

DCPOWER+

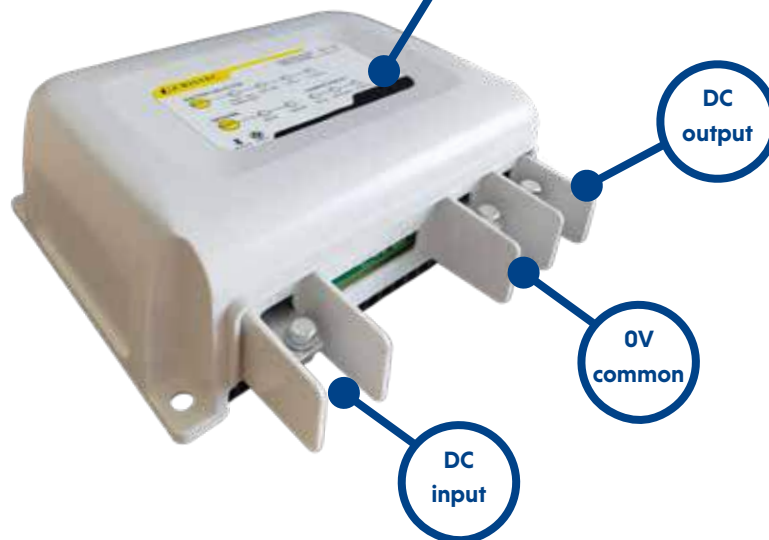
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Warranty 3 years



8.9/10 Repairability index

To select battery technology



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 CRISTEC Connect

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



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.

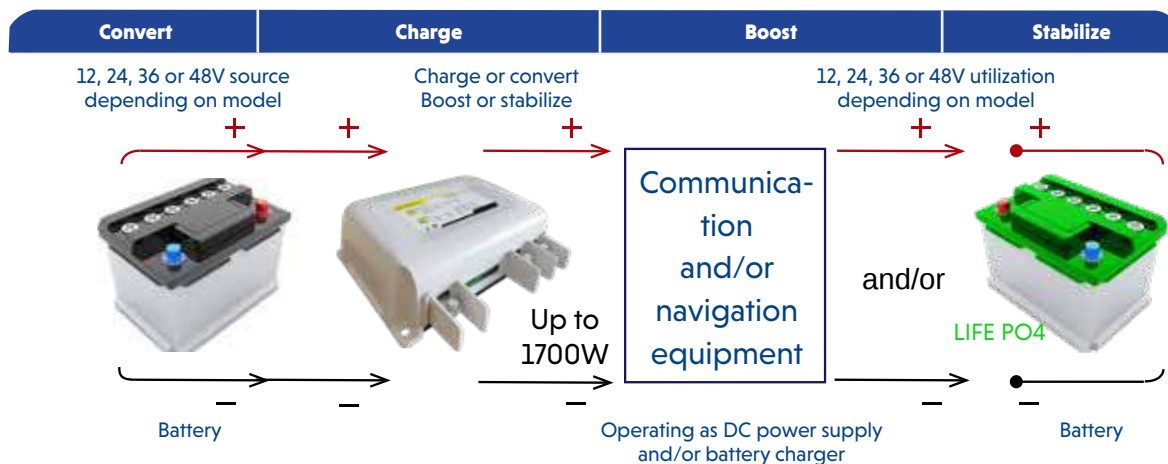


Remote control

The chargers are fitted with CAN-Bus and CRISTEC Connect interface.

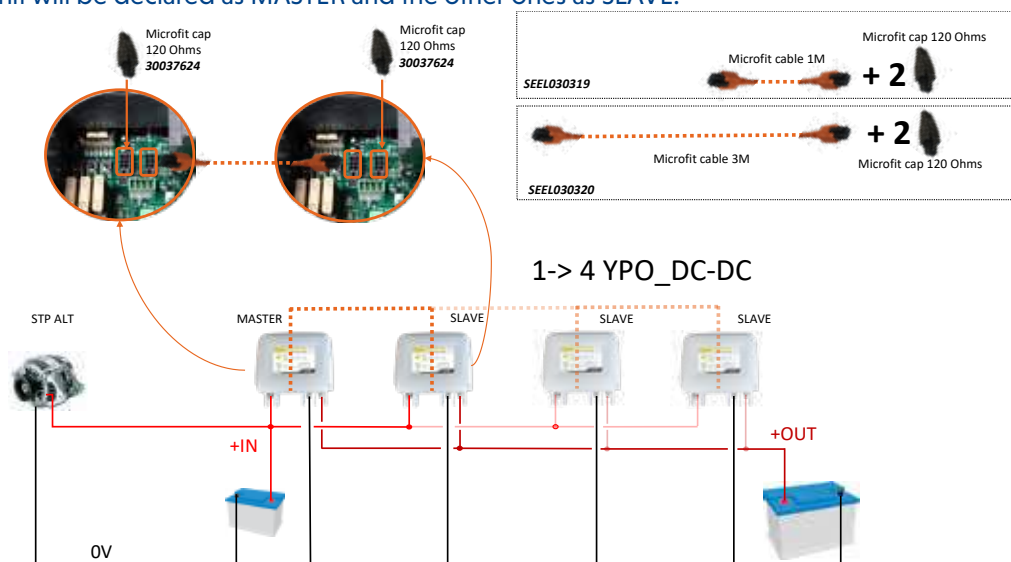
DC-DC CONVERTER - CHARGERS DCPOWER+

Typical installation



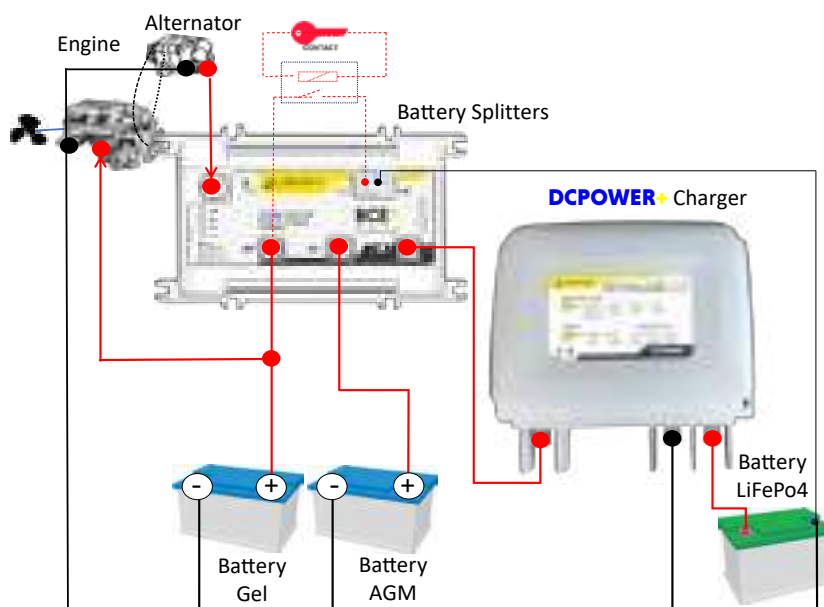
Parallel installation

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.



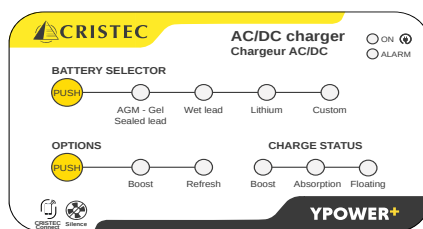
Flexible settings

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



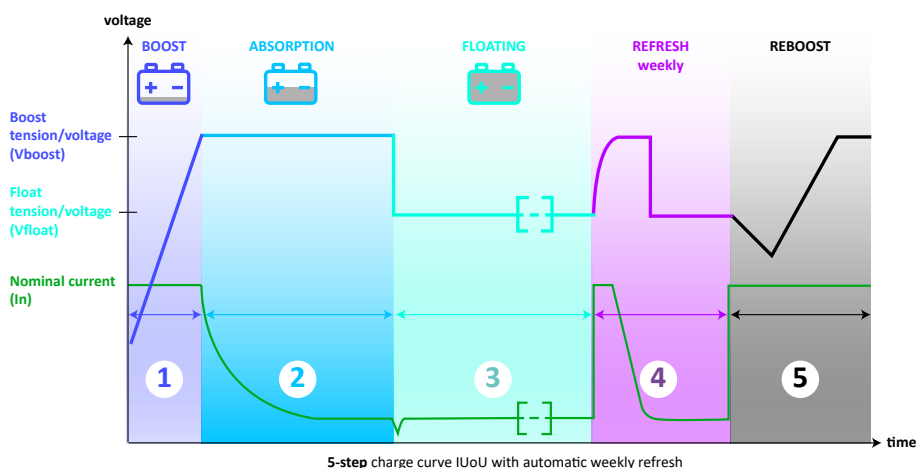
DC-DC CONVERTER - CHARGERS DCPOWER+

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 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.





Part Number	DC12-12/60PL		DC12-24/30PL		DC12-36/15PL		DC12-48/10PL	
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 x 25A /32V				3 x 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)							
CRISTEC Connect	Low Energy CRISTEC Connect - 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)							
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							
Ingress protection	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) / CRISTEC Connect								
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							

* 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	DC24-24/60PL	DC24-36/20PL	DC24-48/15PL
Model	24-12V/60A	24-24V/30A	24-24V/60A	24-36V/20A	24-48V/15A
Recommended battery bank*	500-700Ah	200-400Ah	500-700Ah	150-250Ah	100-200Ah
Input					
Voltage	20V -32V			20V -64V	
Maximum current	32A		65A	25A	32A
Nominal Power	900W		1700W	900W	
Efficiency	96% typical				
Input fuses	2 x 25A /32V		3 x 25A /32V	3 x 20A /80V	2 x 20A /80V
Output					
Number of battery banks	1				
Rated current	60A	30A	60A	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	3 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)				
CRISTEC Connect	Low Energy CRISTEC Connect - 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)				
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				
Ingress protection	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) / CRISTEC Connect					
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				

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

DC-DC CONVERTER - CHARGERS DCPOWER+

36V



Part Number	DC36-12/40PL	DC36-24/30PL	DC36-36/20PL	DC36-36/40PL	DC36-48/15PL
Model	36-12V/40A	36-24V/30A	36-36V/20A	36-36V/40A	36-48V/15A
Recommended battery bank*	300-500Ah	200-400Ah	150-250Ah	150-250Ah	100-200Ah
Input					
Voltage	30V -48V		30V -64V		
Maximum current	20A	25A		50A	25A
Nominal Power	600W	900W		1700W	900W
Efficiency	96% typical				
Input fuses	2 x 20A /80V			3 x 20A /80V	2 x 20A /80V
Output					
Number of battery banks	1				
Rated current	40A	30A	20A	40A	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			3 x 20A /80V	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)				
CRISTEC Connect	Low Energy CRISTEC Connect - 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)				
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				
Ingress protection	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) / CRISTEC Connect					
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				

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



Part Number	DC48-12/40PL	DC48-24/30PL	DC48-36/20PL	DC48-48/15PL	DC48-48/30PL
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)				
CRISTEC Connect	Low Energy CRISTEC Connect - 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)				
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				
Ingress protection	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) / CRISTEC Connect					
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				

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