

WLAN Control for LED Luminaires



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NeoMesh-enabled wireless nodes provide flexible control of LED brightness and color, supporting both dimming and addressable RGB operation.

Wireless lighting control within the E-IOT ecosystem

Products shown

OLED and encoder control node Lower left. A local user-interface node for the lighting network, intended to translate user selections into wireless control commands.

0–10 V and RGB lighting control node Lower center. A NeoMesh-connected actuator node for dimming a compatible LED driver and controlling a compatible addressable RGB lighting device.

Product features and operation

The E-IOT lighting concept separates the user interface from the lighting outputs. Control nodes exchange commands over a NeoMesh wireless network, allowing the operating point and the luminaires to be installed in different locations without a dedicated control cable between them. The local wireless link is NeoMesh; the term WLAN in the illustration describes the wireless local network and does not indicate Wi-Fi connectivity.

Brightness control

For conventional dimmable luminaires, the actuator provides a 0–10 V control signal to a compatible LED driver. The driver supplies the LED load and interprets the control voltage according to its dimming characteristic. Minimum brightness and whether a zero-level command switches the light fully off depend on the selected driver.

Color and addressable RGB control

For addressable RGB lighting, the actuator converts the requested lighting setting into the data stream required by the connected device. This enables brightness and color selection and, where implemented in the firmware, patterns across individual light elements. The supported LED protocol, element count and effects must match the selected hardware and firmware configuration.

Local control and gateway integration

In the intended local-control arrangement, the encoder is used to select or adjust a lighting setting and an optional OLED (SPI) provides user feedback. The interface node sends the corresponding command through NeoMesh to the lighting node, which updates its output. A suitable E-IOT gateway can extend this arrangement to a host application or the E-IOT Cloud for remote control. Local operation can be implemented without an Internet connection; remote access requires the gateway and its uplink.

Integration and applications

The concept supports building lighting, exhibition displays, decorative RGB installations and grow-light brightness control . Each installation requires compatible power supplies, LED drivers and RGB interfaces, together with configured network membership and command mapping. Electrical limits, radio variant, connector assignments and available firmware functions are defined by the selected product version.