

Uninterruptible power supply (UPS) with the function of manual and automatic air inlets opening. Used to provide security for the breeding animals in case of the power outage or the controller failure. After the detection of any irregularity, the device will trigger the alarm and open the elevators according to the previously set values.

Parameters and features:

- work mode switch: MANUAL or AUTO
- inlet opening level knob
- several work mode signal ranges: 0-10, 2-10, 10-0, 10-2
- inverse control signal option
- NO/NC alarm outputs
- power outage signalling
- 2-10V control voltage monitoring
- 24VDC short circuit output protection
- 0-10V short circuit output protection
- two 0-10V inputs
- two 0-10V outputs
- outputs and inputs electronic security
- 24V 4.0 Ah storage batteries
- IP65 hermetic enclosure
- 85~264VAC 47~63Hz power supply voltage



UPS for the air inlets system

ELETOR IC-DC50W24VB

Installing the device



Warning! While installing the device it must be cut off from any power supply, because the voltage on some of the components is highly hazardous to your health and life. It is advised to entrust a qualified and skilled personnel to carry out this installation.

Choosing a place for the installation

The place for the installation have to be chosen rationally, taking into account easy access to such device for the persons concerned, and at the same time having a spot inaccessible for children or animals. Climate conditions should be also concerned, which means that the device ought to work within the temperature range from -10°C to 40 °C, in a place not exposed to direct sunlight. Free air flow around the device is also essential.

The installation process

The device works in rough climate conditions. If properly installed, the controller and the sensor are both resistant to the harmful influence of the environment.

Bear in mind the following comments while installing the device:

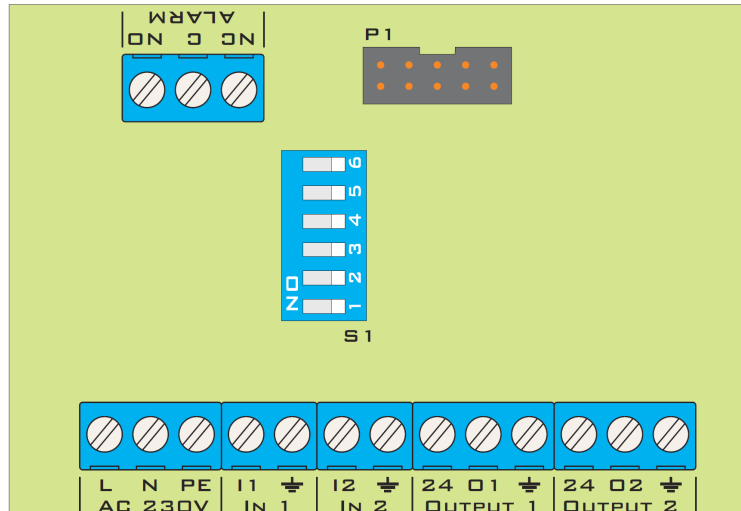
- the cover should be fully tightened by all the screws
- the wires used to connect the sensor should be round
- after connecting a wire, the cable gland should be tightened up in such a way to seal and immobilize the wire, the use of silicone is advised
- unused cable glands should be closed (sealed)
- the controller (from its bottom part) should be attached on a flat wall using four rawlplugs

Plugging in



Warning! Be sure that the power supply is cut off before plugging the device in !

After unscrewing the controller, the front panel should be removed. To do so, the tape should be removed from the connector labelled as P1. The wires should be inserted into the rubber cable glands and then connected. Such connection should be performed in accordance with the description below.



Connector labelled as AC 230V should be connected to the power supply (switching station). Using the circuit breaker (B6 type S) and the overvoltage limiters of class C is obligatory. The device may be powered with a wide range of voltage – from 85V to 264V, and the frequency from 47 to 63Hz, without affecting the work of the device.

Connector labelled as In1 and In2 should be connected to the actuator, in order to transmit the control signal to the system of elevators. The device may support two actuators or a single one with separated inlet and outlet section (I1 and I2 connectors should be merged).

Connector labelled as ALARM should be connected to the alarm control panel, depending on the system – shorted (NO and C), open (NC and C). The alarm activates automatically when:

- the power blackout occurs,
- 2-10V control signal faded on at least one of the inputs
- output signal short circuit occurs or the value of that output signal varies from the value measured
- the short circuit on +24V DIN rail (providing power to the elevators) occurred.

Connectors labelled as Output 1 and Output 2 should be connected to the actuator (elevator) properly, according to the Instruction Manual of the device, describing the way of connecting such actuator (elevator).

Work mode S1 switch - a proper work mode should be chosen depending on the actuator (elevator) owned. Default switches 1,2,3,4,5,6 in “off” position– 2-10V work.

Channel 1	Channel 2	Function
1 – off	4 – off	Work mode within 2-10V signal range, control voltage under 1.5V triggers the alarm.
1 – on	4 – on	Work mode within 0-10V signal range, no alarms activated when the signal is below 1.5V
2 – off	5 – off	Proportional work mode, output signals in ranges 0-10V or 2-10V.
2 – on	5 – on	Reverse work mode, output signals in ranges 10-0V or 10-2V.
3 – off	6 – off	Input inversion turned off.
3 – on	6 – on	Input inversion turned on.

Working principle

While being in a normal work mode, the uninterruptible power supply powers the 24 V actuators (elevators) and charges or sustains the lives of storage batteries, that provide power in the case of power outage. AUTO/MANUAL switch determines the work mode of the device.

MANUAL mode – allows to control the actuators (elevators) directly by using the knob on the front panel.

AUTO mode – primary work mode. It transmits the control signal from input to output, at the same time , implementing any necessary changes in accordance to the S1 switch position and controls the input signal level. In case of detecting malfunctions on any of the inputs, the device will transmit the signal from the set at the knob on the front panel to its output.

The alarm relay activates after:

- too low input signal occurrence ($U_{in} < 1.5V$) – S1 switch 1-off, 4-off,
- output signal short circuit to ground or 24V occurs,
- power supply voltage blackout occurs
- 24V voltage short circuit occurs.

Operating the device

Firstly, by using the switch, MANUAL mode should be set by the user. Then, by using the knob, the level of air inlets opening should be chosen, which later triggers the actuators to follow the user's configuration. The next step is to set the AUTO mode and let the actuators start their work – inlets will be set automatically. In case of the emergency, inlets will be also set, following the value previously adjusted on the knob.

Front panel



POWER indicator light – indicates the presence of power supply and charging the storage batteries.

CHECK indicator light – lights up continuously while in automatic mode and when the controller signal is transmitted to the output. It flashes, when the knob signal is transmitted to the output.

OUT 1 – informs about the abnormalities on channel one.

OUT 2 – informs about the abnormalities on channel two.

AUTO – automatic work mode.

MANUAL – manual work mode.

0%-100% knob – allow to choose the level of air inlets opening.

Error messages and warnings

Error messages inform the user about the potential malfunctions of the device.

Possible error messages that may appear on the screen are listed below:

- **POWER indicator light** – does not light up in green – no power supply.
- **CHECK indicator light** – flashes in yellow – potentiometer transmitted signal to the outputs
- **OUT 1 indicator light** – lights up in red – failure detected (no control signal, output or 24VDC DIN rail short circuit appeared) on channel one.
- **OUT 2 indicator light** – lights up in red - failure detected (no control signal, output or 24VDC DIN rail short circuit appeared) on channel two.

Comments and warnings



Caution! While installing the device it must be cut off from any power supply, because the voltage on some of the components is highly hazardous to health and life. It is advised to entrust a qualified and skilled personnel to carry out this installation.

To avoid problems with the utilisation of the device it is necessary to familiarise with the Instruction Manual before installation and further usage. The user should not interfere with the device construction or perform any repairs. This applies in particular to modifying various elements or components. Maintenance and service works should be only performed by the authorised staff (the installer or the authorised service). The controller requires proper adjustments of the parameters in accordance with the conditions that occur inside the breeding room. Such adjustments are the matter of breeder's choice. The alarm system is required in rooms with artificial ventilation. The producer of this product is not responsible for the damage/losses caused by the abnormal installation, improper programming of the functions, repercussions of random events, or other external factors.

The producer reserves all the rights to modification of the construction, or software of the device. Storage battery included with the device should not be allowed to discharge regularly, otherwise it may work improperly. Short circuited battery terminals might result in fire.



The product should not be thrown away with unsorted municipal waste after being used for the last time. Instead, it should be reprocessed in accordance with current requirements (EU Commission WEEE directive 2012/19/EU).

The product was manufactured in compliance with RoHS EU directive (also known as Directive 2011/65/EU).

Technical data

Power supply AC voltage	85~264VAC 47~63Hz
Power supply DC voltage	120~370VDC
Output voltage	27,6VDC
Max output current	1.8A
Efficiency	85%
Max 0-10V control outputs current	30mA
Max ALARM (relay) output current	3A
Input/Output surge protection	YES
Short circuit protection	Automatic
Storage batteries	4Ah 24V
Operating temperature range	-10 +40°C
Dimensions	20x15x8[cm]
Enclosure class	IP65

Uninterruptible Power Supply comes with:

- four rawlplugs
- two 12V 4Ah storage batteries
- one PG13.5 cable gland
- three PG11 cable glands
- three PG9 cable glands