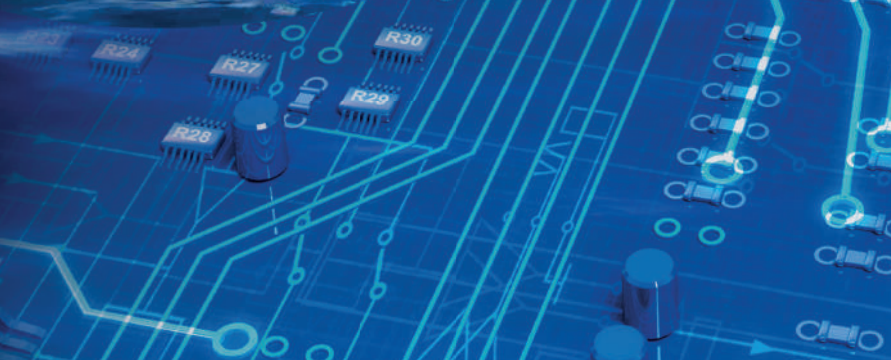


CATALOGUE 2017



CRISTEC
on-board energy



CRISTEC PRODUCT RANGE

- ⚡ YPOWER AC-DC battery chargers
- ⚡ YPOWER DC-DC battery chargers
- ⚡ YPOWER shore-power units
- ⚡ CPS3 battery chargers
(partial replacement by range HPOWER during 2017)
- ⚡ HPOWER battery chargers
- ⚡ CPS battery chargers
- ⚡ YPOWER & HPOWER touch-screen remote control panel
- ⚡ Digital display for CPS2 & CPS3 battery chargers
- ⚡ Other accessories
- ⚡ RCE (MOSFET) battery isolators
- ⚡ JBNUMII digital battery monitor
- ⚡ VLTG voltage guard
- ⚡ SOLO sinewave inverters
- ⚡ DC-DC converters
- ⚡ Isolation transformers



Battery chargers and shore-power units





CRISTEC
on-board energy



- ◆ New generation
- ◆ Automatic and Autonomous
- ◆ Plug & play : easy connection
- ◆ Silent
- ◆ High temperature performance
- ◆ CAN-BUS interface
- ◆ Remote touch-screen control panel

Innovative automatic battery chargers **YPOWER RANGE**



www.cristec.fr

Innovative battery chargers

YPOWER RANGE



AC input



DC output

OPTIMAL MADE-TO-MEASURE CHARGING FOR A LONGER BATTERY LIFE

Founded in 1983, CRISTEC - **C**reation, **I**nnovation **S**cientific and **T**Echnical - specializes in energy conversion.

CRISTEC offers expertise on an international scale with a distribution network present in more than 50 countries.

CRISTEC is proud to offer you the assets of its fifth generation HF charger range, **YPOWER**, having already sold more than 120,000 units throughout the world.



PLUG & PLAY CONNECTORS

QUICK, RELIABLE AND FRIENDLY MOUNTING CHARGER TO BE LOCATED IN TIGHTER PLACES

AC & DC PLUG CONNECTORS INCLUDED
(except for OEM version, please consult us)



SILENT OPERATING

ALL FANLESS MODELS EXCEPT 12V/60A & 24V/30A



HIGH TEMPERATURE PERFORMANCE

RATED CHARGE UP TO +60°C WITH NO DERATING

CAN BE INSTALLED IN AN ENGINE ROOM

MODEL 12V/40A IGNITION PROTECTED ACCORDING TO STANDARDS SAE J1171 AND ISO8846



WORLDWIDE USE

90-265VAC/47-65HZ AUTO-RANGING

DESIGN AND CONSTRUCTION ACCORDING TO UL-1236 MARINE AND CSA 22.2-107.2 STANDARDS

MEET ALSO ABYC A-31 REQUIREMENTS



5-STAGE CHARGING PROFILE

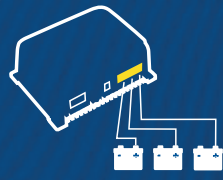
- BOOST :** CHARGES BATTERIES TO 80% OF FULL CHARGE
 - ABSORPTION :** SLOWLY COMPLETES REMAINING CHARGE TO 100%
 - FLOATING :** MAINTAINS BATTERY CHARGE
 - AUTOMATIC REFRESH :** PREVENTS SULPHATION AND REVITALIZES BATTERIES, SELECTABLE BY INTERNAL SWITCH
 - REBOOST :** NEW AUTOMATIC BOOST PHASE IF BATTERIES DEMAND NEEDS IT
- POWER-SUPPLY MODE ALSO AVAILABLE
- IU MODE BY BOOST INHIBITING BY INTERNAL SWITCH



ADAPTATIVE CHARGING

BATTERY TECHNOLOGY SELECTION BY INTERNAL SWITCHES INCLUDING GEL, AGM, FLOODED, CALCIUM-LEAD, LITHIUM, ETC.

SPECIFIC REQUESTS: BY FACTORY SOFT ADJUSTMENT, CONSULT US.



3 ISOLATED BATTERY BANKS

AUTOMATICALLY SENSES AND DISTRIBUTES 100% OF AVAILABLE CHARGING AMPS TO ANY ONE BANK OR COMBINATION OF ALL BANKS

ONE BANK DEDICATED TO THE ENGINE BATTERY + BAT E

INTEGRATED ELECTRONIC MOSFET CHARGE SEPARATOR

PROTECTION OF THE CHARGER DURING ENGINE STARTING PHASE



SMART CASING

NEW MODERN ROBUST AND COMPACT CASING

TWO-COLOURED LEDS INDICATING CHARGE STATUS

4 EXTERNAL FIXINGS FOR EASY MOUNTING



SCALABLE CHARGER

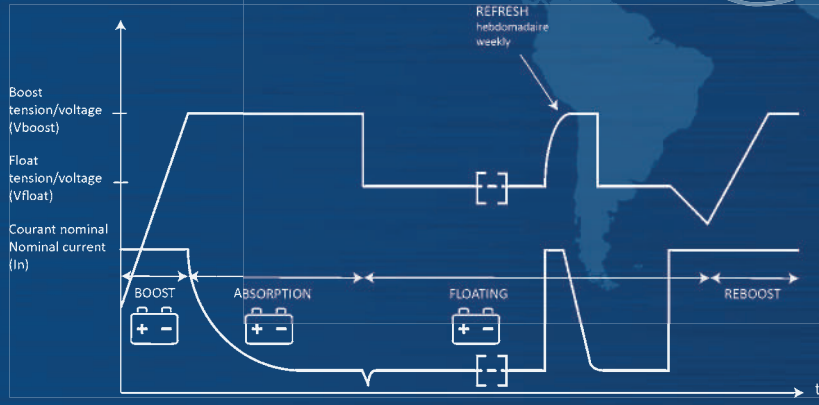
CAN-BUS INTERFACE FOR DATA AND CONTROL TRANSFER (OPTION)

REMOTE TOUCH-SCREEN CONTROL PANEL (OPTION)



PARALLEL STACKING FEATURE

ALLOWS UP TO 4 CHARGERS TO WORK TOGETHER TO COMBINE THE OUTPUT CURRENT



IP22

90/265Vac

48Vdc

47/65Hz

24Vdc

12Vdc

YPOWER : scalable chargers that meet current and future needs. Specific charging profiles and communication protocols upon request.





Innovative battery chargers YPOWER RANGE



Part Number	YPO12-16ST	YPO12-25ST	YPO12-40ST	YPO12-60ST	YPO24-12ST	YPO24-20ST	YPO24-30ST
Model	12V/16A	12V/25A	12V/40A	12V/60A	24V/12A	24V/20A	24V/30A
Recommended battery bank (Ah)	100-200Ah	200-300Ah	300-500Ah	500-700Ah	100-200Ah	200-300Ah	300-500Ah
INPUT							
Voltage	From 90 to 265VAC single-phase automatic						
Frequency	From 47 to 65Hz automatic						
Input current consumption 230/115VAC	1,1/2,2A	1,7/3,4A	2,7/5,6A	4,4/8,7A	1,7/3,4A	2,9/5,9A	4,5/8,8A
Recommended power for a generator	280W	435W	700W	1050W	420W	700W	1050W
Power factor	1						
Efficiency	90% typical						
Removable input fuses	T6,3A/250V SCHURTER MST 250 Réf.0034.6623 (F101)		T15A/250V 6,3x32 (F101)		T6,3A/250V SCHURTER MST 250 Réf.0034.6623 (F101)		T15A/250V 6,3x32 (F101)
OUTPUT							
Number of battery banks	3 (including one for the engine battery) : +BAT E, +BAT 1 et +BAT 2 (integrated Mosfet splitter) Each bank can be used individually and deliver the rated current						
Total rated current (+/-7%) / Rated power	16A/228W	25A/356W	40A/570W	60A/855W	12A/342W	20A/570W	30A/855W
Charging curve	IU or IUoU through internal dip switches (Boost, Absorption and Floating – factory setting) - Selectable automatic Refresh						
Battery type	Lead sealed as factory setting - Other choices through internal setting (Calcium Lead, gel, AGM, LiFePO4, Opened, etc.) - Specific requests : consult us						
Boost voltage	14,4VDC for Lead sealed battery (factory setting)				28,8VDC for Lead sealed battery (factory setting)		
Floating voltage	13,8VDC for Lead sealed battery (factory setting)				27,6VDC for Lead sealed battery (factory setting)		
Regulation tolerance before output diode and fuse	< 2% (at rated conditions)						
Peak to peak ripple	< 2% (at rated conditions)						
Automotive fuse in the minus pole - BAT	1 x 20A/32V (F500)	1 x 30A/32V (F500)	2 x 25A/32V (F500, F501)	3 x 25A/32V (F500, F501, F502)	1 x 15A/32V (F500)	1 x 25A/32V (F500)	2 x 20A/32V (F500, F501)
ENVIRONMENT							
Cooling	Natural (fanless) - Electric fan controlled in temperature and current for 12V/60A and 24V/30A models						
Sound level	0			< 50dBa at 1m	0		< 50dBa at 1m
Operating temperature (230VAC)	From -20°C to +60°C, derating from 60°C. Above 65°C, automatic charger switch off, automatic restart when temperature decreases						
Storage temperature	From -20°C to +70°C						
Relative humidity	Up to 70% (95% without condensation)						
CASING							
Material	Casing comprises 3 parts : · Aluminium sink frame · Thermoplastic body · Aluminium clasp						
Dimensions (length, height, depth) / Weight	236 x 180 x 96 mm / 2,1 kg		289 x 195 x 106 mm / 3,5kg		236 x 180 x 96 mm / 2,1 kg		289 x 195 x 106 mm / 3,5 kg
Fixing center distance	219 x 155 mm		272 x 170 mm		219 x 155 mm		272 x 170 mm
Fixing screw (wall)	4 M5 round screws						
Protection factor	IP22						
PCB protection	Water-repellent varnish (marine environment)						
STANDARDS							
CE / EMC	EN61204-3 - J1171/ISO8846 for model 12V/40A						
CE / Security - Others	EN60335-2-29, ABYC A-31 - Pending UL and CSA						
PROTECTIONS							
	Against leaking input surges by VDR rupture (voltage dependent resistor) - Not covered by warranty						
	Against output polarity reversal by fuse rupture (removable automotive type)						
	Against short-circuit and surge						
	Against abnormal overheating by cutting off the charger (internal temperature probe - automatic restart)						
OPTIONS							
Temperature probe	Output voltage compensation : -18mV/°C				Output voltage compensation : -36mV/°C		
Communication	CAN-BUS interface						

YPOWER battery charger options	Temperature sensor for battery compartment	Touch-screen control panel	CAN-BUS
Item part number	STP-NEW-2.8	YPO-DISPLAY-R	Consult us





DC-DC BATTERY CHARGER

YPOWER RANGE



New generation

Automatic and autonomous

High temperature performance

Smart casing

CAN-BUS interface

PRESENTATION

The brand new YPOWER 12-24V/30A battery charger has been designed to charge a 24V battery bank from a 12VDC power source with a smart 5-step charging curve.

Thanks to a charge regulation similar to a standard shore battery charger it matches all battery types : wet and sealed Lead, Calcium Lead, gel, AGM, Lithium, etc.

The most typical case of use is the 24V bow-thruster battery bank charge from the 12V onboard network.

However YPOWER 12-24V/30A charger can be used for any type of application thanks to its large scale of use, integrated protections and ergonomics.

INPUT/OUTPUT CHARACTERISTICS

- Input voltage : 12VDC (from 10 to 16VDC)
- Output voltage : 24VDC (from 24 to 32VDC)
- Max current : 30A
- Isolation Input/Output : no as DV is common
- 5-step charging curve : Boost, Absorption, Floating, Refresh & Reboost
- Battery type selection through DIP switches
- Efficiency : > 90%
- Ripple : < 1%



THERMAL CHARACTERISTICS

- Operating temperature : from -10° à +60°C without derating
- Storage temperature : from -20° à +70°C
- Electric fan controlled in temperature and/or current



PROTECTIONS

- Output :
 - * integrated anti-return device to avoid battery discharge
 - * automatic current limitation
- Input and output :
 - * against polarity reversal and short-circuit by removable fuses
- Against abnormal overheating by cutting off the charger (automatic restart)
- PCB : water-repellent varnish (marine environment)

MECHANICAL CHARACTERISTICS

- Input/output connection : an external threaded M8 rod
- Indicator : 2-coloured LED for charge status
- Casing : 4 x M5 external fixings for easy wall mounting
- Protection factor : IP22
- Dimensions : 236 x 180 x 96 mm
- Weight : 2.2 kg



OPTIONS

- CAN-BUS interface for data transfer (please consult us)
- Temperature probe, compensation -36mV/C°, item code STP-NEW-2.8

STANDARDS

- CE/EMC : EN61204-30
- CE/Security : EN60335-2-29

Item code : YP012-24/30





SHORE-POWER UNITS

YPOWER Range



GENERAL CHARACTERISTICS



- INPUT VOLTAGE : 115⁽¹⁾/230VAC +/-15% automatic
- INPUT FREQUENCY : 50/60Hz⁽¹⁾

- FRONT COVER DISPLAY :
 - green LED for AC input presence
 - 1 dual colour LED for charger state



- AC INPUT CABLING : WAGO-WINSTA 3 pins connector
- OUTPUT CABLING : terminal through pass wire



- EXTERNAL FIXINGS
- NATURAL COOLING (NO FAN)
- OPERATING TEMPERATURE : from -20°C to +40°C
- PROTECTION FACTOR : IP20

- PROTECTIVE COATING :
Satin slate grey RAL 715 and grey RAL 7047, salt atmosphere resistant

STANDARDS

- CE standards : NF EN 61000-6-1, NF EN 61000-6-2, EN60950 & ISO 13297

OPTIONS

- Remote touch-screen control panel - Item code YPO-DISPLAY-R
- 2.8m Temperature probe - Item code STP-NEW-2.8



PRESENTATION

The new CRISTEC shore-power units integrate in a single cabinet the AC circuit protection and an automatic battery charger.

- The complete system meets the European on-going rules. Compact and lightweight, it provides practical entry for the cabling that reduces mounting time.
- The AC circuit protection is insured by a 16A/30mA residual current device (RCD/GFCI Ground fault circuit interrupter) and 2, 3 or 4 off 10A DPN miniature circuit breakers (MCB) depending on models.
- The battery charger function is ensured by an HF switch mode CRISTEC PCB stemming from the latest YPOWER generation that delivers a smart 5 stage charging profile.

(1) For use in 115VAC 60Hz, please contact us.





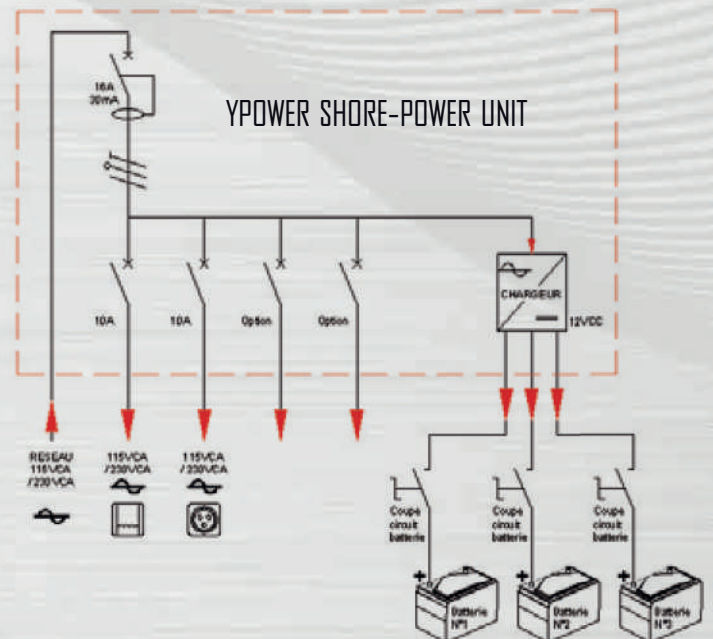
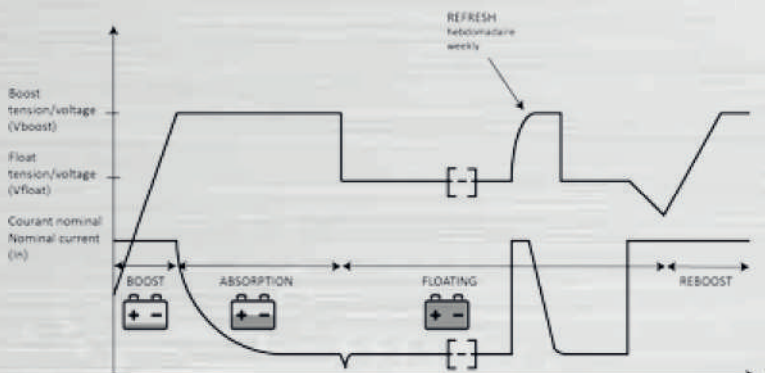
Selection of battery type and protection by removable fuses

CHARGER CHARACTERISTICS

- Input voltage : from 90 to 265VAC (automatic)
- Input frequency : from 47 to 65Hz
- Output voltage : 12VDC +/-1%
- Three automatic charge cycles : Boost, Absorption, Floating (IUoU)
- Additional Refresh and Reboost selectable by internal switch
- Timed Boost by internal switch (ON/OFF)
- Charge distributor incorporated into each battery output
- 3 independant outputs - Specific output matched to the engine battery charging (+ BAT E)
- Selection of the curve of charge according to the battery type : AGM, Gel, Calcium Lead, Lead sealed, Lithium Ion Iron Phosphate, etc.
- Internal potentiometer allows output voltage to be adjusted
- Protection against short-circuit and polarity reversal (removable fuses on input and output)

MODEL	PART NUMBER	RECOMMENDED BATTERY BANK (Ah)	CHARGER CURRENT	CHARGER OUTPUTS	NUMBER OF 10A MCBs ⁽¹⁾	WEIGHT (Kg)	DIMENSIONS L x h x d (mm)
12V/16A	UEYPO/12-16/2D	100-200	16A	3	2	4,4	389 x 214,5 x 137,2 mm
	UEYPO/12-16/3D				3		
	UEYPO/12-16/4D				4		
12V/25A	UEYPO/12-25/2D	200-300	25A	3	2	6	439 x 214,5 x 134,2 mm
	UEYPO/12-25/3D				3		
	UEYPO/12-25/4D				4		
12V/40A	UEYPO/12-40/3D	300-500	40A	3	3	6	439 x 214,5 x 134,2 mm
	UEYPO/12-40/4D				4		

Specifications may change without notice. Please contact us.
 (1) Miniature Circuit Breakers



YPOWER battery charger options	Temperature sensor for battery compartment	Touch-screen control panel	CAN-BUS
Item part number	STP-NEW-2.8	YPO-DISPLAY-R	Consult us





CRISTEC
on-board energy

Battery chargers

CPS3 RANGE



Innovative

> Special terminal to connect an additional battery isolator for connecting up to 6 independent charging banks.

Optimal made-to-measure charging for a longer battery life

- Founded in 1983, CRISTEC (CReation, Innovation Scientific and TEChnical) specialises in energy conversion.
- CRISTEC offers expertise on an international scale with its range of standard products mainly designed for on-board applications. Our network of agents and distributors is present in over 50 countries.
- Today CRISTEC is proud to offer you the assets of its fourth generation HF battery charger range, CPS3, having already sold more than 80,000 HF units throughout the world.

> Innovative

Specific terminal to connect an additional battery isolator for connecting up to **6 independent charging banks**.

> Reinforced protection

Anti-drip covering.
Electronic board coated with waterproof varnish.

> **3 year guarantee**

> Optimal ergonomics: Easy to install

CPS3 battery chargers can be fixed vertically or horizontally.

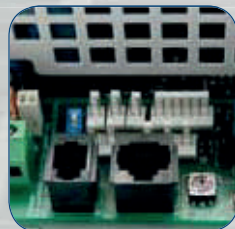
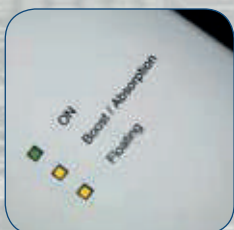
The charger can be accessed externally by removing the front yellow housing.

AC and DC connections as well as charger settings are grouped together on the PCB in a connection area that ensures a safe, quick and easy installation.

> Front panel indicators: Easy to read

3 panel indicators are clearly visible on the front of the charger enabling easy monitoring of charger operation.

Remote indicators are also available as an option, depending on models.



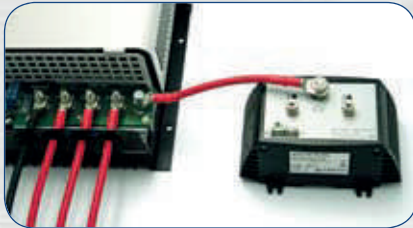
The DC connection on threaded rods is particularly robust and practical due to the available space.

> Interfaces

Optional connection for external battery temperature sensor - depending on models - enables optimization of battery charging and/or a digital display unit to check battery state.

> Multiple outputs:

Charge 3 batteries simultaneously



CPS3 battery chargers have 3 independent outputs (except models > 80A) which can individually deliver nominal output current.

One of these outputs is designed for matching specific engine battery requirements for marine application.

The built-in battery isolator on each battery bank means the batteries stay permanently connected to the charger and there is no need to disconnect them during engine startup.

The CRISTEC CPS3 battery chargers are the only ones available on the market with an extra terminal to connect an additional external battery isolator for connecting up to 6 independent battery banks (3 from the charger and 3 from the battery isolator).

CRISTEC recommends using a voltage drop free isolator. Please refer to the CRISTEC RCE battery isolator range.

> Choose your charging curve:

Safety and freedom

On CPS3 chargers the BOOST phase is particularly safe as it is not only timed but also current controlled. In the event of a cut in the charger power-supply the charging cycle does not reset.

The 3-step charge mode being faster (BOOST, ABSORPTION and FLOATING) it is particularly useful when you run out of time to charge the batteries (charger powered from a generator, short stay in the marina, etc.).

It is possible to interrupt the Boost phase for specific applications where this function is not required: wintering, self-maintaining battery charge or when the charger is used as direct current regulated and filtered power supply.

> Choose your battery type:

Made-to-measure battery charging

As your choice regarding battery technology is extensive, you have to make sure charging characteristics comply with your specific battery type. CPS3 battery chargers have internal selectors for setting the charge level in compliance with the battery technology and application: many settings such as Lead-sealed, Calcium-Lead, AGM, Gel, etc.



> Universal AC powering:

Worldwide use

The AC input voltage and frequency auto-ranging – from 85 to 265 VAC and from 47 to 65 Hz – guarantees batteries can be charged anywhere (in Europe and in the USA), from commercial Mains or generators, even when available power is limited (end of pontoon, foreign network, etc.). Except model 24V/150A 400VAC 3 phases.



The strength of innovation

CPS3 battery chargers: the answer to constantly changing requirements in a climate of increasingly stricter standards.

> Special coating: peace of mind

The charger electronic boards are coated with waterproof and tropicalised varnish. An anti-drip covering protects the charger from water ingress. The entire charger casing paint is specifically coated to prevent corrosion.

> Managing technology: high performance

The latest HF technology and COS PHI 1 regulation (integrated PFC – Power Factor Correction) ensure nominal charger operation in the event of wide input fluctuation. As AC charger input consumption is low you economise generator power.

> In-built protection: reliability

The CPS3 battery chargers have numerous in-built protection devices (polarity reversal, short-circuits through removable fuses, over-heating, etc.) ensuring a long charger life.

> Parallel-mount: flexibility

You can parallel-mount our chargers thereby multiplying the output current (2 off 24V/60A chargers will deliver 24V/120A). You can parallel-mount up to 6 chargers preferably the same size.

CPS3 battery chargers



Part number	CPS3/12-80	CPS3/12-100	CPS3/24-60	CPS3/24-75	CPS3/24-120	CPS3/24-150-TRI	CPS3/48-15	CPS3/48-30	CPS3/48-60
Output voltage	12 VDC			24 VDC			48 VDC		
Nominal output current	80 A	100 A	60 A	75 A	120 A	150 A	15 A	30 A	60 A
Input voltage	From 85 to 265 VAC single-phase automatic					304/552 VAC 3-phase	From 85 to 265 VAC single-phase automatic		
Input frequency	From 47 to 65 Hz automatic								
Input current consumption at 230 VAC	6,0 A	6,9 A	9,0 A	11,5 A	17,0 A	7,0 A *	4,3 A	9,0 A	17,0 A
AC input connection	On screw terminal with clamping through plastic gland								
Power limitation through external bipolar switch (max input current = 6A)	yes					no	yes		
Power factor	0,9 at rated conditions **								
Efficiency	> 80% at rated conditions **								
Output voltage regulation	+/- 1%								
Recommended battery bank (Ah)	700-800	900-1200	500-700	600-900	900-1400	1200-1800	100-200	200-400	500-700
Number of battery bank (through cable lead-in and with in-built anti-return diode)	3 : +BAT D, +BAT1 and +BAT2	1	3 : +BAT D, +BAT1 and +BAT2		1		3 : +BAT D, +BAT1 and +BAT2		1
Special terminal to connect an additional battery isolator	yes								
DC output connection on threaded rod h=25mm	M6	M8	M6		M8		M6		M8
Charging curve	3-step IUoU as manufacturing setting - IU through internal setting								
Battery type	Lead sealed as factory setting - Other choice through internal setting (calcium lead, gel, AGM, etc.)								
Boost voltage	14,5 / 29,0 / 58 VDC for Lead sealed batteries - Manufacturing setting								
Typical Boost duration	4 hours								
Floating voltage	13,8 / 27,6 / 55,2 VDC for Lead sealed batteries - Manufacturing setting								
Output voltage adjustment	Using internal potentiometer								
Front panel indicators	3 LEDs that monitor the AC presence and the charge phase (Boost, Absorption, Floating)								
Operating temperature	Nominal conditions : from - 10°C to + 55 °C ; then derating : output power reduction < 2,5 %/°C For temperature > 65°C automatic stopping - Automatic restart								
Cooling	Electric fan controlled by the output current								
Sound level	< 50 DbA at 1 metre								
In-built electrical protection	Against short-circuit, polarity reversal, over-voltage, over-heating, over-current								
Protection factor	IP 22								
Overall dimensions (mm) Not including cable gland	h : 260 w : 350 d : 123	h : 400 w : 350 d : 123	h : 260 w : 350 d : 123		h : 400 w : 350 d : 123		h : 212 w : 282 d : 117	h : 260 w : 350 d : 123	h : 400 w : 350 d : 123
Case type	3M	1H	3M		1H/2H		2M	3M	1H
Weight (kg)	7,5	12,7	7,5		14		4,2	7,5	12
Standards	CE, UL and CSA								
Guarantee	3 years								

*@400 VAC 3-phase
** Except CPS3/24-150-TRI

CPS3 BATTERY CHARGER OPTIONS *	Remote ON/OFF charger	Remote front indicators	Remote ON/OFF Boost	Temperature sensor for battery compartment	Digital display	Battery monitor
Item part number	A/M-CPS2-CPS3	LED-DEP-CPS3	BAD-CPS2-CPS3	STP-5M	SEEL009104	JBNUMII-CPS3

* According to models.



Innovative battery chargers HPOWER

New generation
Robustness
Unrivalled performance
Flexible and user-friendly
LIN & CAN-BUS interface

PRESENTATION

Specialized in the design of automatic battery chargers for more than 30 years, CRISTEC is proud to offer you high quality battery chargers for the toughest conditions for professional and recreational purposes : HPOWER.

PERFORMANCE



- **5-STAGE CHARGING PROFILE** to ensure fast and complete charging, power-supply mode available
- **FULL POWER** up to +50°C ambient with no derating allowing rated charge for intensive use in hot or confined place
- **3 ISOLATED BATTERY BANKS**, with no current limitation
- **SUITABLE FOR ALL BATTERY TYPES** : flooded, Lead-sealed, Calcium-Lead, AGM, gel, Lithium, etc.
- **INCREASE** battery life



WORLDWIDE USE

- **90-265VAC/47-65HZ** auto-ranging
- **RATED OPERATION REGARDLESS** the available AC voltage including from a genset
- **MEMORY FUNCTION** : in case of unstable AC network the charger will not reset to prevent battery overcharging
- **BEST IN CLASS PROTECTION** : removable fuses and varistor, coated circuit board for marine environment, automatic burn-in test
- **UL-1236 AND CSA 22.2-107.2** standards compliant (pending)



ERGONOMICS

- **FAST AND SECURE INSTALLATION** through made-to-measure external wall fixing device
- **LIGHTWEIGHT RUGGED** Aluminium casing with special coating for marine environment
- **OPTIMAL ACCESSIBILITY** : specific secured connection compartment
- **READABILITY COMFORT**
Dedicated LEDs and icons on the front



BUILT-IN FUNCTIONALITIES



- **CAN-BUS INTERFACE** for data transfer
- **PARALLEL OPERATION** : up to 4 chargers through LIN-BUS interface
- **EXTERNAL TEMPERATURE PROBE** to monitor battery compartment
- **2.5" COLOR TOUCH-SCREEN** control panel (option)
- **ON/OFF**, default /battery low-voltage relays and automatic voltage drop compensation (option)
- **EASILY PROGRAMMABLE** for a variety of applications and specific settings



DNV APPROVED

- With integrated optional boards : touch-screen control panel and relays (pending)





Innovative automatic battery chargers

HPOWER RANGE



Part number	HPO12-80	HPO24-45	HPO24-60	HPO24-80	HPO24-100
Model	12V/80A	24V/45A	24V/60A	24V/80A	24V/100A
Recommended battery bank	600-1000Ah	300-600Ah	500-800Ah	700-1000Ah	800-1300Ah
INPUT					
Voltage	From 90 to 265VAC single-phase automatic				
Frequency	From 47 to 65Hz automatic				
Input current consumption 230/115VAC	6.0A/12.0A	6.8A/13.6A	9.0A/18.1A	12.0A/24.1A	15.1A/30.2A
Recommended power for a generator	1400W	1600W	2100W	2800W	3520W
Power factor	1				
Efficiency	87% typical				
Removable input fuses	2 x 16A 250Vac (6.3x32) (F1/F2)		2 x 25A 250Vac (6.3x32) (F1/F2)		2 x 32A 250Vac (6.3x32) (F1/F2)
OUTPUT					
Number of battery banks	3 (including one for the engine battery) : +BAT E, +BAT 1 et +BAT 2 (integrated) 1 negative -BAT Each bank can be used individually and deliver the rated current				
Connection on threaded rods	M8	M6		M8	
Rated current / power	80A/1140W	45A/1282W	60A/1710W	80A/2280W	100A/2850W
Charging profile	IU or IUoU through internal dip switches (Boost, Absorption and Floating – factory setting). Selectable automatic Refresh				
Battery type	Lead-sealed as factory setting - Gel, AGM, Calcium Lead, LiFePO4, DC power-supply mode, etc. Specific request on demand				
Boost voltage	14.4VDC as factory setting for Lead-sealed	28,8VDC as factory setting for Lead-sealed			
Floating voltage	13.8VDC as factory setting for Lead-sealed	27,6VDC as factory setting for Lead-sealed			
Regulation tolerance before output diode and fuse	< 1 % (at rated conditions)				
Peak to peak ripple	< 1 % (at rated conditions)				
Automotive fuse in the minus pole -BAT	4 x 25A/32V	2 x 30A/32V	3 x 25A/32V	4 x 25A/32V	4 x 30A/32V
ENVIRONMENT					
Cooling	Electric fan controlled in temperature and current				
Sound level	< 50 dBa at 1m				
Operating temperature	Rated charge from -20°C to +50°C, derating above 50°C. Automatic charger switch off above 60°C; automatic restart when temperature decreases				
Storage temperature	From -20°C to +70°C				
Relative humidity	Up to 96 % without condensation				
CASING					
Material	Painted Aluminium				
Dimensions (length, height, depth) / Weight	270 x 359.5 x 129.5 mm / 6.2 kg	270 x 359.5 x 129.5 mm / 5.2 kg		270 x 409.5 x 129.5 mm / 7.5 kg	
Fixing screw (wall)	4 x M6 round screws. Mounting kit + securing screws				
Protection factor	IP23				
PCB protection	Water-repellent varnish				
STANDARDS					
CE / EMC	EN61204-3				
CE / Security	EN60335-2-29				
PROTECTIONS					
	Against leaking input surge by VDR (Voltage Dependant Resistor) - Not covered by warranty				
	Against output polarity reversal by fuse rupture				
	Against short-circuit and surge				
	Against abnormal overheating by cutting off the charger				
OPTIONS					
Temperature probe	Output voltage compensation : -18mV/°C	Output voltage compensation : -36mV/°C			
Parallel mounting	Up to 4 units with real time balancing feature				
Remote color touch-screen control panel	HPO-DISPLAY-R				
Isolated CAN-BUS interface	Fully integrated as standard				





CRISTEC

on-board energy



CPS BATTERY CHARGERS

12V/06A - 12V/12A - 24V/03A - 24V/05A
Input range : small models



PRESENTATION

Compact, lightweight and aesthetic, CRISTEC CPS (Selective Programmable Charge) chargers offer you all the safety and convenience that advanced technology in the battery charging area can bring you.

◆ CPS CHARGERS... AUTONOMY.

The whole CPS range provides a specific charge to the battery which is fully compliant with all of the battery manufacturer's specifications. Entirely automatic, with built in charge distributor, these chargers can remain permanently connected to the battery in complete safety and do not have to be disconnected when starting the engine.

◆ CPS CHARGERS... PERFORMANCE.

The timed boost function may be selected depending on the charger mode of use.

◆ CPS CHARGERS... PROTECTION.

The equipment is protected against polarity reversal and short-circuits; the entire CRISTEC CPS range is protected for marine use.

ELECTRICAL SPECIFICATIONS

- **VOLTAGE, FREQUENCY**
 - Input voltage: 115 or 230 Vac \pm 15% by internal switch.
 - Automatic input frequency from 47 to 63 Hz.
 - Output voltage (depending on particular model): 12 or 24 Vdc \pm 1%.
 - Internal potentiometer allows output voltage to be adjusted.
- **CHARGE**
 - Three automatic charge cycles: boost, absorption, floating.
 - Programmable timed boost by internal dip switch.
 - Charge distributor incorporated into each battery output (2 outputs).
 - Selecting of the level of charge according to the type of battery by internal dip switch (Lead/Antimony ; Lead/Calcium).
 - Front display: LED for mains present and LED for charge status (boost/absorption, intermittent, floating, continuous).
- **PROTECTION**
 - Integrated protection against short-circuits and polarity reversal.
 - Removable fuses on input and output.
- **ENVIRONNEMENT**
 - Natural convection.
 - Operating temperature: - 10 to + 40°C.
 - Storage temperature: - 20 to + 70°C.
- **FEATURES**
 - Suitable for use with AC generators.
 - Can be used as a DC regulated and filtered power supply.

STANDARDS

- CE standards: EN 50081-1, EN 50082-1, EN 55011, EN 55022, EN 60950.



www.cristec.fr

CPS BATTERY CHARGERS

12V/06A - 12V/12A - 24V/03A - 24V/05A

Input range : small models



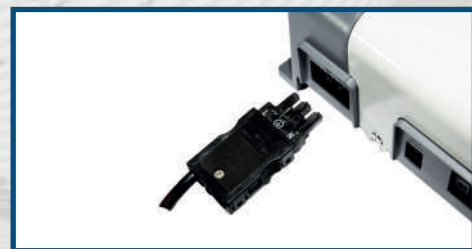
MECHANICAL CHARACTERISTICS

- Standard presentation in IP22 case with drip-proof cover.
- Epoxy finish matt black RAL 9011 and grey RAL 7035, salt atmosphere resistant.
- Electronics card given tropicalised coating after mounting components.
- Water-repellent varnish.
- Supplied with mains cable and 230Vac plug.
- Connection terminals to allow a direct cabling of the battery cables (-,+ ,+) without opening the charger.

VOLTAGE/CURRENT	NUMBER OF OUTPUTS	ITEM CODE	OVERALL DIMENSIONS casing (h x w x d)	WEIGHT
12V/06A	2	CPS70-1A	160 x 215 x 80 mm	1,6 kg
12V/12A	2	CPS140-1A	160 x 215 x 80 mm	1,7 kg
24V/05A	2	CPS120-2A	160 x 215 x 80mm	1,7 kg
24V/05A	2	CPS120-2A	160 x 215 x 80mm	1,7 kg

We reserve the right to make modifications to the specification without prior notice. Please consult us.

Accessories



TOUCH-SCREEN CONTROL PANEL

YPO-DISPLAY-R
HPO-DISPLAY-R



PRESENTATION

This brand new innovating remote display is offered as option for HPOWER, YPOWER battery chargers⁽¹⁾ and shore-power units⁽¹⁾, 12V and 24V.

- ◆ It displays information about the charging process while the charger is running as well as battery supervision when AC network is off.
- ◆ User friendly thanks to its 2.5" color touch-screen.

⁽¹⁾ Depending on the charger or shore-power revision number some functions like individual battery setting may not be available. Please consult us.

MAIN CHARACTERISTICS

- Battery voltage (up to 3)
- AC network status : voltage and frequency
- Total charger's output current
- Charge status (Boost, Absorption, Floating)
- Battery pack temperature (if optional probe connected)
- Brightness night and day mode to be activated by pressing the center part of the screen

DISPLAY

External dimensions	105 x 75 x 25 mm
Screen dimensions	51 x 39 mm
Cut-out	87 x 65 mm
Weight	300 gr
Ingress protection of front side	IP65, not for outdoor use
DC supply range	DC 8-30V through +BAT E terminal
Operating temperature	From -10°C to +50°C
Storage temperature	From -20°C to +70°C
Convection	Natural

SYSTEM DC CONSUMPTION THROUGH +BAT E TERMINAL

Display and interface at full brightness	81mA @12VDC	51mA @24VDC
Display and interface in sleep mode	3.3mA @12VDC	4.8mA @24VDC
Interface only (display not connected)	1.7mA @12VDC	3.1mA @24VDC

SETTINGS

- Battery channel and name : up to 3 - house, starter, bow, etc.
- Charger output : ON/OFF
- Alarm : battery low voltage, high voltage, etc.
- Output battery charger current : from 100% to 30%
- Day mode : brightness
- Night mode : ensures quiet operation by stopping charger's fan if any
- Charger parameters : battery type, boost ON/OFF, etc.
- Languages : English, French, German, Italian, Spanish & Turkish

Part numbers : YPO-DISPLAY-R
HPO-DISPLAY-R





BATTERY CHARGER DIGITAL DISPLAY



PRESENTATION

- ◆ The CRISTEC digital displays enable to get accurate information on the battery voltage, the current delivered by the charger, the battery charge status and the historic of possible defects (discharged batteries, output overvoltage, etc.).
- ◆ Only suitable with the CRISTEC - 12V and 24V - CPS2 and CPS3 standard charger and shore-power unit ranges - YPOWER : consult us -, the configuration of the charger type is made through switch combination present on the digital display electronic board.
- ◆ User-friendly connection and easy installation, the CRISTEC digital displays are supplied with a 10 meter cable and 2 phone type connectors. They check automatically the number of batteries connected to the charger (1, 2 or 3) and can be mounted on the main on-board panel (no additional furniture to be supplied except the screws).
- ◆ In order to ensure an optimal readability, the digital displays have an integrated back light. They will automatically switch OFF when the charger is disconnected from AC to reduce consumption.

GENERAL CHARACTERISTICS

- **DISPLAY CHARACTERISTICS**
LCD display 2 lines, 16 digits. Integrated back light.
- **DISPLAYED PARAMETERS**
 - **Charger ON**
 - Voltage of each battery output : BATD, BAT1 and BAT2
 - Functioning time of the charger
 - Current delivered by the charger
 - Over voltage defect charger output
 - **Charger OFF**
 - Voltage of each battery output : BATD, BAT1 and BAT2
 - BATD, BAT1 and BAT2 battery charge status (%)
 - BATD, BAT1 and BAT2 battery discharged defect
- **CONSUMPTION :**
0,5mA in stand-by mode. 30mA in normal using.

PHYSICAL CHARACTERISTICS

- 1 ON/OFF push button if the charger is stopped and the LCD powered from the batteries only
- Stand-alone electronic remote panel 110 x 110mm
- Protective front to be fixed to the panel
- Finish matt black label with yellow text
- Fixings : opening from 90 x 90 mm + 4 drillings \varnothing 4mm
- Connection : include 10m cable supplied with phone type connectors
- Natural cooling
- Operating temperature : from -10°C to +50°C

Part number : SEEL009104

We reserve the right to make modifications to the specification without prior notice. Please consult us.



Description	YPOWER C. Indexes N4 & more HPOWER C.	Reference per type of charger (C.) and shore-power unit (SPU)			
		YPOWER Index N3	YPOWER Indexes N1 & N2	YPOWER SPU	CPS3 C. & SPU standard
ON/OFF remote control		-			A/M-CPS2-CPS3
ON/OFF Boost remote control		-			BAD-CPS2-CPS3 ⁽¹⁾
Temperature probe	-		STP-5M	-	STP-5M ⁽¹⁾
	STP-NEW-2.8		-	STP-NEW-2.8	-
Remote LEDS : Boost, Absorption, Floating		-			LED-DEP-CPS3 ⁽¹⁾
External varistor for unstable AC Mains		VAR-AC			
Cable glands Ø16 - IP68 - for 3M chargers		-			PE-CPS3/3M (4p)
AC input connector WAGO WINSTA ⁽²⁾	30024064 ⁽⁵⁾	30024064			-
DC output connector PHOENIX CONTACT ⁽²⁾					
All YPOWER models except 12V/60A	30033787 ⁽⁵⁾	30033787	30027241		-
YPOWER 12V/60A	30033788 ⁽⁵⁾	30033788	30026012		-

(1) except CPS3 12V/16A, 25A, 40A, 24V/12A and 20A chargers and shore-power units : not compliant

(2) for cable beam external to the charger

(3) 12V/25A & 40A and 24V/20A

(4) 12V/60A and 24V/30A

(5) for YPOWER models only





Other equipment



ELECTRONIC BATTERY ISOLATORS

RCE RANGE



PRESENTATION

◆ The electronic battery isolators (MOS transistors) prevent the current from flowing from one battery set to another and allow to automatically direct the current of charge to the lowest charged battery.

◆ As they do not create any voltage drop unlike the usual diode splitters, the efficiency of the charge circuit is improved.
Easy to connect, they automatically fit to the 12 or 24Vdc input power supply voltage.

GENERAL CHARACTERISTICS

- TYPE : MOSFET
- TO A COMPLETE AND FAST CHARGE OF 2 OR 3 BATTERY SETS
- OPERATING IN 12V OR 24V FROM ANY ENERGY SOURCE : alternator, wind generator, solar-panel, battery charger, etc.
- INTEGRATED IGNITION ALTERNATOR TERMINAL (except model RCE/100-2E-3)
- CONNECTION : + battery on threaded rods, - battery on Faston terminal at minus common (reference)
- OPERATING INDICATOR (alternator output voltage presence)
- OPERATING TEMPERATURE : -40°C/+85°C
- COOLING : natural

STANDARDS

EN 50081-1 (emission) ; EN 50082-1 (immunity) ; EN 60950-1 (safety)

RANGE

OPTIONAL :

Isolator kit - Ref. SEELO10604 : needed with RCE/100-2E-3 model if the DC source requires a voltage reference to start and to regulate (1 kit per involved source).

ITEM CODE	RATED CURRENT	NUMBER OF INPUTS	NUMBER OF OUTPUTS	IG CONNECTION (stimulation of alternator)	OVERALL DIMENSIONS in mm (w x h x d)	WEIGHT
RCE/100-1E-2IG	100A	1 (Ø M6)	2 (Ø M6)	Yes	146x97x85	0,8 Kg
RCE/100-1E-3IG	100A	1 (Ø M6)	3 (Ø M6)	Yes	158x146x85	0,8 Kg
RCE/100-2E-3	100A	2 (Ø M6)	3 (Ø M6)	No	158x146x85	0,8 Kg
RCE/150-1E-2IG	150A	1 (Ø M8)	2 (Ø M6)	Yes	146x97x85	0,8 Kg
RCE/150-1E-3IG	150A	1 (Ø M8)	3 (Ø M6)	Yes	158x146x85	0,8 Kg
RCE/180-1E-2IG	180A	1 (Ø M8)	2 (Ø M8)	Yes	146x97x85	0,8 Kg
RCE/180-1E-3IG	180A	1 (Ø M8)	3 (Ø M8)	Yes	158x146x85	0,8 Kg
RCE/200-1E-3IG	200A	1 (Ø M10)	3 (Ø M8)	Yes	158x146x85	0,8 Kg

We reserve the right to make modifications to the specification without prior notice. Please consult us.



DIGITAL BATTERY MONITOR

JBNUMII - CPS3



PRESENTATION

The new JBNUMII-CPS3 battery monitor has an exclusive large size LCD graphic. Its standard version includes a 250A shunt to monitor voltage⁽¹⁾, current and remaining capacity of a battery bank⁽²⁾ (e.g.: service) as well as voltage of two other banks (e.g.: engine and bow-thruster).

With extra shunt the system can monitor 3 battery banks⁽³⁾ (voltage, current, capacity) and voltage of 2 extra battery banks.

The battery monitor has a low capacity alarm and an electrical contact which allows genset remote.



- THE FOLLOWING PARAMETERS CAN BE SET :
 - Number of battery banks (or DC sources) to monitor
 - Capacity of each battery bank (Ah)
 - Alarm values (low capacity, low voltage and high voltage)
 - Acoustic alarm (buzzer) and electrical contact ON/OFF
 - Language (French or English)
 - Backlight duration

PROVIDED ACCESSORIES (standard version)

- The battery monitor.
- One kit shunt including one 250A/100mV shunt and one 10m RJ11 cable to monitor entirely one battery bank⁽³⁾.
- 2 cables of 10m to monitor voltage of 2 battery banks.

(1) 12V, 24V or 48V, or even mixed if minus is common.

(2) single battery or several batteries mounted into parallel, into series or into series-parallel.

(3) or DC energy source flow such as a wind generator or solar-panels – voltage & current.

Part number : JBNUMII - CPS3

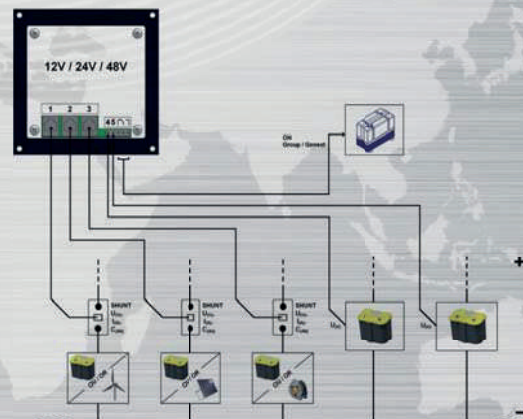
We reserve the right to make modifications to the specification without prior notice. Please consult us.

OPTIONS

- Kit shunt including a shunt and a 10m RJ11 cable to monitor one additional battery bank⁽³⁾. The system can monitor up to 3 battery banks or 3 energy sources or 3 mixed elements – 1 kit shunt per element (ref. KITSHUNT-250A ; KITSHUNT-500A).

TECHNICAL CHARACTERISTICS

- INPUT POWER-SUPPLY : from 8,5 to 60VDC
- CONSUMPTION : without backlight /30mA ; with backlight /65mA
- BATTERY OR DC SOURCE CAPACITY : from 5 to 4000Ah
- MEASUREMENTS :
 - Battery or energy source voltage : from 0 to 60VDC
 - Current : from -500A to 500A
- DISPLAY RESOLUTION :
 - Battery or energy source voltage : 0,1VDC ; precision : +/- 0,5%
 - Current : 0,1A ; precision +/- 1%
- DISPLAY :
 - White positive graphic LCD screen 128 x 64 pixels (62 x 44mm).
 - White LED Backlight
- REMOTE OF THE GENSET : by a NO/NC potential free contact
- ALARMS : Buzzer, flashing backlight, relay
- DIMENSIONS : 120mm x 120mm
- EMBEDDED BODY : h 95mm x l 100mm x d 35mm
- TEMPERATURE :
 - Operating : from 0 to +50°C
 - Storage : from -10 to +70°C





VOLTAGE GUARD

VLTG-70

The best solution to protect your battery against :

Deep discharge

Overtoltage

Overload



PRESENTATION

The voltage guard protects your battery in order to increase its duration life.

It provides a constant low voltage, overvoltage and overload protection.

When you battery reaches the pre-set low voltage the voltage guard will disconnect automatically the DC consumers.

DC consumers will be switched on again automatically when battery voltage increases and when defined threshold is reached.

The system will operate the same way for over-voltage.

Low voltage threshold can be selected from external DIP switches.

The over-voltage value is fixed.

The system can be used as manual main switch. The output is turned off when the switch is closed.

In this mode the voltage guard will only operate as battery low voltage protector.

The voltage guard has an integrated buzzer and LED to monitor its operating state.

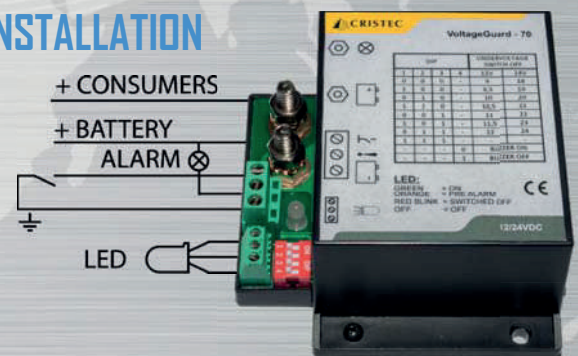
It is compliant with all Lead battery types : wet, sealed, gel, AGM, Calcium, etc.

Part number : VLTG-70

TECHNICAL CHARACTERISTICS

- Rated current (constant) : 70 A
- Max current (10s @ 20°C) : 140 A
- Voltage : 12 and 24 VDC
- Input voltage range : 8 - 31 VDC
- Consumption : > 2mA (LED off)
- Presentation : plastic housing with external fixings - IP51
- Connection : on threaded rods
- Dimensions (l x h x d) : 100 mm x 89.2 mm x 43 mm
- Weight : 0.21 kg
- Operating temperature : from -10°C to +60°C
- Storage temperature : from -20°C to +85°C
- 12V low voltage adjustment : 9 - 12 VDC
- 12V overvoltage threshold : 15.5 VDC
- 24V low voltage adjustment : 18 - 24 VDC
- 24V overvoltage threshold : 31 VDC

INSTALLATION





ISOLATION TRANSFORMERS

WITH SOFTSTART



TECHNICAL CHARACTERISTICS

- Power : 3600W
- Input voltage : 115 or 230V, automatic and manual versions available
- Frequency : 50/60Hz
- Rated current : 32A (115VAC) - 16A (230VAC)
- Softstart : automatic
- Efficiency : > 93%
- Operating temperature : from 0 to 40°C
- Thermal protection integrated
- Cooling : temperature controlled forced ventilation (2 speeds)
- Transformer type : toroidal
- Internal fuse : no
- Dimensions : 400 x 300 x 200 mm
- Enclosure material : aluminium
- Protection category : IP21
- Weight : 24 kg
- Standards : IEC 60076

Part numbers : **IT-3600-M**
IT-3600-A

PREVENTION OF GALVANIC CORROSION

CRISTEC isolation transformers avoid electrolysis in salted water. Slow galvanic corrosion not only occurs in metal and aluminium hulls. It can occur in any metallic part being in contact with water : anodes, shafts, etc.

CRISTEC isolation transformers eliminate any electrical continuity between the boat AC on-board network and the shore-side supply.

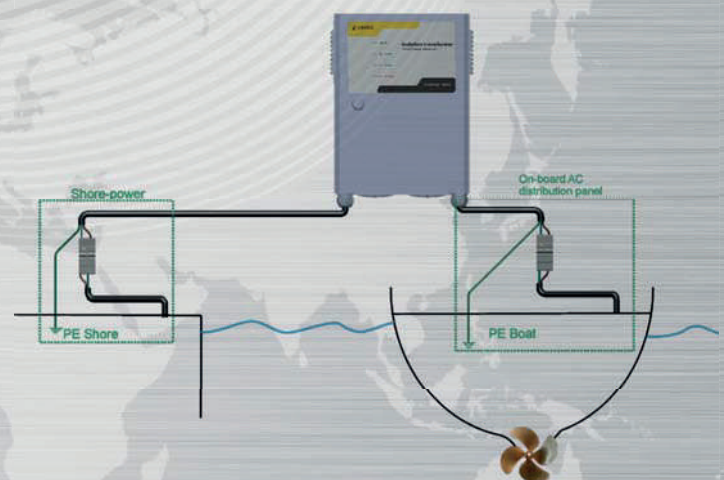
SAFETY

The isolation transformers allow powering a boat safely from shore power without any risk of galvanic corrosion. The boat AC on-board network is safe and secured to the created isolated ground specific to the boat : the GFCI - Ground Fault Current Interrupter - will trip or a fuse will blow in case of current leakage to ground.

COMFORT

CRISTEC isolation transformers are toroidal type in order to limit weight and noise.

They have an integrated softstart which avoids the shore-power fuse to blow or the GFCI to trip due to the inrush grid connection.



The installer should decide on rating and nature of the external protection devices.



SOLO INVERTERS

SINEWAVE



ADVANTAGES

- Significant overload capacity for starting surges.
- High efficiency-Low stand-by consumption.
- High reliability, limited size and weight.
- Fuse integrated protection.
- Battery protection with stop on low voltage.
- Silent and comfort.

RANGE POSSIBILITIES

- **INCOMING POWER** : voltage 12, 24 or 48VDC.
- **OUTPUT** : voltage 230VAC - single phase - 50Hz, power from 200VA to 3500VA.
On request : 115VAC - 50Hz/60Hz or 230VAC - 60Hz.

GENERAL SPECIFICATIONS

- **INCOMING POWER** :
voltage 12, 24 or 48VDC (-12 % +30 %),
reduced consumption off load.
- **OUTPUT** :
230VAC single phase +/- 5 %, frequency 50Hz +/- 0,05 %,
sinewave - distortion ≤ 3 %, power factor - inductive and capacitive,
instantaneous power from 1,5 to 3,5 rated power according to model.
- **COMMON CHARACTERISTICS** :
galvanic isolation input output ≥ 2 M Ω ,
electric rigidity 2 U+1000, conditions for standard functioning :
 - temperature from - 20 to + 50 °C,
 - humidity from 0 to 95 % without condensation,
 - acoustic noise ≤ 45 db.
- **PHYSICAL CHARACTERISTICS** :
features : standart IP 20 metal grey box, IP30 for models ≤ 800 W.
Connection of cables by means of terminal block through a cable gland,
depending on model.
- **EC CONFORMITY** :
EN 50081 I/II ▪ EN 50014 ▪ EN50022 ▪ EN60950 ▪ EN50091-2
IEC 801 II/III/IV ▪ CEI 555.EN 60950

PRESENTATION

The aim of the inverters is to convert batteries direct voltage into 230VAC/50Hz alternating current.
The SOLO digital sinewave has reduced the number of components and increased the equipment reliability.

◆ USE

The SOLO inverters deliver a sinusoidal wave identical to mains supply.
Their physical characteristics enable a wide scope of applications : marine, mobile, renewable energy, industry, etc.

- **Data processing** :
vehicule equipped with computing equipment,
on-board computer, automatic systems, etc.
- **Télécommunications** :
radio communication relay,
on-board telephony, radio stations and beacons,
radionavigation, etc.
- **Lighting** :
security lighting, incandescent and fluorescent lighting, etc.
- **Domestic and industrial equipment** :
domestic appliances, television, portable tools,
refrigerators, micro-waves, etc.



SOLO INVERTERS

Sinewave



STANDARD RANGE

Input : 12, 24 or 48VDC
Output : 230VAC, single phase, 50Hz
Sinusoidal signal - Wall mounted box



PART NUMBER	INPUT VOLTAGE	CONSTANT POWER	MAXIMUM POWER	INSTANTANEOUS POWER (5s)	EFFICIENCY	DIMENSIONS	WEIGHT
SEEL006054B	12V	200VA	275VA (30mn)	450VA	93%	163 x 142 x 84 mm	2,4 Kg
SEEL006056B	12V	400VA	500VA (30mn)	1000VA	93%	240 x 142 x 84 mm	4,5 Kg
SEEL006072*	12V	800VA	1000VA (30mn)	2200VA	93%	428 x 142 x 84 mm	8,5 Kg
SEEL006088*	12V	2000VA	2100VA (30mn)	5000VA	92%	399 x 273 x 117 mm	19 Kg
SEEL006050B	24V	300VA	350VA (30mn)	650VA	94%	163 x 142 x 84 mm	2,6 Kg
SEEL006052B	24V	500VA	600VA (30mn)	1200VA	94%	240 x 142 x 84 mm	4,5 Kg
SEEL006074*	24V	1000VA	1300VA (30mn)	2800VA	94%	428 x 142 x 84 mm	8,5 Kg
SEEL006090*	24V	2000VA	2400VA (30mn)	5200VA	94%	399 x 273 x 117 mm	18 Kg
SEEL006092	24V	2300VA	3000VA (15mn)	8000VA	95%	591 x 215 x 124 mm	27 Kg
SEEL006822	24V	3300VA	4300VA (15mn)	11000VA	95%	636 x 215 x 124 mm	30 Kg
SEEL006954	48V	300VA	400VA (30mn)	1000VA	94%	163 x 142 x 84 mm	2,6 Kg
SEEL008368	48V	500VA	700VA (30mn)	1400VA	94%	240 x 142 x 84 mm	4,5 Kg
SEEL006082	48V	1200VA	1800VA (15mn)	4200VA	95%	391 x 215 x 124 mm	13,2 Kg
SEEL006094	48V	2300VA	3400VA (15mn)	8000VA	95%	636 x 215 x 124 mm	27 Kg
SEEL006096	48V	3500VA	4300VA (15mn)	12000VA	95%	791 x 215 x 124 mm	38 Kg

*Possible option : ON/OFF remote control box including 5m cable, part number : SEEL007130

Variant : 115VAC/60Hz or 230VAC/60Hz on request

Minimum required battery capacity = C.Ah > 5 x Inverter constant power (VA) / Inverter input voltage (V)

The characteristics given in this sales brochure do not have contractual force and CRISTEC reserves the right to modify the product technical characteristics without prior notice.
Please consult us before any technical integration.



ISOLATED DC/DC CONVERTERS



PRESENTATION

- ◆ CRISTEC switch-mode DC/DC converters are dedicated to the power-supply of electric and electronic equipment.
- ◆ They guarantee a high quality output voltage and ensure insulation. Thanks to their input voltage range they can be connected directly to a battery (can be used as a battery charger).
- ◆ Their dimensions and weight allow an easy maintenance.

GENERAL CHARACTERISTICS

- **NOMINAL INPUT VOLTAGE :**
 - 12Vdc : from 10 to 18Vdc
 - 24Vdc : from 18 to 36Vdc
 - 48Vdc : from 36 to 72Vdc
- **OUTPUT VOLTAGE :**
 - 12, 24 or 48Vdc nominal
 - Voltage adjustment by external potentiometer
- **OUTPUT POWER : 195W**
- **OUTPUT ELECTRIC CHARACTERISTICS :**
 - Typical efficiency : 75 %
 - Line regulation : 1 %
 - Load regulation : 2 % (10 to 100 %)
- **DIELECTRIC RIGIDITY :** input/output > 1000Vdc
- **COOLING :** natural
- **OPERATING TEMPERATURE :** from 0°C to +50°C
- **STORAGE TEMPERATURE :** from -20°C to +85°C
- **PRESENTATION :**
 - In closed box
 - Fixing on screw terminals
- **INPUT PROTECTION :**
 - Against polarity reversal
 - EMI filter
 - By fuses
- **OUTPUT PROTECTION :**
 - Against short-circuit
 - Against overload by current limitation
 - Against overvoltage (Vnom + 25 %)

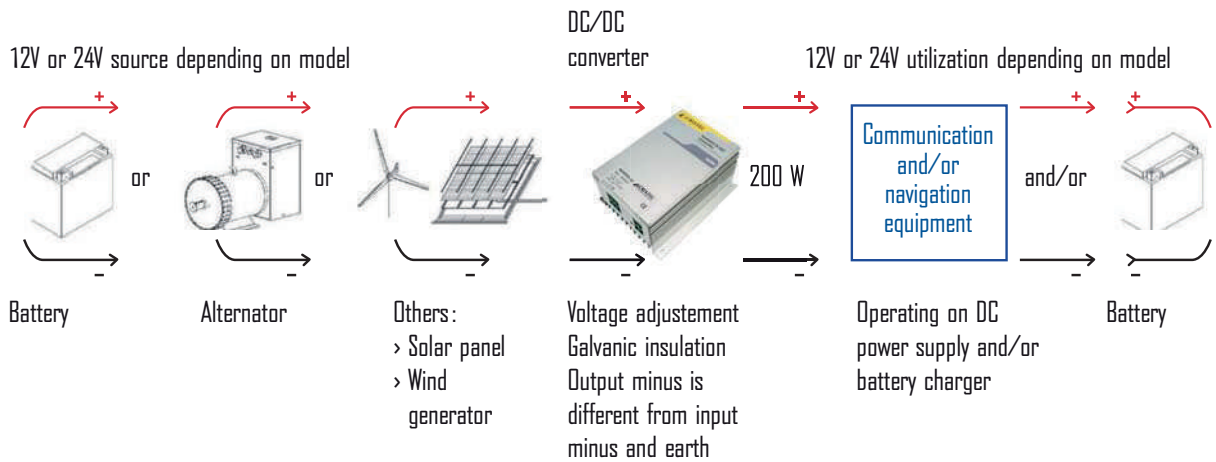
STANDARDS

- Safety : EN 60950
- EMC : EN 50081-2





TYPICAL INSTALLATION



ITEM CODE	DESCRIPTION	INPUT VOLTAGE (Vdc)	OUTPUT VOLTAGE (Vdc)	OUTPUT CURRENT (A)	MAX. OUTPUT CURRENT (A)	DIMENSIONS h x w x d (mm)
25000160DD	SD 203-I1-DD-AL	12	12	16	18	166 x 108 x 80mm
25000163DD	SD 206-I1-DD-AL	12	24	8	10	166 x 108 x 80mm
25000166DD	SD 208-I1-DD-AL	12	48	4	5	166 x 108 x 80mm
25000161DD	SD 203-I2-DD-AL	24	12	16	18	166 x 108 x 80mm
25000164DD	SD 206-I2-DD-AL	24	24	8	10	166 x 108 x 80mm
25000167DD	SD 208-I2-DD-AL	24	48	4	5	166 x 108 x 80mm
25000162DD	SD 203-I3-DD-AL	48	12	16	18	166 x 108 x 80mm
25000165DD	SD 206-I3-DD-AL	48	24	8	10	166 x 108 x 80mm
25000168DD	SD 208-I3-DD-AL	48	48	4	5	166 x 108 x 80mm

Specifications may change without notice. Please contact us.

CRISTEC, on-board energy

⚡ Our vocation

Founded in 1983, CRISTEC (standing for Creation, Innovation Scientifique et Technique, or Scientific and Technical Innovation and Creation) specialises in energy conversion.

CRISTEC offers expertise on an international scale via its range of standard products mainly for on-board applications.

CRISTEC belongs to the ENAG group and its success is built on its teams and technical means, whose expertise is widely recognised.

Thanks to our network of agents and distributors who are present in over 40 countries we can guarantee our clients reliable universal solutions for use in extreme environmental conditions.

⚡ Our clients

Sailing boats, motor and electric boats, barges, vehicles for the police and emergency services, for work and leisure uses, autonomous electrical installations for wind and solar power, etc. whenever the situation or energy management demands are particularly stringent.

From Europe to Asia, the number and diversity of CRISTEC's clients is proof of our success and represents an ongoing challenge to meet and anticipate their needs.

⚡ Products

Our automatic H.F. chargers, an innovative technology in which CRISTEC was the precursor, and all our products relating to battery charging meet the whole host of international standards and norms.

The design of our latest equipment benefits from unrivalled feedback on 100 000 HF chargers in use.

High-performance, compact and light, their ergonomic design means they are easy to install, quick to hook up and keep on functioning over time in perfect safety.

⚡ Means

Thanks to our R & D department backed up by specifically adapted testing facilities we can rapidly develop product ranges to meet technical specifications as well as assessing prototypes and preproduction models.

Our competitive positioning for standard CRISTEC models means that we have an international supply and subcontracting chain.

Our industrial organisation has earned ISO 9001 certification and is continually seeking to improve, with optimal customer satisfaction as our guiding principle.

⚡ Mission

CRISTEC energy conversion - putting our expertise and skills at the service of current and future clients to help them anticipate and find the solution to tomorrow's needs today.

Place your trust in us and incorporate all our on-board energy working at your sides!



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