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.

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.

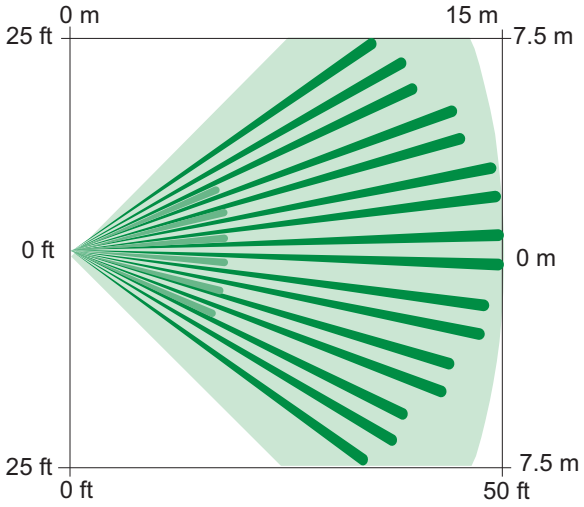
Draft and Insect Immunity
The sealed optical chamber prevents drafts and insects from affecting the detector.

Certifications and approvals

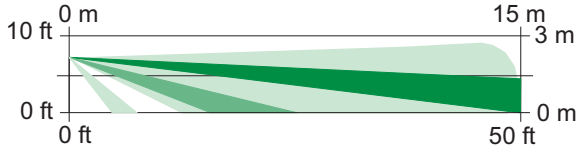
Australia	C-tick	
Europe	IEC	IP=54 per IEC 60529
	OD850-F2 only: Complies with EN50131-1 grade 2	

Region	Certification	
Europe	CE	89/336/EEC, EN55022: 1998 +A1:2000 +A2:2003, EN50130-4: 1996 +A1:1998 +A2:2003, EN61000-3-3: 1995 +A1:2001, EN61000-4-2: 1995 +A1:1998 +A2:2001, EN61000-4-3: 2002 +A1:2002, EN61000-4-4: 1995 +A1:2000 +A2:2001, EN61000-4-5: 1995 +A1:2001, EN61000-4-6: 1996 +A1:2001, EN61000-4-11" 1994 +A1:2001, EN300 440-1 V1.3.1: 2001-09, EN300 440-2 V1.1.1: 2001-09
	CE	2004/108/EC EMC Directive (EMC); 2006/95/EC Low-Voltage Directive (LVD); 1999/5/EC Radio Equipment and Telecommunications Terminal Equipment (R&TTE) [OD850-F1] [OD850-F2]
Belgium	INCERT	B-509-0038
Russia	GOST	OD850-F1 only: DE.AE63.B03457
USA	UL	OD850-F1 only: ANSR: Intrusion Detection Units (UL639), ANSR7: Intrusion Detection Units Certified for Canada (ULC-S306)
	FCC	OD850-F1 only: ESVOD850-F1
Canada	ULC	ANSR7.BP1448 Intrusion-detection Units Certified for Canada
China	CCC	OD850-F1-CHI only: 2009031901000551
Brazil	ANATEL	OD850-F1 only: 0873-03-1855
Singapore	iDA	OD850-F1 only: #LPREQ-S0155-2004

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.
- **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):	-40°C to +54°C (-40°F to +130°F)
OD850-F2:	Complies with Environmental Class III (EN50130-5)

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 Outdoor TriTech Detector (10.525 GHz)
For use in Belgium, Czech Republic, Denmark, Greece, Hungary, Italy, Netherlands, Norway, Poland, Romania, Spain, Sweden, Ukraine, the Americas and the Asia/Pacific Region. 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**

OD850-F2 Outdoor TriTech Detector (10.588 GHz)
For use in France and the United Kingdom. Operates at 10.588 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-F2**

Accessories

B338 Universal Ceiling-mount Bracket
Swiveling plastic mount 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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