

DUAL TEC® DT-900 Series

DUAL Technology Motion Sensor
X-Brand Technology

DT-900 (with Anti-Mask)

DT-906 (with Anti-Mask)



The use of two technologies—microwave and PIR—and features like anti-masking, vandal-resistant housing, large coverage patterns and three microcontroller-based sensitivity modes, make the powerful DT-900 DUAL TEC sensors ideal for the harshest commercial and industrial environments.

Features

• Microcontroller-Based Dual Technology

Microwave and passive infrared (PIR) technologies, combined with microcontroller-based advanced signal processing, provide excellent detection while virtually eliminating false alarms and costly service calls.

- **Sensor Sabotage Prevention**
The DT-900 Series uses Active Infrared for anti-masking to detect attempts to mask the sensor. The patented look-down lens catches saboteurs who try to disable the unit from below, while three different tamper switches deter would-be criminals from physically damaging the sensor. The patented INFORMER® function, designed primarily as a diagnostic tool, monitors for sensor blockage and can help identify a sabotage situation.

- **Queue Logic Event Processing**
The microcontroller in the DT-900 converts all incoming microwave and PIR signals from analog-to-digital format. If the signal is determined to be valid it enters the Queue Logic Event Process. This process stores the valid signals within a moving

window of time, keeping up to eight events for each signal type. Based on the First In First Out (FIFO) concept, Queue Logic requires a sophisticated on-board microcontroller to make advanced calculations for qualifying a sequence of events as an actual alarm.

- **Self-Test and Continuous Supervision for High Reliability**
This industrial-grade sensor performs multiple levels of supervision. The INFORMER function checks each technology continuously. The microcontroller conducts a self-test of the sensor's functions at regular intervals, and reports any trouble using the on-board trouble relay.
- **Designed for Harsh Environments**
Vandal resistant housing combined with a zero clearance bug guard make the DT-900 series ideal for commercial and industrial applications such as warehouses, large retail facilities, manufacturing sites and schools.
- **Self-Adjusting Thresholds**
The on-board microcontroller automatically adjusts the microwave and PIR thresholds to compensate

for environmental disturbances not related to actual intrusion events. True temperature compensation continually optimizes the performance of the PIR to account for changes in room temperature. Environmental noise compensation keeps common environmental disturbances such as fluorescent lights from causing the microwave to false alarm.

- **Technology**
PIR for intrusion detection; microwave for intrusion detection Active Infrared for anti-masking (DT-900 and DT-906)
- **Digital Fluorescent Light Filter**
Digital filter virtually eliminates interference caused by fluorescent lighting.
- **Three Microcontroller-based Sensitivity Modes**
Sensor sensitivity can be set to high for fastest capture, to normal, or to low for maximum false alarm immunity in harsh environments.

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Features

• Sensitivity

Two to four steps within field-of-view, depending on sensitivity setting selected.

• Zero Clearance Bug Guard

The bug guard provides zero clearance, protecting the pyro chamber from insects that can cause false alarms.

• Small Animal Immunity

Immune to small animals commonly found in commercial conditions (birds, rodents, snakes).

• Installer-Friendly Design

Designed with the installer in mind, the DT-900 contains a large wiring space, protective clear plastic covers over the circuit boards to prevent damage, two end-of-line terminals, flashed over LEDs visible at great distance, a fast-install wall mounting plate for the included swivel mounting bracket, and

easy vertical and horizontal adjustment.

• Mirror Optics For Long Range

The DT-900 series utilizes custom designed mirror optics to provide effective capture at long range. Each model is easily selectable between two ranges.

• LED Diagnostics

The LEDs will display codes to indicate an anti-masking condition, INFORMER condition, trouble condition, and recallable codes to indicate INFORMER results and whether or not there was a self-test failure.

• Advanced Commercial/Industrial Features

In addition to anti-masking (DT-900 & DT-906), the DT-900 Series has command input for initiating a self-test remotely, has CENELEC two wire input options, and has a remote LED enable

input.

• PIR Fields-of-View (Edges)

61m (200') Range

Long: 2
Intermediate long: 6
Intermediate: 4
Intermediate lower: 4
Lower: 8
Look-down: 2

27m (90') Range

Long: 18
Intermediate long: 18
Intermediate: 16
Intermediate lower: 12
Lower: 8
Look-down: 2

37m (120') Range

Long: 6
Intermediate long: 4
Intermediate: 4
Lower: 8
Look-down: 2

15m (50') Range

Long: 18
Intermediate long: 16
Intermediate: 12
Lower: 8
Look-down: 2

• DT-900 Series Products; Model/Range

DT-900 (Anti-Mask)

15m x 12m (50' x 40')
27m x 21m (90' x 70')

DT-906 (Anti-Mask)

37m x 3m (120' x 10')
61m x 5m (200' x 15')

DT-901

15m x 12m (50' x 40')
27m x 21m (90' x 70')

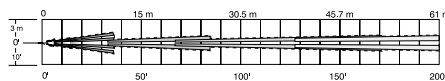
DT-907

37m x 3m (120' x 10')
61m x 5m (200' x 15')

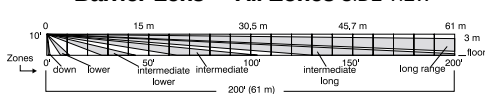
Detection Patterns:

Barrier Lens – All Zones TOP VIEW

(DT-906 and DT-907 set for 61m (200') range)

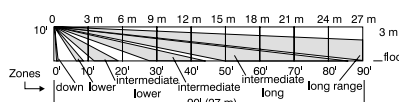


Barrier Lens – All Zones SIDE VIEW



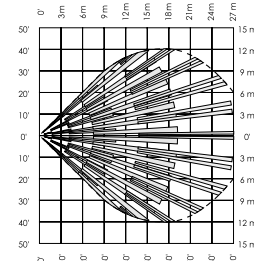
Wide Angle Lens SIDE VIEW

(DT-900 and DT-901 set for 27m (90') range)



Wide Angle Lens TOP VIEW

(DT-900 and DT-901 set for 27m (90') range)



Specifications:

Physical Dimensions:

- 20 cm x 17 cm x 15 cm (8" x 6-1/2" x 6")

Weight:

- Product: 1.36 kg (3 lbs)
- Pkgd Product: 1.6 kg (3.5 lbs)

Alarm Relay:

- Energized Form C; 25VDC, 125 mA
- 22 ohm series protection resistor

Tamper:

- Wall & bottom cover (DT-900 and DT-906)
- Top cover (all models)
- 30VDC, 25 mA (N.C.)

Anti-Mask (DT-900 & DT-906) & Trouble Relays:

- De-energized Form B (Normally Closed) relays, 30VDC, 25 mA

Power Requirements:

- 10–15VDC; 35 mA (max) at 12VDC
- AC ripple: 3 V peak-to-peak at nominal 12VDC

Operating Temperature:

- 0° to 49° C (32° to 120° F); 5% to 95% relative humidity, non-condensing

PIR White Light Immunity:

- 6500 LUX

RFI Immunity:

- 30 V/m, 10 MHz to 1000 MHz

Input 1 & 2:

- Self-test initiate
- Active low 0 to 1.5 V, Inactive high 5 to V+

Optimal Mounting Height Range:

- 2m (6') minimum to 3.7m (12') maximum

Microwave Frequency:

- X-Band

ESD Immunity:

- +10 kV

Approvals/Listings:

- UL Listed
- CE
- ULC
- C-Tick

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