

# FLIR A310f 6°

Part number:

**61201-1101**

Specifications subject to change without further notice.  
Camera models and accessories subject to regional  
market considerations. License procedures may apply.

Information and equipment described herein may require  
US Government authorization for export purposes.  
Diversion contrary to US law is prohibited.

(v1.05)



## Imaging and optical data

IR resolution	320 × 240 pixels
Thermal sensitivity/NETD	< 0.05°C @ +30°C (+86°F) / 50 mK
Field of view (FOV) / Minimum focus distance	6° × 4.5° / 4 m (13.11 ft.)
Focal length	76 mm (3.0 in.)
Spatial resolution (IFOV)	0.33 mrad
Lens identification	Automatic
F-number	1.3
Image frequency	30 Hz
Focus	Automatic or manual (built in motor)
Zoom	1–8x continuous, digital, interpolating zooming on images

## Detector data

Focal Plane Array (FPA) / Spectral range	Uncooled microbolometer / 7.5–13 μm
Detector pitch	25 μm
Detector time constant	Typical 12 ms

## Measurement

Object temperature range	–20 to +120°C (–4 to +248°F) 0 to +350°C (+32 to +662°F)
Accuracy	±4°C (±7.2°F) or ±4% of reading

## Measurement analysis

Spotmeter	10
Area	10 boxes with max./min./average/position
Isotherm	1 with above/below/interval
Measurement option	Measurement Mask Filter Schedule response: File sending (ftp), email (SMTP)
Difference temperature	Delta temperature between measurement functions or reference temperature
Reference temperature	Manually set or captured from any measurement function
Atmospheric transmission correction	Automatic, based on inputs for distance, atmospheric temperature and relative humidity
Optics transmission correction	Automatic, based on signals from internal sensors
Emissivity correction	Variable from 0.01 to 1.0
Reflected apparent temperature correction	Automatic, based on input of reflected temperature
External optics/windows correction	Automatic, based on input of optics/window transmission and temperature
Measurement corrections	Global and individual object parameters

## Alarm

Alarm functions	6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer
Alarm output	Digital Out, log, store image, file sending (ftp), email (SMTP), notification

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<b>Set-up</b>	
Color palettes	Color palettes (BW, BW inv, Iron, Rain)
Set-up commands	Date/time, Temperature°C/°F
<b>Storage of images</b>	
Storage media	Built-in memory for image storage
File formats	Standard JPEG, 16-bit measurement data included
<b>Ethernet</b>	
Ethernet	Control, result and image
Ethernet, type	100 Mbps
Ethernet, standard	IEEE 802.3
Ethernet, connector type	RJ-45
Ethernet, communication	TCP/IP socket-based FLIR proprietary
Ethernet, video streaming	MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5
Ethernet, image streaming	16-bit 320 × 240 pixels @ 7-8 Hz - Radiometric
Ethernet, power	Power over Ethernet, PoE IEEE 802.3af class 0
Ethernet, protocols	Ethernet/IP, Modbus TCP, TCP, UDP, SNMP, RTSP, RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS), DHCP, MDNS (Bonjour), uPnP
<b>Digital input/output</b>	
Digital input, purpose	Image tag (start/stop/general), Input ext. device (programmatically read)
Digital input	2 opto-isolated, 10–30 VDC
Digital output, purpose	As function of ALARM, Output to ext. device (programmatically set)
Digital output	2 opto-isolated, 10–30 VDC, max 100 mA
Digital I/O, isolation voltage	500 VRMS
Digital I/O, supply voltage	12/24 VDC, max 200 mA
Digital I/O, connector type	6-pole jackable screw terminal
<b>Composite video</b>	
Video out	Composite video output, PAL and NTSC compatible
Video, standard	CVBS (ITU-R-BT.470 PAL/SMPTE 170M NTSC)
<b>Power system</b>	
External power operation	12/24 VDC, 24 W absolute max
External power, connector type	2-pole jackable screw terminal
Voltage	Allowed range 10–30 VDC
<b>Environmental data</b>	
Operating temperature range	–25°C to +50°C (–13°F to +122°F)
Storage temperature range	–40°C to +70°C (–40°F to +158°F)
Humidity (operating and storage)	IEC 60068-2-30/24 h 95% relative humidity +25°C to +40°C (+77°F to +104°F)
EMC	<ul style="list-style-type: none"><li>• EN 61000-6-2 (Immunity)</li><li>• EN 61000-6-3 (Emission)</li><li>• FCC 47 CFR Part 15 Class B (Emission)</li></ul>
Encapsulation	IP 66 (IEC 60529)
Bump	5 g, 11 ms (IEC 60068-2-27)
Vibration	2 g (IEC 60068-2-6)
<b>Physical data</b>	
Weight	5 kg (11.0 lb.)
Size (L × W × H)	460 × 140 × 159 mm (18.1 × 5.5 × 6.3 in.)
Base mounting	TBA
Housing material	Aluminum

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**System features**

External power operation (heater)	24 VDC 25 W max w/heater @ 24 VDC
External power, connector type (heater)	2-pole jackable screw terminal
Voltage (heater)	Allowed range 21-30 VDC
Automatic heaters	Clears window from ice

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**Shipping information**

- Cardboard box
  - Infrared camera with lens and environmental housing
  - Calibration certificate
  - Downloads brochure
  - FLIR Sensors Manager CD-ROM
  - Lens cap
  - Printed Getting Started Guide
  - Printed Important Information Guide
  - Service & training brochure
  - Small accessories kit
  - User documentation CD-ROM
  - FLIR Tools & Utilities CD-ROM
  - Registration card
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