

ADPRO[®] PRO 250A, PRO 150D, PRO 75A

Passive Infra-red Detectors

Data Sheet

The PRO 250A, PRO 150D and PRO 75A are highly sensitive, standalone passive infra-red detectors designed for outdoor perimeter protection.

The PRO 150D and PRO 250A are designed for the protection of sensitive, high security perimeters and the PRO 75A is designed for protection of medium risk perimeters.

The PRO 150D and PRO 250A 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.

Advanced passive infra-red detection technology ...

- They have two curtain shaped sensing areas which will detect people up to 100 metres (330 feet) away by sensing temperature differences between them and their background.
- Provides protection in low visibility conditions such as snow or fog.
- Due to the passive operation of the unit, the area protected cannot be identified by an intruder.
- Designed for use in the smallest single detector installation, right up to the largest high security multi-detector environments.

Engineered for trouble-free operation ...

- Improved sealing against dust and moisture ensures reliable operation even under extreme weather conditions.
- Sensitivity can be adjusted to suit site conditions

- The physical construction of the units and the components used have been selected for long life and reliable operation with minimal maintenance.

PRO 250A & PRO 150D only

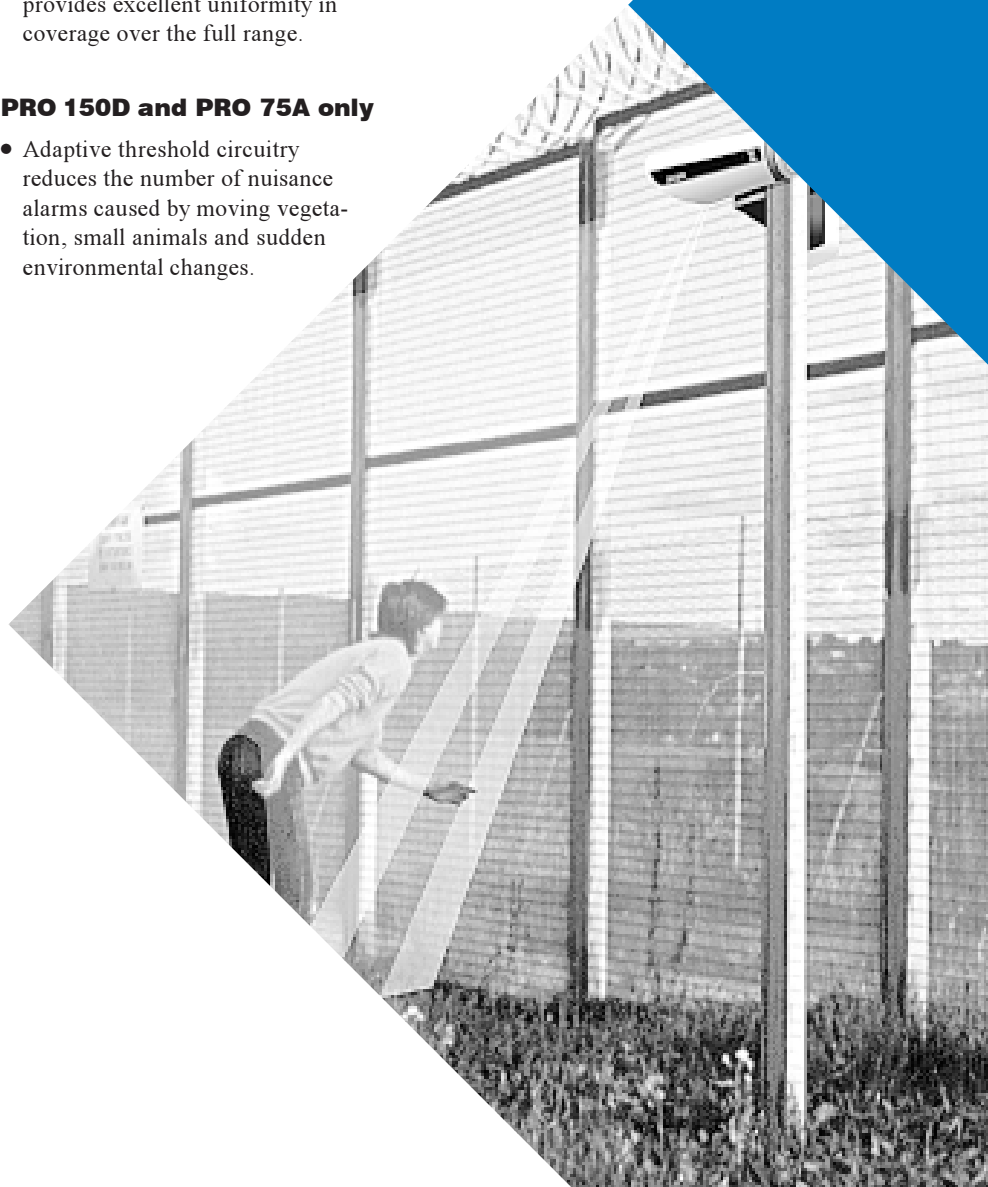
- Automatic temperature compensation that adjusts the sensitivity to compensate for changes in thermal contrast.
- Thermostatically controlled heater to prevent internal condensation, ensures reliable operation even under extreme weather conditions.
- Computer designed optical system provides excellent uniformity in coverage over the full range.

PRO 150D and PRO 75A only

- Adaptive threshold circuitry reduces the number of nuisance alarms caused by moving vegetation, small animals and sudden environmental changes.

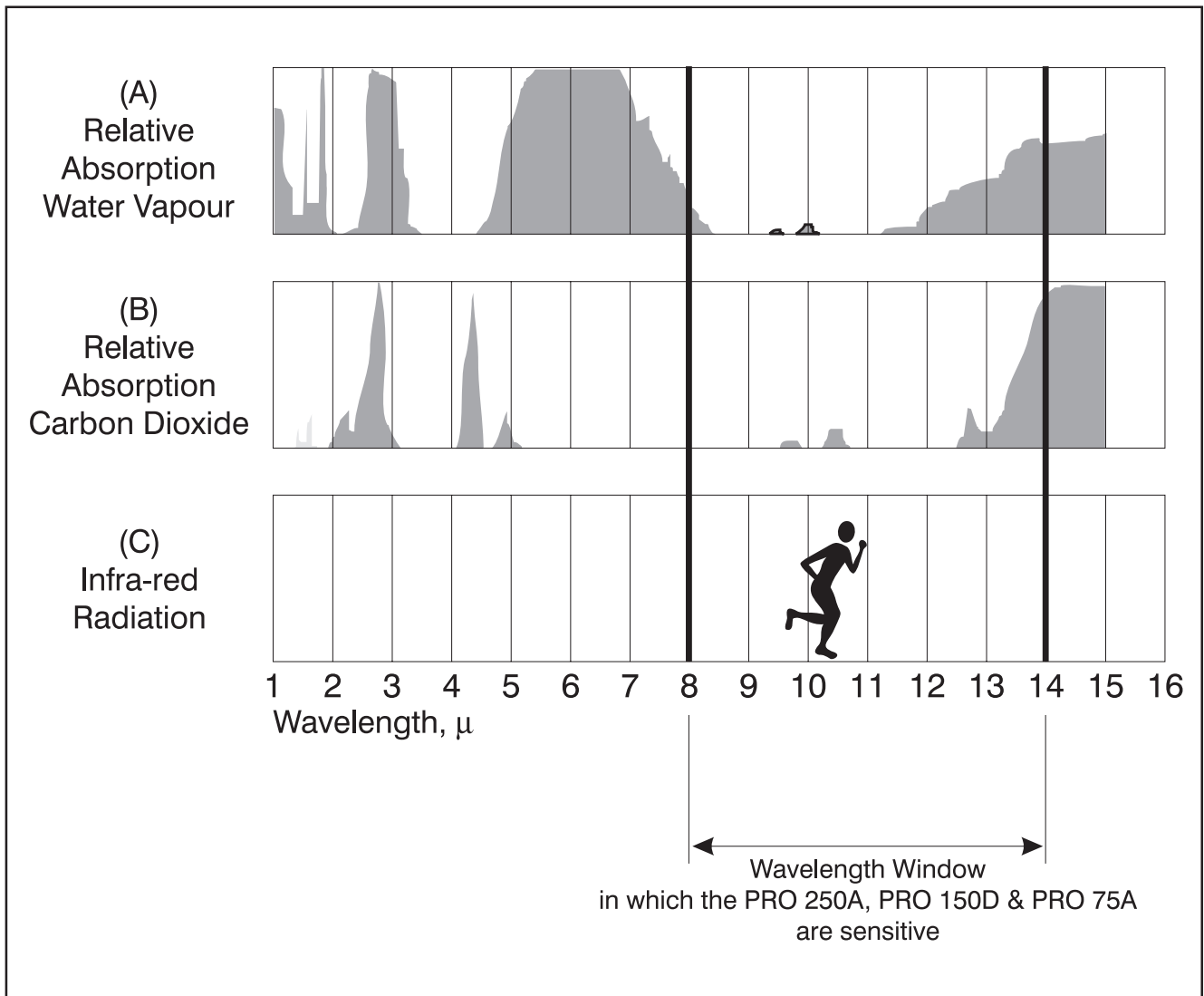
PRO 250A only

- Precision optics provide an accurately defined narrow sensing curtain giving continuous detection coverage from 1 metre (3.3 feet) in front of the mounting pole to 100 metres (330 feet) or beyond
- Sophisticated signal analysis optimises detection probability over a wide range of operating conditions while reducing nuisance alarms.



Rugged construction allows cost-effective outdoor installation ...

- Housing is completely weatherproof and ready for outdoor installation.
- Simple to install on a pole or a camera bracket.
- Passive operation enables single ended (instead of transmitter and receiver) configuration, providing cheaper and simpler installation and alignment and making them an ideal complement to video surveillance or light switching.
- The 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) are available to optimise installation.



The infra-red absorption of primary atmospheric constituents that effect infra-red radiation and the infra-red radiation produced by humans.

SPECIFICATIONS	PRO 75A	PRO 150D	PRO 250A
Nominal Range	75m (245 ft)	100m (330 ft)	100m (330 ft)
Spectral Response	8-14 micrometers, double filtered	8-14 micrometers, double filtered	8-14 micrometers, double filtered
Sensors	Differential pyro-electric array	Differential pyro-electric array	Differential pyro-electric array
Alarm Output	SPST relay, 10W, 0.25A, 28VDC/20VAC, Transistor, NPN open collector, 20mA/30V	SPDT relay, 3W, 0.25A, 28VDC/20VAC, Transistor, NPN open collector, 20mA/30V	SPDT relay, 3W, 0.25A, 28VDC/20VAC, Transistor, NPN open collector, 20mA/30V
Output Protection	PTC resistor	PTC resistor	PTC resistor
Alarm Indicator	Internal LED	Internal LED	Internal LED
Alarm Hold Time	N/A	0.2-10 seconds , adjustable	Adjustable between actual event duration and 10 seconds
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 16ft/s)
Sensitivity Adjustment	20-140% of nominal	20-140% of nominal	Switch presettable for range & mounting height
Temperature Compensation	N/A	Gain control 50-100% (automatic)	Automatic adjustment of signal processing
Internal Switches	Adaptive threshold system on/off	Adaptive threshold system on/off	N/A
Supply Voltage	10.5 to 26VDC (nominal 12VDC)	10.5 to 28VDC (nominal 12VDC)	10.5 to 28VDC (nominal 12VDC)
Supply Current	Typ 15 mA at 12VDC	Typ 20 mA at 12VDC (without heater)	Typ 25 mA at 12VDC (without heater)
Heater Power	N/A	Approx 1 W at -40°C	Approx 1 W at -40°C
Operating Temperature	-20°C to 60°C (-4°F to 140°F)	-40°C to 60°C (-40°F to 140°F)	-40°C to 60°C (-40°F to 140°F)
Sealing	Splash proof to IP64 **	Splash proof to IP64 **	Splash proof to IP64 **
Weight	1250 grams (2.8 lbs)	1200 grams (2.6 lbs)	1500 grams (3.3 lbs)
Dimensions	242.5mm (9.5") long x 90mm (3.5") diam	314mm (13") long x 89mm (3.5") diam	275mm (10.8") long x 100mm (3.94") diam
Cable Feedthrough	Cable diameter 8-10mm (PG11), Splashproof to IP53	Cable diameter 6-14mm (PG16), Splashproof to IP53	Cable diameter 6-14mm (PG16), Splashproof to IP53
Cable Termination	Screw terminals	Screw terminals	Screw terminals
Mounting	Universal mounting bracket (optional) or camera bracket	Universal mounting bracket (optional)	Universal mounting bracket (optional)
Test Socket	For connection to IT44 Installation Tester	For connection to IT44 Installation Tester	For connection to IT44 Installation Tester
Warranty	12 months	12 months	12 months

* 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.

Internal Heater (PRO 250A & PRO 150D only)

The PRO 150D and PRO 250A have an internal heater with temperature compensation to prevent condensation on their internal components. The heater has separate terminals to allow for an independent supply to be connected to it. It may be powered by AC or DC.

Installation

The recommended mounting height is 2.5 to 4 metres (8 to 13 feet) . A universal mounting bracket to suit most applications is available. The PRO 75A comes complete with a facility to allow mounting on a standard camera bracket using 1/4" whitworth. An alignment telescope (AD851) is available for critical installations.

An Installation Tester (IT 44) is available to aid in accurate adjustment of signal gain. It provides an indication

of alarm output state, signal strength, background noise, actual alarm threshold and alarm count.

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.

Positioning

In perimeter protection applications, or similar fixed installations for intruder detection, it is recommended that the detection range be limited to 100 metres (330 feet) for the PRO 150D and PRO 250A, and 75 metres (245 feet) for the PRO 75A. Longer sections of a perimeter should be divided into portions of 100 metres (330 feet) (PRO 150D, PRO 250A) or 75 metres (245 feet)

(PRO 75A), each being covered by one curtain. This configuration will give reliable detection under virtually any climatic condition.

Ordering Options

PRO 75A Medium Range Outdoor PIR

PRO 150D Long Range Outdoor PIR

PRO 250A Long Range Outdoor PIR (extra downward coverage)

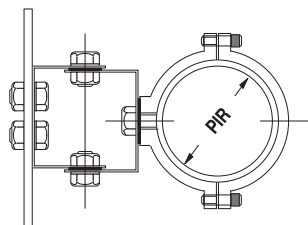
AD851 Telescope, PRO 150/250/75 Alignment Telescope

AD652 Bracket, Bracket for PRO 150D

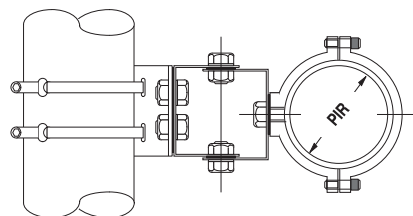
ZAP100 Bracket, Bracket top for PRO 250A

AD653 Bracket, Bracket bottom for PRO 250A

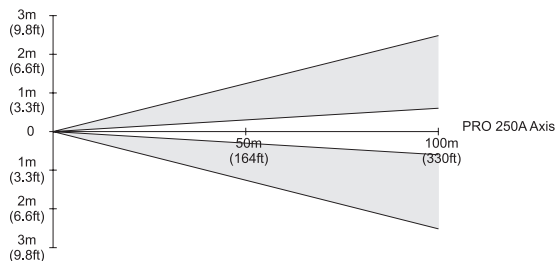
IT44 PRO 150/250/75 Installation tester



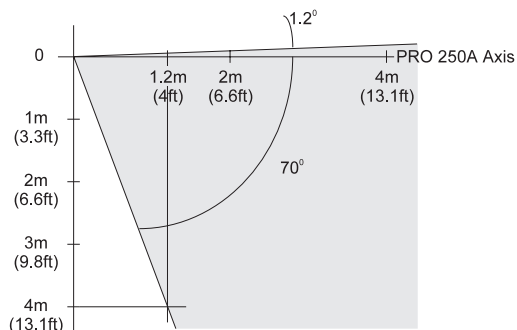
**Mounting Bracket PRO 75A,
PRO 150D and PRO 250A
(optional)**



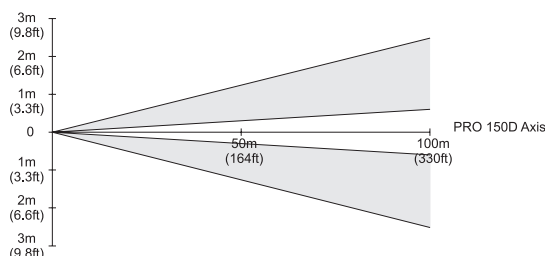
Top view of PRO 250A field of view



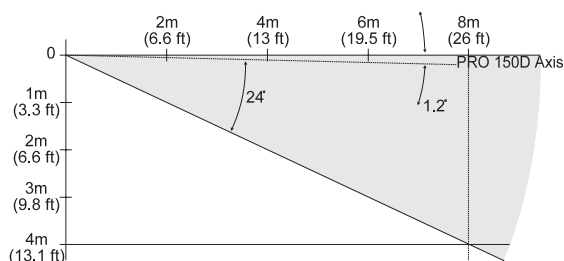
Side view of PRO 250A field of view



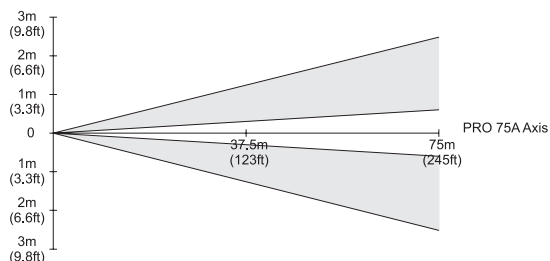
Top view of PRO 150D field of view



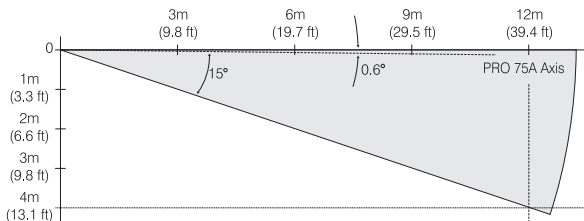
Side view of PRO 150D field of view



Top view of PRO 75A field of view



Side view of PRO 75A field of view



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