

## AC/DC Rectifier-Battery Charger, Double Branch

**ALM/d****60 A, In 230 Vac, Out 48 Vdc, 160 Ah**

ALM/D is a series of double branch rectifier-battery charger (also known as BTU, Battery Tripping Unit), single-phase and three-phase input, and 24, 48 and 110 Vdc output.

The "double branch" technology, particularly suitable for currents > 40-60 A, involves the use of an AC/DC converter for powering the loads, and a second rectifier for recharging the storage batteries.

Unlike the single branch typology (ALM/S series), with the double branch configuration the output voltage (in presence of network) is always stabilized  $\pm 1.5\%$ . The correct sizing of the load branch is necessary, since without the aid of buffer batteries (as in the single branch version) the maximum permissible overload is equal to 1.1 In the nominal current of the module itself.

**Applications**

Auxiliary circuits of MV/LV substations  
Emergency lighting  
Industrial users  
Telecommunications systems

**General features**

Front panel LCD Display  
Compact cabinet  
Input isolation transformer (for three-phase input)

<b>Code</b>	<b>ALMD4860160</b>
<b>Rated Input voltage</b>	230 Vac single-phase 50/60 Hz
<b>Rated Output Voltage</b>	48 Vdc $\pm 1,5\%$ in presence of network, In absence of network the output voltage follows the full charge and discharge of batteries 1,13x110Vdc with batteries full charged 0,9x110Vdc with batteries full discharged
<b>Output voltage stability</b>	$\pm 1,5\%$ (in presence of network)
<b>Ripple</b>	<1 %
<b>Current of load branch</b>	60 A
<b>Current of batteries branch</b>	20 A
<b>Power</b>	2880 W
<b>Backup time</b>	120 min at full load

**Display**

LCD Display on front panel with indication for: funzionamento da rete

- mains operation
- battery operation
- load branch output voltage and current
- battery branch voltage and current
- panel internal temperature
- signals for general fault, power failure and low battery voltage

**Protection**

3-pole switch disconnecter with lock / door operation, properly sized  
Storage batteries are protected by fuses

**Batteries**

Hermetic lead acid, expected life of 10 years, at an average temperature of 25°C, as prescribed by the manufacturer - batteries installed inside.  
no. 8 x 12V 80 Ah – total capacity 160 Ah

**Cabinet****Enclosure**

Sheet steel, painted with epoxy powders, color RAL 7035 (others on request).  
Degree of protection IP31 external, IP00 internal (IP20 with door open on AC parts)

<b>Input of cables</b>	From the top
<b>Dimensions / Weight</b>	(W*H*D) 600*1410*400 mm / 245 Kg
<b>Ventilation</b>	Natural
<b>Operating temperature</b>	0 /+ 40°C
<b>Humidity</b>	< 95% not condensing
<b>Noise</b>	< 55 dB
<b>Altitude</b>	< 1000 m
<b>Reference standards</b>	IEC62040-1, IEC62040-2 IEC62040-4, IEC62040-5-3



## Available optional

### Code KITALL

Kit Alarms; terminal board with voltage-free contacts for remote alarm of general fault, power failure and low voltage of batteries

### Code KITSGB

Kit for disconnection of batteries at minimum voltage; in the absence of network beyond the required autonomy, the kit will disconnect the batteries, to prevent their complete discharge, which would irreversibly compromise their use

### Code KITISL

Insulation control kit (earth pole) in case of short circuit or other malfunction.

### Code KITPAR

Parallel kit; provision for connection of a system with equal characteristics for parallel operation.

### Code KITEPO\*\*

EPO kit (Emergency Power Off), with release button (bound to purchase also KITSGB)

### Code KITMCB

Kit for MCBa on front panel (on request)

## Functional diagram

