# XCU C THERMAL (EOL)

**XCU Compact 316L intelligent thermal camera**

## DESCRIPTION

Rugged thermal imaging camera for demanding environments. Thermal cameras can be used 24/7 for al sorts of monitoring or detection purposes. The XCU Compact Thermal is fitted with video analytics to actively help with perimeter surveillance, fire detection, flare monitoring, and hotspot detection. The XCU and its accessories are double protected against corrosion; they are entirely made of powder-coated 316L stainless-steel. The housing is hermetically sealed against water and dust, which makes it ideal for harsh environments like traffic, tunnels, marine, offshore, heavy industry, waste management, etc.

## FEATURES

- Uncooled thermal imager
- Compact, robust, and corrosion free
- powder-coated 316L stainless steel housing
- Choice of lenses
- Plug & Play
- Built-in analytics
- Water and dust tight: IP66 & IP67
- ONVIF Profile S

## Description

The XCU Fusion is designed to operate in harsh and aggressive environments. Typical applications are found in the heavy industry, traffic, tunnels, waterways, waste treatment and even in the salty environment of the marine. The XCU Compact Thermal is fitted with an uncooled thermal imager with a choice of lenses.

### Plug & Play

Installing and commissioning IP cameras has become child’s play. The XCU Compact click’s into place with its versatile mounting accessories and is operational by plugging in the external connector. No need to open the unit; all connections can be prepared in advance.

### Integrated thermal camera

The XCU Compact Thermal is fitted with a highly sensitive uncooled microbolometer for thermal imaging. It detects temperature differences as small as 50 mK and can spot heat sources invisible to the naked eye. When the darkness obscures the vision of an ultra-low light CCTV camera, the thermal camera gives a clear overview of what’s going on.

### Multi-streaming and multicasting

The XCU Compact Thermal has multi-streaming capabilities for simultaneous transmission of one or more H.264 streams combined with MJPEG. This guarantees interoperability with existing VMS systems. Multiple combinations of resolution and frame rate can be configured to satisfy different live-viewing and recording scenarios. In addition, multicasting is supported for complex, multi-user video networks.

### Open standards

Out of the box, the XCU Fusion integrates with the common VMS systems. Being ONVIF Profile S compliant, the camera is supported by most video management systems. When needed, the camera can be controlled through a comprehensive HTTP API (Siqura Programming Interface). This specifically enables deployment in projects with custom requirements.

### Built-in video analysis

The XCU Compact Thermal is fitted with on-board analytics, called FlameGuard and FenceGuard.

FlameGuard is a specialized algorithm for 24/7 flare monitoring and fire/hotspot

detection. The XCU Compact R1 version is able to accurately measure temperatures within a zone in combination with TKH Security Sense for early detection of e.g. spontaneous combustion.

FenceGuard detects intrusion detection or crossing of virtual fences in the highest possible accuracy and lowest number of nuisance alerts.

| Camera housing | |
|---|---|
| Body material | 316L stainless steel |
| Finishing | Powder coated (RAL9016) |
| Sunshield | 316L powder coated, (RAL9016) |
| Heater/Demister | Standard |
| Ingress protection | IP66, IP67 |
| Corrosion Class | C5 (ISO 12944) |
| Impact rating casing | IK10 |
| Solar radiation test | MIL-STD-810, method 505.4 (p.4) |
| Shock test (transportation) | MIL-STD-810, method 516.5 |
| Vibration (IEC 50068-2-6) | 10 Hz to 150 Hz, 0.5g, all 3 axes, 1 oct/min, 1 sweep |
| Max wind velocity | 240 km/h (150 mph) |
| Operating temperature | -34 °C to +74 °C (-29 °F to 165 °F) - per Nema TS-2 |
| - Continuous (sheltered, air temp) | -30 °C to +55 °C (-22 °F to 131 °F) |
| - Cold start | -30°C (-22 °F) |
| Relative Humidity | 5% to 100% |
| Dry heat test | +75 °C, 24 hours |
| Weight | 2.5 kg |

| Thermal imager (Txxxx) | | | | | | |
|---|---|---|---|---|---|---|
| Imager | uncooled micro-bolometer | | | | | |
| Pixel pitch | 17 µm | | | | | |
| Resolution | | | | | | |
| - Txx-S6 or Txx-F6 | 640x512 | | | | | |
| - Txx-S3 | 366x256 | | | | | |
| Focal length (xx=) | 7.5 mm | 9 mm | 13 mm | 19 mm | 25 mm | 35 mm |
| - Field of view 640x512 (S6) | 90°x69° | 69°x56° | 45°x37° | 32°x26° | 25°x20° | 18°x14° |
| - f-number | f/1.4 | f/1.4 | f/1.25 | f/1.25 | f/1.1 | f/1.5 |
| - Field of view 366x256 (S3) | 45°x35° | 35°x27° | 25°x19° | 17°x13° | 13°x10° | 9.3°x7.1° |
| - f-number | f/1.4 | f/1.25 | f/1.25 | f/1.25 | f/1.1 | f/1.5 |
| Spectral bandwidth | 7.5 µm to 13.5 µm (LWIR) | | | | | |
| Max frame rate | | | | | | |
| - TxxSx version | 8.3/7.5 fps | | | | | |
| - TxxFx versions | 25/30 fps | | | | | |
| Sensitivity (NEdT) | < 50 mK @ f/1.0 | | | | | |
| Time to image | < 60 s | | | | | |
| Digital zoom | No | | | | | |
| Color palette | 10 selectable color palettes with freely adjustable temperature thresholds | | | | | |

| Video stream | |
|---|---|
| Number of streams | 2x |
| Aspect ratio | 5:4 |
| Compression algorithm(s) | H.264 BP/MP/HP (H.264/MPEG-4 AVC), MJPEG |
| Supported output resolutions | Output images are up- or down-scaled |

# Specs

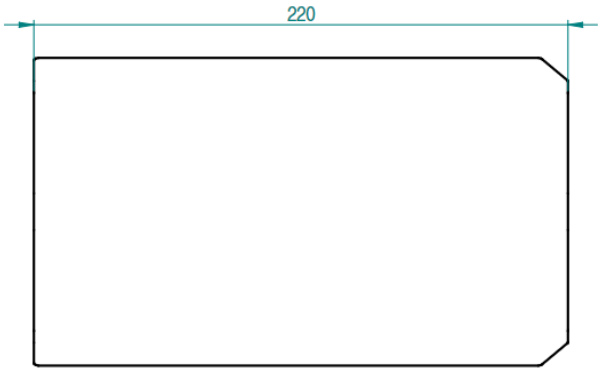
| | |
|---|---|
| **Video stream** | |
| | 720x576; 704x576; 640x480; 480x576, 352x576; |
| | 704x288; 352x288; 320x240, 176x144 |
| Compression bit rate control | Variable bit rate (VBR) |
| Output bit rate (per H.264 stream) | Up to 6Mb/s |
| Number of video output streams | Up to 20 (RTSP) per input |
| Total output data rate (max) | 50Mb/s |
| Video overlay | 3x Text, 1x bitmap (BMP, GIF) in both optical and thermal image |
| **Analytics** | |
| FenceGuard | Intrusion detection. Free form zones or detection lines |
| - Detection line | Touch, Cross (directional sensitive), Cross |
| - Detection zone | Touch, Enter, Inside, Exit |
| FlameGuard | Hotspot detection in two zones or Flare-on, Flare-off and Flare-too-large monitoring |
| - Measuring range | -40°C to 550°C |
| - Accuracy | +/- 20 °C (T 100 °C) |
| - Improved temp. reading accuracy | Only for versions TxxS3R1/TxxS6R1/TxxF6R1 |
| | +/- 5°C (T 100 °C); +/- 2°C typical |
| Event time | 0 to 10 s |
| Event output | generic ONVIF, SPI |
| **Electrical** | |
| Supply voltage | 24 Vac 50/60 Hz or 24 Vdc (Galvanic isolated) |
| PoE | IEEE802.3at type I, IEEE 802.3af |
| Power consumption | 9 W heater off; 12 W heater on |
| Power connector | 3-pin 7/8" Conec |
| Network connector | Conec IP67 RJ45 |
| **Network** | |
| Interface(s) | 100 Mb Ethernet, auto negotiating, MDI/MDX |
| Protocols | IPv4, TCP/IP, UDP, RTP, RTSP, HTTP, HTTPS, ICMP, FTP, SMTP, DHCP, UPnP, |
| | IEEE 802.1x (EAP-MD5 or EAP TLS), IGMP, SNMP, QoS, ONVIF, TLS1.2, NTCIP-1205 |
| Password levels | Viewer, Operator and Administrator |
| Supported browsers | Edge, Chrome, Firefox, Safari |
| User accounts | 20 |
| **Ordering information** | |
| XCU-C T75S3 | XCU Compact 316L intelligent thermal imager 336 45° 8.3fps |
| XCU-C T09S3 | XCU Compact 316L intelligent thermal imager 336 35° 8.3fps |
| XCU-C T13S3 | XCU Compact 316L intelligent thermal imager 336 25° 8.3fps |
| XCU-C T19S3 | XCU Compact 316L intelligent thermal imager 336 17° 8.3fps |
| XCU-C T25S3 | XCU Compact 316L intelligent thermal imager 336 13° 8.3fps |
| XCU-C T35S3 | XCU Compact 316L intelligent thermal imager 336 9.3° 8.3fps |
| XCU-C T75F3 | XCU Compact 316L intelligent thermal imager 336 45° 30fps |

# Specs

| Ordering information | |
|---|---|
| XCU-C T09F3 | XCU Compact 316L intelligent thermal imager 336 35° 30fps |
| XCU-C T13F3 | XCU Compact 316L intelligent thermal imager 336 25° 30fps |
| XCU-C T19F3 | XCU Compact 316L intelligent thermal imager 336 17° 30fps |
| XCU-C T25F3 | XCU Compact 316L intelligent thermal imager 336 13° 30fps |
| XCU-C T35F3 | XCU Compact 316L intelligent thermal imager 336 9.3° 30fps |
| XCU-C T75S6 | XCU Compact 316L intelligent thermal imager 640 90° 8.3fps |
| XCU-C T09S6 | XCU Compact 316L intelligent thermal imager 640 69° 8.3fps |
| XCU-C T13S6 | XCU Compact 316L intelligent thermal imager 640 45° 8.3fps |
| XCU-C T19S6 | XCU Compact 316L intelligent thermal imager 640 32° 8.3fps |
| XCU-C T25S6 | XCU Compact 316L intelligent thermal imager 640 25° 8.3fps |
| XCU-C T35S6 | XCU Compact 316L intelligent thermal imager 640 18° 8.3fps |
| XCU-C T75F6 | XCU Compact 316L intelligent thermal imager 640 90° 30fps |
| XCU-C T09F6 | XCU Compact 316L intelligent thermal imager 640 69° 30fps |
| XCU-C T13F6 | XCU Compact 316L intelligent thermal imager 640 45° 30fps |
| XCU-C T19F6 | XCU Compact 316L intelligent thermal imager 640 32° 30fps |
| XCU-C T25F6 | XCU Compact 316L intelligent thermal imager 640 25° 30fps |
| XCU-C T35F6 | XCU Compact 316L intelligent thermal imager 640 18° 30fps |
| Add ...R1 | For accurate temperature readings |

| Mounting accessories | |
|---|---|
| XCUWM01 | XCU 316L Wall/Pole mount with swivel, RAL9016 |
| XCUCM01 | XCU 316L Rugged ceiling mount, RAL9016 |
| XCUSW01 | XCU 316L Swivel Mount (swivel only), RAL9016 |

| Cable connectors | |
|---|---|
| XCUCNC-PWR01 | XCU IP67 power connector straight, cable part (included) |
| XCUCNC-2SM | XCU IP67 SM fiber connector straight, cable part (included) |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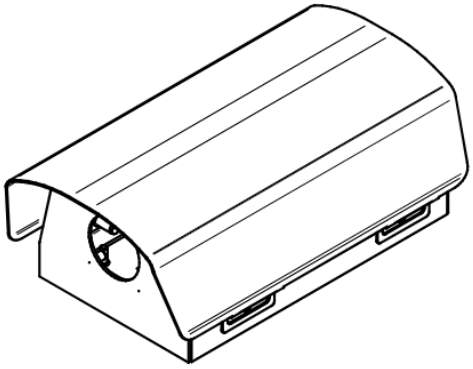
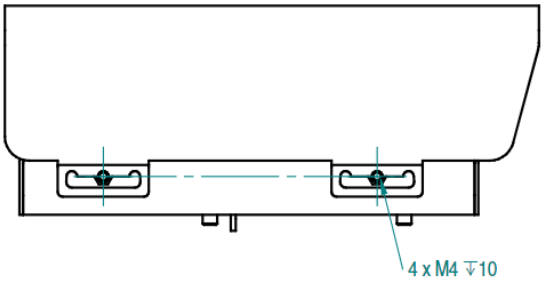
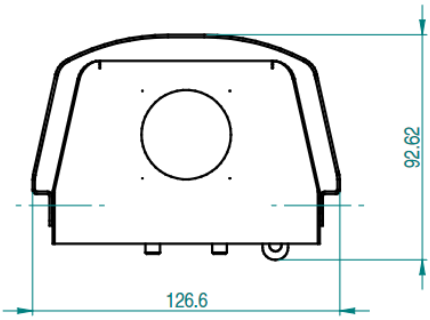
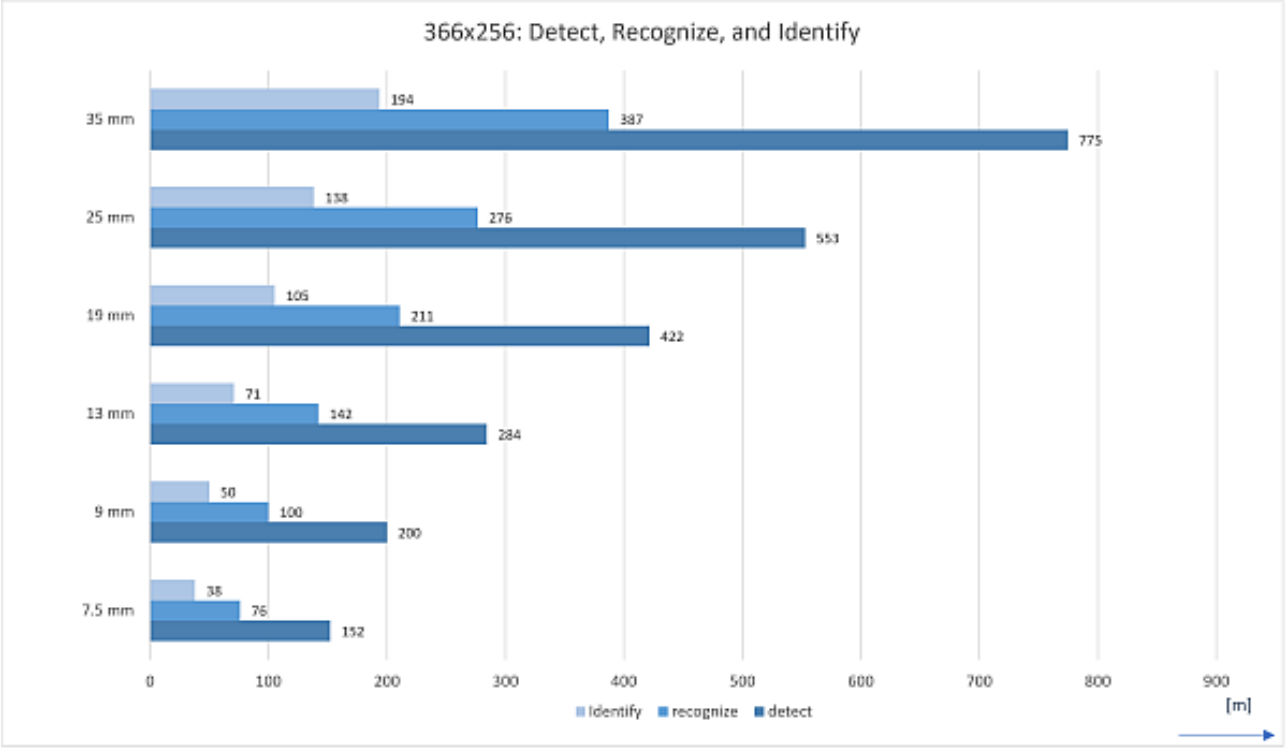
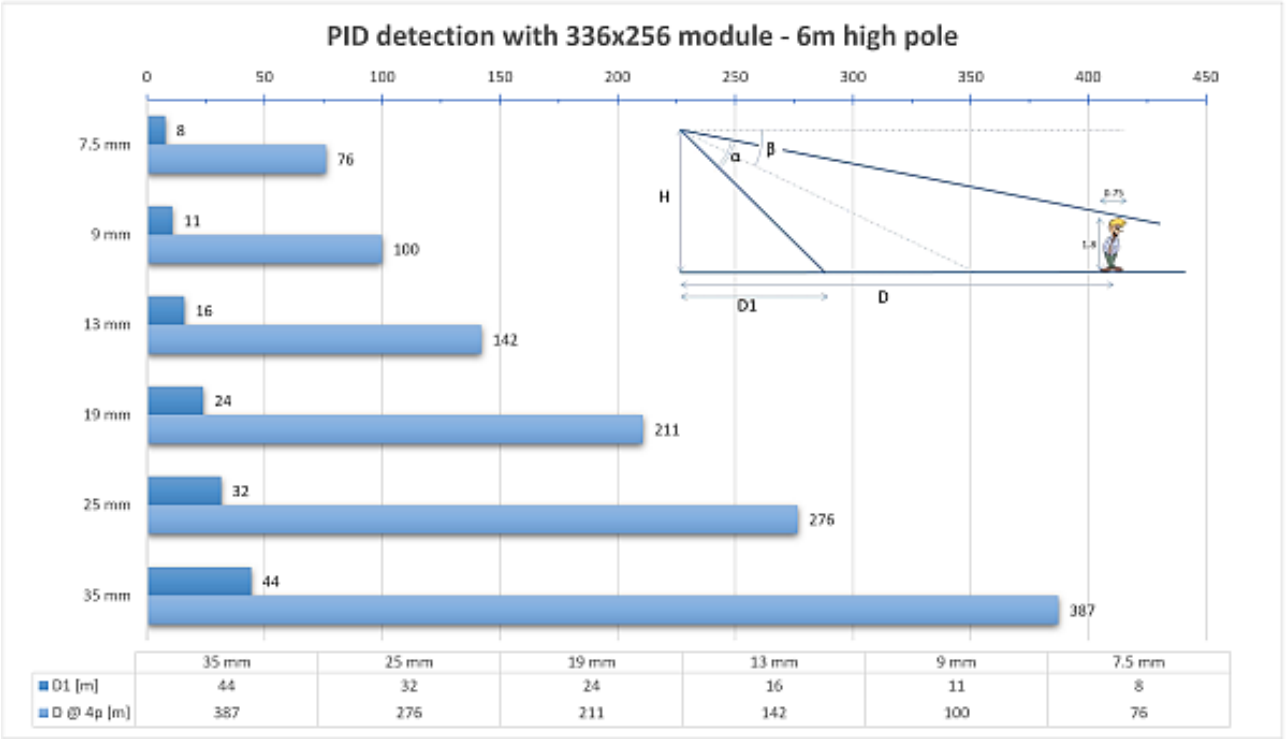


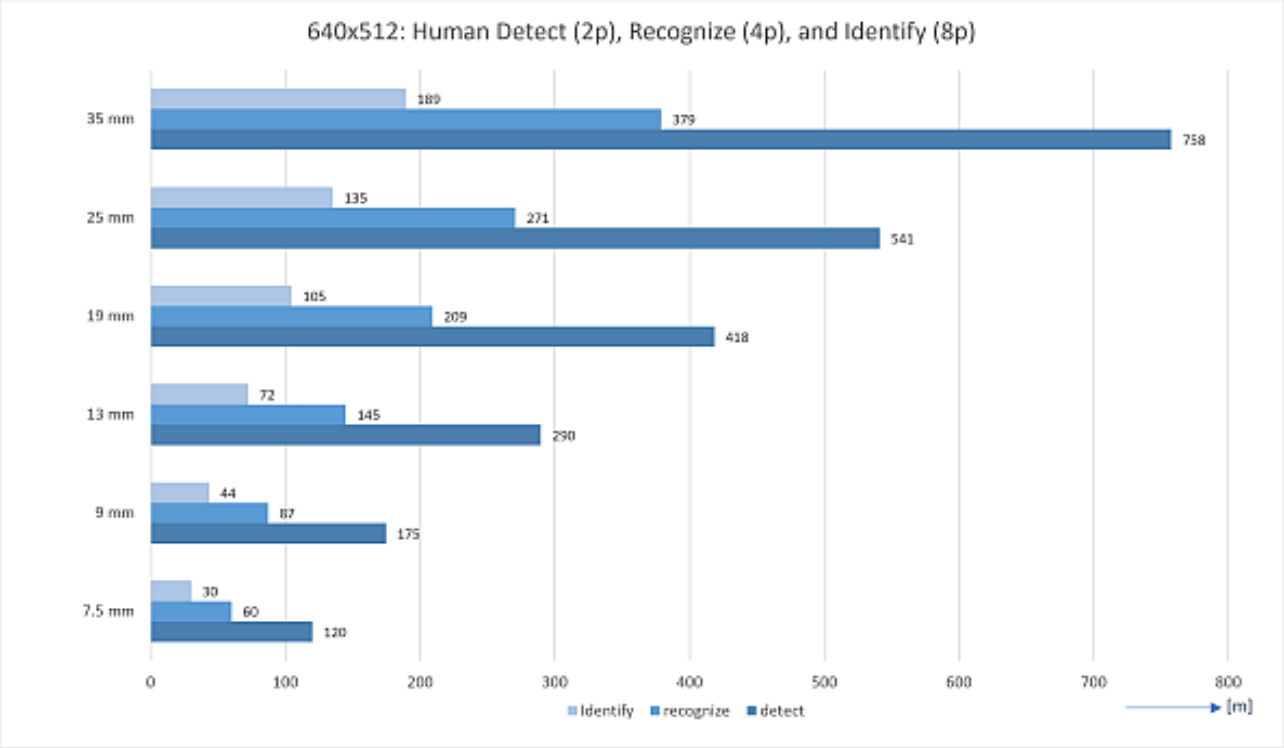

4 x M4 ↧10

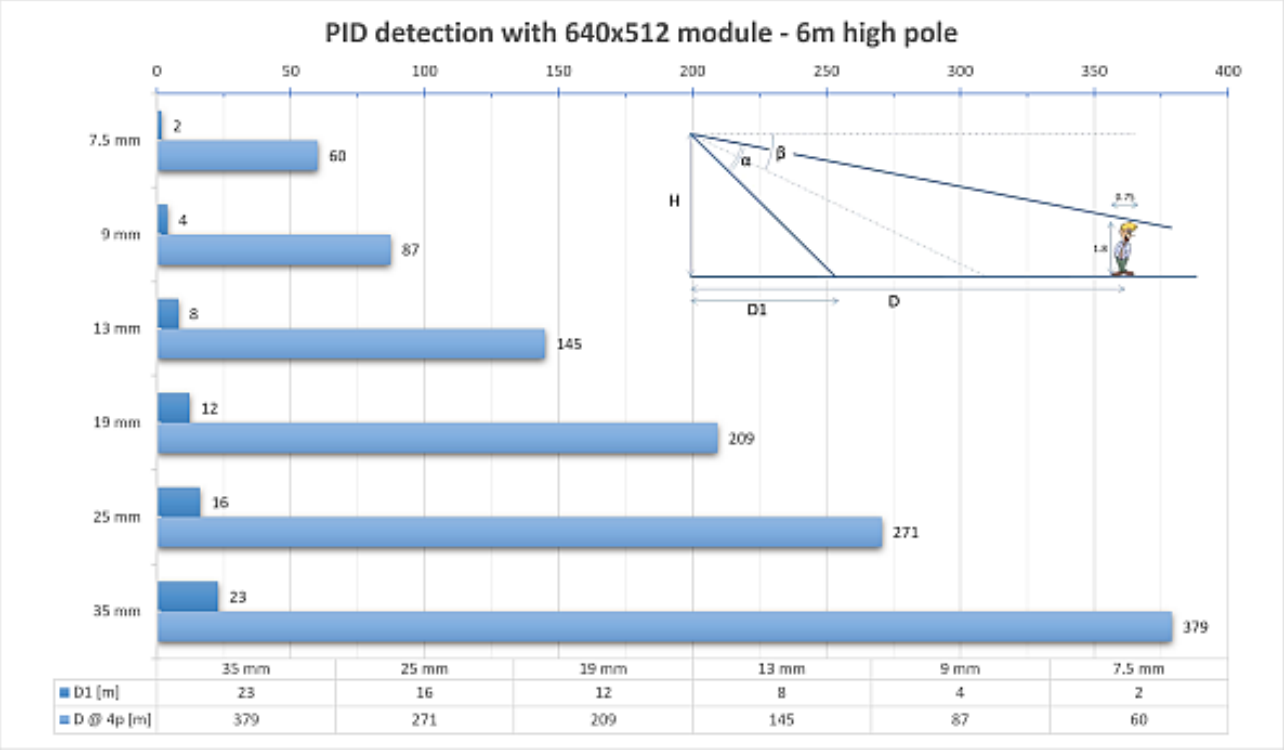

92.62
126.6

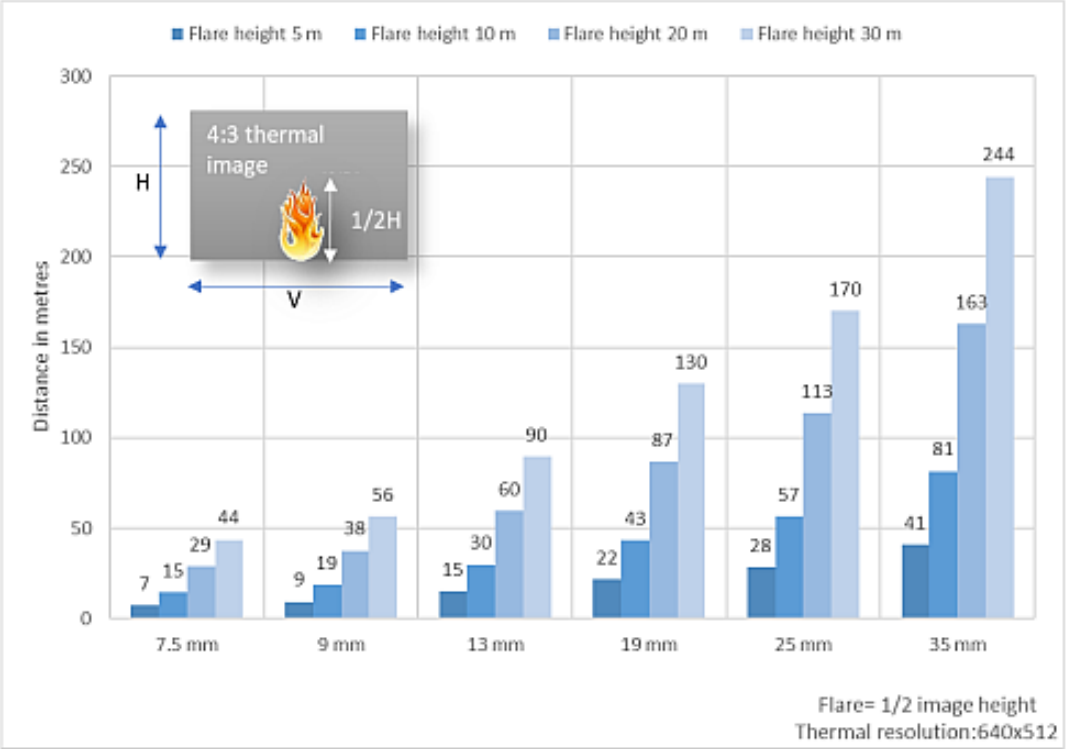


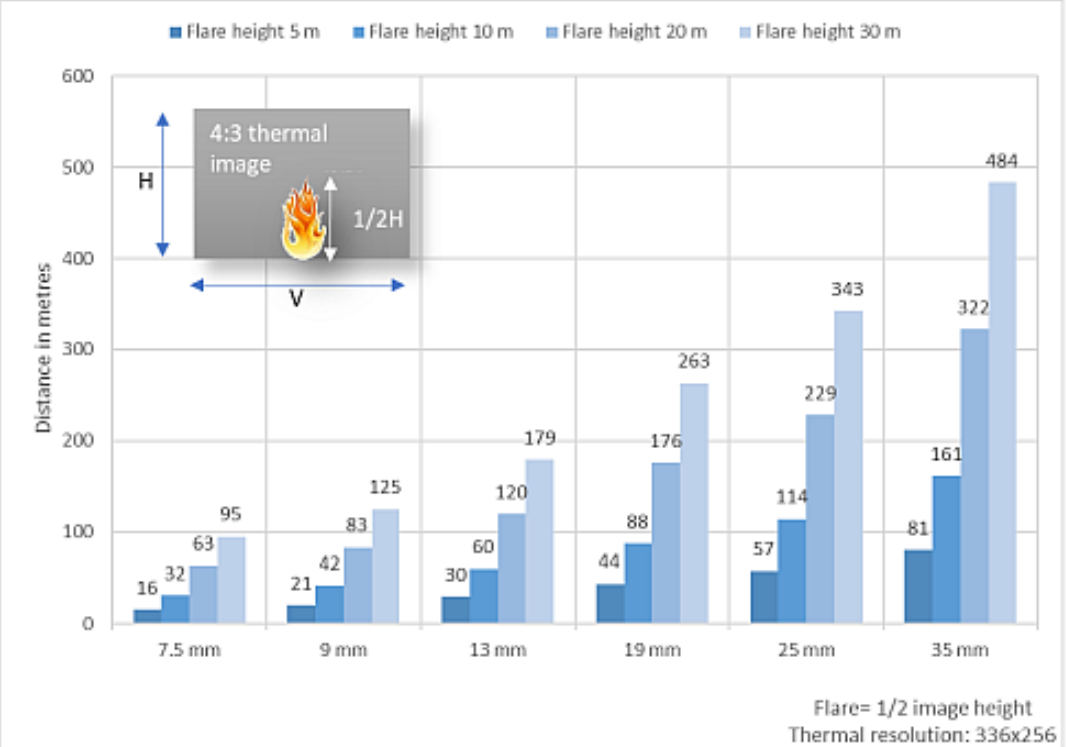

| | 35 mm | 25 mm | 19 mm | 13 mm | 9 mm | 7.5 mm |
|---|---|---|---|---|---|---|
| D1 [m] | 44 | 32 | 24 | 16 | 11 | 8 |
| D @ 4p [m] | 387 | 276 | 211 | 142 | 100 | 76 |


640x512: Human Detect (2p), Recognize (4p), and Identify (8p)
35 mm
25 mm
19 mm
13 mm
9 mm
7.5 mm
189
379
758
135
271
541
105
209
418
72
145
290
44
87
175
30
60
120
0
100
200
300
400
500
600
700
800
Identify
recognize
detect
[m]

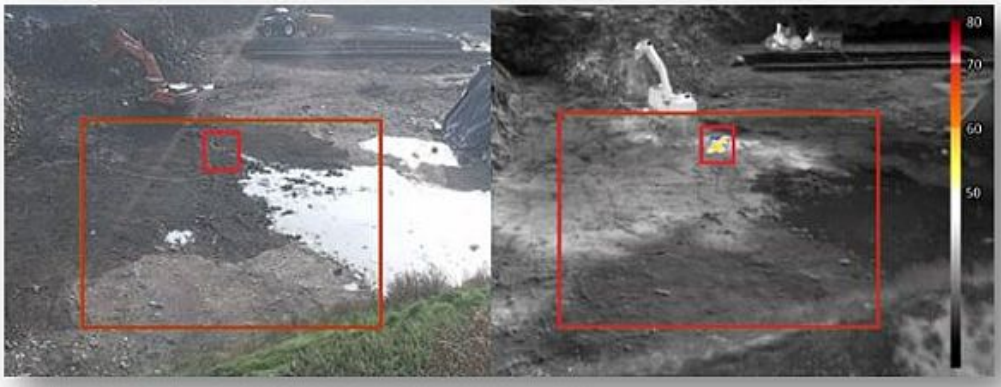

PID detection with 640x512 module - 6m high pole
0
50
100
150
200
250
300
350
400
7.5 mm
9 mm
13 mm
19 mm
25 mm
35 mm
2
60
4
87
8
145
12
209
16
271
23
379
α
β
H
D1
D
35 mm
25 mm
19 mm
13 mm
9 mm
7.5 mm
D1 [m]
23
16
12
8
4
2
D @ 4p [m]
379
271
209
145
87
60




Flare= 1/2 image height
Thermal resolution:640x512




Flare= 1/2 image height
Thermal resolution: 336x256




FlameGuard: Hotspot detection at a waste management site

Flame Guard: Fire detection in a machine room

FenceGuard: Perimeter intrusion detection

Fire detection, hot-spot and flare monitoring