

RF-Controller E

RF luminaire controller

Art. no. 96628009

Application

The RF-Controller E is a wireless controller for monitoring and controlling outdoor lighting fixtures. It is designed for pole mounting and works smoothly together with the different variants of the UrbaSens RF luminaire controller and the gateway. Together they are building up a reliable, self-healing wireless mesh network suitable for outdoor luminaires located in different applications like "Roads and Streets", "Cityscape", "Carparks" and others. The remotely programmable step-less dim and switch on/off schedules are suitable for luminaires with LED technology as well as for classic light sources connected to a standard DALI driver.

Furthermore, the controller provides the possibility for remote updating the installed firmware with the RF communication network without the need for technicians, being onsite.

Design notes

The device has to be installed securely on the pole and the preinstalled 5m cable should be routed to the connection box of the luminaire through a hole in the pole. All needed installation material is coming with the RF Controller E.

The antenna is integrated so there is no additional one necessary. The placement of the device should be decided with awareness of a good RF connectivity.

Start up after power connection without commissioning. The powered Controller automatically starts communication with other reachable UrbaSens Controllers and Gateways. The default settings can be changed using a CMS connected to the Gateway.



Functional description

This controller sends data and receives instructions from the Gateway via Radio Frequency. Current status, including malfunctions such as failed light sources, is reported over the radio frequency network to the Gateway and to the web where the details can be visualized using the UrbaSens CMS on a laptop, PC or other browser-based device.

The RF-Controller E has a DALI output through which drivers (and the light sources connected to them) can be switched on or off and continuously dimmed.

The built-in clock ensures that programmed switching points are executed autonomously even if communications are interrupted. In addition to absolute switching times (using the 24-hour clock) it is also possible to set relative switching times (before/after sunrise/sunset).

Technical data

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| Nominal input voltage | 230VAC 50/60Hz |
| Permitted input voltage | 207 - 253VAC 50/60Hz |
| Power consumption | <2W |
| Protection class | Class II electrical |
| Ambient temperature | -20°C to +70°C |
| Humidity | 20% to 90% Rh non-condensing |
| Mounting | Pole mounting |
| Ingress protection | IP65 |
| Dimensions | 110 x 55 x 30mm |
| Processor | ARM Cortex-M3 CPU |
| Real-time clock deviation | Max. 4 minutes/year |
| Electrical protection | Overload and short-circuit protection |
| Power / DALI/1-10V | 4 core cable, length 5m |
| GPIO | 12 pin connector, 1,27mm grid |
| Default light level | 100% (if not connected to RF network) |
| Default switching times | "ON" at sundown, "OFF" at sunrise |
| Wireless mesh network | 2,4GHz IEEE 802.15.4 self-healing wireless mesh network +10 dBm max. transmit power. Up to 1km open field range |
| Proposed max distance between 2 RF devices | 200m |
| RF controller to gateway ratio | 200:1 |
| Network security | 128 AES and SSL, multilayer security with end to end encryption |
| Compliance | RoHS, CE, EN301489-1/3, EN61547, EN55015, EN300328, EN60950, EN50121-5, RF Transceiver compliant with European, US and Canadian (IC) standards |