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 ±2°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)	

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