APOLLO

WIRELESS STREET LIGHTING MANAGEMENT

RTU Master Unit as the central communication gateway/concentrator with Ethernet and Cellular connectivity

1

SOL (Lamp Unit) bi-directional communication by wireless MESH network 868 MHz (433 MHz optional)

2

The interconnection between RTUs and central/remote office based on TCP/IP (wired / wireless)

3

The built-in on-line user data access via web interface or via cloud space to manage the Lamps and readout any feedback and alarms

4

Apollo (Smart Street Lighting System) is a comprehensive solution that provides on-line, duplex wireless communication with particular street lamps. It allows sending commands for setting the light intensity, provides feedback signals watching the street lamp state (temperature, power consumption ...) and potential failures (overheating, etc.). It provides a built-in user data access via web interface or via cloud space.

SAVING ELECTRICITY COSTS

ONLINE INFORMATION FROM THE POWER CABINETS AND LAMPS

HYBRID SYSTEM WIRELESS AND POWERLINE COMMUNICATION

PREDICTIVE MAINTENANCE FOR LIGHTING INFRASTRUCTURE

EV AC CHARGERS IMPLEMENTED TO THE LIGHTING POLE WITH SMART LOAD BALANCING

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The system consists of a main (master) **RTU Apollo unit** and several tens (hundreds) of slave units **SOL (lamp unit)**.

The role of the main unit is to provide a duplex wireless communication (868 MHz resp. 433 MHz) with slave units. The communication implements a MESH that is beneficial mainly because of the relatively long-range transmission without a need for extreme performance. The main unit also provides an uplink (towards the user - cloud space or via built-in web interface) namely via Ethernet connection or via 2G/3G/5G* connectivity.

RTU Apollo is based on a powerful 32-bit ARM 9 processor family. It enables communication via Ethernet, integrated 2G/4G/5G* modem respectively. A webserver is implemented inside the unit, allowing direct user interaction. Communication with the cloud is provided by http REST Api.

A **SOL(lamp unit)** provides a lighting control via standards such as voltage control 0 - 10VDC, DALI or control using PWM input. In addition, the unit further monitors the temperature of a lamp ballast. This information is very important for modern LED lamps. The unit also monitors the light intensity of the lamp using an external light sentsor. The unit is independent from an external power source, it is equipped with own batteries.

*optionally on request

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