Amperis MHF universal traction battery charger

Hybrid Amperis charger for traction batteries with IGBT Technology.

Amperis MHF universal traction battery charger

- The most advanced technology to maximize battery life and operation.
- Robust construction and quality, reliable design, easy maintenance.
- Complete electronic protection system.
- Reduces energy, water and carbon footprint.
- 60 to 600A, 200 to 600 VAC and 12 to 600 VDC.

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The Amperis MHF charger is a novel universal charger for traction batteries, characterized by its versatility, designed for any conventional or fast and effective charging application for all types of batteries (including lithium batteries).
The MHF is based on a revolutionary technology with unit power factor (PFC). It is characterized by its high efficiency and an absolute control over the load, being able to program the load curve according to the type of battery and its capacity, by means of the keyboard and the screen of the incorporated digital board.
Using the MHF charger with lead-acid batteries ensures perfect mixing of the electrolyte, thus reducing temperature rise, water consumption and energy consumption. This is achieved thanks to the ultra-filtered output current and the control algorithm.

Applications:

- Material Handling vehicles.
- Forklifts.
- Opportunity and Fast charging.

Optional Equipment:

- CANBUS Interface.
- USB o BLUETOOTH Interface.
- Wireless Battery Identification Modules.

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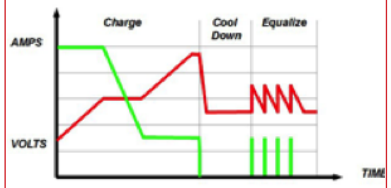
Technical specifications

AC INPUT	
TYPE	MHF Universal Traction Battery Charger
STANDARD VOLTAGES	Single-phase 220-230-240 V CA ±10% Three-phase 220-240, 400, 440, 480, 600 V CA ±10% Frecuency 50/60 Hz ±5 Hz
EFFICIENCY	>93%
POWER FACTOR	Single-phase > 90% Three-phase > 95 %
DC OUTPUT	
STANDARD VOLTAGES	Nominal battery voltages up to 400 VDC.
MAXIMUM OUTPUT CURRENT	From 60 A to 600A
CHARGING CURVE 	Completely programmable for batteries of any type, voltage and capacity. Programmable weekly equalization, maintenance mode, off-peak energy hours, recovery cycle, manual desulphation. Programmable for consumption outside “peak hours” consumption.
PROTECTION	
WRONG BATTERY AND REVERSE POLARITY	The charger remains in stand-by mode and gives an error message, when the battery is of limits in acceptable values.
ELECTRONIC OVERLOAD AND PROTECTION	Complete protection in case of output short circuit or overload.

ANTI-ARCING	WITHOUT AUXILIARY WIRES: When the battery is connected, no arcing is generated at the connectors. If the battery is disconnected while it’s being charged, arcing is possible, (it’s necessary to turn off the charger before to disconnect the battery). WITH AUXILIARY WIRES (RECOMMENDED): Full Anti-arcing protection in case of battery disconnection, even while the charge is in progress.
POWER-ON SELF-TEST	Self-test at each power-up (<10s). In the event of an error, an error message is displayed.
BLACK-OUT FOR BATTERY DISCONNECTION	Smart management of AC input blackouts, resetting to the exact point by completing the charging cycle. Data saved in the history log.
SAFETY TIMER	If the battery is disconnected while charging, the charger turns off. Data saved in the history log.
REAL TIME CLOCK	To program all load parameters.
MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS	
DIMENSIONS (W x H x D mm)	CABINET A: 530 x 920 x 450 (mm) CABINET B: 650x 1090 x 520 (mm) CABINET S2: 650x 1400 x 550 (mm)
ENCLOSURE TYPE	Steel enclosure with plastic protection on the control interface.
COOLING	FORCED VENTILATION with active fan control
AUDIBLE NOISE	< 65 dBA at 1 meter.
ENCLOSURE PROTECTION	IP21 (Standard) IP54 (Optional)

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AMBIENT TEMPERATURE	Operation: -10/+40 ºC Storage: -10/+70 ºC
ALTITUDE	< 2000 m (According to EN62040-3)
USER INTERFACE AND CONNECTIVITY	
USER INTERFACE	LCD Display + LEDs, keyboard and audible alarm
CONNECTIVITY	Internal storage of 200 cycles (expandable to 600) USB, BLUETOOTH Y CANBUS Interface.
STANDARDS	
QUALITY	ISO 9001:2015
MARKING	CE
EMC	IEC EN 61000-6-2, IEC EN 61000-6-4
SAFETY	IEC EN 50178, IEC EN 62040-1
TEST RUN	IEC EN 62040-3
NORTH AMERICAN STANDARDS	UL 1564 “Industrial Battery Chargers” CSA 22.2 107.2-01 “Battery Chargers”

NOTE: The efficiency and power factor values described are average values, measured in the complete charge cycle. The peak values of efficiency and power factor are higher.

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