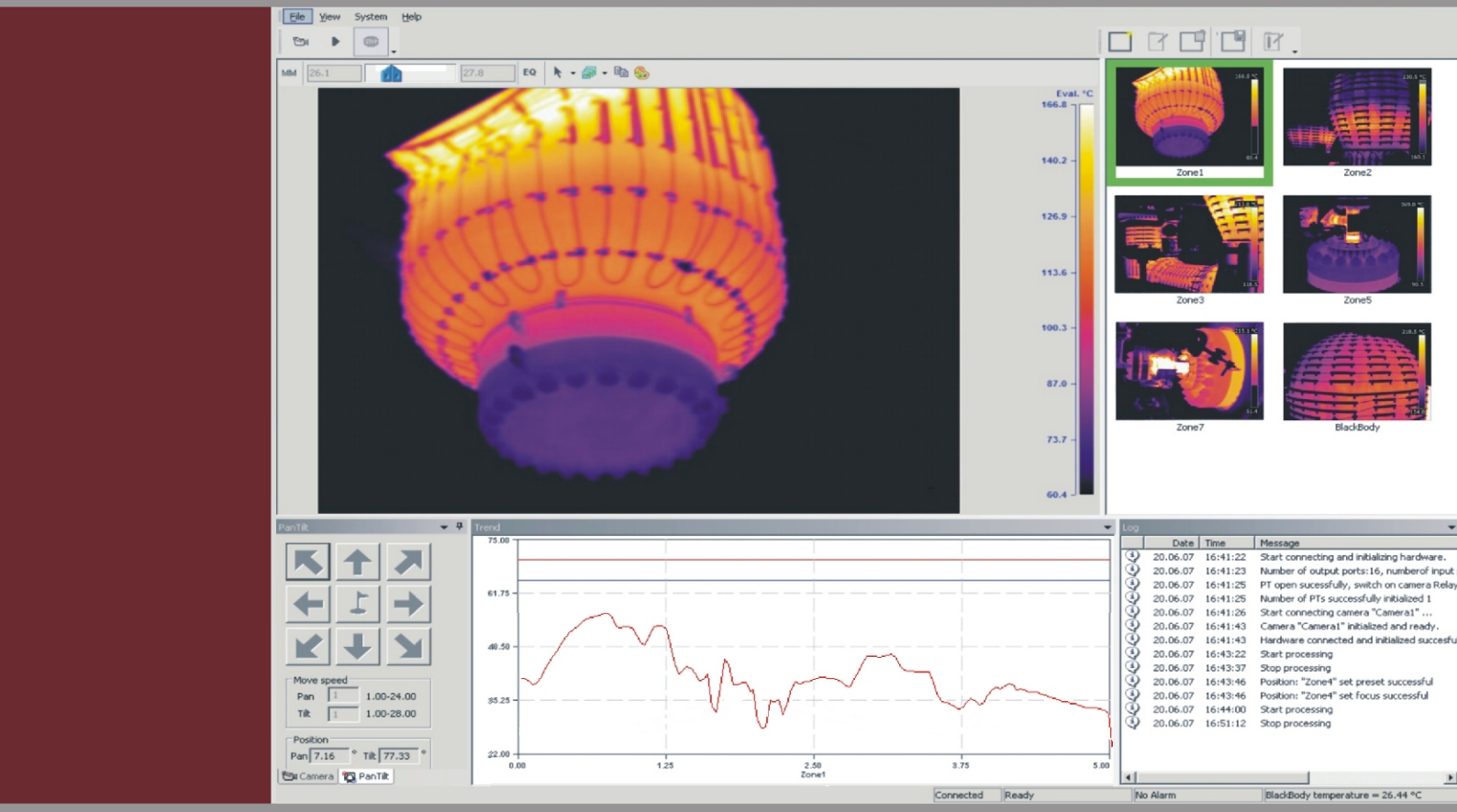
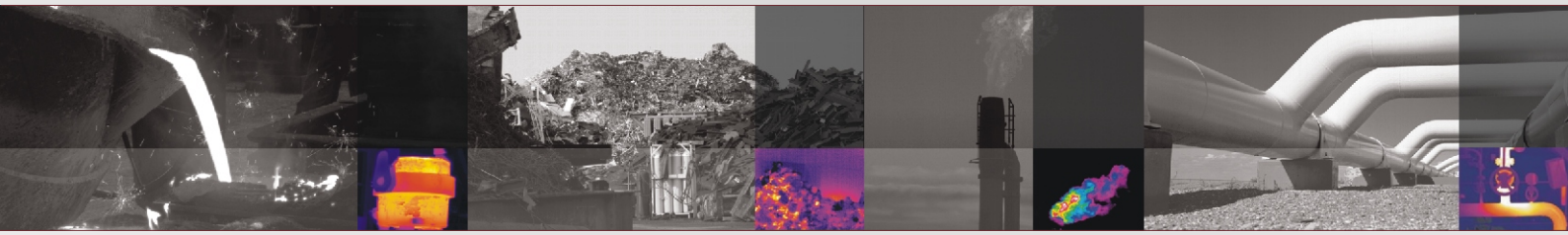
Automation Technology
Vision Systems for Automation

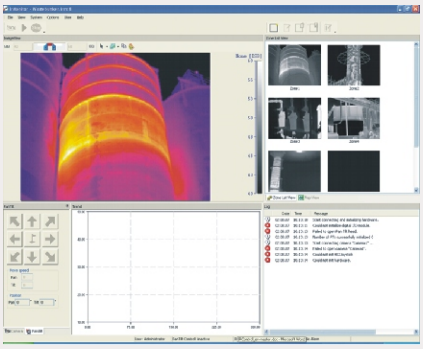
IrMonitor

Flexible Monitoring Solutions with Infrared Cameras





Thermographical monitoring by IrMonitor



IrMonitor is a Software-package for universal safety and security applications using infrared cameras. The software can administrate the operation of several infrared cameras simultaneously. Because these cameras detect objects through their thermal radiation, they can perceive certain characteristics about the actual condition of these objects, which conventional cameras cannot. The recorded thermal images are evaluates by IrMonitor through user-defined workspaces. The operation of pan/tilt systems optimizes the application of infrared cameras enabling the monitoring of large industrial facilities and warehouses at lower costs.

Important features of IrMonitor

Automatic administration and control of several infrared cameras

Automatic analysis of captured areas (zones)

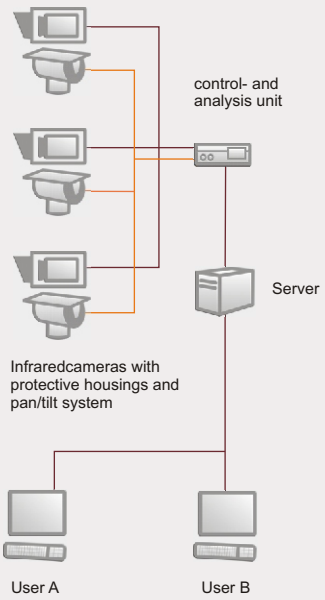
Full-automatic control of several pan/tilt systems

Large-area scanning of plant components for detection of critical conditions in good time

Generation of alarm signals

Generation of control signals for fire-fighting

Protocol and report functions



Screen surface

User-interface

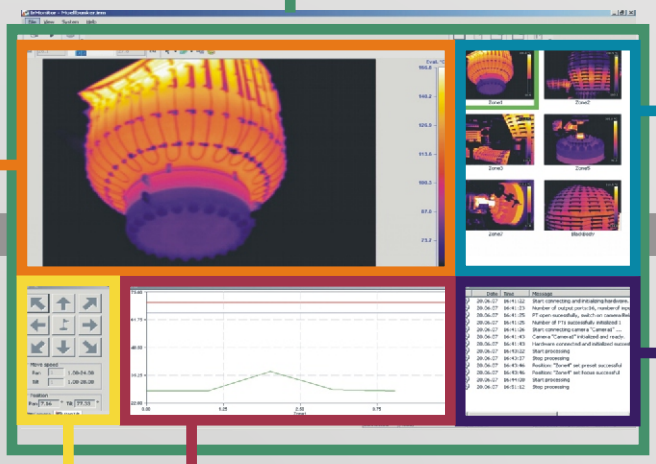
- Saving of workspaces and Layouts
- Setup for several user levels
- All windows are movable by drag & drop

Main view

- Automatic live-stream in alarm conditions
- Configuration of zones and AOIs
- Temperature scale
- Adjustment of contrast and choice of color palettes

Explorer view

- Overview of all zones
- Colored border strip in alarm and pre-alarm conditions
- Setup of analysis functions and alarm conditions



Control view

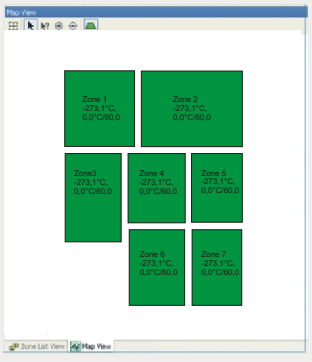
- Control of pan/tilt systems
- Parameterization of camera functions

Graph view

- Temperature-time-diagram for visualization of temperature trends
- Display of thresholds
- Automatic change of the active zone

Protocol

- Display of alarm- and pre-alarm signals
- Reporting of faults and failures
- Display of status signals



Map view

- Graphical display of monitoring zones by a floor plan
- Marking of critical zones
- Display of active temperatures and fluctuation of temperatures
- Import of dxf-files (e.g. from AutoCAD)
- Display infrared images of the respective zone

Applications

Overview of areas of application

Fire detection systems for warehouses and bunkers; e.g. waste bunkers, paper storages, fuel depots

Foundry Ladle and Torpedo Car inspection systems in the steel industry

Critical vessel monitoring, for detection of hotspots and weak points

Flare detection in chemical and petrochemical industry

Leckage detection in pipelines and plant components

Monitoring of production lines

Access control systems

Foundry Ladle monitoring

Hotspots analysis for early detection of defects in the refractory insulation

Temperature trend analysis for maximizing operation intervals and optimal planning of maintenance activities

Application of high-temperature calibrated infrared cameras in water-cooled protective housings

data storage in central server units

Web based access for several users

Flare detection

Automatic alarm when the flame extinguishes

Automatic switch to live view in the case of an alarm

Contact-free temperature measurements from long distances

Monitoring of several flares by only one system

Monitoring system can be implemented in existing networks, minimizing installation costs

Early-warning system for fires

Temperature trend analysis for detection of smoldering fires

Live-view to support fire-fighting activities, providing clear view through smoke and steam

Easy integration into existing fire alarm systems

Avoidance of false alarms by masking hot plant components and filtering of temperature peaks, e.g. moving vehicles

Technical Specifications

Supported infrared cameras, e.g.

- FLIR Thermovision A300, A310, A315, A615

Supported pan/tilt systems, e.g.

- FLIR MCS D48, Bewator P60 Sidemount/Topmount
- Positioning accuracy < 0,01°
- Speed up to 100° /s
- Weight up to 50 kg
- Start and brake ramp for prevention of vibrations and wear
- Further pan/tilt systems can be intigrated upon request in a short term
- Meet the Mil-Spec-Criteria

Protective housings

- Construction: awning, air-cooled, water-cooled
- Protection category up to IP 68
- Ex 2 GD Eexd II C T6 T85°C IP65 ATEX
- Material: aluminium, powder coating steel, high-grade steel AISI 316
- Accessoires: wiper + detergent tank, air barrier

Camera-Interfaces

- Gigabit Ethernet
- Firewire IEEE1394

Wide area transmission network between camera and computer unit

- Up to 4.5 m via Firewire
- Up to 90 m via Industrial Ethernet
- Up to 500 m via Multimode fiber optics
- Up to several kilometers via Monomode fiber optics
- Up to several kilometers via Wireless-LAN and radio link system

Interfaces for host computer or control centers

- OPC Server
- Profibus DP
- Industrial Ethernet
- Opto-decoupled 24 V input-/output modules (National Instruments, ADDI-Data, etc.)
- Remote control for VPN (Virtual Private Network)

Video- and input interfaces

- DVI-I, VGA, PAL, NTSC via Extender and any configurable Switches
- USB-Input device (HID) z.B. Mouse, keyboard, touchpad, joystick

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