

High Frequency Electronic Ballasts for fluorescent lamps Exploitation Instructions

These instructions are intended to familiarize the user with the proper method for installation, operating conditions and exploitation of the high-frequency electronic ballasts type EL-Tronic NRG.

Principle of operation and designation

The Electronic Ballast is high-frequency key power supply device, which supplies fluorescent lamps correctly. The Electronic Ballasts are designed for use with T8 fluorescent lamps only.

Mounting instructions

- It shall not be installed in proximity to sources of open flame and to bodies and surfaces emitting intense heat;
- It shall not be installed on top of and in proximity to explosive, highly inflammable or highly combustible materials;
- It can be installed on its place in the body of the lighting fixture;
- The installation must provide sufficient space between the ballasts and the tube. In case of overheating of the ballast box it is possible to exceed the permissible working temperature and reduce its reliability and life;
- The Ballast must be installed inside the light fixture by the means of fixing screws;
- In case of installation of the ballast on metal base, the base must be securely connected to a PE conductor from the electrical appliance.

Electrical connections

- The wires used must be with cross-section according to the ballast marking, they must not be lengthened, have interruptions or visible insulation damage;
- Each of the wires used to connect the ballast to the lamps must be at least 20 centimeters long and not more than 2 m in length;

- Connecting the ballast to the mains supply and fluorescent lamps should be in accordance with the marking on the ballast casing;

- After the cable installation is completed, the wires must not be removed from the terminals without the use of a tool.

Requirements to the supply voltage

- The supply voltage shall have a value and frequency according to the marking on the ballast casing.

Requirements to the fluorescent lamps

- The fluorescent lamps must be T8 type. The number and the power of the lamps shall be according to the marking on the ballast casing.

Ballast operation with defective lamps

Electronic ballasts from NRG series have the function EOL (End of Life). This function monitors the lamp parameters and switches off the ballast, if the lamp is working in abnormal conditions. Often these defects occur due to aging of the used lamp and when it is at the end of its service life. The ballast monitors the parameters of the lamps and, if they detect a defect, they turn them off. After replacing one and/or all lamps that have been defective with working ones, they will be supplied successfully again.

For ballasts type 2x18 / 36W, 2x58W and 4x18W lamps are connected in series, and in case of a defect in one of the lamps, the ballast switches off all connected lamps, even working ones. After replacing the defective with a working lamp, all lamps will light up.

Environmental conditions during operation

- Before the first ballast switch-on at least one hour tempering time is required in case there is a difference between its case temperature and the environmental temperature of the area of its operation;
- the maximum environmental temperature, indicated in the table or the box marking, shall not be exceeded;

- the place of installation shall be complied with the tc limitations during operation;
- the operational conditions shall be compliant with the degree of IP protection of the ballast;
- the installed ballast is not directly exposed to sunshine.

The ballast lifecycle

The ballasts lifetime in hours is only guaranteed after the following conditions have been met:

- Maximum ambient temperature - specified in the data sheet and on the ballast's casing;
- Maximum heating temperature of any part of the casing (**tc**) at the **ta** conditions or according to the marking on the ballast casing;
- Duration of operation in a day - 24/24;
- Operating at nominal output power.

The lifetime of the ballast can be extended significantly by:

- Lowering the **tc** temperature by proper positioning of the ballast;
- Properly selecting the type of lamps and the proper positioning of the ballast in the body, as well as cooling the body due to the operation of the air conditioning system would prolong the life of the ballast.

Conditions for safe operation of the ballasts

- All wiring connections to the ballast - from mains supply and lamps - should be made when the supply voltage is off;
- Once the assembly has finished and the lamp cover is fitted, a supply voltage can be switch on;
- It is not allowed to supply the ballast and also its operation when it is disassembled;
- During operation the ballast must not be disassembled;
- In case of disassembling, the supply voltage should be isolated and locked off;

- Its not allowed to swiching the lamps or other connections during the ballast operation;

- The ballast may only be supplied with the marking and the table for the respective model.

Any and all connections and installation of the ballasts shall be completed by fully qualified people, instructed in electrical safety, and in compliance with the general rules for safety of operation with power facilities and electronic devices with operational voltage up to 1000V. All effective provisions of the respective country referring to this type of devices and their operation shall be complied with. Electrostart JSCo shall not be responsible for and shall not provide guarantee for any faults in the Electronic ballast , which have occurred as the result of failure to comply with the instructions listed herein. You can find the warranty conditions for Electronic ballasts at the website of Electrostart JSCo- www.electrostart.com