Organic Response®

A completely wireless plug & play lighting control system.

Wall plate

Remote recessed sensor node

Classroom wall plate

Remote surface sensor node

Overview

Organic Response® lighting control is based entirely on distributed intelligence. Each luminaire is fitted with a sensor node that allows it to respond to its environment and information from its neighbouring luminaire, so that the optimal amount of light is delivered when and where needed. Each sensor node is fitted with a motion sensor, ambient light sensor, infrared transmitter and infrared receiver that allows it to communicate wirelessly with each of its closest neighbours. Plus RF 2.4Ghz transmitter/receiver for cloud based communication.

How Organic Response® works
A sensor node sees occupancy and communicates that occupancy and light level to its neighbours via infrared signal "level 1 signal." Its neighbours respond by outputting predetermined light levels and simultaneously transmits a "level 2 signal" to further neighbouring sensor nodes. This propagates rapidly across the floor. The relationship between sensor node and its neighbour we call a "personality"
The Organic Response® system has two platforms: platform 1, simple field based, or platform 2, advanced cloud based.
Platform 1 (node to node) delivers instant out of the box functionality with no need for expert commissioning and is configurable via the Organic Response® app.

- Adjust light levels and dwell times
- Change lighting "Personalities"
- Activate daylight dimming
- Create independent and dependent zones
- Create customised scenes
- Pair wireless switches

Platform 2 (node to node plus IoT Gateway for cloud connectivity) gives a centralised view of building wide assets.

- Real time visibility of current utillisation and performance
- Detail historical data of utilisation and performance for trend analysis
- Real time system status with fault monitoring and email fault notifications
- Detailed historical fault data
- Cloud portal time based scheduling for control of building lighting
- BMS integration via BACnet
- Automatic over the air updates

Key Features

- Occupancy (presence and absence) detection
- Daylight sensing
- Scene setting
- Create independent and dependent zones
- Can be used with power distribution units for simplified and speedy installation, see:
  - **Power Distribution Units**

Technical

- Infrared carrier frequency: 38kHz
- Distance between sensor nodes: IR comms 3 metres max
- Maximum sensor mounting height: 3.7 metres
- Sensor node ambient temperature: 0ºC to 50ºC
- Luminaire compatibility: DALI (Subject to Organic Response® list of approved drivers)
- SN3 integral sensor node driver load: 1 DALI device max
- ORG3RSN Remote sensor node driver load: 4 DALI devices max
- Ethernet gateway communication: IR comms, RJ45 (Cat5)
- Gateway node capacity: Max 150 sensor nodes per gateway
- Gateway max distance from node: 7 metres max
- Gateway security: 128bit AES, TLS, storage Amazon AWS IoT
- Wireless battery-less wall switch protocol: EnOcean Easyfit rocker switches available in white, and white/grey where contrast is required from the mounting surface
- Battery powered Infrared Organic Reponse switch available in white, and white/grey where contrast is required from the mounting surface
- BMS Integration BACnet protocol

To Specify

Wireless Proximity Limited Communication lighting control system. Integrated or remotely housed sensor nodes detect motion and ambient daylight levels and transmit and receive infrared messages wirelessly for intelligent decisions about light levels required. Can be customised to provide an interface with building management systems and vital building management information via a web based portal – as Whitecroft Lighting ORGANIC RESPONSE®.