

OD850 Series Outdoor TriTech Detectors

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Invented for life



- ▶ Motion Analyzer II PIR signal processing
- ▶ Linear travel distance (LTD) microwave signal processing
- ▶ Two sensitivity levels
- ▶ Timed relay output adjustable from two sec to 10 min
- ▶ AND/OR mode

The OD850 Series TriTech detectors are for use outdoors and in other harsh environments. They use a combination of passive-infrared (PIR) and microwave detection with advanced signal processing.

System overview

The detectors process PIR signals with Motion Analyzer II signal processing and microwave signals with Linear Travel Distance (LTD) signal processing. The detectors can distinguish between small, repetitive motions such as tree limbs moving in the wind and the more purposeful motions of intruders. These advanced processing techniques and the detectors' mechanical design combine to provide superior performance in a wide range of weather conditions.

Functions

Motion Analyzer II Processing

This PIR signal processor uses multiple thresholds and timing windows to analyze timing, amplitude, duration, and polarity of signals to make an alarm decision. Extreme levels of thermal and illumination disturbances caused by hot and cold drafts, sunlight, or lightning do not cause an alarm.

LTD Microwave Signal Processing

This microwave signal processor measures the linear travel distance of a target to make an alarm decision. It eliminates alarms for objects that move but do not travel, such as tree limbs and hanging signs.

Two Sensitivity Levels

The detectors have two user-selectable PIR sensitivity settings:

Standard sensitivity is the recommended setting for a minimum of false alarms. The detector tolerates environment extremes on this setting.

Intermediate sensitivity is the recommended setting for any location where an intruder is expected to cover only a small portion of the protected area. The detector tolerates normal environments on this setting. This setting identifies intruders more quickly, but may produce more false alarms.

Adjustable Timed Relay Output

In addition to an alarm relay, there is a Form C, unsupervised, timed relay contact that alternates state 1 sec after an alarm and follows a user-selectable timer. The time expires at the set time after the last alarm (it resets on each new alarm).

AND/OR Mode

This DIP-switch setting specifies whether the detector reports alarm situations in the AND mode (when both technologies simultaneously sense an alarm condition) or in the OR mode (when either the PIR or microwave technology senses an alarm state). OR mode provides faster detection in some conditions as the detector activates the alarm relay based on a single technology input. In addition to selecting the DIP-switch to specify OR mode, the jumper must be cut which prevents the unintentional or accidental use of OR mode.

LEDs

The high-efficiency LEDs (one red and one green) use the same technology as traffic lights to make them visible in sunlight. A DIP-switch setting allows the user to disable these LEDs during standard operation to save power.

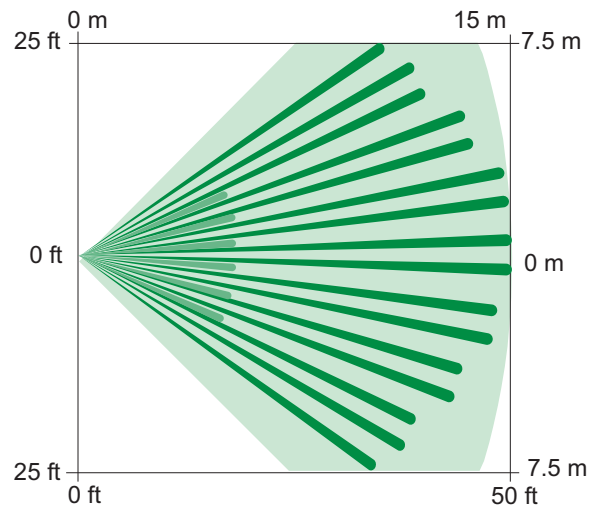
Draft and Insect Immunity

The sealed optical chamber prevents drafts and insects from affecting the detector.

Certifications and approvals

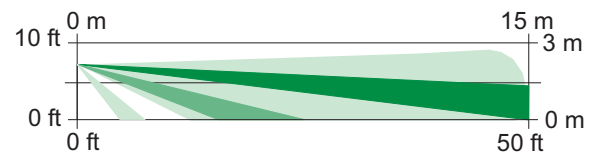
Region	Regulatory compliance/quality marks	
Europe	CE	19-110406a OD850-F1E
Russia	GOST	DE.AE63.B03457 [OD850-F1]
	GOST	TC N RU Д-НЛ.МН09.В.00334 EAC
USA	UL	[OD850-F1]
	UL	20190115; UL639 – Standard for Intrusion-Detection Units
	FCC	[OD850-F1]
Australia	CTICK	[OD850-F1]
Canada	ULC	
	ULC	CAN/ULC S306-03 - Canadian Standard for Intrusion Detection Units
China	CCC	2009031901000551 [OD850-F1-CHI, OD851-F1-CHI]
Brazil	ANATEL	[OD850-F1]
Singapore	iDA	#LPREQ-S0155-2004 [OD850-F1]

Installation/configuration notes



Top View

Standard Broad Coverage: 15 m x 15 m (50 ft x 50 ft)



Side View

Standard Broad Coverage: 15 m x 15 m (50 ft x 50 ft)

Mounting Considerations

- **Wall Mounting:** The OD850 detectors can be mounted directly on a wall or on the supplied B335 Swivel Mount Bracket. Alternatively, they can be mounted directly on a standard rectangular electrical box. The detectors should be mounted 2.1 m to 2.7 m (7 ft to 9 ft) above the ground. The recommended height is 2.1 m (7 ft); leveled both horizontally and vertically.
- **Ceiling Mounting:** The detectors can be mounted on a ceiling using the optional B338 Ceiling-Mount Bracket.

Power Considerations

- **Power Limits:** Input power must be provided by an Approved Limited Power Source. All outputs must be connected to SELV (safety extra-low voltage) circuits only.
- **Standby Power:** This detector has no internal standby battery. For UL Listed product installations, 4 hr (248 mAh) of standby power must be supplied by the control unit or by a UL Listed burglary power supply.

Technical specifications

Enclosure Design

Dimensions:	16.5 cm x 8.25 cm x 6.35 cm (6.5 in. x 3.25 in. x 2.5 in.)
Material:	Polycarbonate
Properties:	Weather and vandal resistant
Weight:	1.4 oz (40 g)

Environmental Considerations

IP Rating:	54
Relative Humidity:	0% to 95% non-condensing
Temperature (Operating):	-35° C to +60° C (-31°F to +130°F)

Outputs

Alarm:	Do not use with capacitive or inductive loads. Form A: Normally-closed contact opens on alarm. Form C: Timed relay contact alternates state on alarm and follows an installer programmable timer. Contact Rating: 3 W, 125 mA maximum, 25 VDC maximum for DC resistive loads; and protected by a 4.7 Ω, ½ W resistor in the common C leg of the relay.
Tamper:	Normally-closed (with cover on) contacts rated 125 mA maximum, 25 VDC maximum

Power Requirements

Current:	62 mA maximum
Input Power:	10 VDC to 15 VDC at 22 mA standby.

Ordering information

OD850-F1 Motion detector, outdoor, 50ft (15m)

Provides PIR and microwave, 15 m x 15 m (50 ft x 50 ft) coverage for use outdoors or in harsh environments with two sensitivity levels, draft and insect immunity. Operates at 10.525 GHz. For use in the Americas and the Asia/Pacific Region.
Order number **OD850-F1**

OD850-F1-CHI Motion detector, outdoor, 50ft (15m)

For use in China.. Operates at 10.525 GHz. For use outdoors or in harsh environments. Provides Motion Analyzer II PIR signal processing, two sensitivity levels, draft and insect immunity, and 15 m x 15 m (50 ft x 50 ft) coverage.
Order number **OD850-F1-CHI**

OD850-F1E Motion detector, outdoor, 50ft (15m)

Provides PIR and microwave, 15 m x 15 m (50 ft x 50 ft) coverage for use outdoors or in harsh environments with two sensitivity levels, draft and insect immunity. Operates between 10.52 and 10.55 GHz. <20mW1. For use in Europe, some restrictions may apply.
Order number **OD850-F1E**

Accessories

B338 Mounting bracket, ceiling, universal

Swiveling universal bracket for ceiling mounting. The vertical swivel range is +7° to -16°, while the horizontal swivel range is ±45°.
Order number **B338**

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