CHARGING SOLUTIONS

IMPAQ™

Battery Charger

OWNER'S MANUAL

CE UKCA

EnerSys®
Power/Full Solutions

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INTRODUCTION

The information contained in this document is critical for safe handling and proper use of the IMPAQ™ charger(s). It contains a global system specification as well as related safety measures, codes of behavior, a guideline for commissioning, and recommended maintenance. This document must be retained and available for users working with and responsible for the battery charger. All users are responsible for ensuring that all applications of the system are appropriate and safe, based on conditions anticipated or encountered during operation.

This owner's manual contains important safety instructions. Read and understand all instructions before installing, handling, or operating the battery charger. Failure to follow these instructions may result in serious injury, death, destruction of property, damage to the battery charger, and/or void the warranty.

This owner's manual is not intended as a substitute for any training on handling and operating material handling equipment, batteries, or IMPAQ™ Charger that may be required by local laws, entities, and/or industry standards. Proper instruction and training of all users must be ensured prior to handling the battery charger system.

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Your Safety and the Safety of others is Very Important

WARNING You can be killed or seriously injured if you don't follow the instructions.

FEATURES & INFORMATION

Features

- Microprocessor-controlled
- Able to auto-identify battery's capacity
- Able to adapt to State of Charge (SoC)
- Compatible with battery voltages of:

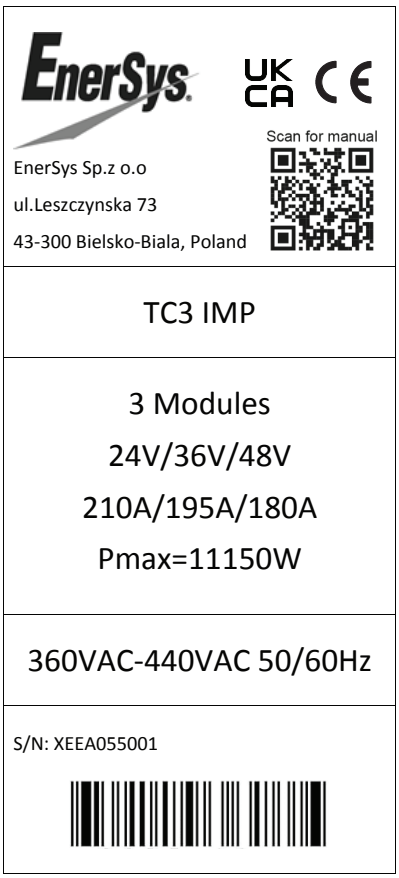
1ph	3ph
12V	
24V	24/36/48V
36/48V	72/80V
	96V
	120V

- Unique profile for charging Thin Plate Pure Lead (TPPL)
- Unique profiles for NexSys® battery charge applications: NXBLOC; NXSTND.
- Fully programmable to unique fleet requirements.
- Battery chemistry agnostic–TPPL, Flooded, and Gel Lead Acid.

Technical Information

Name Plate Label Definitions

Item	Description
Serial Number	Provides date code.
Hertz	Input voltage frequency. Under no conditions operate the charger at a different frequency or from a generator with unstable frequency.
Phase	TCX. When "1" indicates a Single-Phase Charger and "3" indicates a Three-Phase Charger.
AC Volts	Nominal voltage for which this charger is rated to operate.
DC Volts	Nominal DC output voltage of the charger.
Modules	Actual number of power modules installed in the charger cabinet.
DC Amps	DC current that this charger will deliver to a discharged battery with the number of power modules installed and based on the nominal voltage.



Technical Information (cont.)

Output Power Letter Codes

Output Power (kW)	Number Modules	Module Power (kW)
1.0	1	1.0
2.0	2	1.0
3.0	3	1.0
3.5	1	3.5
7.0	2	3.5
10.5	3	3.5
14.0	4	3.5
17.5	5	3.5
21.0	6	3.5
24.5	7	3.5
28.0	8	3.5

Cabinet Size (number of modules available) and DC Cable Size

Phases	Module Positions	Standard Cable Gauge	Comments
1ph	Max 1	6 mm^2	Stand-alone cabinet
1ph	Max 3	25 mm^2	Three-slot, 3 kW cabinet
3ph	Max 2	35 mm^2	Two-slot, 7 kW cabinet
3ph	Max 4	70 mm^2	Four-slot, 3.5 to 14 kW cabinet
3ph	Max 6	95 mm^2	Six-slot, max 21 kW cabinet
3ph	Max 8	70 mm^2 or 1 x 95 mm^2	Eight-slot, max 28 kW cabinet. Dual cable for 24/36/48Vdc, single cable for 72/80Vdc

Charge Profile Codes

Profile Code	Charger Profile	Description
P22	HDUTY	Heavy Duty wet cell Pulse Profile. The charge profile diagnoses the battery status throughout the recharge phase and adjusts its parameters to optimize the charge of flooded battery technology. Max 0.25 C5. Auto battery capacity matching with continuous current loops.
P21	STDWL	Standard (Waterless) wet cell profile. IUI profile Max 0.13 to 0.20 C5. Auto battery capacity matching with Ph1 loops. Can manually set battery capacity if required. Weekly Equalization is needed.
P02	GEL	IUI profile. Max 0.17 to 0.22 C5. Auto battery capacity with Ph1 loops. Can manually set battery capacity if required. Weekly Equalization is needed.
P06	AGM	IUI profile. Max 0.20 C5. Auto battery capacity with Ph1 loops. Finish time limitation. Can manually set battery capacity if required. Weekly Equalization is needed.
P07	OPP (*)	Opportunity charge PzQ cells. IU (main) & IUI pulse (daily) profile @0.25 C5. Finish current 5%. Must set Daily Full charge. Weekly Equalization is needed.

Technical Information (cont.)

Profile Code	Charger Profile	Description
P04	AIRMIX	Pneumatic / Airmix profile. Must have Air kit fitted to use this profile. IUI profile Max 0.13 to 0.25 C5. Auto battery capacity with Ph1 loops. Can manually set battery capacity if required. Weekly Equalization is needed.
P25	LOWCHG	Low rate charge profile. IUI profile 0.09 to 0.13 C5. Manually set battery capacity if required. Weekly Equalization is needed.
P31	NXBLOC (*)	For NexSys® core Bloc battery under normal charge. Charge rate 0.18 to 0.70 C5. Must set Battery Capacity, Temperature & Equalize values (NexSys® BLOC battery). Weekly Equalization is needed.
P29	NXSTND (*)	For NexSys® core 2V battery under normal charge. Charge rate 0.18 to 0.25 C5. Must set Battery Capacity, Temperature & Equalize values (NexSys® 2V battery). Weekly Equal is needed.

(*) Opportunity Profile Options
Operation: In opportunity charging mode, the user can charge the battery during breaks, lunch, or any available time during the work schedule. The opportunity charge profile allows the battery to be safely charged while it is kept in a partial state of charge between 20% and 80% of C6 throughout the work week. Sufficient time should be scheduled after the weekly equalization charge to allow battery cooling and to perform periodical electrolyte level checks.

Daily Charge
This option can be set to add additional daily charging time, if the work schedule allows. It should be considered only when the daily work demand requires additional capacity.

Equalization Charging
Equalization charging for traditional flooded lead-acid batteries, performed after normal charging, balances the electrolyte densities in the battery's cells.

NOTE: The factory default is Daily Charge DISABLE, 6-8 hours Equalize, Sunday at 00 hour for flooded, 2-hour week/maintenance charge for NexSys® charge profiles.

Block-Out Time
This function inhibits the charger from charging the battery during the block-out time window. If a charge cycle has started before the block-out window, it is stopped during the block-out window and will automatically restart the charge cycle at the end of the block-out window.

Refresh Charging
Refresh or maintenance charging enables the charger to maintain the battery at maximum state of charge as long as it is attached to the charger.

Charger Option List

Suffix	Description
LMEB	Late Make/Early Break
Airmix	Electrolyte Circulation System

Safety Precautions

1. **⚠ WARNING** The shipping pallet must be removed for proper and safe operations.
2. This manual contains important safety and operating instructions. Before using the battery charger, read all instructions, cautions, and warnings on the battery charger, the battery, and the product using the battery.
3. Read and understand all setup and operating instructions before using the battery charger to prevent damage to the battery and to the charger.
4. Do not touch non-insulated parts of the output connector or the battery terminals to prevent electrical shock. Never open the equipment: High voltage could still be present, even turning off the charger. Any adjustment, maintenance, or repairs to the equipment while it is open must only be carried out by an appropriately skilled person who is aware of the risks involved.
5. During charge, lead acid batteries produce hydrogen gas, which can explode if ignited. Never smoke, use an open flame, or create sparks in the vicinity of the battery. Take all necessary precautions when the equipment will be used in areas where there is the possible risk of an accident occurring. Ensure appropriate ventilation according to standard EN 62485-3 to allow any gases released to escape. Never disconnect the battery while it is being charged.
6. Unless the charger is equipment with LMEB (Late Make Early Break) feature, do not connect or disconnect the battery plug while the charger is on. Doing so will cause arcing and burning of the connector, resulting in charger damage or battery explosion.
7. Lead acid batteries contain sulfuric acid, which causes burns. Do not get in eyes, on skin, or on clothing. In cases of contact with eyes, flush immediately with clean water for at least 15 minutes. Seek medical attention immediately.
8. Only factory-qualified personnel should install, set up, and service this equipment. De-energize all AC and DC power connections before servicing the charger.
9. Must be used in conformance with its indicated level of protection and never come into contact with water.
10. Must not be installed on surfaces subject to vibration (near compressors, engines, motors).
11. Must be installed so that the gases from the battery being charged do not get sucked into the charger by its fans.
12. The charger is not for outdoor use–only indoor use.
13. Do not expose the charger to moisture. Operating conditions should be 32°F (0°C) to 113°F (45°C); 0 to 70% relative humidity.
14. Do not operate the charger if it has been dropped, received a sharp impact, or otherwise damaged in any way.
15. For continued protection and to reduce the risk of fire, install chargers on a non-combustible surface.
16. For NexSys® iON batteries, use only EnerSys® battery packs that include the battery management system and all necessary protection for the battery pack integral to the pack.
17. The DC cables of the charger emit low-power magnetic fields in their surroundings (<5 cm). People with medical implant devices should avoid being near chargers while charging.
18. Contact one of the company's trained technicians if any problem is encountered when putting the charger into operation. It is only designed to recharge Industrial Motive Power lead acid and NexSys® batteries on industrial premises. When the equipment becomes obsolete, the casings and the other internal components can be disposed of by specialist companies. Local legislation takes precedence over any instructions in this document and must be scrupulously observed (WEEE 2002/96 EC).

Installation

Location
For safe operation, choose a location that is free of excess moisture, dust, combustible material, and corrosive fumes. Also, **avoid high temperatures (above 113ºF [45ºC]**) or potential liquid spills on the charger.

Do not obstruct the openings in the charger for air ventilation.

Follow charger warning label when mounting on or over a combustible surface.

It is recommended to mount the charger **at least 72 cm radial distance** away from the closest top edge of the battery.

Cabinet Mounting
The charger must be mounted on a wall, stand, shelf, or floor in a vertical position. The minimum distance between two chargers must be 31 cm. If wall mounted, make sure that the surface is free of vibrations and the charger is mounted in a vertical position; if floor mounted, make sure that the surfaces are free of vibration, water, and humidity. You must avoid areas where the chargers may be splashed with water.

The charger must be held by 2 or 4 fixings suitable for the type of support. The drilling pattern varies according to the model of the charger (please refer to the technical data sheet).

Electrical Connections
To prevent failure of the charger, make sure it is connected to the correct line voltage. Follow your local and local country standards and laws in making these connections.

⚠ WARNING Make sure the power source is OFF and the battery is disconnected before connecting the input power to the terminals of the charger.

To the mains supply: You may only connect to the 1-phase 230 VAC or 3-phase 400 VAC mains supply (depending on the type of the charger) using a standard socket and an appropriate circuit breaker (not supplied). The current consumption is shown on the charger's information plate.

Connection to Battery: The charger must be connected to the battery by the cables supplied:
- The RED cable: to the battery's POSITIVE terminal.
- The BLACK cable: to the battery's NEGATIVE terminal.

AC Circuit Protection
The user must provide suitable branch circuit protection and a disconnect method from the AC power supply to the charger to allow for safe servicing.

⚠ CAUTION Risk of Fire/Electric Shock. Use only on circuits provided with branch circuit protection following laws and standards.

The prevailing safety regulations must be observed. The system protection installed on the power supply to the charger must conform to the charger's electrical characteristics. The installation of a suitable circuit breaker is recommended. It is imperative to ensure that, when fuses are being replaced, only fuses of the specified type and the correct size are used.

This equipment conforms to Class 1 safety standards, which means that the appliance must be earthed and must be powered from an earthed supply.

Grounding the Charger
Connect the ground wire to the proper terminal, usually marked with either of the two symbols below.

⚠ DANGER FAILURE TO GROUND THE CHARGER COULD LEAD TO FATAL ELECTRIC SHOCK. Follow the National Electric Code for ground wire sizing.

DC Connector Polarity
DC plug polarity
The charging cables are connected to the DC output of the charger: the red charging cable (POS) is connected to the positive busbar of the charger, and the black charging cable (NEG) is connected to the negative busbar of the charger. The output polarity of the charger must be observed when connecting to the battery. Improper connection will open the DC fuses in the power modules.

Installation (cont.)

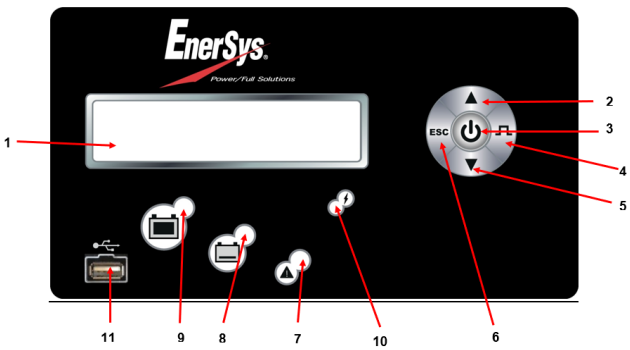
EU Declaration
EnerSys® hereby declares that the chargers in the NexSys®+ charger ranges are in conformity with the following UK and European regulations:

- **Electrical Equipment (Safety) Regulations 2016 (S.I. 2016/1101)**
- **European Directive 2014/35/EU**
  Safety
  BS EN IEC 62368-1 : 2020 + A11 :2020
- **EMC Regulations 2016 (S.I. 2016/1091)**
- **Directive 2014/30/EU:**
  Electromagnetic Compatibility
  BS EN IEC 61000-6-2: 2019
  BS EN IEC 61000-6-4: 2019
- **Directive 2011/65/EU**
  RoHS
- **Control of Electromagnetic Fields Regulations (S.I. 2016/588)**
- **Directive 2013/35/EU:**
  Electromagnetic fields
  BS EN IEC 62311: 2020

NOTE: DC cables of the charger emit low-power magnetic fields in their surroundings (<5 cm). Even if emissions are below the standard limits, people with medical implants should avoid being near the charger during recharge.

Operating Instructions

Ref	Function	Description
1	LCD Display	Display charger operation info/menus
2	Navigate UP button	Navigate menus/ Change values
3	ENTER/STOP and START button	Select menu items/ Enter values/Stop and restart battery charge
4	Navigate RIGHT/ EQUALIZE button	Scroll right/Start equalize or desulfation
5	Navigate DOWN button	Navigate menus/ Change values
6	Navigate LEF/ESC button	Enter main menu/Scroll left/Exit menus
7	RED fault indicator	OFF = no fault FLASHING = ongoing fault detected ON = fault
8	YELLOW charging indicator	OFF = charger off or battery not available ON = charging in progress
9	GREEN charge complete indicator	OFF = charger off or battery not available FLASHING = cooling phase ON = battery ready and available
10	BLUE AC supply indicator	OFF = AC missing ON = AC present
11	USB port	Download memos/ Upload software



Control Panel Features

Operating Instructions (cont.)

Menu Access
When the charger is idle, press and hold <ESC>. The Main Menu is then displayed. The main menu is automatically exited after 60 seconds of inactivity or can be exited voluntarily by pressing the <ESC> button.

Main Menu
All menus are accessed from the Main Menu; a detailed description of each menu is included in the next sections of this manual. The menus that require a password are not displayed until the correct password has been entered.

The menus provide access to the following functions:
- View the last 200 charging cycles (**Memo** menu).
- View of faults, alarms, etc. (**Status** menu).
- USB functions (**USB** menu).
- Setting of date, language, and others (**Parameters** menu).
- Management of password (**Password** menu).

Memorizations Display Screen
The charger can display the details of the last 200 charge cycles.

Figure 1

The display in **Figure 1** shows one charge stored in memory. MEMO 1 is the latest charge memorized. After memorizing the two-hundredth charge, the oldest record is deleted and replaced by the next oldest.

Displaying a Charge Cycle
Proceed as follows:
1. Select a record (MEMO x) using the ▲ / ▼ buttons.
2. Display the first History screen by pressing Enter.
3. Display the second History screen by pressing ▼.
4. Return to the Main Menu by pressing Esc.

The charge history is displayed; use ▲ / ▼ to scroll through the parameters.

Memorization Data

Memo	Description
Profile	Selected profile
Capacity	Rated battery capacity (Ah)
U batt	Rated battery voltage (V)
Temp	Battery temperature at start of charge (F)
% init	Battery voltage at start of charge (%)
U start	Battery voltage at start of charge (Vpc)
U end	Battery voltage at end of charge (Vpc)
I end	Current at end of charge

Memo	Description
Chg Time	Time of the charge cycle (minutes)
Ah	Amp-hours returned during charge cycle
SoC	Start of charge date and time
DBa	Battery disconnect date and time
Status	Partial or complete
Fault	Fault codes
CFC	Termination code (for Service Tech)

Operating Instructions (cont.)

Status
This menu displays the status of the charger's internal counters (number of normal and partial charges, faults by type, etc.).

Status	Description
Charge	Total number of charges– corresponds to the total of normally terminated charges and charges terminated with or by faults
	Number of charges terminated normally
	Number of charges terminated abnormally
DF1 etc.	Number of faults recorded by the charger (see Fault Codes)
TH	Number of charger temperature faults

USB
This menu provides access to the USB function to update software.

Update Software: Updates charger's internal software. The software is provided by EnerSys®.

Parameters

Date/Hour
Sets the date and time of the charger. The clock has a battery backup which will preserve the time when power to the charger is off.

Language
Selects the language displayed in the menus.

Region
Selects the format for date, metric (EU), or imperial (US) units for temperature, length, and cable gauge.

Status Screen

Display
Contrast: Modifies the display contrast level (20 to 29).
Screen Saver: Enable or Disable the screen saver function.
Delay: Set the time the screen stays illuminated. The delay time is adjustable in minutes up to one hour and 59 minutes.

Daylight Savings
Enables or disables automatic clock adjustment for daylight savings time. When enabled, time will move ahead one hour at 02:00 on the second Sunday in March and will move back one hour at 02:00 on the first Sunday of November. The charger must be powered up at the time of the change for it to take effect.

Password
This is where the password is entered to gain access to service-level menus by authorized EnerSys® service personnel.

Operating Instructions (cont.)

Charging the Battery
At this point, the charger should have been set up by a qualified service person. Charging can only begin with a battery of the proper type, capacity, and voltage connected to the charger.

With the charger in wait mode (no battery connected) and without pressing the Stop/Start button, the display will show the information shown in **Figure 1** and **Figure 2**.

Ref.	Description
1	Charge DC voltage/Charge current
2	Firmware Version
3	System Time
4	Connect Battery
5	System Date
6	Selected Charge Profile

Starting a Charge Cycle
The charger will start automatically when a battery is connected, or push the ENTER/STOP & START button if the battery is already connected.

Delayed Start
If the charger was programmed for delayed start, charging will begin following that delay. When the battery is plugged into the charger, the display shows the time remaining before the programmed charging starts.

Effective Charge
A few moments into the effective charge, the display will begin alternating between the charging information shown in **Figure 3**, **Figure 4**, and **Figure 5**.

Ref.	Description
1	Charge DC voltage/Charge current
2	Charge Current
3	Pending Equalize Symbol (if selected)
4	Charge Ah
5	Charge Voltage (total V)
6	Charge Time
7	Charge Voltage (V/c)
8	Estimated Remaining Charge Time
9	Percent of Charge

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

End of Charge without Equalization
The GREEN charge complete indicator comes on after the proper end of the charge. The GREEN charge complete indicator is on and the display shows AVAIL. The display alternates between:
- total charging time
- amp-hours restored to the battery

Any other lit LED indicates a problem during charging. Please refer to the Control Panel on page 9 for more information.

If the battery remains plugged in and a refresh charge has been enabled, refreshes will occur to maintain an optimal charge.

The battery is now ready for use. Push the ENTER/STOP & START button before unplugging the battery.

End of Charge with Equalization
An equalization charge can be started manually or automatically.

Operating Instructions (cont.)

Manual Equalization Start

1. At the end of the charge (GREEN charge complete indicator on or flashing), press on the <EQUALIZE> button. The equalize button can also be pressed any time during the charge and an equalization charge will be started after charging is complete.
   NOTE: When an equalization charge is manually started, the output current will be set to the value saved in the charger configuration.
2. The start of the equalization charge is indicated by the message EQUAL. During the equalization charge, the charger displays the output current, alternating with the following: battery voltage, voltage per cell, and remaining time.
3. The battery will be available when the GREEN charge complete indicator comes back on and the display shows AVAIL.
4. The battery is now ready for use. If the battery remains plugged in and a refresh charge has been enabled, refreshes will occur to maintain an optimal charge. Push the ENTER/STOP & START button before unplugging the battery.

Automatic Equalization Start

If an equalization day has been programmed into the charger configurations, the equalization charge will start automatically on the programmed day of the week after charging is complete.

NOTE: The factory default setting is IEI Equalize, 6-hour equalization, Sunday at 00:00 hours.

The battery will be available when the GREEN charge complete indicator comes back on and the display shows AVAIL. The battery is now ready for use. If the battery remains plugged in and the refresh charge has been enabled, refreshes will occur to maintain an optimal charge. Push the ENTER/STOP & START button before unplugging the battery.

Fault Codes

In case of a fault, one of the corresponding fault codes listed below will appear on the display. If it is a critical fault, charging will stop and the red Fault LED will be illuminated.

Fault	Cause	Solution
DF-CUR	Current fault before DF1 (can be low mains, phase missing, or faulty module).	Call for Service.
DF1	Critical current fault, all modules are on DF1 fault (check the mains and phase missing).	Call for Service.
DF2	Output fuse fault, battery reverse polarity.	Check the correct connection of the battery (reversed polarity cables) and the output fuse.
DF3	Incorrect battery voltage for charger setting.	Too high or too low battery voltage. Battery voltage must be between 1.6V and 2.4V per cell for Lead Acid technology. Use proper charger for battery.
DF4	Overdischarge.	Charge continues.

Fault Codes (cont.)

Fault	Cause	Solution
DF5	Battery or charger setting inspection (Ah security, charge timeout, negative voltage Dv/Dt).	DF5 appears when the charging profile has been achieved with a fault condition, which can be a current increase in the regulation phase, demonstrating a battery heating, or a badly programmed regulation voltage, or a charging time that is too long and has exceeded the safety limit. Check charging parameters: profile, temperature, capacity, and cables. Check the battery (defective cells, high temperature, water level).
DF7	Air pressure pump fault. Current Di-Dt, thermal runaway.	Call for Service.
TH	Charger Thermal Fault, all modules are on thermal fault (check air flow and ambient temperature).	Verify the proper operation of the fans and/ or check if the ambient temperature is too high or if there is poor natural ventilation to the charger.
TH-Amb	Ambient temperature is too high.	Move the charger to a place with a lower ambient temperature. Follow instructions on installation and safety.
DFMOD	Module faulty (refer to Module Menu to know the fault type).	Call for Service.
MOD DEF	Module is unplugged or does not answer.	Clean the module or the backplane connection. If not working, call for Service.
MOD DFC	The module converter is faulty, the module cannot output the maximum current (check the AC phases and AC fuse).	Check power supply.
MOD TH	Module thermal fault (check the airflow and ambient, refer to Module Status Description to check the internal temperature sensor).	Check that the fan(s) is (are) working correctly and/or that the ambient temperature is not too high or whether there is poor natural ventilation to the charger. **If all modules are in thermal fault, a TH fault will follow.**
MOD FUS	Module output fuse damaged.	Call for Service.
MOD Err	Module internal error.	Call for Service (check the module status description).
MOD VBAT	Battery voltage is corrupted vs Fuse voltage and VLMFB vs Modules.	Call for Service (check the voltage reading on the module status description).
TH-LOCK	The module is locked because of repetitive thermal events.	Check the Exx,CDV file to make action before to reset the locking, or call for Service.
CHECK MODULE	Charger is locked because of repetitive internal errors.	Call for Service.
POWER MODULE OFF	No CANBUS communication between display and module.	Check ribbon cable, AC mains, if module is plugged in, idle = off, or call for Service.
DF-VREG	Modules do not follow the regulation voltage setting.	Call for Service (replace the faulty module).
DF-ID	The menu setting does not match the module type (i.e.: Cell setting = 12V, Module type = 40 cells).	Use correct module.
CANBUSERROR	CAN bus error.	Call for Service.
DEFEEP	Memory access denied.	Call for Service.
DEFRTC	Clock access denied.	Call For Service.

Maintenance and service

⚠ WARNING THERE ARE DANGEROUS VOLTAGES WITHIN THE BATTERY CHARGER CABINET. ONLY A QUALIFIED PERSON SHOULD ATTEMPT TO ADJUST OR SERVICE THIS BATTERY CHARGER.

The charger requires minimal maintenance. Connections and terminals should be kept clean and tight. The unit (especially the heatsink) should be periodically cleaned with low pressure air to prevent any excessive dirt buildup on components. Care should be taken not to bump or move any adjustments during cleaning. Make sure that both the AC lines and the battery are disconnected before cleaning. The frequency of this type of maintenance depends on the environment in which this unit is installed.

Any data, descriptions or specifications set forth herein are subject to change without notice. Before using the product(s), the user is advised and cautioned to make its own determination and assessment of the suitability of the product(s) for the specific use in question and is further advised against relying on the information contained herein as it may relate to any general use or indistinct application. It is the ultimate responsibility of the user to ensure that the product is suited, and the information is applicable to the user's specific application. The product(s) featured herein will be used under conditions beyond the manufacturer's control; and therefore all warranties, either express or implied, concerning the fitness or suitability of such product(s) for any particular use or in any specific application, are disclaimed. The user expressly assumes all risk and liability, whether based in contract, tort or otherwise, in connection with the use of the information contained herein or the product itself.

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