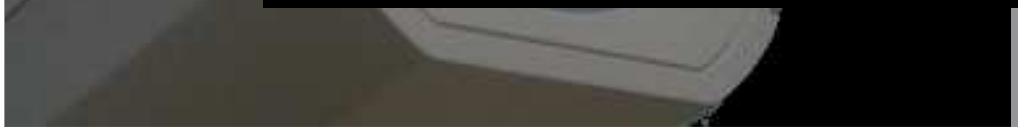
ADPRO®

xtralis®

PRO Series - Passive Infrared Detectors

Mar ntensperger
Apri



Agenda

- Company overview
- Concept of proactive surveillance
- Perimeter protection products overview
  - Long-range narrow curtain
  - Medium-range narrow curtain
  - Volumetric coverage
- Accessories and tools
  - ZA P-L1 (pole mount accessory)
  - CT 45 (wireless walk tester)
- ADPRO competitive advantage

Company Overview

- Headquarters in Melbourne, Australia
- A leader in very early warning smoke detection and control systems, voice alarm, traffic management systems and interactive video security solutions, which protect business critical assets across the world.
- Founded in 1984 and now employing over 400 people worldwide.

Company Overview – Xtralis CH

- More than 20 years of technical expertise and experience with over 50’000 security detectors deployed
- One of the Market leader in PIR technology
- ISO 9001 certified manufacturing

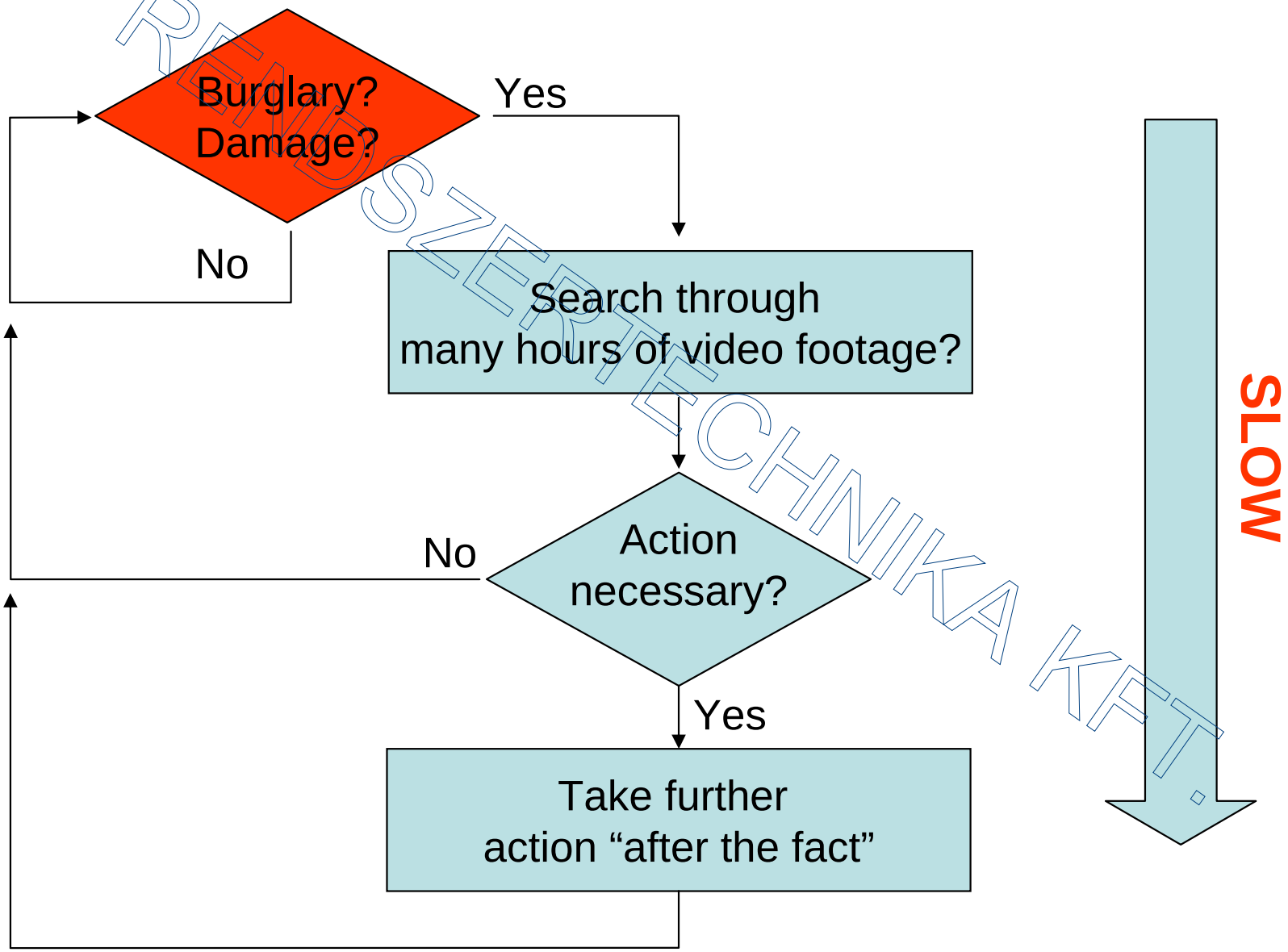
Perimeter Protection

- Historically, perimeters were protected using walls, fences, heavily armored guards etc.
- Advent of electronics has added tools and gadgets to the mix
- Today, a variety of technologies are available for perimeter protection

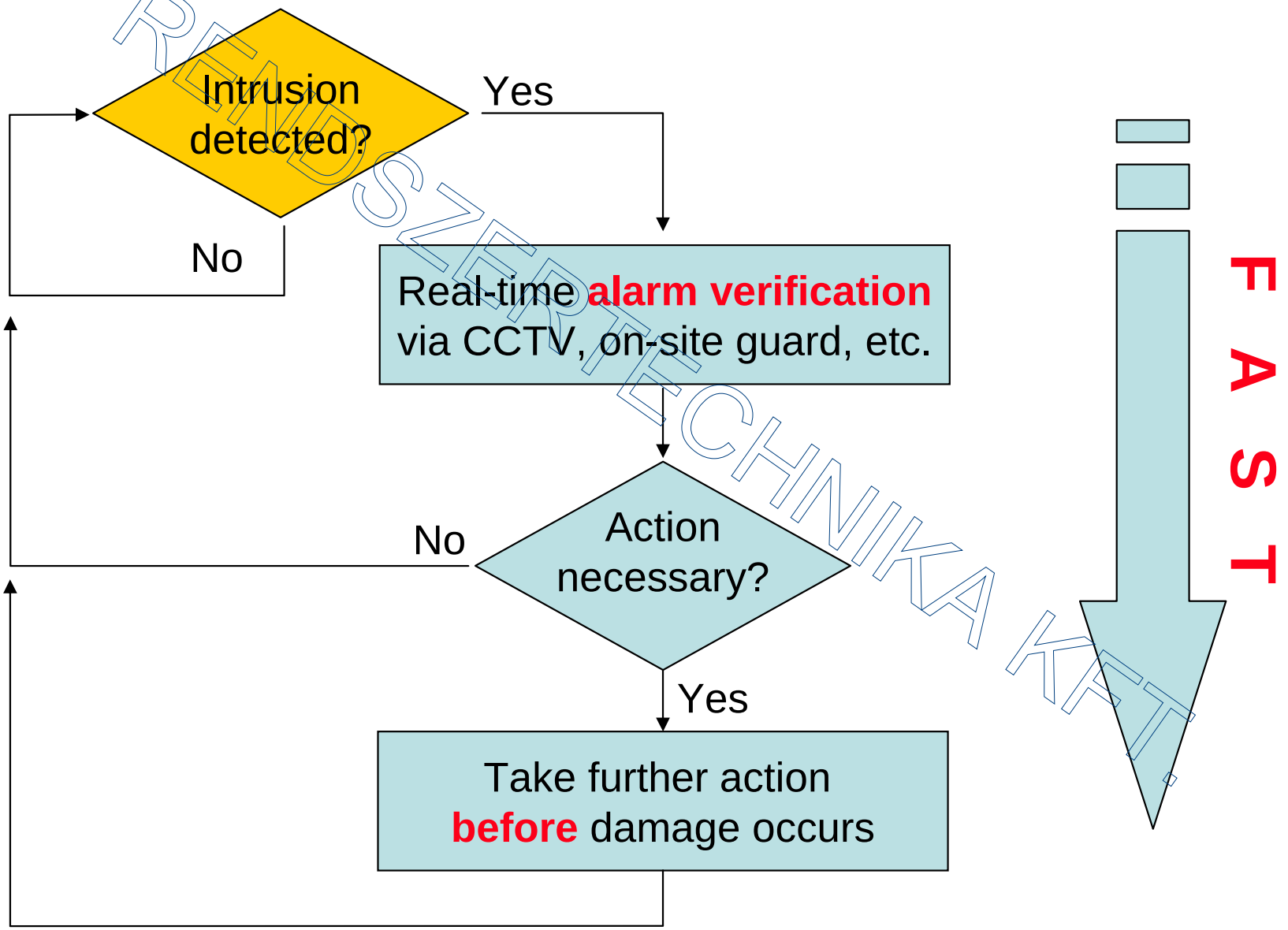
Passive vs. Proactive

- Today, oftentimes perimeter protection is limited to fences, walls etc.
- “Passive” surveillance: After something is being reported missing or damage has been detected, tapes or DVRs are reviewed to see what happened
- Better: intrusion detection combined with CCTV for ***proactive* surveillance**

“Passive” Surveillance



“Proactive” Surveillance



Proactive Surveillance

- Intrusion detection & alarm verification are the two key components for effective protection
- Every intrusion detection requires an alarm verification
- Goal of intrusion detection system is to provide reliable real-time information about the state of the perimeter at minimal nuisance alarm rates

Unreliable Intrusion Detection

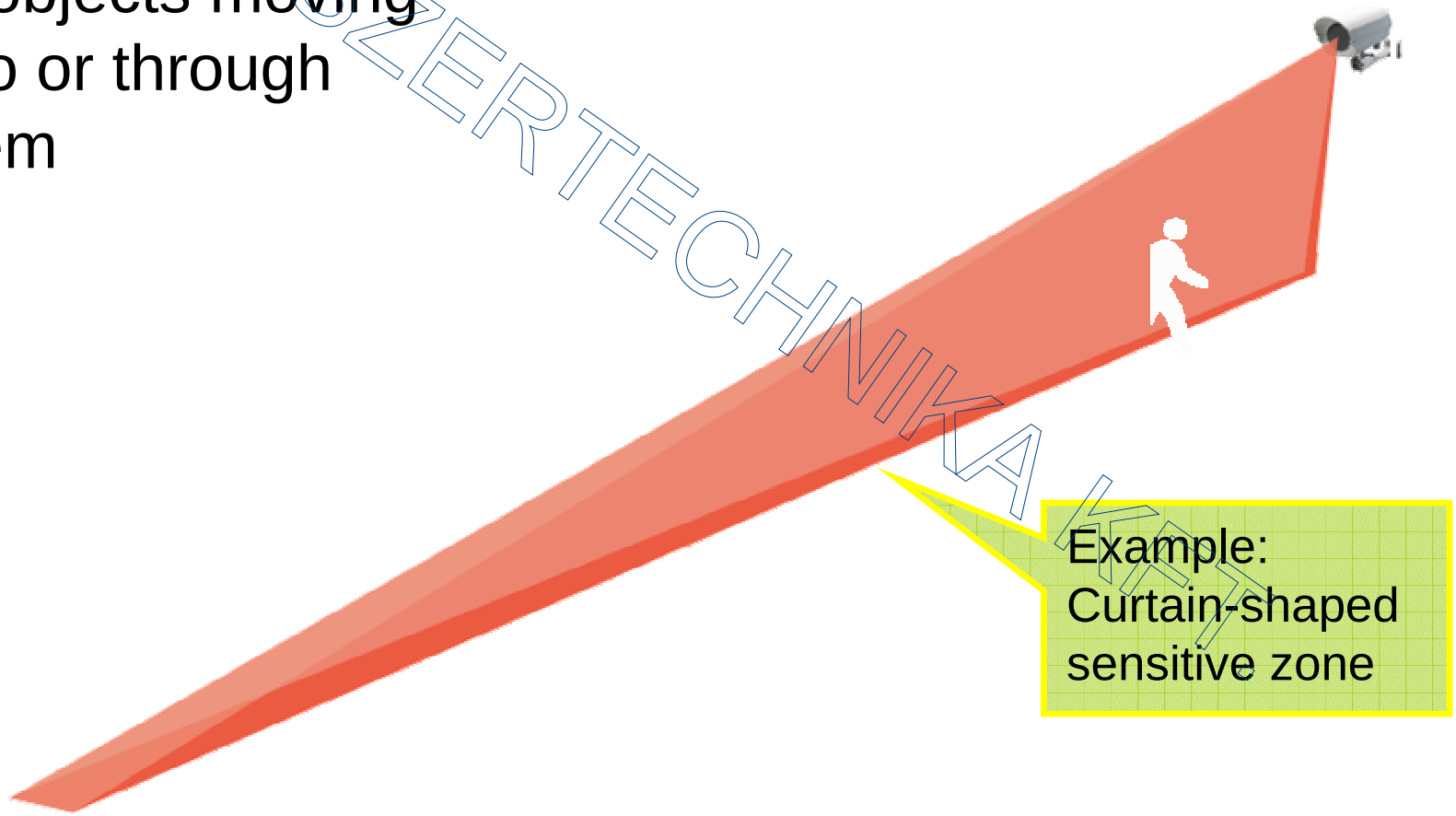
- Unreliable intrusion detection causes more problems than it solves
  - Nuisance alarms lead to excessive costs
  - Failure to issue an alarm leads to potentially unprotected perimeter
  - Inconsistent behavior of intrusion detection system makes it difficult to improve on its performance

Passive Infrared Technology

- ADPRO uses Passive Infrared (PIR) detection technology
  - Detecting the smallest changes in infrared radiation
- After 16 years of positive results, ADPRO PIRs are now widely accepted to be well suited for harsh environments
- Advanced DSP to minimize nuisance alarms through ATD (adaptive threshold decoding) and signal shape analysis
- Can detect persons up to 150 m away

ADPRO Detectors Attributes

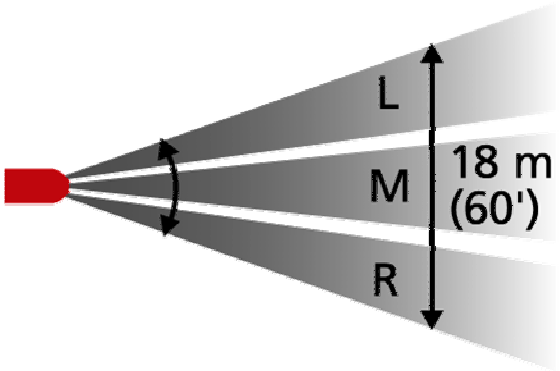
- Detectors feature one or more zones that are sensitive to objects moving into or through them



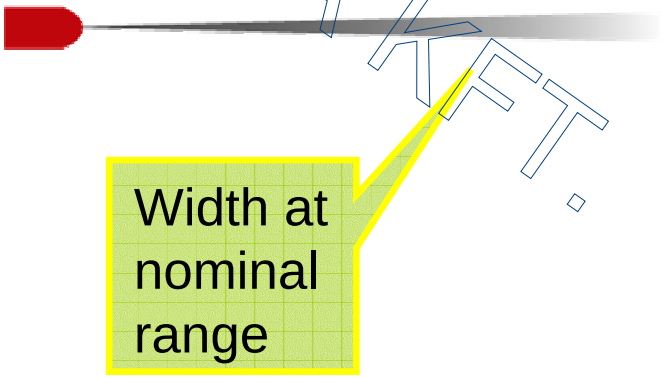
Attributes contd.

- Dimensions and pattern of these movement-sensitive zone(s) determine the type of detector
  - Most easily evident from “top-view”

“Volumetric” field of view

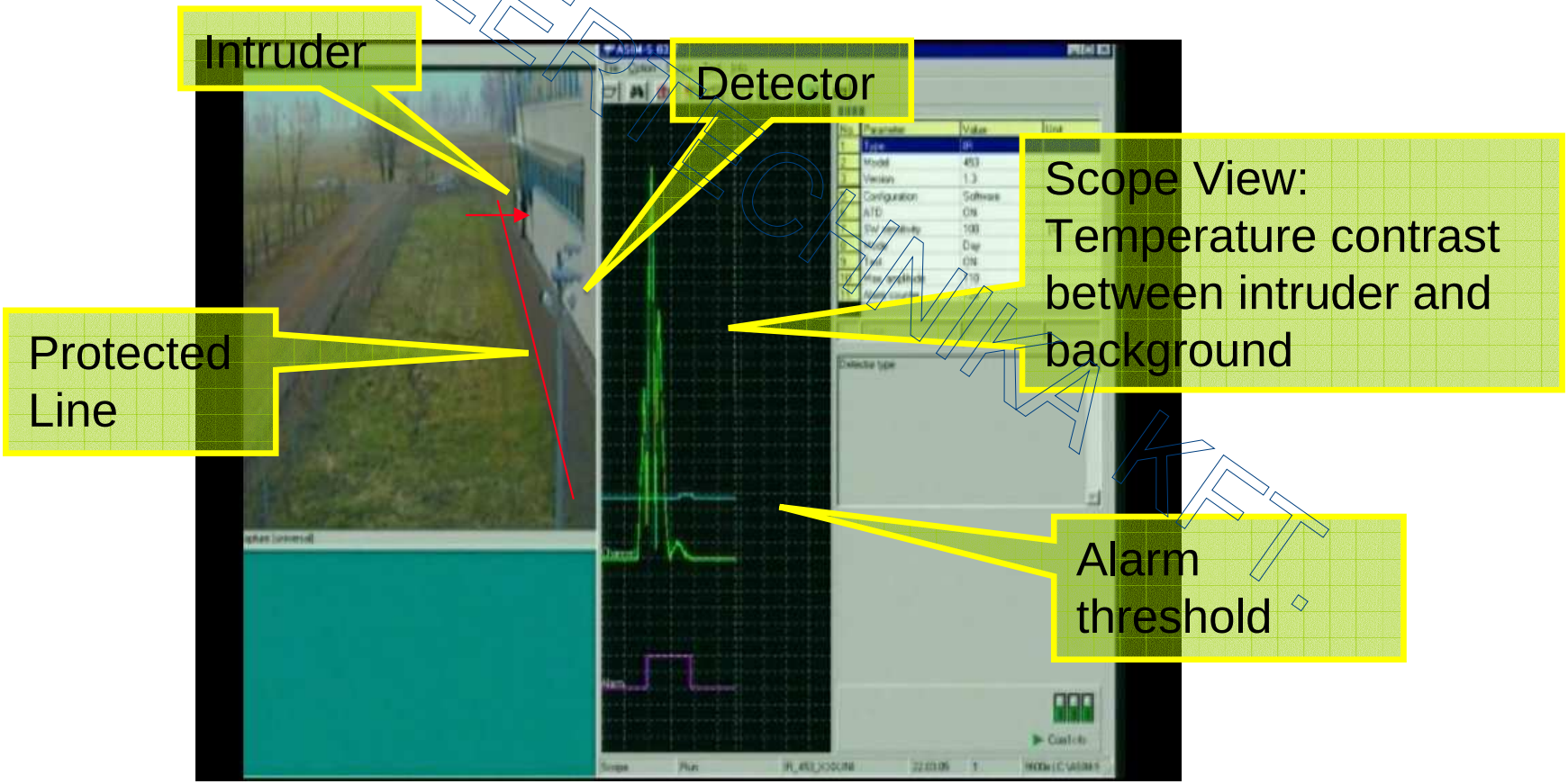


“Curtain” field of view



Sample Footage, Intro

Detectors are sensitive to any moving object with temperature contrast to the background of as little as a fraction of a degree



Nuisance Alarms

Techniques that minimize nuisance alarms:

- Differential Sensors
  - Signals received within the same time period in both sensor elements will be compensated, no alarm is generated
- Temperature compensation
  - For dynamic compensation of contrast variation
- Adaptive Threshold Discrimination (ATD)
  - Adjusts the alarm threshold level to the background noise
- Signal shape analysis:
  - Rising and falling edges of temperature contrast signal must meet certain criteria, otherwise no alarm is generated
- Additional Detection Zones
  - Require further criteria to be met for an alarm

Setting & Environment

No Problem

- Wide temperature range: -20 to +60º C
- Rain, snow, ice, fog
- No physical fence or wall present
- Stable mounting location (Pole: ø 4-6” >3 feet in ground)

Potential Problems

- Moving vegetation in field of view
- Wildlife
- Unstable mounting structure (moves in strong wind)

Maintenance & Tamper Detection

- Maintenance
  - Visual inspection annually or after severe weather conditions (hail etc.)
  - Walk-tests
- Tamper Detection
  - When alignment stored during setup is altered, detector issues tamper alarm
  - Common cover switch signals

Product Line Overview

3 Product Categories:

Narrow Long-Range Curtain:
(up to 150 m / 500 ft)

Medium-Range Curtain:
(up to 60 m / 200 ft)

Volumetric Coverages:

- Medium-Range (up to 30 m / 100 ft)
- Long-Range (up to 75 m / 250 ft)

Product Line Overview

2 Models per category:

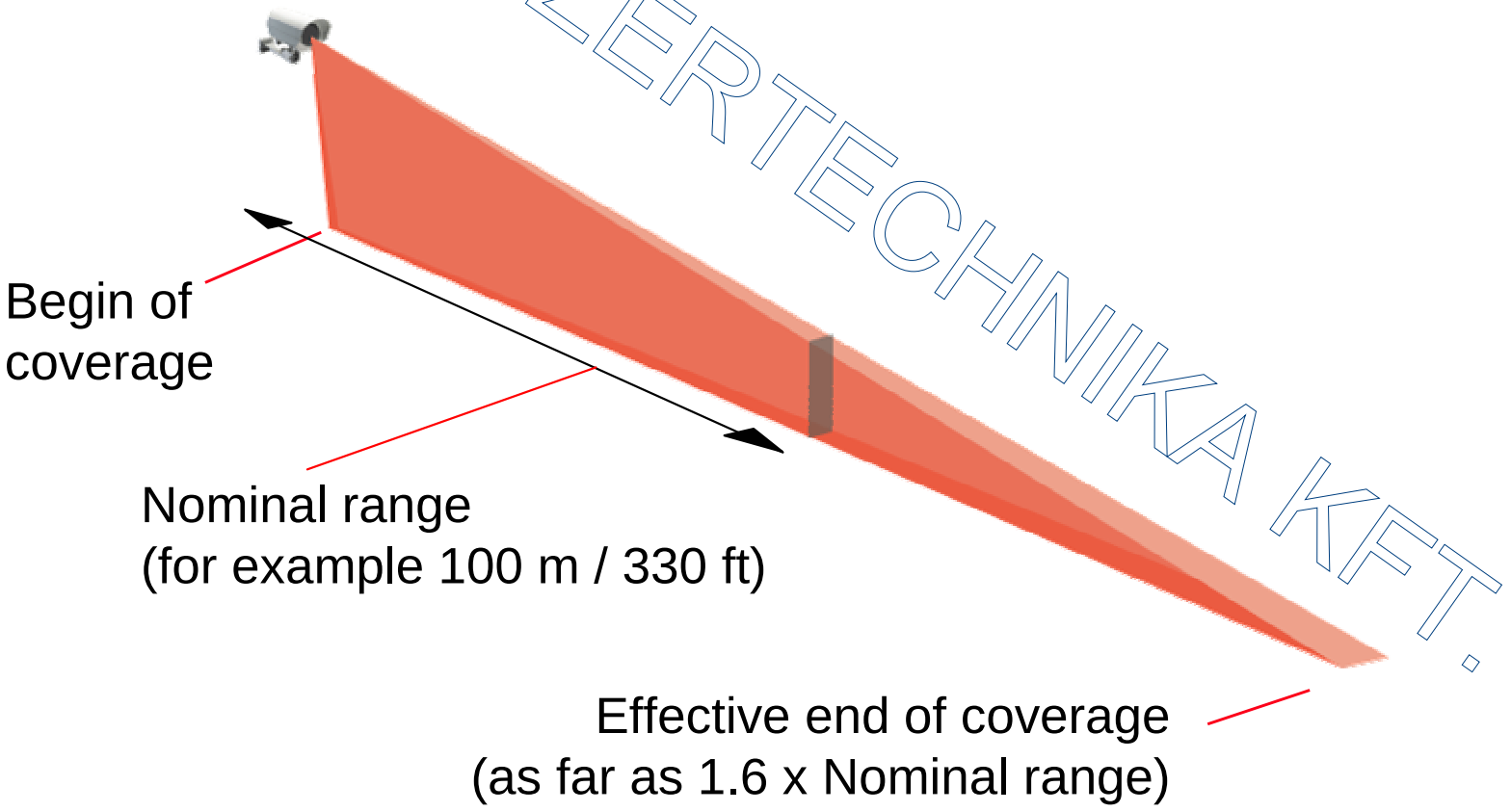
- Standard model features
  - Precision mirror optics
  - Operating temperature: –20º to +60ºC (-4º to +140ºF)
- High-performance model = standard model

plus

Silicon wafer window
Extended operating temperature range starting at –40ºC (–40ºF)
About 25% greater detection range
Heated optics

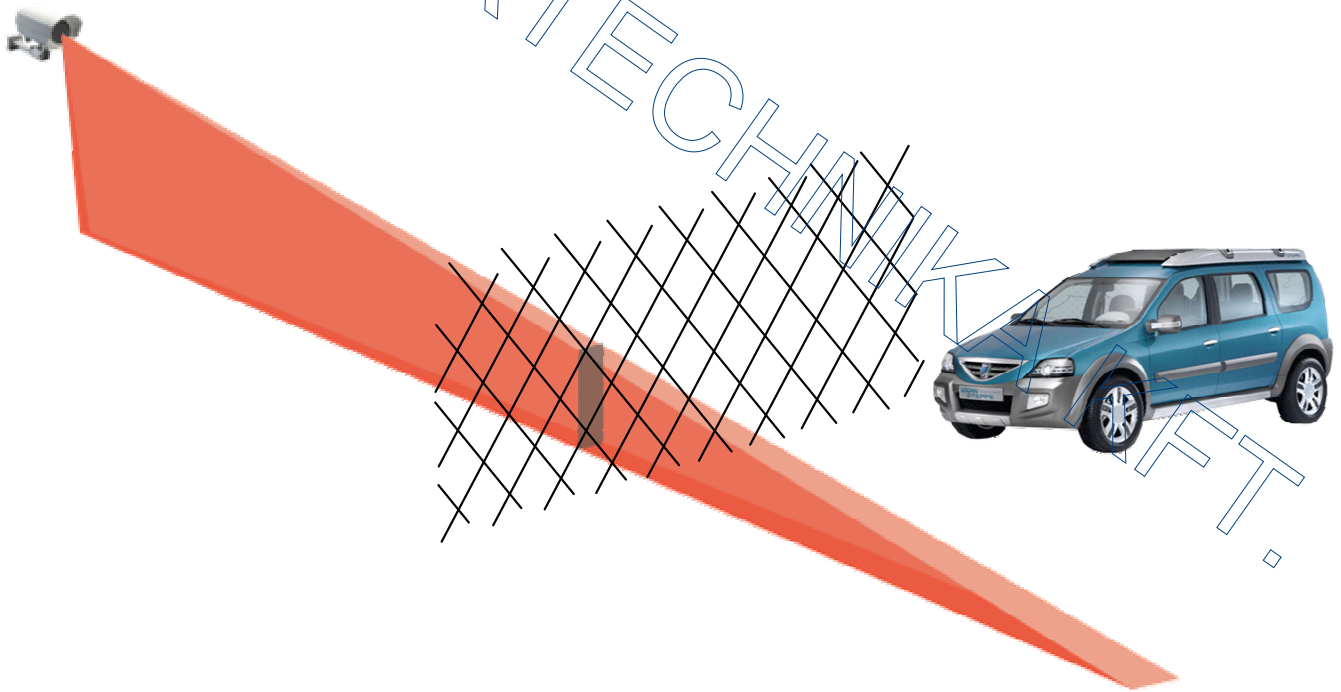
Curtain-Shaped Coverage

- Each curtain has this field of view (f.o.v.)

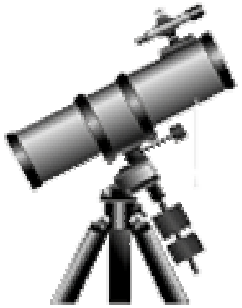


Design Considerations

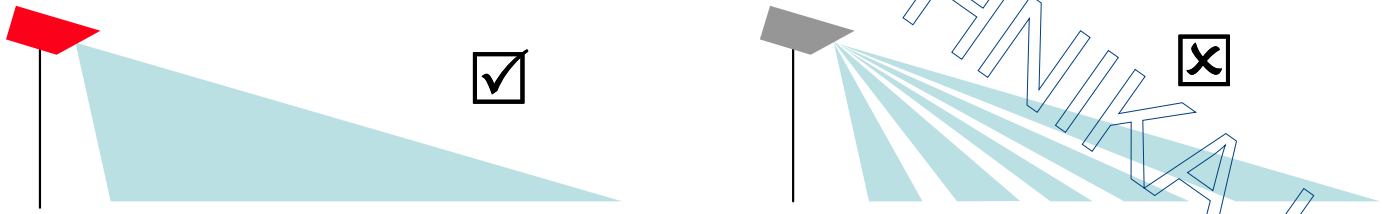
- Curtains may detect beyond desired range unless pointed towards terminating structure!



Long-Range Curtain



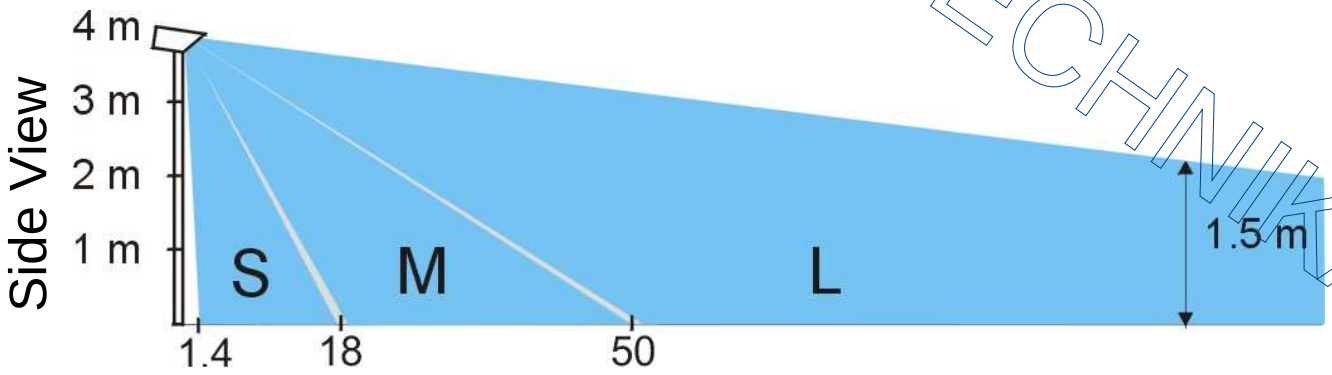
- Precision mirror glass optics (think telescope)
- Very narrow curtain (as low as 2.5 m / 8 ft at nominal range)
- Continuous, gap-free coverage



- Multi-zone detector with separate amplifier / signal processing for each zone

Long-Range Curtain

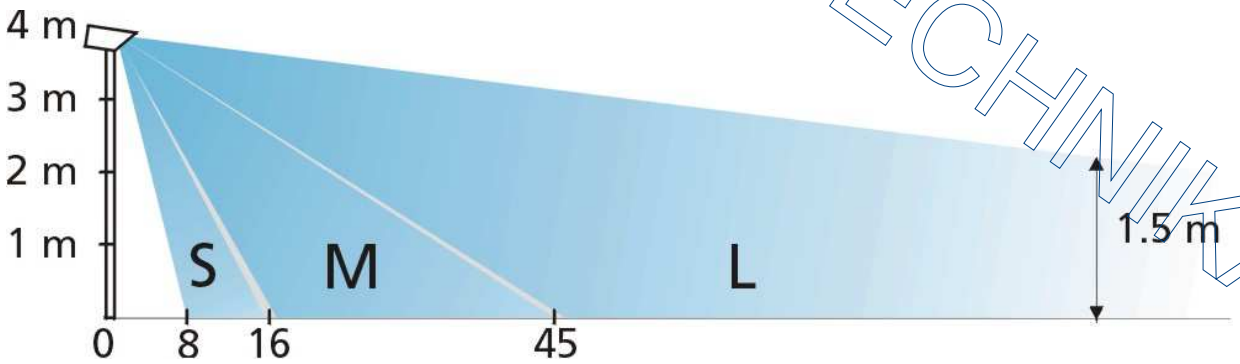
PRO 250A (H)



Long-Range Curtain

PRO 100 & PRO 100H

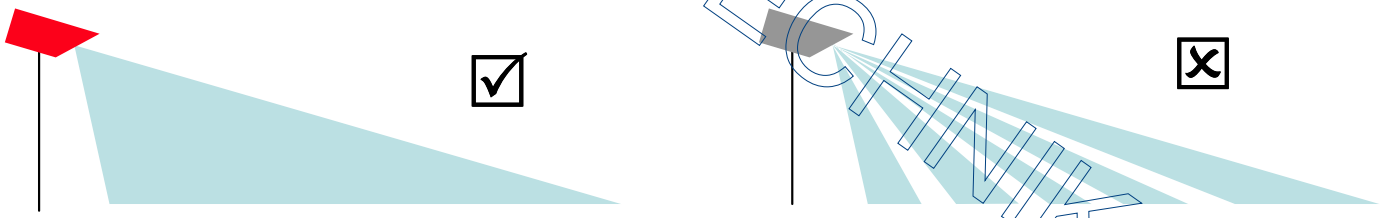
Side View



Top View

Medium-Range Curtain

- Precision segmented mirror optics
- Narrow curtain
  (3 m / 10 ft or less at nominal range)
- Continuous, gap-free coverage

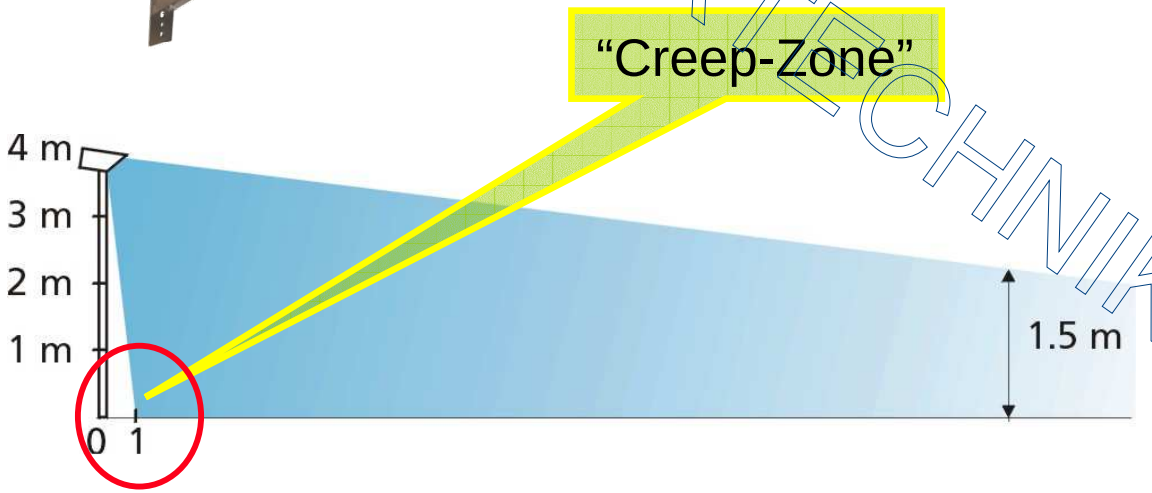


- Ideal for perimeter with shorter straight distances or in areas with fog

Medium-Range Curtain

PRO 45 & PRO 45H

Side View



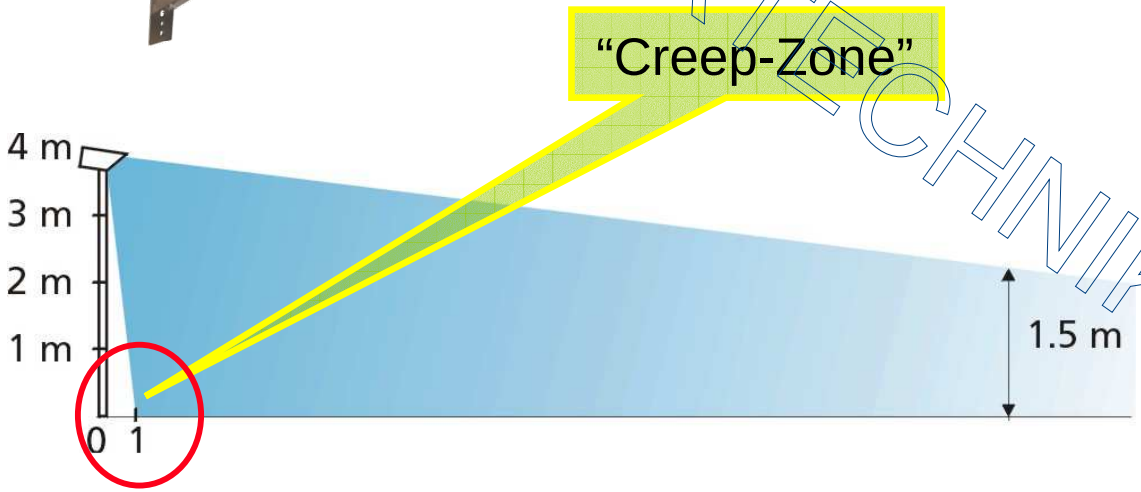
Top View

Directional Medium-Range Curtain

PRO 45D & PRO 45DH

Best new product category “intrusion” at ISC Show in 2003

Side View



Top View

Directional Detection

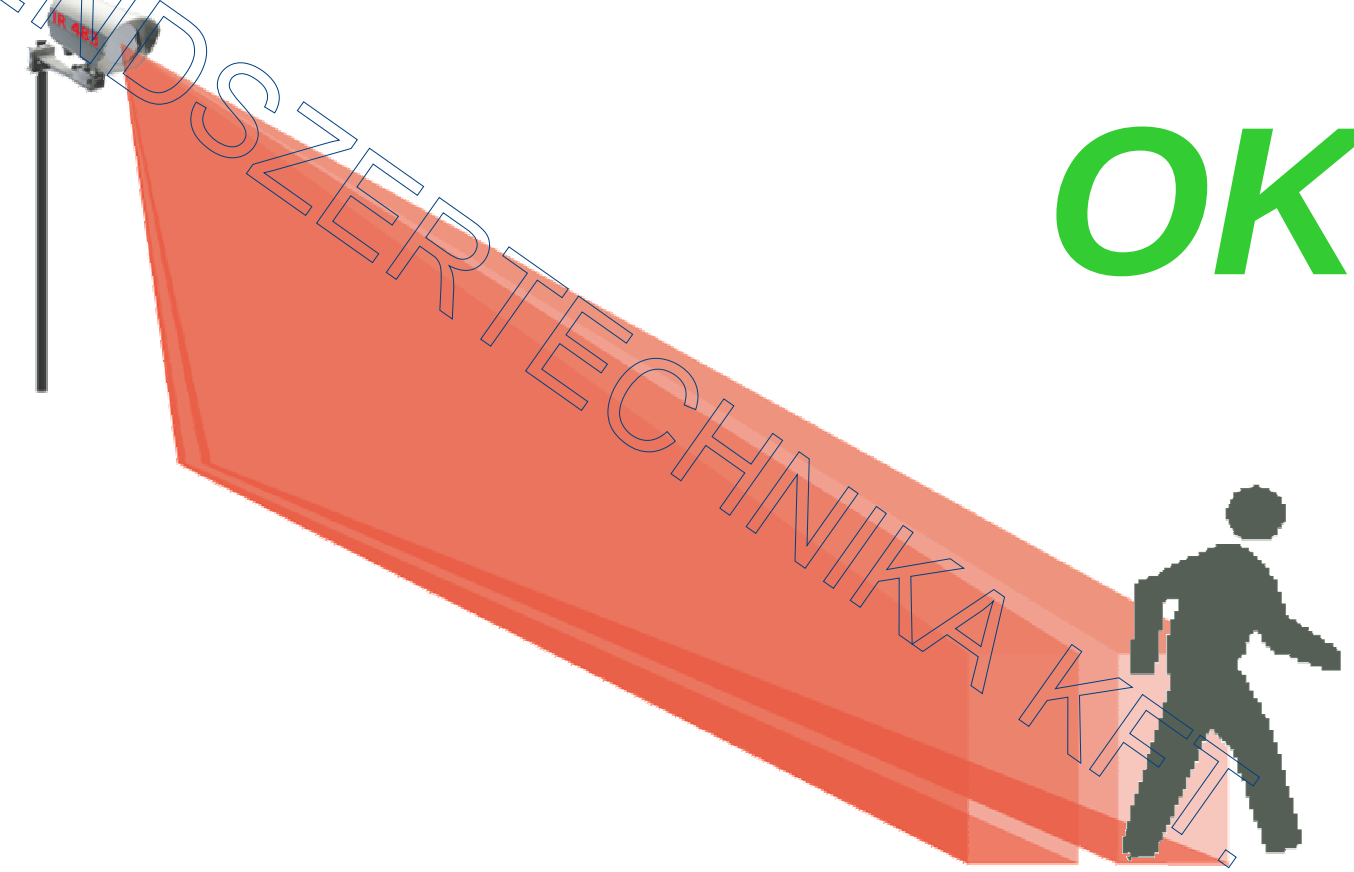
Directional Detection

xtralis

Example:

Right-Left ☑

Left-Right ☒

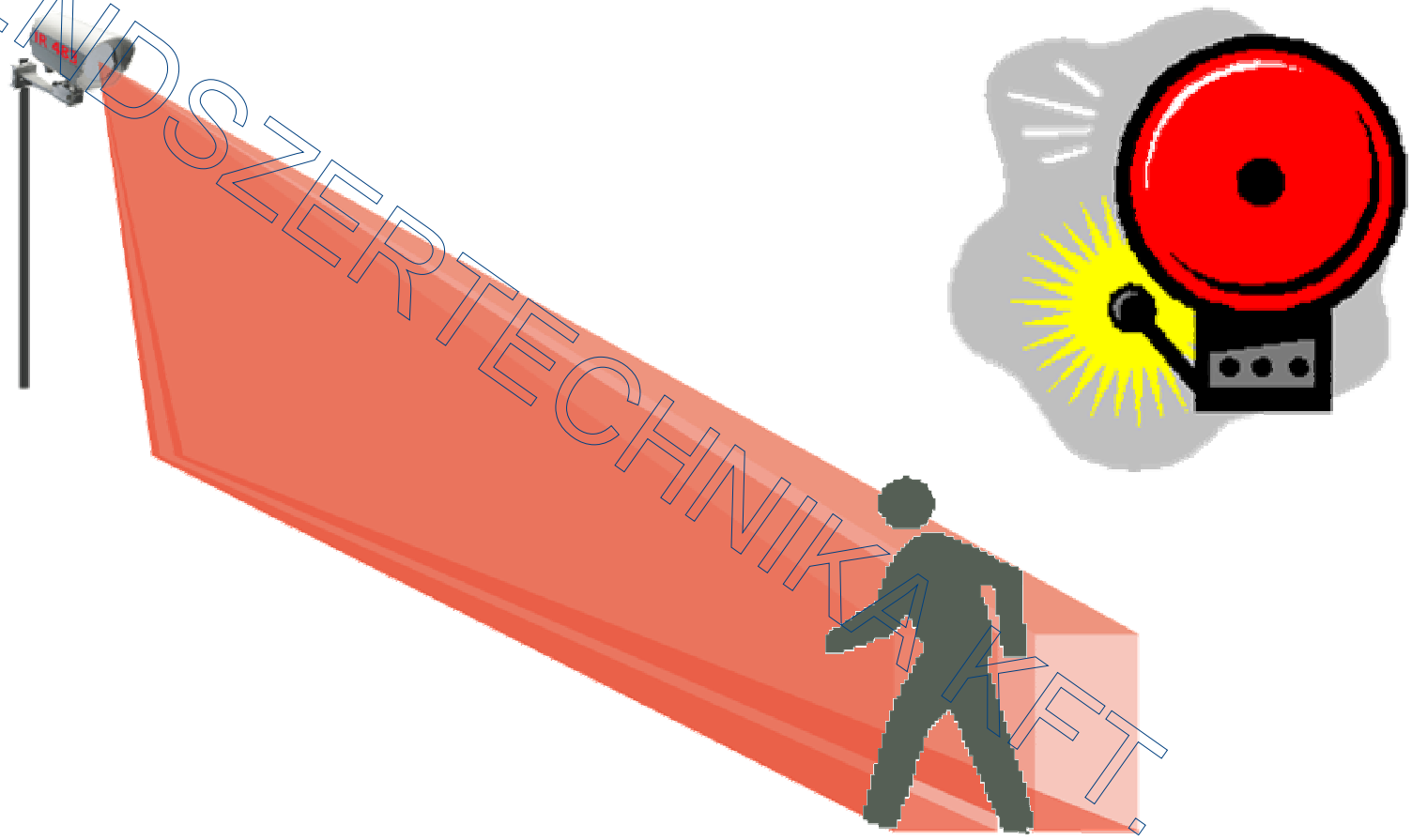


Directional Discrimination

Example:

Right-Left ☑

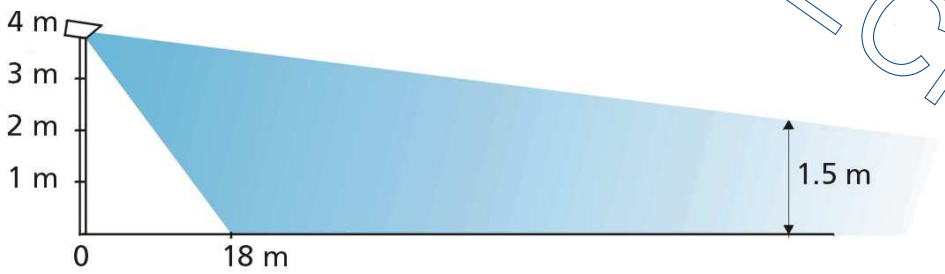
Left-Right ☒



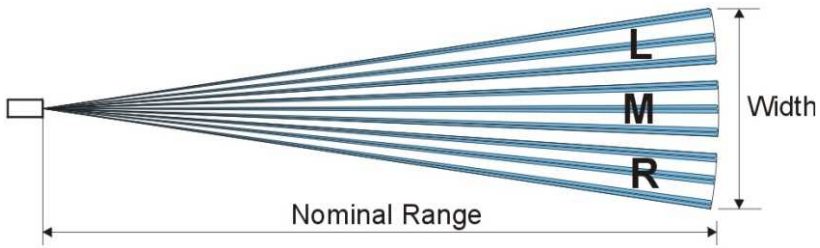
Volumetric Long-Range

PRO 85 & PRO 85H

Side View



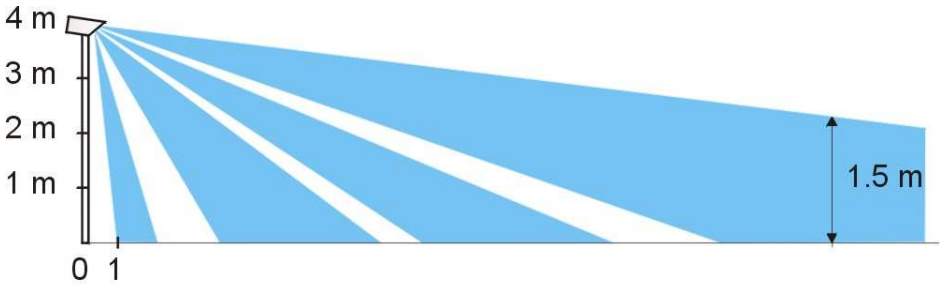
Top View



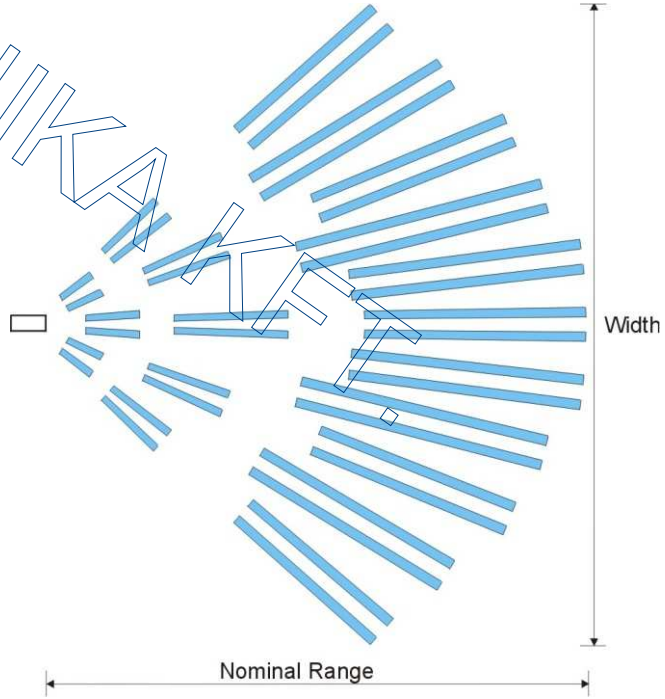
Volumetric Wide-Angle

PRO 18W & PRO 18WH

Side View



Top View

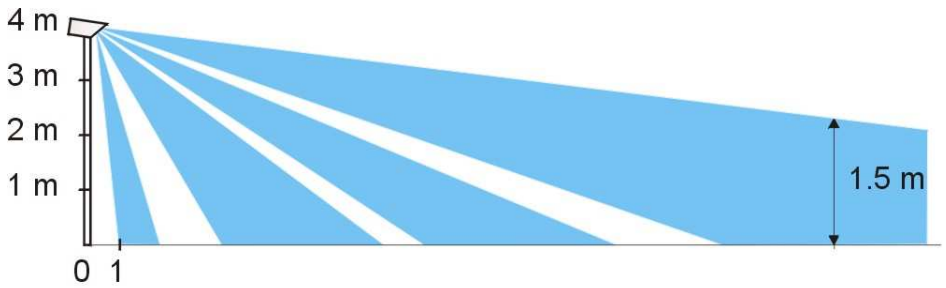


Volumetric Medium-Range

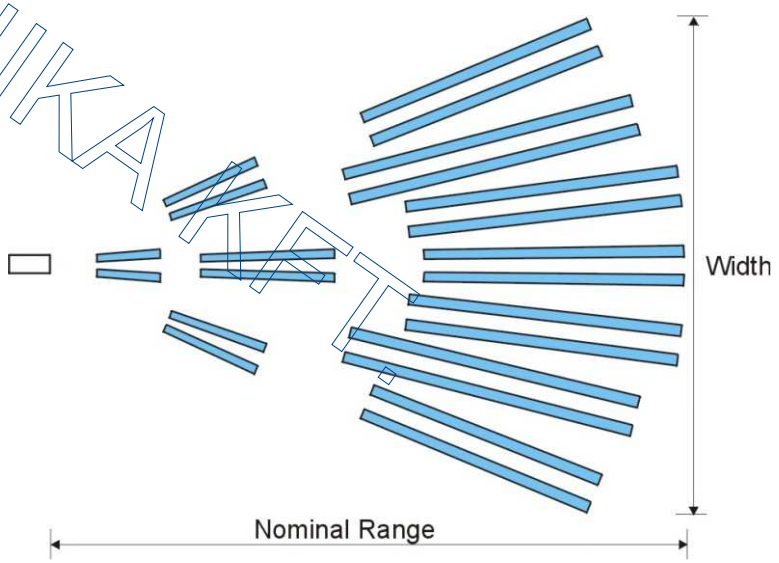
PRO 18 & PRO 18H / PRO 30

(24 x 21 m) (30 x 27 m) (30 x 20 m)

Side View



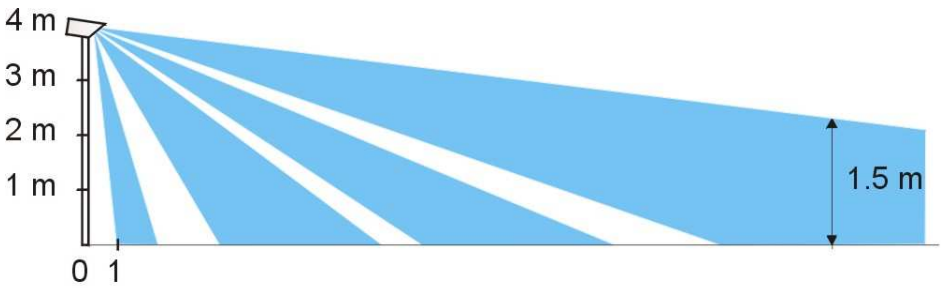
Top View



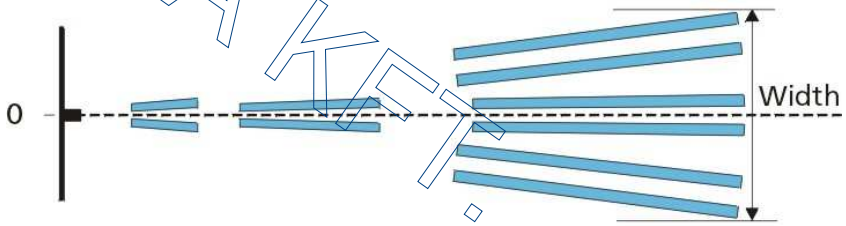
Volumetric Medium-Range

PRO 40

Side View



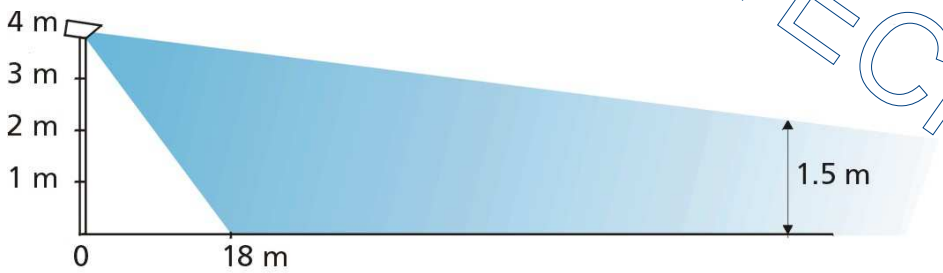
Top View



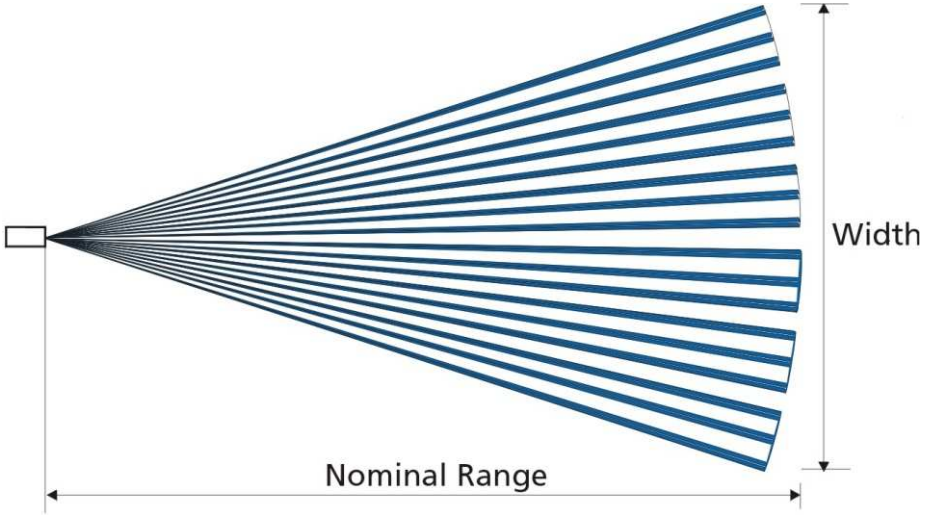
Volumetric Long-Range

PRO 50

Side View



Top View



Reference Chart – Sales Bullet Points

Outdoor Passive Infrared Intrusion Detectors

Highlights of ADPRO PIR Detectors

- Anti vandal feature (disalignment of detectors)
- Mounting height up to 4 m / 13 ft for reduced risk of vandalism
- Integrated wall-mount bracket
- Adaptive threshold decoding ATD
- Wide power supply range 10.5 to 30 V DC or 24 V AC
- Low installation and maintenance cost
- Precision mirror optics
- Most advanced medium and long range gap-free curtain or volumetric coverage
- Best probability of detection at lowest nuisance alarm rates

Designed for ...

- Perimeter protection outdoors
- Fence-line protection
- Volumetric area coverage
- Proactive video surveillance
- Notifying central monitoring stations that an intrusion is occuring and further attention is necessary
- Conditional triggering of PTZ, dome cameras and video switchers for event-driven video surveillance

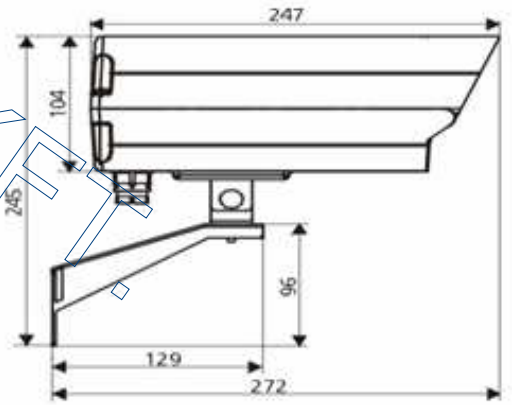
Accessories

- Interface module IF 485B and installation software
- Pole mount hardware ZA P-L1
- Cordless walk tester CT 45
- Alignment telescope AD 851

Ideal for professional solutions

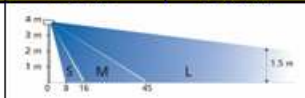
References of installations where ADPRO PIR detectors are used as a detection device in combination with video surveillance:

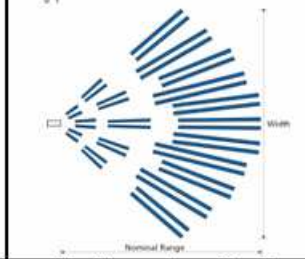
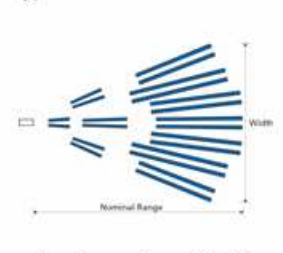
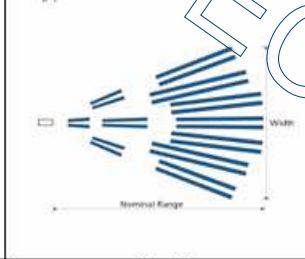
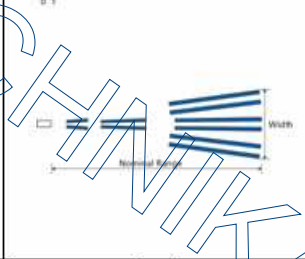
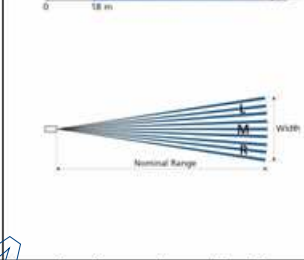
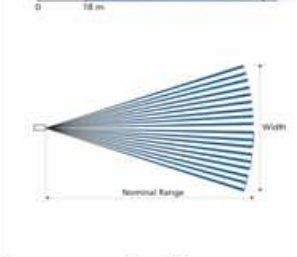
- Airports / ports
- Banks
- Power plants
- Hospitals
- Public and historic sites / buildings
- Military sites
- Prisons
- Logistic warehouses
- Oil + gas sites
- Water treatment plants



Reference Chart – Technical Specs

Reference Chart Outdoor Passive Infrared Detectors

Overview curtain models	Medium-range curtain		Directional medium-range curtain		Long-range curtain	
	PRO 45	PRO 45H	PRO 45D	PRO 45DH	PRO 100	PRO 100H
Side view						
Top view						
Coverage	50 m x 3.3 m (165 ft x 11 ft)	60 m x 3.9 m (200 ft x 13 ft)	50 m x 3.6 m (165 ft x 12 ft)	60 m x 4.2 m (200 ft x 14 ft)	120 m x 2.7 m (400 ft x 9 ft)	150 m x 3.3 m (500 ft x 11ft)
Optics	Segmented precision mirror		Segmented precision mirror		Precision glass mirror	

Overview volum. models	Volumetric wide-angle		Volumetric medium-range				Volumetric long-range		
	PRO 18W	PRO 18WH	PRO 18	PRO 18H	PRO 30	PRO 40	PRO 85	PRO 85H	PRO 50
Side view									
Top view									
Coverage	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)	30 m x 20m (100 ft x 65 ft)	40 m x 10 m (130 ft x 30 ft)	60 m x 18 m (200 ft x 60 ft)	75 m x 23 m (250 ft x 75 ft)	50 m x 30 m (165 ft x 100 ft)
Optics	Segmented precision mirror						Precision glass mirror		

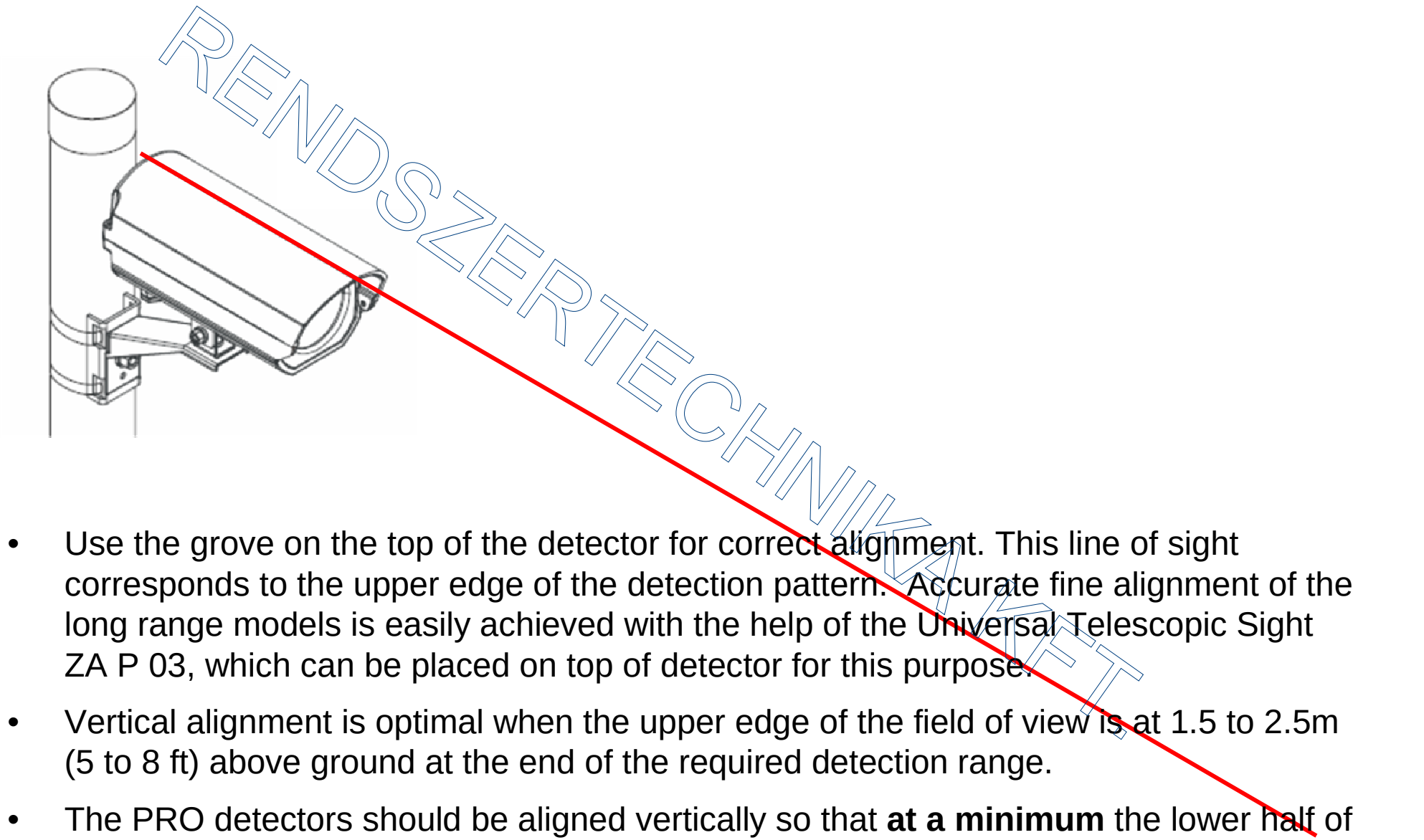
Technical data	Standard versions	H-versions
Supply voltage	10.5 to 30 V DC / 24 V AC (± 15%)	
Current (not activated)	18 mA @ 12 V DC 10 mA @ 24 V AC	Std. specs.+ heating power @ -40°C (F) max.
Alarm relay output	1 SPST 30 V DC, max. 100 mA	
Transistor open collector	1 NPN 30 V DC, max. 50 mA	
Cover switch	30 V DC, 100 mA	
Front window	PE Filter, IR transmissive	Silicon wafer
Operating temperature	-20 to 60 °C (-4 to 140 °F)	-40 to 60 °C (-40 to 140 °F)

All units have: Heavy duty plastic housing, weighs only 0.9 kg including wall mounting brackets for installation in height of 2.5 up to 4 m

already available

New products (made for VISTA), PRO 30 available by July/August 08, PRO 40 and PRO 50 available by May 08

How to Align a PRO Detector

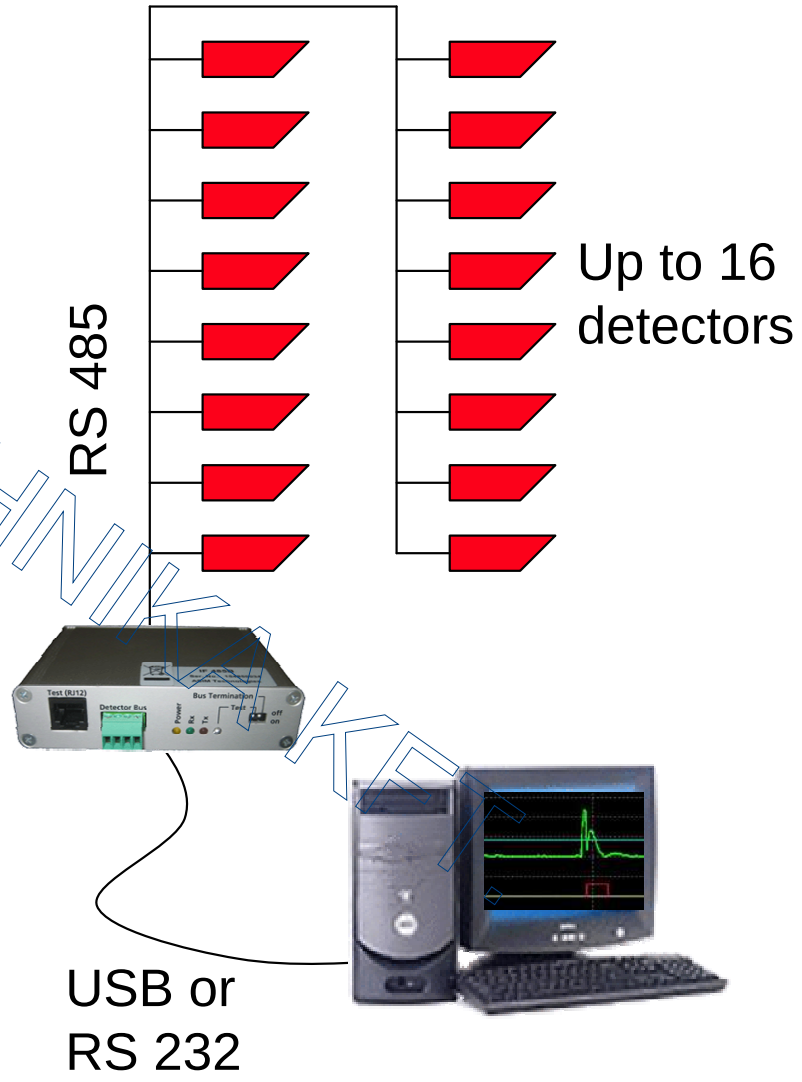


- Use the grove on the top of the detector for correct alignment. This line of sight corresponds to the upper edge of the detection pattern. Accurate fine alignment of the long range models is easily achieved with the help of the Universal Telescopic Sight ZA P 03, which can be placed on top of detector for this purpose.
- Vertical alignment is optimal when the upper edge of the field of view is at 1.5 to 2.5m (5 to 8 ft) above ground at the end of the required detection range.
- The PRO detectors should be aligned vertically so that **at a minimum** the lower half of a person standing upright at the maximum required range will be within the field of view

RS 485 Data Bus

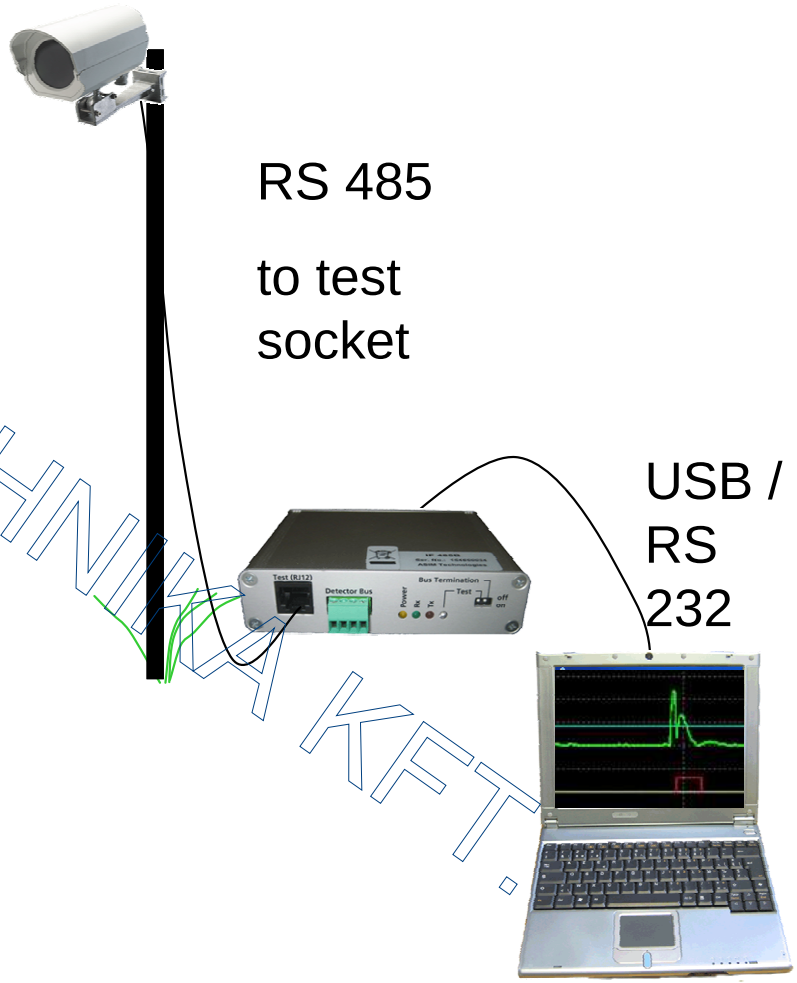
Each detector has RS 485 connectivity:

- For installation
  - Visualizing signals of detectors
    → walk-testing
- For operation
  - Change parameters remotely
  - Log-file of all alarms



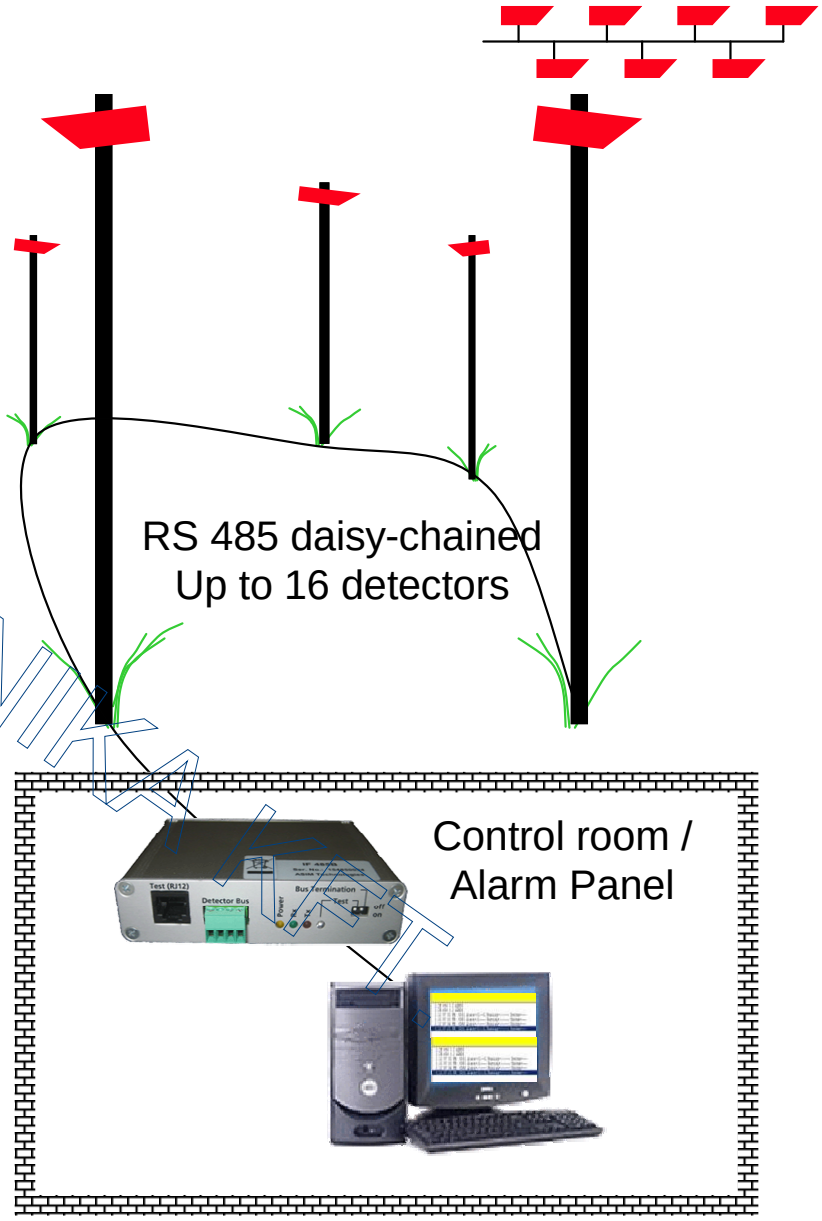
RS 485 For Installation

- Precision walk-testing
- Shows signal strength from target
  - at different distances
  - at different ambient conditions
- Adjust detector parameters on premises



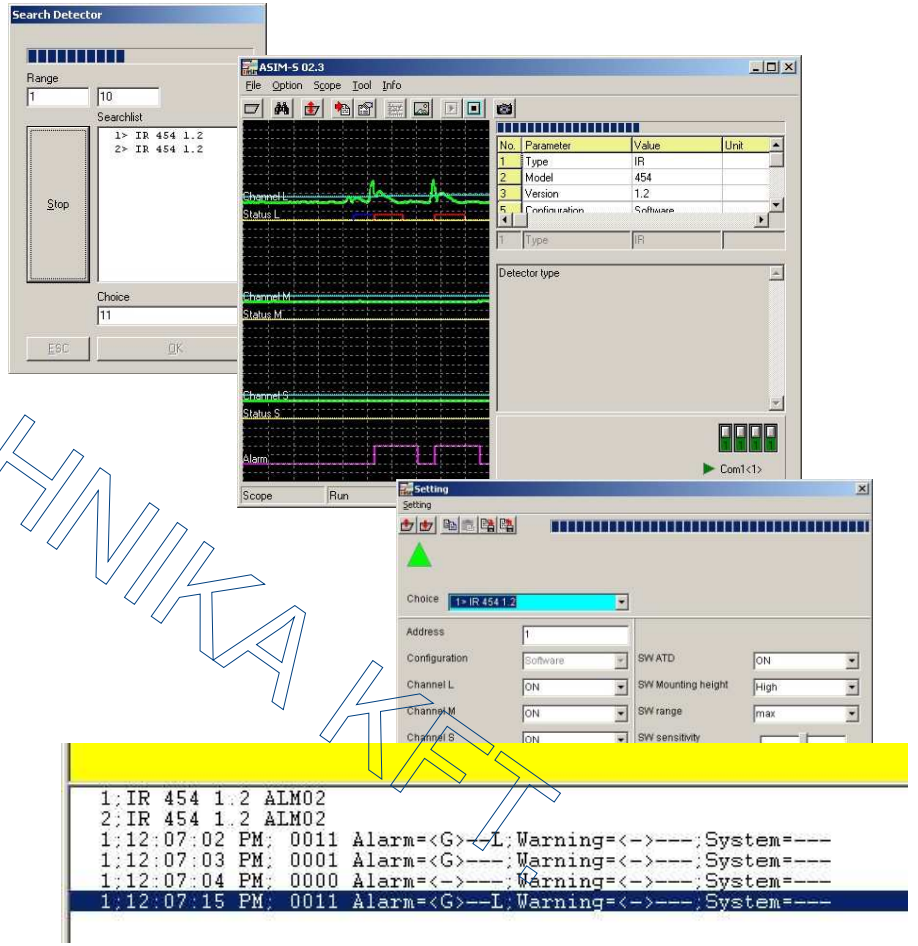
RS 485 For Operation

- Real-time alarm retrieval
- Zone-information
- Create log-files over longer periods
- Connect to each detector individually
- Capture signals in scope-view
- Run diagnostics



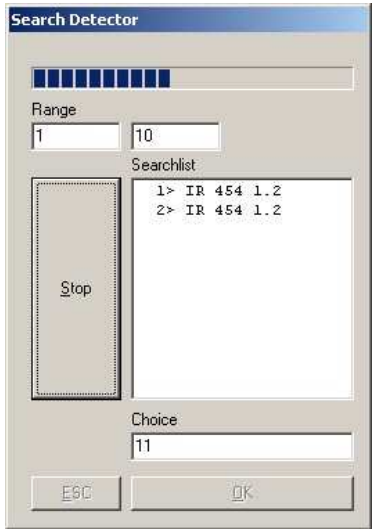
Installation Software

- Windows®-based
- For commissioning of challenging installations
- Scope view for signal monitoring
- Log-file capability for long-term monitoring
- Event-driven screen-shot for additional diagnostics



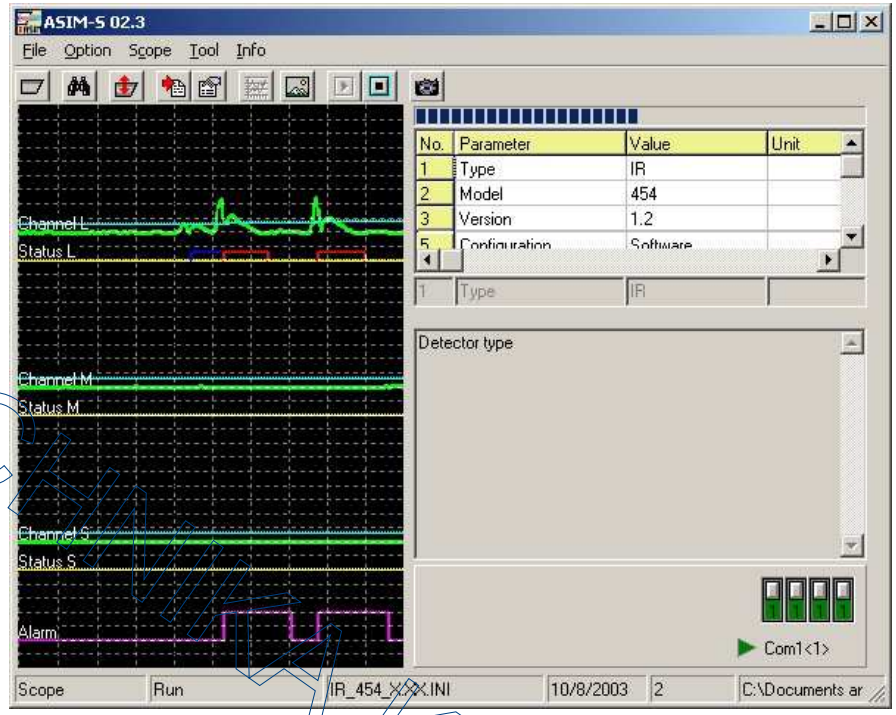
PRO Windows® Software

- Browses for detectors online
  - Lists all detectors found including model
  - Allows to select one detector for further manipulation



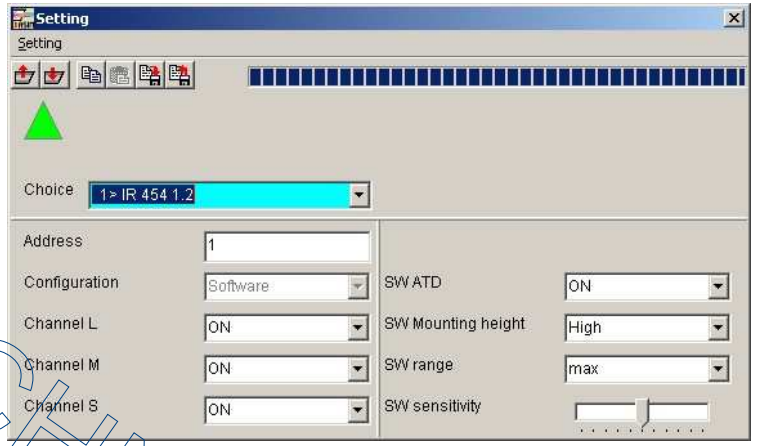
PRO Windows® Software

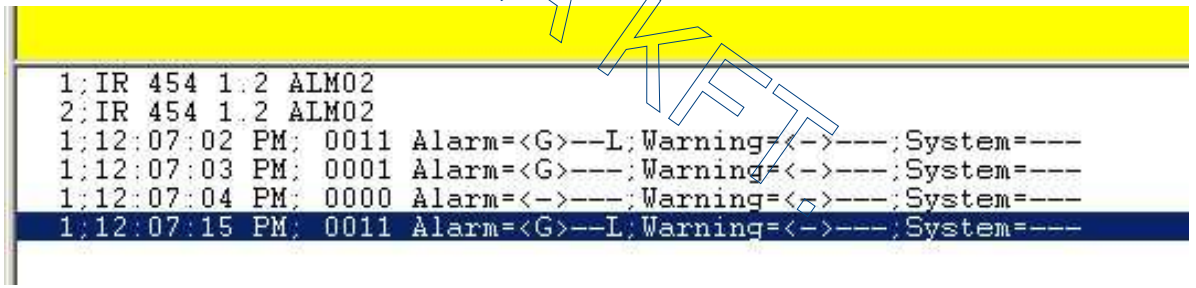
- Monitoring of signals of one selected detector
  - Shows signals in different zones
  - Shows alarm threshold levels
  - Shows master alarm / contact closure status



PRO Windows® Software

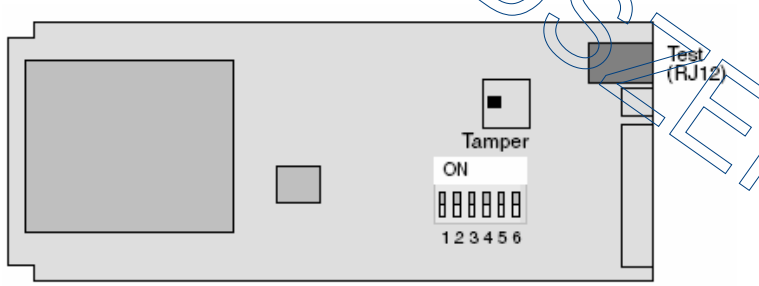
- Adjusting parameters of detectors
  - Copy / paste / save & load settings
- Alarm & status log
  - Of all detectors on bus

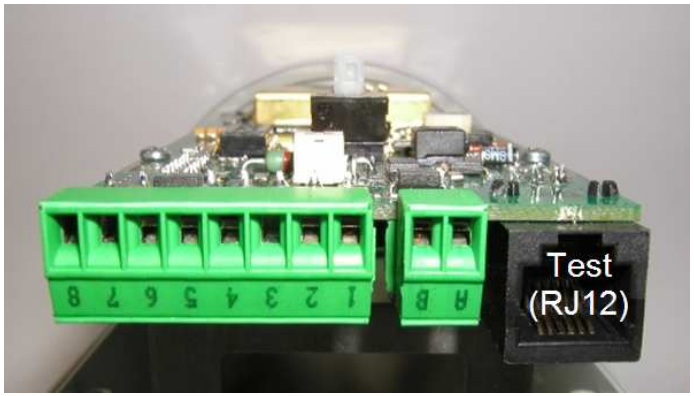




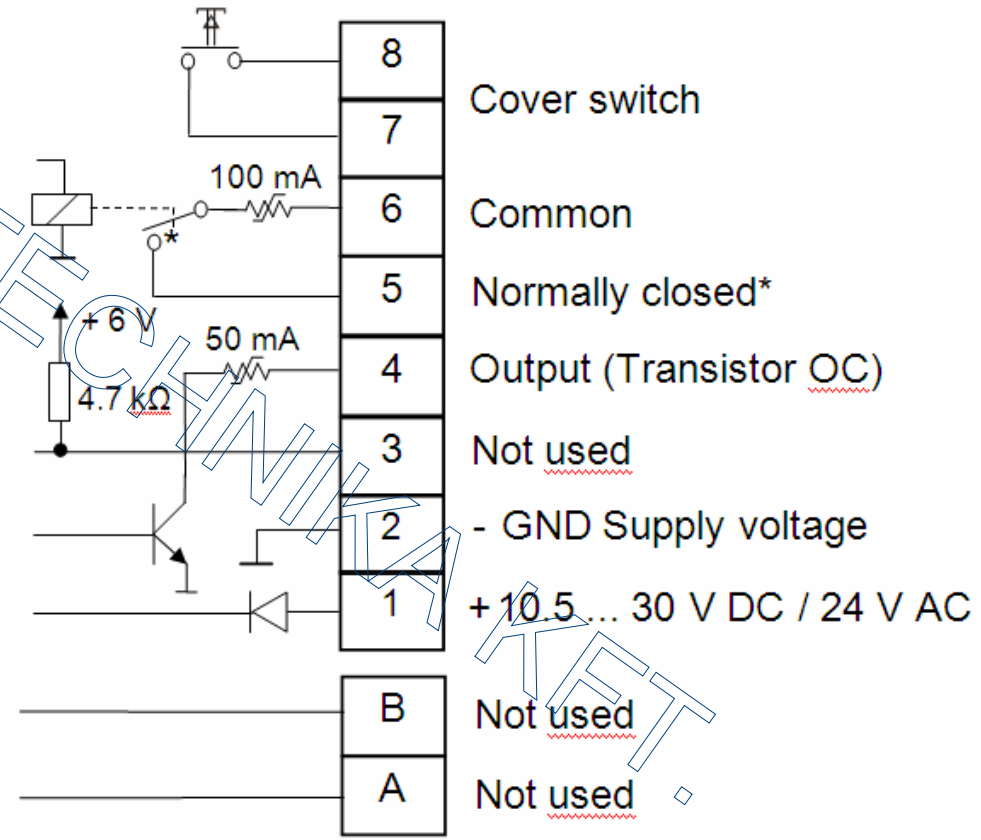
Electronic Board and Terminal Block

- Electronic Board





- Terminal Block



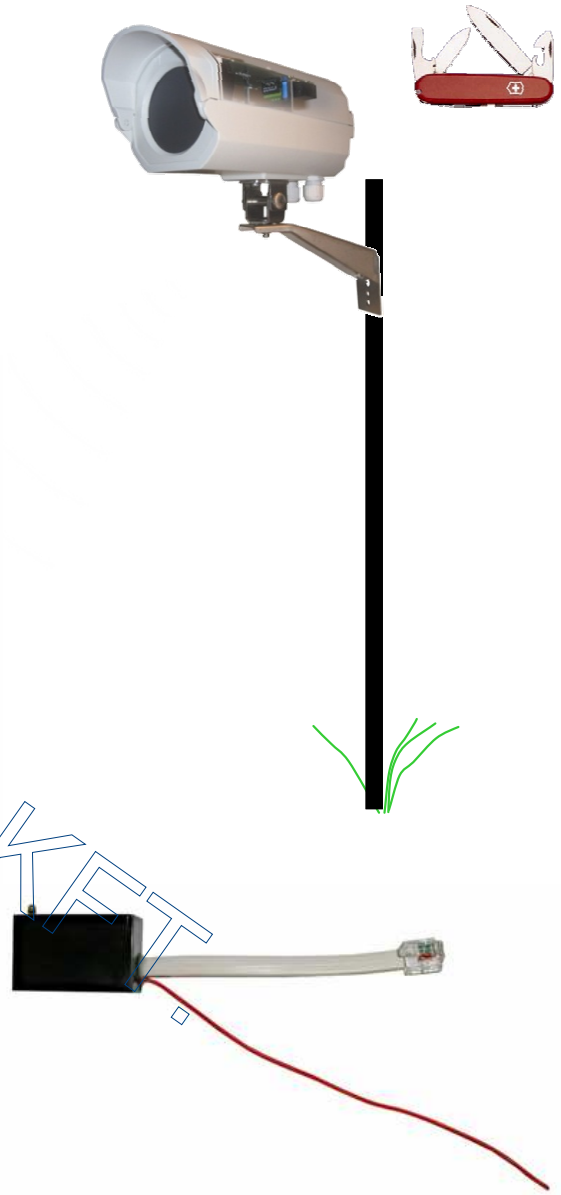
* Relay shown in energised (non-alarm) condition

Installation Tools and Accessories

- The PRO detector range offers various tools to facilitate the installation process, including
  - **CT 45**: Wireless Walk Tester
  - **ZA P-L1**: Pole mount accessory
  - **ZA P 03**: Universal telescopic Sight
  - **IF 485B**: Interface module including PRO Windows® Software for configuration and signal display (scope view)

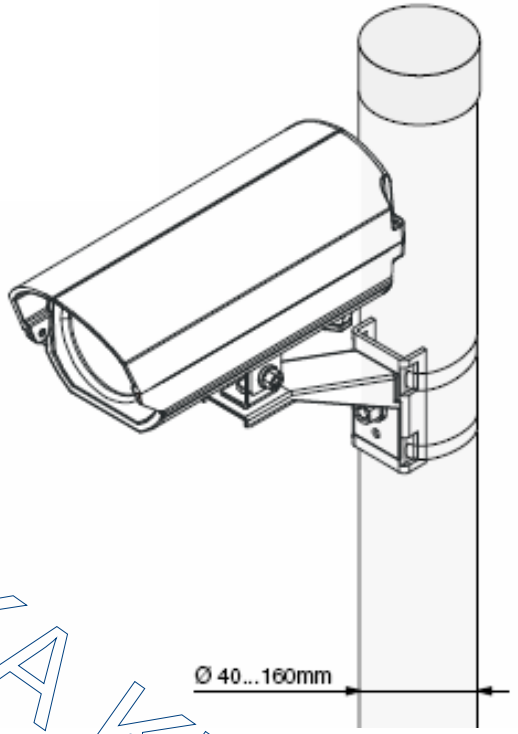
Accessory for Checking of Detector Alignment

- CT 45
  - Wireless walk-testing up to 200 m / 700 ft for all models
  - Transmitter plugs to test-socket of detector
  - Hand-held receiver has status LEDs and buzzer for detector alarm status



Accessory for Pole Mounting

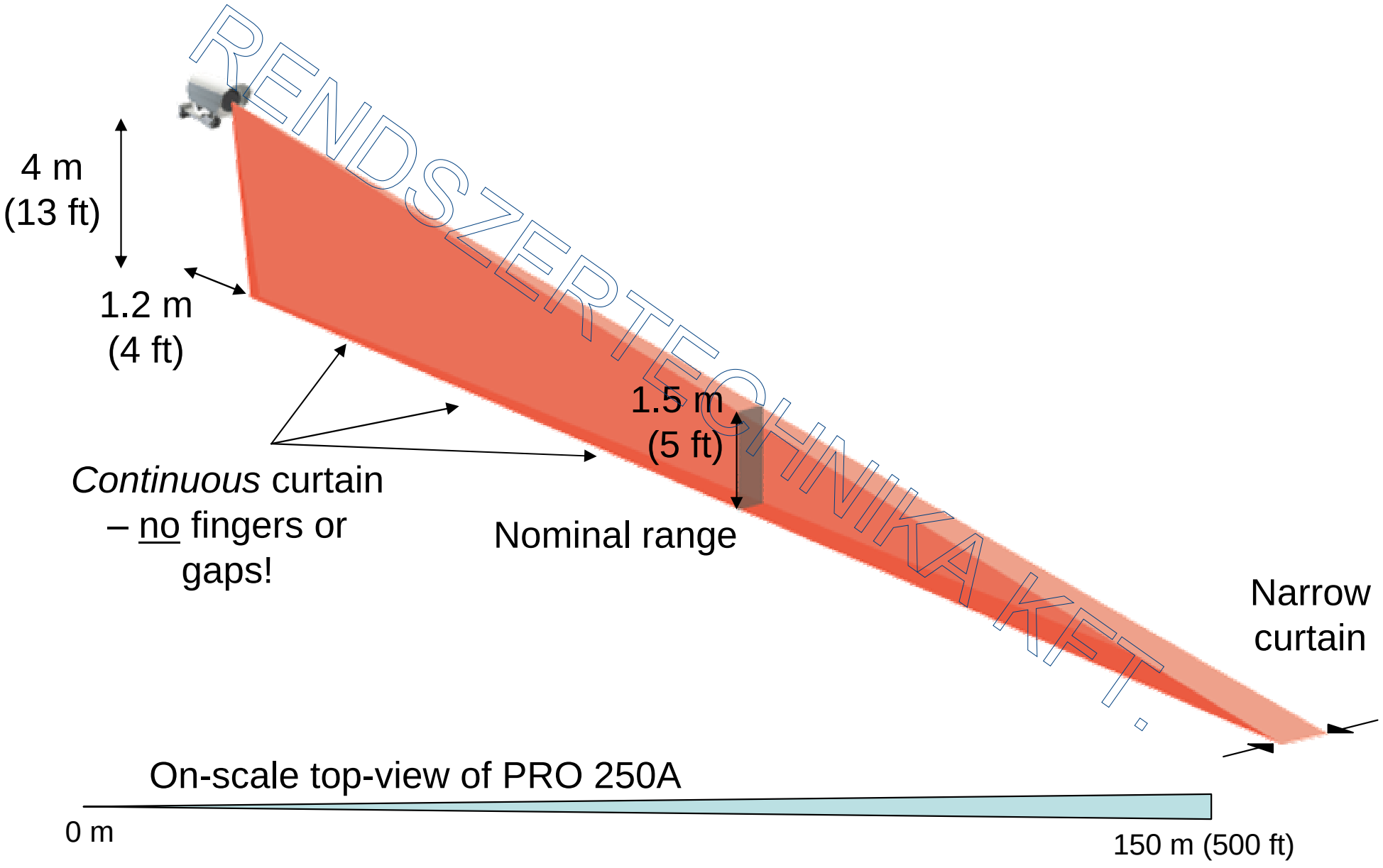
- ZA P-L1
  - Pole mount adapter for poles of 4 – 16 cm (1.6 – 6.25”) diameter
  - Two strap bands



PRO Detector Advantages

- Anti vandal feature (disalignment of detectors)
- Mounting height up to 4 m / 13 ft for reduced risk of vandalism
- Integrated wall-mount bracket
- Adaptive threshold decoding ATD
- Wide power supply range 10.5 to 30 V DC or 24 V AC
- Low installation and maintenance cost
- Precision mirror optics
- Best probability of detection at lowest nuisance alarm rates
- Single-ended system – no separate transmitter / receiver
- Easy installation
- Low power consumption – solar applications & wireless alarm transmission

PRO Detectors Advantage – cont'd



Thank you for your time

Questions?