RE ; LEC A TP - SPECIFICATIONS

1. Voltage Regulation

1.1 The LEC is an energy saving solution based on a voltage regulation device, controlling Voltage supplied to a lighting circuit.

1.2 The LEC function is based on a Power Transfer Ratio (PTR) of not less than 1:10. PTR defines the ratio between the load power and the controller rated power. This results in the small dimensions and weight of the controller. It provides a high level of efficiency and a low cost.

1.3 The LEC is a patented micro multi stage voltage transformation system that was purposely developed as a lighting circuit energy savings device.

1.4 The LEC supports 1-phase and 3- phase lighting installations in the range of 1x10A up to 3x250A, and supports different line voltages in the range of 108V – 347V (L-N) or 180V – 600V (L-L)

1.5 The system supports different bulbs such as: HPS (High Pressure Sodium), Metal Halide, Ceramic Metal Halide, Fluorescent and PL.

1.6 The system is able to reduce the voltage up to 60V at 277V network. For other voltages, the voltage reduction is proportional.

1.7 The system stabilizes the voltage output, set up by an authorized user.

1.8 The tolerance of the output voltage does not exceed ±1%

1.9 The LEC sets up different voltage reduction levels at four time intervals during 24 hours. The user can program these time intervals and voltage levels.

1.10 The system is able to provide adequate ignition voltage. After the ignition process, the voltage should be reduced to the savings level gradually, in several steps. Each step should not exceed 2% of the nominal.

1.11 The system allows the user to change the ignition time and the time period for voltage reduction.

2. Efficiency and Power Quality

2.1 The LEC operates on a minimum of internal losses compared with the saved energy. Internal losses do not exceed 1% of the load when the system is fully utilized.

2.2 The LEC's output voltage is a pure sinusoidal waveform. Voltage control is implemented by controlling amplitude of the output voltage.

2.3 The system does not generate harmonics. The THD should be less then 1%.

3. Programming and Control

3.1 The LEC's programming system is using a front control panel. Access to the system configuration parameters is protected.

3.2 Voltages, Currents, Power and system status is shown on the built-in display. Alarm conditions are clearly presented on the display.

3.3 The system can be activated by sending a command/signal from an external control system (Timer, RTU or photocell).

3.4 Switching from SAVE to BYPASS modes can function by sending a command/signal from an external control system.

3.5 The system includes a built-in astronomic clock, which switches the lights ON and OFF in accordance to a preset annual schedule according to the sunrise and sunset times specific for the area where the system is installed. The system is capable of a local manual correction of up to ±99min.

4. Protections

4.1 The system is supplied with a built-in automatic bypass mechanism that disconnects the system in case of internal failure (e.g. over temperature) and bypasses the lighting circuit to the main voltage. Switching to the Bypass mode does not cause lights to extinguish.

4.2 The system includes the following switch gears and protection devices: incoming isolating contactor, manual bypass switch, incoming circuit breaker, and output circuit breakers.

4.3 The system's mechanism for over-current protection, switches the system to the bypass mode in case of over-current or over-temperature.

4.4 A built-in cooling/ventilation system is activated if the internal temperature of critical components exceeds a certain level.