

Amperis MMF-ASR battery charger and cabinet

Battery charger rectifier with IGBT technology



Amperis MMF-ASR battery charger and cabinet

- The most energy efficient technology available.
- Robust and reliable design for industrial applications.
- Equipment designed to provide easy accessibility and on-site maintenance.
- Universal charger for all types of batteries (multivoltage, multi-capacity and multi-chemistry) lead acid, VRLA (acid regulated lead with valve) or nickel cadmium.
- Full set of standard charging curves factory programmed and possibility to create and save customized charging curve.
- Control boards are based on state-of-the-art microprocessors.
- Based on standardized SCR and IGBT power converter technologies.
- Can be used as a power supply without batteries.

amperis

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The MMF-ASR charger is a rectifier system that combines the versatility of the MMF charger with the benefits of the ASR rectifier: it keeps the associated battery charged and provides a voltage supplying critical loads.

The Amperis MMF charger is a universal, programmable and digitally controlled charger. It can work with batteries of any type and support applications of any type (Training, Conditioning, Recovery, Desulfation and Regeneration). It has a very complete set of load curves (user can program new curves).

The Amperis ASR battery rectifier is designed to power critical loads in DC or to charge any type of battery. It is based on the standardized IGBT and SCR power converter technologies (6/12 pulses configuration) which guarantees high reliability and efficiency.

It is based on a new power conversion technology, which combines very high efficiency, unit power factor (PFC), universal capacities and precise load control. The MMF-ASR ensures a minimum temperature rise in the battery during the recharging process, thanks to the ultrafiltered output current (perfectly constant charge current and zero ripple). It has an output blocking diode for parallel capability, dual output connectors and an LC output filter.

The convection cooling system of the power stage is designed to work 24 hours.

Applications:

- Battery formation.
- Battery test.
- Conditioning and desulfation.

Optional Equipment:

- Submersible probe for battery temperature.
- Enclosure type IP54 or NEMA 3R.
- Extended data-logger with miniUSB port or Bluetooth.
- Advanced communication solutions (RS-232, RS-485, USB, CANBUS, MODBUS, Wireless).
- Output block diode (for parallel operation).
- Switch for charging.
- Ground fault monitoring, alarms and cooling system.
- Redundant power for control boards.

Technical specifications

AC INPUT		MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS	
TYPE	MMF-ASR Battery Charger / Rectifier	DIMENSIONS (W x H x D mm)	CABINET A: 620 x 550 x 1050 (mm) CABINET B: 650 x 550 x 1400 (mm) Designed to have enough internal space to house the distribution panel.
STANDARD VOLTAGES	Single-phase 120-208-220-230-240 V AC ±10% Three-phase 208-220-230-240-380-400-420-440-480-600 V AC ±10% Frequency 50/60 Hz ± 5%		ENCLOSURE TYPE
EFFICIENCY	>90%	COOLING	FORCED VENTILATION with active fan control.
POWER FACTOR	Single-phase >70% Three-phase >85%	AUDIBLE NOISE	< 65 dBA at 1 meter.
DC OUTPUT		PROTECCIÓN CERRAMIENTO	IP21 (Standard) IP54 (Optional)
STANDARD VOLTAGES	Nominal voltages of 24, 48, 120, 240 VDC	AMBIENT TEMPERATURE	Operation: -10/+50 °C Storage: -10/+70 °C
CURRENT RATINGS	50A to 100A	INSULATION	Main transformer
CHARGING CURVE	Completely configurable by the user.	ALTITUDE	Main transformer
PROTECTION		USER INTERFACE AND CONNECTIVITY	
ELECTRONIC OVERLOAD	Complete protection in case of output short circuit or overload.	USER INTERFACE	LCD Display + LEDs, keyboard and audible alarm.
PROTECTION	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).	CONNECTIVITY	Internal storage of 200 cycles (expandable to 600 with miniUSB, optional) BLUETOOTH Wireless extension.
	WITH AUXILIARY WIRES (RECOMMENDED): Full Anti-arcing protection in case of battery disconnection, even while the charge is in progress.	SOFTWARE	ASR software with possibility to manage the IU curve used on stand-by power applications. Modifiable parameters: <ul style="list-style-type: none"> •Charging current. •Floating point. •Equalizing point and time.
POWER-ON SELF-TEST	Self-test at each power-up (< 10s). In the event of an error, an error message is displayed.	ALARM	RAdditional relays to provide indication of alarm situations: <ul style="list-style-type: none"> •General alarm. •AC input fault. •Ground fault. •Battery voltaje too high or too low. •Power stage fault.Possibility to communicate the alarm system with external equipment via RS-232, RS-485, ETHERNET protocols (MODBUS or DNP3)

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" cCSAus Listed

NOTE: Reported Efficiency and Power Factor values are AVERAGE values, measured over the entire charging cycle. Peak Efficiency and Power Factor are higher.

MODEL	BATTERY	NOMINAL CURRENT LOAD	MAX OUTPUT (V)	MAX DC OUTPUT (A)	MAX OUTPUT (W)
MMF_ASR024050_00	24V	50A	36	55	1800
MMF_ASR024100_00	24V	100A	36	110	3600
MMF_ASR048050_00	48V	50A	72	55	3600
MMF_ASR048100_00	48V	100A	72	110	7200
MMF_ASR120050_00	120V	50A	180	55	8500
MMF_ASR120100_00	120V	100A	180	110	17050
MMF_ASR240050_00	240V	50A	360	55	17050
MMF_ASR240100_00	240V	100A	360	110	34100

For other configurations, contact the Amperis offices.