EXP-MS-N4X-AT-HV
Explosion Proof Motion Sensor
Instruction Manual

Thank you for your purchase of the EXP-MS-N4X-AT-HV Motion Sensor, the following instructions are intended for this part number only.

Installation

This unit is easily wall mounted via integral mounting bracket, which can be adjusted -90° to +30° vertically after installation. The explosion proof housing provides two 1/2" or 3/4" hub openings located on either side of the housing for running electrical conductors in a feed through configuration. A bushing seal at each conductor opening prevents damage to wiring insulation.

This unit is designed to operate on 120V, 208V, 220V, 240V, or 277V AC electrical circuits. We also carry low voltage 12-24V AC or DC electrical systems. This motion sensor is suitable for use in environments where combustible dusts and particulates may be present. 1/2" or 3/4" NPT tapped conduit openings are provided on either of the unit in feed through versions while dead end versions have a single conduit hub, providing easy and secure connection to main power line supplies.
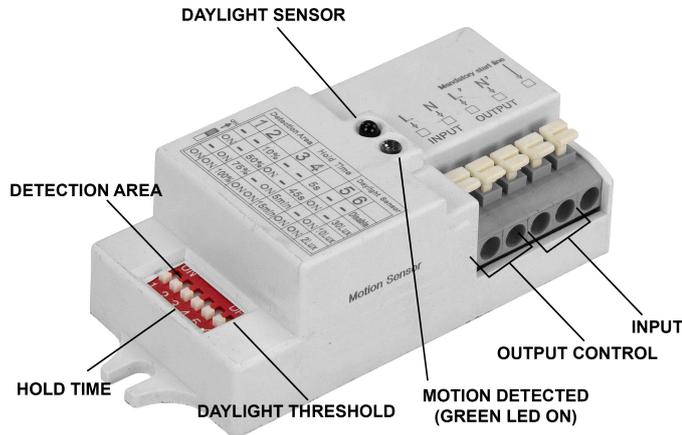
The EXP-MS-N4X-AT-HV operates like a standard on/off light switch. The circuit is normally open when no motion is present. Once motion is detected, the internal switch changes to a closed circuit, allowing voltage to pass through the sensor and power the device(s) at the other end.

The sensor is an active motion detector; it emits high-frequency electro-magnetic waves (5.8GHz) and receives their echo. The sensor detects the change in echo from even the slightest movement in its detection zone. A microprocessor then triggers the "switch light ON" command. Detection is possible through doors, panes of glass or thin walls.

IMPORTANT: persons or objects moving towards the sensor are detected best.

NOTE: the high frequency of the output of this sensor is <10Mw – that is just one 100th of the transmission power of a mobile phone or the output of a microwave oven.

6 SWITCH MODEL

DAYLIGHT SENSOR

DETECTION AREA

HOLD TIME

DAYLIGHT THRESHOLD

MOTION DETECTED (GREEN LED ON)

OUTPUT CONTROL

INPUT

MOTION SENSOR

Operating voltage	120~277Vac
Rated load	120V@400W;220-240V@800W;277V@1000W
HF system	5.8GHz±75MHz, ISM wave band
Transmitting power	<0.5mW
Power consumption	≤0.5W(standby)
Detection zone	Max.(D x H): 16m x 15m
Detection sensitivity	10% / 50%
Hold time	5s / 45s / 5min / 15min
Daylight sensor	2Lux/10Lux/30Lux/Disable
Mounting height	15m Max.
Motion detection	0.5~3m/s
Detection angle	150°(wall installation)
	360°(ceiling installation)
Operating temperature	-25℃~60℃
IP rating	IP20

Setting

By selecting the combination on the DIP switch, sensor data can be precisely set for each specific application.

ON		1	2	
	I	—	—	10%
	II	ON	—	50%
	III	—	ON	775%
	IV	ON	ON	100%

Detection area

Detection area can be reduced by selecting the combination on the DIP switches to fit precisely each application.

ON		3	4	
	I	—	—	5s
	II	ON	—	45s
	III	—	ON	5min
	IV	ON	ON	15min

Hold time

Refers to the time period the lamp remains at 100% illumination after no motion detected.

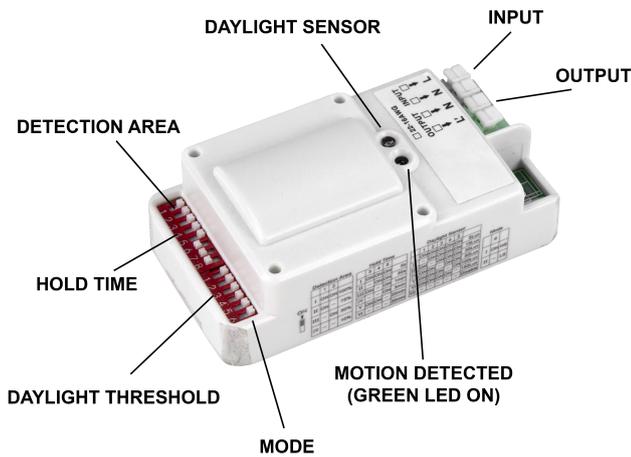| ON		5	6	
	I	—	—	Disable
	II	ON	—	30lux
	III	—	ON	10lux
	IV	ON	ON	2lux

Daylight sensor

The sensor can be set to only allow the lamp to illuminate below a defined ambient brightness threshold.
When set to Disable mode, the daylight sensor will switch on the lamp when motion is detected regardless of ambient light level.
30lux:twilight operation, 2lux, 10lux: darkness operation only.

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14 SWITCH MODEL

DAYLIGHT SENSOR
INPUT
OUTPUT
DETECTION AREA
HOLD TIME
DAYLIGHT THRESHOLD
MODE
MOTION DETECTED (GREEN LED ON)

MOTION SENSOR

Operating voltage	120/277V AC 50/60Hz
Rated load	120V@400W;220-240V@800W;277V@1000W
HF system	5.8GHz±75MHz, ISM wave band
Transmitting power	<0.5mW
Power consumption	≤0.5W(standby)
Detection zone	Max.(D x H): 16m x 15m
Detection sensitivity	10% / 50%
Hold time	5s / 30s / 1min / 3min / 20min / 30min
Daylight sensor	5Lux/15Lux/30Lux/50Lux/100Lux/150LuxDisable
Mounting height	15m Max.
Motion detection	0.5~3m/s
Detection angle	150°(wall installation)
	360°(ceiling installation)
Operating temperature	-25℃~60℃
IP rating	IP20

Setting

By selecting the combination on the DIP switch, sensor data can be precisely set for each specific application.

	1	2	
I	ON	ON	100%
II	ON	–	75%
III	–	ON	50%
IV	–	–	10%

Detection area

Detection area can be reduced by selecting the combination on the DIP switches to fit precisely each application.

	3	4	5	
I	ON	ON	ON	5s
II	–	ON	ON	30s
III	ON	–	ON	1min
IV	–	–	ON	3min
V	ON	ON	–	20min
VI	–	–	–	30min

Hold time

Refers to the time period the lamp remains at 100% illumination after no motion detected.

	6	7	8
I	–	–	–
II	–	–	–
III	–	–	–

Non-essential Switches

The 6, 7, and 8 line of switches should be left in the OFF position.
These are not used and should not be switched into the ON position.

	1	2	3	4	5	
I	ON	ON	ON	ON	ON	5Lux
II	–	ON	ON	ON	ON	15Lux
III	ON	–	ON	ON	ON	30Lux
IV	ON	ON	–	ON	ON	50Lux
V	ON	ON	ON	–	ON	100Lux
VI	ON	ON	ON	ON	–	150Lux
VII	–	–	–	–	–	Disable

Daylight sensor

The sensor can be set to only allow the lamp to illuminate below a defined ambient brightness threshold.
When set to Disable mode, the daylight sensor will switch on the lamp when motion is detected regardless of ambient light level.
30lux:twilight operation, 2lux, 10lux: darkness operation only.

	6	
I	ON	HS
II	–	LS

Mode

When set to HS, the microwave sensor function is inactive, lights turns on or off by switch. When set to LS, the microwave sensor function is active.

NOTE: On the 6 Switch Model, the starting socket, the one labeled "Mandatory start line", is not needed for connections and can be left alone and skipped during installation.

INSTALLATION

- Disconnect the fixture from all power sources and esnure it is cool to the touch.
- Remove the fixture from the mount.
- Open up the fixture and locate the housing unit containing the motion sensor board.
- Carefully remove the housing unit from the enclosure.

- To remove the board from the wiring connections, press down on the white tabs to release the wiring.
- After all connections in the original board are removed, set it to the side.
- rab new replacement board and make the wire connections as before.
  - ust push down the white tab and insert the wire into the correct slot.

- The housing unit for the board has a notch built into the bottom section of the container. This notch is for the wire connections between the board and the unit to feed through.

- Center the board in the container so the two sensors on top are not covered.
- Using a 9/64 Allen Wrench, tighten and secure the bolts on this container to secure the board in place.
- When tight enough so the unit doesn't shift in place, use a 6mm Socket Wrench to tighten and secure the nuts on the other side of the container.
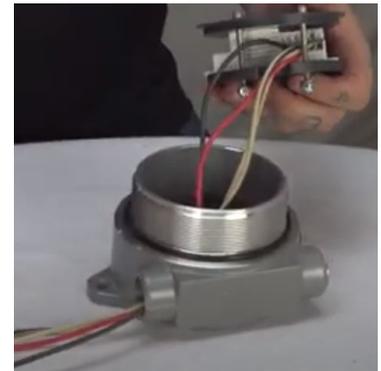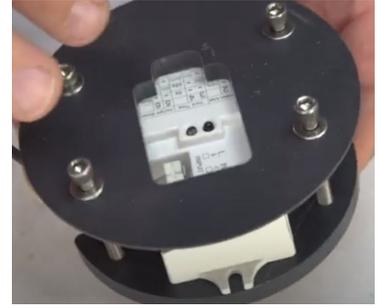
- Once the unit is fully secured, feed the wires back through the unit and slide the container into the unit.
- Screw the lid back onto the fixture and remount to desired location.
- Connect fixture back to power and continue use.

Certifications - Compliance

- Class I, Divisions 1 & 2, Groups B, C, D
- Class I, Zones 1 & 2, Groups IIB+H2, IIA
- Class II, Divisions 1&2, Groups E,F,G
- Class III, Divisions 1&2
- Ex db IIC Gb
- Ex tb IIC Gb Db IP66
- NEMA 3,4,4X,7 (B,C,D), 9 (E,F,G)

Malfunction	Cause	Remedy
The load will not work	- wrong light control setting selected - load faulty - mains switch OFF	- adjust setting - change load - switch ON
The load is always working	- continuous movement in the detection zone	- check zone setting
Load works without and identifiable movement	- sensor is not mounted for detecting movement reliably - movement occurred, but not identified by the sensor (movement behind a wall, movement of small object in immediate 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