IR-Thermal image analysis
Fault detection made easy!

Locating and analysing efficiently: The ThermoCamera-Vision and ThermoCamera-Vision XP make it possible.
Problem solver in a wide range of situations

Construction and insulation

- Identification of poor and faulty insulation
- Review of the best layout during the construction phase
- Detection of construction defects and damage
- Carrying out targeted repairs – cost reduction and time savings
- Monitoring the drying of a building

Energy savings

- Tracking down energy losses, e.g. at windows and doors, roller shutter housings, faulty roof structures etc.
- Reduction in energy costs
- Detection of air currents

Heating, ventilation and air conditioning systems

- Optimal evaluation and adjustment of the systems
- Prevention of poor indoor air condition caused by defective functioning of systems
- Leak detection in floor heating systems
- Location of defective pipes
Humidity
- Prevention and minimisation of hazardous mould growth
- Detection of moisture in poorly ventilated rooms, walls, etc.
- Location of hidden damp patches in non-visible areas
- Detection of moisture condensation
- Location of thermal bridges

Electrical
- Location of electrical faults
- Testing of electrical connections, fuses, etc.
- Minimising excessive temperatures and the associated fire risk
- Ensuring optimal functionality of solar energy plant

Industrial applications
- Monitoring production equipment
- Increasing the safety and reliability of machinery and ovens
- Finding hidden faults such as broken pipes
- Monitoring the production process to avoid downtime
ThermoCamera-Vision and ThermoCamera-Vision XP

Laser output
Camera
LED lighting
Focusable lens
Infrared camera lens
1/4" tripod connection

3.5" TFT colour display / touch screen
The large, high-resolution 3.5" colour touch screen means accurate analysis on the spot and makes direct control easier.

Hot keys

Protective case with visor
Shaft left and right
video output, USB interface, microphone/headphone jack, power supply/battery charger input and micro-SD card slot
Release / capture

Battery compartment
external charging station and additional rechargeable battery

Inclusive:
2 Li-Ion battery packs with external charging station, USB cable, video/audio cable, microphone/headphone, QuickReporting-Software, 4 GB micro-SD card with adapter, 1/4” tripod connection, protective case with visor, professional shockproof carrying case

<table>
<thead>
<tr>
<th>ARTICLE</th>
<th>ARTICLE NO</th>
<th>EAN-CODE</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>ThermoCamera-Vision</td>
<td>082.085A</td>
<td>4 021563 684458</td>
<td>1</td>
</tr>
<tr>
<td>ThermoCamera-Vision XP</td>
<td>082.088A</td>
<td>4 021563 688210</td>
<td>1</td>
</tr>
</tbody>
</table>
PRODUCTIVITY TOOLS

Top features of the IR camera *

QuickRange-Setup
- Optimum measurement range set with hot key
- Quick refresh of temperature range on entering new selection - without interrupting the measurement

CustomApps
- Configuration-optimised templates (apps) for individual applications
- Simple and rapid analysis of standard situations
- Safe operation
- Saves time - in similar measurement situations, no unnecessary camera adjustment required

CustomColorPalette
- Create your own colour palettes
- Enter complex settings quickly and reliably
- Contrast-optimised colour palettes for improving imaging quality

Optional accessories FixPod 155 cm:
3-way tripod head, crank lift 30 cm, telescopic tripod legs, rubber-steel tips for use on different surfaces

* using QuickReporting-Software supplied

Powerful technology:

Infrared/digital image
- Picture-in-picture: 26.3°C
- 5.2°C

Infrared image with dynamic temperature curve
- 58.6°C
- 20.3°C

MIX image: Crossfade infrared/digital image with isothermal function
- 46.3°C
- 27.1°C

Isothermal function:
The isothermal function allows particular temperature ranges to be made visible. If the predefined parameter conditions are met, the temperature range is displayed in the appropriate colour.

- An interchangeable focusable lens allows detailed and precise image analysis at different measurement distances.
- A high-speed infra-red sensor with 50 fps makes the analysis of fast and dynamic processes possible.
- Precise measurements with better results are possible with the target laser.
- The built-in LED illumination of the object facilitates targeted measurements, even in dark conditions.

ARTICLE NO
FixPod 155 cm 090.132A
EAN-CODE PU
4 021563 678990 4
## Technical data

<table>
<thead>
<tr>
<th></th>
<th>ThermoCamera-Vision</th>
<th>ThermoCamera-Vision XP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IR SENSOR</strong></td>
<td>160 x 120 pixel resolution, uncooled microbolometer, 8-14 µm</td>
<td>384 x 288 pixel resolution, uncooled microbolometer, 8-14 µm</td>
</tr>
<tr>
<td><strong>IR OPTICS</strong></td>
<td>Germanium interchangeable lens, 33° x 24° FOV, 3.33 mrad IFOV, manual focus 0.3 m min.</td>
<td>Germanium interchangeable lens, 37° x 28° FOV, 1.67 mrad IFOV, manual focus 0.3 m min.</td>
</tr>
<tr>
<td><strong>THERMAL SENSITIVITY</strong></td>
<td>0.08°C</td>
<td>0.06°C</td>
</tr>
<tr>
<td><strong>ACCURACY</strong></td>
<td>± 2°C or ± 2% of measured value</td>
<td>± 2°C or ± 2% of measured value</td>
</tr>
<tr>
<td><strong>MEASUREMENT RANGE</strong></td>
<td>-20°C … 150°C / 0°C … 400°C</td>
<td></td>
</tr>
<tr>
<td><strong>DISPLAY</strong></td>
<td>3.5” colour TFT touch screen display</td>
<td></td>
</tr>
<tr>
<td><strong>IMAGE MODES</strong></td>
<td>Infrared, digital, picture-in-picture, MIX image</td>
<td></td>
</tr>
<tr>
<td><strong>IMAGE FUNCTION</strong></td>
<td>1-2x digital zoom, rotation 0° - 360°, in steps of 1°</td>
<td></td>
</tr>
<tr>
<td><strong>DIGITAL CAMERA</strong></td>
<td>Resolution: 640 x 480 pixels</td>
<td></td>
</tr>
<tr>
<td><strong>FORMAT</strong></td>
<td>JPEG format, max. 640 x 480 pixels, MPEG-4 Standard, 640 x 480 pixels, 30 fps</td>
<td></td>
</tr>
<tr>
<td><strong>MEMORY FUNCTION</strong></td>
<td>Micro-SD card up to 16 GB</td>
<td></td>
</tr>
<tr>
<td><strong>MEASUREMENT AND ANALYSIS FUNCTION</strong></td>
<td>Extended real-time analysis: 3 measuring points, 2 measuring lines (horizontal/vertical), 3 measuring areas (with min/max/avg with min/max/avg calculation); Automatic hot/cold point marking and isothermal function</td>
<td></td>
</tr>
<tr>
<td><strong>LED</strong></td>
<td>White LED, object lighting</td>
<td></td>
</tr>
<tr>
<td><strong>TARGET LASER</strong></td>
<td>Laser classe 2 &lt; 1 mW, 635-650 nm</td>
<td></td>
</tr>
<tr>
<td><strong>PORTS</strong></td>
<td>USB, micro-SD, video, audio, microphone/Kopfhörer</td>
<td></td>
</tr>
<tr>
<td><strong>PROTECTION CLASS</strong></td>
<td>IP65, drop test 2 m, impact 25 g (IEC60068-2-29), vibration 2 g (IEC60068-2-6)</td>
<td></td>
</tr>
<tr>
<td><strong>POWER SUPPLY / OPERATING TIME</strong></td>
<td>Li-Ion battery pack 7.4V / 2.7Ah / approx. 3-4 hours per battery</td>
<td></td>
</tr>
<tr>
<td><strong>DIMENSIONS</strong></td>
<td>243 mm x 103 mm x 160 mm</td>
<td></td>
</tr>
<tr>
<td><strong>WEIGHT</strong></td>
<td>920 g (incl. battery pack)</td>
<td></td>
</tr>
</tbody>
</table>
Software

QUICK REPORTING-SOFTWARE

Software for quick and easy measurement analysis

The software provided makes it possible to transfer the recorded data to a PC and to use the data for further processing and documentation. With minimal effort in just four steps:
1. Insert the CD into the drive
2. Install the software
3. Connect the USB cable to the camera and computer
4. Start the software

It is not necessary to install a driver. The software operates under Windows XP and Windows 7.

After transferring the images and all the readings, the software is able to produce evaluation reports in the form you require. There are numerous functions offering a wide range of different options:

- Subsequent plotting of individual measurement points and the horizontal and vertical temperature curve
- Documentation of thermal and digital images
- Subsequent use of the MIX imaging function with isotherm function
- Subsequent selection and changing of the colour palette, e.g. from grayscale into colour
- Changing the temperature range, e.g. from level and span

The software is very user friendly and anyone can learn it in just a short period of time. You can find information on thermography training on the back.

DATA-LOGGING

Images are captured at periodic intervals and then transferred to a PC for further analysis.

ONLINE-UPDATE-FUNCTION

Free updates to the QuickReporting-Software are available to registered users to further improve the preparation of evaluation reports.
Learn how thermography works!
Using and practise

Thermographics training

At Laserliner we offer professional, individualised product training so that you can achieve the best possible analytical results with your thermographic camera. These include:

- A theoretical understanding of the camera’s functions and possible applications
- Numerous practical exercises that you can put into practice in your everyday work

We also recommend further training in using the QuickReporting-Software:

- Installing the software, connecting the camera to the PC
- Analysis of previously recorded data using the software

Of course we would be happy to accommodate your individual requirements, so that you are well equipped to use the LaserLiner privately or at work.

We would be pleased to give personal advice!