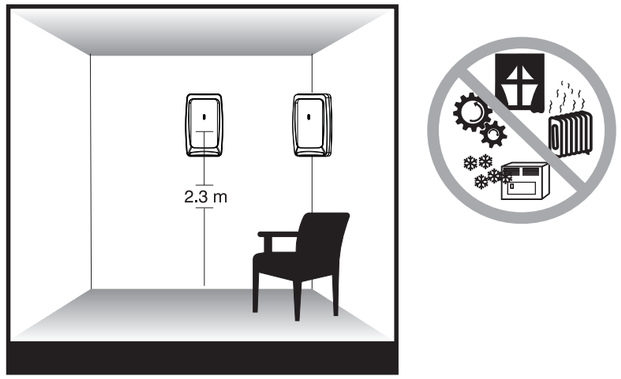
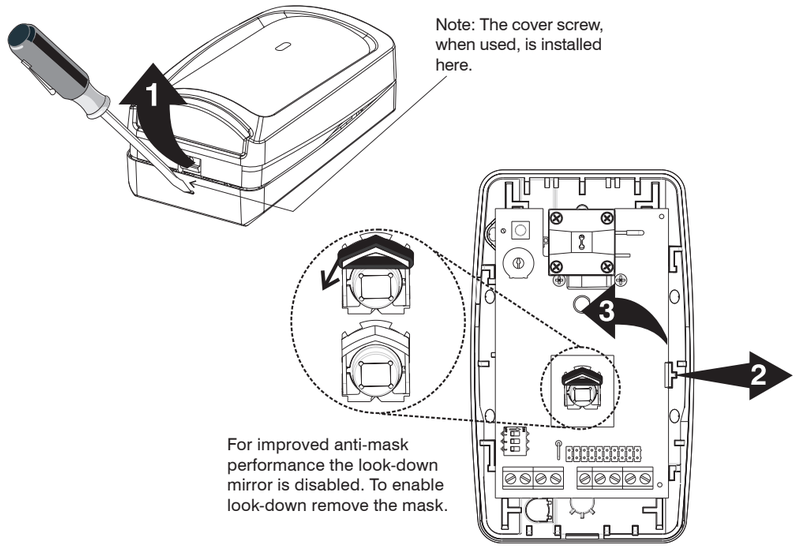
DT7550UK2 DUAL TEC® With Anti-Mask Motion Sensor Installation Instructions

❶ Select the mounting location.



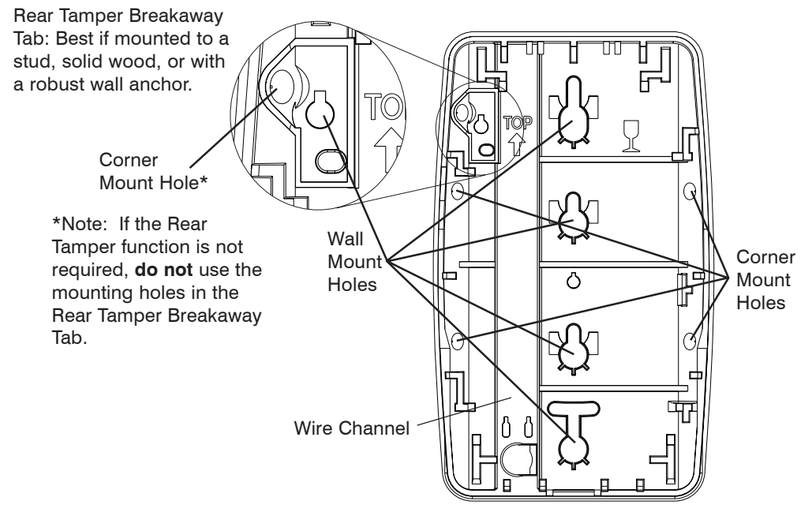
Mounting Location Guidelines
- 2.3 m mounting height.
- Avoid direct or reflected sunlight.
- Aim sensor away from windows, heating/cooling devices or large moving objects.
- Sensor must have a clear line-of-sight to protected area.

❷ Separate the sensor housings and remove the printed circuit board (PCB).



- Use a small screwdriver to unfasten the housing latch. Gently pull apart the housings.
- Push outward on the PCB latch and lift the PCB out of the housing.

❸ Mount the unit.



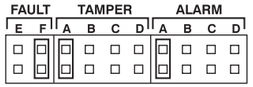
- Slide the wire through the wire channel in the back housing.
- Mount the back housing flat against a wall or in a corner.
  Note: If using the Rear Tamper feature, refer to the Rear Tamper section before mounting the sensor.
- Replace the PCB.

❹ Wire the unit.

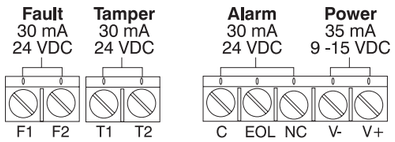
- Connect wires as shown using 0.2 - 1.3 mm² wire size. Observe proper polarity.
- If not using the integrated EOL resistors, remove jumpers from all pins.
- If using the integrated EOL resistors:
  1. Connect the sensor to the panel (see wiring diagrams on the right; if using the two loop option, also cut link W1).
  2. Place the jumpers on the appropriate fault, tamper and alarm pin options (see table below).

  Notes:
  - Consult the Control Panel manual to determine proper EOL selection.
  - Fit only one jumper each for the fault, tamper and alarm EOL settings.

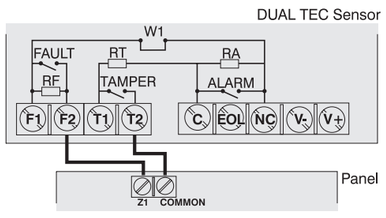
Jumper	Position	EOL Value
FAULT (RF)	E	2.2K
	F	3K
TAMPER (RT)	A	1K
	B	2.2K
	C	4.7K
	D	5.6K
ALARM (RA)	A	1K
	B	2.2K
	C	4.7K
	D	5.6K



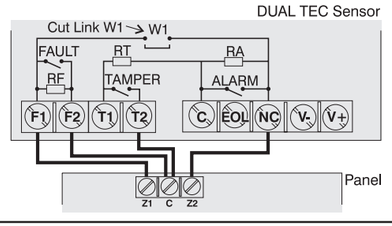
Factory default settings are shown in grey.



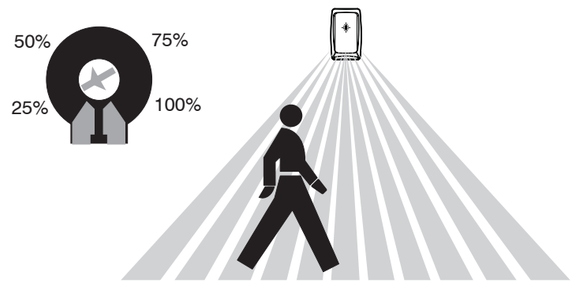
Fault, Alarm and Tamper configured to one loop.



Fault, Alarm and Tamper configured to two loops.



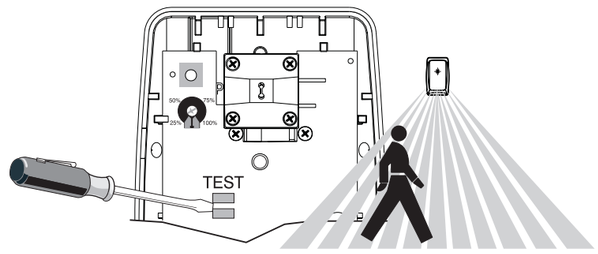
❺a Walk-test the sensor.



- Apply power to the unit. Initialisation is complete when the LED stops flashing slowly.
- Adjust the microwave range to minimum setting (25%) by turning the range adjustment counterclockwise using a small screwdriver.
- Replace the front housing.
- Begin walking through the detection area.
  - The LED will turn red, indicating an alarm detection.
- Increase the microwave range as necessary.
- Repeat the items in step 5a until proper detection range is obtained.
- **The sensor MUST be walk tested after every power up to complete the power up mask detection test.**

❺b Optional: Walk-test using Zone Finder.

Use the Zone Finder mode to identify the PIR and/or microwave pattern. In Zone Finder mode the red LED is disabled.



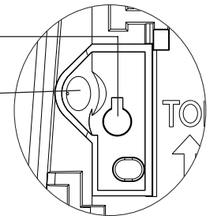
- Use a screwdriver to short the test pads.
- During the Zone Finder walk-test mode, the LED turns:
  - green for one second for every PIR detection;
  - yellow for two seconds for every microwave detection.
- Adjust the microwave range as necessary.
- Zone finder mode times out after ten minutes.

DT7550UK2 DUAL TEC® With Anti-Mask Motion Sensor Product Information

REAR TAMPER

To use this feature:

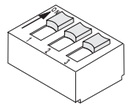
1. Mark the retaining screw hole location:
   For wall/surface mounting, remove the wall mount knockout and mark the mounting hole location.
   For corner mounting, use a sharp, pointed tool to pierce the thin plastic in the corner mounting hole, and mark the mounting hole location.
2. Mount the rear housing in the desired location, and use a #6 pan-head screw in the selected Rear Tamper retaining screw hole.
   Important: For best results, mount the sensor housing to a stud, solid wood, or a robust wall anchor.
   Note: If an angled mounting is required, installing the sensor on a wall using the corner mount holes will only be TS 50131-2-4 compliant if installed using the Rear Tamper. Alternatively, the SMB-10T mounting bracket can be used to achieve TS 50131-2-4 compliant angled mounting.



DIP SWITCH SETTINGS (SW1)

Factory default settings are shown in grey.

Switch	OFF	ON
1	Low Sensitivity (Pulse Count 2)	High Sensitivity (Pulse Count 1)
2	LED disabled	LED enabled
3	Anti-mask Reset 3 Alarm	Anti-mask Reset 1 Alarm



LED INDICATORS

LED	OPERATION MODE			
	Normal	Power Up	Fault*	Zone Finder
Red	ON Alarm	Slow Blink	Fast Blink	OFF
Yellow	ON Microwave	OFF	OFF	ON Microwave
Green	ON PIR	OFF	OFF	ON PIR

Note: LED indicators work as listed only when the LED is Enabled (Switch 2=ON).

*Low Supply Voltage condition does not generate a blinking LED.

RELAY OPERATION

	SENSOR STATUS			
	Normal	Intrusion	Fault[1]	Mask[2]
Alarm Relay[4]	Closed	Open	Closed	Open
Fault Relay[3, 4]	Closed	Closed	Open	Open

[1]For information on Fault conditions, see the Troubleshooting section.
[2]In a Mask condition, the Alarm and Fault relays will activate simultaneously, and remain open until the condition has been cleared.
[3]In a Fault condition, the Fault relay will latch open until the Fault condition has been cleared.
[4]To ensure communication clarity, the operation of the Alarm and Fault relays have been prioritized as follows:

Priority	Condition Signal
1 (Highest)	Intrusion Alarm
2	Fault
3 (Lowest)	Anti-Mask

Note: In situations where multiple conditions occur at the same time, the highest priority condition signal will take precedence after all conditions present have been signaled.

MASK FUNCTION

Power Up Anti-Mask

At power up, the sensor initiates the power up mask detection test. **The power up mask test will be completed ONLY after both the PIR and Microwave technologies are verified by a walk test and an alarm is signaled.**

IMPORTANT: The sensor MUST be walk tested after *every* power up to complete the mask detection test. If not walk tested, the sensor will remain in power up anti-mask test mode indefinitely, and will issue a mask signal if a set number of microwave events occur before a PIR event.

Normal Anti-Mask Operation

The sensor signals a mask condition when a variety of materials and reflective objects are placed in front of the sensor. To avoid false mask alarms, follow the mounting guidelines shown in Step 1.

Clearing an Anti-Mask Condition

Visually inspect the sensor and remove any materials blocking the sensors view. The sensor will clear an anti-mask condition when detection on both the microwave and PIR resume based on the setting of switch 3. With switch 3 in the off position, three valid alarm detections will clear the mask condition. With switch 3 in the on position, one valid alarm detection will clear the mask condition.

TROUBLESHOOTING

			FAULT*	
	NORMAL	MASK	Low Voltage[1]	Fault[2]
Alarm Relay	Closed	Open	Closed	Closed
Fault Relay	Closed	Open	Open	Open
Red LED	Off	Off	Off	Flashing

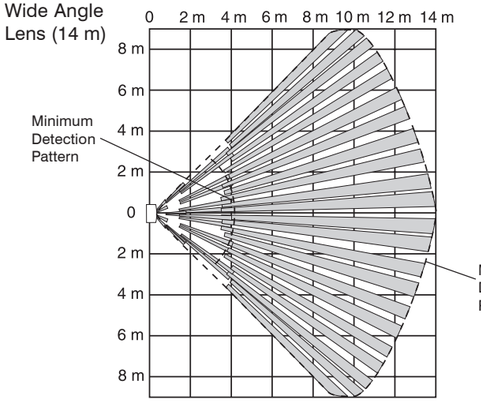
***FAULT CONDITIONS:**
[1] Low Voltage: The sensor is disabled.
[2] Three possible conditions:
- Microwave Supervision failure: The sensor is operating in PIR mode only.
- PIR self-test failure: The sensor is disabled.
- Temperature Compensation failure: The temperature compensation is disabled.

Depending on the Fault condition, take the following corrective actions:
- Verify the power supply is sufficient .
- Cycle power to the sensor.
- Walk test the sensor.
- Verify the sensor is not blocked or masked.

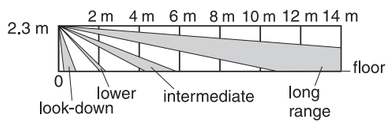
If the Fault condition does not clear, replace the sensor.

DETECTION PATTERNS

Top View
Wide Angle Lens (14 m)



Side View

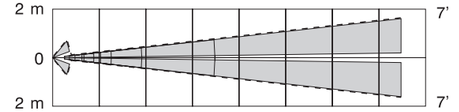


Note: Look-down fingers are enabled only when the look-down mask is removed (see Step 2).

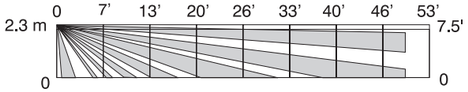
DETECTION PATTERNS (Continued)

Optional Curtain Lens (15 m)

Top View



Side View



PRODUCT SPECIFICATIONS

Range:
14 m x 18 m

Power requirements:
9.0 - 15.0 VDC; 25 mA typical, 35 mA maximum, 12 VDC
AC Ripple: 3 V peak-to-peak at nominal 12 VDC

Alarm relay:
Energized Form A
30 mA, 24 VDC,
40 Ohms resistance maximum

Fault relay:
De-energized Form B
(NC) 30 mA, 24 VDC

Tamper switches:
Cover and Wall:
Form A (normally closed with cover installed)
30 mA, 24 VDC

Microwave frequency:
24.200 GHz

PIR white light immunity:
6,500 Lux typical

Fluorescent light filter:
50 Hz

Operating temperature:
-10° C to +55° C (14° F to +131° F)
5 - 95% relative humidity (non-condensing)

Temperature Compensation:
Advanced dual slope

Trouble:
Microwave Supervision
PIR Self-Test
Temperature Compensation
Low Voltage

PIR fields-of-view:
22 long range
12 intermediate
6 lower
* 4 look-down

Sensitivity:
High (Pulse Count 1) 1 - 2 steps
Low (Pulse Count 2) 3 - 4 steps

Dimensions:
11.9 cm H x 7.1 cm W x 4.2 cm D

Weight:
172 g
Packaged Product: Approx. 211 g

Accessories:
Mounting Brackets --
SMB-10 Swivel Mount Bracket (P/N 0-000-110-01)
SMB-10C Swivel Mount Ceiling Bracket (P/N 0-000-111-01)
SMB-10T Swivel Mount Bracket w/ Tamper (P/N 0-000-155-01)
Curtain Lens (P/N 5-532-820-00)

TS 50131-2-4 Compliant Accessories:
SMB-10T Swivel Mount Bracket w/ Tamper (P/N 0-000-155-01)
Curtain Lens (P/N 5-532-820-00)

Approvals/listings:
CE ⓘ
PD6662, EN 50131-1 and TS 50131-2-4 Security Grade 3, Environmental Class II.

Suitable for connection to an EN 60950 Class II Limited Power Source in European installations.

Note: In TS 50131-2-4 compliant installations, mount the sensor at 2.3 m, use the Rear Tamper feature, select the high sensitivity setting, and install a cover screw (included).

To obtain applicable EU compliance Declaration of Conformities for this product, please refer to our Website, http://www.security.honeywell.com/hsce/international/index.html. For any additional information regarding the compliance of this product to any EU specific requirements, please contact:

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