % 12/50: 92 %		94 %		94 %	
Charge Voltage 'Absorption'	Normal: 14.4 V High: 14.7 V Li-ion: 14.2 V				Normal: 28.8 V High: 29.4 V Li-ion: 28.4 V			
Charge Voltage 'Float'	Normal: 13.8 V High: 13.8 V Li-ion: 13.5 V				Normal: 27.6 V High: 27.6 V Li-ion: 27.0 V			
Storage Mode	Normal: 13.2 V High: 13.2 V Li-ion: 13.5 V				Normal: 26.4 V High: 26.4 V Li-ion: 27.0 V			
Fully Programmable	Yes, with Bluetooth and/or VE.Direct							
Charge Current House Battery	30/50 A		30/50 A		16/25 A		16/25 A	
Low Current Mode	15/25 A		15/25 A		8/12.5 A		8/12.5 A	
Charge Current Starter Battery	3 A (1+1 output models only)							
Charge Algorithm	5-stage adaptive							
Protection	Battery reverse polarity (fuse, not user accessible) / Output short circuit / Over temperature							
Can be Used as Power Supply	Yes, output voltage can be set with Bluetooth and/or VE.Direct							
Operating Temp. Range	-20° to 60° C (0-140° F) Rated output current up to 40° C, derate linearly to 20 % at 60° C							
Humidity (Non-Condensing)	Max. 95 %							
Relay (Programmable)	DC rating: 5 A up to 28 Vdc							
Enclosure								
Material & Colour	Aluminium (blue RAL 5012)							
Battery-Connection	Screw terminals 16 mm ² (AWG6)							
AC-Connection	IEC 320 C14 inlet with retainer clip (AC cord with country-specific plug must be ordered separately)							
Protection Category	IP43 (electronic components), IP22 (connection area)							
Weight	3.5 kg							
Dimensions (h x w x d)	180 x 249 x 100 mm							
Standards								
Safety	EN 60335-1, EN 60335-2-29							
Emission	EN 55014-1, EN 61000-6-3, EN 61000-3-2							
Immunity	EN 55014-2, EN 61000-6-1, EN 61000-6-2, EN 61000-3-3							
Vibration	IEC68-2-6:10-150Hz/1.0G							



Retainer clip (included)



AC cord (must be ordered separately)
 Plug options:
 Europe: CEE 7/7
 UK: BS 1363
 Australia/New Zealand: AS/NZS 3112



Charge curves: up to the gassing voltage (fig.1), and exceeding the gassing voltage (fig.2)

These may not be stock items. Please speak to our sales representative about lead times. Lead times, price and availability can only be determined on receipt of an official quote from our supplier. This can sometimes take up to 3 days.

Gauteng - Jet Park (HQ):

T: +27 (0)23 5650

Free State - Bloemfontein:

T: +27 (0)63 257 0505

Eastern Cape - Port Elizabeth:

T: +27 (0)81 036 9111

KwaZulu Natal - Pinetown:

T: +27 (0)31 303 4129

Mpumalanga - Middelburg:

T: +27 (0)13 692 8132

Northern Cape - Kathu:

T: +27 (0)53 723 3415

Northern Cape - Springbok:

T: +27 (0)60 570 8092

North West - Rustenburg:

T: +27 (0)14 596 5257

Western Cape - Cape Town:

T: +27 (0)21 945 1453

Botswana, Gaborone:

T: +267 399 4150

Botswana, Jwaneng:

T: +267 588 7617

Botswana, Letlhakane:

T: +267 297 8568

Mozambique, Tete:

T: +258 252 20666

Zambia, Kitwe:

T: +26 (0)21 222 5338

Follow us...



Call us today!
TRYSOME
 AUTO-ELECTRICAL ENGINEERING