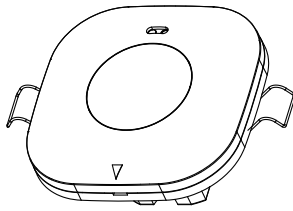


24GHz Large-space presence sensor (KNX Version)

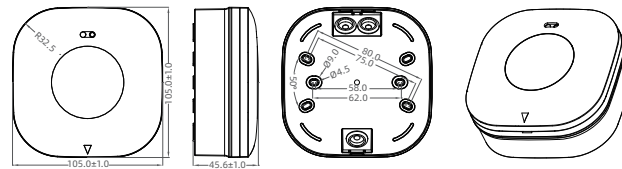


User's Manual



Instruction
MI250717A0

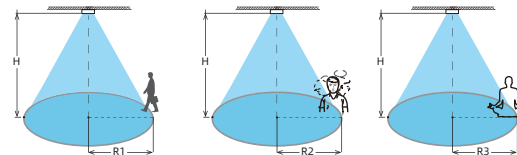
Surface mounting



PARAMETERS

Model	MSA237K 99 A2	
Auxiliary Power Supply Voltage Range	12-30V DC	
KNX Terminal Voltage	21-30V DC	
Auxiliary Power Supply Working Current	12V : 55±3mA Max 24V: 30±3mA Max	
KNX Terminal Current	3±1mA	
Power Consumption	≤1W @24V DC	
Radar Frequency	24GHz-24.25GHz ISM band	
Transmitting Power	5mW Max	
Sensor Parameter	Detection Area	ETS/Remote Setting: 0.5-4m
	Hold Time	ETS/Remote Setting: 3s-7200s (hold time shall set >30s)
	Detecting Range(100% detection area, radius)	major/minor/micor movement (3m height installation) : 3.5±0.5m (based on 41m² open area test and might change due to different space)
Mounting Height	2-4m, typical value: 3m	
Working Temperature	0°C ~ +50°C	
Storage Temperature	-40°C ~ +80°C	
Hole Size	Φ55mm	
IP Rating	IP20(flush mounting) IP54(surface mounting)	
Warranty	5 years(only for product quality problem under indoor application)	

DETECTION AREA



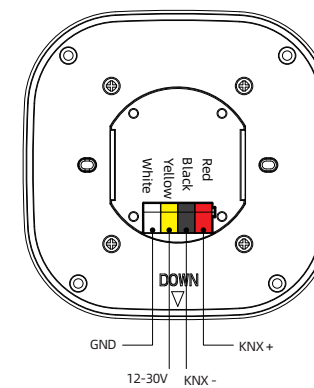
- Major motion activates: detect the human significant moving (walking) in the detection area.
- Minor motion maintains: detect the human slight moving in the detection area, such as leaning forward, leaning forwarder and back, swinging limbs, shaking head, typing, playing with mobile phones and so on.
- Micro motion maintains: detect human abdominal and thoracic expansion behaviors caused by breathing.



Mounting height	H=3m			
Detection Sensitivity	Setting	R1	R2	R3
High sensitivity	4m	3.5-4.5m	3.5-4.0m	3.5-4.0m
	3.5m	3.2-3.5m	3.2-3.5m	3.2-3.5m
	3m	2.5-3.0m	2.5-3.0m	2.5-3.0m
	2.5m	2.0-2.5m	2.0-2.5m	2.0-2.5m
	2m	1.5-2.0m	1.5-2.0m	1.5-2.0m
	1.5m	1.0-1.5m	1.0-1.5m	1.0-1.5m
	1m	0.5-1.0m	0.5-1.0m	0.5-1.0m
	0.5m	0-0.5m	0-0.5m	0-0.5m
Medium sensitivity	4m	3.5-4.0m	3-4m	2-2.5m
	3m	2.5-3.0m	2.5-3m	1.5-2m
	2m	1.5-2.0m	1.5-2m	0.5-1m
	1m	0.5-1.0m	0.5-1m	0m
	4m	3.0-4.0m	1.5-2m	1.5-2m
Low sensitivity	3m	2.0-2.5m	1-1.5m	1-1.5m
	2m	1.0-1.5m	0.5-1m	0.5-1m
	1m	0.5-1m	0-0.5m	0-0.5m

Tips: Above data is based on 1.6m height people radial moving towards sensor by 0.3m/s velocity in 81 m² open area for reference. If any variate changes, the detection range might be different.

WIRING INSTRUCTION



Wiring Layout Suggestion :

1. KNX bus wiring suggestion hand in hand to the end, star or tree wiring is not recommended to ensure the stability of signal transmission.
2. KNX bus wiring wire recommends KNX standard EIB shielded wire or Category 6 network cable, the length of the bus wiring is recommended not to exceed 400 meters, and the number of sensor connected to a bus is recommended not to exceed 12.
3. The number of sensors connected to a bus needs to fully consider the current load capacity of the power supply: that is the sum of the currents of all KNX devices (including sensors) shall not be greater than the load current of the KNX power supply.

PRODUCT DESCRIPTION

MSA237K 99 A2 is a 24GHz radar sensor based on Merrytek patented orthogonal half-wave bending antenna. Its antenna has high gain and wide detection range and is combined with Merrytek's unique software algorithm. It can accurately detect minor movements brought by human in almost all indoor spaces and provide fast and accurate front-end sensing input for smart home, smart hotel, smart office and other scenes by KNX communication.

START PROCESS

After routing the physical addresses and setting the channel parameters, follow these steps:

- (1) Connect Bus interface;
- (2) Set Bus and auxiliary power on (note: Please make sure that product has auxiliary power supply, otherwise the device may not work properly);
- (3) Press the programming switch of the product, the LED light will turn red;
- (4) Use the bus interface to download the physical address through the ETS software. The programming LED light is off to indicate that the physical address download is successfully completed;
- (5) Download the application after setting the required application parameters;
- (6) After downloading the application, the product goes into initialization. During initialization, detection function is disable. After 10s, the initialization is completed, and the product works normally;



ETS APPLICATION
Download



Function configuration
download

ETS Application Manual Download

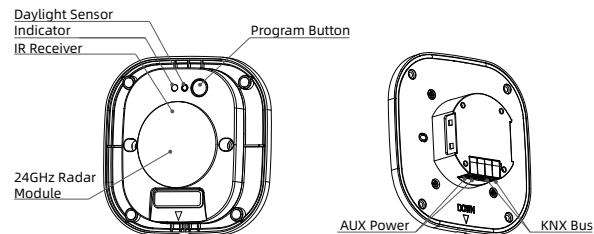
<https://www.knx.org/knx-en/for-professionals/software/ets6/index.php>

Note: Please use the latest version of ETS or higher version than 5.7.2 version. Please obtain the ETS engineering configuration file of this sensor from our sales staff.

INITIALIZATION

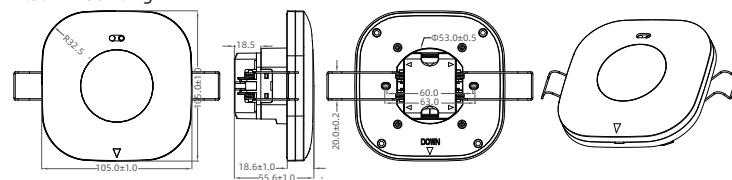
When powered on, sensor indicator will turn off after flashing for 10s. During initialization, sensor will not detect moving signal and you can use our MH18 remote to adjust detection area, hold time etc parameter.

PRODUCT INTRODUCE



DIMENSION(mm)

Flush mounting



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