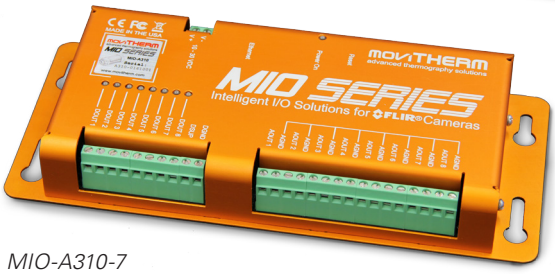
FLIR MIO-A310™

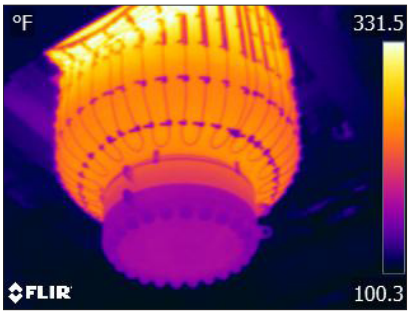
I/O Solutions for FLIR A310 Thermal Cameras

MIO-A310-1

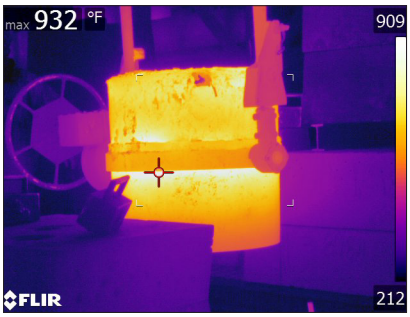


MIO-A310-7

FLIR A310



Critical vessel monitoring



Condition monitoring

The MIO Series Intelligent I/O solutions are designed to turn FLIR thermal imaging cameras into complete remote monitoring systems. Easy to set up and easy to configure, the MIO Series is your remote monitoring solution for process control, condition monitoring, and fire prevention.

The MIO Series is an intelligent module that can be easily configured via the built-in web server. Once connected with up to seven FLIR cameras, the MIO module can target designated regions or areas of interest (ROI) and start monitoring. The module can be programmed through the web server to alarm when a temperature threshold is breached, updating in real time. The MIO can also output an analog 4 to 20 mA current loop signal per each region of interest, providing the user with process control options.

Key features

- Compatible with FLIR® A310 Cameras
- Monitor 1 to 7 Cameras
- Configure Alarms via built-in Web Server
- Digital Outputs (24 VDC)
- 4-20 mA Outputs
- Ethernet Connectivity

Typical applications

- Critical Vessel Monitoring
- Condition Monitoring
- Process Monitoring
- Early Fire Detection

FLIR A310

Fixed-mounted thermal imaging cameras such as the FLIR A310 can be installed almost anywhere to monitor your critical equipment and other valuable assets. They will safeguard your plant and measure temperature differences to assess the criticality of a given situation. This allows you to see problems before they become costly failures, preventing downtime and enhancing worker safety.

Excellent image quality

The FLIR A310 thermal imaging camera contains an uncooled vanadium oxide (VOx) micobolometer detector. It can produce crisp 320 x 240 pixel thermal images and detect temperature differences as small as 50 mK. The A310 comes with a built-in 25° lens with motorized focus, but other fields of view are also available.

The FLIR A310 streams 640 x 480 MPEG-4 video over Ethernet for live image viewing on a PC, up to 30 Hz. Composite video, PAL- and NTSC-compatible outputs are available. The A310 can also be controlled remotely over the internet using TCP/IP protocol.

Industrial Protocol

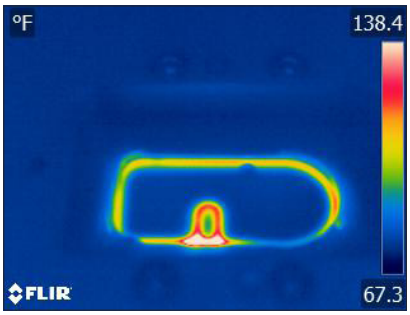
Since FLIR A310 is Ethernet/IP and Modbus TCP compliant, analysis and alarm results can easily be shared to a PLC. Digital inputs/outputs are available for alarms and control of external equipment. An image masking function allows you to select only the relevant part of the image for your analysis.

Built-in analysis and alarm functions

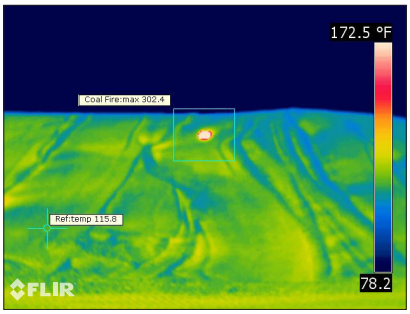
FLIR A310 comes standard with built-in analysis functions such as spot, area measurement, and difference temperature. Alarms can be set to go off as a function of analysis, internal temperature, or digital input. The camera automatically sends analysis results, IR images and more as an email on schedule or at alarm. Autonomous dispatch of files or emails, acting as an FTP- or SMTP-client is possible.

Technical Specifications

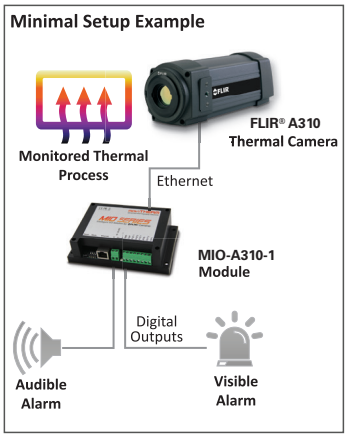
Model	MIO-A310-1	MIO-A310-7
Part number	T130090	T130091
Product specifications		
Maximum Cameras Supported	1	7
Ethernet Connection	100Base-T	100Base-T
Communication Protocol	Modbus TCP/IP	Modbus TCP/IP
4-20 mA Transmitter Channels	2 CH, Loop Powered, Isolated	8 CH, Loop Powered, Isolated
Digital Output Channels	2	8
Digital Output Current	0.5A per Channel, 1.5A All Channels	0.5A per Channel, 1.5A All Channels
Digital Output Voltage	10-30 VDC	10-30 VDC
Power Supply Voltage	24 VDC	24 VDC
Maximum Power Consumption	3 W	7 W
Dimensions	5.7 x 3.6 x 1.6 in (145 x 90 x 40 mm)	8.8 x 3.9 x 1.2 in (223 x 99 x 31 mm)
Weight	0.5 lbs (0.23 kg)	0.7 lbs (0.32 kg)
Enclosure Material	ABS	Anodized Aluminum
Shipping Information		
Packaging Type	Cardboard box	Cardboard box
List of Contents	MIO-A310-1 Unit Din Rail Mountable Manual on USB drive	MIO-A310-7 Unit Manual on USB drive Din Rail Adapter Clip
Packaging Weight	0.66 lbs (0.3 kg)	0.84 lbs (0.38 kg)
Packaging Size	7.125 x 4.4375 x 2 in (181 x 113 x 50 mm)	8.875 x 4.125 x 1.375 in (226 x 105 x 35 mm)
Country of Origin	USA	USA



Process monitoring



Fire detection



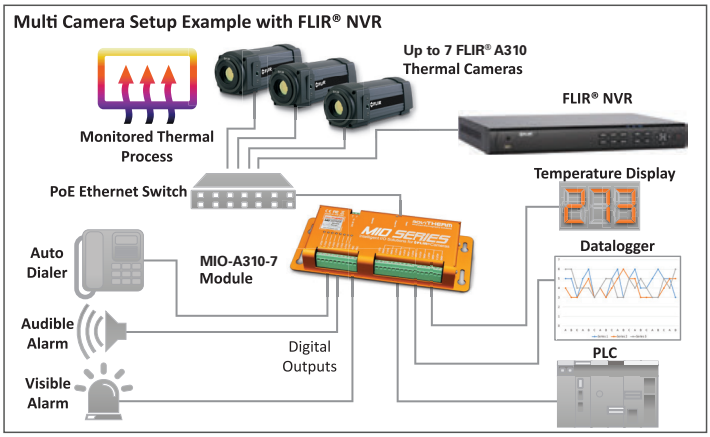
Example 1: Basic Thermal Monitoring with alarms using the MIO-A310-1

Protective housing

The FLIR A310 can be ordered already built into an environmental housing, the FLIR A310 f. The housing increases the environmental specifications of the FLIR A310 to IP66, without affecting any of the camera's features. It is ideal when the camera needs to be installed in dusty or wet environments. Users who want to build the camera within the housing themselves or who already have a FLIR A310 that needs extra protection against dust and water can order the housing separately as an accessory. FLIR A310 ex is an ATEX compliant solution, making it possible to monitor critical and other valuable assets in explosive atmospheres.


A310 f


A310 ex



Example 2: Advanced Multi-camera Thermal Monitoring with alarms, automated notification, datalogging, PLC connectivity and real-time video archiving using the MIO-A310-7

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