



Manuel utilisateur de l'afficheur tactile couleur déporté

User manual for Remote tactile colour display

Bedienungsanleitung YPOWER Vollfarb- TFT-Touch Fernanzeige

YPO-DISPLAY-R

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1 **PRECAUTIONS – WARRANTY**

The CRISTEC equipment includes the following :

- A box containing the Remote Display
- An interface board that has to be plugged into the YPOWER battery charger
- A 5 meter cable, two 3-pole connectors and six crimp wire terminals
- A cable bushing
- This user manual
- Specific packaging

This document applies to the YPOWER Remote Display compatible with battery chargers from the YPOWER range as listed on our website www.cristec.fr.

The manual is intended for users, installers and equipment maintenance staff. Please read this manual carefully before working on the Remote display.

This manual should be kept safely and consulted before attempting any repairs because it contains all the information required to use the appliance.

This document is the property of CRISTEC; all the information it contains applies to the accompanying product. CRISTEC reserves the right to modify the specifications without notice.

1.1 **PRECAUTIONS (WARNING) – PROVISIONS RELATING TO SAFETY**

The requirements for installation are contained in the NFC 15-100 standards and in the specific standard “for pleasure boats – electrical systems – Extra-low-voltage d.c. installations” ISO10133 reference.

The installation must be carried out by an electrician or a professional installer.

The DC network must be disconnected before starting any maintenance work on the equipment.

This equipment is not intended to be used by children.



Main precaution

Before handling the Remote Display, please read carefully this manual.

The addition of the YPO-DISPLAY-R option on an YPO charger 12V 40A can no longer claim to its compliance with the ISO 8846 standard.



Precautions regarding dust, seepage and falling water

The Remote Display should be located so as to prevent penetration of damp, liquid, salt and dust, any of which could cause irreparable damage to the equipment.

The appliance should be installed in a dry and well-ventilated place.



Other precautions



The interface board contains electrostatic sensitive devices. Observe precautions for handling the interface board. Before handling the interface board, please ensure your body is discharged.



Never attempt to drill or to machine the case of the Remote Display : this may damage components or cause metal chips or filings to fall on the Remote Display board.

Do not do anything that is not explicitly stated in this manual.

1.2 WARRANTY

CRISTEC waives all liability if the installation rules and instructions for use are not observed.

The warranty is valid for 24 months. It covers parts and labour for equipment returned to the Quimper plant (France). Only original parts recognized as being defective will be replaced under the warranty.

Our warranty does not cover :

1. Failure to abide by this manual
2. Any mechanical, electrical or electronic alterations to the appliance
3. Improper use
4. Presence of moisture
5. Failure to comply with DC power-supply tolerances (i.e. overvoltage)
6. Incorrect connections
7. Falls or impacts during transportation, installation or use
8. Repairs carried out by anyone unauthorized by CRISTEC
9. The maintenance made by a non-authorized person by CRISTEC
10. Connection of any interface not supplied by CRISTEC
11. The cost of packaging and carriage
12. Apparent or latent damage sustained during shipment and/or handling (any such claims should be sent to the haulier)

Our warranty on no account provides for any form of compensation. CRISTEC shall not be held liable for damage incurred as a result of using the Remote Display.

2 OPERATING-PRESENTATION-INTERFACES

2.1 OPERATING PRINCIPLE

The Remote Display and its interface board are designed to offer all available information about the charging process while the charger is running as well as to supervise batteries when AC network is off.



The Remote Display and the interface board are powered by the battery connected to +BAT E.

In case batteries remain uncharged during min. 4 weeks (wintering), please disconnect the batteries connected to +BAT E terminal in order to avoid discharging due to continuous consumption.

2.2 OVERVIEW PRESENTATION

The product consists of two parts:

- The interface board which handles the communication between the YPOWER battery charger and the Remote Display. It also handles the voltage measurement for the Remote Display when the battery charger is off-grid.
- The full colour touch screen Remote Display which is connected via a 3 pole cable to the interface board. The Display is supplied by the battery connected to the charger's output terminal +BAT E through the connection cable.

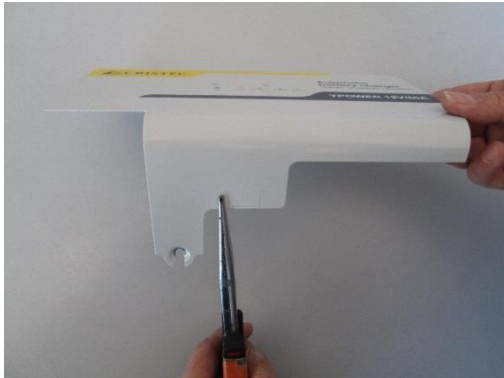


**Removed front
cover**

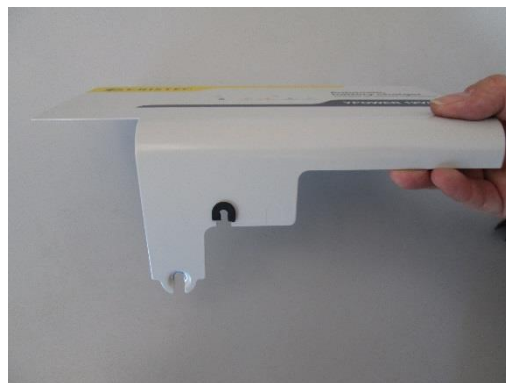
3 INSTALLATION

This paragraph deals with installation of the equipment.

Installation and initial commissioning should be carried out by an electrician or professional installer in accordance with the standards currently in force (for pleasure boats the applicable international standard is ISO10133).



- a. Remove the metal front clasp from the charger
- b. Snap of the cap with flat-nose pliers



- c. Adjust and insert the protective seal



- d. Put the charger clasp back in place and use this opening to get the cable through.

3.1 INTERFACE BOARD



Make sure the battery charger is disconnected from AC mains and DC outlet is disconnected before you plug the interface board.

After removal of the metal front cover, the red 16 pole connector of the ribbon cable has to be plugged into the matching red connector placed on the mainboard of the YPO battery charger.



The interface board has to be hooked to the three plastic brackets on the housing.



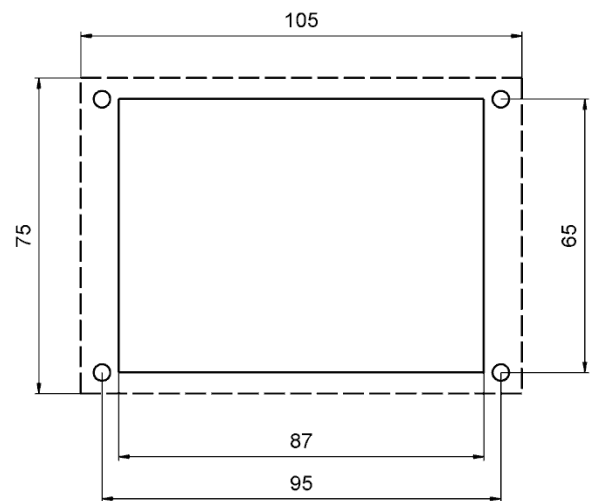
3.2 WIRING – SEE APPENDIX 1

The Remote Display shall be connected to the interface board via a 3 pole cable. The cable can be shortened or you can use a cable up to 15m. The 3 pole cable provides the power supply of the monitor as well as LIN-Bus communication. When assembling the connectors to the wires, please use the pigtailed and the 3 pole cable which is part of the delivery. PIN 1, 2 and 3 have to be connected in the same orientation on both connectors. Both LIN Terminals are connected in parallel, so only one has to be used. The second one is dedicated for further applications.



3.3 DISPLAY MONITOR

Place the monitor on a dry place where it is easily accessible. The minimum cut-out is 87 x 65 mm
On the top side, a Micro SD-card can be inserted to update the firmware if necessary.



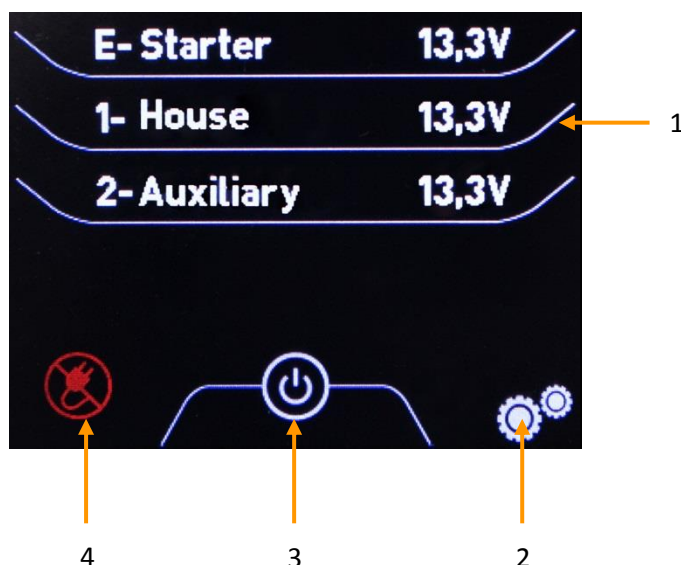
4 OPERATION

4.1 OVERVIEW

Brightness can be switched between NIGHT and DAY modes by pressing the centre part of the screen.
The brightness of DAY-mode can be adjusted in the setup while NIGHT-mode is fixed.

4.2 AC NETWORK OFF

The battery charger is off and the battery voltages can be read.
Charger's output is unavailable in this mode, so the ON/OFF charger output press-button [3] is neutral.



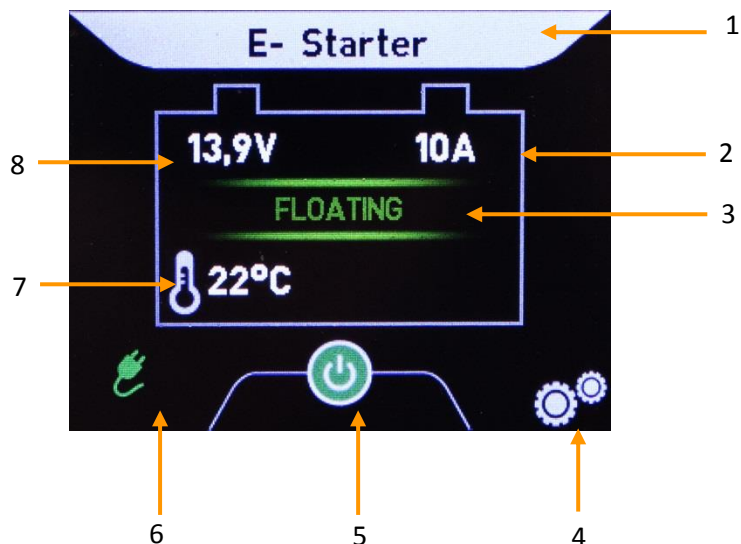
- 1 : Battery voltages
- 2 : Access to parameters
- 3 : ON/OFF charger output
- 4 : AC network status

4.3 AC NETWORK ON

4.3.1 Main page

The battery charger starts up automatically when AC network is present.

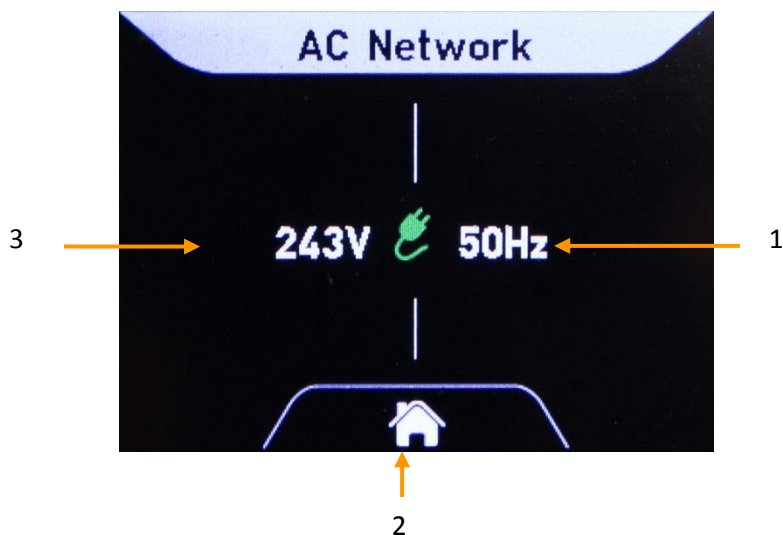
Consequently, the display shifts to the main page shown below. It is possible to display channel E, 1 and 2 voltages by pressing [1].



- 1 : Battery channel and name
- 2 : Total charger's output current
- 3 : Charge status
- 4 : Access to parameters
- 5 : ON/OFF charger output
- 6 : AC network status
- 7 : Battery pack temperature (if probe connected)
- 8 : Battery channel voltage

4.3.2 AC Network page

AC Network voltage and frequency are available by pressing AC network status [6] onto main page.



- 1 : AC Network frequency in Hertz
- 2 : Home (return to main page)
- 3 : AC Network voltage in Vac



Voltage waveform distortions caused by harmonics can impact the measurement.

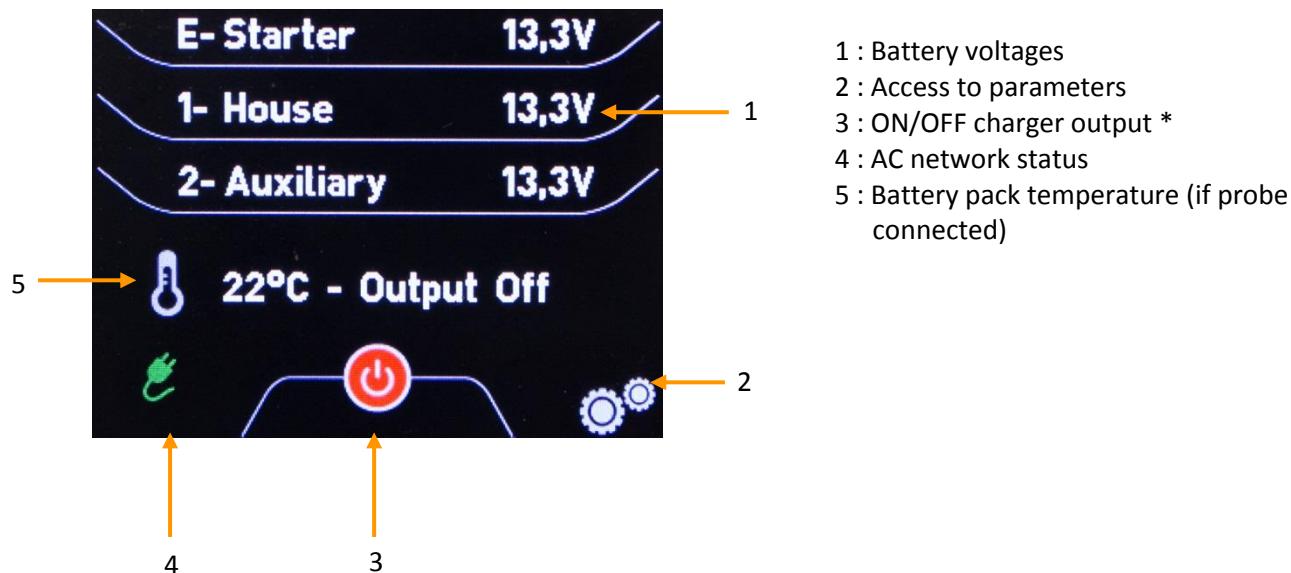
4.3.3 ON/OFF charger output

Charger output can be switched ON and OFF by pressing ON/OFF charger output [3] onto main page. *

In OFF mode, output current is 0A and therefore all battery voltages can be read.

AC Network voltage and frequency are available by pressing [4]. *

Press [3] to switch on the charger's output. *

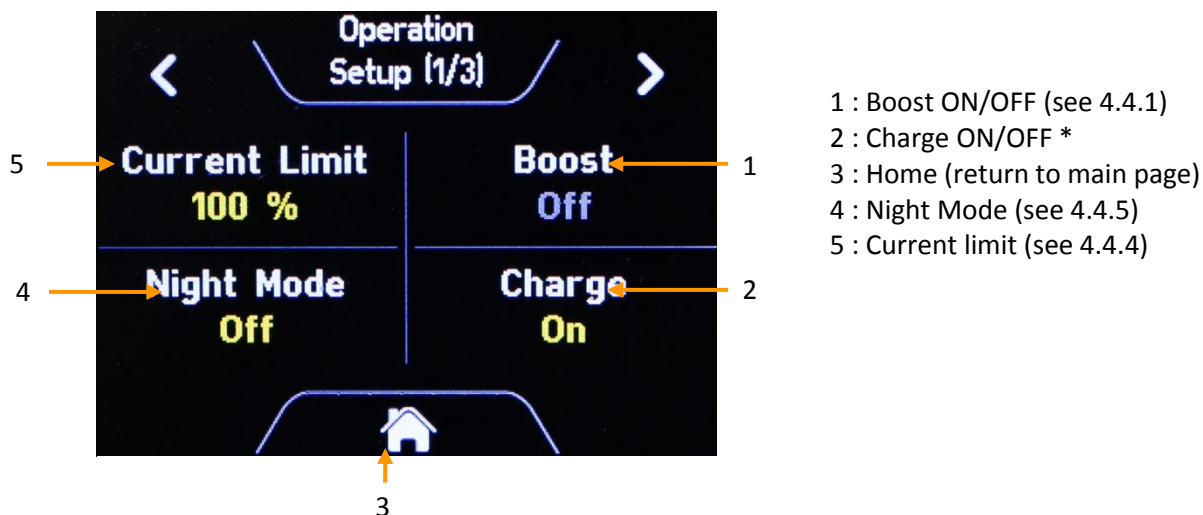


* Not available on models YPO 12V-16A, 12V-25A and 24V-12A

4.4 OPERATION SETUP (MENU)

Setup → Operation

By pressing the parameter access button [2] onto main page and next the OPERATION button, you can control all the main functions of the charger.



* Not available on models YPO 12V-16A, 12V-25A and 24V-12A

4.4.1 ON/OFF Boost

Setup → Operation → Boost

The BOOST function enables a faster charge of the batteries. This function is timed controlled and is automatically switched off when the battery is fully charged : BOOST stops when batteries current < 20% of charger rated current. BOOST function can also be disabled by either a DIP switch **(E)** inside the battery charger or the BOOST press-button into Operation menu.

4.4.2 Charge ON/OFF

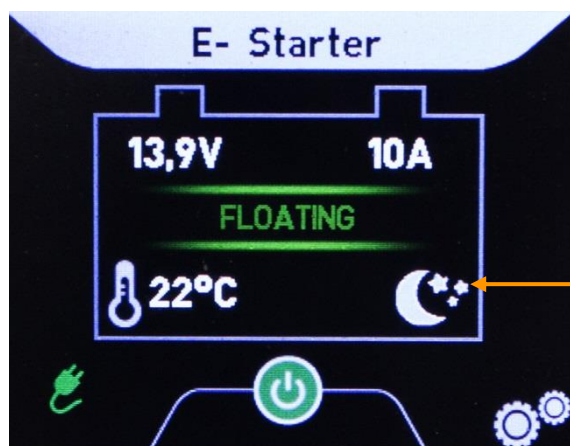
(not available on models YPO 12V-16A, 12V-25A and 24V-12A)

Setup → Operation → Charge

Indication if charge is ON or OFF

4.4.3 Night mode (only available for YPO 24V-30A and 12V-60A)

Setup → Operation → Night mode



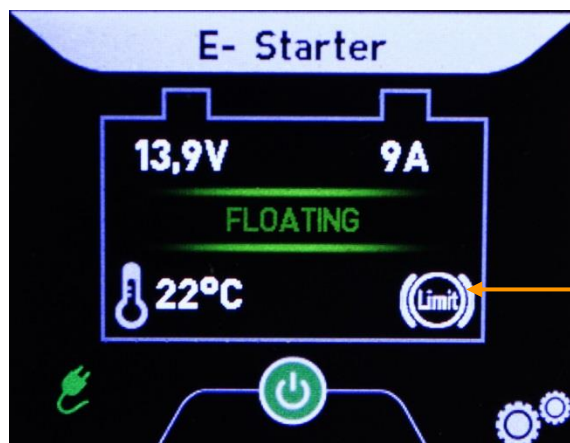
The night mode ensures quiet operation by stopping the fan and smoothing the charge. It automatically limits the total output power according to the internal ambient temperature. When activated, Night mode operation is limited to 8 hours.

1 : Night mode under operation

4.4.4 Current limit

Setup → Operation → Current limit

The remote display has the ability to limit the total output battery charger current from 100% to 30% rated output current. When activated, this limits runs during 8 hours before coming back to rated value.



This function enables the user :

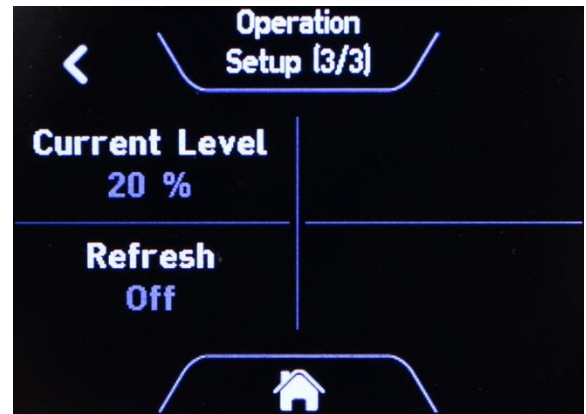
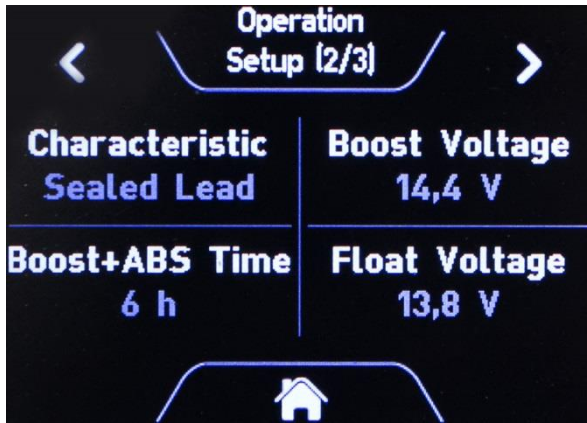
- To lower the charge current if required ;
- To control the input power consumption of the battery charger in case of dips or overcurrent nuisance tripping on AC network due to an excessive consumption on the boat overall electrical network.

1 : Current limit under operation

4.4.5 Settings

Setup → Operation → Characteristic

The YPOWER chargers are equipped with DIP switches to configure the charger according to battery type and application. This setting is available in Operation menu second page:

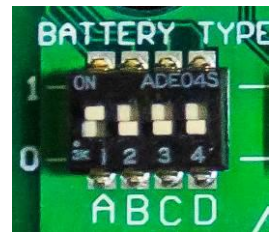


When the YPOWER charger DIP switches are set to A=0 or 1, B=1, C=1 and D=1, setting can be selected by the remote display itself.

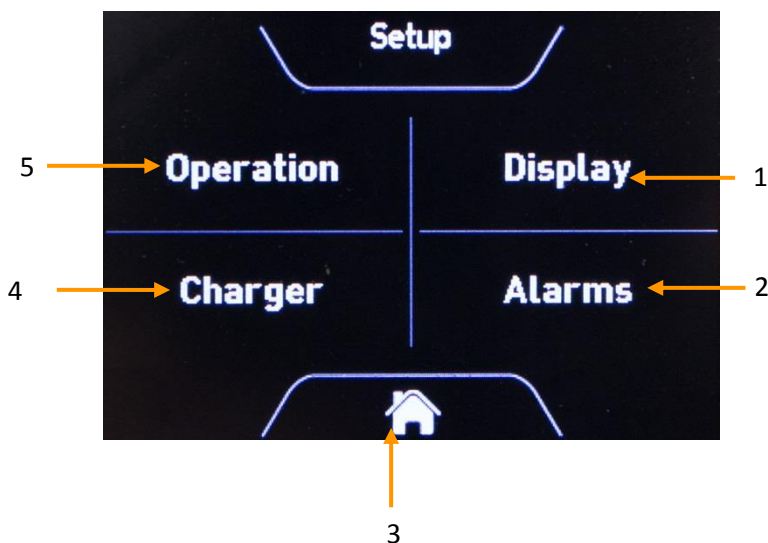
Refer to YPOWER charger user manual for details.

1 = ON

0 = OFF

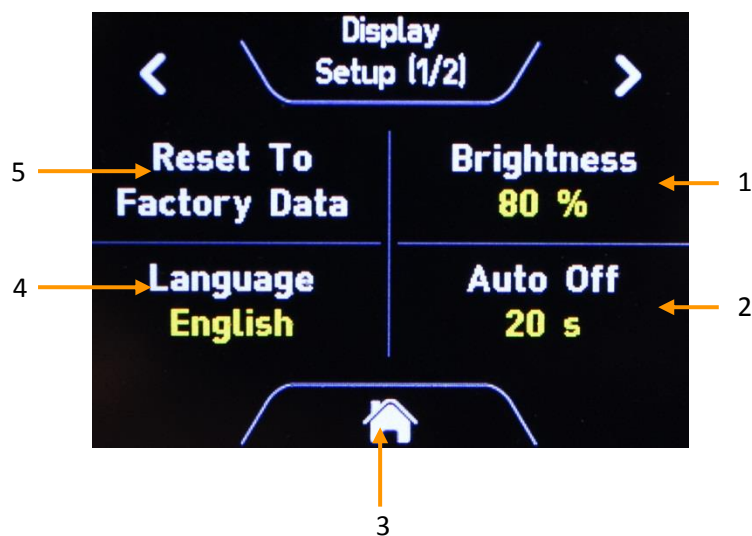


5 MENU



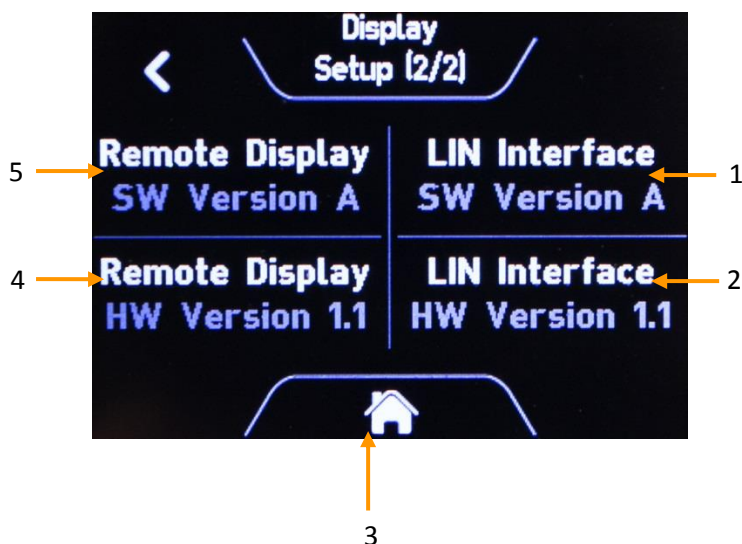
- 1 : Access to Display settings
- 2 : Access to Alarms settings
- 3 : Home (return to main page)
- 4 : Access to Charger settings
- 5 : Access to Operation settings (4.4)

5.1.1 Display setup



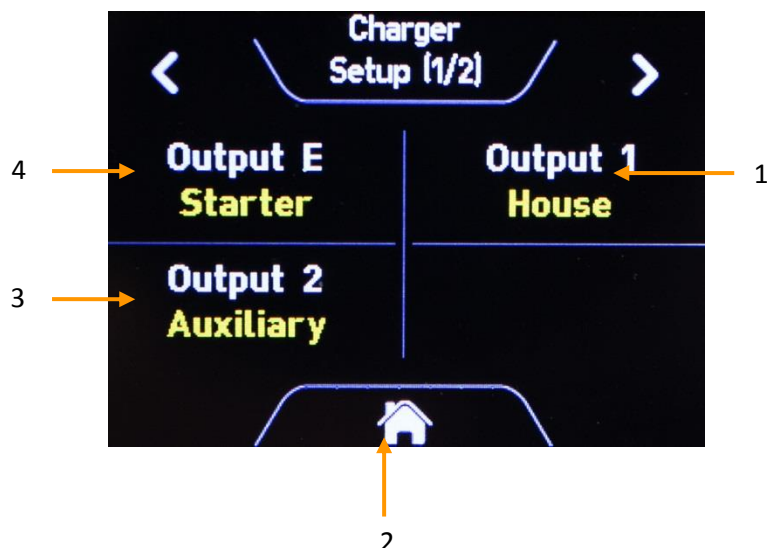
- 1 : Brightness Day
- 2 : Display Auto Off
- 3 : Home (return to main page)
- 4 : Language
- 5 : Reset to Factory Data

Auto Off is dedicated to reduce the load on the battery connected to +BAT E terminal while the charger is off-grid. The Remote Display will enter into sleep mode after the selected time interval. It will return into operation mode again by pressing the screen.



- 1 : LIN Interface software version
- 2 : LIN Interface hardware version
- 3 : Home (return to main page)
- 4 : Remote display hardware version
- 5 : Remote display software version

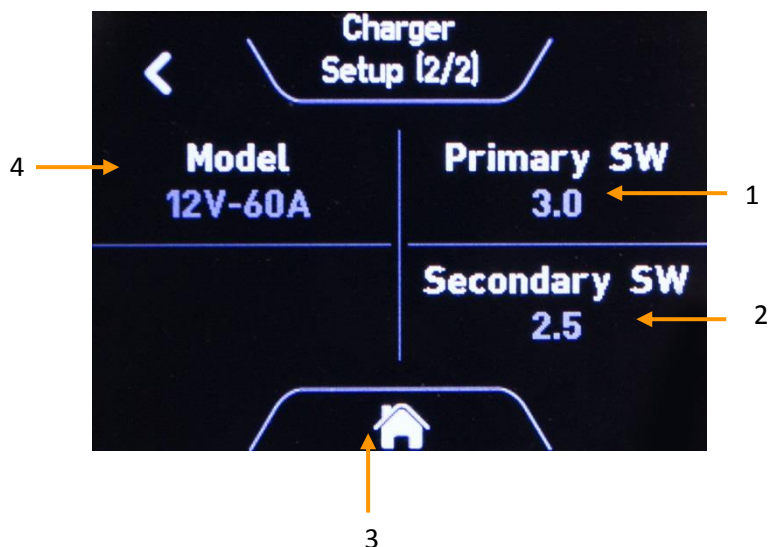
5.1.2 Charger setup



- 1 : Output 1 label selection
- 2 : Home (return to main page)
- 3 : Output 2 label selection
- 4 : Output E label selection

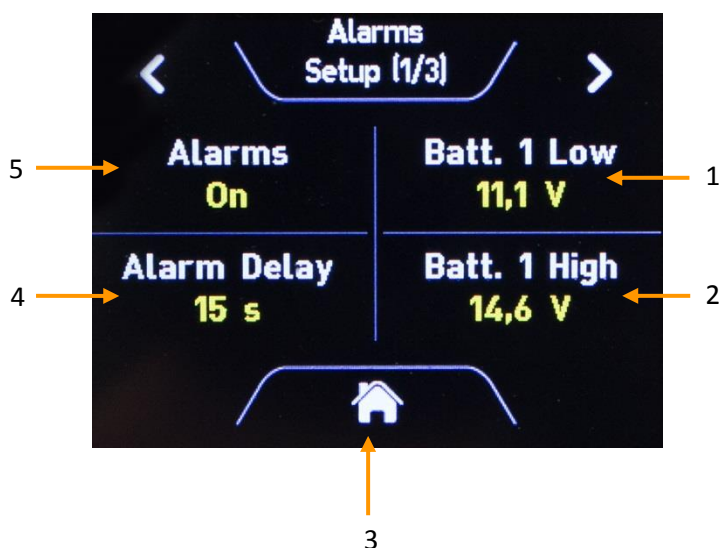
Label is set according to installation:

- Not Active
- Starter
- Start PORT
- Start STB
- House
- House 1
- House 2
- Bow
- Gen Set Start
- Navigation
- Auxiliary
- Other

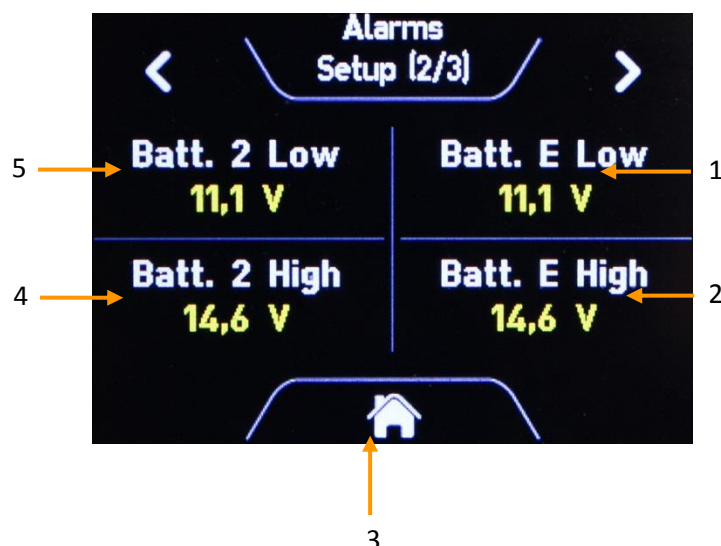


- 1 : Primary software version (Battery charger)
- 2 : Secondary software version (Battery charger)
- 3 : Home (return to main page)
- 4 : Charger model (ex. 12V – 60A)

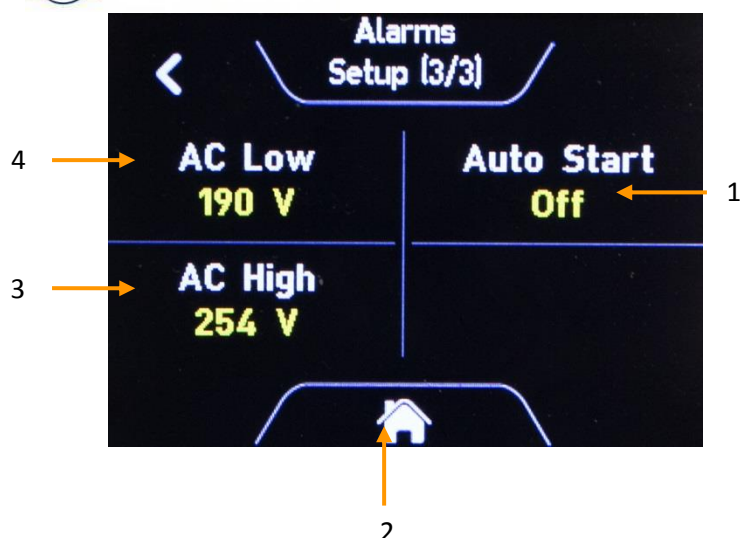
5.1.3 Alarms setup



- 1 : Batt. 1 Low : under voltage alarm can be set from 8.0V to 13.0V (from 16V to 26V for a 24V charger)
- 2 : Batt. 1 High : overvoltage alarm can be set from 14.0V to 16.0V (from 28V to 32V for a 24V charger). **
- 3 : Home (return to main page)
- 4 : Alarm Delay : can be adjusted from 0 to 60 seconds
- 5 : Alarm ON/OFF : enables all alarms including over temperature alarm which is factory set to 50°C (available if temperature probe connected only).



- 1 : Batt. E Low : under voltage alarm can be set from 8.0V to 13.0V (from 16V to 26V for a 24V charger)
- 2 : Batt. E High : overvoltage alarm can be set from 14.0V to 16.0V (from 28V to 32V for a 24V charger). **
- 3 : Home (return to main page)
- 4 : Batt. 2 Low : under voltage alarm can be set from 8.0V to 13.0V (from 16V to 26V for a 24V charger)
- 5 : Batt. 2 High : overvoltage alarm can be set from 14.0V to 16.0V (from 28V to 32V for a 24V charger). **



- 1 : Auto Start : if AC is available and charge is OFF, this function automatically starts the charge if a battery low alarm occurs *
- 2 : Home (return to main page)
- 3 : AC High : overvoltage alarm can be set down to 265V. **
- 4 : AC Low : overvoltage alarm can be set up to 85V. **

* Not available on models YPO 12V-16A, 12V-25A and 24V-12A

** The charge stops if this alarm occurs. Available for all models except YPO 12V-16A, 12V-25A and 24V-12A

6 ADDITIONAL INFORMATION

6.1 UPDATING THE SOFTWARE

In case a newer firmware is available for the display monitor, it can be easily updated. Therefore, the new firmware file has to be put on a Micro SD-card (Please use a micro SD-card with max. 4 GB). Then, the SD-card shall be inserted into the holder on the top side of the display monitor and the unit has to be restarted from DC power. The updating process will start automatically. After that, the SD-card shall be removed again.

6.2 LIMITED FUNCTIONS AVAILABLE

Depending on the model of charger and revision number, some functions like individual battery setting via the display may not be available.

6.3 EQUIPMENT REPAIRS

Disconnect the battery charger from the AC power network and disconnect the batteries before undertaking any repairs.

In case of fuses blowing, respect the calibre and type of fuse recommended in this manual.

Please contact CRISTEC or their distributor for any other repairs.

Any repair without CRISTEC prior agreement entails an exclusion of warranty.

7 TECHNICAL SPECIFICATIONS

| Remote Display | |
|----------------------------------|------------------------------|
| Dimensions | 105 x 75 x 25 mm |
| Cut-out | 87 x 65 mm |
| Ingress protection of front side | IP65, not for outdoor use |
| DC supply range | DC 8-30V via +BAT E terminal |

| System DC consumption via +BAT E terminal@ 12VDC | |
|---|--------|
| Display and Interface at full brightness | 81 mA |
| Display and Interface in sleep mode | 3.3 mA |
| Interface only (Remote Display not connected) | 1.7 mA |

| System DC consumption via +BAT E terminal @ 24VDC | |
|--|--------|
| Display and Interface at full brightness | 51 mA |
| Display and Interface in sleep mode | 4.8 mA |
| Interface only (Remote Display not connected) | 3.1 mA |

