

The Outdoor Unit – Fully Protected for Harsh Environmental Conditions

Depending on the measurement and inspection task, thermal imaging cameras are exposed to a wide range of environmental conditions. Dirt, water, climatic or mechanical extremes place high demands on the **sustained precision and reliability of the devices**. Based on experience from 25 years of thermographic practice, InfraTec has developed protective housings adapted to extremely different situations on site.

Light aluminium structure or solid stainless steel cover, thermal imaging camera individually or together with visual camera, **integrated purge air supply or active air cooling**, **infrared special foil or germanium window** – depending on the purpose, solutions are available, which perfectly match the conditions of the monitoring area and the measurement object. Both the thermal imaging cameras with cooled detectors from the **ImageIR® series** as well as the **VarioCAM® High Definition series** with uncooled microbolometer detectors can be equipped with a wide range of protective housings.

Housing protects against

- Penetration of dust and splashing water
- Mechanical damage
- Moderate, temporary heat

Other mounting options

- Roof construction for vehicle-based property protection
- Airborne thermography via Gimbal system

Protective housing

The production of the InfraTec protective housing depends on the ambient conditions, under which the monitoring system is to be used. Users can choose between **standardised and individual protective housings**.



Protective housing for a thermographic camera



Protective housing for a thermographic camera and visual camera



Combination of different types of protective housings incl. pan/tilt head



Special protective housing (individual production)

IROD Monitoring System

Automatic Site Surveillance with Thermal Imaging Cameras

INFRAtec.

24 h / day surveillance of security zones

Detection of persons and vehicles

Detection range up to 18 km

Surveillance and documentation

Stationary and mobile solutions



1) Business premises
2) Harbour surveillance



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Latest information on the internet.

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Made in Germany

IROD – Superior when it Comes to Range

IROD (InfraRed Object Detection) is a modularly built, high-resolution **thermal image monitoring system** with manual intervention options. It provides the securing of extensive outdoor areas and security zones even **at night as under bad viewing conditions**. The intrusion and movement of unauthorised persons or vehicles can be reliably detected and documented.

As a passive infrared system, IROD works according to the following principle: All bodies emit thermal radiation depending on their temperature, whose intensity can be made visible by thermal imaging cameras. Thus, the thermal radiation of persons or vehicles ensures, for example, that these can be detected even in complete darkness. IROD combines cutting-edge thermal imaging cameras **with real-time image processing**. Depending on the security task and associated requirements, the system can be **configured customer-specifically and integrated into higher-level security systems**.

Functions and features

- Monitoring of large areas with high geometrical resolution
- With the aid of a pan/tilt head can already be used with a thermographic camera
- Automatic scanning of several defined monitoring sectors
- Short cycle times
- Very high positioning accuracy and repeatability
- Switch over to manual control for monitoring suspicious persons or objects
- Implemented tracking option
- High ranges up to 18 km (vehicle detection range) and up to 15 km (personnel detection range)
- Acoustic and graphic temperature alarm
- Choice between single and multiple camera system (visible light / infrared)
- Merging function through combination with a visual camera including zoom



Precise monitoring through the targeted selection of sectors



High range supports convenient monitoring of spacious premises

Areas of application

- Border security
- Critical infrastructure (e.g. harbours, airports), tunnels, railway premises
- Surveillance of security zones or outdoor areas at night and under bad viewing conditions
- Documentation of unauthorised intrusion of persons and vehicles
- Fully-automatic operation without the constant presence of operating personnel
- Adaptation to changed terrain conditions by the user

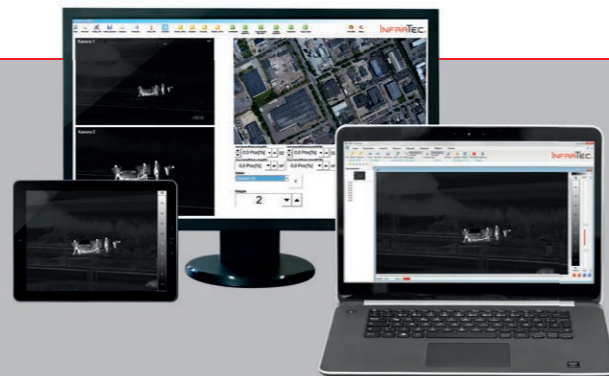
General performance parameters

Spectral range*	(2.0 ... 5.7) μm / (7.0 ... 14) μm
Detector format (IR pixels)	(640 \times 480) to (1,920 \times 1,536)
Operating temperature range	(-35 ... 55) $^{\circ}\text{C}$
Range performance*	Detection range for vehicles up to 18 km, for persons up to 15 km
Installation	Fixed field of view or pan/tilt head (for multiple monitoring sectors)
Monitored field of view	Approx. (0 ... 360) $^{\circ}\text{C}$, depending on installation
Monitoring cycle	Approx. (1 ... 60) s, depending on field of view

* Depending on model

Control Unit

- Can be used with stationary (desktop PC) and mobile (notebook, tablet) terminal equipment
- PC supported with integrated archiving unit
- Compatible with all camera types including ImageIR[®] and VarioCAM[®] High Definition
- Pan/tilt head can be operated conveniently via software

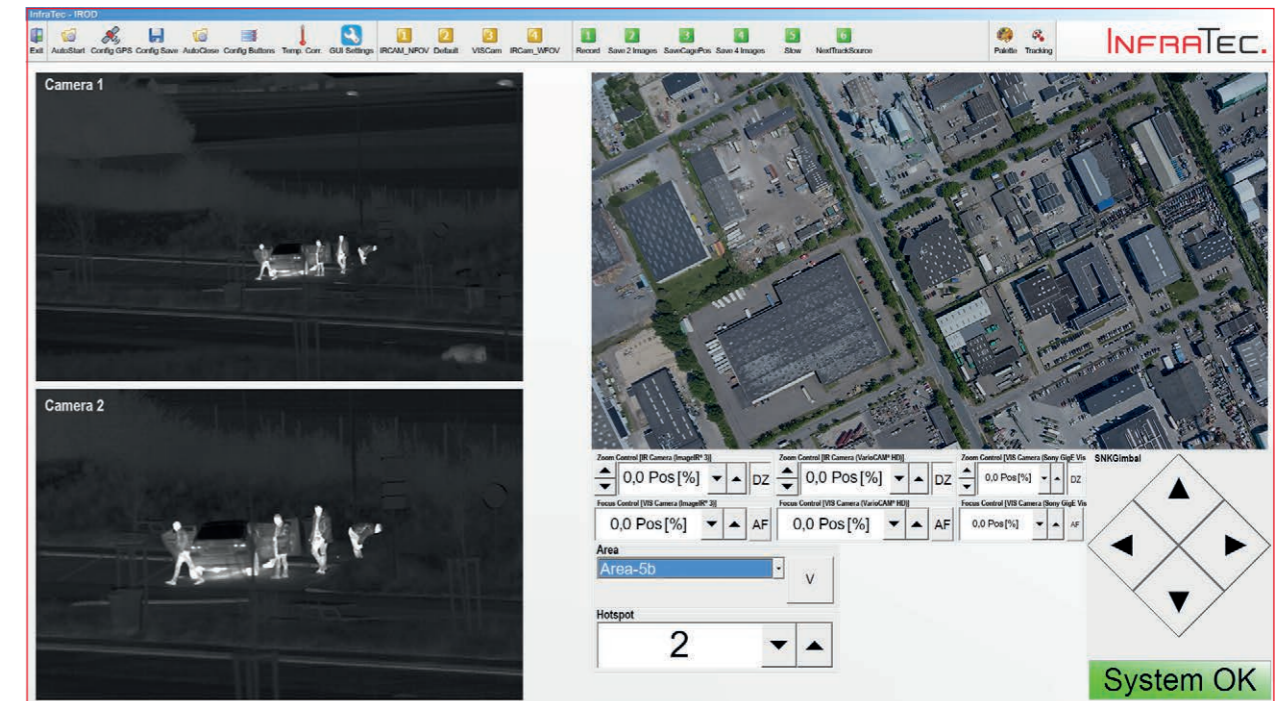


Controlling by stationary and mobile terminal equipment

Software – Efficient, Detailed and User-friendly

The PC-supported system can be used for stationary (desktop PC) or mobile (notebook, tablet) applications and thus allows location-independent use. The software interface of the thermal image monitoring system convinces not just by its **user-friendliness**, either. The continuous display of current thermographic images of all sectors – combined with the **simultaneous display of thermographic and colour video live images** – provides the user with a clearly structured overview of the monitored area.

The individually configurable software enables for recording the maximum, minimum and average temperature of each sector. The temperature / time sequences of all sectors can also be displayed graphically. It is even possible to merge live images from a thermographic and video camera (**merging function**). In addition to this, **image data is archived and operations are logged**. Besides fully automated queries, tracking is also possible. Furthermore, the camera status and system status are also displayed for the users.



Software interface with fade-in of the monitored area, the thermographic view of a sector as well as an additional zoom shot from the sector of the selected area

High-end Camera Technology

- Equipped, depending on the requirement, with robust, uncooled microbolometer cameras or highly-sensitive, cooled thermal imaging systems
- Detector resolutions of (640 \times 480) to (1,920 \times 1,536) IR pixels (Full HD thermography)
- Lens range including very light-sensitive f/1.0-teleoptics with fixed focal length for the uncooled camera system VarioCAM[®] High Definition as well as 30x zoom lenses (motorised) of the ImageIR[®] series
- Provision of proven permanent application solutions also for surveillance and monitoring tasks based on many years of experience in the production of turnkey solutions even for extreme environmental conditions

