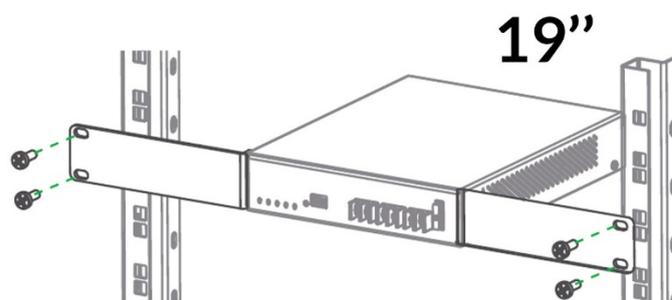


# FX DC UPS

12V/10A  
24V/7A



# FX DC UPS

- Compact and easy to install
- 3-Stage Battery Charger
- Equipment protection
- Fixing in rails of 19"

1U

# APPLICATION

The ALGcom DC UPS line is designed to protect your equipment against surges and faults, ensuring excellent performance and preventing your equipment from potential problems in the field.

## COMPACT AND EASY TO INSTALL

The ALGcom DC UPS Line was thought to meet 1U Design standards. Taking up little space, with possibility of installation in vertical and horizontal, the ALGcom DC UPS is performance and efficiency guarantee in telecom.

## BATTERIES CHARGER

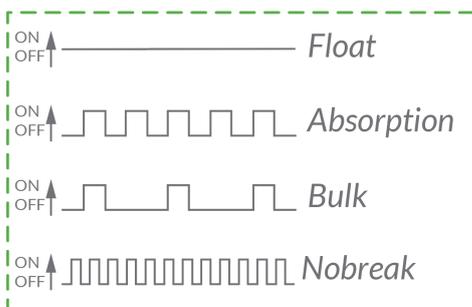
Designed to work with lead acid batteries, the ALGcom Nobreak Sources feature a 3-stage charger, described below. An intelligent algorithm that runs on the source microprocessor controls the charger.

**Stage 01-Bulk:** Operates with constant current that can be programmed in 1A, 2A or 3A, allowing gradual and controlled charging of the batteries. When they reach full charge, the charger goes to the next stage.

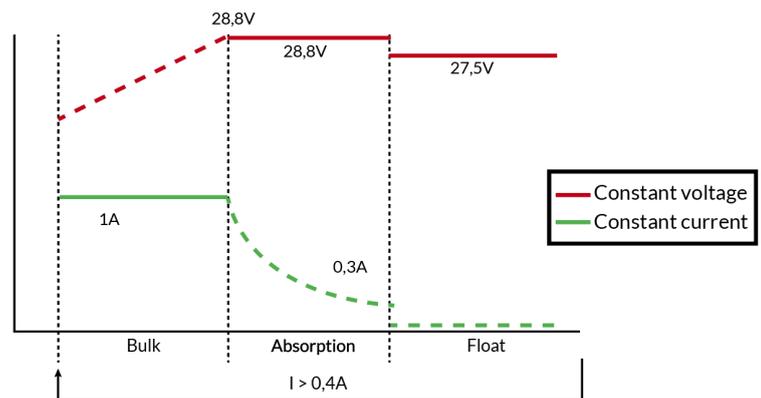
**Stage 02-Absorption:** At this stage, the charger applies a constant voltage in order to equalize the voltage of each cell of the battery. In this way, the effect of premature sulfating of the plates is minimized, promoting an increase in the battery charge capacity and, consequently, its lifespan. Once the equalization occurs, the charger switches to the next stage.

**Stage 03-Float:** This is the final stage of the battery charging process, where a constant fluctuating voltage is applied in order to cancel the self-discharge effect, allowing the battery to remain in its best state of charge for a long period.

**Nobreak mode:** Responsible for feeding the devices in case of a light fall.

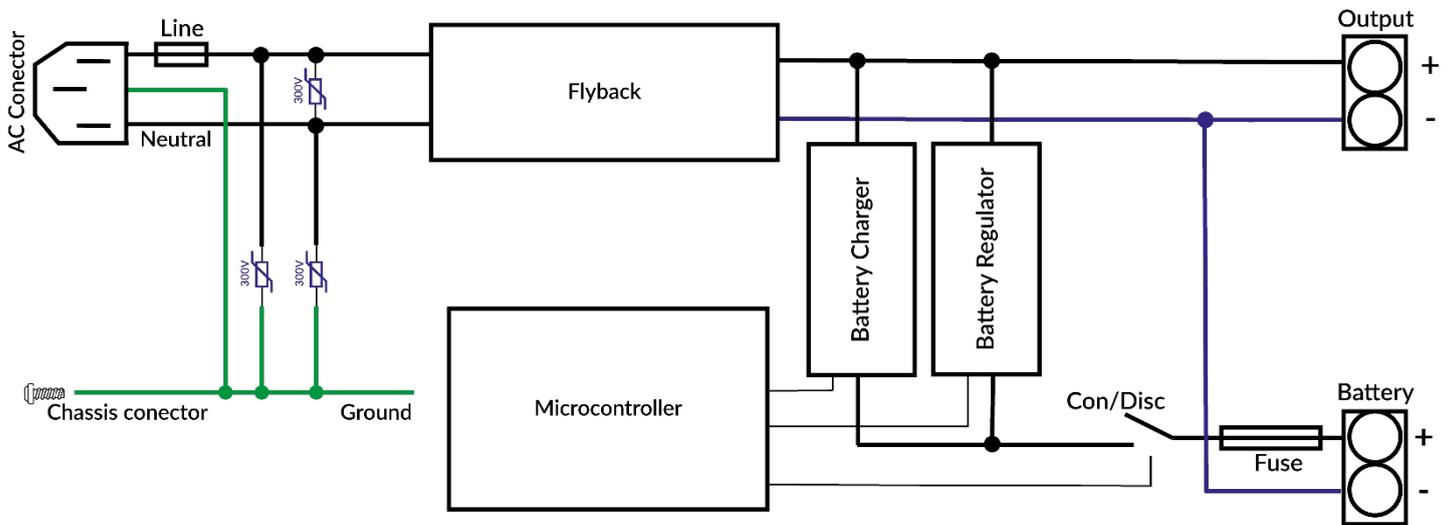


**Stages of the battery charger:** Indicated on the front panel, are symbolized by a LED that turns on and off according to the behavior shown in the figure on the right.



The graphic above shows the charging stages of the battery charger, illustrating the voltage and current behavior of the batteries as well as the migration point from one stage to the next. Current values might vary depending on the DC UPS model. **Note: Graphic for the 24V/7A model**

# FUNCTIONAL DIAGRAM

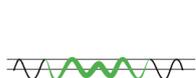


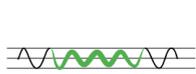
## MICROCONTROLLED INTELLIGENT DC UPS

The ALGcom DC UPS features a microprocessor that runs the battery-charging algorithm, battery under voltage protection, Nobreak operation mode, time control for AC power return. All these functions are done with the mathematical calculations and precision of a digital control developed to deliver the most stable voltage at the output. Fast protections such as short circuit, input power loss, transient AC to battery, short circuit with battery connected, over temperature, are performed by fast analog circuits designed to protect the DC UPS, the user and the load connected to it. We put together the best of digital with the best of analog.

 **Outbreaks:** Protects the DC UPS against lightning or various atmospheric discharges.

 **Overvoltage:** Protects against the effects of electrical distribution network maneuvers.

 **Falls:** Protects against the effect that happens in installations when the distribution network receives high loads.

 **Under voltage:** Prevents a drop in the level of the electrical signal, a problem usually cause by the imbalance in the distribution of electric energy.

 **Noise:** Prevents that the interference in the electrical network caused by electromagnetic emission or by radio frequency transmissions interferes with the DC UPS output.

 **Electrical faults:** Caused by faults in the power supply.

*In the table below, you can see the output power according to the charger configuration.*

| Model   | Total output power | Maximum charger |                          |                 | Minimum charger |                   |                 |
|---------|--------------------|-----------------|--------------------------|-----------------|-----------------|-------------------|-----------------|
|         |                    | Equipment power | Equipment output current | Charger current | Equipment power | Equipment current | Charger current |
| 12V 10A | 120W               | 84W             | 7A                       | 3A              | 108W            | 9A                | 1A              |
| 24V 7A  | 168W               | 96W             | 4A                       | 3A              | 144W            | 6A                | 1A              |

## REGULATORY COMPLIANCE

### ELECTROMAGNETIC IMMUNITY

|                               |                |  |   |              |
|-------------------------------|----------------|--|---|--------------|
| Electrostatic discharge (ESD) | IEC 61000-4-2  | Discharge by contact<br>Discharge by air   | 8kV<br>15kV   | Criterion C* |
| Fast transients (Burst)       | IEC 61000-4-4  | Power input<br>Output from AC/DC UPS   | 4kV<br>1kV  | Criterion A* |
| Surge voltage input (Surge)   | IEC 61000-4-5  | Stage -> Neutral<br>Phase -> Ground;<br>Neutral -> Ground                                  | 4kV<br>4kV  | Criterion A* |
| Surge voltage output (Surge)  | IEC 61000-4-5  | + - -<br>+ - > Ground; - - > Ground  | 1kV<br>1kV  | Criterion A* |
| Voltage dip (Dips)            | IEC 61000-4-11 | 0% - 100Vac<br>40% - 100Vac<br>70% - 100Vac<br>0% - 220Vac<br>40% - 220Vac<br>70% - 220Vac | 0Vac,20ms<br>40Vac,200ms<br>70Vac,500ms<br>0Vac,20ms<br>88Vac,200ms<br>154Vac,500ms | Criterion A* |
| Voltage interruption          | IEC 6100-4-11  | 0% - 220Vac  | 5000ms  | Criterion C* |

\***Criterion A:** AC/DC UPS exhibits normal behavior with output at its set value.

\***Criterion C:** Temporary loss of function is possible. The DC UPS may shut down and return to normal operation.

## ELECTRICAL SAFETY

|                  |  |  |
|------------------|--|--|
| Entrance/Exit    | SELV   | IEC 60950-1 Double isolation on reinforced isolation |
| Protection class | I  | Needs ground connection                              |
| Leakage current  | Typical <0,1mA/0,2mA<br>Typical <0,4mA/1,0mA | 100Vac,60hz 264Vac,60hz                              |

## DIELECTRIC STRENGTH

|                          |          |            |
|--------------------------|----------|------------|
| Phase+Neutral for output | 3000 Vac | During 60s |
| Phase+Neutral for ground | 2500 Vac |            |
| Exit to ground           | 1000 Vac |            |

## ISOLATION

|                          |         |              |
|--------------------------|---------|--------------|
| Phase+Neutral for output | >5 Mohm | 500 vcc test |
| Phase+Neutral for ground |         |              |
| Exit to ground           |         |              |

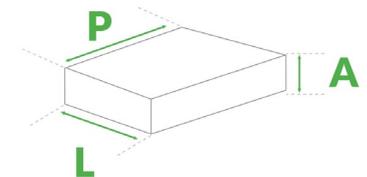
## DIMENSIONS AND WEIGHT

|          |         |
|----------|---------|
| a Height | 45 mm   |
| b Width  | 185 mm  |
| c Depth  | 148 mm  |
| d Weight | 1,24 kg |



## PACKING

|            |           |
|------------|-----------|
| Material   | Cardboard |
| Height (A) | 51 mm     |
| Width(L)   | 245 mm    |
| Depth (P)  | 200 mm    |
| Weight     | 1,72 kg   |



## FREE DISTANCE FOR VENTILATION

|   |       |
|---|-------|
| a | 30 mm |
| b | 30 mm |



# ATTENTION TO THE WARRANTY!



**Installation and maintenance** should be performed by trained and authorized personnel to minimize hazards to oneself and others.



It is installer's responsibility to **comply with regulations** applied to the installation, as well as follow the instructions of this guide.



Use only **components and fixing elements provided by ALGcom**.



Perform at least one **annual installation inspection** to verify the equipment conditions.



## DO YOU USE BATTERY BANK?

Try the ALGcom Outdoor Cabinets with a reserved space for batteries.



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