Skylla-IP44 Battery Charger

12V/60A and 24V/30A, input voltage range 90-265V

Skylla-IP44 12/60 (1+1)

Skylla-IP44 (1+1): two outputs to charge 2 battery banks
The Skylla-IP44 (1+1) features 2 isolated outputs. The second output, limited to approximately 3A and with a slightly lower output voltage, is intended to top up a starter battery.

Skylla-IP44 (3): three full current outputs to charge 3 battery banks
The Skylla-IP44 (3) features 3 isolated outputs. All outputs can supply the full rated output current.

IP44 protection
Steel epoxy powder coated case and splash proof. Withstands the rigors of an adverse environment: heat, humidity and salt air.
Circuit boards are protected with an acrylic coating for maximum corrosion resistance.
Temperature sensors ensure that power components will always operate within specified limits, if needed by automatic reduction of output current under extreme environmental conditions.

LCD display
For status monitoring and to easily adapt the charge algorithm to a particular battery and its conditions of use.

CAN bus interface (NMEA2000)
To connect to a CAN bus network, to a Skylla-i Control panel or to the Color Control digital display.

Synchronised parallel operation
Several chargers can be connected in parallel and synchronised with help of the CAN bus interface. This is achieved by simply interconnecting the chargers with RJ45 UTP-cables.

The right amount of charge for a lead-acid battery: variable absorption time
When only shallow discharges occur 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 is completely recharged.

Preventing damage due to excessive gassing: the BatterySafe mode
If, in order to quickly charge a battery, a high charge current in combination with a high absorption voltage has been chosen, the Skylla-IP44 will prevent damage due to excessive gassing by automatically limiting the rate of voltage increase once the gassing voltage has been reached.

Skylla-IP44 12/60 (1+1)

Less maintenance and aging when the battery is not in use: the Storage mode
The Storage mode kicks in whenever the battery has not been subjected to discharge during 24 hours. In the storage mode float voltage is reduced to 2,2V/cell (26,4V for 24V battery) to minimise gassing and corrosion of the positive plates. Once a week the voltage is raised back to the absorption level to 'refresh' the battery. This feature prevents stratification of the electrolyte and sulphation, a major cause of early battery failure.

To increase battery life: temperature compensation
Every Skylla-IP44 comes with a battery temperature sensor. When connected, charge voltage will automatically decrease with increasing battery temperature. This feature is especially recommended for sealed lead-acid batteries and/or when important fluctuations of battery temperature are expected.

Battery voltage sense
In order to compensate for voltage loss due to cable resistance, the Skylla-IP44 is provided with a voltage sense facility so that the battery always receives the correct charge voltage.

Use as a power supply
As a result of the excellent control circuit, the Skylla-IP44 can be used as a power supply with perfectly stabilized output voltage if batteries or large buffer capacitors are not available.

Li-Ion (LiFePO4) ready
Simple charger on-off control can be implemented by connecting a relay or open collector opto coupler output from a Li-Ion BMS to the remote control port of the charger. Alternatively complete control of voltage and current can be achieved by connecting to the CAN bus port.

Learn more about batteries and battery charging
To learn more about batteries and charging batteries, please refer to our book 'Energy Unlimited' (available free of charge from Victron Energy and downloadable from www.victronenergy.com).

Skylla-IP44	12/60 (1+1)	12/60 (3)	24/30 (1+1)	24/30 (3)
Input voltage (VAC)	120/230 V			
Input voltage range (VAC)	90-265 V			
Maximum AC input current @ 100 VAC	10 A			
Frequency	45-65 Hz			
Power factor	0,98			
Charge voltage 'absorption' (1)	14,4 V		28,8 V	
Charge voltage 'float'	13,8 V		27,6 V	
Charge voltage 'storage'	13,2 V		26,4 V	
Charge current (2)	60 A	3 x 60A (max total output: 60 A)	30 A	3 x 30 A (max total output: 30 A)
Charge current starter batt. (A)	3 A	n. a.	3 A	n. a.
Charge algorithm	7 stage adaptive			
Battery capacity	300-600 Ah		150-300 Ah	
Charge algorithm, Li-Ion	3 stage, with on-off control or CAN bus control			
Temperature sensor	Yes			
Can be used as power supply	Yes			
Remote on-off port	Yes (can be connected to a Li-Ion BMS)			
CAN bus communication port (VE.Can)	Two RJ45 connectors, NMEA2000 protocol, not isolated			
Synchronised parallel operation	Yes, with VE.Can			
Alarm relay	DPST AC rating: 240VAC/4A DC rating: 4A up to 35VDC, 1A up to 60VDC			
Forced cooling	Yes (internal air circulation)			
Protection	Battery reverse polarity (fuse) Output short circuit Over temperature			
Operating temp. range	-20 to 60℃ (Full output current up to 40℃)			
Humidity (non-condensing)	max 95%			
ENCLOSURE				
Material & Colour	steel (blue RAL 5012)			
Battery-connection	M6 bolts			
230 VAC-connection	screw-clamp 6mm^2 (AWG 10)			
Protection category	IP44			
Weight	6kg (14 lbs)			
Dimensions (hxwxd)	401 x 265 x 151 mm 16 x 10,5 x 6 inch			
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			

1) Output voltage range 10-16V resp. 20-32V.

2) Up to 40℃ (100°F) ambient.
   Output will reduce to 80% at 50℃, and to 60% at 60℃.

BMV-700 Battery Monitor

The BMV-700 Battery Monitor features an advanced microprocessor control system combined with high resolution measuring systems for battery voltage and charge/discharge current.
The software includes complex calculation algorithms, like Peukert's formula, to exactly determine the state of charge of the battery. The BMV-700 selectively displays battery voltage, battery current, consumed Ah or time to go.

Skylla-i Control

The Skylla-i Control panel provides remote control and monitoring of the charge process with LED status indication. In addition, the remote panel also offers input current adjustment that can be used to limit the input current and thus the power drawn from the AC supply. This is particularly useful when operating the charger from limited shore power or small gensets. The panel can also be used to change several battery charging parameters.
Several control panels can be connected to one charger or to a set of synchronised and parallel connected chargers.

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