FLIR A6301

Advanced Thermal Camera for 24/7 Process Monitoring and Quality Control

www.flir.com/products/A6301

Key Features

- A highly sensitive, cooled MWIR sensor improves defect detection and increases product quality.
- Industry-leading long-life micro cooler with 27,000-hour mean time to failure, maximizes camera uptime for consistent production uptime.
- Fast integration times ensure accurate temperature measurements on moving products and production lines.
- Low-latency, deterministic synchronization to external sources means thermal images are captured precisely when needed for decision support.
- Standard GigE Vision protocols, REST API and a built-in web interfaces shorten implementation timelines

Main Applications

- Inline inspection and validation of package heat sealing
- Process control and monitoring for adhesives
- Quality assurance during paper and plastics production
- Remote monitoring of electrical/mechanical systems

SPECIFICATIONS

Imaging and optical	
IR resolution	640 × 512
Field of view (FOV)	50 mm lens – 11.0° × 8.8° 25 mm lens – 21.7° × 17.5° 17 mm lens – 31.5° × 25.5°
Minimum focus distance	50 mm lens – 500 mm 25 mm lens – 200 mm 17 mm lens – 60 mm
Focus	Manual
Zoom	Digital zoom, 1x, 2x, 4x, 8x
Digital image enhancement	High sensitivity mode (HSM)
Detector type	High Operating Temperature (HOT) MWIR T2SLS
Spectral range	3.0–5.0 µm
Detector pitch	15 µm
F/#	f/2.5
Frame rate	30 Hz
Sensor cooling	FLIR FL100 Linear cooler
Image modes	IR image, high sensitivity mode (HSM)
Automatic image adjustment	Linear, PE
Color palettes	Selectable 8-bit
Overlay	RTSP Only
Measurement & Analysis	
Thermal sensitivity (NETD)	≤15 mK at 25°C
Temperature measurement range	-20°C to 200°C
Ambient drift compensation (with factory calibration)	Yes
Accuracy	≤100°C ±2°C, >100°C ±2% of reading

Communication & Data Storage	
Synchronization modes	Sync In
Radiometric IR video recording	None
Non-radiometric IR recording	None
Radiometric IR video streaming	GigE Vision
Non-radiometric IR video streaming	H.264 or MJPEG over RTSP
Command & control	GEV: Genicam RTSP: Web Interface, REST API
Storage media	None
Digital I/O connector type	M12 12-pin A-coded, Male (shared with external power)
Digital inputs	2x opto-isolated, Vin(low)= 0–1.5 V, Vin(high)= 3–25 V
Digital outputs	3x opto-isolated, 0–48 V DC, max. 350 mA Solid-state opto relay 1x dedicated as Fault output (NC)
Communication interfaces	Ethernet
Power	
Primary power source	PoE+ Type 2 (30 W min)
Optional DC power connection	M12 12-pin A-coded, male (shared with Digital I/O)
Power consumption	25 W (cool down)
DC voltage range	18 V-56 V
Environmental & Certifications	
Operating temperature range	-20°C to 50°C
Directives	EMC: 2014/30/EU, WEEE: 2012/19/EU
EMC	EN55032:2015/A11:2020 EN55035:2017/A11:2020 FCC Part 15, Subpart B ClassA KC C 9832 and KS C 9835

Specifications subject to change. For the most up-to-date specifications, please visit flir.com.

For technical or sales support, please visit:
www.flir.com/about/general-inquiries

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SPECIFICATIONS, CONT.

Encapsulation	IP50
Vibration	10-58 Hz, 0.15 mm; 58-500 Hz, 2 g; 5 cycles, 1 oct/min; X,Y&Z (IAW MIL-STD-810H)
Shock	25 g, 6 ms; Half sine; ± 500 shocks; X,Y&Z (IAW MIL-STD-810H)
General	
Camera size w/o lens	200 × 76 × 92 mm (7.9 × 3.0 × 3.6 in)
Camera size w/lens	50 mm lens: 241 × 76 × 92 mm (9.5 × 3.0 × 3.6 in) 25 mm lens: 260 × 76 × 92 mm (10.3 × 3.0 in × 3.6 in) 17 mm lens: 267 × 76 × 92 mm (10.5 in × 3.0 in × 3.6 in)
Camera weight w/o lens	1.32 kg (2.9 lbs)
Camera weight w/lens	50 mm lens: 1.63 kg (3.6 lbs) 25 mm lens: 1.72 kg (3.8 lbs) 17 mm lens: 1.77 kg (3.9 lbs)
Mounting	w/Mounting plate - 2 × 1/4"-20 tapped holes, 1 × 3/8"-16 tapped hole, 4 × #10-24 tapped holes w/o Mounting plate - 6 × #6-32
Box Contents	Camera w/lens, M12 to RJ45F Cable (0.3 m), quick start guide, certificate of calibration

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For more information about FLIR A6301, please scan or visit:

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