



DATA SHEET

AL 1240SB2

CHARGER POWER SUPPLY 230V / 13.6 V - 4A

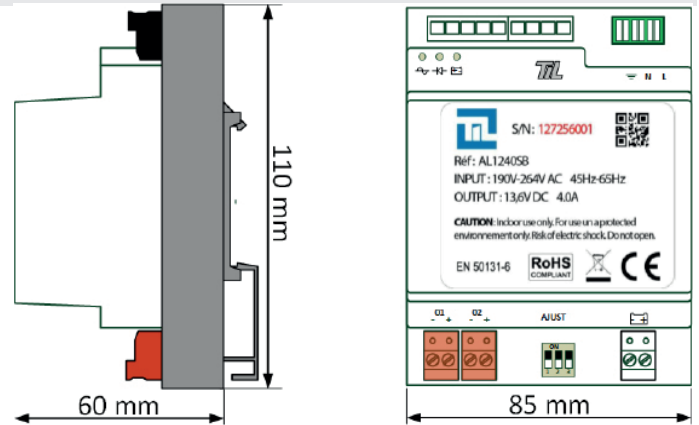
29 juillet 2024

Presentation

230V AC / 13.6 V DC switching power supply module.

This power supply provides high power (48W) in a compact footprint. Equipped with a charging circuit for to charge and protect batteries. with capacities ranging from 7 to 65 Ah.

Power supply with integrated and remote front-panel LEDs box, as well as an over-viewable alarm report, at connect to an LPU or a module with inputs.



Configuration and connections

| Power supply 230 V AC Frequency: 45–65 Hz | L line N neutral ground | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|-----|-----|--------------------------|-------------------|---|-----|-----|-----|---------------|---|----|-----|-----|------|---|-----|----|-----|-------|---|----|----|-----|-------|---|-----|-----|----|-------|---|----|-----|----|-------|---|-----|----|----|-------|---|----|----|----|--------------------------|------------------------------|---|
| Alarm remote socket FAULT: 12V - NORMAL: 0V FAULT: 0V - NORMAL: 12V FAULT: 12V - NORMAL : 0V | A: GND B: Battery status C Mains status D Output fuse status | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Display (optional LED card) Ref: COF04-B-AFF1 or COF08-B-AFF1 | Remote indicator socket | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Power supply indicator Output fault indicator Battery fault indicator | | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Power supply outputs 13.6 VDC 4A max. per output | + power - power | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Position</th> <th>1</th> <th>1</th> <th>3</th> <th>Max. load current</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>off</td> <td>off</td> <td>off</td> <td>SoH reset (*)</td> </tr> <tr> <td>1</td> <td>on</td> <td>off</td> <td>off</td> <td>7 Ah</td> </tr> <tr> <td>2</td> <td>off</td> <td>on</td> <td>off</td> <td>12 Ah</td> </tr> <tr> <td>3</td> <td>on</td> <td>on</td> <td>off</td> <td>17 Ah</td> </tr> <tr> <td>4</td> <td>off</td> <td>off</td> <td>on</td> <td>24 Ah</td> </tr> <tr> <td>5</td> <td>on</td> <td>off</td> <td>on</td> <td>36 Ah</td> </tr> <tr> <td>6</td> <td>off</td> <td>on</td> <td>on</td> <td>65 Ah</td> </tr> <tr> <td>7</td> <td>on</td> <td>on</td> <td>on</td> <td>s/o. Valid default 65 Ah</td> </tr> </tbody> </table> | Position | 1 | 1 | 3 | Max. load current | 0 | off | off | off | SoH reset (*) | 1 | on | off | off | 7 Ah | 2 | off | on | off | 12 Ah | 3 | on | on | off | 17 Ah | 4 | off | off | on | 24 Ah | 5 | on | off | on | 36 Ah | 6 | off | on | on | 65 Ah | 7 | on | on | on | s/o. Valid default 65 Ah | Setting the battery capacity | 6 |
| Position | 1 | 1 | 3 | Max. load current | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | off | off | off | SoH reset (*) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | on | off | off | 7 Ah | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | off | on | off | 12 Ah | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | on | on | off | 17 Ah | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | off | off | on | 24 Ah | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | on | off | on | 36 Ah | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | off | on | on | 65 Ah | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | on | on | on | s/o. Valid default 65 Ah | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Battery charge output | + power - battery | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

(*) See explanations on next page





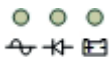



Main Features

| | |
|---------------------------------|---|
| Power supply | 195.5 V - 264.5 V AC (typical 230V) / Frequency between 45Hz and 65Hz |
| Number of outings | 2 12V/4A outputs for loads + 1 battery charger output |
| Maximum current | 4 A for each output, up to a maximum of 4 A for the entire power supply Ex: 2A on each output or 1A on output 1 + 3A on output 2 or 4A on output 1 and unused output 2 |
| Operating temperature | Between -10°C and +45°C / Humidity between 20 and 95%. |
| Battery capacity | 7Ah to 65Ah / Configurable via DIP-switches |
| Protections | 1 resettable 4A fuse on each 12V output / 1 resettable 5A battery charger fuse |
| Visual indicators | 3 LEDs for battery fault, mains/power supply fault and 12V output faults |
| Memory functions (can be reset) | SoH function = Battery health status / SoC function = Battery charge status |



Description and reported defects

| | |
|---|---|
| <p>Positioning of the 3 dip-switches</p>  | <ul style="list-style-type: none">• A 3-switch DIP-switch is used to select the battery capacity.• When replacing the battery, the memory must be reset by setting the 3 dip-switches to position 0. In this configuration, wait until the mains LED and output LED flash green/red and the battery LED flashes green. It is mandatory to set position 0 each time a battery is replaced, to ensure that the battery's state of health (SoH and SoC functions) is correctly taken into account.• When all 3 dip-switches are set to ON (position 7), the configured capacity corresponds to a maximum capacity battery, i.e. 65 Ah. |
| <p>Battery fault conditions</p>  | <ul style="list-style-type: none">• If battery voltage is below 11.1V +/-2%.• If the battery is not connected. The battery presence test is performed every 30 seconds for 20 minutes. After this time, the test is performed every 15 minutes.• If battery capacity is below 15% (SoC function = battery state of charge).• If remaining battery life is less than 6 months (SoH function = battery health). The fault is transmitted via a Normally open contact (Logic signal only). |
| <p>Mains or power supply fault conditions</p>  | <ul style="list-style-type: none">• If there is no sector.• If the power supply is out of order. The fault is transmitted via a Normally open contact (Logic signal only). |
| <p>Fault conditions onr 12V outputs</p>  | <ul style="list-style-type: none">• If at least one of the two outputs is faulty (resettable fuse(s) tripped). The fault is transmitted via a Normally open contact (Logic signal only). |
| <p>Battery operating conditions</p> | <ul style="list-style-type: none">• If the battery voltage falls below 10.8 V +/- 2%, the battery is automatically disconnected. It is reconnected when the voltage returns to above 11.3 V +/- 2%.• If the battery voltage exceeds 15V +/- 3%, the battery is not connected.• If the battery connections are reversed, the battery is not connected, or if the battery was already connected, the resettable battery fuse trips. |
| <p>Fault LED status</p>  | <ul style="list-style-type: none">• Mains or power supply failure : No fault = GREEN / Fault = RED.• Battery fault : No fault = GREEN / SoH fault (battery health) = FLASHING ORANGE / Other faults = RED.• Output fault : Voltage OK on 2 outputs = GREEN / No voltage on one output = RED. |
| <p>LED status</p>  | <ul style="list-style-type: none">• Mains or power supply failure : No fault = GREEN / Fault = OFF.• Battery fault : No fault = OFF / SoH fault (battery health) = FLASHING RED / Other faults = RED.• Output fault : Voltage OK on 2 outputs = OFF / No voltage on one output = RED. |

Battery replacement procedure

1. Take care not to short-circuit at this stage!

Remove the battery by disconnecting or unscrewing the terminals.

2. Replace the battery.

3. Set the 3 dip-switches to position 0 (all off).

4. Wait for the three fault LEDs to flash.

5. Set the 3 dip-switches to the position corresponding to the battery capacity.



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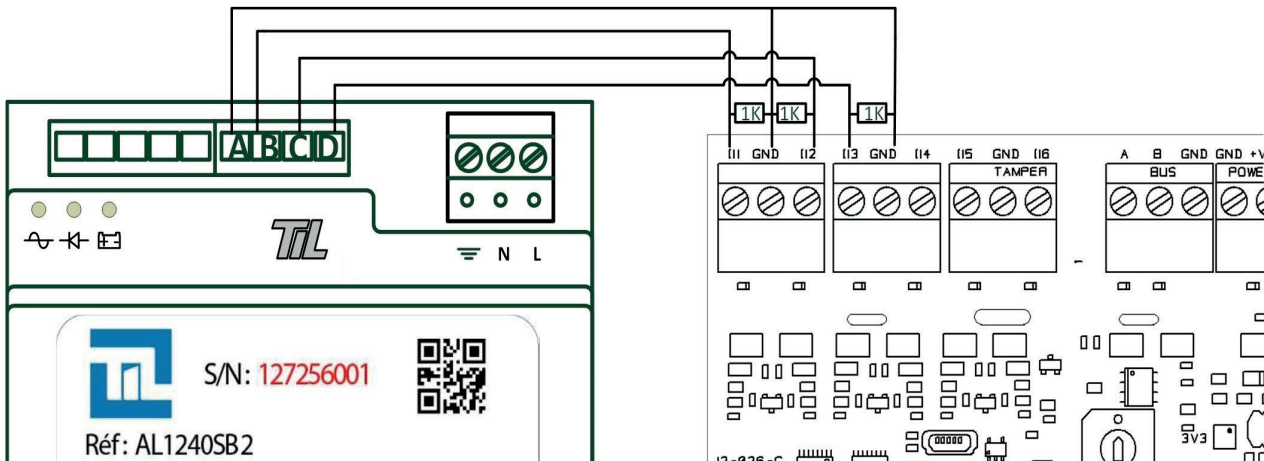
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Example of how to connect the Alarm outputs to an MLv3 module

MLv3 module inputs must be set to **mode NO, NFS, DOUBLE, SEC, EQUI or EQUI6**.

The use of **1K Ohm resistors in parallel** is required.

The example below shows how to wire the outputs of an AL 1240SB power supply to a MLI016.



Example of alarm output connection on a TILLYS NG/CUBE

TILLYS NG/CUBE inputs must be set to **12v mode**.

Wiring is direct to the inputs (without resistors).

The example below shows how to wire the outputs of an AL 1240SB power supply to a TILLYS CUBE.

