



# CRISTEC

o n - b o a r d e n e r g y



## CPS3 battery chargers



### Innovative

› CPS3 12V/16A, 12V/25A, 12V/40A, 24V/12A, 24V/20A and 48V/15A chargers have **no cooling fan**.

› **Specific 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 40 countries.
- Today CRISTEC is proud to offer you the assets of its fourth generation HF battery charger range, CPS3, having already sold more than 70,000 HF units throughout the world.

## > Innovative

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## > 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.



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

## > 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.



## > Interfaces

Optional connection for external battery temperature sensor 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 with an internal switch 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 : there are 11 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 12V/60A chargers will deliver 12V/120A). You can parallel-mount up to 6 chargers preferably the same size. The power-sharing function is active if only one single output is used per charger (on models 12V/80A, 12V/100A, 24V/60A, 24V/75A, 24V/120A, 48V/30A and 48V/60A).

# CPS3 battery chargers



Part number	CPS3/12-16	CPS3/12-25	CPS3/12-40	CPS3/12-60	CPS3/12-80	CPS3/12-100	CPS3/24-12	CPS3/24-20	CPS3/24-30	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	16 A	25 A	40 A	60 A	80 A	100 A	12 A	20 A	30 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 230VAC	1,0 A	1,9 A	3,1 A	4,6 A	6,0 A	6,9 A	1,9 A	3,0 A	4,5 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)	no			yes			no			yes			no		yes	
Power factor	0,9 at rated conditions															
Efficiency	> 80% at rated conditions															
Output voltage regulation	+/- 1%															
Recommended battery bank (Ah)	100-200	200-300	300-500	500-700	700-900	900-1200	100-200	200-300	300-500	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			no			yes			no			yes		no	
DC output connection on threaded rod h=25 mm	M5	M6			M8	M5	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	Natural		Electric fan controlled by the output current			Natural		Electric fan controlled by the output current			Natural		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 23															
Overall dimensions (mm) Not including cable gland	h: 180 w: 255 d: 100	h: 213 w: 280 d: 110	h: 262 w: 350 d: 120	h: 400 w: 350 d: 120	h: 180 w: 255 d: 100	h: 213 w: 280 d: 110	h: 262 w: 350 d: 120	h: 400 w: 350 d: 120	h: 213 w: 280 d: 110	h: 262 w: 350 d: 120	h: 400 w: 350 d: 120	h: 213 w: 280 d: 110	h: 262 w: 350 d: 120	h: 400 w: 350 d: 120	h: 213 w: 280 d: 110	h: 262 w: 350 d: 120
Case type	1M	2M	3M	1H	1M	2M	3M	2H	2M	3M	1H	2M	3M	1H	2M	3M
Weight (Kg)	2,5	4,2	7,5	12	2,5	4,2	7,5	14	4,2	7,5	12	4,2	7,5	12	4,2	7,5
Standards	CE, UL and CSA															
Guarantee	3 years															

\*@400 VAC 3-phase

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-CPS3	LED-DEP-CPS3	BAD-CPS3	STP-CPS3	SEEL009104	JBNUM-CPS3