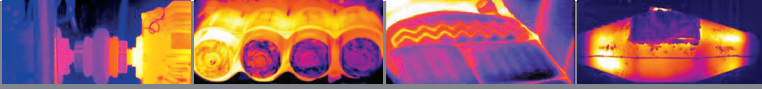# FLIR SYSTEMS™

The Global Leader in Infrared Cameras

NEW! ThermoVision® A320G

INFRARED CAMERA SYSTEM

The affordable A320G is designed for integration into machine vision and automation systems that require non-contact imaging and temperature measurements. It operates similar to sophisticated visual cameras used in industrial applications, and has standard interfaces for easy deployment and connection to back-end systems and networks via Gigabit Ethernet.

- ➤ GenICam and GigE Vision Compliant
- ➤ Plug-and-Play Compatibility
- ➤ Third Party Software Compliant (NI Vision Builder, IMAQ, Common Vision Blox, Visual Basic, Visual C++, etc.)

- ➤ Supported by FLIR Software Packages
- ➤ Precision Non-contact Temperature Measurements
- ➤ Maintenance-free, Uncooled, Microbolometer Detector
- ➤ Longwave Imaging Performance
- ➤ Compact, Rugged, and Lightweight

Affordable Machine Vision

The A320G is an affordable way to add thermographic imaging and non-contact temperature measurements to machine vision systems. Adding this IR functionality is no more complex than adding a visual image camera, and provides a similar level of flexibility in developing the command and control program.

Accurate Non-contact Temperature Measurement

The A320G is designed to deliver accurate thermographic imaging and repeatable temperature measurements in a wide range of applications. Each thermal image is built from over 76,000 individual picture elements that are sampled by the camera's on-board electronics and firmware. The data can then be used to monitor and help control a production process or automation system.

Easy Plug and Play Operation

The A320G is an ideal system integration solution due to its universal plug and play (uPnP) protocol and GigE Vision Control protocol. Simply connect the camera to a PC and produce high-quality near-real-time thermographic images. With a standard PC interface, the camera can be fully configured from the PC, allowing command, control and collection of full frame data from the A320G in real time.

Gigabit Ethernet Data Transfer

The A320G Researcher is equipped with an RJ-45 Gigabit Ethernet connection that supplies 16-bit 320x240 images at 60 Hz, and linear temperature data. These signals are compatible with any software that is GenICam compliant.

Precise Timing and Control

There are separate digital I/O connections to eliminate communication latencies in timing and control. Two types of optically isolated connections are provided. The GPIO allows digital in for shutter disable, and digital out for program control. There is also a V-sync connector for triggering and synchronization.

Compact, Rugged, and Lightweight

Compact and lightweight, the powerful A320G fits easily into most machine vision and automation systems. Its straightforward 3-sided mounting allows quick installation, and it can be easily moved when application requirements change.

Tailored To Your Application

As with all its products, FLIR Systems offers a complete series of accessories, including close-up and wide-angle lenses, to suit the most demanding applications. The A320G is supported by a variety of FLIR software packages, including Researcher 2.9 for R&D or as a pre-configured Automation HMI, Software Developer's kit for Visual Basic and Visual C++ programming and LabView Toolkit for seamless compatibility with National Instruments LabView software.

Imaging Performance	
Field of View	Built in 25° × 18.8°/0.4m (1.3 ft.)
Focusing	Auto focus, motorized manual
Detector Type	Focal Plane Array (FPA), uncooled microbolometer
Spectral Range	7.5 to 13.0 µm
Pixel Resolution	320×240

Measurement	
Temperature Ranges	−20°C to +120°C (−4°F to 248°F) 0°C to +350°C (32°F to 662°F) Optional up to +1200°C (2192°F)
Accuracy (% of Reading)	±2°C or ±2%

Image Presentation	
16-bit Signal w. Radiometric data, FLIR proprietary	Full FPA frame rate up to 60Hz
16-bit image signal, GigE	
16-bit temperature, linear GigE	

ThermoVision A320G

1   **Power Connector, Screw Terminal 2-pole:** 12/24 V, 12 W.

2   **Ethernet Port, 1000 MB, RJ-45 Connector:** Control and image streaming.

3   **Digital I/O Connector, Screw Terminal 6-pole: Digital Out:** 2 outputs, opto-isolated, 10–30V supply, 100 mA. **Digital In:** 2 inputs, opto-isolated, 10–30V.

Environmental	
Operating temperature range	-15 °C to +50 °C
Storage temperature range	-40 °C to +70 °C
Humidity, operating and storage, non-condensing	10% to 95%, IEC 359
Encapsulation	IP40, IEC 529
Bump, Operational	25G, IEC 68-2-29
Vibration, Operational	2G, IEC 68-2-6
EMC, emission	EN 50081-2
EMC, immunity	EN 50082-2

Physical Characteristics	
Weight, total for operational system	0.7 kg (1.54 lb.)
Size, Camera body including handle, L x W x H	170 × 70 × 70 mm (6.7 × 2.8 × 2.8 in.)
Base Mounting	2 × M4 thread mounting holes (on three sides)
Tripod Mounting	UNC 1/4"-20 (on three sides)

Included Components	
Power supply 90-220V AC in, 12V out	Part No. 1910585
Power cable	Standard 2-wire w/ground
Power cable to Camera pigtailed	Part No. 1910586
Ethernet cable	CAT-5e, 2m
Utility CD with drivers	IP Config and IR Monitor programs

Accessories	
Telephoto lens, 15-degree	1196724
Wide angle lens, 45-degree	1196725
Hard case	1196940
ThemoVision SDK Toolkit	
ThermoVision LabView Toolkit	
ThermaCAM Researcher, v2.9 Basic	
ThermaCAM Researcher, v2.9V Professional	