FLIR

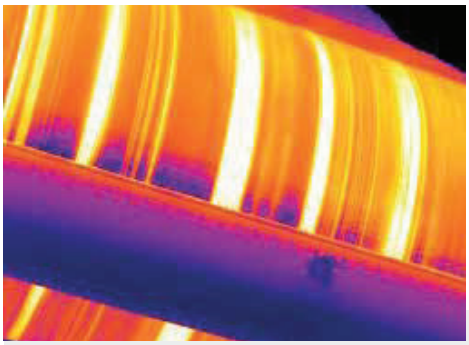
hitech
Empowering Industries

THERMAL IMAGING TEMPERATURE SENSOR

FLIR A35/A65™

The FLIR Ax5-Series of thermal imaging temperature sensors offers comprehensive visual temperature monitoring for process control and 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 GenICam™ compliant software.

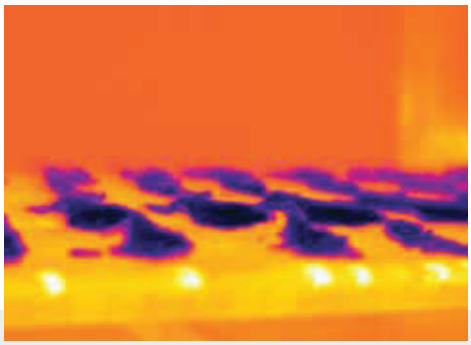
www.flir.com/automation



VISUALIZE HEAT

These non-contact temperature sensors are enhanced with thermal imaging

- Detect temperature differences as small as 50 mK
- Choose the right field of view for your measurement area, from wide (90°) to narrow (6.2°)
- Measures accurately in conditions up to 140°F (60°C)



COMMUNICATE DATA SEAMLESSLY

Stream temperature linear output through GenICam™ compliant software

- Integrate easily with Cognex, National Instruments, and other top machine vision systems
- Stream thermal images at up to 60 Hz directly to your system, for instant data analysis
- Synchronize cameras for stereoscopic applications

DESIGNED TO FIT YOUR APPLICATIONS

Get more out of your data with advanced analysis tools

- Compact size makes for easy installation in electrical cabinets and other small spaces.
- Offering the stability of a GigE Vision lockable connector, and the flexibility of Power over Ethernet (PoE)
- Ideal for any environment, the cameras' robust design can withstand harsh conditions

SPECIFICATIONS

Image and Optical Data	A35	A65
IR Resolution	320 x 256	640 x 512
Thermal Sensitivity/NETD	<0.05°C @ 30°C (86°F) / 50 mK	
Image Frequency	60 Hz	30 Hz
Focus	Fixed	
Detector Data		
Detector Type	Uncooled VOx microbolometer	
Spectral Range	7.5 – 13 µm	
Detector Pitch	17 µm	17 µm
Detector Time Constant	12 ms (typical)	
Measurement		
Object Temperature Range	-25°C to 100°C (-13°F to 212°F) -40°C to 550°C (-40°F to 1022°F)	
Accuracy	±5°C (±9°F) or 5% of reading	
Ethernet		
Ethernet Type	Gigabit Ethernet, control and image	
Ethernet Standard, Connector	IEEE 802.3, RJ-45	
Ethernet Communication	GigE Vision ver. 1.2, Client API GenICam compliant	
Ethernet Image Streaming	8-bit monochrome @ 60 Hz	8-bit monochrome @ 30 Hz
	Signal linear/DDE; Automatic/Manual; Flip H&V	
Bit Rate	14-bit 320 x 256 @ 60 Hz	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		
Digital Input	1× opto-isolated, 0 <1.2 VDC, 1 = 2–25 VDC	
Digital Output	1× opto-isolated, 2–40 VDC, max. 185 mA	
Digital I/O, Isolation Voltage	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	2-pole M12 connector (shared with Digital I/O and External power)	
Power System	**A35**	**A65**
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)	7.5, 9, and 13 mm lenses: 104.1 × 49.6 × 46.6 mm (4.1 × 1.9 × 1.8 in) 25 mm lens: 107.8 × 49.6 × 46.6 mm (4.2 × 1.9 × 1.8 in)	
	A35 w/ 50 mm lens: 141.1 × 58.4 × 58.4 mm (5.7 × 2.3 × 2.3 in)	A65 w/ 50 mm lens: 144.1 × 58.4 × 58.4 mm (5.7 × 2.3 × 2.3 in) A65 w/ 100 mm lens: 196.4 × 82.0 × 82.0 mm (7.7 × 3.2 × 3.2 in)
Tripod Mounting	UNC ¼"-20 (three sides)	
Base Mounting	4 × M3 thread mounting holes (bottom)	
Housing Material	Magnesium and aluminum	
Packaging		
Contents	Thermal imaging camera with lens, base support, printed documentation (some models include focus adjustment tool)	

Part Number	Camera
73309-0102	FLIR A35 f=9 mm with SC kit
83225-0101	FLIR A35 FOV 13 (60 Hz)
83213-0102	FLIR A35 FOV 25 (60 Hz)
83207-0102	FLIR A35 FOV 45 (60 Hz)
83250-0101	FLIR A35 FOV 6.5 (60 Hz)
83209-0102	FLIR A35 FOV 69 (30 Hz)
73413-0102	FLIR A65 f=13 mm with SC kit (30 Hz)
73513-0102	FLIR A65 f=13 mm with SC kit (7.5 Hz)
75050-0101	FLIR A65 FOV 12.4 (30 Hz)
75025-0101	FLIR A65 FOV 25 (30 Hz)
75013-0101	FLIR A65 FOV 45 (30 Hz)
75010-0101	FLIR A65 FOV 6.2 (30 Hz)
75007-0101	FLIR A65 FOV 90 (30 Hz)

Specifications are subject to change without notice. For the most up-to-date specs, go to www.flir.com

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