COMPACT THERMAL SMART SENSOR CAMERA

FLIR A40

The FLIR A40 smart sensor camera is 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, the FLIR A40 camera is a flexible, configurable solution to meet the unique needs of automation customers across a broad range of industries. The camera is 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, the FLIR A40 camera 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 cmeasure temperatures with up to 320 × 240 (76,200 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 sensorsthatcommunicatewithstandardindustrial 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

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	
IR resolution	320 × 240
Visual Resolution	1280 × 960 pixels
Thermal Resolution	: 29°: <35 mK, 51°: <35 mK, 95°: <45 mK
Focus	Fixed, adjustable with included focus tool
Spatial Resolution (IFOV)	29°: 1.7 mrad/pixel, 51°: 3.0 mrad/pixel, 95°: 5.8 mrad/pixel
FOV Options	29°, 51°, 95°
Detector Pitch	A40: 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) -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 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	Yes
Measurement Frequency	Up to 10 Hz
Measurement Result Read-out	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/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	
Unicast	Yes
Multicast	Yes
Radiometric RTSP	Compressed JPEG-LS (FLIR Radiometric)
Multiple Image Streams	Yes, visual camera option needed (P/N T300295)
Video Stream 0	
Streaming Resolution	320 × 240 pixels
Source	Visual / IR / MSX® / FSX®
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
Overlay	No
Encoding	H.264, MPEG4, or MJPEG
Ethernet	
Interface	Wired, Wi-Fi
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

For a complete list of specifications, go to flir.com

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