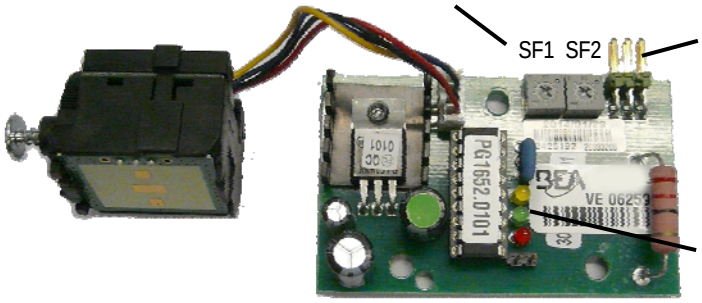
SENSORIO
sensors and more

GS-1
USER'S GUIDE

MOTION SENSOR FOR MOTORISED GATES

1 Description & wiring



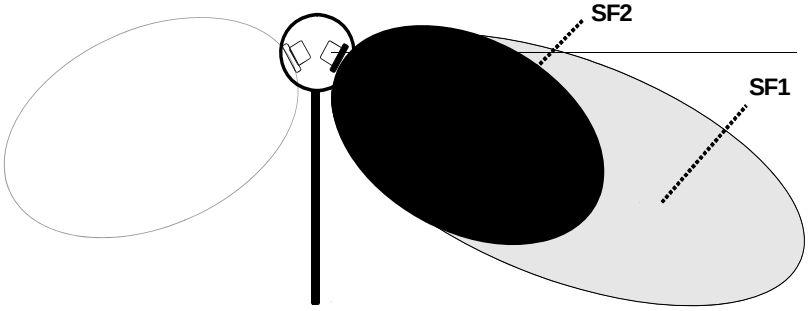
Side view

Pin 1 : Vcc (12-15 V DC)	GREEN
Pin 2 : approach signal output	YELLOW
Pin 3 : not used	
Pin 4 : counting signal output	WHITE
Pin 5 : alarm signal output	GREY
Pin 6 : ground (0 V DC)	BROWN

GREEN LED	opening
ORANGE LED	approaching, counting
RED LED	alarm

2 Detection fields

1



Top view

The GS-1 offers two adjustable overlapping sensing fields :
SF1: for approaching targets
SF2: for alarm pulse and counting pulse

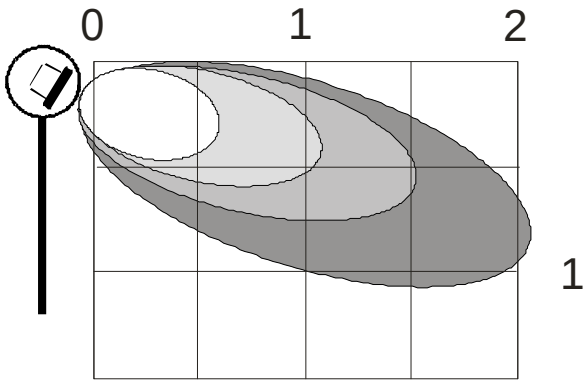
The GS-1 has three different functions:

- **Opening** the gate when a target enters and passes through the main sensing field (SF1)
- Generating a **counting** pulse each time a pedestrian walks through (inwards) the secondary counting/alarm field (SF2)
- Switching on an **alarm** each time a target walks from (outwards) the secondary counting/alarm field (SF2)

Note: It is also possible to install 2 GS-1 sensors on the same motorized gate. The sensor on the right opens the gate when a target arrives on SF1 and counts the target when it reaches SF2. The left sensor is used to detect persons trying to pass through the gate in the unauthorized direction.

2

The size of the sensing fields depends on the sensitivity adjustments



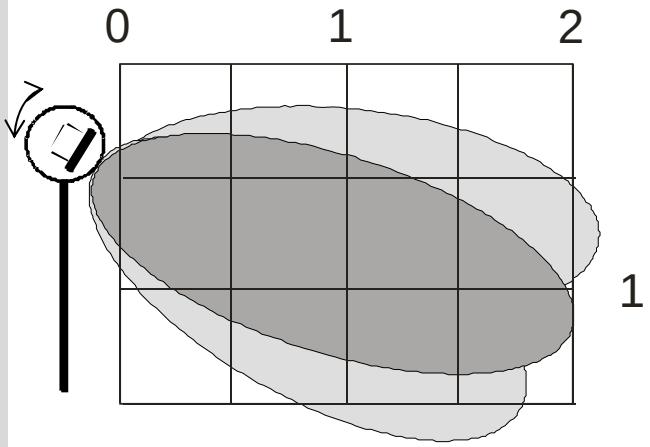
Top view

To change the size of the sensing field, use the potentiometers as described:

- To increase : clockwise
- To decrease : anticlockwise

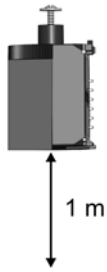
Maximum depth of each field: 2.0 m (vertical angle: 20°)
Minimum depth of each field: 0.5 m (vertical angle: 20°)

3 **The location of the sensing fields depend s on the transceiver's vertical and lateral angles**

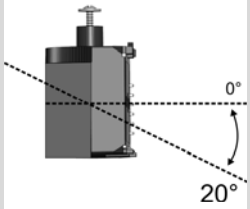


Top view

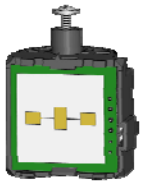
3 Installation tips

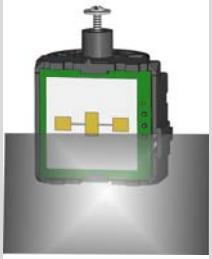


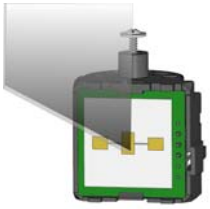
The ideal mounting height is +/- 1 m.



The ideal vertical angle is 20°.


The 3 patches of the antenna should always be mounted horizontally!


Avoid metallic surfaces in front of the microwave cell!


Avoid sharp objects in front of the antenna!

4 Troubleshooting

SYMPTOMS	PROBABLE CAUSES	CORRECTIVE ACTION
The gate will not open. The LEDs do not light up.	There is no power supply to the gate. There is no power supply to the sensor. Transceiver is not connected to the PCB.	a) Check power cable. b) Check power supply. Check the transceiver connection.
The sensor detects persons walking through bordering gates.	Lateral transceiver angle is not correctly adjusted. Sensitivity of detection is too high.	Adjust the lateral angle of the transceiver. Decrease the sensitivity of the detection field.
The counting processing detects the same target twice.	The sensitivity of counting field is too high.	Decrease the sensitivity of the counting field.
The counting processing does not detect the target.	The sensitivity of counting field is too low.	Increase the sensitivity of the counting field.
The gate opens and closes permanently.	The sensor detects the gate vibrations.	a) Check the gate stability. b) Decrease the detection sensitivity.

5 Technical specifications

Technology	: microwave and microprocessor
Frequency	: 24.150 GHz (K-band)
Power density	: < 5 mW/cm²
Detection field	: 1 m (l) x 2 m (L)
Minimum speed	: 5 cm/s
Supply voltage	: 12 V to 15 V DC +/ -0%
Power consumption	: < 1 W
Standard output	: 3 PNP type outputs; 15 V DC / 100 mA; 1 approach; 1 counting; 1 alarm
Output hold time	: 0.5 s
LED	: 1 green: detection; 1 yellow: counting; 1 red: alarm
Counting pulse delay	: 250 ms +/-25 ms
Dimensions	: 115 mm (L) x 115 mm (D) x 105 mm (H)

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