

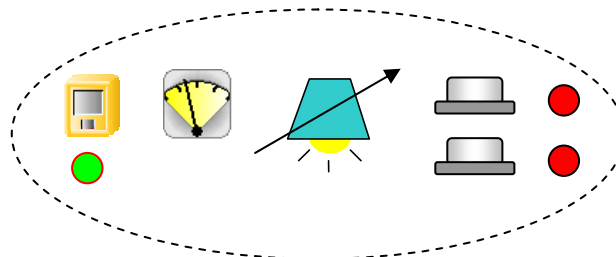


# LPD-W01

## WiFi Dimmer with PIR & Light level sensing

### In-line (no neutral) operation

**7-125W Dimmer, light level sensor,  
PIR sensor,  
2x push buttons, 3x indicator LEDs**



© IDRATEK LTD  
w: [www.idratek.com](http://www.idratek.com)

*The information in this document is provided for guidance only. IDRATEK Ltd reserve the right to make any necessary changes, without notice, in order to improve the quality of their products.*

The LPD-W01 is a WiFi enabled Dimmer and Sensory module designed for 'no neutral' in-line operation. This means it can be used in place of a single conventional light switch without any wiring modifications. The only requirement is that the associated lighting circuit should be comprised of dimmable LED lamps or incandescent lamps within the total stated wattage limits. The module not only provides a convenient way to retro-fit remotely accessible dimming capabilities into existing lighting circuits but, more importantly, also introduces multiple sensors instrumental to the implementation of wider home automation features through sophisticated systems such as that provided by IDRATEK's Cortex software. In common with other IDRATEK modules, on board device functions and operational parameters are readily accessible for use by other networked devices and software.



#### Radio

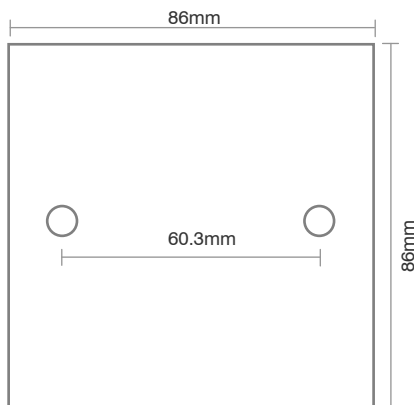
- WiFi IEEE 802.11 b/g/n 2412 - 2484MHz (2.4GHz band) FCC/CE
- Sensitivity: up to -90dBm
- Transmit power: up to 16dBm nom.
- WEP/WPA-PSK/WPA2-PSK
- Station and Access Point operating modes

#### Dimmer Output Characteristics<sup>1</sup>

- Maximum power: 125W (Min. 7W\*)
- Voltage: 80-250V@50Hz AC
- Electronic overload protected
- Over temperature protected
- Inherent soft start
- Dimming Resolution: 8 bit (0-255)
- Trailing edge operation
- Dynamically configurable ramp rates

#### PIR Sensor Characteristics<sup>2</sup>

- Detection cone: 82°V x100°H
- Detection zones: 64
- Typical Range: 5m



#### Light Sensor Characteristics

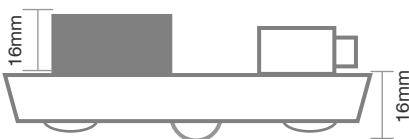
- Output resolution: 8 bit monotonic
- Spectral response of sensor: similar to human eye (~480-650nm)
- Measurement characteristics: Logarithmic with additional internal time response damping (note: not Lux calibrated)

#### Digital I/O

- 2 \* Positive Click Push Button Inputs
- 2 \* General Purpose Button LED Indicator Outputs
- 1 \* Status indicator LED (can be configured to indicate motion sense)

#### Communications & Functional

- IOTA-WiFi (IDRANet Over The Air) UDP protocol for direct integration into IDRATEK Cortex managed systems
- URL API
- MQTT
- All above can be individually enabled or disabled
- All input and output states can be interrogated at any time
- Highly flexible static & dynamic output state modification
- Module start-up output states are user programmable
- All sensory devices can provide independent event triggers with mode programmable trigger gating
- Each event trigger can generate a pre-defined response and/or several user programmable responses.
- Over the air reprogrammable firmware



### Environmental

- Operating temperature 0°C to +35°C
- Operating humidity 5% to 95% (non-condensing)

### Mechanical

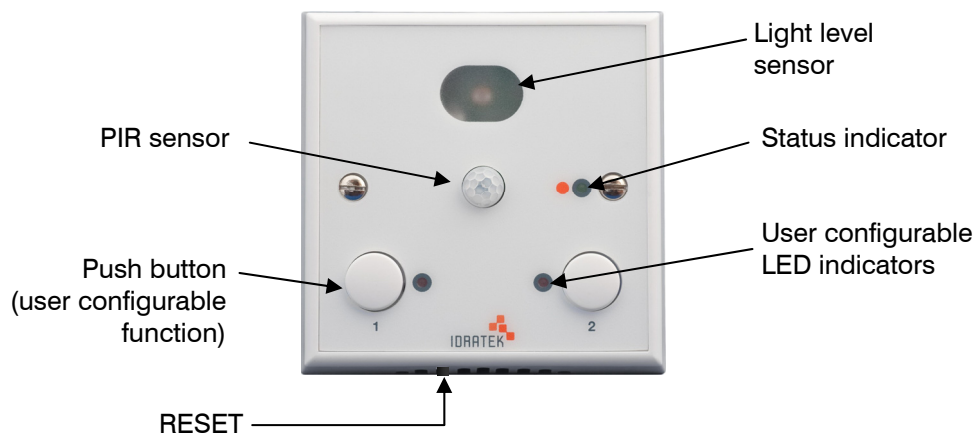
- Designed to fit UK standard electrical pattress box (min depth 20mm)
- 60.3mm fixing centres using standard M3.5 screws
- Lighting circuit inline connection via 5mm pitch terminal block, conductors up to 4mm<sup>2</sup>

<sup>1</sup> Dimming range may be reduced at lower voltages and for low power loads. Calibration feature provided to allow maximal utilisation

\* Minimum wattage can vary depending on the specific model for LED lamps and component tolerances. Tested using: Philips MASTER Value 7.2W, Wickes 8.8W, Integral LED 8.8W, but may vary depending on tolerances.

<sup>2</sup> According to manufacturers data sheet

### Interfaces (front)



### Default Operation after Reset (Overriden by Cortex):

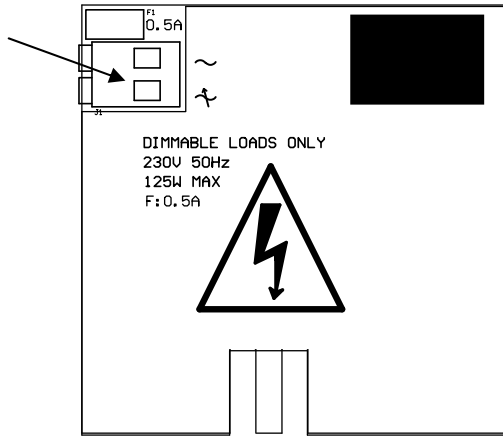
Button1: Short click toggles between Off and last set dim level, long press increases dim level

Button 2 : Short click toggles between Off and last set dim level, long press decreases dim level

Default dim level (after short click): 30%

**Interfaces (Rear)**

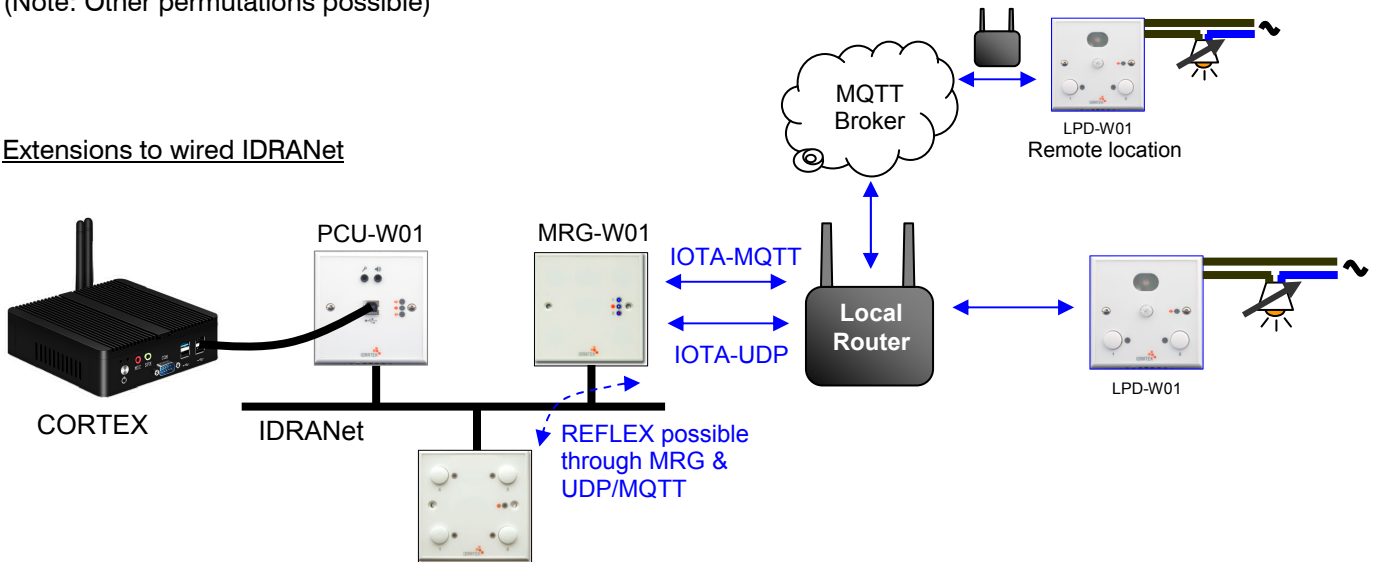
In-line Lighting circuit connection  
5mm pitch term. Blk.,  
Up to 4mm<sup>2</sup> conductor



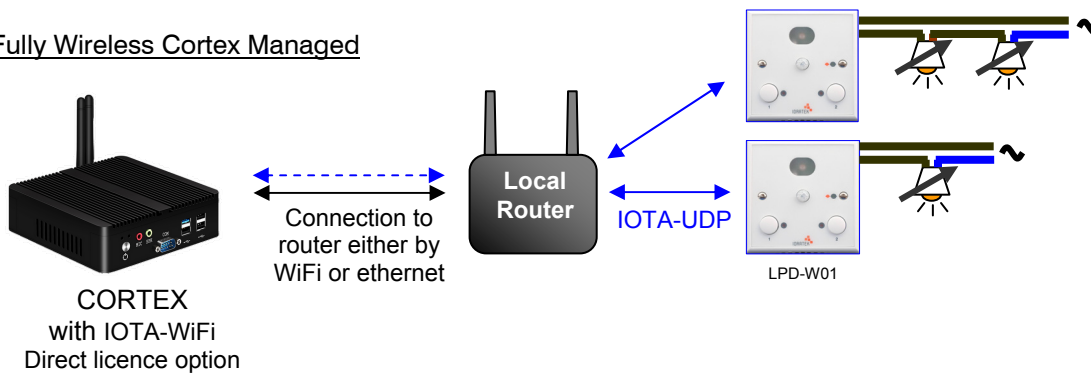
**Example Connectivity Structures**

(Note: Other permutations possible)

Extensions to wired IDRANet



Fully Wireless Cortex Managed



3<sup>rd</sup> Party Applications

