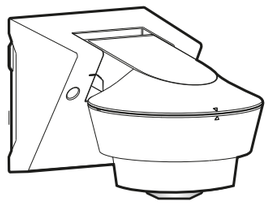
PD00F01KNX

OUTDOOR PIR MOTION DETECTOR



TECHNICAL SPECIFICATIONS	
Rated Voltage	21 - 30VDC (supply by KNX bus)
Current Consumption EIB / KNX	Operate: Approx. 10mA Standby: Approx. 5mA
Connection Type	Bus connection terminal Φ 0.8mm, single core
Output	5 channels (2 channels for lighting, 2 channels for HVAC and 1 channel for alarm)
Settings	Settable by ETS®
Detection Range	360°, up to Φ32m (R=16m) at height of 2.5m
Sensitivity	Adjustable via ETS in 4 steps
Light Measuring	10 - 2000Lux
Operating Temperature	-20℃ to +50℃
Environmental Protection	IP55 (wall mount) IP54 (ceiling mount)
Material and Colour	Plastic, white
Standard and Safety	EN 61000-6-1 / EN 61000-6-3 / EN 55014 / EN 50491

Installation and assembly of electrical equipment must be carried out by qualified electricians. Contact a qualified electrician in the event of fault or break down.

CAUTION!

- Do not mount on conductive surface.
- Do not open the enclosure frequently.
- Circuit of PD00F01KNX is a low voltage circuit. Never connect it with standard 220V circuit or put it into a same Wiring Tube with the circuit.

1. PACKAGE CONTENTS

Pattern			Rubber washer
Item	Detector	Lens shield	Wood screw Φ 4 x 25.4mm
Quantity	1	3	2

Pattern		
Item	Anchor	Manual
Quantity	2	1

2. PRODUCT DESCRIPTION

2.1 Features

- The motion detector is used to control objects, such as: Lighting, HVAC, Alarm.
- For use in KNX (EIB), TP (twisted pair) bus system in conjunction with other KNX components.
- Parameter and function settings via ETS5.0 (Engineering Tool Software).
- User friendly design of un-falling mounting base and plug-in terminal block for installation convenience.

2.2 Dimension (See FIG.1-A & FIG.1-B & FIG.1-C)

- **Wall mount: 150 x 90 x 84mm**

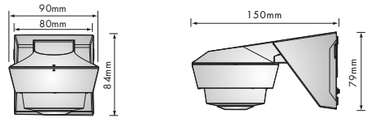


FIG.1-A

Wall corner mounting bracket (Optional purchase)
80 x 74.5 x28mm Order Code : **PD00F01ACC**

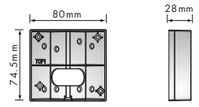


FIG.1-B

- **Ceiling mount: 166 x 90 x 111mm**

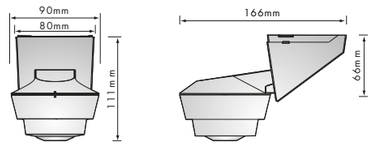


FIG.1-C

3. INSTALLATION AND WIRING

Please disconnect power completely and read the entire instruction manual carefully before installation.

3.1 Select a proper location

3.1.1 This detector can be mounted at the height of 2 - 3m, the recommended installation height is 2.5m to gain the optimal detection range up to a radius of 16m and 360 °angle (See FIG.2-A & FIG.2-B).

- Ceiling mount:

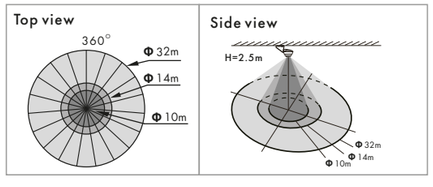


FIG.2-A

- Wall mount:

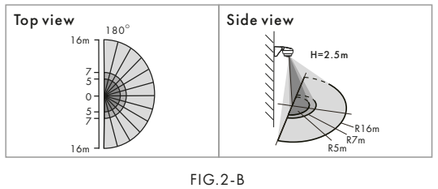


FIG.2-B

3.1.2 Helpful tips for installation

3.1.2.1 The optimal location for installation is at garden, corridor, staircase, entrance, garage, public lavatory, outdoor parking area, home and office, etc.

3.1.2.2 Since the detector responds to temperature change, please avoid the following conditions:

- Avoid pointing the detector toward the objects which surfaces are highly reflective, such as mirror, glass, etc.
- Avoid mounting the detector near heat sources, such as heating vents, air conditioners, lights, etc.
- Avoid aiming the detector toward the objects which may be swayed in the wind, such as curtain, tall plants, etc.

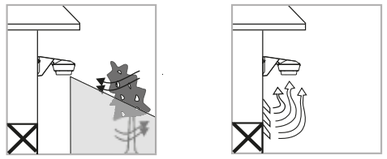


FIG.3-A

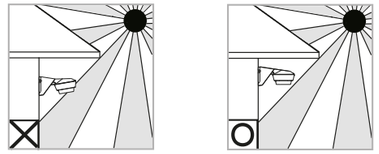


FIG.3-B

3.1.2.3 Pay attention to the walking direction in the test proceeding (See FIG.4).

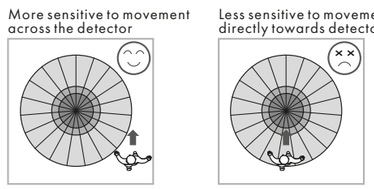


FIG.4

3.2 Function

3.2.1 Auto / Semi-auto mode (Absence detection function)

This function is enabled with ETS setting. Please refer to user manual.

3.2.2 Test mode

Parameters can be set via the ETS (Engineering Tool Software). Test mode switches to the RUN status after "storing", or 10min after activating the test mode. Load and red LED are uncontrolled by Lux setting under the Test mode. Once the detector is triggered, both load and red LED turn on for 2sec, then turn off, and the next triggering should be 2sec interval.

3.2.3 Manually ON & OFF and DIM Switching function

This function is enabled with ETS setting. Please refer to user manual.

3.2.4 Master/Slave selection

Can only be set by ETS software. Please refer to user manual.

3.2.5 Ambient light appraisal

According to the changeable ambient light level, detector can postpone delay time of turning on and off load to avoid its unnecessary on or off switching due to rapid ambient light change:

- **Ambient light level changes from bright to dark:**
  To avoid unnecessary switching ON/OFF load due to temporary ambient light value change caused via nature, e.g. a passing cloud, the detector has been designed with a 10sec delay for activating the light on and the detector will ignore any movement within the 10sec delay time, and the red LED will be continuous on as indication, but the detector has no reaction during the 10sec delay time.
- **Ambient light level changes from dark to bright:**
  If the ambient light level continuously exceeds the switch off Lux value for 5min, there are different reactions according to the time setting value.
  Time setting ≥ 5min, the light will be automatically switched off after 5min.

Time setting <5min, the light will be automatically switched off when the set time reached if no movement is detected during the 5min. But if there is movement detected within the 5min, the time will be reset upon detection and until 5min later, the light is switched off.

3.2.6 2-level (Standby Light) function

- In auto mode, when the ambient light level falls below the pre-set Lux value, detector will enter into 2-level mode function automatically.
- Set "STBY Time" to "infinity" (∞) under auto mode, detector will enter into 2-level mode when the delay off time is expired, and load will change to turn on according to the setting of "STBY Light". During which, if the movement is detected, load will turn on with the setting illumination (100% or the dimmed illumination) and then turn to the setting illumination of "STBY Light" if movement is no longer detected and the delay off time has expired. It will be cycled until the ambient light level is higher than the switch off Lux value and lasts for 5min, then turns off and detector resumes to auto mode function.
- Set "STBY Time" to other position except for "infinity" (∞) under auto mode, the actions of detector are basically same as above mentioned, but the duration is according to the selected "STBY Time" value.
- Set "STBY Light" to "disable" (OFF), load will be off when the delay off time is expired.

3.2.7 Constant light control

According to the changeable ambient light level, the load can dim to bright or dark automatically to match the Lux setting value (Lux setting value by ETS is measured the mixed light level of artificial light and the ambient light).

3.2.8 Alarm function

The alarm function can be set to react differently or the same at switch ON and switch OFF.
The alarm output (object 17) can be locked using object 16.
Options for behaviour at switching lock ON or OFF via object 16 include "no reaction", "switch OFF", "switch ON".
The number of detected movements within a time frame can be set.

3.3 Wiring diagrams

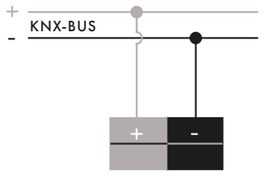


FIG.5-A

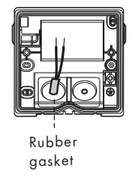


FIG.5-B

3.4 Installation procedure

This outdoor motion detector can be installed on wall directly & recess corner with mounting bracket or on the ceiling directly or on the European standard junction box.

3.4.1 Wall mount and ceiling mount

3.4.1.1 When installing, the junction box of detector can be stuck on the bottom cover by inserting the hook into the slot, so that you don't need to hold the product on hand, to make installation conveniently (See FIG.6-A & FIG.6-B & FIG.6-C).

3.4.1.2 Please strip off 6-8mm of cables sheathing by tool before installation.

3.4.1.3 Feed the electric cables through rubber gasket (See FIG.5-B) and refer to illustration of FIG.5-A for correct wiring, then fit the bottom cover on the wall or ceiling firmly by two screws (See FIG.7).

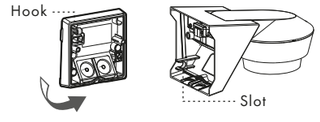


FIG.6-A

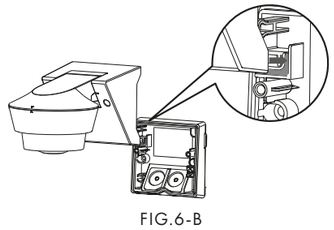
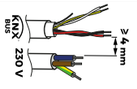


FIG.6-B

PD00F01KNX

OUTDOOR PIR MOTION DETECTOR

⚠ WARNING



When a clear separation between the low voltage (SELV) and the dangerous voltage (230 V) is NOT possible posible, the device must be installed maintaining a minimun guaranteed distance of 4 mm between the dangerous voltage lines or cables (230 V not SELV) and the cables connected to the EIB / KNX BUS (SELV).

- The device must be mounted and commissioned by an authorized installer.
- The applicable safety and accident prevention regulations must be observed.
- The device must not be opened. Any faulty devices should be returned to manufacturer.
- For planning and construction of electric installations, the relevant guidelines, regulations and standards of the respective country are to be considered.
- KNX® bus allows you to remotely send commands to the system actuators. Always make sure that the execution of remote commands do not lead to hazardous situations, and that the user always has a warning about which commands can be activated remotely.
- The device must be installed in low voltage distribution boards, ensuring the IP20 protection rating using the appropriate covers provided with the electrical panels.

For further information please visit www.eelectron.com

DISPOSAL

The crossed-out bin symbol on the equipment or packaging means the product must not be included with other general waste at the end of its working life. The user must take the worn product to a sorted waste centre, or return it to the retailer when purchasing a new one. An efficient sorted waste collection for the environmentally friendly disposal of the used device, or its subsequent recycling, helps avoid the potential negative effects on the environment and people's health, and encourages the re-use and/or recycling of the construction materials

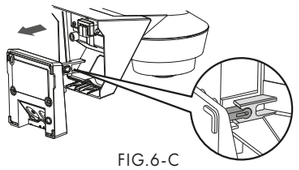


FIG.6-C

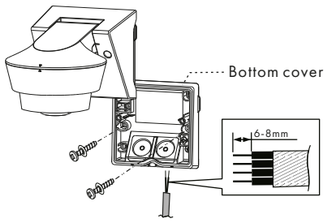


FIG. 7

3.4.1.4 Fix the detector head to the bottom cover (See FIG.8) and adjust the detector head to be in the right position (See FIG.9 - A & FIG.9-B)

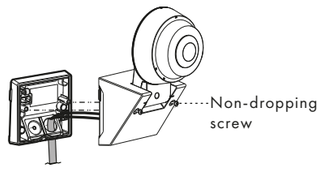


FIG.8

Wall mount

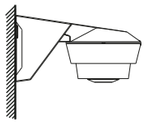


FIG.9-A

Ceiling mount

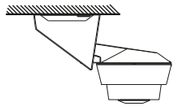


FIG.9-B

3.4.1.5 Detector head can be adjusted downward max.40° (See FIG.10-A) to shorten the detection range, or turned leftward and rightward max. 90°horizontally (See FIG.10-B). Please adjust detector head to get the desired detection field.

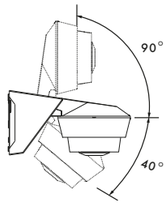


FIG.10-A

FIG.10-B

3.4.2 Corner / recess mount with mounting bracket

3.4.2.1 There are cable entry knock-outs at back and bottom sides. Select the proper holes and break it through for wiring. (See FIG.11-B & FIG.11-C)

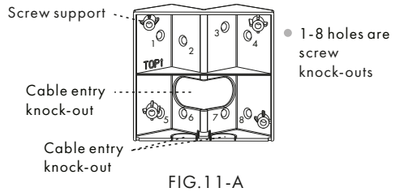


FIG.11-A

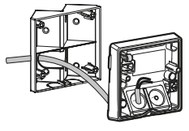


FIG.11-B

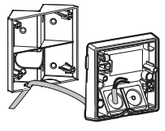


FIG.11-C

3.4.2.2 Break the desired screw knock-outs (See FIG.11-A). Then fix the mounting bracket onto recess/conner with wood screws (See FIG.12-A& FIG.12-B), and fix bottom cover on mounting bracket (See FIG.13). Refer to FIG.5 to connect power cables, then fix the detector head to the bottom cover and adjust the detector head to be in the correct position.

Corner installation

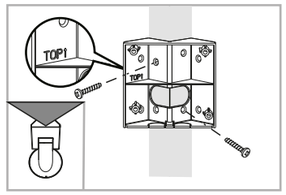


FIG. 12-A

Recess installation

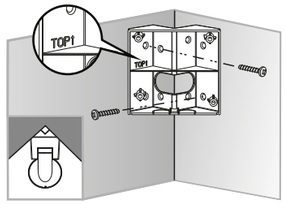


FIG. 12-B

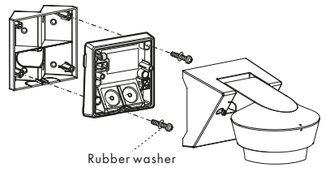


FIG. 13

3.4.3 Wall / ceiling mount with European standard junction box

3.4.3.1 Pull out cables from European standard junction box (See FIG.14-A) then strip off 6 - 8mm of cable sheathing for wiring.

3.4.3.2 Feed the electric cables through rubber gasket (See FIG.5-B) and refer to FIG.5-A for correct wiring. Then fit the bottom cover on the European standard junction box firmly by two screws (See FIG.7 to FIG.14-B).

3.4.3.3 Fix the detector head to the bottom cover (See FIG.14-B) and adjust the detector head to be in the correct position.

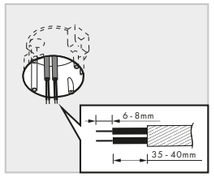


FIG.14-A

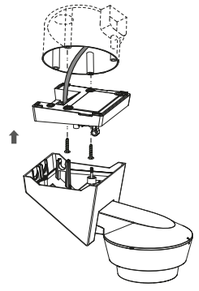


FIG.14-B

4. WALK TEST AND LENS SHIELD

4.1 Walk test

NOTE
It takes approx. 60sec for detector to warm up after power is supplied, then it enters into normal operation mode to carry out a walk test.

The purpose of walk test is to select a proper location and gain the desired detection coverage. Please set the operating mode to "Test" via ETS-Software, then refer to the following steps conducting a walk test. Lux settingue is invalid.

FIG.15

- Walk test procedure

4.1.1 Tester must be within detection coverage.
4.1.2 Switch on the power.
4.1.3 PD00F01KNX takes approx. 60sec to warm up with load and red LED turning on, then turns off after warming up time.
4.1.4 Walk from outside across to the detection pattern until red LED and load turn on for approx. 2sec, then turn off, the next trigger should be 2sec interval (See FIG.15).
4.1.5 Adjust detector head aiming to the direction to be detected(See FIG.10-A & FIG.10-B).
4.1.6 Adjust sensitivity (Meter) setting by ETS to reach desired coverage.
4.1.7 Adjust Time setting by ETS to change the switch off delay time.
4.1.8 Refer to point "4.2 Usage of lens shield", detection range and angle can be changed by using lens shield .
4.1.9 Repeat the steps 4.1.4 to 4.1.7 until it meets user's demands.

NOTE
■ Do not attempt to open or repair the unit without qualified electrician while it is malfunctioned. ■ The following conditions may cause lower sensitivity: ● In very foggy days, the sensitivity may be less due to moisture collecting on the lens. ● In very hot days, the sensitivity may be less since high ambient temperature is close to body temperature. ● In very cold days when heavy clothing is dressed, especially the facial area is covered, very little heat will be emitted from the body causing the unit to be less sensitivity. ● Cleaning: Wipe with dry cloth only. Soap or rough cloth may damage the detector lens.

4.2 Usage of lens shield

4.2.1 PD00F01KNX has provided 3 lens shields for masking the undesired detection area (See FIG.16).

Used lens shield	Covered detection range
None	Φ 32m
Small segment	8.5° per piece
A+B	Φ 10m
A	Φ 14m

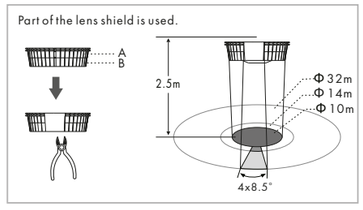


FIG.16

- The shadow part of the lens shields in the FIG.16 is referring to the cutoff parts.

4.2.2 Fixing lens shield: Take off the decorative frame of the detector head and insert the lens shield into the slot of decorative frame as following illustration (See FIG.17 & FIG.18). Then put the decorative frame back to the right position of the detector head.

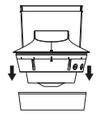


FIG.17

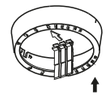


FIG.18

5. TROUBLE SHOOTING

When PD00F01KNX works abnormally, check assumptive problems and suggested solutions in following table that will hopefully solve your problem.

Problem	Possible cause	Suggested Solution
Lighting / HVAC device does not turn on	1. Power does not turn on. 2. Incorrect wiring 3. Incorrect Lux setting. 4. Malfunctioned load. 5. Unable to detect movement.	1. Switch on the power. 2. Refer to wiring diagrams for correct connection. 3. Check if Lux is set to the correct position. 4. Replace the disabled load with a new one. 5. Check detection range setting.
Lighting / HVAC device does not turn off	1. Auto off time is set too long. 2. Detector is nuisance triggered. 3. Incorrect wiring	1. Set auto off time to a shorter time and check if the load is switched off or not according to the pre-set delay off time. 2. Keep be away from detection coverage to avoid activating detector while doing the test. 3. Refer to wiring diagrams for correct connection.
Red LED does not turn on	1. Not set to Test mode. 2. Exceeding the detection range. 3. LED indicating function is set to "Disable".	1. Set to test mode. 2. Walk in the effective detection range of Φ32m. 3. Set the LED indicating function to "Enable" via ETS software.
Nuisance triggered	There are heat sources, highly reflective objects or any objects which may be swayed in the wind within the detection coverage.	Avoid aiming the detector towards any heat sources, such as air conditionings, electric fans, heaters or any highly reflective surfaces. Make sure there are no swaying objects within the detection coverage.

eelectron

PD00F01KNX

OUTDOOR PIR MOTION DETECTOR

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