Blue Smart IP22 Charger

230 VAC VE.Smart Network enabled

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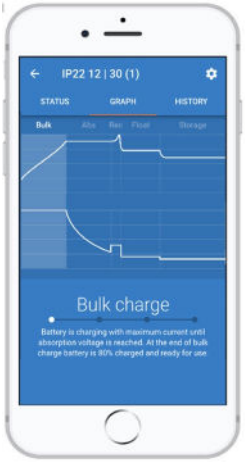
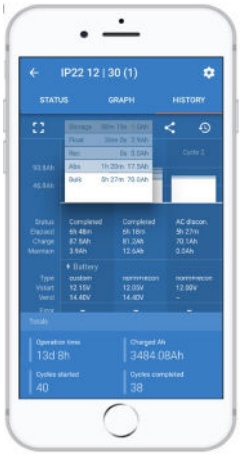
Blue Smart IP22 12/30 (3)



Graph screen



One of the history screens

Bluetooth Smart
The wireless solution to monitor voltage and current, to change settings and to update the charger when new features become available.

High efficiency
With up to 94 % efficiency, these chargers generate up to four times less heat when compared to the industry standard.
And once the battery is fully charged, power consumption reduces to 0,5 Watt, some five to ten times better than the industry standard.

Adaptive 6-stage charge algorithm: test - bulk – absorption - recondition – float – storage
The Blue Smart Charger features a microprocessor controlled 'adaptive' battery management. The adaptive feature will automatically optimize the charging process relative to the way the battery is being used.

Fully programmable charge algorithm
Absorption, Float and Storage voltages as well as the Recondition setting and the temperature compensation value can be programmed with the Bluetooth app.
After enabling the Expert mode, the app allows changing practically all parameters and time limits used by the charge algorithm.

Storage Mode: less maintenance and aging when the battery is not in use
The storage mode kicks in whenever the battery has not been subjected to discharge for 24 hours. In the storage mode float voltage is reduced to 2,2 V/cell (13,2 V for a 12 V battery) to minimize 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 sulfation, which are major causes of early battery failure.

Also charges Li-ion batteries
Li-ion batteries are charged with a simple bulk – absorption – float algorithm.

Fully discharged battery recovery function
Will initiate charging even if the battery has been discharged to zero volts.
Will reconnect to a fully discharged Li-ion battery with internal disconnect function.

NIGHT and LOW setting
When in NIGHT or LOW mode, the output current is reduced to max. 50 % of the nominal output and the charger will be totally noiseless. The NIGHT mode automatically ends after 8 hours. The LOW mode can be ended manually.

Protected against overheating
Output current will reduce as temperature increases up to 50 °C, but the Blue Smart Charger will not fail.

Eleven LEDs for status indication
Charge algorithm: TEST / BULK / ABSORPTION / RECONDITION / FLOAT / STORAGE / READY.
MODE button to set: NORMAL (14,4 V) / HIGH (14,7 V) / RECONDITION / LI-ION.

Forty cycle history log
The history screen contains historical usage data over the charger's lifetime and detailed statistics for the last 40 charge cycles.

VE.Smart Networking
The VE.Smart Network is a wireless device to device (D2D) communication network between Victron products, using Bluetooth Smart.

Optional battery voltage and temperature compensation, and current sensing
The VE.Smart Network opens the possibility to optimize the charge process: a Smart Battery Sense, Smart Battery Monitor or a SmartShunt can be used to communicate battery voltage and temperature to one or more battery chargers. A Smart Battery Monitor or SmartShunt will also communicate battery current.

Synchronized parallel charging
Synchronize up to ten battery chargers in a VE.Smart network to make them charge a battery as if they were one large charger. The chargers will synchronize the charge algorithm between them. They will simultaneously switch from one charge state to another, for example from bulk to absorption.
Synchronized parallel charging has several interesting advantages:

- Redundancy: if one charger stops for whatever reason, the other chargers will continue to operate.
- Flexibility: simply add a charger to the network if more current is needed.
- Cost: several low power chargers will in general cost less than one high power charger.
- Installation: several low power chargers may be easier to fit in a confined space.

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Blue Smart IP22 Charger	12 V, 1 output 15 / 20 / 30 A	12 V, 3 outputs 15 / 20 / 30 A	24 V, 1 output 8 / 12 / 16 A	24 V, 3 outputs 16 A
Input voltage range	180 – 265 VAC		180 – 265 VAC	
Charge current, normal mode	15 / 20 / 30 A		8/12/16 A	
Charge current, NIGHT or LOW	7,5 / 10 / 15 A		4 / 6 / 8 A	
Efficiency	93 %		94 %	
No load power consumption	0.5 W		0.5 W	
Frequency	45 – 65 Hz		45 – 65 Hz	
Number of outputs	1	3	1	3
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	
Charge voltage 'storage'	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	
Charge algorithm	6-stage adaptive			
Can be used as power supply	Yes			
Protection	Battery reverse polarity (fuse) Output short circuit Over temperature			
Operating temp. range	-40 to +60 °C (full rated output up to 40 °C)			
Humidity (non-condensing)	Max 98 %			
ENCLOSURE				
Material & Colour	Aluminium (blue RAL 5012)			
Battery connection	Screw terminals 16 mm² / AWG6			
230 VAC connection	Cable of 1,5 meter with CEE 7/7 plug, BS 1363 plug (UK) or AS/NZS 3112 plug (AU/NZ)			
Protection category	IP22			
Weight	1,3 kg			
Dimensions (h x w x d)	235 x 108 x 65 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			
Automotive	ECE R10-5			



Smart Battery Sense
Enables temperature and voltage compensated charging.



BMV-712 Smart Battery Monitor



SmartShunt

BMV-712 Smart Battery Monitor or SmartShunt enables temperature and voltage compensated charging.
The battery charge current information can for example be used to switch from absorption charging to float charging at a set battery tail current.

Notes

1. The VE.Smart Network feature is enabled on all IP22 chargers with serial number HQ2024xxxxx and later.
2. Models with different current ratings can be paralleled and synchronized.

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