Applications Guide

Revision v2, January 2015

1 COMMUNICATION

Organic Response is a lighting control system based on a Distributed Intelligence architecture. A Sensor Node is typically integrated into a light fitting, however can be externally mounted. Each Sensor Node has a motion detector, ambient light sensor and infrared transmitter and receiver. The Sensor Node controls the on/off and intensity of its associated luminaire based on environmental information it collects, and then re-transmits information in the form of infrared messages based on environmental information it has collected. Neighbouring Sensor Nodes receive these infrared signals and include this information when making decision regarding control instructions to their associated luminaires. The effectiveness of the infrared communication, and resulting performance of the system, depends on several factors including the nature of the flooring material, height of the luminaires, and distance between each luminaire.

For optimal communication between Sensor Nodes, the following conditions are recommended.

FACTOR	PARAMETERS
Flooring Material	Carpet, Linoleum, Timber, Laminate, Tiles, Polished Concrete
Height of Luminaires (Sensor Nodes)	See Figure 1
Distance Between Luminaires (Sensor Nodes)	See Figure 1
Ambient Room Temperature	0°C - 60°C

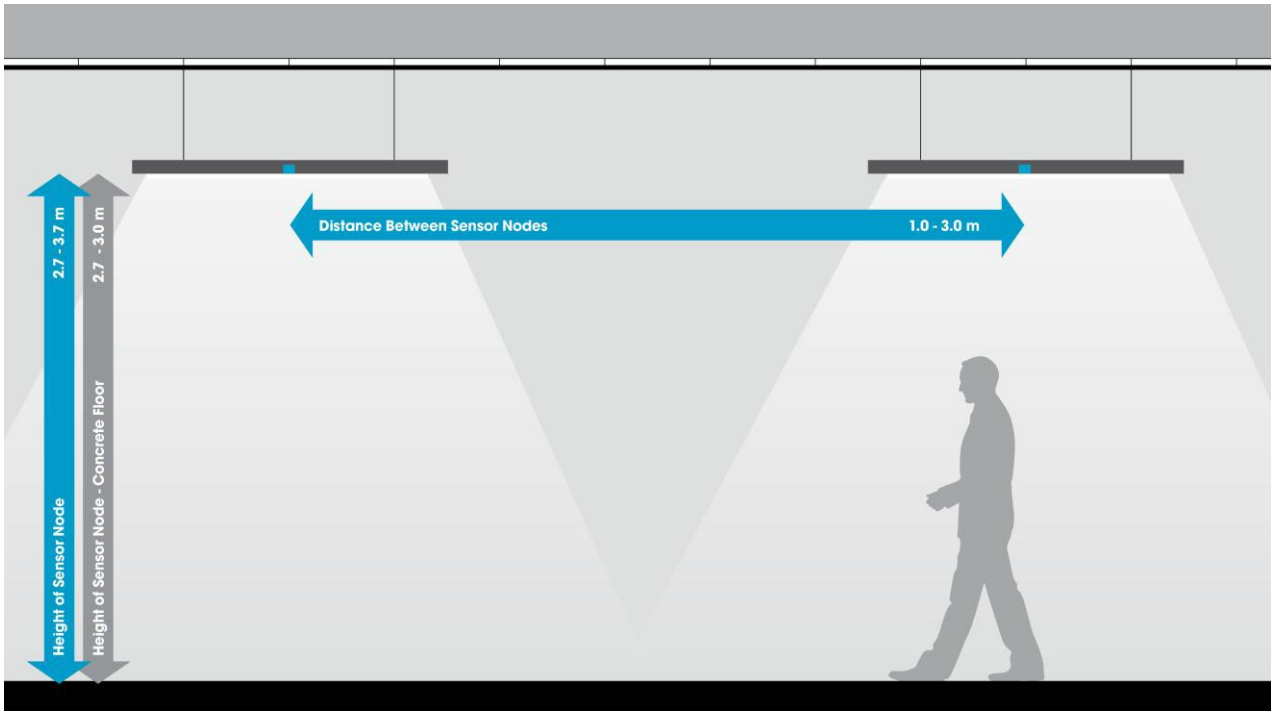

Figure 1: Recommended Height & Distances between Sensor Nodes

2 OCCUPANCY DETECTION

The motion sensor used in the Organic Response Sensor Node is designed to be deployed in a layout with a high density of Sensor Nodes. The coverage of an individual motion sensor is shown below:

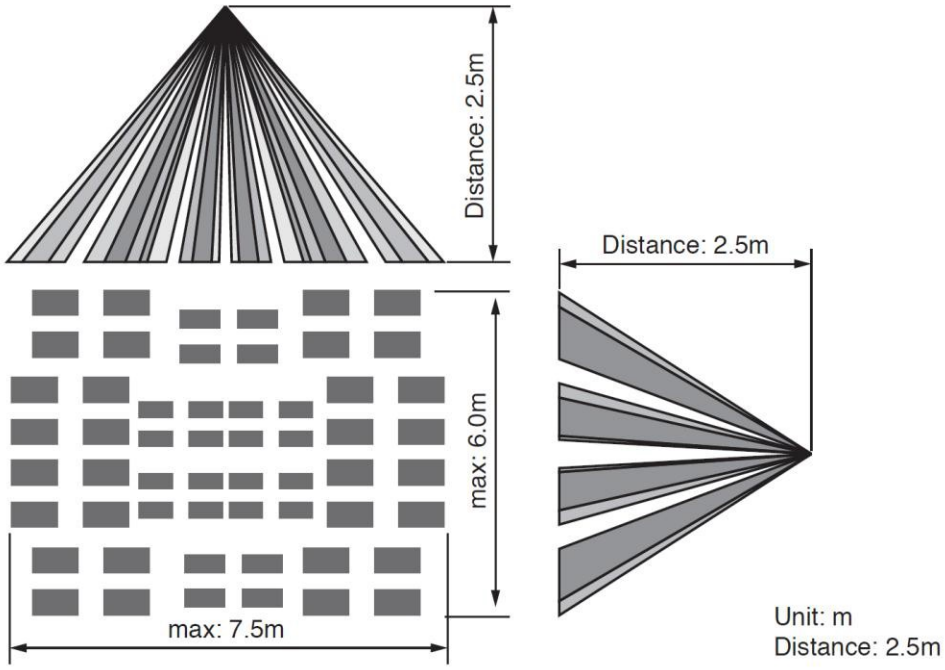

Figure 2: Motion Sensor Parameters

3 OTHER REFERENCES

REFERENCE	TITLE
1	Organic Response Brochure
2	Organic Response User Guide
3	Organic Response Technical Guide for Luminaire Integration