

FLIR A6301

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

www.flir.com/products/A6301



Key Features

- The 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 schedules.
- 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	3.4 μm - 5.1 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	9	
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	

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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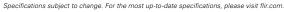
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SPECIFICATIONS, CONT.

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 & Certification	ons
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
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: $241 \times 76 \times 92$ mm $(9.5 \times 3.0 \times 3.6$ in) 25 mm lens: $260 \times 76 \times 92$ mm $(10.3 \times 3.0$ in $\times 3.6$ in) 17 mm lens: $267 \times 76 \times 92$ mm $(10.5$ in $\times 3.0$ in $\times 3.6$ 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 - $2 \times 1/4$ "-20 tapped holes, $1 \times 3/8$ "-16 tapped hole, $4 \times \#10\text{-}24$ tapped holes w/o Mounting plate - $6 \times \#6\text{-}32$
Box Contents	Camera w/lens, M12 to RJ45F Cable (0.3 m), quick start guide, certificate of calibration





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

