

DT900 Series

DUAL TEC® MOTION SENSORS
X-BAND TECHNOLOGY

DT900 (with anti-mask)
DT906 (with anti-mask)

DT901
DT907



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 DT900 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 DT900 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 DT900 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 (DT900 and DT906)

• **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 DT900 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 DT900 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 (DT900/DT906), the DT900 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)**

**DT900/DT901
27m (90') Range**

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

15m (50') Range

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

**DT906/DT907
61m (200') Range**

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

37m (120') Range

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

- **DT900 Series Products; Model/Range**

DT900 (anti-mask)
15m x 12m (50' x 40')
27m x 21m (90' x 70')

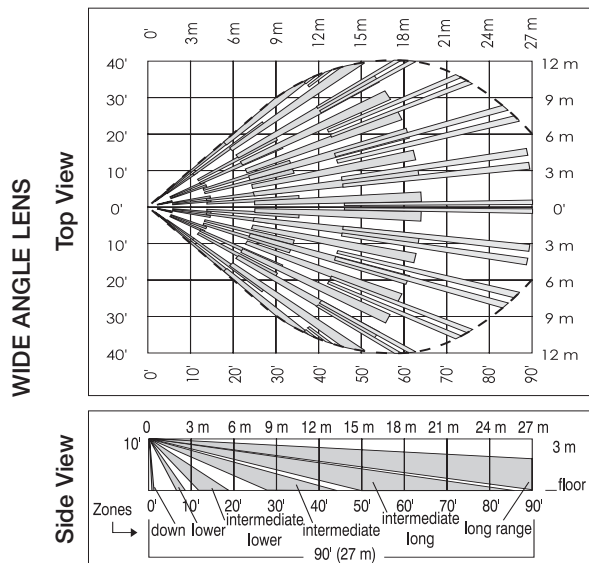
DT901
15m x 12m (50' x 40')
27m x 21m (90' x 70')

DT906 (anti-mask)
37m x 3m (120' x 10')
61m x 5m (200' x 15')

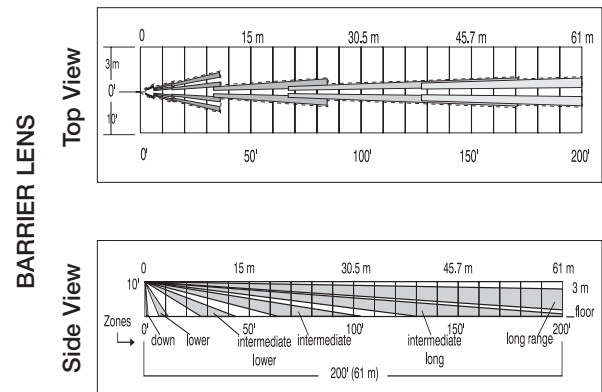
DT907
37m x 3m (120' x 10')
61m x 5m (200' x 15')

DETECTION PATTERNS

DT900 and DT901 set for 27m (90 ft.) range



DT906 and DT907 set for 61m (200 ft.) range



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SPECIFICATIONS

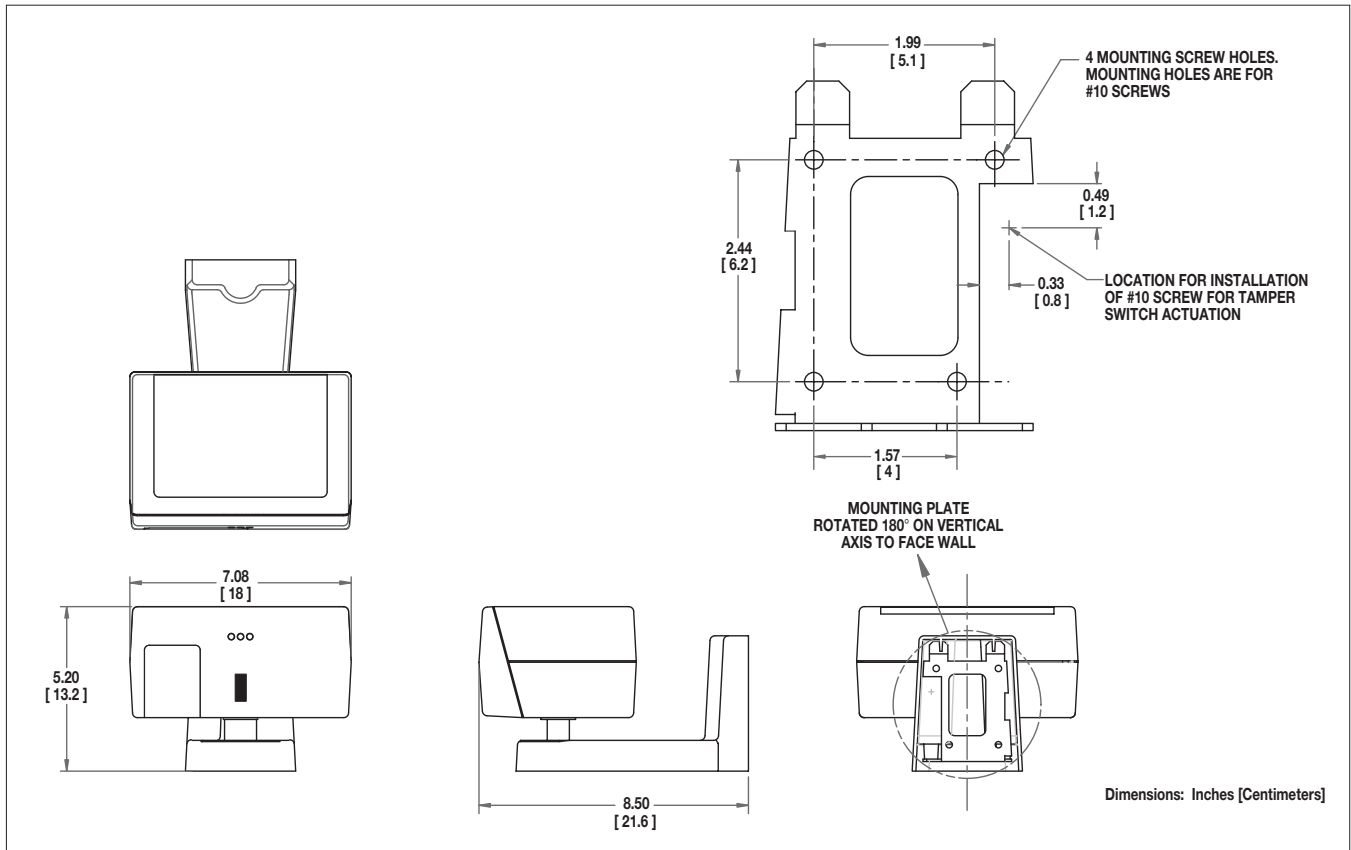
- **Physical Dimensions**
 - 20cm x 17cm x 15cm
(8" x 6-1/2" x 6")
- **Weight**
 - Product: 1.36 kg (3 lbs)
 - Pkgd Product: 1.6 kg (3.5 lbs)
- **Alarm Relay**
 - Energized Form C; 25VDC, 125 mA
 - 22 ohm series protection resistor
- **Tampers**
 - Wall and bottom cover (DT900 and DT906)
 - Top cover (all models)
 - 30VDC, 25 mA (N.C.)
- **Anti-mask (DT900/DT906) and Trouble Relays**
 - De-energized Form B (normally closed) relays, 30VDC, 25 mA
- **Power Requirement**
 - 10–15VDC; 50 mA (max) at 12VDC
 - AC ripple: 3V 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 1.5V, 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
 - ULC
 - CE
 - C-Tick
 - EN50131-I Grade 3, Class II (DT900/DT906)

PRODUCT FEATURES	DT900	DT901	DT906	DT907
Range	15 x 12m (50' x 40') or 27 x 21m (90' x 70')	15 x 12m (50' x 40') or 27 x 21m (90' x 70')	37 x 3m (120' x 10') or 61 x 5m (200' x 15')	37 x 3m (120' x 10') or 61 x 5m (200' x 15')
Sensor Look-Down	Yes	Yes	Yes	Yes
Microcontroller Processing	Yes	Yes	Yes	Yes
Anti-masking	Yes	No	Yes	No
Sensitivity Adjustments	Yes	Yes	Yes	Yes
Separate Outputs for Trouble and Anti-mask	Yes	No	Yes	No
Alarm Relay	Form C	Form C	Form C	Form C
Swivel Mount Bracket	Included	Included	Included	Included
Tamper Switch on Housing	Yes	Yes	Yes	Yes
Tamper Switch(es) on Swivel Mount	Yes (2)	No	Yes (2)	No
Maximum Recommended Mounting Height	3.6m (12')	3.6m (12')	3.6m (12')	3.6m (12')
Calibrated Mounting Adjustments	Yes	Yes	Yes	Yes
Self-Diagnostics	Yes	Yes	Yes	Yes
Remote LED Enable	Yes	No	Yes	No
Zero-Clearance Bug Guard	Yes	Yes	Yes	Yes
EOL Terminals	Yes	Yes	Yes	Yes
Temperature Compensation	Yes	Yes	Yes	Yes
Cenelec Conformity	Yes	No	Yes	No
Remote Self-Test	Yes	No	Yes	No

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MECHANICAL MOUNTING SPECIFICATIONS



ORDERING

- DT900** DUAL TEC, 90' x 80', wide area with anti-mask
- DT901** DUAL TEC, 90' x 80', wide area
- DT906** DUAL TEC, 200' x 15', long range with anti-mask
- DT907** DUAL TEC, 200' x 15', long range

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