FLIR A320 Series
Infrared Camera System

FLIR A320
Industrial Automation IR Camera

The FLIR A320 camera offers an affordable and accurate temperature measurement solution for anyone who needs to solve problems that need built in “smartness” like analysis, alarm functionality and autonomous communication using standard protocols. The FLIR A320 camera also has all necessary features and functions to build distributed single- or multi-camera solutions utilizing standard Ethernet hardware and software protocols.

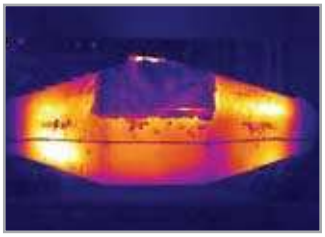
The A320 is designed to deliver accurate thermographic imaging and repeatable temperature measurements in a wide range of automation applications.

Typical applications:

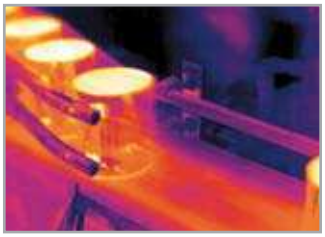
1. Safety with temperature Alarms (Multi-camera applications), Fire prevention, Critical Vessel Monitoring and Power Utility Asset Management
2. Volume orientated Industrial control (Multi-camera installation is possible)

Find Faults Quickly and Save costs - the A320 can spot subtle temperature variations thus finding and resolving problems early can save thousands of dollars by cutting down on scrap and warranty costs, and improving product quality.

Multiple FLIR A320s can be networked through their 100baseT Ethernet connections, ideal for Power Utility Asset Management.



Many fluid vessels, such as chemical reactors, storage tanks and piping systems, need to be monitored to spot abnormal temperatures and trends that wan of product loss or unsafe conditions.



FLIR A320 is a compact, affordable IR camera fully controlled by a PC. Due to its compliance to standards, it is a Plug&Play device with 3rd parties Machine Vision softwares, thus becoming a 24/7 automation system in production process i.e. Automotive industry, PCB checking, Food processing etc.

- *100 Mbps Ethernet (100 m cable, Wireless, Fiber,….)*
- *MPEG-4 streaming*
- *PoE (Power over Ethernet)*
- *Built-in extensive Analysis functionality*
- *Extensive Alarm functionality, as function of Analysis and more*
- *On schedule: file sending (ftp) or email (SMTP) of analysis results or images*
- *On alarms: file sending (ftp) or email (SMTP) of analysis results or images*
- *Synchronization through SNTP*
- *16-bit 320x240 images semi-real time. Signal- and Temperature linear*
- *Built-in Web server*
- *Composite Video output*
- *General Purpose I/O*
- *Multi-camera Utility software: IP Config Utility and IR Monitor included*
- *Open and well described TCP/IP protocol for control and set-up*

FLIR A320 Technical Specifications

Imaging and optical data	
Field of view (FOV) / Minimum focus distance	25° × 18.8° / 0.4 m
Focal length	18 mm
Spatial resolution (IFOV)	1.36 mrad
Lens identification	Automatic
F-number	1.3
Thermal sensitivity/NETD	50 mK @ +30°C
Image frequency	9 Hz/ 30 Hz
Focus	Automatic or manual (built in motor)
Digital zoom	1–8× continuous, interpolating zooming on images
Detector data	
Detector type	Focal plane array (FPA), uncooled microbolometer
Spectral range	7.5–13 µm
IR resolution	320 × 240 pixels
Detector pitch	25 µm
Detector time constant	Typical 12 ms
Measurement	
Measurement functions	4 Spotmeters, 4 Areas (Box, max/min/average/ position), Isotherm (above, below, interval), Reference temperature, Temperature Difference (between measurement functions, Reference temperature), Measurement Mask Filter
Schedule response	File sending (ftp), email (SMTP)
Measurement corrections	Global and individual object parameters
Alarm	
Alarm functions	6 automatic alarms on any selected measurement function, Digital In, Camera temperature, timer
Response	Digital Out, log, store image, file sending (ftp), email (SMTP), notification
Storage of images	
Image storage type	Built-in memory for image storage
File formats	Standard JPEG, 16-bit measurement data included
Compatible with FLIR software	ThermaCAM Researcher 2.9 ThermaCAM Reporter 8 ThermaCAM QuickReport
Ethernet	
Ethernet	Control, result and image
Ethernet, type	100 Mbps
Ethernet, standard	IEEE 802.3
Ethernet, connector type	RJ-45
Ethernet, communication	TCP/IP socket-based FLIR proprietary
Ethernet, video streaming	MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5
Ethernet, power	Power over Ethernet, PoE IEEE 802.3af class 0
Ethernet, image streaming	16-bit 320 × 240 pixels: - Signal linear - Temperature linear - Radiometric
Ethernet, protocols	TCP, UDP, SNTP, RTSP, RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS), DHCP, MDNS (Bonjour), uPnP
Digital input/output	
Digital input, purpose	Image tag (start/stop/general), Input ext. device (programmatically read)
Digital input	2 opto-isolated, 10–30 VDC
Digital output, purpose	As function of ALARM, Output to ext. device (programmatically set)
Digital output	2 opto-isolated, 10–30 VDC, max 100 mA
Digital I/O, isolation voltage	500 VRMS
Digital I/O, supply voltage	12/24 VDC, max 200 mA
Digital I/O, connector type	6-pole jackable screw terminal
Composite video	
Video	Composite video output, PAL and NTSC compatible
Video, connector type	Standard BNC connector

Power system	
External power operation	12/24 VDC, 24 W absolute max
External power, connector type	2-pole jackable screw terminal
Voltage	Allowed range 10–30 VDC

Environmental data	
Operating temperature range	–15 to +50°C
Storage temperature range	–40°C to +70°C
Humidity (operating and storage)	IEC 60068-2-30/24 h 95% relative humidity +25°C to +40°C
EMC	EN 61000-6-2:2001 (Immunity), EN 61000-6-3:2001 (Emission), FCC 47 CFR Part 15 Class B (Emission)
Encapsulation	IP 40 (IEC 60529)
Bump	25 g (IEC 60068-2-29)
Vibration	2 g (IEC 60068-2-6)
Physical data	
Weight	0.7 kg
Camera size (L × W × H)	170 × 70 × 70 mm
Tripod mounting	UNC 1/4"-20 (on three sides)
Base mounting	2 × M4 thread mounting holes (on three sides)
Housing material	Aluminium
Scope of delivery	
Package content	• FLIR A320 camera (9Hz/ 30 Hz) in a card board box • Built in fixed 25 degree lens with motor focus • Power supply, 110-220V AC • Pig tail power cable • Ethernet cable CAT-6 • Quick installation/ reference guide • CD with manuals • CD with drivers and utility software including, IP Configuration Utility, IR Monitor, AXXX Control, & Image Interface
Optional accessories	
Camera accessories	• Tele lens 15° × 11°, close focus 1.2 m • Wide angle lens 45° × 34°, close focus 0.2 m • Hard case • ThemoVision SDK 2.6 • ThermoVision LabVIEW Digital Toolkit 3.2 • ThermaCAM Reseracher Professional 2.9

FLIR A320
Options: 9 Hz/ 30 Hz

1. Composite Video: PAL/ NTSC
2. 100 Mb Ethernet: Supporting TCP/IP protocol andWEB-server, http. MPEG-4 streaming. Power over Ethernet.
3. Power Connector, ScrewTerminal 2-pole:10–30VDC, <8W.
4. Digital I/O Connector, ScrewTerminal 6-pole: Digital Out: 2 outputs, opto-isolated, 10–30V supply, 100 mA. Digital In: 2 inputs, opto-isolated, 10–30V.

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