FLIR A315 / A615
Thermal Imaging Cameras for Machine Vision

The FLIR A315 / A615 is a series of compact and affordable thermal imaging cameras, fully controlled by a PC. Due to their compliance to standards, FLIR A315 / A615 are Plug&Play with third-party Machine Vision software like National instruments, Cognex, Matrox, MVtec and Stemmer Imaging.

EXCELLENT IMAGE QUALITY
The FLIR A615 is equipped with an uncooled Vanadium Oxide (VoX) detector that produces crisp thermal images of 640 x 480 pixels. This allows more accuracy and shows more details at a longer distance. The FLIR A615 also has a high-speed infrared windowing option.

Users that do not need the high image quality of the FLIR A615 can choose the A315 that produces thermal images of 320 x 240 pixels. Both cameras make temperature differences as small as 50 mk clearly visible. They come with a built-in 25° lens with motorized focus and autofocus. Optional lenses are available.

GigE VISION™ STANDARD COMPATIBILITY
An industry first, GigE Vision is a camera interface standard developed using the Gigabit Ethernet communication interface. GigE Vision is the first standard to enable fast image transfer using low-cost standard cables even over long distances. With GigE Vision, hardware and software from different vendors can interoperate seamlessly over GigE connections.

GenICam™ PROTOCOL SUPPORT
Another industry first. The goal of GenICam is to provide a generic programming interface for all kinds of cameras. The GenICam protocol also makes third-party software compatible with the camera.

16-BIT TEMPERATURE LINEAR OUTPUT
Allows you to do temperature measurements in a non-contact mode with any third-party software. A built-in Gigabit Ethernet connection allows real-time 16-bit image streaming to a computer.

ENVIRONMENTAL HOUSING (FLIR A315)
The FLIR A315 can be ordered with an environmental housing. The housing increases the environmental specifications of the FLIR A315 to IP66, protecting the camera’s from dust and water without affecting any of the camera features. The housing is available for cameras that are equipped with a 25°, 45° or 90° lens, and can be ordered separately as an accessory.

www.flir.com
### Technical Specifications FLIR A315/ A615

#### Imaging & Optical Data

<table>
<thead>
<tr>
<th>Field of view (FOV) / Minimum focus distance</th>
<th>FLIR A315</th>
<th>FLIR A615</th>
</tr>
</thead>
<tbody>
<tr>
<td>25° × 18.8° / 0.4 m (1.3 ft.)</td>
<td>15° × 11° / (8° diagonal) / 0.50 m (1.6 ft.)</td>
<td></td>
</tr>
<tr>
<td>25° × 19° / 0.25 m (0.82 ft.)</td>
<td>25° × 13° / 0.25 m (0.82 ft.)</td>
<td></td>
</tr>
<tr>
<td>45° × 34° / 0.15 m (0.49 ft.)</td>
<td>45° × 8.7° (diagonal) / 2.0 m (6.6 ft.)</td>
<td></td>
</tr>
<tr>
<td>7° × 5.3° (8.7° diagonal) / 66 mm (2.6 in.)</td>
<td>80° × 64.4° (92.8° diagonal) / 66 mm (2.6 in.)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spatial resolution (FOV)</th>
<th>1.36 mrad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focal length</td>
<td>18 mm (0.7 in.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IR resolution</th>
<th>FLIR A315</th>
<th>FLIR A615</th>
</tr>
</thead>
<tbody>
<tr>
<td>320 × 240 pixels</td>
<td>640 × 480 pixels</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Image frequency</th>
<th>FLIR A315</th>
<th>FLIR A615</th>
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<tbody>
<tr>
<td>60 Hz</td>
<td>50 Hz (100/200 Hz with windowing)</td>
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</table>

#### Detector Data

<table>
<thead>
<tr>
<th>Focal Plane Array (FPA) / Spectral range</th>
<th>FLIR A315</th>
<th>FLIR A615</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncooled microbolometer / 7.5 μm</td>
<td>Uncooled microbolometer / 7.5 μm</td>
<td></td>
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<table>
<thead>
<tr>
<th>IR resolution</th>
<th>640 × 480 pixels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detector pitch</td>
<td>25 μm</td>
</tr>
<tr>
<td>Detector time constant</td>
<td>Typical 12 ms</td>
</tr>
</tbody>
</table>

#### Measurement

- **Object temperature range**: -20 to +120°C (-4 to 248°F)
- **Image temperature range**: -20 to +150°C
- **Storage temperature range**: -40°C to +70°C (-40 to 158°F)

#### USB

- **USB, control and image**: N/A
- **USB, standard**: N/A
- **USB, connector type**: N/A
- **USB, communication**: TCP/IP socket-based FLIR proprietary
- **USB, image streaming**: 16-bit 640 × 480 pixels at 25 Hz

#### Ethernet

- **Ethernet, image streaming**: TCP, UDP, SNTP, RTSP, RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS), DHCP, MDNS (Bonjour), uPnP

#### Power system

- **External power operation**: 12/24 VDC, 24 W absolute max
- **External power, connector type**: 2-pole jackable screw terminal

#### Environmental data

- **Storage temperature range**: -40°C to +70°C (+40°F)
- **Humidity (operating and storage)**: IEC 60068-2-30/24 h 95%
- **EMC**: • EN 61000-6-2:2001 (Immunity)
  • EN 61000-6-3:2001 (Emission)
  • FCC-CF Part 15 Class B (Emission)
- **Vibration**: 2 g (IEC 60068-2-6)

#### Digital Input/Output

- **Digital input**: 2 opto-isolated, 10–30 VDC
- **Digital output**: 2 opto-isolated, 10–30 VDC, max 100 mA

#### Physical Data

- **Housing material**: Aluminium

### Scope of Delivery

- Hard transport case or cardboard box
- Thermal imaging camera with lens
- Utility CD-ROM, Calibration certificate
- Ethernet™ cable, USB cable (FLIR A615)
- Calibration certificate, User documentation CD-ROM
- Power supply, Mains cable
- Scope of delivery

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