

DT-700 Series

DUAL Technology Motion Sensor K-Band Technology



DT-700
DT-706
DT-706C

DUAL TEC[®]

Microcontroller based DUAL TEC[®] motion sensor with Pattern Shaping[™] K-Band microwave.

Features

- **Dual Technology with Microcontroller for False Alarm Immunity**
The DT-700 is the latest generation DUAL TEC[®] motion sensor from IntelliSense - the world leader in dual technology. Using two technologies (microwave and PIR) plus a microcontroller provides outstanding false alarm immunity without compromising detection.
- **Adaptive Threshold Processing Ignores Room Disturbances**
Using its microcontroller, the DT-700 “learns” the room, adapting detection thresholds to account for room disturbances such as ceiling fans and other repetitive moving objects which are not an intrusion event. The result - excellent false alarm immunity even in “active” rooms.
- **Patented Mirror Optics Provide “Look-Down” Zones to Catch Intruder Creep**
Mirror optics provide look-down zones directly beneath the sensor to detect an intruder attempting to disable the sensor.
- **Pattern Shaping[™] Matches the PIR and Microwave Patterns**
To prevent false alarms and to aid quick capture, the PIR pattern and microwave pattern must closely match. The IntelliSense designed and built low profile K-band waveguide microwave antenna shapes the microwave pattern to match the PIR pattern. This Pattern Shaping[™] technology matches the patterns at close, medium, and far range.
- **Electronic Temperature Compensation**
Using two thermistors (one for the PIR and one for the microwave), sensor performance is adjusted to compensate for changes in room temperature. The result - excellent capture even in hot rooms.



IntelliSense[®]

DT-700 Series

Specifications

Physical Dimensions

White, high-impact, flame-retardant, polished ABS plastic housing.

11.9 cm H x 7.1 cm W x 4.2 cm D
(4 7/10" x 2 4/5" x 1 7/10")

Mounting Guidelines

Mount on walls or in the corner. Optional mounting brackets available for flush and swivel mounting.

Maximum range obtained at a height of 2.3 m (7'6").

Power Requirements

7.5 - 16 VDC
35 mA, 12 VDC
AC Ripple: 3 V peak-to-peak @ nominal 12 VDC.

Tamper Switch

Form A (N.C.) switch rated at 50 mA, 24 VDC.

Alarm Relay

DT-700 & DT-706:

Energized Form A (N.C.) reed relay rated at 500 mA at 30 VDC.

DT-706C:

Energized Form C (N.O./N.C.) reed relay rated at 500 mA at 30 VDC.

Microwave Frequency

K-band microwave, 24.125 - 24.220 GHz. The IntelliSense designed and built Gunn diode oscillator and Schottky diode mixer are located in two coupled waveguide cavities. Both are temperature compensated for frequency stability.

Microwave Supervision

Independent circuit supervises microwave against failure.

Operating Temperature

-25°C to 65°C (-13°F to 145°F); 5% to 95% relative humidity, non-condensing.

Radio Frequency Interference (RFI)

Minimum 30 V/m across the frequency range from 10 to 1000 MHz.

White Light Immunity

10,000 lux

Dual Electronic Temperature Compensation

Using two thermistors (one for the PIR and one for the microwave), sensor performance is adjusted to compensate for changes in room temperature. The result—excellent capture even in hot rooms.

Approvals / Listings

UL Listed
CE
ULC

Features

Detection Technology

PIR

Microwave (K-Band Frequency)

PIR Fields-Of-View (Edges)

	DT-700	DT-706
Long:	22	44 (2 overlapping tiers of 22)
Intermediate:	12	12
Lower:	6	6
Down:	4	4

Sensitivity

2-4 steps within the field-of-view.

Default Settings

PIR set to single edge capture (no adjustment). Microwave set at maximum range (adjust to fit size of room).

Attractive Slim Design

The low profile DT-700 DUAL TEC sensor blends into the environment. Through surface mount technology, a microcontroller, and a slim K-band waveguide, the DT-700 provides commercial-grade performance in a small attractive package.

Fast and Easy Installation

The DT-700 features a large wiring space, EOL terminals, keyed lens mounting, and flashed over mounting holes allowing multiple mounting options.

False Alarm Immunity Features

- PIR/Microwave requires dual detection for alarm.
- Noise filtering on both the PIR and the K-band microwave eliminates burst events.
- Adaptive thresholds "learn" false alarm sources in the room.
- RFI at 30 V/m is a standard so high that it is 3 times the regulatory standard of 10 V/m.
- White light immunity of 10,000 lux prevents false alarms to white light.
- Uniform Sensitivity Optics provide even, crisp detection throughout the pattern with calibrated sensitivity and gain for excellent capture and false alarm immunity.
- Tested minimum turbulent air immunity of 11.3 cubic meters per minute (400 cubic feet per minute).
- Zero clearance bug guard protects the PIR pyro chamber.
- Automatically resets from walk test mode to alarm mode after 10 minutes.

Remote LED Enable

The sensor can be wired to remotely enable/disable the walk-test LEDs. This allows the LED to be disabled when the panel is armed.

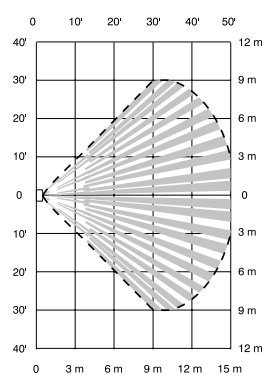
DT-700 Series Models

Model	Range
DT-700	11 m x 12 m (35' x 40'), Form A
DT-706	15 m x 18 m (50' x 60'), Form A
DT-706C	15 m x 18 m (50' x 60'), Form C

Detection Patterns

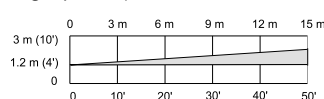
Wide Angle Pattern

TOP VIEW



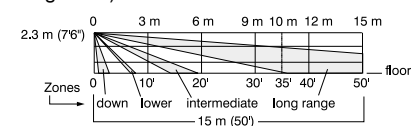
Pet-Alley Pattern

SIDE VIEW (top view same as wide angle pattern)



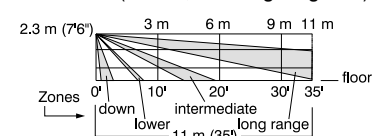
Wide Angle Pattern

SIDE VIEW (DT-706, two overlapping long range tiers)



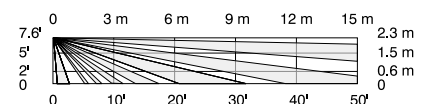
Wide Angle Pattern

SIDE VIEW (DT-700, one long range tier)



Curtain Pattern

SIDE VIEW



Accessories

Flush Mount Kit
P/N 0-900-006-01

Lens Option Kit 17
P/N 0-900-005-01

Swivel Mount Bracket (SMB-10)
P/N 0-000-110-01