
# FLIR A655sc

## High-Resolution LWIR Science-Grade Infrared Camera

With its uncooled detector, high resolution, and all of the cutting-edge functionality scientists and researchers have come to expect from FLIR, the A655sc brings affordable research and science thermal imaging and measurement to a whole new level.

### Affordable, Compact, and Powerful

*The A655sc provides over 300,000 pixels of accurate temperature measurement data.*

### Uncooled Microbolometer Detector

*Maintenance-free and provides excellent longwave imaging performance.*

### High Resolution

*640 × 480, 17 micron pixel detector provides great image detail and small spot size for accurate measurements of small temperature anomalies.*

### Full Frame Rate

*Provides 14-bit data up to 50 frames per second at full frame 640 × 480 resolution.*

### FPA Windowing

*Provides high-speed windowing modes (up to 200 Hz with a 640 × 120 window) and digital control of image flow and recording to FLIR's R&D software.*

### Fully Compliant

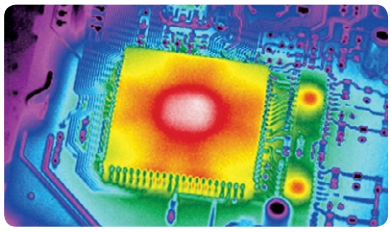
*With both GenICam and GigE Vision protocols, the A655sc is ready to integrate with a variety of third-party analysis software packages.*

### Perfect for Research and Science Applications

*The A655sc helps you to see and accurately quantify heat patterns, leakage, dissipation, and other heat-related factors in equipment, products, and processes in real time.*

### Included Recording & Analysis Software

*Remotely control the A655sc, record thermal snapshots and movies, measure temperature from over 300,000 spots, create temperature verses time plots, and more with the included FLIR ResearchIR software.*



Microchip

Medical

Space Shuttle

## Imaging Specifications

| System Overview | A655sc |
|---|---|
| Detector Type | Uncooled Microbolometer |
| Spectral Range | 7.5 – 14.0 µm |
| Resolution | 640 × 480 |
| Detector Pitch | 17 µm |
| NETD | <30 mK |
| **Imaging** | |
| Time Constant | <8 ms |
| Frame Rate (Full Window) | 50 Hz |
| Subwindow Mode | User-Selectable 640 × 240 or 640 × 120 |
| Maximum Frame Rate (@ Min. Window) | 200 Hz (640 × 120) |
| Dynamic Range | 14-bit |
| Digital Data Streaming | Gigabit Ethernet (50/100/200 Hz)<br>USB (25/50/100 Hz) |
| Command and Control | Gigabit Ethernet, USB |
| **Measurement** | |
| Standard Temperature Range | –40°C to 150°C (–40°F to 302°F)<br>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°),<br>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 (L × W × H ) w/o Lens | 216 × 73 × 75 mm (8.5 × 2.9 × 3.0 in) |
| Mounting | ¼"-20 (on three sides), 2 x M4 (on three sides) |

### A655sc Packages

A655sc ResearchIR Recording & Analysis Package: A655sc, 24.5 mm (24°) Lens, Standard Temperature Calibration, ResearchIR Software

A655sc ResearchIR Max Recording & Analysis Package: A655sc, 24.5 mm (24°) Lens, Standard Temperature Calibration, ResearchIR Max Software

*Ask your FLIR representative about additional packages

## Back Panel


1. Power Connector, Screw Terminal 2-pole: 2-24VDC; 24 W Max.
2. Gigabit Ethernet Port, 1000 MB, RJ-45 Connector: Control and image streaming.
3. USB2 HS Connector: Camera control and image streaming.
4. Digital I/O Connector, Screw Terminal 6-pole: Digital Out: 2 outputs, opto-isolated, 10–30 VDC supply, 100 mA. Digital In: 2 inputs, opto-isolated, 10–30 VDC.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