

# Stand-alone Dual Sense Motion Sensor DUALsense™

WSED414 Czujnik RCR/PIR DUAL RC HYT DALI HIM14 IoT (HIM14)

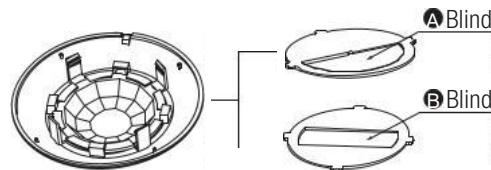
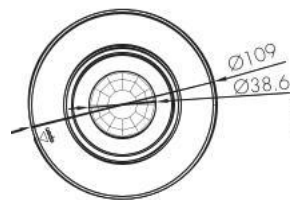
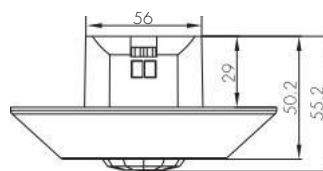
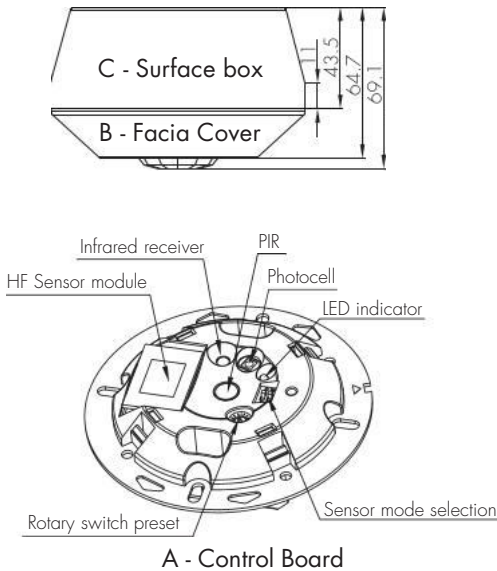


**LENA**  
LIGHTING



**CB IP20**

## Mechanical Structure



Note: the blinds are optional, they may be inserted behind the lens for focussing the detection range.

## Installation:

For more details, please refer to user manual.

- 1 Direct junction "J" box mounting



- 2 Surface mount assembly



Note: We recommend the mounting distance between sensor to sensor should be more than 2m to prevent sensors from false-triggering.

## Technical Data

### Input Characteristics

Model No.	HIM14
Mains voltage	120~277VAC 50/60Hz
Stand-by power	<1W
Switched power	Max. 20pcs devices, 40mA
Warming-up	30s

### Safety and EMC

EMC standard (EMC)	EN55015, EN61000
Safety standard (LVD)	EN60669, AS/NZS60669
Radio Equipment (RED)	EN300440, EN301489-1, EN62479
Certi cation	Semko, CB, CE, EMC, RED, RCM

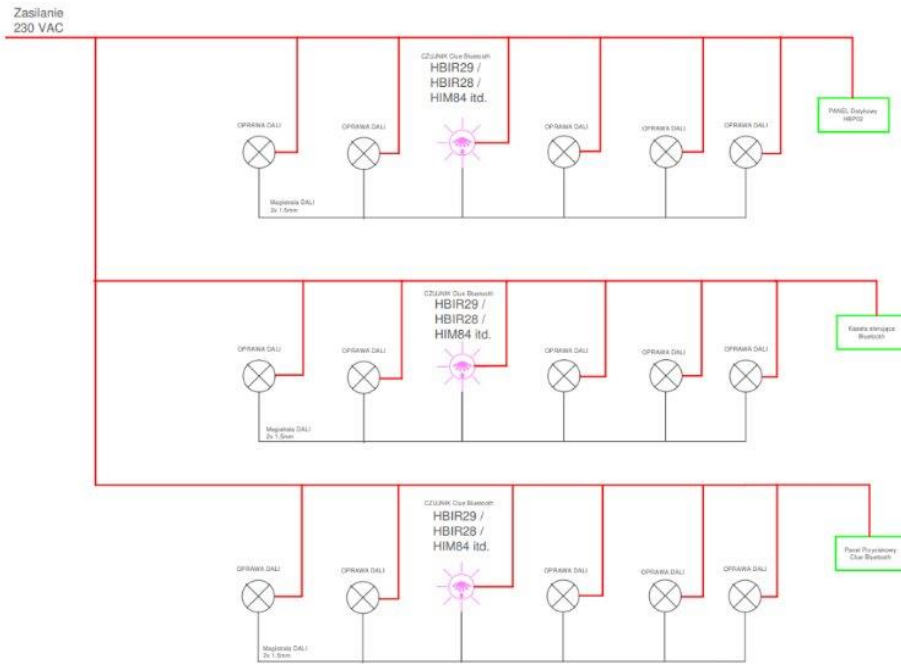
### Sensor Data

Model No.	HIM14
Sensor principle	High Frequency (microwave), PIR
Operation frequency	5.8GHz +/- 75MHz (HF)
Transmission power	<0.2mW (HF)
Sensor mode	4 modes: PIR, HF, PIR+HF, PIR/HF
Detection range	
HIM14	Max. (Ø x H) 12m x 6m
HIM54 (2 lens)	Max. (Ø x H) 16m x 12m
	Max. (L x W x H) 16m x 6m x 12m
Detection angle	360°

### Environment

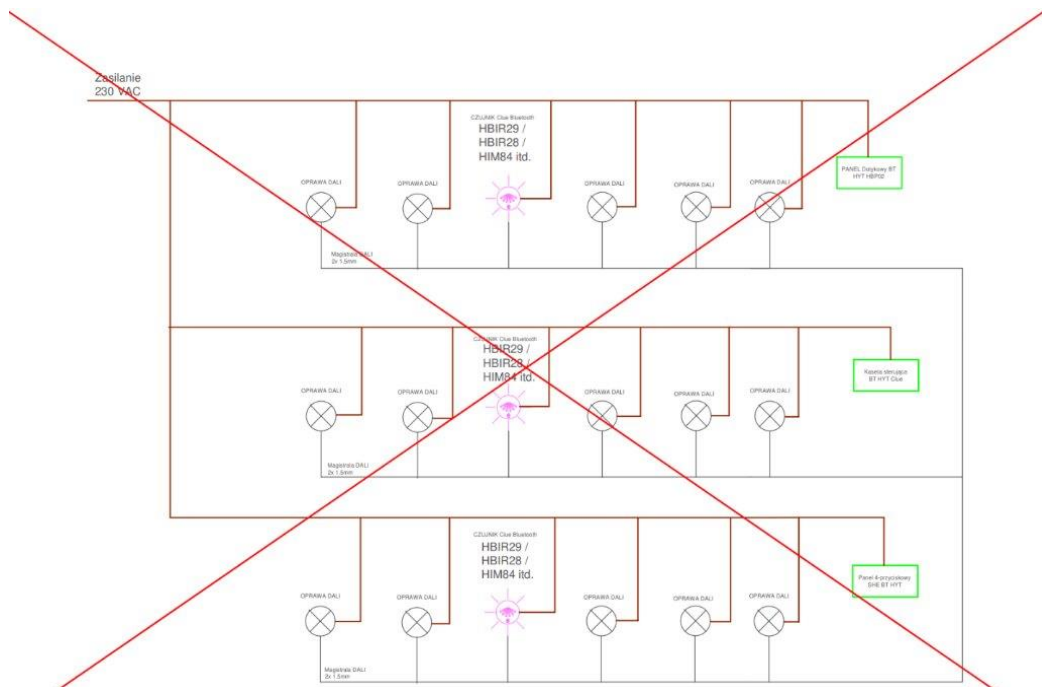
Operation temperature	Ta: -20°C ~ +55° C
IP rating	IP20

## Wiring – connecting two or more sensors



The sensors are powered by a 3x2.5 mm<sup>2</sup> cable and the DALI bus is connected to the lamps within a given zone as shown in the diagram.

**REMARK!** Do not connect 2 or more sensors together via the DALI bus – this can lead to incorrect operation or even damage to the sensor.



## Dual Sense Introduction

It's commonly known Microwave and Infrared are main detecting technologies in lighting controls. Both have the advantage and disadvantage for industrial applications.

### Advantage

- \* sensitive to minor motion.
- \* sensitive to radial movement.
- \* can be reflected by objects hence covering big detection area
- \* resilient to heat source, smoke and and air conditioner.



### Disadvantage

- \* penetrates walls, picks up motions outside of the office area;
- \* back wave detection, false trigger by motions at the back.
- \* can be false triggered by ventilation fans, water pipe, elevators etc. in industrial application.

### Advantage

- \* no penetration, confined detection area.
- \* sensitive to tangential movement.
- \* resilient to motion object which has no heat radiation.



### Disadvantage

- \* can be false triggered by air conditioner, smoke and other heat sources.

The remedy is to create Dual Sense by combining both technologies to make use of the advantage and bypass the disadvantage.

### 4 optional detection modes via DIP switch or remote control:

- \* HF: Microwave only
- \* PIR: PIR mode only
- \* HF+PIR: both PIR and microwave mode, to decrease the detection capability and detection area. Only when both detections are activated, the motion is considered valid. This is to prevent the sensor from false trigger by heat source, air conditioner, ventilation fans, water pipe and elevators etc...
- \* HF/PIR: either PIR or microwave mode, to increase the detection capability and detection area;

	1	2	
I	●	●	HF
II	○	●	PIR
III	●	○	HF+PIR
IV	○	○	HF/PIR



## Rotary Switch Preset

A rotary switch is built inside the sensor for scene selection / fast programming. Total 16 channels are available:

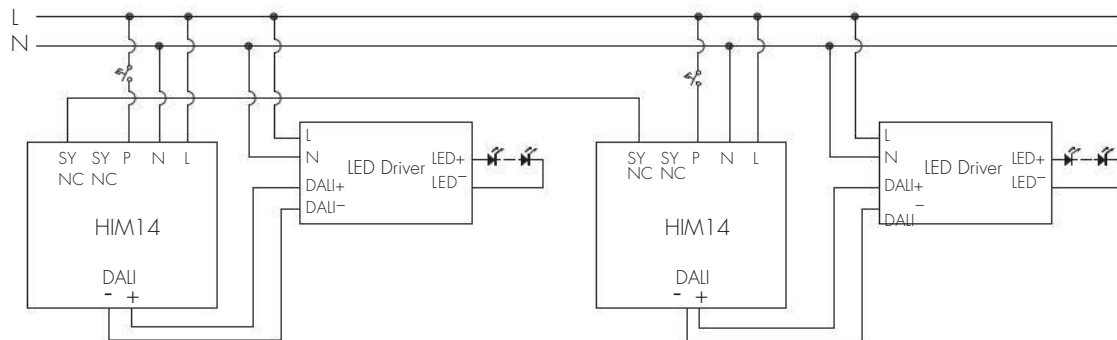


Rotary switch preset

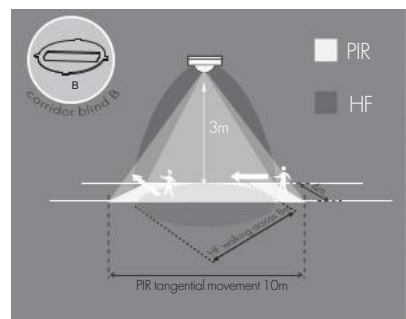
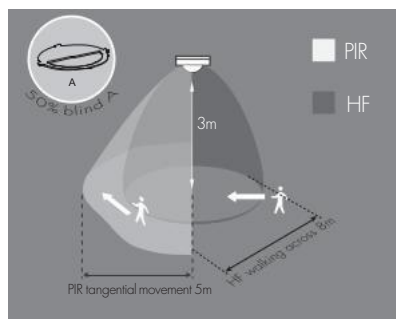
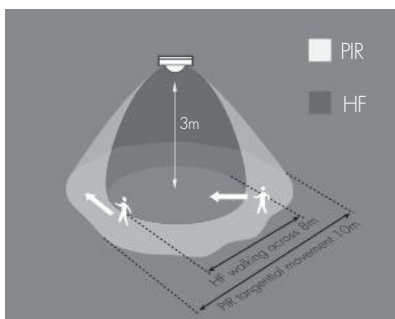
Note: settings can also be changed by remote control HRC-11. The last action controls.

Channel	Detection range	Hold-time	Daylight sensor	Stand-by time	Stand-by dim level
0	100%	5s	Disable	10s	10%
1	100%	1min	50Lux	5min	10%
2	100%	5min	50Lux	10min	10%
3	100%	5min	75Lux	+∞	10%
4	100%	5min	100Lux	+∞	10%
5	100%	5min	200Lux	+∞	30%
6	100%	10min	50Lux	30min	10%
7	100%	10min	75Lux	+∞	10%
8	100%	10min	100Lux	+∞	10%
9	100%	10min	200Lux	+∞	30%
A	100%	20min	100Lux	1h	10%
B	100%	20min	200Lux	+∞	30%
C	100%	30min	100Lux	+∞	10%
D	100%	30min	200Lux	+∞	30%
E	100%	30min	400Lux	+∞	50%
F	100%	5s	100Lux	10s	10%

## Wiring Diagram



## Detection Pattern



For more information, contact [iot@lenalighting.pl](mailto:iot@lenalighting.pl)