



The ADPRO PRO Series are highly sensitive, standalone passive infra-red detectors designed for outdoor perimeter protection.

The PRO 250A is the premium performance detector for high security perimeter applications, providing high performance digital signal processing, silicon window and a small dead zone.

The PRO 250A is the premium performance detector for high security perimeter applications. It features high performance digital signal processing, a small dead zone and silicon window for long-life operation in harsh environments. The PRO 85 and PRO 18 Series provide area protection, all other detectors provide perimeter protection.

The PRO Series employ the latest signal processing and environmental adaptive circuitry to provide the highest reliability of detection while minimising nuisance alarms.

All units are specifically designed to operate in a range of outdoor environments and conditions.

The PRO 18, PRO 45, PRO 85 and PRO 100 series have a unique anti-tamper feature. If the detector is moved from its installed position, the detector will generate an alarm that can be detected by the ADPRO FastTrace and FastTx products.

Advanced passive infra-red detection technology ...

- The PRO Series have sensing areas that will detect people up to 150 metres (492 feet) away, depending on the model, by sensing temperature differences between them and the background.
- Provides protection in low visibility conditions such as snow or fog.
- The area protected by the detector cannot be identified by an intruder due to passive operation of the unit.
- Use in the smallest single detector installation, right up to the largest high security multi-detector environments.

Engineered for trouble-free operation ...

- Sealing against dust and moisture ensures reliable operation even under extreme weather conditions.
- Sensitivity adjustment to suit site conditions.
- Sound design principles ensure long life and reliable operation with minimal maintenance.
- Adaptive threshold circuitry reduces the number of nuisance alarms caused by moving vegetation, small animals and sudden environmental changes.
- Sophisticated signal analysis optimises detection probability over a wide range of operating conditions and temperatures while reducing nuisance alarms.
- Thermostatically controlled heater prevents internal condensation and ensures reliable operation even under extreme weather conditions.
- Computer designed optical system provides excellent uniformity in coverage over the full range.
- Low power consumption.
- Anti-tamper feature on PRO 18, PRO 45, PRO 85 and PRO 100 series generates an alarm if the detector is moved.

High Performance Models Available (H)

- Increased operating temperature range.
- Silicon window for high performance e.g. deserts and snow.
- Longer / wider detection zone
- Improved IR filtering tuned for reduced false alarms.

Directional Detection Models Available (PRO 45D / PRO 45DH)

- Reduces nuisance alarms by detecting in only one direction.
- Longer / Wider detection zone
- Improved IR filtering

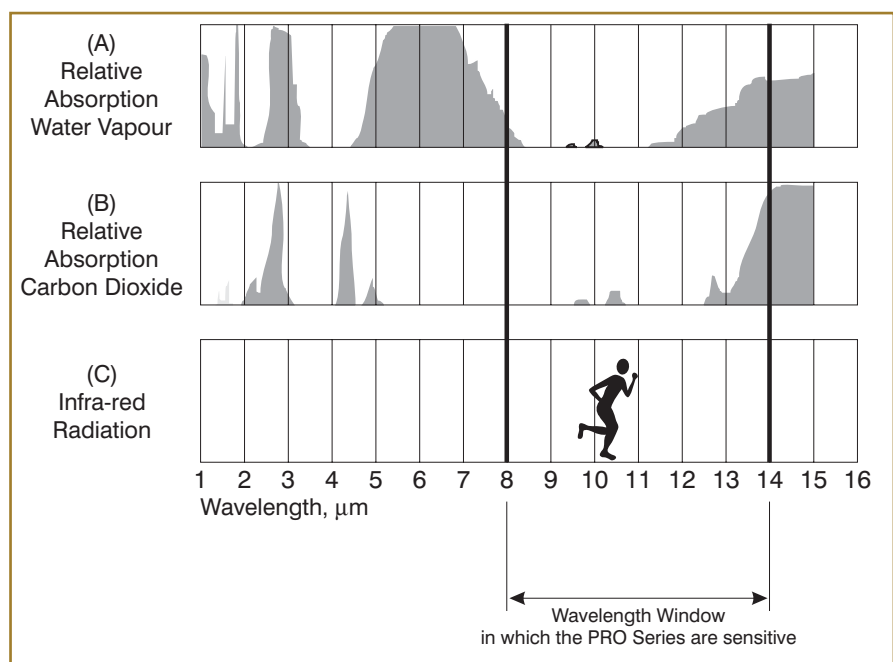
Rugged construction allows cost-effective outdoor installation ...

- Housing is completely weatherproof and ready for outdoor installation.
- Simple to install on a pole or against a wall using standard brackets.
- Passive operation enables single ended configuration (instead of transmitter and receiver), providing cheaper and simpler installation and alignment. An ideal complement to video surveillance or light switching.
- Vertical shape of the detection zone allows convenient mounting at the same height as video cameras and out of reach of casual vandalism or snow build-up.
- An alignment Telescope (AD851) and installation tester (IT44), interface module and software (IF 485B) and cordless walk tester (CT45) are available to optimise installation.
- Remote adjustment and signal monitoring with installation program (Windows based).

Internal Heater

The PRO250A, PRO150D, PRO100H, PRO85H, PRO45H, PRO45DH, PRO18H and PRO18WH have an internal heater with temperature compensation to prevent condensation on internal components.

The wavelength of infra-red adsorption of primary atmospheric constituents compared to the wavelength of infra-red radiation produced by humans



Positioning

In perimeter protection applications, or similar fixed installations for intruder detection, it is recommended that the detection range be limited (refer to Specifications table on the following pages).

Longer sections of a perimeter should be divided into portions not exceeding the nominal ranges. The PRO 85 and PRO 18 Series are volumetric wide angle units.

Mounting

Recommended mounting height is 2.5 m to **4 m (8 to 13 feet)**. PRO 100, PRO 85, PRO 45 and PRO 18 Series are supplied complete with a universal bracket. An universal mounting bracket, to suit most applications, is available for all other models.

Installation

An Installation Tester (IT 44) is available for use with PRO 250A and PRO 150D to aid in accurate adjustment of signal gain. It provides an indication of alarm output state, signal strength, back-ground noise, actual alarm threshold and alarm count.

For the PRO 100, PRO 85, PRO 45 and PRO 18 Series an interface module and software (IF 485B) is available for remote indication and adjustment from a PC. A cordless walk tester (CT45) for single person installation and testing is also available.

Terminating Barrier

A terminating barrier is generally required to stop the PIR from detecting beyond the sterile area. The barrier should be made from a non-reflective material that is capable of blocking thermal infra-red radiation and should have good thermal insulating properties. Wood or plastic materials are suitable.

Ordering Options

PRO 250A

Long range outdoor PIR (extra downward coverage)

PRO 150D

Long range outdoor PIR

PRO 100

Long range triple channel curtain coverage

PRO 100H

High performance long range triple channel curtain coverage

PRO 85

Long range volumetric outdoor PIR

PRO 85H

High performance long range volumetric outdoor PIR

PRO 45

Mid range outdoor PIR

PRO 45D

Directional mid range outdoor PIR

PRO 45DH

Directional mid range high performance outdoor PIR

PRO 45H

High performance mid range outdoor PIR

PRO 18/18W

Volumetric area outdoor PIR

PRO 18H/18WH

High performance volumetric area outdoor PIR

AD851 Telescope

PRO 150/250 Alignment Telescope

AD652

Universal bracket with pole-mounting attachment for PRO 150D

AD653

Universal bracket with pole-mounting attachment for PRO 250A

IT44

PRO 250/150 Installation tester

IF 485B

Interface module and software to suit PRO 100, PRO 85, PRO 45 and PRO 18 Series.

CT45

Cordless walk tester for PRO 100, PRO 85, PRO 45 and PRO 18 Series.

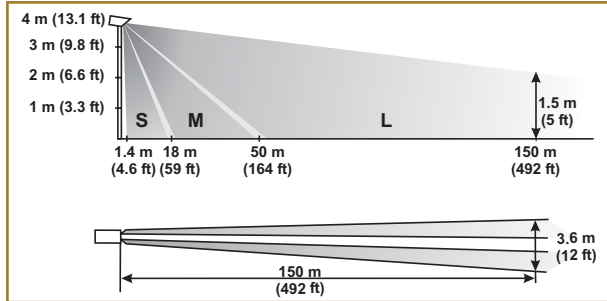
SPECIFICATIONS	PRO 250A	PRO 150D	PRO 100	
Nominal Range	Recommended 100 m (330 ft). Maximum 150 m (492 ft) dependent on environmental and installation conditions	Recommended 100 m (330 ft). Maximum 150 m (492 ft) dependent on environmental and installation conditions	Recommended 100 m (330 ft). Maximum dependent on environmental and installation conditions: PRO 100 120 m (394 ft). PRO 100H 150 m (492 ft)	Reco Max and PRO PRO
Spectral Response	8-14 micrometers, double filtered	8-14 micrometers, double filtered	8-14 micrometers, double filtered	8-14
Sensors	Differential pyro-electric array, Triple channel	Differential pyro-electric array	Differential pyro-electric array, Triple channel	Diff
Alarm Output	SPDT relay, 28 VDC, 0.25A, 3 W, Transistor, NPN open collector, 20 mA/30 V	SPDT relay, 28 VDC, 0.25A, 3 W, Transistor, NPN open collector, 20 mA/30 V	SPST relay, 28 VDC, 0.25A, 10 W, Transistor, NPN open collector, 20 mA/60 V	SPST Tra 20
Output Protection	PTC resistor	PTC resistor	PTC resistor	PTC
Alarm Indicator	Internal LED	Internal LED	Internal LED (visible thru small plastic window on rear of unit)	Inter win
Alarm Hold Time	Adjustable between actual event duration and 10 seconds	0.2-10 seconds, adjustable	N/A	N/A
Detection Speed Range*	0.2 m/s to 5.0 m/s (0.7 ft/s to 16 ft/s)	0.2 m/s to 5.0 m/s (0.7 ft/s to 16 ft/s)	0.2 m/s to 5.0 m/s (0.7 ft/s to 16 ft/s)	0.2
Sensitivity Adjustment	Switch presettable for range & mounting height	20%–140% of nominal	Switch and software presettable for range and mounting height. 20%–140% (Software adjust.)	40% 20%
Temperature Compensation	Automatic adjustment of signal processing	Gain control 50%–100% (automatic)	Automatic adjustment of signal processing	Aut pro
Internal Switches	Sensitivity adjustment	Adaptive threshold system on/off	Sensitivity & Adaptive threshold system (ATD on/off)	Sen (AT
Supply Voltage	10.5 to 28 VDC (nominal 12 VDC)	10.5 to 28 VDC (nominal 12 VDC)	10.5 to 28 VDC (nominal 12 VDC) or 24 V AC	10.5 or 2
Supply Current	Typ 22 mA at 12 VDC (without heater)	Typ 22 mA at 12 VDC (without heater)	Typ 20 mA at 12 VDC	Typ
Heater Power	Approx 1 W at -40°C	Approx 1 W at -40°C	PRO 100H - Approx 2 W at -40°C 12 VDC supply required	PRO 12
Operating Temperature	-40°C–60°C (-40°F–140°F)	-40°C–60°C (-40°F–140°F)	-20°C–60°C (-4°F–140°F) PRO 100H - -40°C–60°C (-40°F–140°F)	-20 PRO (-4
Sealing	Splash proof to IP64 **	Splash proof to IP64 **	Splash proof to IP64 **	Spl
Weight	1500 grams (3.3 lbs)	1200 grams (2.6 lbs)	900 grams (2 lbs) including bracket	900
Dimensions	275 mm (10.8") long x 100 mm (3.94") diam	314 mm (13") long x 90 mm (3.5") diam	247 mm (9.7") long x 100 mm (3.9") wide x 104 mm (4.0") high	247 wid
Cable Feedthrough	Cable diameter 9–12 mm (PG16), Splashproof to IP53	Cable diameter 9–12 mm (PG16), Splashproof to IP53	Cable diameter 6–9 mm (PG11) (2 pieces). Splashproof to IP53	Cab (2 p
Cable Termination	Screw terminals	Screw terminals	Screw terminals	Scr
Mounting	Universal mounting bracket (optional)	Universal mounting bracket (optional)	Universal mounting bracket included	Uni
Test Socket	For connection to IT44 Installation Tester	For connection to IT44 Installation Tester	For connection to IF 485A/B Interface module and PC	For mo
High Performance model variant	Standard	Standard	Yes	Yes
Tamper detection	No	No	Yes Transistor, NPN open collector, 20 mA/60 V	Yes Tra 20
Window	Silicon Wafer	Silicon Wafer	Plastic, IR transmissive (PRO 100H Silicon Wafer)	Pla (PR
Warranty	24 months	24 months	24 months	24

* The detection pattern and frequency response have been optimised for the detection of human targets crossing the field of view at 90° to the PIR curtain.

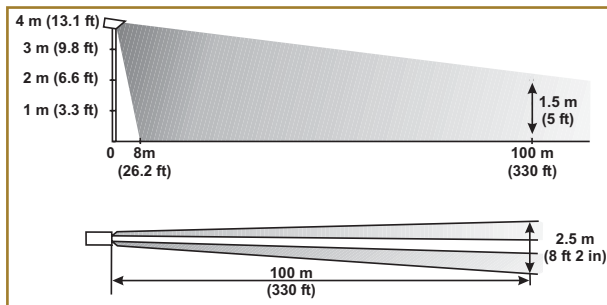
** Housing only. IP53 for cable gland.

PRO 85	PRO 45	PRO 18	PRO 18W
Recommended 50 m (164 ft). Maximum dependent on environmental and installation conditions: PRO 85 60 m (197 ft). PRO 85H 75 m (246 ft)	Recommended 45 m (148 ft). Maximum dependent on environmental and installation conditions: PRO 45 / PRO 45D 50 m (164 ft). PRO 45H / PRO 45DH 60 m (197 ft)	Recommended 18 m (59 ft). Maximum dependent on environmental and installation conditions: PRO 18 24 m (79 ft). PRO 18H 30 m (98 ft)	Recommended 18 m (59 ft). Maximum dependent on environmental and installation conditions: PRO 18W 21 m (69 ft). PRO 18WH 27 m (89 ft)
4 micrometers, double filtered	8-14 micrometers, double filtered	8-14 micrometers, double filtered	8-14 micrometers, double filtered
Differential pyro-electric array,	Differential pyro-electric array	Differential pyro-electric array	Differential pyro-electric array
SPST relay, 28 VDC, 0.25A, 10 W, transistor, NPN open collector, 20 mA/60 V	SPST relay, 28 VDC, 0.25A, 10 W,	SPST relay, 28 VDC, 0.25A, 10 W,	SPST relay, 28 VDC, 0.25A, 10 W,
PTC resistor	PTC resistor	PTC resistor	PTC resistor
Internal LED (visible thru small plastic window on rear of unit)	Internal LED (visible thru small plastic window on rear of unit)	Internal LED (visible thru small plastic window on rear of unit)	Internal LED (visible thru small plastic window on rear of unit)
N/A	N/A	N/A	N/A
0.2 m/s to 5.0 m/s (0.7 ft/s to 16 ft/s)	0.2 m/s to 5.0 m/s (0.7 ft/s to 16 ft/s)	0.2 m/s to 5.0 m/s (0.7 ft/s to 16 ft/s)	0.2 m/s to 5.0 m/s (0.7 ft/s to 16 ft/s)
40%, 75% & 100% (Hardware adjust.) 20%–140% (Software adjust.)	40%, 75% & 100% (Hardware adjust.) 20%–140% (Software adjust.)	40%, 75% & 100% (Hardware adjust.) 20%–140% (Software adjust.)	40%, 75% & 100% (Hardware adjust.) 20%–140% (Software adjust.)
Automatic adjustment of signal processing	Automatic adjustment of signal processing	Automatic adjustment of signal processing	Automatic adjustment of signal processing
Sensitivity & Adaptive threshold system (ATD on/off)	Sensitivity & Adaptive threshold system (ATD on/off)	Sensitivity & Adaptive threshold system (ATD on/off) & Pulse Count Delay (on/off)	Sensitivity & Adaptive threshold system (ATD on/off) & Pulse Count Delay (on/off)
10.5 to 28 VDC (nominal 12 VDC) or 24 V AC	10.5 to 28 VDC (nominal 12 VDC) or 24 V AC	10.5 to 28 VDC (nominal 12 VDC) or 24 V AC	10.5 to 28 VDC (nominal 12 VDC) or 24 V AC
Typ 20 mA at 12 VDC	Typ 20 mA at 12 VDC	Typ 20 mA at 12 VDC	Typ 20 mA at 12 VDC
PRO 85H - Approx 2 W at -40°C 24 VDC supply required	PRO 45H / PRO 45DH - Approx 2 W at -40°C	PRO 18H - Approx 2 W at -40°C	PRO 18WH - Approx 2 W at -40°C
-20°C to 60°C (-4°F–140°F) PRO 85H - -40°C–60°C (-40°F–140°F)	-20°C–60°C (-4°F–140°F) PRO 45H / PRO 45DH - -40°C–60°C (-40°F–140°F)	-20°C–60°C (-4°F–140°F) PRO 18H - -40°C–60°C (-40°F–140°F)	-20°C–60°C (-4°F–140°F) PRO 18WH - -40°C–60°C (-40°F–140°F)
Splash proof to IP64 **	Splash proof to IP64 **	Splash proof to IP64 **	Splash proof to IP64 **
900 grams (2 lbs) incl. bracket	900 grams (2 lbs) including bracket	900 grams (2 lbs) incl. bracket	900 grams (2 lbs) incl. bracket
247 mm (9.7") long x 100 mm (3.9") wide x 104 mm (4.0") high	247 mm (9.7") long x 100 mm (3.9") wide x 104 mm (4.0") high	247 mm (9.7") long x 100 mm (3.9") wide x 104 mm (4.0") high	247 mm (9.7") long x 100 mm (3.9") wide x 104 mm (4.0") high
Cable diameter 6-9 mm (PG11) (2 pieces). Splashproof to IP53	Cable diameter 6-9 mm (PG11) (2 pieces). Splashproof to IP53	Cable diameter 6-9 mm (PG11) (2 pieces). Splashproof to IP53	Cable diameter 6-9 mm (PG11) (2 pieces). Splashproof to IP53
Screw terminals	Screw terminals	Screw terminals	Screw terminals
Universal mounting bracket included	Universal mounting bracket included	Universal mounting bracket included	Universal mounting bracket included
For connection to IF 485A/B Interface module and PC	For connection to IF 485B Interface module and PC	For connection to IF 485B Interface module and PC	For connection to IF 485B Interface module and PC
Yes	Yes	Yes	Yes
Yes Transistor, NPN open collector, 20 mA/60 V	Yes Transistor, NPN open collector, 20 mA/60 V	Yes Transistor, NPN open collector, 20 mA/60 V	Yes Transistor, NPN open collector, 20 mA/60 V
Plastic, IR transmissive (PRO 85H Silicon Wafer)	PRO 45, PRO 45D - Plastic, IR transmissive (PRO 45H / PRO 45DH Silicon Wafer)	Plastic, IR transmissive (PRO 18H Silicon Wafer)	Plastic, IR transmissive (PRO 18WH Silicon Wafer)
24 months	24 months	24 months	24 months

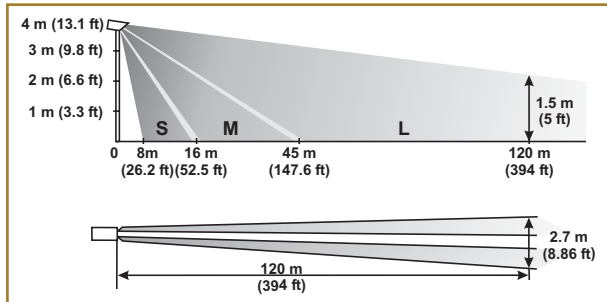
Top and side view of PRO 250A field of view



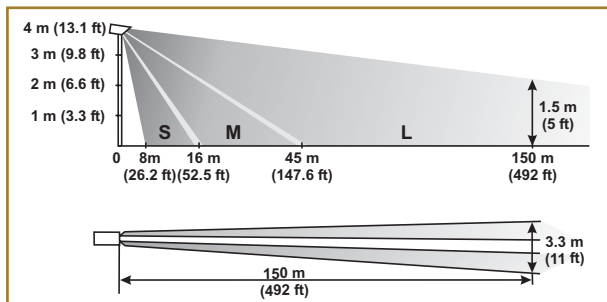
Top and side view of PRO 150D field of view



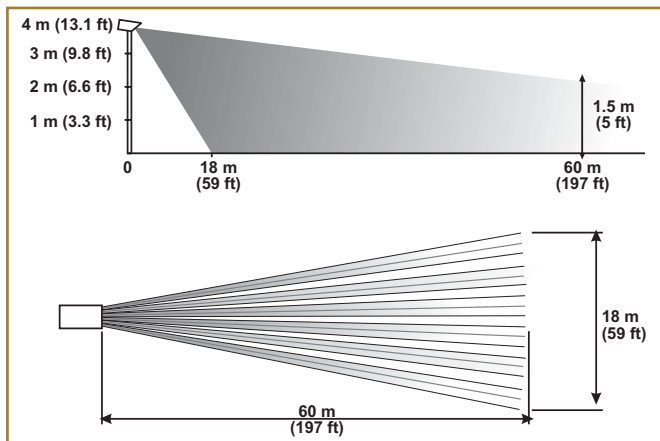
Top and side view of PRO 100 field of view

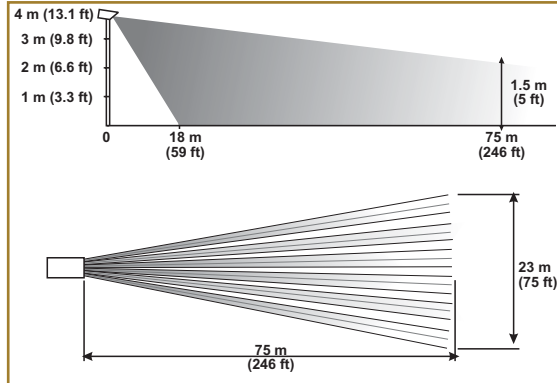


Top and side view of PRO 100H field of view

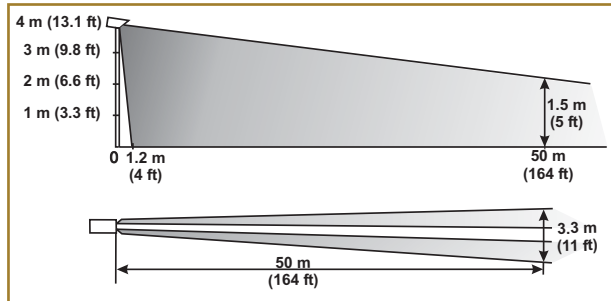


Top and side view of PRO 85 field of view

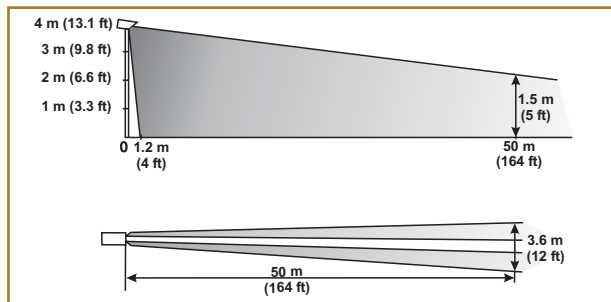




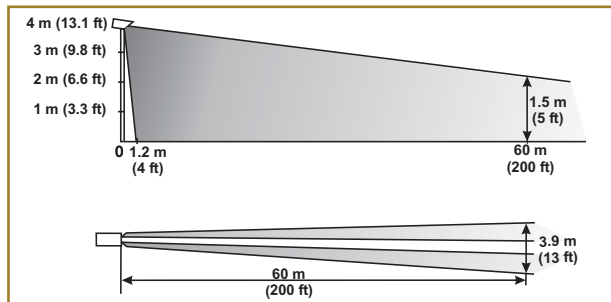
Top and side view of PRO 85H field of view



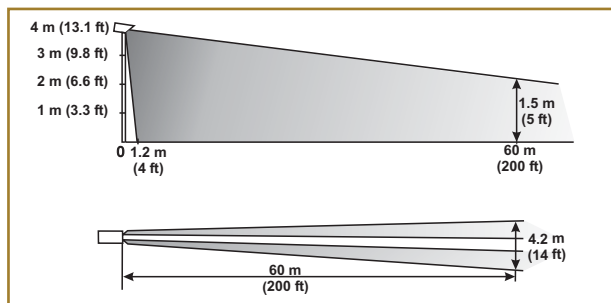
Top and side view of PRO 45 field of view



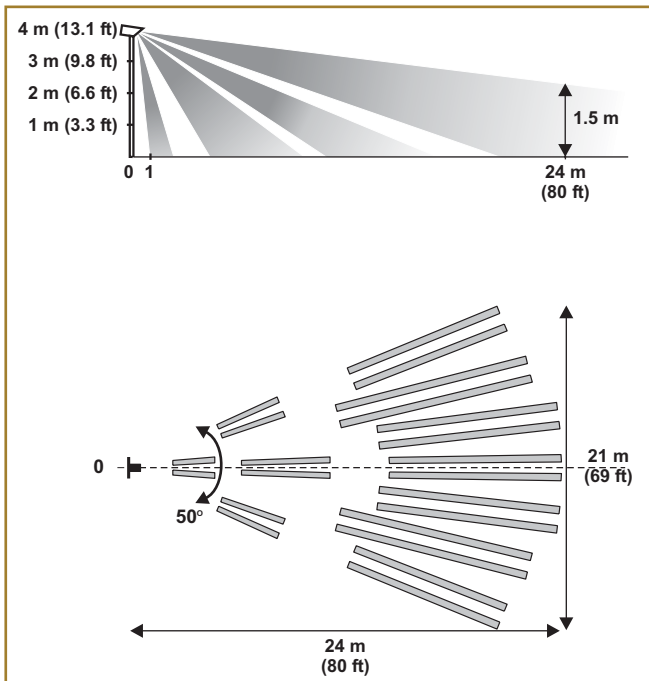
Top and side view of PRO 45D field of view



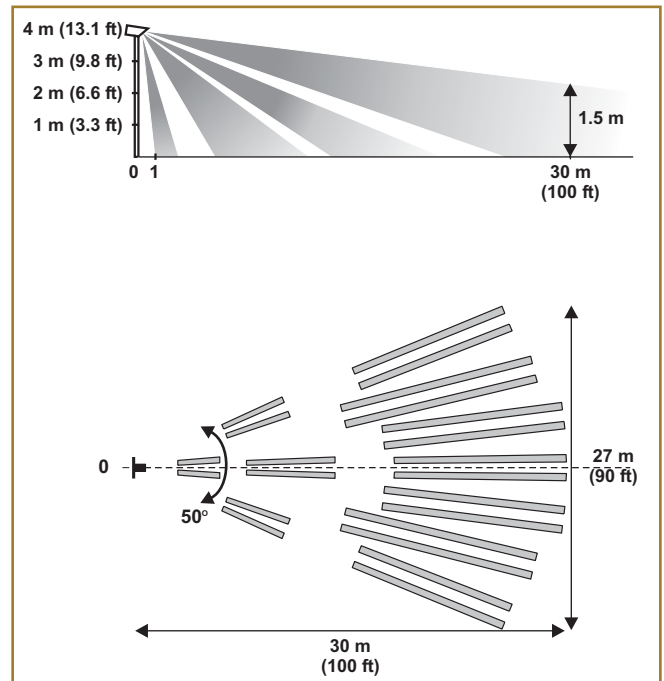
Top and side view of PRO 45H field of view



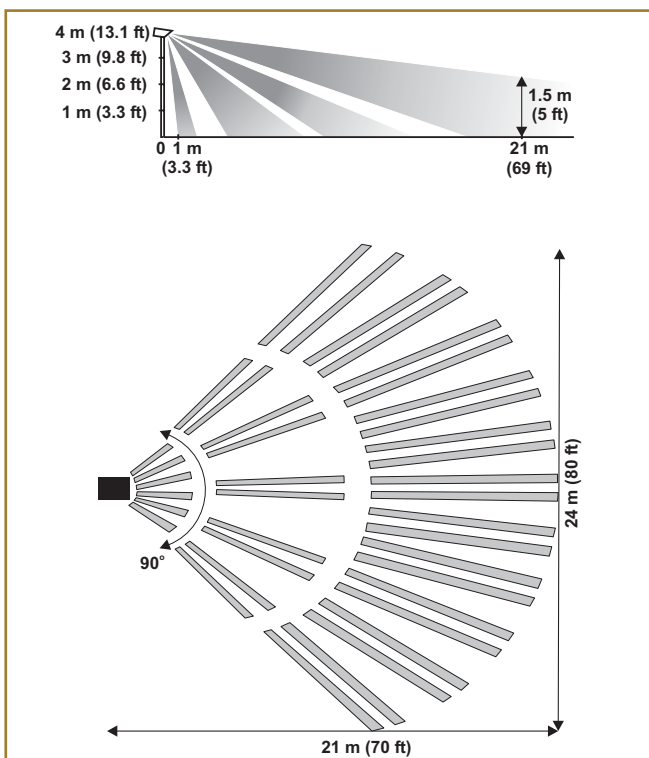
Top and side view of PRO 45DH field of view



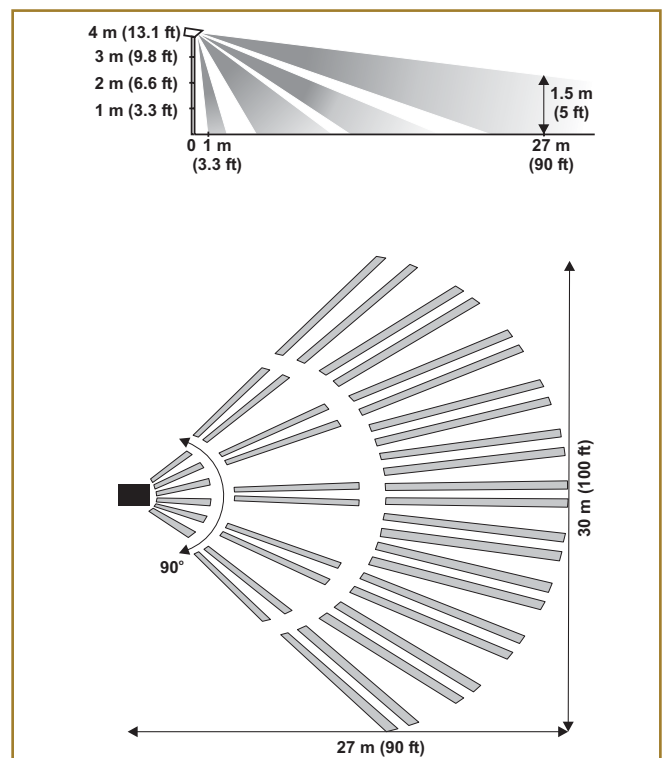
Top and side view of PRO 18 field of view



Top and side view of PRO 18H field of view



Top and side view of PRO 18W field of view



Top and side view of PRO 18WH field of view

www.xtralis.com

The Americas +1 781 740 2223 Asia +852 2297 2438 Australia and New Zealand +61 3 9936 7000
Continental Europe +41 55 285 99 99 UK and the Middle East +44 1442 242 330

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