

SMART MOVEMENT DETECTOR



The **Bear Safety Motion Sensor Control Panel** is a compact industrial interface panel designed to switch 240V AC loads using a 24V DC motion sensor or dry contact device. The system provides both Normally Open (N/O) and Normally Closed (N/C) switched outputs for industrial safety, lighting, and automation applications.

Specification	Details
Detection Technology	High-frequency microwave radar (5.8 GHz, ISM band)
Detection Range	Adjustable: 2–10 m radius
Detection Angle	360°
Installation Type	Ceiling mounted (indoor use)
Power Supply	220–240 V AC
Power Frequency	50/60 Hz
Power Consumption	Approx. 0.9 W
Transmission Power	< 10 mW
Time Delay Setting	Adjustable: 10 seconds to 30 minutes
Light Control (Lux)	Adjustable: 10–500 lux
Rated Load	1200 W (220–240V AC) / 600 W (100–130V AC)
Detection Capability	Detects movement through glass, doors, and thin walls
Sensitivity Adjustment	DIP switch configurable (multi-level settings)
Reset Time	Approx. 1 second after switch-off
Operating Environment	Indoor applications

Bear Safety

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SMART MOVEMENT DETECTOR



The **Smart Movement Detector** is an active motion detector designed to detect movement within indoor environments. Using 5.8GHz CW radar technology, it identifies motion by emitting high-frequency electromagnetic waves and monitoring changes in the received echoes. A microprocessor then triggers the command to switch the light on.

With adjustable sensitivity, time delay, and light threshold settings controlled via DIP switches, the sensor can be customized for specific operational needs. Its ability to detect movement through materials such as glass, doors, or thin walls makes it a versatile solution for various indoor settings, with optimal detection occurring when objects move toward the sensor.

Specification	Details
Detection Technology	High-frequency microwave radar (5.8 GHz, ISM band)
Detection Range	Adjustable: 1-8 m radius
Detection Angle	360°
Installation Type	Ceiling mounted (indoor use)
Power Supply	220-240 V AC / 100-130 V AC
Power Frequency	50/60 Hz
Power Consumption	Not explicitly stated; HF output is < 10 mW
Transmission Power	< 10 mW
Time Delay Setting	Adjustable: 10 seconds to 30 minutes
Light Control (Lux)	Adjustable: 10-500 lux
Rated Load	1200 W (220-240V AC) / 600 W (100-130V AC)
Detection Capability	Detects movement through glass, doors, and thin walls
Sensitivity Adjustment	DIP switch configurable (S1, S2)
Reset Time	Approx. 1 second after switch-off
Operating Environment	Indoor applications

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BEAR SAFETY

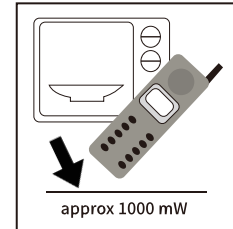
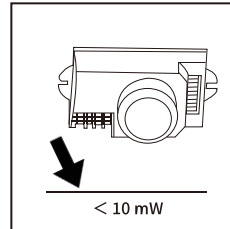
SMART MOVEMENT DETECTOR

Overview

The sensor is an active motion detector that emits high-frequency electromagnetic waves (5.8GHz) and receives their echoes. It detects even the slightest movement in its detection zone by monitoring changes in these echoes. A microprocessor then triggers the command to switch the light on. Detection is possible through doors, glass panes or thin walls.

Important: People or objects moving towards the sensor are detected best.

Note: The high-frequency output of this sensor is <10mW - that is just one-hundredth of the transmission power of a mobile phone or the output of a microwave oven.



Technical Specifications

Power supply: 220-240VAC 100-130VAC

Installation site: Indoors, ceiling mounting

HF system: 5.8GHz CW radar, ISM band

Range: 1-8 m (radius), adjustable; Time setting: 10 sec to 30 min

Light control: 10-500 lux

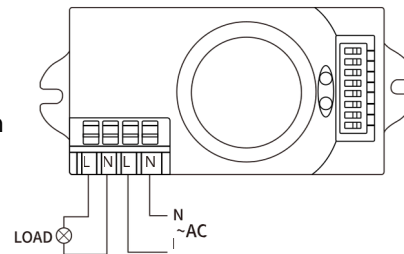
Power frequency: 50/60 Hz

Transmission power: <10 mW

Detection angle: 360°

Rated load: 1200 W (220-240V AC)

600 W (100-130V AC)



Connect N, L with power;
Connect N, L' with load.

Switch Labels and Functions

S1, S2: Set sensitivity

S3, S4, S5: Set time

S6, S7, S8: Set the lux

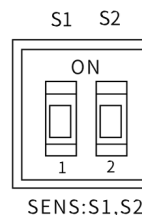


SENS:S1,S2 TIME:S3,S4,S5 LUX:S6,S7,S8

Reach Setting (Sensitivity)

"Reach" refers to the radius of the roughly circular detection zone produced on the ground when the sensor light is mounted at a height of 2.5m. The switch position for "on" is "i", and for "off" is "O". The relationship between switch position and detection distance is as follows:

Note: The above detection distance is measured using a person who is between 1.6m and 1.7m tall, with an average build, moving at a speed of 1.0-1.5m/sec. If any of these variables are changed, the detection distance will also change accordingly.



S1	S2	distance	S1	S2	distance
0	0	1m	1	0	6m
0	1	3m	1	1	8m

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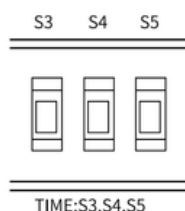
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Time Setting

Time can be set from 10 seconds to 30 minutes. Any movement detected before this time elapses will restart the timer. It is recommended to select the shortest time when adjusting the detection zone and performing the walk test. The switch position for "on" is "i", and for "off" is "O". The relationship between switch position and time setting is as follows:

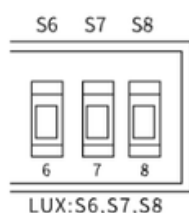
Note: After the light switches off, it takes approximately 1 second before it is able to start detecting movement again. The light will only switch on in response to movement once this period has elapsed.



S3	S4	S5	time	S3	S4	S5	time
0	0	0	10S	1	0	0	10min
0	0	0	30S	1	0	1	15min
0	1	0	1min	1	1	0	20min
0	1	1	5min	1	1	1	30min

Light-control setting

The selected light response threshold can be adjusted continuously from approximately 10 lux to 500+ lux. The switch for "on" is marked as "i", and the switch for "off" is marked as "O". The corresponding settings for switch position and detection distance are as follows:



S6	S7	S8	LUX	S6	S7	S8	LUX
0	0	0	24H	1	0	0	100 LUX
0	0	1	10 LUX	1	0	1	200 LUX
0	1	0	20 LUX	1	1	0	300 LUX
0	1	1	50LUX	1	1	1	500 LUX

Troubleshooting

Issue (Load = Light)	Cause	Remedy
The load does not operate.	Incorrect light-control setting selected	Adjust the settings
	Faulty load	Change the load
	Main switch is OFF	Turn ON the switch
The load is always active.	Continuous movement in the detection zone	Check zone setting
	Sensor not properly mounted for reliable movement detection	Securely mount enclosure
The load operates without any detectable movement.	Movement occurred but was not detected by the sensor (e.g., movement behind a wall or a small object moving near the lamp)	Check zone setting
The load does not operate despite movement.	Rapid movements are being suppressed to prevent malfunction, or the detection zone you set is too small	Check zone setting

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BEAR SAFETY

SMART RADAR SENSOR



The Bear Safety Smart Radar Sensor is a durable industrial activation and safety sensor designed for demanding environments. Using microwave motion detection, it provides reliable door activation and safety coverage where pedestrian and vehicle traffic operate together.

With flexible wall or ceiling mounting, simple configuration, and an IP67-rated housing, the Bear Safety Sensor is well suited for warehouses, logistics centres, and industrial facilities.

Detection Area Overview

- Optimised detection coverage at both 5 m and 7 m mounting heights
- Adjustable sensor angle enables accurate targeting of pedestrian and vehicle traffic
- Suitable for unidirectional detection and cross-traffic filtering applications

Associated Accessories

- Remote Control – for quick configuration and parameter adjustment



Remote Control
SKU: 134001

Specification	Details
Detection Method	Microwave Motion Detection
Operating Frequency	24.150 GHz
Installation Height	Up to 7.0 m (23 ft)
Detection Range	7 m × 7 m (W×D) at 5 m mounting height 5 m × 8 m (W×D) at 7 m mounting height
Pattern Adjustment	Depth: ±90° in 15° increments Width: ±18°
Power Supply	12–36 VDC / 12–28 VAC
Power Consumption	< 1 W
Relay Outputs	Vehicle relay output: NO / NC Pedestrian relay output: NO / NC
Relay Hold Time	0.5 s – 300 s adjustable
Operating Temperature	-30°C to +60°C (-22°F to +140°F)
IP Rating	IP67
Weight	320 g (without cable) 650 g (with cable)
Dimensions (No Bracket)	131 mm (W) × 73 mm (H) × 98 mm (D)
Dimensions (With Bracket)	131 mm (W) × 73 mm (H) × 136 mm (D)

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BEAR SAFETY

SMART RADAR WITH STATIONARY DETECTION



The **Smart Radar with Stationary Detection** is a high-mount industrial door sensor designed to manage both activation and safety within a single system. Using combined radar motion detection and infrared presence sensing, it identifies moving and stationary objects in the door zone to support safer operation and controlled access.

Designed for industrial environments, the sensor helps reduce unnecessary door openings through directional detection and filtering, while maintaining reliable detection of vehicles and pedestrians near the doorway. Its rugged IP65-rated housing and flexible mounting options make it suitable for demanding operational settings.

Specification	Details
Detection Method	Microwave motion detection (K-band 24.15GHz) + active infrared presence detection
Installation Height	3.5 m to 6.5 m
Sensor Dimensions	230 mm (W) × 140 mm (H) × 115 mm (D)
Presence Timer	Adjustable: 30 sec, 1, 2, 5, 10, 20 mins, 1 hr, 2 hrs, or continuous
Power Supply	AC/DC 12–24V ±10%, 50/60 Hz
Power Consumption	AC12V: 2.5 VA max / AC24V: 3.3 VA max; DC12V: 150 mA max / DC24V: 80 mA max
Output – Infrared	Opto relay (non-polar), max 48V DC, 300 mA (resistive load)
Output – Radar	Opto relay (non-polar), max 48V DC, 300 mA (resistive load)
Operating Temperature	-20°C to +60°C
IP Rating	IP65 (suitable for industrial environments)
Weight	Approx. 1.3 kg
Mounting	Ceiling or wall mounting with adjustable bracket
Accessories Included	Mounting screws, installation instructions
Optional Accessories	Remote control (sold separately)
Available Colour	Black

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