

FLIR A50/A70

Compact Thermal Smart Sensor Camera

FLIR A50 and A70 smart sensor cameras are ideal for users who want built-in, on-camera analytics and alarm capabilities for condition monitoring and early fire detection applications. With options for Wi-Fi, an integrated visual camera, and ONVIF S compatibility, FLIR A50/A70 cameras are a flexible, configurable solution to meet the unique needs of automation customers across a broad range of industries. The cameras are easy to add, set up, and operate in HMI/SCADA systems, offering automation system solution providers a running start. When used as a system component for cloud and Industrial Internet of Things (IIoT) solutions, A50/A70 cameras can help companies protect assets, improve safety, maximize uptime, and minimize maintenance costs.



MAXIMIZE UPTIME, PROTECT ASSETS, IMPROVE SAFETY

Quickly access thermal characteristics to catch potential failures, and detect fires before signs of smoke or flames

- Accurately measure temperatures with up to 640 × 480 (307,200 pixels) thermal resolution and $\pm 2^{\circ}\text{C}$ accuracy
- Reveal thermal detail with low-noise imagery and data
- Extract temperature data from each pixel using the FLIR Atlas SDK, compatible with the advanced smart sensor
- Identify targets easier with MSX® image enhancement, which embosses scene details from the optional built-in visual camera onto the full thermal image

TROUBLE-FREE INTEGRATION

Simplify integration efforts with thermal smart sensors that communicate with standard industrial protocols and video management systems

- Easy HMI & SCADA integration using common industrial protocols and alarm I/O
- SNMP trap and advanced firewall protection allows multiple network devices to securely operate together
- Simple configuration via standard web browser
- Simultaneous VMS video and alarm integration via ONVIF S compatibility (optional)

RUGGED, COMPACT, EASY INSTALLATION

Meet the demands of multiple application environments and installations

- Built with an IP66 rating to withstand harsh environmental conditions
- Ensure operation in dynamic settings thanks to heavy-duty M8/12 connectors
- Easily install the compact, lightweight camera in any location, with multiple mounting options





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FLIR A50/A70

Image & Optical Data		Standard Configuration	Advanced Configuration
IR resolution		464 × 348 (A50), 640 × 480 (A70)	
Visual Resolution		1280 × 960 pixels (optional)	
Thermal Resolution		35 mK	
Focus		Fixed, adjustable with included focus tool	
Spatial Resolution (IFOV)		A50: 29°: 1.2 mrad/pixel, 51°: 2.1 mrad/pixel, 95°: 4.0 mrad/pixel A70: 29°: 0.84 mrad/pixel, 51°: 1.5 mrad/pixel, 95°: 2.9 mrad/pixel	
FOV Options		29°, 51°, 95°	
Detector Pitch		A50: 17 µm, A70: 12 µm	
Spectral Range		7.5–14.0 µm	
Frame Rate		30 Hz	
Measurement			
Object temperature range		A50: -20°C to 175°C (-4°F to 347°F) 175°C to 1000°C (347°F to 1832°F) A70: -20°C to 175°C (-4°F to 347°F) -20°C to 250°C (-4°F to 482°F) 175°C to 1000°C (347°F to 1832°F)	
Accuracy		±2°C (±3.6°F) or ±2% of reading, for ambient temperature 15°C to 35°C (59°F to 95°F) and object temperature above 0°C (32°F)	
Measurement Analysis			
Standard Functions		10 Spotmeters, 10 Boxes, 3 Deltas (difference any value/reference/external lock), 1 Isotherm (above/below/interval), 1 Iso-coverage, 1 Reference temperature	10 Spotmeters, 10 Boxes or Polygons, 3 Deltas (difference any value/reference/external lock), 2 Isotherm (above/below/interval), 2 Iso-coverage, 2 Lines, 1 Polyline, 1 Reference temperature
Automatic Hot/Cold Detection		Standard Configuration	
Measurement Frequency		Up to 10 Hz	
Measurement Result Read-out		Ethernet/IP (poll), Modbus TCP server (pull), MQTT (push), REST API (read/write), Measurements and Still image (radiometric JPEG, visual 640 × 480, visual 1280 × 960), Web interface	Ethernet/IP (poll), Modbus TCP server/client (poll/push), MQTT (push), REST API (read/write), Measurements and Still image (radiometric JPEG, visual 640 × 480, visual 1280 × 960), Web interface
Alarm			
Alarm Function		On any selected measurement function, digital in, and internal camera temperature	
Alarm Output		Digital out, e-mail (SMTP) (push), Ethernet/IP (pull), file transfer (FTP) (push), Modbus TCP server (poll), MQTT (push), RESTful API (pull), and store image or video	Digital out, e-mail (SMTP) (push), Ethernet/IP (pull), file transfer (FTP) (push), Modbus TCP server/client (poll/push), MQTT (push), RESTful API (pull), and store image or video
Wi-Fi			
Connector Type		RP-SMA, female connector	

Video Streaming, RTSP Protocol		Standard Configuration	Advanced Configuration
Unicast		Yes	
Multicast		Yes	
Radiometric RTSP		No	Compressed JPEG-LS (FLIR Radiometric)
Multiple Image Streams		Yes, visual camera option needed (P/N T300295)	
Video Stream 0			
Streaming Resolution		640 × 480 pixels	
Source		Visual / IR / MSX® / FSX® (visual camera is optional)	
Contrast Enhancement		FSX® / Histogram equalization (IR only)	
Overlay		With/Without	
Encoding		H.264, MPEG4, or MJPEG	
Video Stream 1			
Streaming Resolution		1280 × 960 pixels	
Source		Visual (visual camera is optional)	
Overlay		No	
Encoding		H.264, MPEG4, or MJPEG	
Ethernet			
Interface		Wired, Wi-Fi (optional)	
Connector Types		M12 8-pin X-coded, female; RP-SMA, female	
Ethernet Type & Standard		1000 Mbps, IEEE 802.3	
Ethernet Power		Power over Ethernet, PoE IEEE 802.3af class 3	
Ethernet Protocols		Ethernet/IP, IEEE 1588, Modbus TCP, MQTT, SNMP, TCP, UDP, SNTP, RTSP, RTP, HTTP, HTTPS, ICMP, IGMP, sftp (server), FTP (client), SMTP, DHCP, and MDNS (Bonjour), uPnP	
Digital Input/Output			
Connector Type		M12 Male 12-pin A-coded (shared with external power)	
Digital Input		2× opto-isolated, Vin (low) = 0 to 1.5 V, Vin (high) = 3 to 25 V	
Digital Output		3× opto-isolated, 0 to 48 V DC, max. 350 mA (derated to 200 mA at 60°C). Solid-state opto relay, 1× dedicated as fault output (NC)	
Power			
Power Consumption		7.5 W at 24 V DC typical, 7.8 W at 48 V DC typical, 8.1 W at 48 V PoE typical	
External Power Operation		24/48 V DC 8 W max	
External Voltage		Allowed range 18 V to 56 V DC	
Power Connection		M12 12-pin A-coded, male (shared with Digital I/O)	