Fidelix

M-Bus wireless

FX-WMBUS-OD-PIR

Wireless M-Bus
Occupancy Sensor (PIR)

❯ Battery powered for wireless installation

❯ AES128 Encrypted Wireless M-Bus
communication

❯ Continuous battery level monitoring

❯ Seemless design

Measure to manage

The occupancy detector from Fidelix is a sensor that detect motions and alerts when a motion is detected using PIR technology.

The occupancy device is a plug-and-play that is mounted in a meeting room or any other place where there is a need to know if there are people present in the room/location in order to control light/ventilation of for example statistical usage.

The device is small and discrete and blend nicely in any office or home enviroment. The internal radio antenna is optimised for 868Mhz and is tuned for mounting on concrete, wood or plaster. Each device has two antennas in each direction to maximise the range between the meter and the collectors.

The device keeps track of the time the device has been active, and when the device has been active for the expected lifetime of the battery, a low level warning is issued. The run time is included as a datarecord in the MBUS telegram.

Advanced analogue and digital signal algorithms makes sure that only valid motions trigger alarms.

Technical features

Temperature range:	-10..32°C
Dimensions:	59 x 100 x 31 mm
Power supply:	2 x 3.6V - AA battery
Communication:	120 sec interval
	AES128 encryption
	OMS standard wireless M-Bus

Firmware:

MODE	T1
INTERVAL	120s
ENCRYPTION	AES128 encryption, OMS mode 5, Profile A.

IR-Sensors and Optics:

OPTIC	Highest performance mirror optic
VIEWPOINT HORIZONTAL	110° ($\pm$55°)
VIEWPOINT VERTICAL	30° ($\pm$15°)
DETECTING AREA	12m

Warnings:

BATTERY	Low battery

Power / Lifetime:

POWER SUPPLY	2 x 3.6V Li-SOCl2, ER14505 battery
VOLTAGE	2.9 to 3.6V
LIFESPAN	14 years typical
RADIO	14 dBM (25mW) output power to antennas
ANTENNAS	2 antennas for true differential transmission
BATTERY	Battery holder

Conformity:

ENVIRONMENT	RoHS (2011/65/EU) / (EU) 2015/863
RADIO / EMC	RED (2014/53/EU)

General information:

TEMPERATURE	-10° to +32°C
RELATIVE HUMIDITY	Less than 95%, None condensing
COLOR	Signal white
MATERIAL	ABS
SIZE (W x L x D)	58,9 x 100 x 30,5 mm
STANDARD	EN13757-3/4 / OMS 4.0.2

Motion sensor:

Wide view IR motion sensor with 4 mirror elements for longand accurate detection. The detection range is rup 12 meterswith 110° and will also detect small movements.

Measurements:

Motion information, such as time since last motion, motion now, motions total etc is transmitted at a 120s interval using the Wireless MBUS protocol OMS compliant. The device also send 3 messages as soon as a motion is detected to reliable transfer the event to the datacollector. The message contains both historical and current status. This makes the sensor ideal for integration in data collecting systems, controlsystem or drive-by solutions.

Installation:

The device should be installed away from direct sunlight and away from places that can experiance fast temperature change. The device should be mounted indoors.
During the first 10 minutes after powerupt the evice will incdicate motion whith a red led to ease installation.
Mount the device so the sensor hole at the front is down.
Use the screws with following requirements:
 - Screw head angle must be at 90°
 - Screw head diameter approximately 5mm
 - Screw head thickness approximately 1.4mm
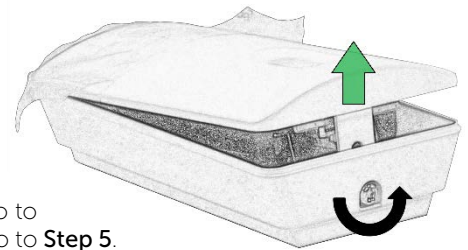
Recommended mounting instructions:

 - For maximum range, mount the device and receiver so they have the same polarization.
 - Avoid placing directly against metallic objects to maximize range.
 - Avoid, if possible, mounting facing windows.
 - Avoid mounting device facing heating elements such as radiators or heat pump.
 - Avoid mounting near strong electromagnetic generating devices, such as motors.
 - Mount with screws.

Step 1: Find a good installation placement

Step 2:

Unscrew the screw at the bottom of the device by turning it counterclockwise.
Separate the front and back piece by lifting the front piece as shown.

If corner bracket is going to be used, go to **Step 3**. Otherwise go to **Step 5**.

Step 3 (with corner bracket):

Install the corner bracket, preferably in a corner, but it can be used on any wall, using the recommended mounting instructions on top of this document and placement guidance from **Step 1**.

Install the corner bracket using a screw (not included) in the marked hole in the middle of the bracket.

Step 4 (mount back piece to corner bracket):

If corner bracket is used, then mount the back piece of the PIR on the corner bracket using the included two screws as shown in the picture.

Go to **Step 6** (skip **Step 5**).

Step 9 (test device):

Test the device by either walking past it or by moving, for example, a hand from right to left or left to right.

A red LED on the front will light up to indicate that the device detected movement.

Note: The red LED will only light up due to movements for the first 10 minutes after inserting batteries. This is to verify during installation that the device is working properly.

Make sure that the device is securely mounted.
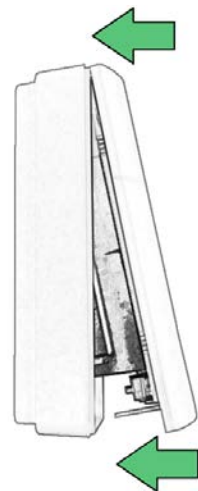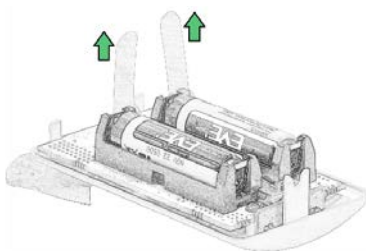
Installation is complete!

Step 5 (without corner bracket; mount back piece on wall):

Mount the back piece to a wall using two screws (not included) in the marked holes.

Step 6 (activate device):

Remove the plastic pieces at the two batteries to start the device.

A red LED will start blinking on the front when the right battery is inserted.

Step 7 (mount front piece):

Mount the upper part of the front piece to the back piece and then attach the bottom part of the front piece to the back piece.

Step 8:

Attach the screw that was removed in Step 2 at the bottom of the device. Tighten the screw by turning it clockwise.

Peel off the plastic film at the top of the device.