

AMS

Industrial DC rectifier – battery charger

Lead acid and NiCd batteries
Output voltage 24, 48, 110 V_{dc} and output current from 5A to 80A

The AMS model is the chopper IGBT-based LEVER rectifier for medium-sized applications in the Utility and Industrial sectors

- The **LEVER AMS** rectifier/battery charger is designed for the continuous powering of direct current loads and for keeping the batteries properly charged
- Installed in a cabinets high 1600 mm, the AMS rectifiers are made up with the compact **LEVER CH modular conversion units** and are specifically designed to recharge lead acid and NiCd batteries
- AMS model is available in both **single** and **parallel configurations** (dual redundancy or power parallel)
- Available in **standard configurations** for advantageous solutions and short delivery times



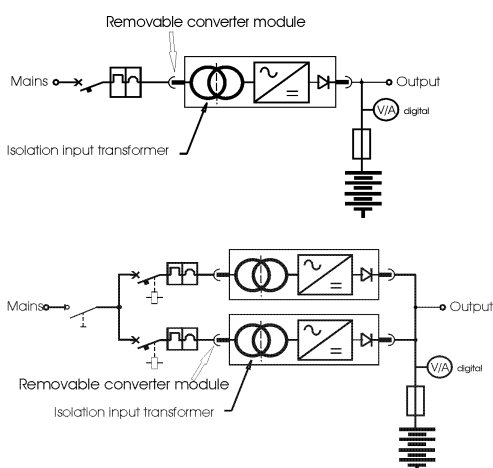
Applications

AMS rectifiers have been designed for systems for which the production of energy and electrical distribution requires constant presence of direct current without interruption, for example:

- Supply of the DC voltage to the protection relays for the auxiliary services in the **MV/HV electrical substations**
- Applications in the **Transportations, Utilities, Telecommunications** sectors
- Medium-sized **Industrial** applications

Key features

- **Maximum modularity** with the LEVER chopper **IGBT-based AC/DC converter**, natural cooling, easily removable for maintenance activities, connected to the system by plug-in connectors
- Each CHOPPER module has a small **LED display** to verify the operation of the converter
- Automatic operation with "IU" characteristic, in accordance with DIN 41773
- Solid and compact cabinet for an easy installation
- Input isolation transformer
- L-C filter for the reduction of the output THD



AMS single configuration

AMS parallel configuration

Models portfolio

Output voltage	Output current (single branch)	Input
24 V _{cc}	25 ^R , 40 ^{PR} , 80 A	1Ph
48 V _{cc}	10 ^R , 30 ^{PR} , 60 A	1Ph
110 V _{cc}	5 ^R , 15 ^{PR} , 30 A	1Ph
	30 ^{PR} , 60 A	3Ph

^R = Available in parallel redundancy version (the additional module could be installed subsequently)

^P = Available in power parallel version (the additional module could be installed subsequently)

LED signalizations, instruments, alarms

- The panel in the front of the cabinet is provided with a digital instrument for the measure of the battery voltage and current and the following LEDs for the signalizations of:
 - Regular input voltage
 - Regular DC output
 - Open breaker
 - Minimum battery voltage
 - General failure
- Voltage-free contacts for the following alarm signalizations:
 - Mains failure
 - Minimum battery voltage
 - General failure

Measures

- Battery voltage voltmeter - digital type class 0.5
- Battery charge and discharge ammeter - digital type class 0.5
- The instruments are powered by battery with a DC/DC converter

Main options

- Drop cell
- Distribution board (max 14 breakers)
- Earth pole
- Modbus board
- Low battery/system disconnecter
- Input autotransformer (only for 1Ph input)

Technical data

Input

Rated input voltage	1Ph 230 V _{ac} , 3Ph 400 V _{ac}
Voltage tolerance	±10% (full operating capacity)
Frequency	50-60 Hz
Frequency tolerance	±5%

Output

Rated output voltage	See "Models portfolio" table
Rated output current	See "Models portfolio" table
Output voltage stability	1%
Ripple on DC voltage	<1% RMS (with battery connected)

Charging characteristics

Automatic, "IU" curve as per DIN 41773

Battery

Type	Lead acid and NiCd, VRLA and vented* [*required preliminary technical discussion]
Back-up time	As required (from few minutes to several hours)
Placement	On the bottom of the cabinet (all models except 110V _{dc} /30A-60A) and/or in a separated cabinet

Rectifier technology

Type	Chopper IGBT
Rectifier bridge cooling	Natural

AC/DC efficiency at 100% load

85-88% (depending on the output current)

General data

Cabinet IP degree	IP20
Cabinet type	Standard cabinet W=600, D=650, H=1600 (mm)
Metal standard thickness	2.0 mm (basement), 1.5 mm (panels and door)
Colour	RAL 7035, oven-dried polyester epoxy powder
Cabinet cooling	Natural
Cables entry	From the bottom
Acoustic noise at 1 m	<60 dBA
Maximum altitude	1000 m
Humidity range	<90% not condensated
Operating temperature	From 0°C to +40 °C
Storing temperature	From -20°C to +70 °C (battery excluded)
Relevant IEC	IEC 62040-1, IEC 62040-2, IEC 62040-4, IEC 62040-5-3