Occusense

Description

OccuSense is an extension board fitted onto a Baseboard. It is used to count the number of people entering/exiting a space through an entrance of the space. For each entrance of the space a Basebord-OccuSense module is needed. Eventually, the space occupancy is estimated. A Baseboard with an OccuSense extension board can operate on 2xAA batteries for several months.

Installation

A Baseboard-Occusense module is preferably installed on the side frame of the entrance, facing at the opposite side, at a height of around 1.2m. It can also be installed at the middle of the top frame, if the width of the entrance is no more than 1m and at a height no more than 3m, facing downwards. In each case, the orientation of the module must match the direction of movement through the entrance. Alternative installations are also possible provides the line of sight of the sensor is not affected by other people mobility, in or out the space

Accuracy

In general, the module can be 100% accurate, but there are several factors that have to be considered for the best accuracy:
- the temperature of the space is less than 30°C
- people are not standing in front of the sensor
- people are not passing through the entrance side-by-side
- people passing through the entrance are separated by at least 20cm

Real time delay

The real space occupancy each moment will be delayed according to the reporting frequency of the modules installed. The shorter the reporting frequency, the faster the estimated space occupancy will match the real one, but the battery lifetime will be reduced. For example, if all installed modules are configured to report at a frequency of 2 minutes, this is the maximum time the real occupancy will be delayed. If the modules are configured in different reporting frequencies, the bigger one determines the delay.

Specifications

Name of the Product	Baseboard- Occusense
Brief Description	Wireless device for sensing direction
Rated Supply voltage (V, Hz, A)	2xAA Battery OR external power supply 5-12VDC, 500mA
Weight	gr
Size (H x L x W)	31mm X 113.82mm X 63.32mm
Connections	12: VOUT (3.3V OR SUPPLY)
Max. clock frequency	16MHz
Data transmission distance	500m (open air) to 10- 20m (within buildings)
Standards	LVD EN 50491-3 EMC/ RTTE (ETSI 301 489-3, ETSI 301 481-1, EN 50491-5-2)
Operating Temperature	- 10 Celsius to 40 Celcius
Enclosure	Grey/ Black/ Blue plastic box

Battery lifetime

The lifetime of the battery will depend on the number of people passing through and on the frequency the module is reporting the counts. The table below gives an estimate of the battery

lifetime.

Battery lifetime (months)		Passings/hour (count)			
		30	60	300	600
Reporting frequency (minutes)	2	4.7	4.6	3.6	2.9
	5	8.7	8.2	5.5	3.9
	10	12	11.1	6.7	4.5
	30	16.2	14.5	7.8	5

Coding

Baseboard modules with OccuSense extension board are coded as **WT BBxxx OCCzzz**

where:

xxx = version of BaseBoard

zzz = version of Occusense extension board

Layout