VarioCAM® High Definition
Thermographic Solution for Universal Use

Europe’s leading specialist for infrared sensors and measurement technology

Microbolometer camera with up to (1,024 × 768) IR pixels
Opto-mechanical MicroScan with up to (2,048 × 1,536) IR pixels
Frame rate of up to 240 Hz, GigE Vision interface
Integrated light-sensitive digital 8 MP camera
5.6" colour TFT display with (1,280 × 800) pixels
Laser range finder and GPS sensor
Wireless camera control and data acquisition via WLAN

1) VarioCAM® High Definition
2) Transmission
3) Photovoltaic power plant

www.InfraTec.eu
**Detector**
Uncooled Microbolometer Focal Plane Array

**Detector format (IR pixels)**
- Cut-off: 7.5 \( \mu m \);
- Pixel: 640 \( \times \) 480.

**Temperature measuring range**
\((-40 \ldots 2,000) °C\)

**Measurement accuracy**
\(\pm 1 °C \text{ or } \pm 1 \%\)

**Temperature resolution @ 30 °C**
Up to 0.02 K

**Frame rate**
- Full-frame: 30 Hz (1,024 \( \times \) 768), sub-frame formats*: 60 Hz (640 \( \times \) 480) / 120 Hz (384 \( \times \) 288) / 240 Hz (1,024 \( \times \) 960)
- Full-frame: 60 Hz (640 \( \times \) 480), sub-frame formats*: 120 Hz (384 \( \times \) 288) / 240 Hz (640 \( \times \) 120)

**Storage media**
SDHC Card, external control computer for camera control and data acquisition*

**Image storage**
Time-, trigger- and temperature controlled recording of 16 bit frames or image sequences with timestamp, video streaming in MPEG format

**Realtime storage**
Computer-aided storage of radiometric sequences by GigE interface with up to 240 Hz

**Lens mount**
Bayonet to comfortably switch objectives, automatic objective detection and data transfer

**Focus**
Motor-driven, automatic or manual, accurately adjustable, laser-supported autofocus*

**EverSharp function**
Multifocal recording allows for maximum extend of sharp focus

**Zoom**
Up to 32x digital, stepless

**Digital colour video camera**
8 Megapixels, LED video light, vision mixer and cross-grade feature

**Dynamic range**
14 bit

**Interfaces; Trigger**
GigE Vision*, DVI-D (HDMI), C-Video, RS232, USB 2.0, WLAN*, Bluetooth*, 2 \( \times \) digital I/O, 2 \( \times \) analogue I/O

**Power supply**
Standard Lithium-Ion battery, energy save mode, AC adapter, (12 \( \ldots \) 24) V DC

**Display**
5.6” colour TFT display (1,280 \( \times \) 800) pixel, 170° rotatable and 280° revolvable, daylight suited, incl. flip mirror

**Laser range finder**
Semiconductor laser red, laser protection class 2, range up to 70 m

**Integrated microphone and speaker**
Voice annotation feature, replay and audio dubbing

**Integrated GPS sensor**
Image integrated storage of position data

**Display viewfinder**
Tiltable colour viewfinder with diopter compensation

**Protection degree; Storage and operation temperature**
IP54, IEC 60529; (-40 \( \ldots \) 70) °C, (-25 \( \ldots \) 55) °C

**Impact strength; vibration resistance in operation**
25 G (IEC 68 - 2 - 29); 2 G (IEC 68 - 2 - 6)

**Dimensions; weight**
(210 \( \times \) 125 \( \times \) 155) mm; 1.6 kg (basic configuration with standard lens)

**Autofunctions**
Autofocus, permanent autofocus, automatic distance indicator, distance-dependent display of pixel size to avoid geometrically related measurement errors, autoimage, autolevel, min./max. temperature alarm: visual/auditory, alarm triggered image storage

**Measurement functions**
16 freely choosable, movable measurement fields / - points, automatic hot / cold spot display: globally and internally defined measurement fields, differential temperature measurement, temperature profile, histogram, differential image, isotherms display

**Further functions**
Camera internal emissivity correction, shutter free operation, use of various colour sets, contrast enhancement, user profile, language selection, user-specific comment data base, digital voice recording

**Spectral range**
(7.5 \( \ldots \) 14) \( \mu m \)

**Detector format (IR pixels)**
- (640 \( \times \) 480)
- (1,024 \( \times \) 768)

**Lenses**

<table>
<thead>
<tr>
<th>Lens Type</th>
<th>Focal length (mm)</th>
<th>FOV (°)</th>
<th>FOV (°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Super wide-angle</td>
<td>7.5</td>
<td>(93.7 ( \times ) 77.3)</td>
<td>(98.5 ( \times ) 82.1)</td>
</tr>
<tr>
<td>Wide-angle</td>
<td>15</td>
<td>(56.1 ( \times ) 43.6)</td>
<td>(60.3 ( \times ) 47.0)</td>
</tr>
<tr>
<td>Standard</td>
<td>30</td>
<td>(29.9 ( \times ) 22.6)</td>
<td>(32.4 ( \times ) 24.6)</td>
</tr>
<tr>
<td>Telephoto</td>
<td>60</td>
<td>(15.2 ( \times ) 11.4)</td>
<td>(16.5 ( \times ) 12.4)</td>
</tr>
<tr>
<td>Telephoto</td>
<td>120</td>
<td>(7.6 ( \times ) 5.7)</td>
<td>(8.3 ( \times ) 6.2)</td>
</tr>
</tbody>
</table>

**Macro and microscopic lenses**

<table>
<thead>
<tr>
<th>Lens Type</th>
<th>Minimum object distance (mm)</th>
<th>Pixel size (( \mu m ))</th>
<th>Pixel size (( \mu m ))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close-Up 0.2x for 30 mm</td>
<td>70</td>
<td>75.4</td>
<td>5.13</td>
</tr>
<tr>
<td>Close-Up 0.5x for 30 mm</td>
<td>33</td>
<td>41.4</td>
<td>2.82</td>
</tr>
<tr>
<td>Close-Up 0.5x for 60 mm</td>
<td>78</td>
<td>41.6</td>
<td>2.83</td>
</tr>
<tr>
<td>Microscopic lens M=1.0x</td>
<td>50</td>
<td>25</td>
<td>17</td>
</tr>
</tbody>
</table>

* Depending on model

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