

ADPRO PRO Series

Passive Infrared Perimeter Intrusion Detector

Data Sheet



The complete new portfolio of ADPRO PRO E-PIR Perimeter Intrusion Detectors (PID) were engineered to provide extraordinary reliability and accuracy. This new generation of PIRs evolved from the Xtralis defense-grade perimeter protection technology and our proven series of ADPRO PRO PIRs.

Utilising Passive Infrared (PIR) technology and combining it with precision mirror optics, employing the latest digital signal processing (DSP) and an environmental adaptive circuitry - this provides the exceptional reliability of detection while minimising nuisance alarms.

ADPRO PRO E-Series detectors achieve unsurpassed performance even under precarious environmental conditions. The ADPRO PRO E-Series PIR detectors are available in a variety of models to optimally address your perimeter, performance, and budget needs.

PRO E-Series - Extraordinary Features

Complete New Housing Design

- Designed for wall and pole mounting - no additional adaptors required
- Integrated cable management - no visible cable routing directly from mounting surface
- Designed for one-man installation with the iCommission tool which allows for wireless control of the PIR detectors via the iCommission application installed on a smartphone or tablet PC
- Simple on-site exchange of the filter module (window) - no detector factory overhaul
- Sophisticated 3D-tamper (pan/tilt/move) protection including a compass (slow panning)
- Detection of attempted removal from mounting surfaces also includes cable managed bracket
- Prepared for further enhancements and options - such as IP connectivity, wireless communication or even battery operation (in combination with renewable energy sources)

ADPRO PRO E-400H SLR — Superior Long-Range

- The “flagship” of ADPRO PRO E-detector series is worldwide the one and only “SLR”-PIR-PID with a nominal range of 200m (650ft).
- Save installation cost due to reduced poles, cabling, number of detectors and installation time

“360PROtect™” Technology - Near Surrounding Area Surveillance

- Special tamper protection of the detector - eliminating creep zones
- 360PROtect™ covers the area between up to 1m behind the detector and 8m in front of it

Detector Masking

- Manipulation, vandalism, and/or tampering of the detector's input capability with objects such as metal, plastics, paper or sprayed paints or lacquers in close proximity to the detector are detected and indicated as required by EN and upcoming IEC-standards for perimeter detectors

Quick Setup

- No hardware programming via DIP-switches
- Via standard RS-485-communication or optional IP-module all parameters can be adapted

Product Highlights

PRO E-Series detectors deliver exceptional savings of time and total cost of ownership.

- IP66-rated housing for all models
- iCommission for one man commissioning and installation
- Integrated Cable Management
Invisible cable routing for tamper protection
- Remote configuration and alarm management via RS485-communication
- Auto-sensing supply voltage
10.5-30 VDC and 24 VAC
- Low power consumption - ideal for wireless and solar applications
- Double-knock functionality of two detectors results into 7 detection zones, managed by FastTrace 2E /iFT-Series/CamDisc E/ ipVG-Series for accurate visual verification

Providing maximum tamper protection

- “360PROtect™” Technology - near surrounding area surveillance, as a special tamper protection of the detector - from 1 m behind the pole/ wall up to 8m - eliminates all creep zones
- Detects attempted removal from mounting surface
- Advanced 3D-tamper detection signals an alarm if detector alignment is altered
- Detector masking detection
- Up to 4 m (13 ft) mounting height to minimise the risk of vandalism
- Digital compass detects very slow horizontal misalignment

Highest reliability of detection — minimising nuisance alarms

- Heater and heavy-duty silicon wafer front window for -40° to +60° C (-40° to 140°F) operating temperature, ideal for extreme environments (standard for H-models)
- Detection of intruders crawling, walking or running at speeds from 0.2 to 5 m/s (0.7 to 16 ft/s)
- Ultra-low nuisance alarm rate thanks to advanced digital signal processing (DSP), and adaptive threshold discrimination
- A creep zone blinder eliminates strong lateral IR radiation from nearby external sources. The blinders make the detection more reliable and unsusceptible against false alarms caused by, e.g., big lorries, generators or machines which are directly located in the direct proximity of the PIR detector

Accessories

- iCommission - One-Man-Commissioning-Tool including iCommission-App for remote controlled tilt adjustment
- PRO E-Tool - configuration, commissioning, analysis and remote control software
- IFM-485-ST - PC interface module for PC-based installation, commissioning, maintenance and alarm management of all PRO detectors
- CT PRO 2 - wireless walk-tester (2.4 GHz) for all PRO detectors
- CH18000101 – Alignment telescope PRO E series including adapters
- CH11001201 – A pair of telescope adapters for PRO E detectors
- PRO E-IPM - optional build-in IP-Module for PRO E-detectors for a direct communication to a receiver PC, a FastTrace/IFT or HeiTel CamDisc/ipVG device (High Level Interface) via an Ethernet network

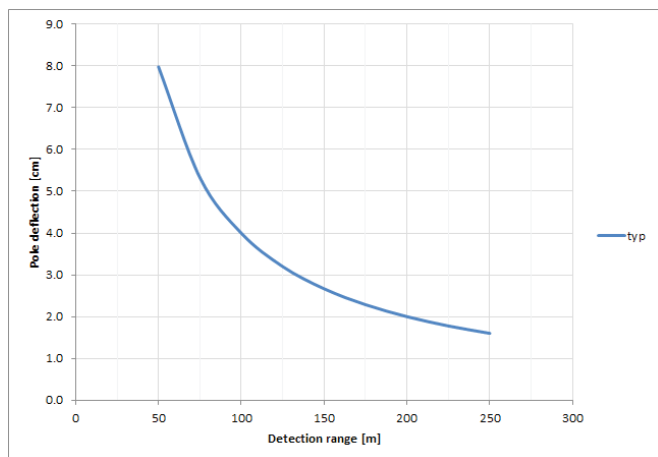
360PROtect™ - Near Surrounding Area Surveillance

This Xtralis technology provides special tamper protection for all ADPRO PRO E-detectors. This innovation provides protection from 1 m behind the pole/wall installation up to 8 m - completely eliminating all creep zones. Cost savings and superior protection are realized with one ADPRO PRO E-detector; creep zones are eliminated and the areas behind and aside the detector are monitored. Regarding tamper security 360PROtect™ technology puts ADPRO PRO E-detectors unambiguous on leading position.

Pole Deflection

A small deflection will influence the detection range and can cause a significant number of false alarms. The following chart gives an overview showing the allowed pole deflection at various detection ranges.

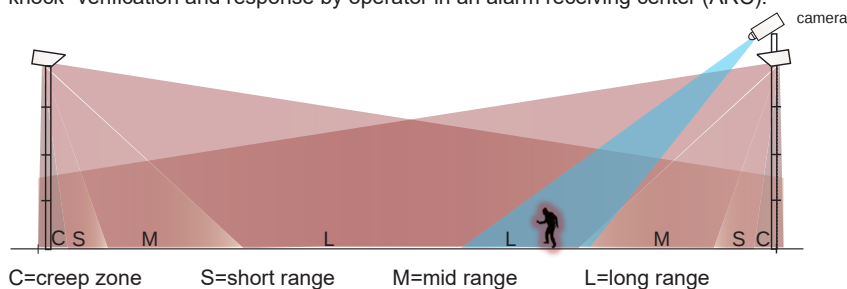
E.g. a detection range of 200m requires a pole with maximum 2cm deflection under all environmental conditions. A detection range of 100m requires a pole with maximum 4cm deflection.



Double-Knock Functionality

ADPRO PRO E-100, PRO E-100H and PRO E-400H pointed at each other and linked together via an intrusion control panel or management station deliver "double knock" functionality. By cross zoning two detectors additional sub-zones are created, which can then be used for precise alarm localisation and subsequently camera positioning. This results not only in an ideal image section, but also in less false alarms, caused by wild animals or other environmental reasons.

Additionally optimally zoomed-in images can be used by video analytic functions of remote video gateway system like ADPRO FastTrace 2E, iFT and HeiTel CamDisc E and ipVG-Series for "triple knock" verification and response by operator in an alarm receiving center (ARC).

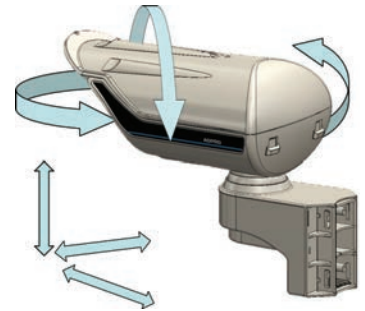


C=creep zone S=short range M=mid range L=long range

When an intruder appears, PIR alarms are activated and camera streams to ADPRO FastTrace 2E, iFT, CamDisc E or ipVG-Series for visual verification and response by operator.

Operation in low visibility with ADPRO FastTrace 2E/iFT-series

A fog detection input on the ADPRO FastTrace 2E/iFT and iFT-E allows PRO E-Series detectors to operate in poor visibility. When two PRO E PIR detectors are paired in an intelligent double-knock and the fog detection input is activated, the system automatically turns off the ATD of both PIR detectors, sets the sensitivity to the maximum and puts them into single knock in order to improve the detector's performance.



Sophisticated Tamper Protection

All ADPRO PRO E-detectors monitor:

- opening of detector housing and mounting bracket cover
- horizontal, vertical and pitch alignment
- slow horizontal movements with the help of an integrated switchable digital compass
- removal from mounting surface

These features fulfill the highest tamper protection requirements and ensure reliable operation in the highest graded security applications.

ADPRO PRO-E Detector Outputs

All ADPRO PRO E-detectors have 3 free programmable outputs for alarms from:

- PIR-sensor, 360PROtect™ or masking detection
- fault events caused by the power supply, exceeded temperatures, faulty heating device, masking detection or watch-dog
- tamper alarms of housing cover, cable managed bracket cover, misalignment and removal from mounting surface attempts

All high-performance detectors (H-versions) offer additionally two independent outputs for alarms from:

- 360PROtect™, masking or alarm zone or other events

For plug & use, all outputs are set to standard compliant default settings, which can be changed easily with the ADPRO PRO E-Tool software.

Recommended Ranges and Positioning

ADPRO PRO E-series detectors offer the best value per foot of coverage when compared to similar effective intrusion detection technologies. ADPRO has pushed the limits of the PIR technology to new frontiers, thus making it the ideal choice for cost conscious decision makers unwilling to compromise on security.

Longer perimeters are easily divided into sections not exceeding the nominal range of the chosen detectors. The PRO E-detectors are designed to provide gap-free coverage in, around and behind the mounting location.

Mounting

Recommended mounting height is 2.5 – 4 m (8 – 13ft). All PRO E-detectors are ready-to-use on walls or poles without any adaptors and have an integrated tamper-monitored cable managed bracket.

iCommission™

All detectors can be vertically aligned with a smartphone or tablet PC e.g. during walk-test remotely with the optional use of iCommission. With the help of iCommission one engineer can mount, align, and fine-adjust a detector - one man commissioning for noticeable cost and time savings.

Remote Service

All detectors are equipped with a two-way data port. Using the ADPRO PRO E-Tool software via the IFM-485-ST interface, configuration details and live signals, as seen by the detectors, can be changed and reviewed remotely.

The IFM-485-ST interface module and the ADPRO PRO E-software are very helpful during both the installation process, but also during operation later on. For example, detector configuration changes can be applied in real time without climbing any ladders.



Applications

- Outdoor perimeter and area detection:
 - solar fields
 - pipelines
 - logistic centers
 - scrap merchants
 - warehouses
- Fence-line protection
- Anticipating and proactive video surveillance
- Providing reliable detection for remotely monitored and detector activated CCTV systems for maximum Central Monitoring Station profitability
- Conditional triggering of CCTV, PTZ and dome cameras
- Conditional triggering of video-switchers for event-driven CCTV

System Design Considerations

It is considered good design practise to terminate a detector's field of view with a barrier if the PIR field of view exceeds the desired detection zone, especially if it borders onto unknown or busy terrain. Wire mesh fence alone will not work, a closed surface area is necessary, wood or plastic materials are perfectly suitable.

For more details and a professional system design we strongly recommend to refer to the **"Planning and Commissioning Manual"** on:

www.xtralis.com/ADPRO_PRO_E_Detectors



Technical Specifications

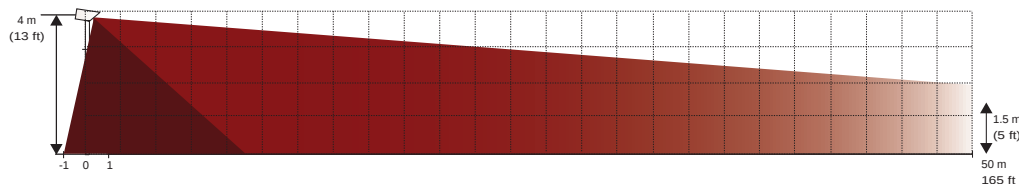
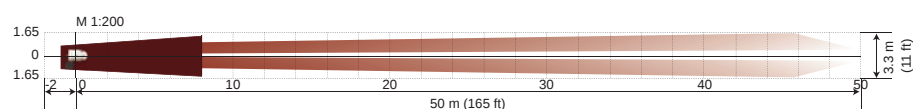
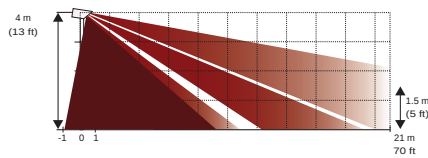
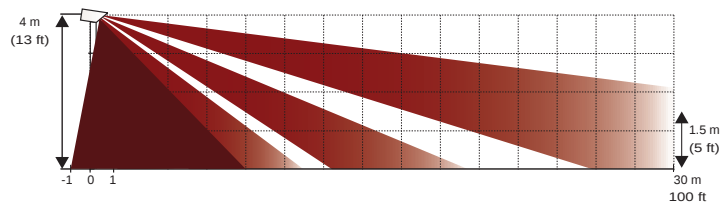
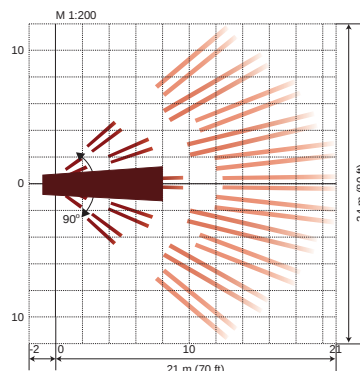
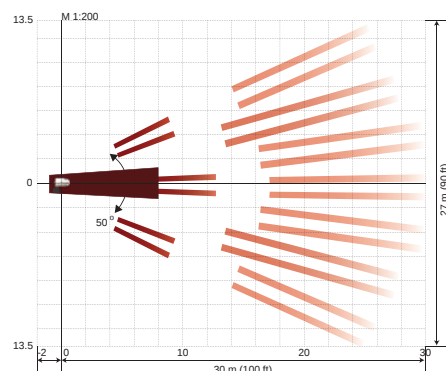
Specification / Model	PRO E-18	PRO E-18H	PRO E-18W	PRO E-18WH	PRO E-30	PRO E-40	PRO E-45	PRO E-45H
Item Code	CH10055001	CH10055101	CH10053001	CH10053101	CH10063001	CH10073001	CH10023001	CH10023101
Detection principle	Volumetric medium-range		Volumetric wide-angle		Volumetric medium-range		Curtain, medium-range	
Nominal range (L x W), width at nominal range	24 m x 21 m (80 ft x 70 ft)	30 m x 27 m (100 ft x 90 ft)	21 m x 24 m (70 ft x 80 ft)	27 m x 30 m (90 ft x 100 ft)	30 m x 20 m (100 ft x 65 ft)	40 m x 10 m (130 ft x 33 ft)	50 m x 3.3 m (165 ft x 11 ft)	60 m x 3.9 m (200 ft x 13 ft)
Angle of beam (angle of aperture, AA)	50°		90°		50°	15°	3.8°	3.8°
360PROtect™ - Near Surrounding Area Surveillance	-1 m up to +8 m (-3 ft up to +26 ft)							
Spectral response	8-14μ, double filtered							
Filter (Front Window)	Standard versions: HDPE-Filter, IR transmissive / H-Versions: Silicon Wafer							
Pyroelectric Sensor (differential)	single-channel							
Detection speed range	0.2 - 5 m/s (0.7 - 16 ft/s)							
Alarm outputs (free programmable)	3	5	3	3	3	3	3	3
Alarm settings (free programmable)	Alarm in Main Zone; Alarm Creep Zone (360PROtect); Pulse Count; Alarm Tamper Bracket Switch, Alarm Cover Switch, Alarm Detector Alignment, Alarm Antimasking, Alarm Fault (Power Supply, Temperature, Heating)							
Output load (max.)	3x (Standard) / 5x (H-version) Solid State Relais 75 mA max. @ 60 V _{DC}							
Alarm indicator	Internal LED (during commissioning)							
Data-Interface	RS-485, 9600 baud/s // on-board							
Adjustments via Tool-Software - Sensitivity	50 - 150% (default 100%)							
- Range	n.a							
Cable feed (diameter)	Rubber seal for 4x 5-8mm cables and 4x 1-2mm wires							
Cable termination (screw terminals)	Ø: 0.255 - 1.29 mm; A: 0.05 - 1.31 mm²; AWG: 30 - 16							
Supply voltage	10.5 - 30 V _{DC} , 24 V _{AC} ±15% auto-sensing							
Supply current	approx. 18 mA @ 12 V _{DC} , 12 mA @ 24 V _{DC} , 30mA @ 24 V _{AC} (@ +25°C), excluding heater							
Heater power (H-versions only)	approx. 0.5 W / ~41 mA @ 12 VDC and -40°C							
Operating temperature and temperature compensation	Standard version with HDPE-filter (no heater): -20 °C to +60 °C (-4 °F to +140 °F) H-version with Silicon Wafer and heater: -40 °C to +60 °C (-40 °F to +140 °F) Full compensation over entire operating temperature range							
Housing material	Luran® S (ASA)							
IP-Rate	IP66							
Mounting	Wall and pole mounting — cable managed bracket (CMB) included							
Weight (incl. cable managed bracket)	approx. 1.51 kg (3.33 lbs)	approx. 1.65 kg (3.64 lbs)	approx. 1.51 kg (3.33 lbs)	approx. 1.65 kg (3.64 lbs)	approx. 1.51 kg (3.33 lbs)	approx. 1.51 kg (3.33 lbs)	approx. 1.51 kg (3.33 lbs)	approx. 1.65 kg (3.64 lbs)
Dimensions (L x W x H)	358 mm x 188 mm x 290 mm (14.1" x 7.4" x 11.4")							
Country of Origin	Designed in Switzerland // Made in China							
CE (incl. RoHS II, REACH, WEEE)	All ADPRO PRO E-Series products comply with the following EU directives: 2014/30/EU EMC, 2001/95/EC GPS and 2011/65/EU RoHS2.							
Warranty	24 months							
HS Code (Commodity Code)	8543 7090 99							
ECCN-Export Control Classif. Number	EAR-99							
Standards & Regulations	EN 50130-4:2011, EN 61000-6-3:2007 + A1:2011, EN 62368-1:2014, EN 50581:2012							

Technical Specifications

Specification / Model	PRO E-100	PRO E-100H	PRO E-400H
Item Code	CH10033001	CH10033101	CH10100001
Detection principle	Curtain, long-range	Curtain, long-range / precision glass mirror	Curtain, superior long-range / precision glass mirror
Nominal range (L x W), width at nominal range	120 m x 2.9 m (400 ft x 9 ft)	150 m x 3.3 m (500 ft x 11 ft)	200 m x 5.1 m (650 ft x 17 ft)
Angle of beam (angle of aperture, AA)	1.3°		
360PROtect™ - Near Surrounding Area Surveillance	-1 m up to +8 m (-3 ft up to +26 ft)		
Spectral response	8-14μ, double filtered		
Filter (Front Window)	Standard versions: HDPE-Filter, IR transmissive / H-Versions: Silicon Wafer		
Pyroelectric Sensor (differential)	triple-channel		
Detection speed range	0.2 - 5 m/s (0.7 - 16 ft/s)		1 - 3 m/s (3.3 - 9.8 ft/s)
Alarm outputs (free programmable)	3	5	5
Alarm settings (free programmable)	Alarm in Main Zone; Alarm Creep Zone (360PROtect); Pulse Count; Alarm Tamper Bracket Switch, Alarm Cover Switch, Alarm Detector Alignment, Alarm Antimasking, Alarm Fault (Power Supply, Temperature, Heating)		
Output load (max.)	3x (Standard) / 5x (H-version) Solid State Relais 75 mA max. @ 60 V _{DC}		
Alarm indicator	Internal LED (during commissioning)		
Data-Interface	RS-485, 9600 baud/s // on-board		
Adjustments via Tool-Software - Sensitivity	50 - 150% (default 100%)		50 - 150% (default 100%)
- Range	60/72/84/96/108/120 m	75/90/105/120/135/150 m	132/145/176/198/200 m
Cable feed (diameter)	Rubber seal for 4 x 5 - 8 mm cables and 4 x 1 - 2 mm wires		
Cable termination	Screw terminals 0.34 mm ² to 1,5 mm ² (AWG 28 -16)		
Supply voltage	10.5 - 30 V _{DC} , 24 V _{AC} ±15% auto-sensing		
Supply current	approx. 18 mA @ 12 V _{DC} , 12 mA @ 24 V _{DC} , 30mA @ 24 V _{AC} (@ +25°C), excluding heater		
Heater power (H-versions only)	approx. 0.5 W / ~41 mA @ 12 V _{DC} and -40°C		
Operating temperature and temperature compensation	Standard version with HDPE-filter (no heater): -20 °C to +60 °C (-4 °F to +140 °F) H-version with Silicon Wafer and heater: -40 °C to +60 °C (-40 °F to +140 °F) Full compensation over entire operating temperature range		
Housing material	Luran® S (ASA)		
IP-Rate	IP66		
Mounting	Wall and pole mounting — cable managed bracket (CMB) included		
Weight (incl. cable managed bracket)	approx. 1.65 kg (3.64 lbs)	approx. 1.65 kg (3.64 lbs)	approx. 1.65 kg (3.64 lbs)
Dimensions (L x W x H)	358 mm x 188 mm x 290 mm (14.1" x 7.4" x 11.4")		
Country of Origin	Designed in Switzerland // Made in China		
CE (incl. RoHS II, REACH, WEEE)	All ADPRO PRO E-Series products comply with the following EU directives: 2014/30/EU EMC, 2001/95/EC GPS and 2011/65/EU RoHS2.		
Warranty	24 months		
HS Code (Commodity Code)	8543 7090 99		
ECCN-Export Control Classif. Number	EAR-99		
Standards & Regulations	EN 50130-4:2011, EN 61000-6-3:2007 + A1:2011, EN 62368-1:2014, EN 50581:2012		

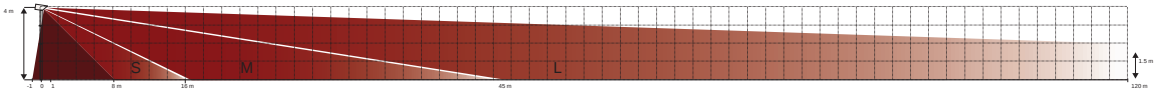
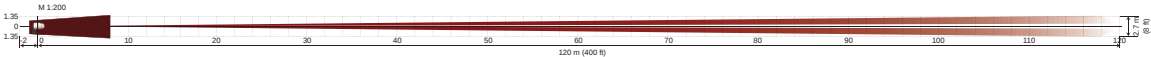
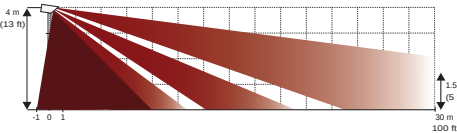
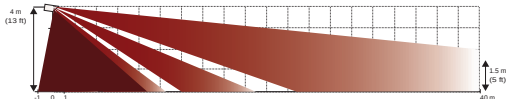
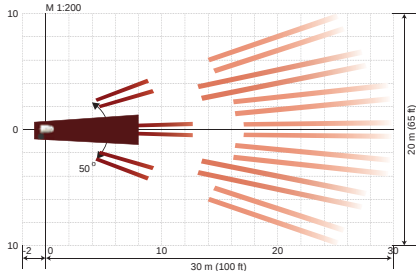
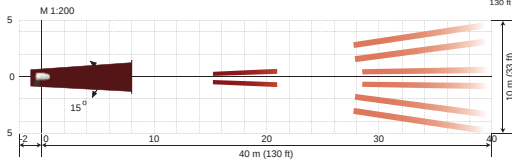
Nominal Detection Ranges

Detector Overview

Curtain Models	Medium-range curtain			
Detector	PRO E-45		PRO E-45H	
Coverage L x W	50 m x 3.3 m (165 ft x 11 ft)		60 m x 3.9 m (200 ft x 13 ft)	
Optics	Segmented Precision Mirror			
Side View (Standard Version)				
Top View, Width at Nominal Range (Standard Version)				
Volumetric Models	Volumetric Wide-Angle		Volumetric Medium-Range	
Detector	PRO E-18W	PRO E-18WH	PRO E-18	PRO E-18H
Coverage L x W	21 m x 24 m (70 ft x 80 ft)	27 m x 30 m (90 ft x 100 ft)	24 m x 21 m (80 ft x 70 ft)	30 m x 27 m (100 ft x 90 ft)
Optics	Segmented Precision Mirror			
Side View (Standard Version)				
Top View, Width at Nominal Range (Standard Version)				

Nominal Detection Ranges

Detector Overview

Curtain Models	Long-range curtain		
Detector	PRO E-100	PRO E-100H	PRO E-400H
Coverage L x W	120 m x 2.7 m (400 ft x 9 ft)	150 m x 3.3 m (500 ft x 11 ft)	200 m x 5.1 m (650 ft x 17 ft)
Optics	Segmented Precision Mirror	Precision Glass Mirror	
Side View (PRO E-100)			
			
Volumetric Models	Volumetric Medium-Range		
Detector	PRO E-30	PRO E-40	
Coverage L x W	30 m x 20 m (100 ft x 65 ft)	40 m x 10 m (130 ft x 33 ft)	
Optics	Segmented Precision Mirror		
Side View			
			

Benefits and Value Propositions

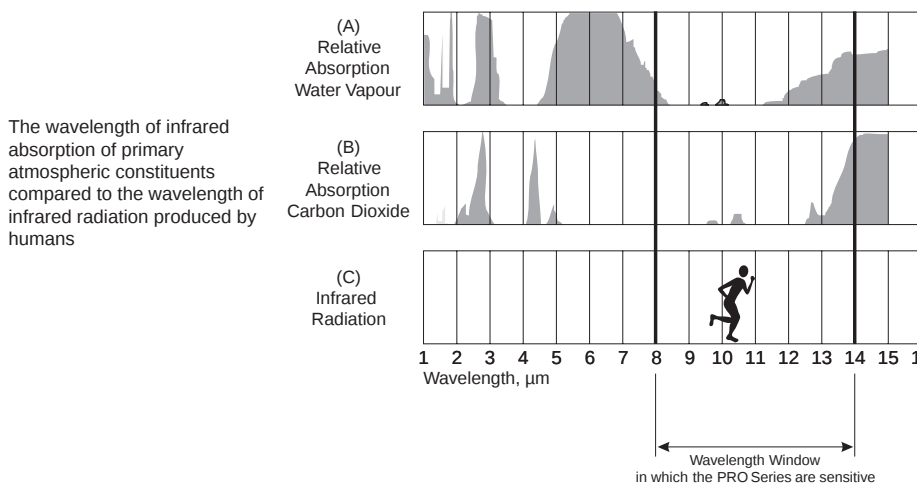
Intrusion detection - an "electronic fence" - in combination with alarm verification - video surveillance - protects property and prevents sabotage. Technologies from Xtralis anticipate disasters by giving users time to respond before life, critical infrastructures or business continuity is compromised.

- **"360PROtect™"**: Near Surrounding Area Surveillance for earliest detection of sabotage attempts and elimination of creep zones. 360PROtect™ results in less detectors, less poles and thus **lowest total cost of ownership (TCO)**
- **"Detector Masking Detection"**: Efficient means to detect attempts to defeat the detector by manipulating (masking) with material impermeable to infrared energy, such as paper, tape, film, or spray, typically during normal business hours when the security system is disarmed. **"CMB Integrated"**: The integrated cable managed bracket (CMB) allows completely hidden cable routing and makes tamper attacks very difficult
- **"PA Integrated"**: The completely new PRO E-detector housing is designed to be mounted directly onto a wall or a pole - no pole adaptors (PA) needed resulting in less installation cost
- **"Best-in-Class by FAR"**: Delivers the lowest nuisance alarm rates, thus best alarm rate
- **Remote access** for configuration and management (via RS-485 databus) even over IP
- **"Compass Inside"**: An integrated switchable compass enhances the 3D-anti-vandal feature to detect alignment changes
- **4 meters (13 ft) mounting height** for minimal risk of vandalism
- **Wide power supply range** 10.5 to 30 V_{DC} or 24 V_{AC} (auto-sensing)
- All H-models have an **internal heater with temperature compensation** to prevent condensation on internal components
- No need for separate transmitter and receiver units - PIR-technology allows for single-ended operation for lower installation cost
- **Low installation and maintenance cost**

Advanced Passive Infrared Detection Technology

After 25 years of positive results in favor of durable performance and longevity in harsh environments from PIR outdoor detector technology, it is now widely accepted to be well suited for perimeter protection in harsh environments.

- The area protected by the detector cannot be identified by an intruder due to the passive nature of the unit
- It's easily adaptable for small single detector installations up to large, high security multi-detector applications



Xtralis Security Solutions Overview

Xtralis offers a powerful portfolio of perimeter, multi-site and enterprise security solutions that lead the industry in reliability and value. ADPRO by Xtralis technologies deliver unparalleled situational awareness from the edge of your facility to its very core, transforming your security program from reactive monitoring to proactive threat detection.

- Intrusion Detection and Perimeter Security
- Video Recording, Transmission and Storage
- Remote Monitoring/Central Monitoring Stations
- Access Control
- Enterprise Security
- Traffic Detection
- Mobile Security Solutions

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