

DC-DC converter-chargers

DCPOWER+ 800W



Silent



No derating



Bluetooth

SD 200W



Lithium ready



CAN-BUS
Interface



DCPOWER+

3

Warranty 3 years



8.9/10 Repairability index

To select battery technology

DC output

0V common

DC input



Bluetooth

Presentation

DCPOWER+ converter-chargers have been designed to charge a 12, 24, 36 or 48V battery bank from a 12, 24, 36 or 48V network. The most typical case of use is the 24V bow-thruster battery bank charge from the 12V onboard network (model YPO12- 24/30). They also allow a LiFePO4 battery to be recharged from a Lead battery connected to an alternator.

Thanks to their large scale of input and output voltage, they can be configured as a simple converter or as a battery charger. In this case, the charging curve delivered is the same as the one of a smart charger :

- 5 steps
- all types of batteries



Silent operating

CRISTEC is the only manufacturer offering 800W converter-chargers with natural convection (without fan). This advantage gives the DCPOWER+ chargers a completely silent operation and an optimized lifespan. It is therefore possible to install them anywhere on board, including under a berth.



Low energy bluetooth

The chargers are equipped with a Bluetooth Low Energy (BLE), variant of "classic" Bluetooth. The major advantage of BLE is its low power consumption as it consumes half of a classic Bluetooth.



No derating

Chargers have full charge up to +60°C (140°F) with no loss, resistant to harsh environments.



Ignition protected

They can be installed in the engine room thanks to ISO8846/SAE J1171 compliance which protects against ignition of flammable gases.



5-stage charging profile

- **Boost**: charges batteries to 80% of full charge
- **Absorption**: slowly completes remaining charge to 100%
- **Floating**: maintains battery charge
- **Automatic refresh**: prevents sulphation and revitalizes batteries, selectable by keypad pushbutton
- **Reboost**: new automatic Boost phase if DC consumers and the state of batteries so require.



Adaptive charging

DCPOWER+ chargers are compatible with all types of batteries:

- Opened classic lead
- Sealed, gel or AGM
- Spiral sealed



Lithium Iron Phosphate (LiFePO4) with BMS
Selection of your technology of battery is easy to do through the cover keypad.



Remote control

The chargers are fitted with CAN-Bus and Bluetooth interface.



Part Number	DC12-12/60PL	DC12-24/30PL	YPO12-36/15	YPO12-48/10
Model	12-12V/60A	12-24V/30A	12-36V/15A	12-48V/10A
Recommended battery bank*	500-700Ah	200-400Ah	100-200Ah	80-120Ah
Input				
Voltage	10V -16V		10V -64V	
Maximum current	65A		45A	
Nominal Power	900W		675W	600W
Efficiency	92.8% in 240VAC & 91% in 120VAC			
Input fuses	3 * 25A /32V		3 * 20A /80V	
Output				
Number of battery banks	1			
Rated current	60A	30A	15A	10A
Charging curve	IU or IUoU through front keypad push-button or CAN-BUS (Boost, Absorption, Floating and Refresh – factory setting)			
Battery type	Lead sealed as factory setting - Other choices through internal setting: gel, AGM, calcium lead, lithium, stabilized power supply, etc.			
Boost voltage (default)	14.4VDC	28.8VDC	43,2VDC	57.6VDC
Floating voltage (default)	13.8VDC	27.6VDC	41,4VDC	52.2VDC
Regulation tolerance	< 2% (at rated conditions)			
Peak to peak ripple and noise	< 2% (at rated conditions)			
Automotive fuse	3 x 25A/32V	2 x 25A/32V	2 x 20A /80V	1 x 20A /80V
Environment				
Cooling	Natural (fanless)			
Sound level	0 dB			
Operating T°	From -20°C to +60°C (-4°F to 140°F), derating above 60°C (140°F). Above 65°C (149°F), current limitation			
Storage T°	From -20°C to +70°C (-4°F to 158°F)			
Relative humidity	up to 70% (95% without condensation)			
Bluetooth	Low energy bluetooth (BLE) - Power: +9dBm (frequency: 2412-2484MHz)			
Casing				
Material	Aluminium sink frame / Thermoplastic body			
Dimensions (length, height, depth)	238 x 220 x 81mm (9.4 x 8.7 x 3.2 in)		236 x 180 x 96mm (9.2 x 7.0 x 3.7 in)	
Weight	2kg (4.4 lb)			
Fixing center distance	219 x 155mm (8.6 x 6.1 in)			
Fixing screw (wall)	4 M5 round head screws			
Protection factor	IP22			
Electronic card protection	Water-repellent varnish (marine environment)			
Standards				
CE declaration of conformity	Available on request			
CE / EMC	EN61204-3			
CE / Security (renewal)	EN60335-2-29. E-marking E2*10R06/01*21068*00			
Protections				
Polarity reversal, short-circuit, abnormal overheating				
Communication				
CAN-Bus (NMEA on option) / Bluetooth				
Options				
Temperature probe ref: 2.8m: STP-UNI-2.8 or 5m: STP-UNI-5.0 / OTD probe (Over Temperature Device) / remote ON/OFF / + alternator STP-ALT-2.4 / Parallel mounting				
Remote control	G-ON/OFF-R-PL		G-ON/OFF-R	

* Overall battery capacity recommended for lead-type batteries, C/10. For Lithium batteries, C/3, consult us if needed.



Part Number	DC24-12/60PL	DC24-24/30PL	YPO24-36/20	YPO24-48/15
Model	24-12V/60A	24-24V/30A	24-36V/20A	24-48V/15A
Recommended battery bank*	500-700Ah	200-400Ah	150-250Ah	100-200Ah
Input				
Voltage	20V -32V		20V -64V	
Maximum current	32A		25A	32A
Nominal Power	900W			
Efficiency	96% typical			
Input fuses	2 x 25A /32V	2 x 25A /32V	3 x 20A /80V	2 x 20A /80V
Output				
Number of battery banks	1			
Rated current	60A	30A	20A	15A
Charging curve	IU or IUoU through front keypad push-button or CAN-BUS (Boost, Absorption, Floating and Refresh – factory setting)			
Battery type	Lead sealed as factory setting - Other choices through internal setting: gel, AGM, calcium lead, lithium, stabilized power supply, etc.			
Boost voltage (default)	14.4VDC	28.8VDC	43.2VDC	57.6VDC
Floating voltage (default)	13.8VDC	27.6VDC	41.4VDC	52.2VDC
Regulation tolerance	< 2% (at rated conditions)			
Peak to peak ripple and noise	< 2% (at rated conditions)			
Automotive fuse	3 x 25A/32V	2 x 25A/32V	2 * 20A /80V	1 * 20A /80V
Environment				
Cooling	Natural (fanless)			
Sound level	0 dB			
Operating T°	From -20°C to +60°C (-4°F to 140°F), derating above 60°C (140°F). Above 65°C (149°F), current limitation			
Storage T°	From -20°C to +70°C (-4°F to 158°F)			
Relative humidity	up to 70% (95% without condensation)			
Bluetooth	Low energy bluetooth (BLE) - Power: +9dBm (frequency: 2412-2484MHz)			
Casing				
Material	Aluminium sink frame / Thermoplastic body			
Dimensions (length, height, depth)	238 x 220 x 81mm (9.4 x 8.7 x 3.2 in)		236 x 180 x 96mm (9.2 x 7.0 x 3.7 in)	
Weight	2kg (4.4 lb)			
Fixing center distance	219 x 155mm (8.6 x 6.1 in)			
Fixing screw (wall)	4 M5 round head screws			
Protection factor	IP22			
Electronic card protection	Water-repellent varnish (marine environment)			
Standards				
CE declaration of conformity	Available on request			
CE / EMC	EN61204-3			
CE / Security (renewal)	EN60335-2-29. E-marking E2*10R06/01*21068*00			
Protections				
Polarity reversal, short-circuit, abnormal overheating				
Communication				
CAN-Bus (NMEA on option) / Bluetooth				
Options				
Temperature probe ref: 2.8m: STP-UNI-2.8 or 5m: STP-UNI-5.0 / OTD probe (Over Temperature Device) / remote ON/OFF / + alternator STP-ALT-2.4 / Parrallel mounting				
Remote control	G-ON/OFF-R-PL		G-ON/OFF-R	

* Overall battery capacity recommended for lead-type batteries, C/10. For Lithium batteries, C/3, consult us if needed.



36V

Part Number	YPO36-12/40	YPO36-24/30	YPO36-36/20	YPO36-48/15
Model	36-12V/40A	36-24V/30A	36-36V/20A	36-48V/15A
Recommended battery bank*	300-500Ah	200-400Ah	150-250Ah	100-200Ah
Input				
Voltage	30V -48V		30V -64V	
Maximum current	20A	25A		
Nominal Power	600W	900W		
Efficiency	96% typical			
Input fuses	2 x 20A /80V			
Output				
Number of battery banks	1			
Rated current	40A	30A	20A	15A
Charging curve	IU or IUoU through front keypad push-button or CAN-BUS (Boost, Absorption, Floating and Refresh – factory setting)			
Battery type	Lead sealed as factory setting - Other choices through internal setting: gel, AGM, calcium lead, lithium, stabilized power supply, etc.			
Boost voltage (default)	14.4VDC	28.8VDC	43.2VDC	57.6VDC
Floating voltage (default)	13.8VDC	27.6VDC	41.4VDC	52.2VDC
Regulation tolerance	< 2% (at rated conditions)			
Peak to peak ripple and noise	< 2% (at rated conditions)			
Automotive fuse	2 x 20A /80V			
Environment				
Cooling	Natural (fanless)			
Sound level	0 dB			
Operating T°	From -20°C to +60°C (-4°F to 140°F), derating above 60°C (140°F). Above 65°C (149°F), current limitation			
Storage T°	From -20°C to +70°C (-4°F to 158°F)			
Relative humidity	up to 70% (95% without condensation)			
Bluetooth	Low energy bluetooth (BLE) - Power: +9dBm (frequency: 2412-2484MHz)			
Casing				
Material	Aluminium sink frame / Thermoplastic body			
Dimensions (length, height, depth)	236 x 180 x 96mm (9.2 x 7.0 x 3.7 in)			
Weight	2kg (4.4 lb)			
Fixing center distance	219 x 155mm (8.6 x 6.1 in)			
Fixing screw (wall)	4 M5 round head screws			
Protection factor	IP22			
Electronic card protection	Water-repellent varnish (marine environment)			
Standards				
CE declaration of conformity	Available on request			
CE / EMC	EN61204-3			
CE / Security (renewal)	EN60335-2-29. E-marking E2*10R06/01*21068*00			
Protections				
Polarity reversal, short-circuit, abnormal overheating				
Communication				
CAN-Bus (NMEA on option) / Bluetooth				
Options				
Temperature probe ref: 2.8m: STP-UNI-2.8 or 5m: STP-UNI-5.0 / OTD probe (Over Temperature Device) / remote ON/OFF / + alternator STP-ALT-2.4 / Parrallel mounting				
Remote control	G-ON/OFF-R			

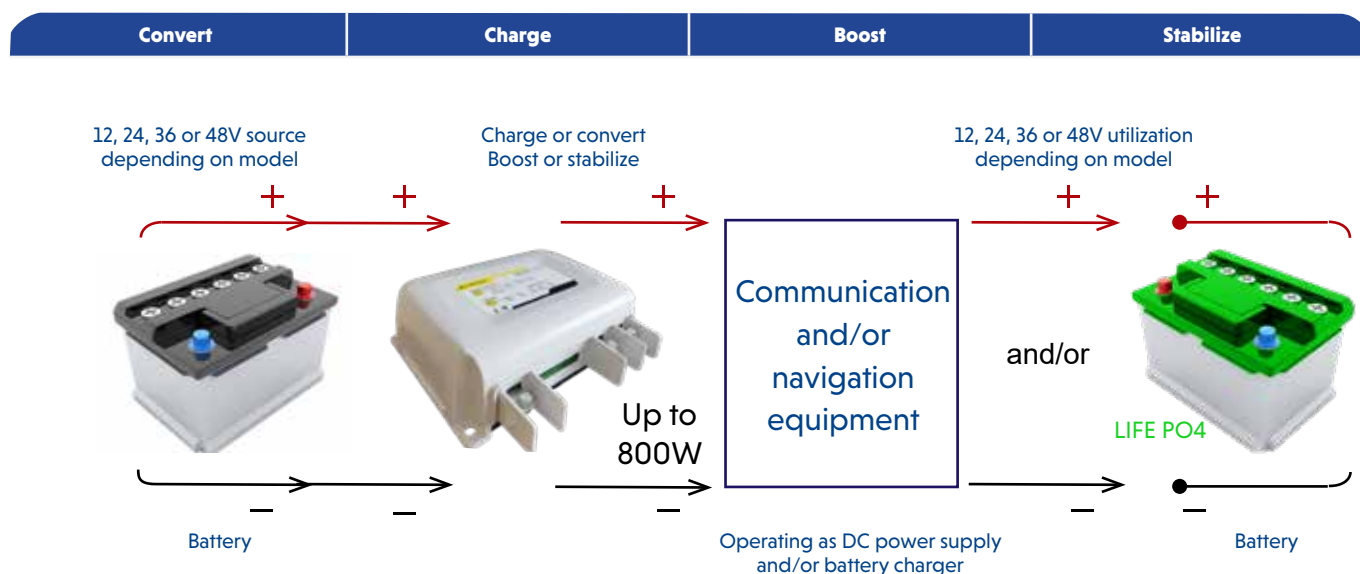
* Overall battery capacity recommended for lead-type batteries, C/10. For Lithium batteries, C/3, consult us if needed.



Part Number	YPO48-12/40	YPO48-24/30	YPO48-36/20	YPO48-48/15	YPO48-48/30
Model	48-12V/40A	48-24V/30A	48-36V/20A	48-48V/15A	48-48V/30A
Recommended battery bank*	300-500Ah	200-400Ah	150-250Ah	100-200Ah	200-400Ah
Input					
Voltage	40V-64V				
Maximum current	15A	20A			30A
Nominal Power	600W	900W			1800W
Efficiency	96% typical				
Input fuses	2 x 20A /80V				
Output					
Number of battery banks	1				
Rated current	40A	30A	20A	15A	30A
Charging curve	IU or IUoU through front keypad push-button or CAN-BUS (Boost, Absorption, Floating and Refresh – factory setting)				100-200Ah
Battery type	Lead sealed as factory setting - Other choices through internal setting: gel, AGM, calcium lead, lithium, stabilized power supply, etc.				
Boost voltage (default)	14.4VDC	28.8VDC	43,2VDC	57.6VDC	
Floating voltage (default)	13.8VDC	27.6VDC	41,4VDC	52.2VDC	
Regulation tolerance	< 2% (at rated conditions)				
Peak to peak ripple and noise	< 2% (at rated conditions)				
Automotive fuse	2 x 20A /80V				
Environment					
Cooling	Natural (fanless)				
Sound level	0 dB				
Operating T°	From -20°C to +60°C (-4°F to 140°F), derating above 60°C (140°F). Above 65°C (149°F), current limitation				
Storage T°	From -20°C to +70°C (-4°F to 158°F)				
Relative humidity	up to 70% (95% without condensation)				
Bluetooth	Low energy bluetooth (BLE) - Power: +9dBm (frequency: 2412-2484MHz)				
Casing					
Material	Aluminium sink frame / Thermoplastic body				
Dimensions (length, height, depth)	236 x 180 x 96mm (9.2 x 7.0 x 3.7 in)				
Weight	2kg (4.4 lb)				
Fixing center distance	219 x 155mm (8.6 x 6.1 in)				
Fixing screw (wall)	4 M5 round head screws				
Protection factor	IP22				
Electronic card protection	Water-repellent varnish (marine environment)				
Standards					
CE declaration of conformity	Available on request				
CE / EMC	EN61204-3				
CE / Security (renewal)	EN60335-2-29. E-marking E2*10R06/01*21068*00				
Protections					
Polarity reversal, short-circuit, abnormal overheating					
Communication					
CAN-Bus (NMEA on option) / Bluetooth					
Options					
Temperature probe ref: 2.8m: STP-UNI-2.8 or 5m: STP-UNI-5.0 / OTD probe (Over Temperature Device) / remote ON/OFF / + alternator STP-ALT-2.4 / Parrallel mounting					
Remote control	G-ON/OFF-R				

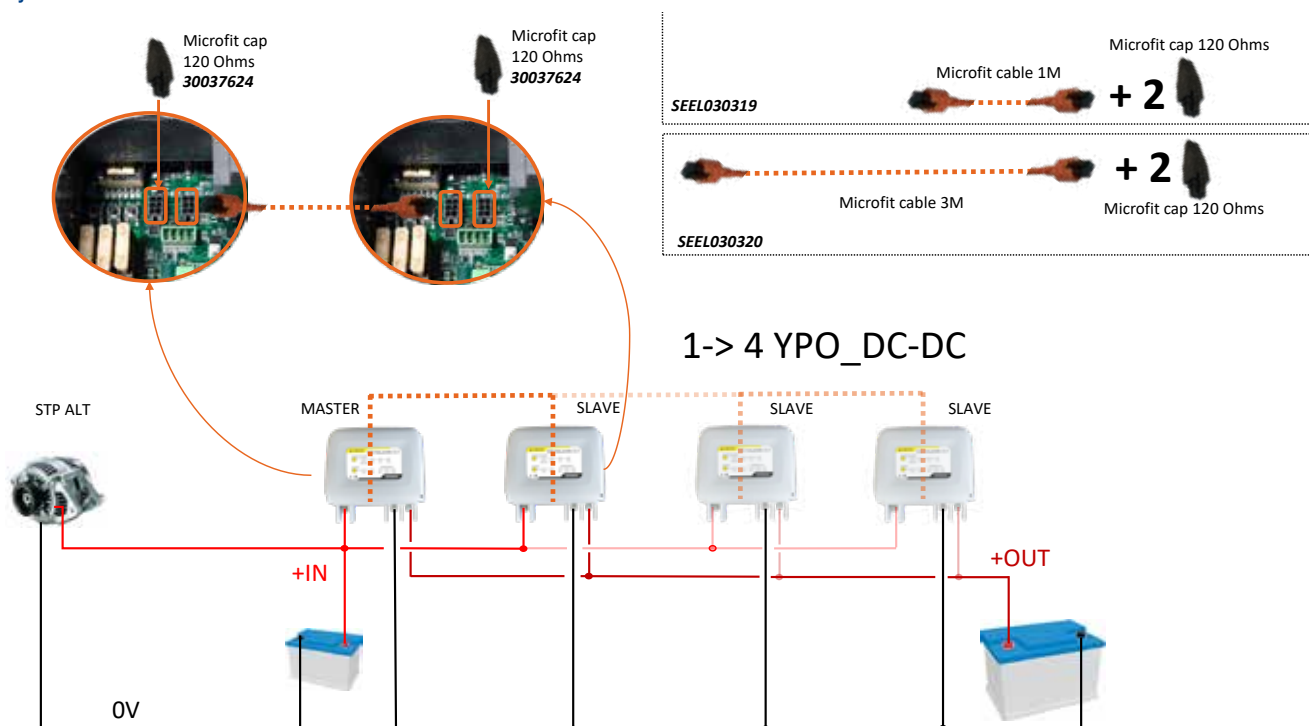
* Overall battery capacity recommended for lead-type batteries, C/10. For Lithium batteries, C/3, consult us if needed.

Typical installation



Parallel installation

Up to 4 units can be parallel-mounted using CAN-Bus.
The major unit will be declared as MASTER and the other ones as SLAVE.

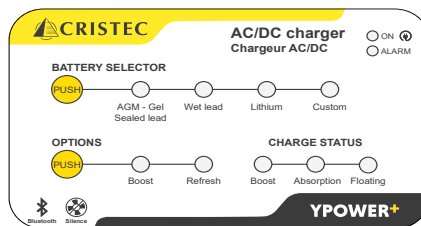


Flexible settings

Numerous settings are available such as output power limitation, input voltage starting threshold, maximum alternator probe temperature, etc.

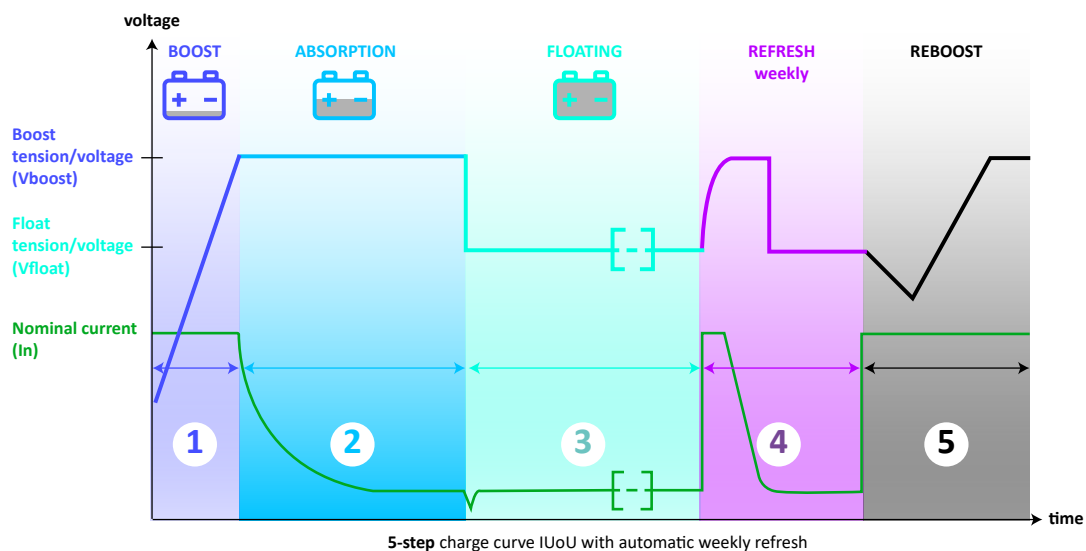
DC-DC CONVERTER - CHARGERS DCPOWER+

Choosing a charging curve



With the PUSH button of the BATTERY SELECTOR you can choose the battery technology and its associated charging curve. If you use the Bluetooth Cristec Connect application on your mobile phone or tablet and choose a different charging curve the CUSTOM led switches on.

When choosing any battery technology above, the BOOST charging curve from the OPTIONS menu is selected by default. When the PUSH button is pressed again, you select the **5-step charging curve** with BOOST and REFRESH as follows :



If no OPTIONS are selected (no green led is lit on the OPTIONS menu) the charging curve starts with the Float voltage.



SD

200W in DC conversion

2 Warranty 2 years

12V

24V

48V



Galvanic isolation

Presentation

The CRISTEC SD converter chargers are dedicated to the power-supply of electric and electronic equipment. They guarantee a high quality output voltage and ensure galvanic isolation between input and output. Thanks to their input voltage range they can be connected directly to a battery and used as a battery charger with a UI charge curve. Their dimensions and weight allow an easy maintenance.

General characteristics

- Input voltage : 12, 24, 48VDC
- Input protection : against polarity reversal; EMI filter; by fuses
- Output voltage : 12 or 24 or 48Vdc nominal - Voltage adjustment by external potentiometer
- Output electric characteristics : typical efficiency: 75% - Line regulation: 1% - Load regulation: 2% (10 to 100%)
- Output protection : against short-circuit; against overload by current limitation; against overvoltage ($V_{nom} + 25\%$)
- Output power : 195W
- Operating temperature : from 0°C to +50°C
- Ventilation : natural
- Dielectric rigidity : Input/Output >1000Vdc
- Standards : Safety : EN 60950 ; EMC : EN 50081-2
- Presentation : in closed box; fixing on screw terminals
- Dimensions : 166 x 108 x 80 mm (6.53 x 4.25 x 3.14 in)
- Weight : 1,3 Kg (2.2 lbs)

Part Number	Input voltage	Output voltage	Output current	Max. output current
SD203-11-DD-AL	12 VDC (10 to 18VDC)	12 VDC	16 A	18 A
SD206-11-DD-AL		24 VDC	8 A	10 A
SD208-11-DD-AL		48 VDC	4 A	5 A
SD203-12-DD-AL	24 VDC (18 to 36VDC)	12 VDC	16 A	18 A
SD206-12-DD-AL		24 VDC	8 A	10 A
SD208-12-DD-AL		48 VDC	4 A	5 A
SD203-13-DD-AL	48 VDC (36 to 72VDC)	12 VDC	16 A	18 A
SD206-13-DD-AL		24 VDC	8 A	10 A
SD208-13-DD-AL		48 VDC	4 A	5 A

Typical installation

