LWIR SCIENCE-GRADE CAMERA

FLIR A655sc™

With its uncooled, high-resolution detector and cutting-edge functionality, the FLIR A655sc helps researchers and scientists accurately quantify thermal patterns, leakage, dissipation, and other heat related factors in equipment, products, and processes in real-time.

www.flir.com/science

SUPERIOR IMAGE QUALITY & SENSITIVITY
Record crisp thermal images, even at high speeds

- Produce clearly detailed 640 x 480 thermal images using the maintenance free vanadium oxide (VoX) microbolometer
- Detect temperature differences as small as 50 mK
- Record 14-bit, full-frame data at up to 50 Hz, or 200 Hz with windowing

EASY, FLEXIBLE DATA COLLECTION
True plug and play connectivity simplifies data monitoring and sharing

- Fast image transfer over GigE Vision, using low-cost standard cables up to 100 meters
- Integrate with FLIR ResearchIR or third-party software seamlessly over Gigabit Ethernet connections
- Control the camera with GenICam protocol support

ADVANCED SOFTWARE COMPATIBILITY
Get more out of your data with advanced analysis tools

- Control and capture data directly intoFLIR ResearchIR Max or MathWorks® MATLAB
- Stream data directly to a PC running software for live viewing, recording, analysis, and sharing.
- Integrate with your proprietary software through optional Software Developers Kit (SDK)

Motorcycle break testing.
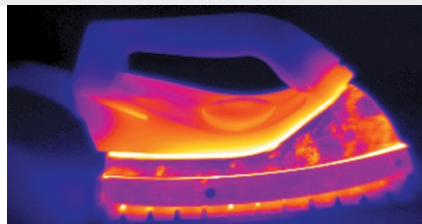
Thermal quality control on domestic appliances.

IMAGING SPECIFICATIONS

System Overview	FLIR A655sc
Detector Type	Uncooled Microbolometer
Spectral Range	7.5 – 14.0 μm
Resolution	640 x 480
Detector Pitch	17 μm
NETD	<30 mK

Imaging	
Time Constant	<8 ms
Frame Rate (Full Window)	50 Hz
Subwindow mode	User-Selected, 640 x 240 or 640 x 120 (Gigabit Ethernet Only)
Maximum Frame Rate (@ Min. Window)	200 Hz (640 × 120)
Dynamic Range	16-bit
Digital Data Streaming	Gigabit Ethernet (50/100/200 Hz) USB(25 Hz)
Command and Control	Gigabit Ethernet, USB

Measurement	
Standard Temperature Range	−40°C to 150°C (−40°F to 302°F) 100°C to 650°C (212°F to 1,202°F)
Optional Temperature Range	Up to 2,000°C (3,632°F)
Accuracy	±2°C or ±2% of Reading

Optics	
Camera f/#	f/1.0
Available Lenses	6.5 mm (80°), 13.1 mm (45°), 24.6 mm (25°), 41.3 mm (15°), 88.9 mm (7°)
Focus	Automatic or Manual (Motorized)
Close-up / Microscopes	Close-up 25 μm, 50 μm, 100 μm

Image Presentation	
Digital Data	Via PC Using ResearchIR Software

General	
Operating Temperature Range	-15°C to 50°C (572°F to 3,632°F)
Storage Temperature Range	-40°C to 70°C (-40°F to 158°F)
Encapsulation	IP 30 (IEC 60529)
Bump / Vibration	25 g (IEC 60068-2-29) / 2 g (IEC 60068-2-6)
Power	12/24 VDC, 24 W Absolute Max.
Weight	0.9 kg (1.98 lb)
Size	216 × 73 × 75 mm (8.5 × 2.9 × 3.0 in)
Mounting	¼"-20 (on three sides), 2 x M4 (on three sides)

Power Connector: 2-pole jackable screw terminal
Allowed Voltage Range: 10-30 VDC

Gigabit Ethernet Port: RJ-45 connector, 1000 MB

12-24 VD

GigE

USB mini-B connector

Rst On

I/O 6 5 4 3 2 1

Hardware reset

Power indicator

Digital I/O Connector: 6-pole screw terminal
Digital Out: 2 outputs, opto-isolated 10-30 V supply, max 100 mA
Digital In: 2 inputs, opto-isolated 10-30 V

MathWorks