

1-General Description

UPSLIFT is an uninterruptable power supply designed for lift applications. It has been designed to supply energy to the controller as well as to all peripherals such as doors, brakes, etc. in case of any power breakdown. It does not supply any energy to the motor. Therefore, in a system where UPSLIFT is used as emergency power supply then the motor should be fed either by batteries or by another UPS. UPSLIFT makes use of five 12V dry batteries. It can be used in all kinds of controllers.

2- Warning and Remarks

- Read user manual before starting to install the device.
- Do not connect or disconnect any wire from terminals of the device when it has been energized.
- Place the device into the controller box by leaving suggested distances around the device according to *figure 2.1*. Otherwise the device may suffer from excessive heat.
- Do not store and run the device in water or in excessive cold, hot, moisty and dusty environments and where chemical gases are present. (see technical specifications)
- Do not mount the device to be exposed to direct sunlight.
- Disconnect the battery sockets when you have finished with the installation and keep them unplugged until the lift will be opened for normal service.
- Do not charge the batteries in environments above 40°C.
- If batteries are not charged for 3 months continuously, they will be out of warranty.

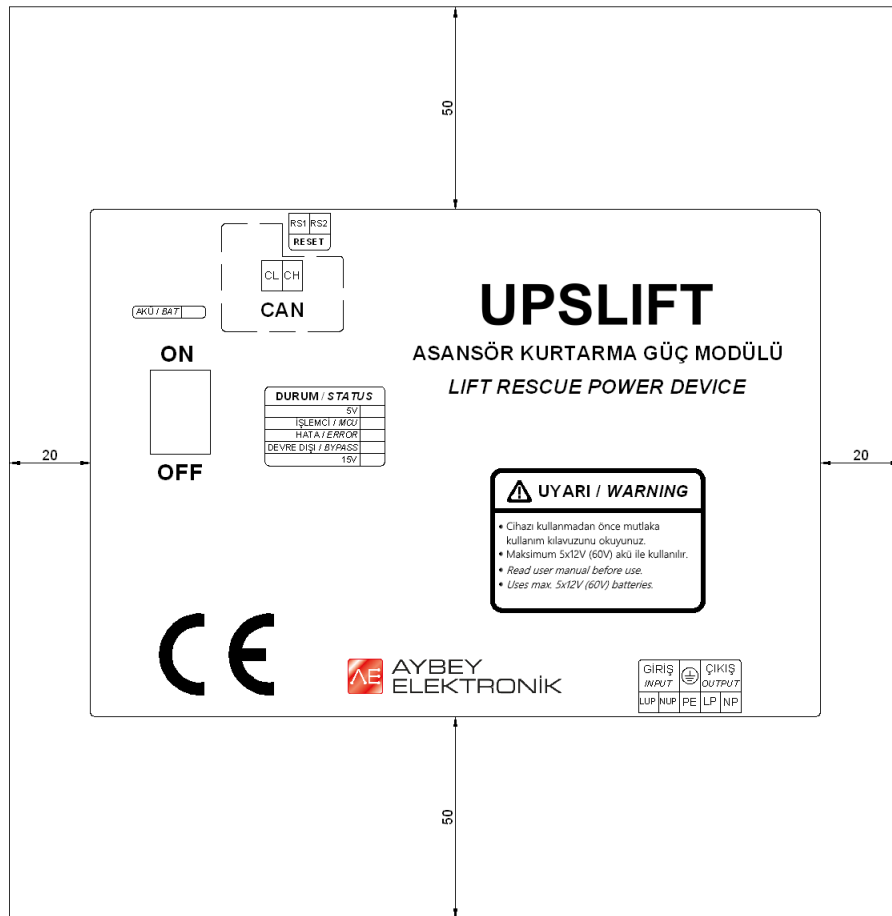


Figure 2.1: Recommended Mounting Distance [mm]

3- TECHNICAL SPECIFICATIONS

3.1 General Specifications

Table 3.1 Technical Specification

| | |
|--------------------------------------|--|
| Nominal Output Voltage | 220V AC |
| Max. Output Current | 8 A |
| Max. Output Power | 1800VA |
| DC Input Voltage | 60V DC |
| Batteries (Number x Voltage) | 5 x 12V DC |
| Battery Capacity | Minimum 4 Ah (See chapter 4 for selection) |
| Cutdown Battery Voltage | 25V |
| Max. Input Current | 30A |
| Maximum Storage Temperature | +70 °C |
| Minimum Storage Temperature | -20 °C |
| Maximum Operating Temperature | +70 °C |
| Minimum Operating Temperature | -10 °C |
| Standby Period | 1 Hour (Resettable) |
| Net Weight | 7.25 kg |
| Gross Weight | 7.80 kg |

!!! In case of the device is used or stored beyond the minimum and maximum ratings, then warranty conditions are violated and permanent damage may occur.

3.2 Physical Dimensions

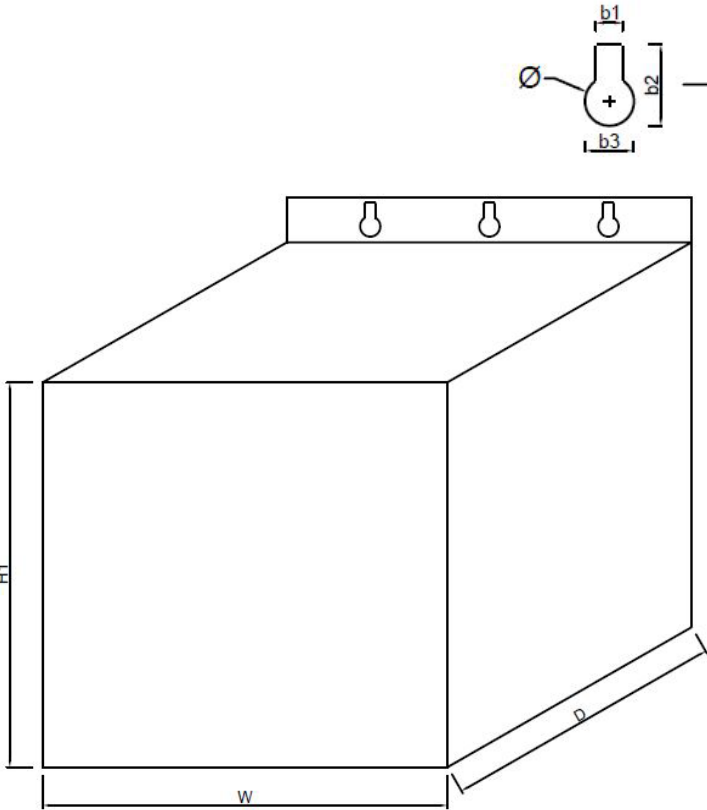


Figure 3.1: Mechanical Dimensions

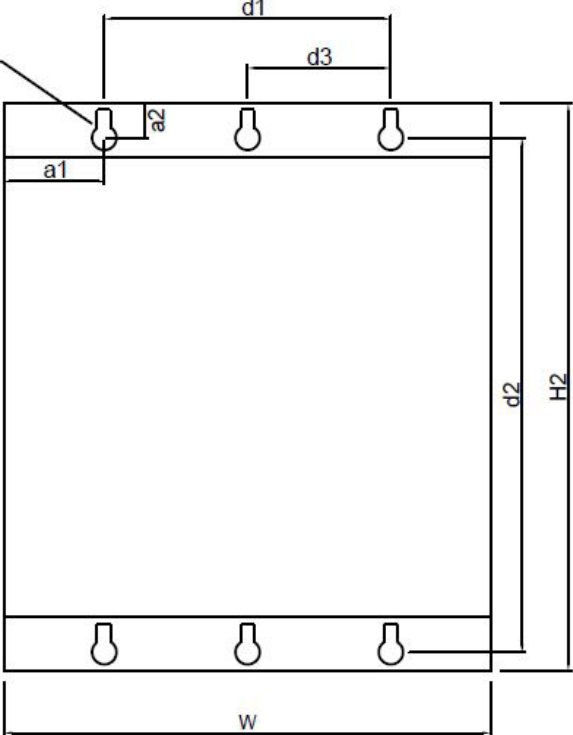


Figure 3.2 Mounting Dimensions

Table 3.2 Mechanical Dimensions [mm]

| Model | H2 | W | d | H1 |
|-------|-----|-----|-----|-----|
| UL180 | 210 | 180 | 125 | 170 |

Table 3.3 Mounting Dimensions [mm]

| Model | d1 | d2 | d3 | b1 | b2 | b3 | a1 | a2 | ∅ |
|-------|-----|-----|----|----|----|----|----|----|---|
| UL180 | 106 | 190 | 53 | 10 | 30 | 18 | 37 | 13 | 9 |

4- BATTERY AND WIRE SELECTION GUIDE

There should be 5 x 12V batteries as energy source for UPSLIFT. Battery charge capacities should be minimum 4 Ah. However when the batteries are used at the same time as the energy source by the traction motor, then the current taken from the batteries by the motor should be taken into account for selecting the charge capacity of the batteries. Table 3.2 shows the required wire cross sections and battery capacities related to the motor powers.

Table 4.1 Battery and Wire Selection Table

| Traction Motor Power | Battery Charge Capacity | Battery Wire Cross-Section |
|-----------------------------|--------------------------------|-----------------------------------|
| 4kW – 5.5kW | 4 Ah | 2.5 mm ² |
| 5.5kW – 11kW | 7 Ah | 4 mm ² |
| 11kW-15kW | 12 Ah | 4 mm ² |
| 15kW-22kW | 17 Ah | 6 mm ² |

5- ELECTRICAL CONNECTIONS

Internal blocks and terminal connections of UPSLIFT are shown in Figure 5.1 and Table 5.1.

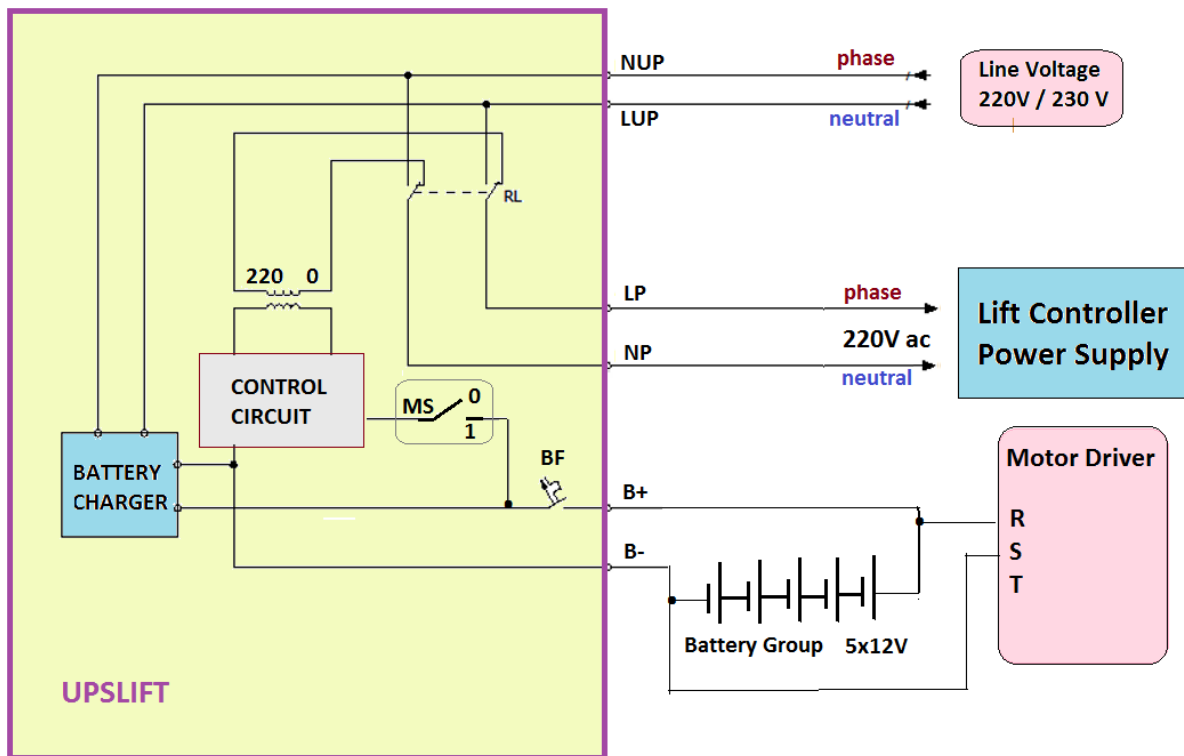


Figure 5.1 UPSLIFT Electrical Connections

Table 5.1 UPSLIFT Terminals

| Terminal | Used For | Comments |
|----------|--------------------------------|---|
| LUP | Input Phase Terminal | Line Voltage |
| NUP | Input Neutral Terminal | |
| PE | Earth Connection | |
| LP | Output Phase Terminal | Emergency controller power supply outputs connected to the power supply input of the controller |
| NP | Output Neutral Terminal | |
| B+ | Battery Pack Positive Terminal | Connected to the red terminal of the battery pack |
| B- | Battery Pack Negative Terminal | Connected to the black terminal of the battery pack |

6- OPERATION

The main switch (MS in Figure 5.1) is power on/off switch of the system. When it is in ON position, system starts to work as an emergency rescue system. If AC power is present, system bypasses AC power input to AC output. Otherwise, system generates AC signal from battery voltage and supply AC output. When MS is in OFF position, only battery charger unit works if AC power input is present.

The battery fuse (BF in Figure 5.1) shuts down the emergency rescue system completely by separating the batteries from the device. Therefore it should always be in ON position when the device is used. However when the device is not used for a while, then it is recommended to switch off BF to protect the batteries for losing charge.

The device has three separated group of connection terminals. They are AC power input, AC output and battery connections. AC power input is connected to the line voltage. The batteries are charged and do not supply any current to the system as long as the line voltage is present. In case of any power breakdown, UPSLIFT immediately stops charging the batteries and starts to use them as energy source. Output circuit which supplies energy to the peripherals is always active. The device keeps the output voltage stable at 220V whatever the line condition is. The device keeps the peripherals in the shaft unaffected in the transition period where the line power fails.

UPSIFT will stay alive for one hour after a power breakdown. At the end of this period, it enters sleep mode to protect the batteries from excessive discharging. However the device can be awoken at any time when the **RESET** input is activated manually provided and the main switch is in ON position. It stays one more hour alive before going to sleep mode again. So the device can be used lots of time for a period of one hour by resetting until the batteries are getting discharged and unable to drive the system any more.

Table 6.1 LED Indicators

| Name | LED Indicator | Explanation |
|--------|---------------|---|
| 5V | ON | Board supply is normal. |
| | OFF | Board supply is off. |
| MCU | ON | System is powered but the microcontroller is not working. |
| | OFF | System is not working. |
| | Blinking | System is working normally. |
| ERROR | ON | There is an error. |
| | OFF | No errors. |
| BYPASS | ON | Line voltage is connected directly to the output circuit. UPSIFT is not active. |
| | OFF | Output voltage is generated by UPSIFT. |
| 15V | ON | Internal 15V is present. |
| | OFF | Internal 15V failed. |
| BAT | ON | Batteries are connected to the device. |
| | OFF | Batteries are not connected or battery fuse is off. |

7- TROUBLESHOOTING

Table 7.1 shows some comments about common reported problems.

Table 7.1: Possible Errors and Solutions

| NO | PROBLEM | COMMENTS |
|----|--|---|
| 1 | There is no output voltage in rescue operation | <ul style="list-style-type: none">• Check MS (main switch) switch. It must be ON.• Check if the batteries are connected correctly.• Check 5V LED, it should be blinking. If not there may be a fault in electronic board.• Check 15V LED, it should be ON. If not there may be a fault in electronic board.• Check the BF (battery fuse). It must be present, not broken. |
| 2 | There is no output voltage in normal operation | <ul style="list-style-type: none">• Check LUP-NUP terminals. There should be an input voltage at 220V / 230V AC. |
| 3 | Batteries are not charging | <ul style="list-style-type: none">• Check the BF (battery fuse). It must be present not broken.• Check that the batteries are connected correctly. |
| 4 | 5V led is always on | <ul style="list-style-type: none">• Restart system and if led remain same, the electronic board may have a fault. |
| 5 | 5V led is always off | <ul style="list-style-type: none">• Check If MS (main switch) switch is ON.• Check if the batteries are connected correctly.• If all are OK then the electronic board may have a fault. |