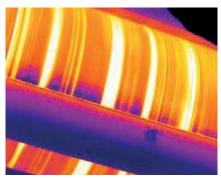
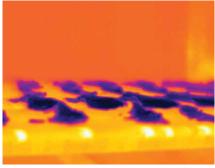


Detecting liquid levels in visually opaque bottles.



Monitoring drying stage in paper production.



Providing quality control on a food production line.

FLIR A35/A65

Thermal Imaging Temperature Sensors

The FLIR Ax5-Series of thermal imaging temperature sensors offers comprehensive visual temperature monitoring for process control/quality assurance applications as well as condition monitoring and fire prevention. The A35 and A65 integrate seamlessly into existing systems and are the only thermal imaging temperature sensors on the market to provide temperature linear output through GenlCam™ compliant software.

TEMPERATURE SENSORS THAT VISUALIZE HEAT

The A35 and A65 are accurate non-contact temperature sensors enhanced with the rich detail of thermal imaging. They're sensitive enough to make temperature differences as small as 50 mK clearly visible. The series offers ten field of view options for greater control over the measurement area, and can operate in temperatures up to 140°F (60°C).

THE LEADER IN DIGITAL COMMUNICATION STANDARDS

The A35 and A65 are at the forefront of digital communications, with GigE Vision compatibility and GenlCam protocol support for seamless integration with Cognex, National Instruments, and other top machine vision systems. These cameras stream 320 x 256 or 640 x 512 thermal images at up to 60 Hz directly to your system, for instant data analysis. The Ax5-Series supports easy synchronization between cameras for stereoscopic applications.

DESIGNED TO FIT YOUR APPLICATIONS

The Ax5-Series cameras are compact for easy installation into electrical cabinets and other small spaces. They offer a GigE Vision lockable connector as well as the convenience and flexibility of Power over Ethernet (PoE). With a robust design meant to withstand harsh conditions, these cameras are ideal tools for any automation of machine vision environment.



Technical Specifications

Model Specification	A35	A65
Image and Optical Data	A35	AOS
IR Resolution	320 x 256	640 x 512
Thermal Sensitivity/NETD	<0.05°C @ 30°C (86°F) / 50 mK	
Field of View ¹	63° × 50° with 7.5 mm lens 48° × 39° with 9 mm lens 24° × 19.2° with 19 mm lens 13° × 10.8° with 35 mm lens 7.6° × 6.08° with 60 mm lens	90° × 69° with 7.5 mm lens 45° × 37° with 13 mm lens 25° × 20° with 25 mm lens 12.4° × 9.92° with 50 mm lens 6.2° × 4.96° with 100 mm lens
Image Frequency	60 Hz	30 Hz
Focus	Fix	ked
Detector Data		
Detector Type		microbolometer
Spectral Range		13 μm
Detector Pitch Detector Time Constant	25 μm	17 μm
Measurement	IZ ms	(typical)
Object Temperature Range	-25°C to 135°C (-13°F to 275°F)	
, .	-40°C to 550°C (-40°F to 1022°F)	
Accuracy	± 5°C (± 9°F) or 5% of reading	
Ethernet Type	Gigabit Ethernet, control and image	
Ethernet Standard, Connector	IEEE 802.3, RJ-45	
Ethernet Communication	GigE Vision ver. 1.2, Client API GenlCam compliant	
Ethernet Image Streaming	-	ear/DDE, Automatic/Manual, Flip H&V
Bit Rate	14-bit 320 x 256 @ 60 Hz Signal linear/DDE, Temperature linear, GigE Vision & GeniCam compatible	14-bit 640 × 512 pixels @ 30 Hz Signal linear/DDE, Temperature linear, GigE Vision & GeniCam compatible
Ethernet Power	Power over Ethernet, PoE IEEE 802.3af class 0 power	
Ethernet Protocols	TCP, UDP, ICMP, IGMP, DHCP, GigEVision	
Digital Input/Output	1. and indeed #0# 1.0 \ DO #4# 0.05 \ \ DO	
Digital Input	1x opto-isolated, "0" <1.2 VDC, "1" = 2-25 VDC	
Digital Output Digital I/O, Isolation Voltage	1x opto-isolated, 2–40 VDC, max. 185 mA 500 VRMS	
Digital I/O, Supply Voltage	2 – 40 VDC, max 200 mA	
Digital I/O, Connector Type	12-pole M12 connector (shared with digital synchronization and external power)	
Synchronization In	Frame Synch In to control camera 1x, non-isolated	
Synchronization In Type	LVC Buffer @ 3.3 V,"0" <0.8 V,"1" >2.0 V	
Synchronization Out	Frame Synch Out to control another FLIR Ax5 unit 1x, non-isolated	
Synchronization Out Type	LVC Buffer @ 3.3 V,"0" = 24 MA max,"1" = -24 mA max	
Digital Synchronization Connector Type	12-pole M12 connector (shared with Digital I/O and External power)	
Power System		
External Power Operation	12/24 VDC, < 3.5 W nominal < 6.0 W absolute max	
External Power Connector Type	12-pole M12 connector (shared with Digital I/O and Digital Synchronization)	
Voltage	Allowed range 10 – 30 VDC	
Environmental Data Operating Temperature Range	−15°C to 60°C (5°F to 140°F)	
Storage Temperature Range	-40°C to 70°C (-40°F to 158°F)	
Humidity (Operating and Storage)	IEC 60068-2-30/24 h 95% relative humidity 25°C to 40°C (77°F to 104°F)	
EMC	EN 61000-6-2 (Immunity), EN 61000-6-3 (Emission), FCC 47 CFR Part 15 Class B (Emission)	
Encapsulation / Bump / Vibration	IP 40 (IEC 60529), 25 g (IEC 60068-2-27), 2 g (IEC60068-2-6), MIL-STD810G	
Physical Data		
Camera Size (L x W x H)	104.1 × 49.6 × 46.6 mm (4.1 × 1.9 × 1.8 in) 116.8 × 49.6 × 46.6 mm (4.6 × 1.9 × 1.8 in) 141.2 × 61.4 × 61.4 mm (5.6 × 2.4 × 2.4 in)	$104.1 \times 49.6 \times 46.6 \text{ mm}$ $(4.1 \times 1.9 \times 1.8 \text{ in})$ $107.8 \times 49.6 \times 46.6 \text{ mm}$ $(4.2 \times 1.9 \times 1.8 \text{ in})$ $144.1 \times 58.4 \times 58.4 \text{ mm}$ $(5.7 \times 2.3 \times 2.3 \text{ in})$ $196.4 \times 82.0 \times 82.0 \text{ mm}$ $(7.7 \times 3.2 \times 3.2 \text{ in})$
Tripod Mounting	UNC 1/4"-20	(three sides)
Base Mounting	4 × M3 thread mounting holes (bottom)	
Housing Material	Magnesium and aluminum	
Packaging	The second formation and the second state of t	
Contents	Thermal imaging camera with lens, base support, printed documentation (some models include focus adjustment tool)	

Lenses are not interchangeable and must be specified at time of order. For the most up-to-date specs, visit www.support.flir.com

PORTLAND

Corporate Headquarters FLIR Systems, Inc. 27700 SW Parkway Ave. Wilsonville, OR 97070 USA PH: +1 866.477.3687

NASHUA

FLIR Systems, Inc. 9 Townsend West Nashua, NH 03063 USA

PH: +1 866.477.3687 PH: +1 603.324.7611

CANADA

FLIR Systems, Ltd. 920 Sheldon Court Burlington, ON L7L 5K6 Canada PH: +1 800.613.0507 FLIR Systems Brasil Av. Antonio Bardella, 320 Sorocaba, SP 18085-852 Brasil PH: +55 15 3238 7080

LATIN AMERICA

CHINA

FLIR Systems Co., Ltd Rm 1613-16, Tower II Grand Central Plaza 138 Shatin Rural Committee Rd. Shatin, New Territories Hong Kong PH: +852 2792 8955

EUROPE

FLIR Systems Luxemburgstraat 2 2321 Meer Belgium PH: +32 (0) 3665 5100

www.flir.com NASDAQ: FLIR

Equipment described herein may require US Government authorization for export purposes. Diversion contrary to US law is prohibited. Imagery for illustration purposes only. Specifications are subject to change without notice. ©2016 FLIR Systems, Inc. All rights reserved. 16-0705

