ISN-AP1, ISN-AP1-T, ISN-AP1-T-CHI Passive-infrared Detectors

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BOSCH
Invented for life

- ▶ 7.5 m x 7.5 m (25 ft x 25 ft) coverage
- ▶ Embedded microcontroller with First Step Processing (FSP)
- ▶ Draft and insect immunity
- ▶ Two-piece design
- ▶ Temperature compensation

These detectors are streamlined conventional stand-alone PIR motion detectors that economically deliver reliable performance. A Fresnel lens produces sharply-focused images throughout the field of view, providing a superior response to intruders. An embedded microcontroller performs First Step Processing (FSP), reducing false alarms and maximizing catch performance. Adjustable mounting height range, a two-piece design, and optional brackets make installation simple and flexible. Temperature compensation helps to maintain and enhance performance in variable climates.

The ISN-AP1-T model detectors offer a cover tamper switch.

Functions

Functions for All Models

Embedded Microcontroller
The microcontroller has sophisticated signal processing, including Bosch proprietary FSP and temperature compensation. The microcontroller helps the detectors work more reliably than conventional PIR detectors that compare sequential signals with a fixed threshold level, offering superior false alarm immunity.

Signal Processing
First Step Processing (FSP) almost instantly responds to human targets without producing false alarms from other sources. FSP adjusts the detector's sensitivity based on signal amplitude, polarity, slope, and timing. This eliminates the need for the installer to select the sensitivity level.

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

Two-piece Design
During installation and mounting, you only need to remove the cover. The circuit board and optics stay intact, increasing installation speed, ease, and effectiveness.

Temperature Compensation
The detector adjusts PIR sensitivity to identify human intruders at critical temperatures, detecting human body heat more accurately and avoiding false alarms.

Test Features
A red light emitting diode (LED) indicates alarms and activates during a walk test.

Additional Functions for ISN-AP1-T and ISN-AP1-T-CHI Models

Cover Tamper Switch
A normally-closed contact opens when the cover is removed, alerting the control panel.
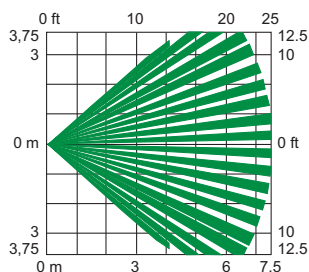
Enable or Disable LED
Enable or disable the LED indicator with the LED jumper.

Certifications and approvals

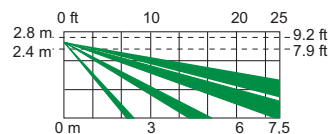| Europe	EN	ISN-AP1-T: EN50131-2-2 Grade 2, Environmental Class II ISN-AP1: EN50131-2-2 Grade 1, Environmental Class II

Region	Certification	
Germany	VdS	H 110009_Eng (-AP1, -AP1-T)
Europe	CE	ISN-AP1 and ISN-AP1-T: EC Directive 89/336/EEC and EN55022: 1998 +A1: 2000 +A2: 2003 (ANSI C63.4: 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: 2003 +A2: 2005, EN61000-4-4: 1995 +A1: 2000 +A2: 2001, EN61000-4-5: 1995 +A1: 2001, EN61000-4-6: 1996 +A1: 2001 +A2: 2001 +A3: 2005, EN61000-4-11:1994 +A1: 2004
	EN50131	EN 50131-2-2, Grade 1 (-AP1)
	EN50131	EN 50131-2-2, Grade 2 (ISN-AP1-T)
USA	UL	ANSR (UL 639), ANSR7 (ULC-S306) [ISN-AP1, ISN-AP1-T]
China	CCC	ISN-AP1-T-CHI: 2009031901000547
the Netherlands	NCP	2011063 [-AP1, -AP1-T]

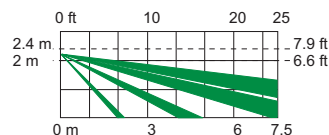## Installation/configuration notes

Top View
Broad Coverage: 7.5 m x 7.5 m (25 ft x 25 ft)

Side View
Upper Mounting Height Range
Broad Coverage: 7.5 m x 7.5 m (25 ft x 25 ft)

Side View
Lower Mounting Height Range
Broad Coverage: 7.5 m x 7.5 m (25 ft x 25 ft)

Power Considerations
- Use an approved limited power source. Connect all outputs to safety extra-low voltage (SELV) circuits only.
- The detectors have no internal standby battery.

Mounting Considerations
To adjust the mounting height, slide the detector's printed circuit board (PCB) up or down before installation. Select one of these height ranges:
- 2.0 m to 2.4 m (6.6 ft to 7.9 ft)
- 2.4 m to 2.8 m (7.9 ft to 9.2 ft)

The default height is 2.4 m to 2.8 m (7.9 ft to 9.2 ft). Mount the detector in an indoor area where an intruder must cross the coverage pattern. You can mount the detector in a corner or on a flat wall (surface, semi-flush) using the optional B335-3 Low-profile Swivel-mount Bracket or on the ceiling using the optional B338 Ceiling-mount Bracket.

> **ℹ Notice**
>
> An optional mounting bracket can reduce the detector's range and increase the dead zone areas.

Do not mount the detector outdoors, on or near windows, directly in sunlight or air currents, near air conditioning outlets, heat sources, or animals.

Compatibility Information
Each detector model works with all conventional control panels.

Parts included

Quantity	Component
1	Detector
2	Flat-head screws
2	Screw anchors

Technical specifications

Enclosure Design

Color:	White
Dimensions:	93 mm x 52 mm x 44 mm (3.7 in. x 2.1 in. x 1.7 in.)
Material:	High-impact ABS plastic

Environmental Considerations

Relative Humidity:	0 to 95%, non-condensing
Temperature (Operating):	0°C to +49°C (+32°F to +120°F)
Temperature (Storage):	-29°C to +49°C (-20°F to +120°F)

Indicators

Alarm Indicator:	Red LED On ISN-AP1-T and ISN-AP1-T-CHI, enable or disable using the LED jumper.

Outputs

Relay:	Supervised Form A normally-closed (NC) contacts rated for 125 mA, 28 VDC, 3 W.
Tamper (ISN-AP1-T):	Normally-closed (NC) contacts (with cover on) rated at 28 VDC, 125 mA maximum. Connect tamper circuit to 24-hour protection circuit.

Power Requirements

Current (Alarm):	< 25 mA
Current (Standby):	< 15 mA at 12 VDC
Voltage (Operating):	9 VDC to 15 VDC

Ordering information

ISN-AP1 Passive-Infrared Detector
Provides PIR, 7.5 m x 7.5 m (25 ft x 25 ft) coverage.
Order number **ISN-AP1**

ISN-AP1-T Passive-Infrared Detector
Provides PIR, 7.5 m x 7.5 m (25 ft x 25 ft) coverage
with tamper detection.
Order number **ISN-AP1-T**

Accessories

B335-3 Swiveling low-profile mount
Swiveling, low-profile, plastic mount for wall mounting.
The vertical swivel range is +10° to -20°, while the
horizontal swivel range is ±25°. Available in triple
packs.
Order number **B335-3**

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