

# TECHNICAL DATA SHEET



## NANO F16 (Microwave Motion Sensor)

IP20

1-8m

360°

Nano F-16 is a new energy-saving switch; it utilizes a microwave sensor with high-frequency electromagnetic waves (5.8GHz) and an integrated circuit. It combines automatism, convenience, safety, energy-saving, and practicality. The extensive detection field varies based on the detectors used. When someone enters the detection field, the device can activate the load immediately and distinguish between day and night automatically. Installation is straightforward, and its applications are diverse. Detection can occur through doors, glass panes, or thin walls, making this an ultra-reliable sensor with no gaps in the detection zone.

### TECHNICAL SPECIFICATION

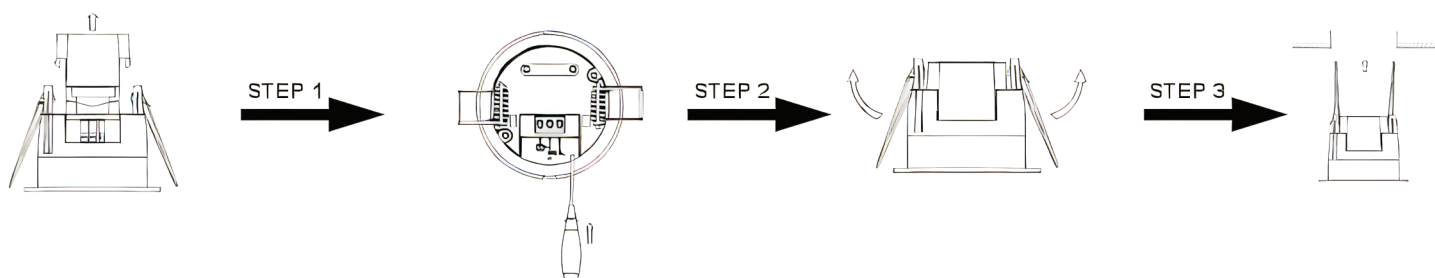
Power Source:	220-240V/AC
Power Frequency:	50Hz
HF System:	5.8Ghz CW Radar, ISM Band
Transmission Power:	<0.2mW
Time Delay:	Min. 10Sec±3Sec, Max. 12Min±1Min
Rated Load:	1200W (Incandescent), 300W (LED Load)
Detection Range:	360°
Detection Distance:	1-8m (radius), Adjustable
Ambient Light:	<3-2000LUX
No. of Wires:	3
Install Height:	1.5-3.5m
Power Consumption:	Approx 0.9W
Detection Motion Speed:	0.6-1.5m/s

### FUNCTION

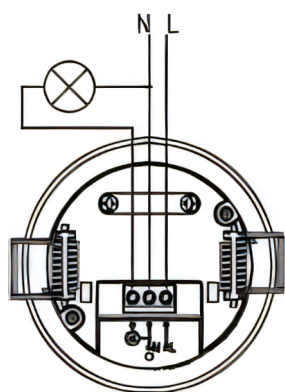
- It can identify day and night: The device operates during both daytime and nighttime when adjusted to the 'sun' position (maximum). It will function in ambient light levels less than 3 LUX when set to the '3' position (minimum). For details on how to adjust these settings, please refer to the test instructions.
- SENS is adjustable: It can be adjusted according to the location of use. The detection distance at low sensitivity can be as short as 2 meters, while at high sensitivity it can reach up to 16 meters, making it suitable for large rooms.
- Time-Delay is continually added: When it receives a second induction signal during the first induction, the timer will restart from that moment
- Time-Delay is adjustable and can be set according to the consumer's preference. The minimum time is approximately 10 seconds (±3 seconds), and the maximum is approximately 12 minutes (±1 minute).

## INSTALLATION

- Switch off the power.
- Open the transparent acrylic cover which is at the bottom of the sensor.
- Loose the screws in the connection terminal, and then connect the power and rated load to connection terminal of sensor according to connection sketch map.
- Tighten the screw and put the transparent acrylic cover into the original location Fold the metal spring of the sensor upwards, until they are in "I" position with sensor, and then put the sensor into the hole or installation box which is on the ceiling and has the similar size with the sensor. Release the spring, the sensor will be set in this installation position.
- After finishing installing, the sensor could be connected to the power and tested.

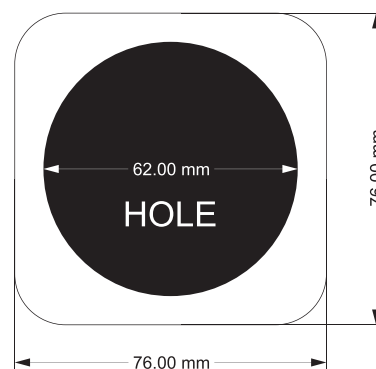


### CONNECTION-WIRE DIAGRAM



Note: When testing in daylight, please turn LUX knob to (SUN) position, otherwise the sensor could not work!

### PRODUCT CUT-OUT DIAGRAM



## CALIBRATION

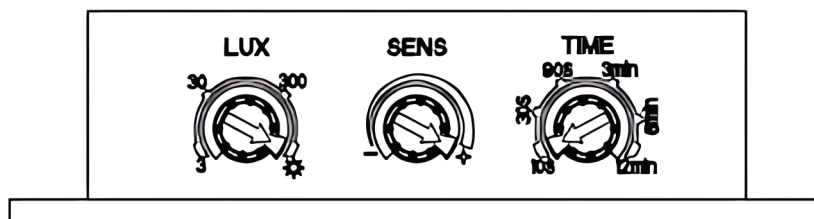
**1) Sensitivity:** SENS refers to the diameter of the detection zone, which is roughly circular, produced on the ground when the sensor is mounted at a height of 2.5 to 6 meters. Turn the SENS control fully counterclockwise to select the minimum SENS (approximately 2 meters in diameter) and fully clockwise to select the maximum SENS (approximately 16 meters in diameter). Adjust according to location and site requirements

**2) Time Setting:** The light can be set to stay on for any period of time between approximately 10 seconds (turn fully counterclockwise) and a maximum of 12 minutes (turn fully clockwise). Any movement detected before this time elapses will restart the timer. It is recommended to select the shortest duration necessary for your needs.

**3) Light Control Setting:** The chosen light response threshold can be adjusted from approximately 3 to 2000 lux. Turn the knob fully counterclockwise to select dusk-to-dawn operation at about 3 lux, and fully clockwise for continuous daylight operation. The knob must be turned fully clockwise when adjusting the detection zone and performing the walk test in daylight. Afterward, adjust the setting according to site requirements. Allow sufficient time for adjusting the detection zone and for performing the walk test.

## TEST

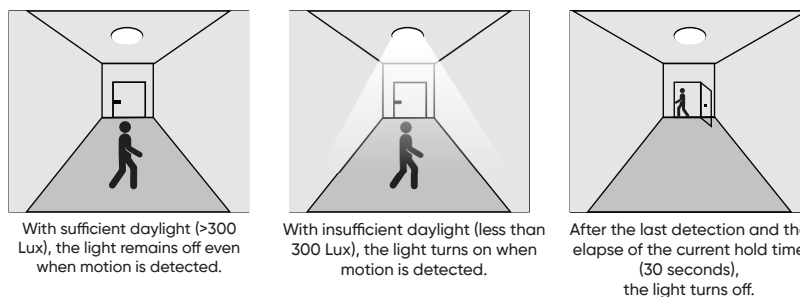
- Turn the LUX knob clockwise to the maximum (sun setting). Turn the SENS knob clockwise to the maximum (+ setting). Turn the TIME knob counterclockwise to the minimum (10 seconds).
- When you switch on the power, the light will turn on immediately. Approximately 10 seconds, plus or minus 3 seconds later, the light will turn off automatically. If the sensor receives an induction signal again, it will resume normal operation.
- When the sensor receives a second induction signal during the first induction, it will restart the timer from that moment.
- Turn the LUX knob counterclockwise to the minimum 3. If the ambient light is less than 3 LUX (indicating darkness), the inductor load will activate when it receives an induction signal.



## APPLICATION

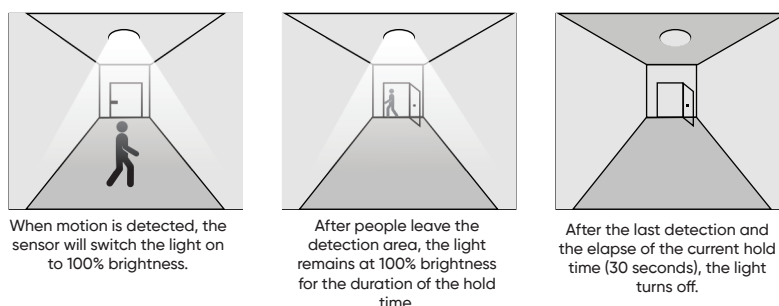
### ➤ Daylight Function

The hold time is set to 30 seconds, and the Lux level is set to 300. The light turns on when movement is detected and turns off after people leave, specifically at night. Applications include corridors and staircases.



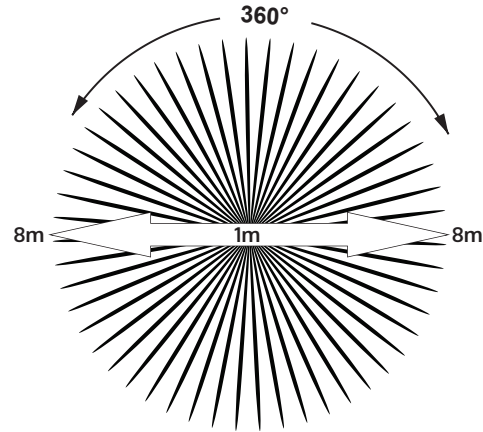
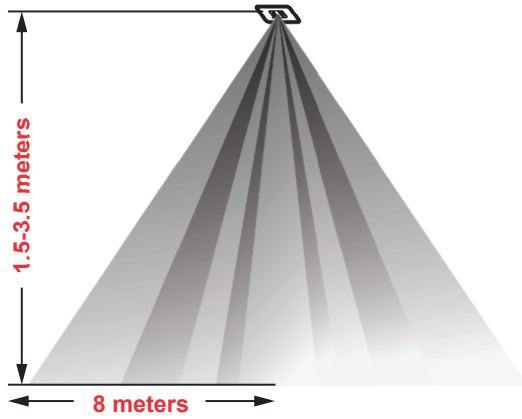
### ➤ No Daylight Function

The daylight threshold is set to 2000 lux to disable the light. It turns on when movement is detected, and after people leave, the light turns off once the hold time of 30 seconds has elapsed. Applications include dimly lit areas such as basement parking and underpasses.



## NOTE

- **Installer:** Only by an electrician or experienced individual.
- **Surface:** No installation on uneven or shaky surfaces.
- **Clearance:** Ensure no obstructions in front of the sensor.
- **Location:** Avoid near metal and glass to prevent interference.
- **Safety:** Do not open the case post-installation if issues arise.



## TROUBLESHOOTING

Malfunction	Cause	Remedy
The load will not work	Wrong light control selected Load faulty Mains is switched OFF	Adjust Setting Change Load Switch ON
The load is always on	Continuous movement in detection zone	Check zone setting
The load is ON without any identifiable movement	The sensor not mounted for detecting movement reliably Movement occurred, but not identified by the sensor(movement behind wall, movement of a small object in immediate lamp vicinity etc)	Securely mount enclosure Check zone setting
The load will not work despite movement	Rapid movements are being suppressed to minimize malfunctioning or the detection zone you have set is too small	Check zone setting.

