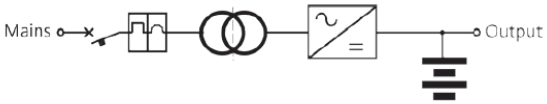
Digital Battery Charger

Amperis Digital Rectifier Battery Chartger

ACSP



Main Features

Clean and stable output DC current with ripple voltage peak-peak value <1%
Redundant fan system with temperature and air flow control.
5 automatic charging modes.
Manual charging mode.
4 adjustable voltage levels (the rectifier can operate as a power supply at the rated voltage or as a battery charger.
Adjustable times and alarm thresholds.
Temperature compensation programmable on the charging voltage to prolong the battery life.
Digital microprocessor control (DSP + PLD).
Full optical isolation on all the logic and interface cards.
Low input harmonic distortion with the twelve-phase bridge and the optional input filter.
Certified to withstand the harshest environment conditions.
Efficiency exceeding 90% (low-frequency transformer included).
Modbus communication interface through RS232 or RS485 port.
Ethernet connectivity.
Optional battery monitoring system.
“H class” input isolation transformer

Power supply systems for industrial applications:

ACSP, the AMPERIS battery charging rectifier, is an energy converter for industrial use designed to ensure a constant power supply in association with the batteries.

Using different types of connections and operating criteria, can fulfil any request while ensuring high system efficiency. The series of rectifiers and battery chargers for industrial use is based on total control 6- or 12-pulse thyristor bridges. We can supply a wide range of systems with voltage output from 24 V DC to 220 V DC and current output up to 2000 A. The equipment is installed inside stand-alone, self-supporting cabinets.

The frame and the panels are made of steel. The protection

The graphical display allows to choose between 4 different charging modes:

-Rectifier only
-Equalised charging with temperature compensation
-Quick charging activation
-Manual and battery forming charging

The voltage curves are compliant with the DIN 41773 standard, for an optimum charge allowing extending the battery life.

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degree is IP 20 (up to IP42 upon request) and IP 20 when the panels are open; access to the equipment is from the front.

The equipment is designed, manufactured and tested in compliance with the applicable IEC regulations.

Parallel solution to increase efficiency and yield:

We are designed a wide range of parallel solutions to increase the general system MTBF until making it virtually infinite. Thanks to a CAN BUS communication card, in fact, the different rectifiers divide the load into equal shares, and manage a complex function exchange system.

Redundant single-branch rectifier with redundant DC/DC converters :

The single-branch redundancy allows to keep the load and the battery powered by two parallel digital rectifiers, that by dividing the currents reduce the strain of each rectifier. The load, requiring a voltage level lower than that of the batteries, is powered through a redundant DC/DC converter.

In case of failure, the other rectifier will take on the whole load.

TECHNICAL CHARACTERISTICS

ELECTRICALPARAMETERS

Input frequency 50/60 Hz
Frequency range ±10%
Input voltage 400 Vac 3PH
Input voltage range ±10%
Input THD < 30%
Output voltage 4 levels (power supply only, charge level 1,2,3)
“Soft” start included
Temperature compensation included
Ripple < 1%

COMMUNICATIONS

Remote signalling SPDT Contacts
Communication RS485

ENVIRONMENT

Cabinet Cooling Natural
Operating conditions -5/+50°C, 93% Humidity *(without condensation)*
Noise 53 to 58 dB depending on size

MECHANICAL

Metal frame thickness 2.5mm
Metal door thickness 2mm
Frame surface galvanised steel
Protection degree with closed panels IP20
Protection degree with open panels IP20
External colour RAL 7035
Cable entry from the base, from the roof or from the side

Main optional components

Additional RFI filters
Additional THD filters
12-pulse bridge
Battery monitoring unit
DC/DC stabiliser/dropper diode
Special colours
Special protection degree
Output distribution board

Model	Ouput Voltage	Out Current	Model	Output Voltage	Output current
ACSP 24/60	24Vdc	60 A	ACSP 48/60	48Vdc	60 A
ACSP 24/80		80 A	ACSP 48/80		80 A
ACSP 24/100		100 A	ACSP 48/100		100 A
ACSP 24/120		120 A	ACSP 48/120		120 A
ACSP 24/150		150 A	ACSP 48/150		150 A
ACSP 24/200		200 A	ACSP 48/200		200 A
ACSP 24/250		250 A	ACSP 48/250		250 A
ACSP 24/300		300 A	ACSP 48/300		300 A
ACSP 24/400		400 A	ACSP 48/400		400 A
ACSP 24/500		500 A	ACSP 48/500		500 A
ACSP 24/600		600 A	ACSP 48/600		600 A
ACSP 24/800		800 A	ACSP 48/800		800 A
ACSP 24/1000		1000 A	ACSP 48/1000		1000 A
ACSP 24/1500		1500 A	ACSP 48/1500		1500 A
ACSP 24/2000		2000 A	ACSP 48/2000		2000 A
Model	Ouput Voltage	Out Current	Model	Output Voltage	Output current
ACSP 110/60	110 Vdc	60 A	ACSP 220/60	220 Vdc	60 A
ACSP 110/80		80 A	ACSP 220/80		80 A
ACSP 110/100		100 A	ACSP 220/100		100 A
ACSP 110/120		120 A	ACSP 220/120		120 A
ACSP 110/150		150 A	ACSP 220/150		150 A
ACSP 110/200		200 A	ACSP 220/200		200 A
ACSP 110/250		250 A	ACSP 220/250		250 A
ACSP 110/300		300 A	ACSP 220/300		300 A
ACSP 110/400		400 A	ACSP 220/400		400 A
ACSP 110/500		500 A	ACSP 220/500		500 A
ACSP 110/600		600 A	ACSP 220/600		600 A
ACSP 110/800		800 A	ACSP 220/800		800 A
ACSP 110/1000		1000 A	ACSP 220/1000		1000 A
ACSP 110/1500		1500 A	ACSP 220/1500		1500 A
ACSP 110/2000		2000 A	ACSP 220/2000		2000 A

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