



SENSORS

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Since
1982



More than
3500 SKU



500
Employees



5 million luminaire
production capacity per year



Factory

● Electronic Assembly Line

● Plastic Injection Moulding Area

● Semi-Finished Goods Process Area

● Moulding Area

● Diffuser Treatment Area

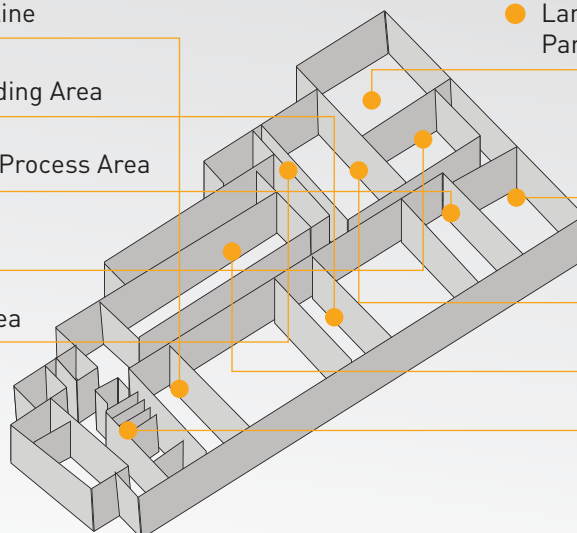
● Landscape Lighting Fixture
Parts Manufacturing Area

● Glass Reinforced
Polyester (GRP) Product
Manufacturing Area

● Powder Coating &
Painting Area

● Assembly Line

● Office



30000^{m²} **Manufacturing Zone**

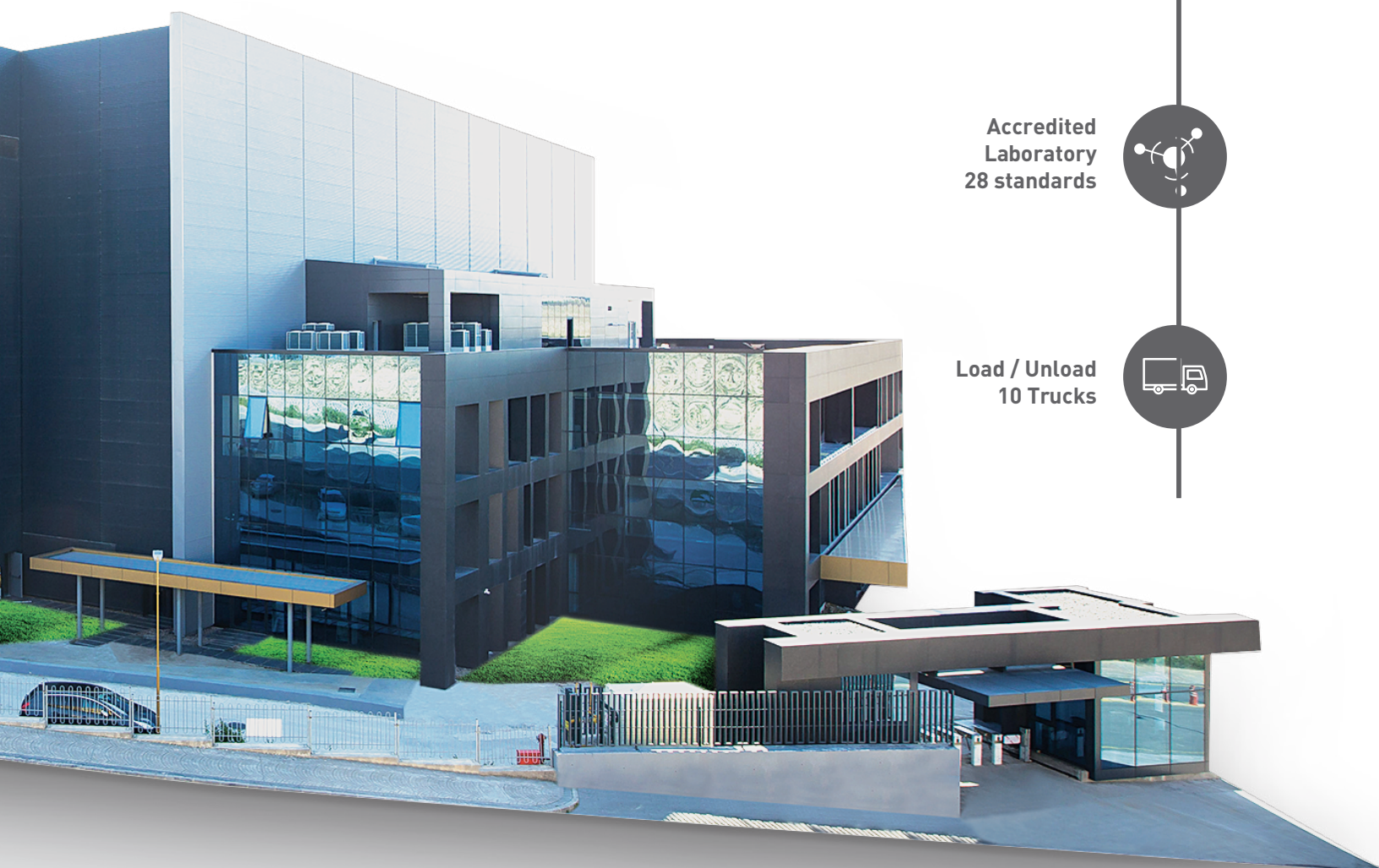
R&D Center
15 Engineers



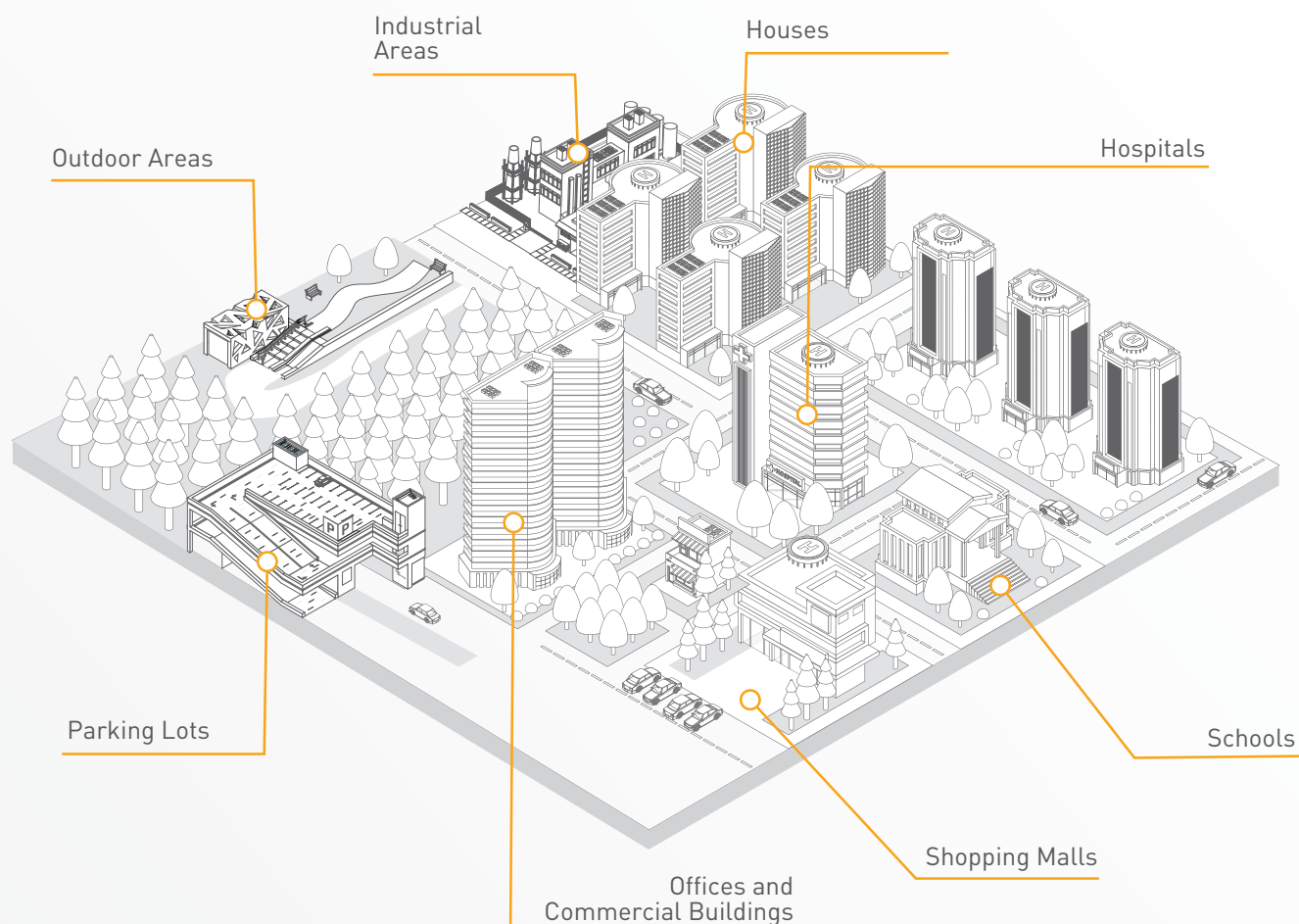
**Accredited
Laboratory**
28 standards



Load / Unload
10 Trucks



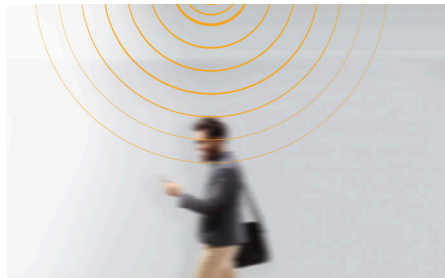
Sensor Applications



	Parking Lots	Offices and Commercial Buildings	Shopping Malls	Okullar	Schools	Houses	Industrial Areas	Outdoor Areas
 Microwave Sensor* 314725	✓	✓	✓	✓	✓	✓	✓	✓
 Surf.-Moun. Micro. Sensor 326839	✓	✓	✓	✓	✓	✓	✓	
 Rec. Microwave Sensor 326838	✓	✓	✓	✓	✓	✓	✓	
 High Ceiling Motion Sensor 314730							✓	
 Recessed Mounted Sensor 314726		✓	✓	✓	✓	✓		
 360° Motion Sensor 314720		✓	✓	✓	✓	✓		
 Presence Sensor 314733		✓	✓	✓	✓	✓		
 180° Motion Sensor 314717		✓	✓	✓	✓	✓		
 Mini Motion Sensor 314732		✓	✓	✓	✓	✓		

*The microwave sensor (314725) is suitable for outdoor use with the IP65 sensor enclosure (314735).

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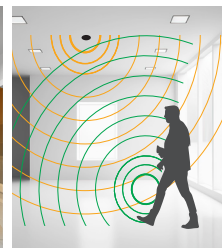
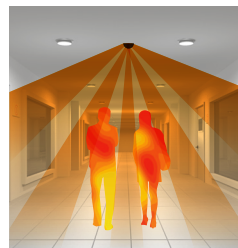
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Things to Consider When Choosing a Sensor

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Microwave Sensor <

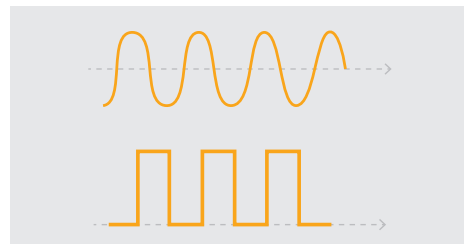


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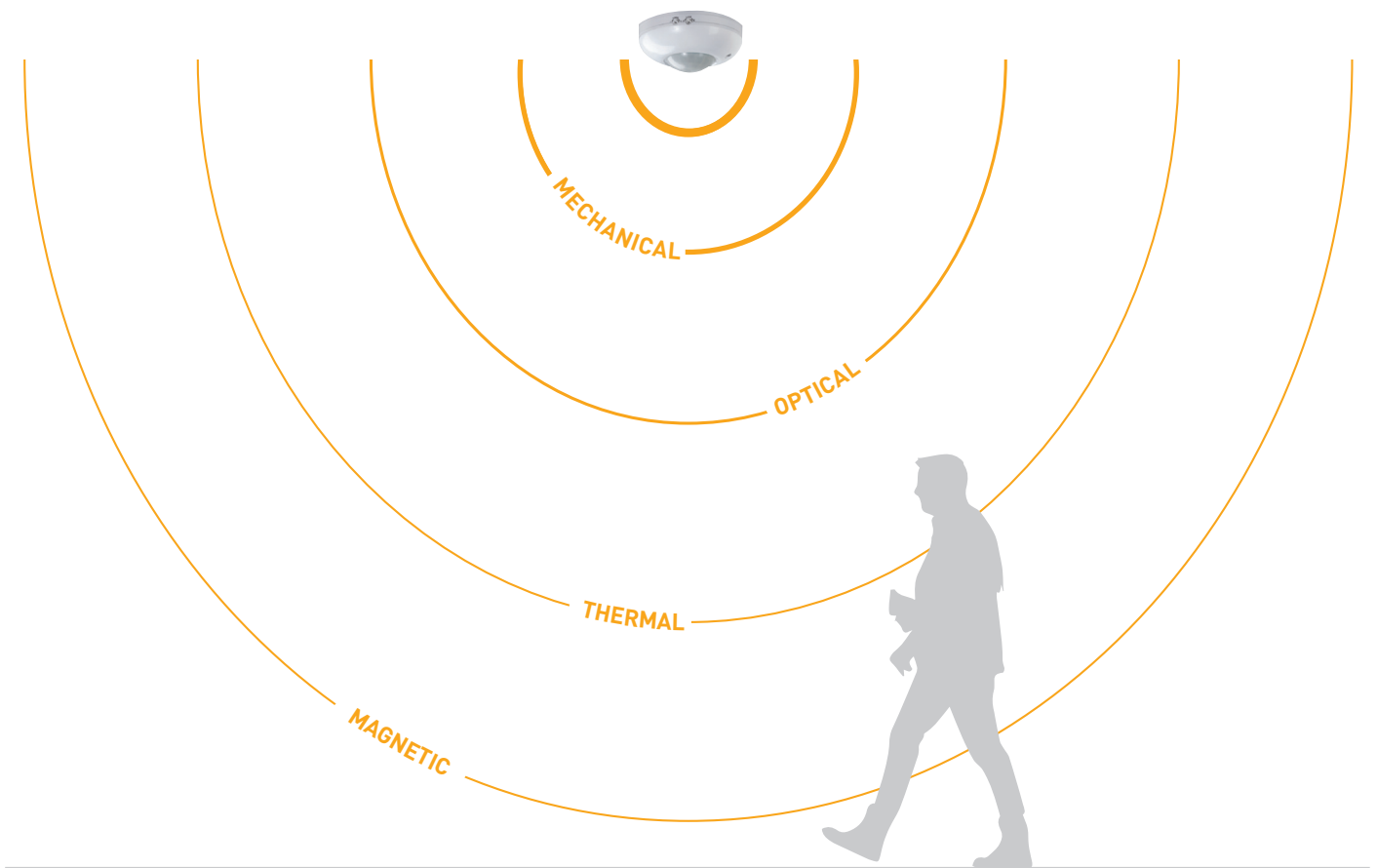
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Product Portfolio



Lighting Sensors

Lighting sensors are devices that detect physical changes in the environment and convert them into electrical signals. Sensors, commonly used in modern lighting systems, are designed to increase energy efficiency and maximize user comfort.



Savings with Sensors

Lighting sensors, with today's technological advancements, provide significant savings both environmentally and economically. Especially in large-scale commercial buildings, industrial plants, and public areas, sensors enable substantial energy savings while also contributing to a sustainable future.



With the sensors in PELSAN Lighting's portfolio, the lighting systems automatically control the illumination level, detect motion and presence, and provide high energy savings.

Things to Consider When Choosing a Sensor

The Right Sensor Technology Must Be Selected



PIR Sensor (Passive Infrared)

- It detects movement by sensing **infrared radiation (PIR)**.
- It only detects living objects that emit heat.
- There should not be any object in front of the sensor for it to function properly.
- Detection sensitivity may vary depending on the ambient temperature.

Applications:

- ✓ Areas smaller than 50m²
- ✓ Corridors
- ✓ Stairways
- ✓ Restrooms



PIR Sensors



Recessed Mounted Sensor



360° Motion Sensor



Presence Sensor

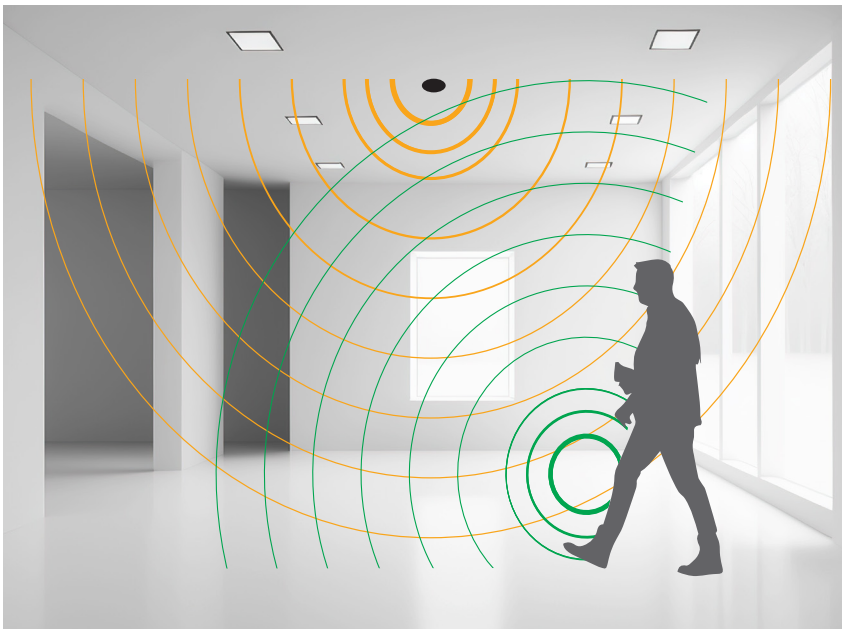


180° Motion Sensor



Mini Motion Sensor

Microwave Sensor



- It emits **microwave signals** and analyzes their return to detect movement.
- It can detect non-living objects as well.
- It can detect through plastic, glass, walls, and ceilings.
- The detection range is high.

Applications:

- ✓ Large areas
- ✓ Smart home systems
- ✓ Parking lots
- ✓ Shopping malls

Mivrowave Sensor



Microwave Sensor



Recessed Microwave Sensor



Surface Mounted Microwave Sensor



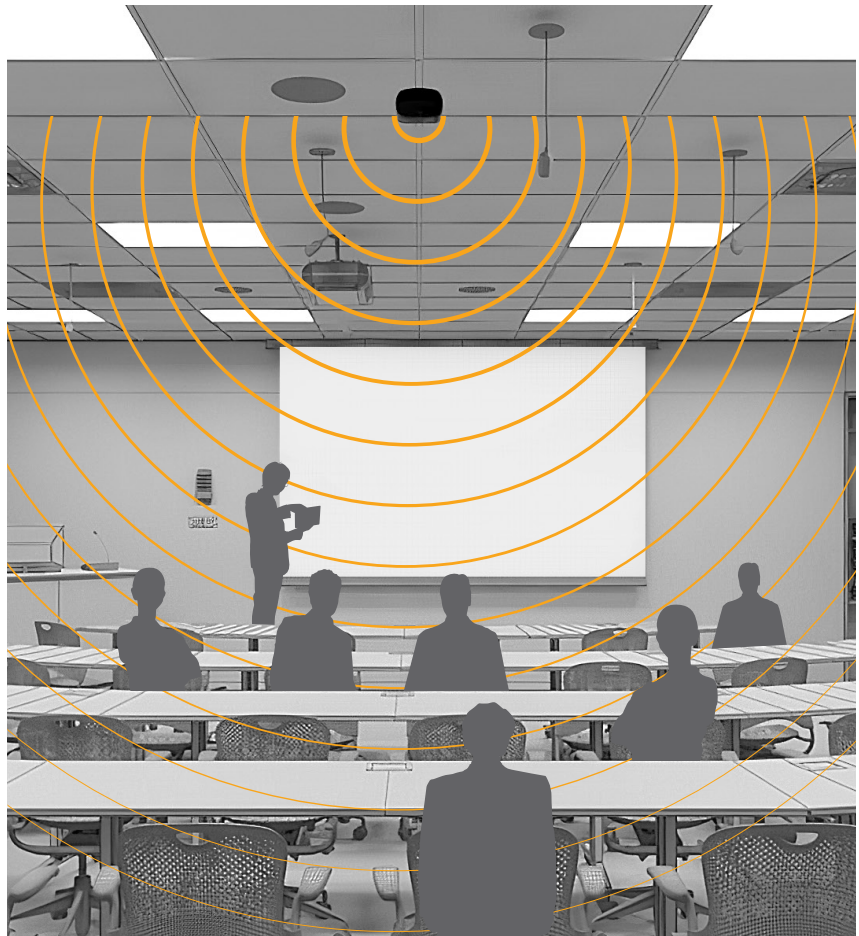
High Ceiling Motion Sensor

Differences Between Presence and Motion Sensors



Presence Sensor

A **Presence Sensor** would be an appropriate choice for areas like **classrooms and meeting rooms, where human movements are minimal.**





Motion Sensor



A **Motion Sensor** with PIR technology would be an appropriate choice for detecting movements in **high-traffic areas** such as **corridors** or **stairways**.



Important Information

Most presence sensors used in the lighting industry, like motion sensors, are based on PIR technology. The key feature that differentiates presence sensors from motion sensors is their wider lens and more sensitive detection circuits. Due to these features, presence sensors can detect very small movements.

Differences Between Analog and Digital Sensors



Analog Sensor



An analog sensor is a sensor that detects physical quantities and converts them into analog signals.

Operating Principle:

- ✓ It is a continuous signal.
- ✓ It is represented by sine waves.
- ✓ It uses a continuous range of values to represent information.

 Accuracy	Low 
 Interference (External Environmental Influence)	High 
 Detection Range	Low 
 Price	Low 





Digital Sensor

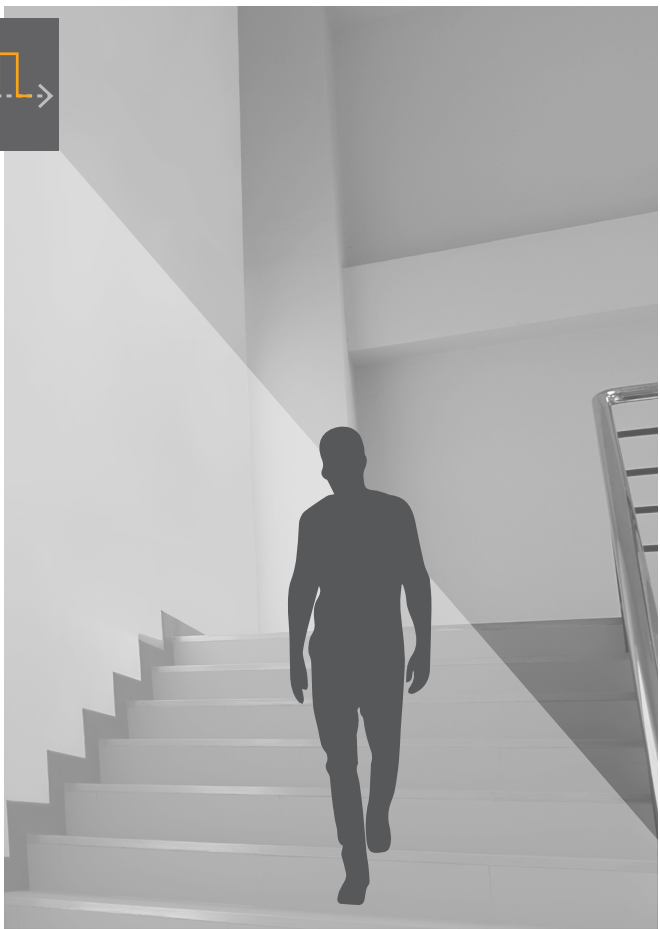


A digital sensor is a sensor that detects physical quantities and converts them into digital signals.

Operating Principle:

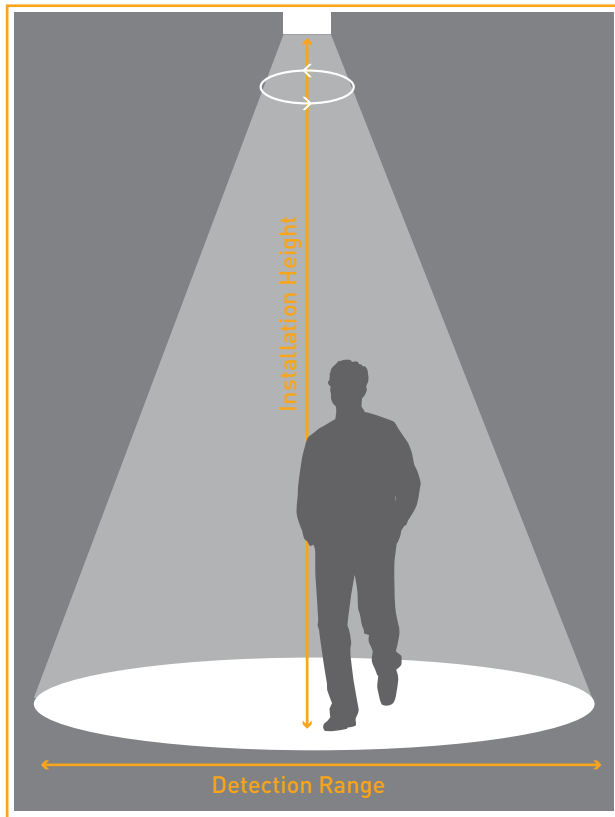
- ✓ The signals are time-separated.
- ✓ Digital signals are represented by square waves.
- ✓ It uses 0 and 1 to represent information.

 Accuracy	High 
 Interference (External Environmental Influence)	Low 
 Detection Range	High 
 Price	High 



The sensors in Pelsan's portfolio are **digital sensors** with high accuracy and sensitivity.

Important Values to Consider When Choosing a Sensor



■ Detection Range

When choosing lighting sensors, detection range is an important factor. PIR (Passive Infrared) sensors typically have detection ranges between 5-12 meters. Microwave sensors, on the other hand, can cover a wider detection range, usually between 10-20 meters or more. When selecting a sensor, it's important to carefully review the product catalog information to ensure that the sensor's maximum detection range is suitable for the intended space.

■ Sensitivity

Microwave sensors, using microwave technology, can detect through objects such as plastic, glass, and walls. For this reason, after installation in the environment, they should be calibrated.

The "sensitivity" button can be used for this. Motion sensors with PIR technology, on the other hand, detect living objects in the environment. Therefore, they do not have any button a sensitivity adjustment

■ Environmental Conditions

PIR sensors, by their operating principle, generate signals by detecting temperature differences in the environment. They work effectively in indoor spaces where temperature and humidity are stable, but their detection range and sensitivity may decrease in environments where the temperature exceeds 35°C.

Microwave sensors, on the other hand, are not affected by changes in temperature or humidity. They perform steadily in challenging conditions such as outdoor areas and parking lots.

When choosing a sensor, attention should be paid to environmental factors, and the appropriate sensor technology (PIR/Microwave) should be selected accordingly.



Pelsan Sensors Nominal Load Table

The nominal power value specified in the sensor's catalog information is very important. This value represents the maximum load that can be connected to the sensor. **The nominal power value is specified separately for LED luminaires and fluorescent luminaires.** It is recommended not to exceed %85 of the specified power value.

Step 1

Nominal Power Determination

The nominal power of the sensor is determined from the user manual and catalog values. This value, specified separately for LED and fluorescent luminaires, should be selected based on the type of luminaire.

Microwave Sensor
Max. 300W LED

Step 2

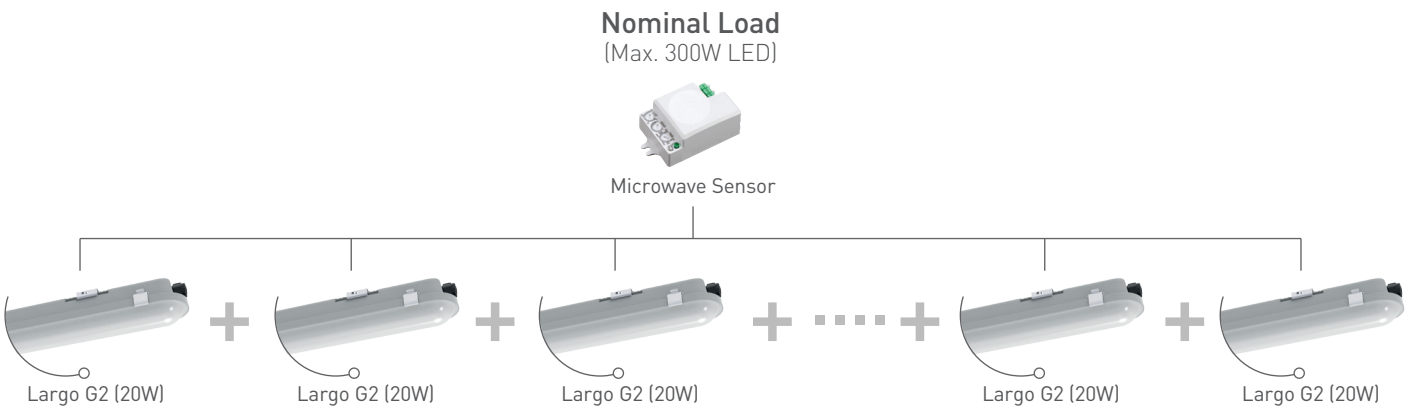
Determination of Nominal Power

$$\begin{array}{r} \text{Nominal Load (300W)} \\ \times \\ 0.85 \\ \hline = \\ \text{Tolerance Adjusted} \\ \text{Nominal Load (255W)} \end{array}$$

Step 3

Determination of Luminaire Quantity

$$\begin{array}{r} \text{Tolerance Adjusted Nominal Load} \\ \text{(255W)} \\ \hline / \\ \text{Luminaire Power (Largo G2 - 20W)} \\ \hline = \\ \text{Number of Luminaires} \\ \text{(12.75 Units Waterproof)} \end{array}$$



13 Largo G2 (20W) Luminaires can be connected to 1 Microwave Sensor.

Code	Sensors	LED	Fluorescent (PLE)
314725	Microwave Sensor	Max. 300W	Max. 300W
326839	Surface-Moun. Microwave Sensor	Max. 1000W	Max. 1000W
326838	Recessed Microwave Sensor	Max. 300W	Max. 300W
314730	High Ceiling Motion Sensor	Max. 300W	Max. 300W
314726	Recessed Mounted Sensor	Max. 300W	Max. 300W
314720	360° Motion Sensor	Max. 300W	Max. 300W
314733	Presence Sensor	Max. 1000W	Max. 1000W
314717	180° Motion Sensor	Max. 300W	Max. 300W
314732	Mini Motion Sensor	Max. 200W	Max. 200W
314738	Photocell	Max. 1000W	Max. 1000W

*For power usage higher than the values listed in the table, a contactor should be preferred. Please consult an experienced electrician for contactor installation.

Things to Consider During Installation

Functions and Configuration



The TIME setting is used to adjust how long the sensors will remain active after detecting movement for a certain period. During this time, the sensor assumes that the detected movement is ongoing and keeps the connected lighting luminaires turned on.



The LUX setting is an important feature that specifically determines when the sensors will be activated based on the environmental light level. Low, medium, and high LUX levels allow the sensor to activate at specific brightness levels.

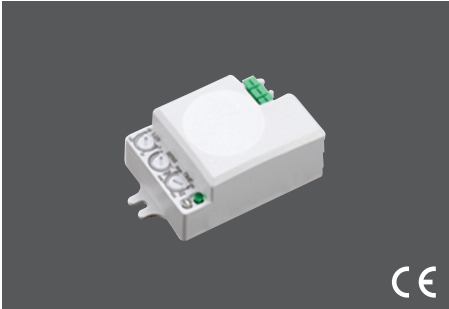


The SENS setting is a feature used to adjust the detection sensitivity of the sensors. This setting determines how sensitive the sensor will be and at what distance or size of movements it will detect. While sensors with microwave technology have a SENS adjustment, those with PIR technology do not.

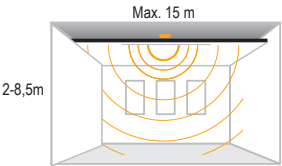




Product Portfolio



Microwave Sensor

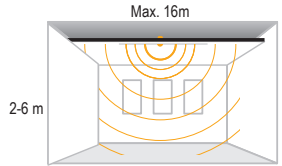


Code	Detection Range (m)	Installation Height (m)	Nominal Load	Dimensions (mm)axb	Detection Area (°)
314725	Max. 15	2,8 - 5	Max. 300W (LED)	93x47x44	360

Features Microwave Sensor Sun Mode Moon Mode



Surface-Mounted Microwave Sensor

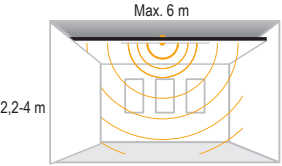


Code	Detection Range (m)	Installation Height (m)	Nominal Load	Dimensions (mm)Øxh	Detection Area (°)
326839	Max. 16	2 - 6	Max. 1000W (LED)	114x22	360

Features Microwave Sensor Time Setting Lux Setting Sun Mode Moon Mode



Recessed Mounted Sensor

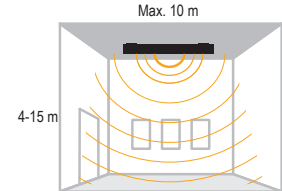


Code	Detection Range (m)	Installation Height (m)	Nominal Load	Dimensions (mm)Øxh	Kesim Ölçüsü (mm)	Detection Area (°)
326838	Max. 6	2,2-4	Max. 300W (LED)	76x74,4	66	360

Features Microwave Sensor Time Setting Lux Setting Sun Mode Moon Mode



High Ceiling Motion Sensor

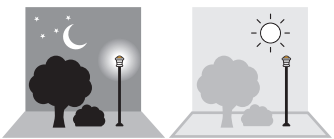


Code	Detection Range (m)	Installation Height (m)	Nominal Load	Dimensions (mm)axbxc	Detection Area (°)
314730	Max. 20	4 - 15	Max. 300W (LED)	74x32,5x74	360

Features Microwave Sensor Time Setting Lux Setting Sun Mode Moon Mode



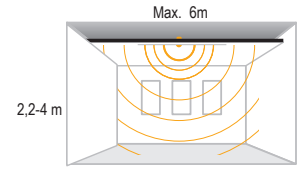
Photocell



Code	Detection Range (m)	Installation Height (m)	Nominal Load	Dimensions (mm)Øxh	Detection Area (°)
314738	-	-	Max. 1000W (LED)	63x77	180



Recessed Ceiling Sensor

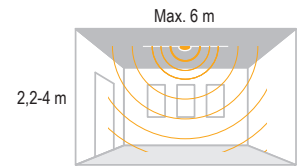


Code	Detection Range (m)	Installation Height (m)	Nominal Load	Dimensions (mm)Øxh	Kesim Ölçüsü (mm)	Detection Area (°)
314726	Max. 6	2,2-4	Max. 300W (LED)	74x32,5x74	65	360

Features → PIR Sensor Time Setting Lux Setting Sun Mode Moon Mode



360° Motion Sensor

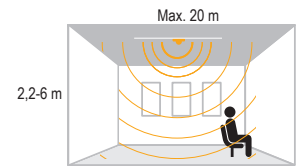


Code	Detection Range (m)	Installation Height (m)	Nominal Load	Dimensions (mm)Øxh	Detection Area (°)
314720	Max. 6	2,2-4	Max. 300W (LED)	80x41	360

Features → PIR Sensor Time Setting Lux Setting Sun Mode Moon Mode



Presence Sensor

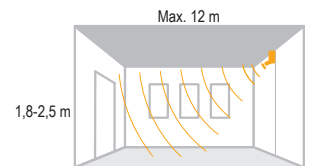


Code	Detection Range (m)	Installation Height (m)	Nominal Load	Dimensions (mm)axb	Detection Area (°)
314733	Max. 20	2,2 - 6	Max. 1000W (LED)	102,5x58,3	360

Features → PIR Sensor Sun Mode Moon Mode

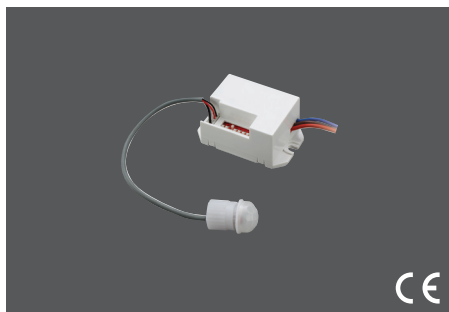


180° Motion Sensor

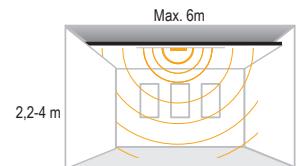


Code	Detection Range (m)	Installation Height (m)	Nominal Load	Dimensions (mm)axbxc	Detection Area (°)
314717	Max. 12	1,8 - 2,5	Max. 300W (LED)	135x120x66	180

Features → RIP Sensor Time Setting Lux Setting Sun Mode Moon Mode



Mini Motion Sensor



Code	Detection Range (m)	Installation Height (m)	Nominal Load	Dimensions (mm)Øxh	Kesim Ölçüsü (mm)	Detection Area (°)
314732	Max. 6	2,2-4	Max. 200W (LED)	55,4x25,5x36,83	13	360

Features → PIR Sensor Sun Mode Moon Mode



All your lighting needs in one adress.

www.pelsan.com.tr
info@pelsan.com.tr | export@pelsan.com.tr

FABRICA

Çerkeşli O.S.B.
İmes 5. Cadde No:12
Dilovası / Kocaeli - TÜRKİYE



/PelsanAydinlatma



pelsan-aydinlatma



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/pelsanaydinlatma



/PelsanLight

P : +9[0850] 460 75 76
F : +9[0216] 364 60 15