



## COMPACT THERMAL SMART SENSOR CAMERA

# FLIR A50/A70



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.

[flir.com/a50-a70-smart-sensor](http://flir.com/a50-a70-smart-sensor)



### 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<sup>®</sup> 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

## SPECIFICATIONS

Image & Optical Data	Standard Configuration	Advanced Configuration
IR resolution	464 × 348 (A50), 640 × 480 (A70)	
Visual Resolution	1280 × 960 pixels (optional)	
Thermal Resolution	A70: 29°: <45 mK, 51°: <45 mK, 95°: <60 mK A50: 29°: <35 mK, 51°: <35 mK, 95°: <45 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	-20°C to 175°C (-4°F to 347°F) 175°C to 1000°C (347°F to 1832°F)	-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
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Automatic Hot/Cold Detection	Standard Configuration
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Measurement Frequency	Up to 10 Hz
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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
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### 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
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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
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### 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)

For a complete list of specifications, go to [flir.com/A50-A70-smart-sensor](http://flir.com/A50-A70-smart-sensor)

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