# FLIR A655sc

## High resolution science grade LWIR camera

The A655sc helps engineers, researchers, and scientists see and accurately quantify thermal patterns, leakage, dissipation, and other heat-related factors in equipment, products, and processes in real time.

### IMAGE QUALITY AND THERMAL SENSITIVITY

FLIR A655sc is equipped with an uncooled, maintenance free, Vanadioum Oxide (VoX) microbolometer detector that produces thermal images of 640 x 480 Pixels. These pixels generate crisp and clear detailed images that are easy to interpret with high accuracy. The FLIR A655sc will make temperature differences as small as 50 mK clearly visible.

### HIGH SPEED WINDOWING

The FLIR A655sc provides 14-bit data up to 50 frames per second at full frame 640 × 480 resolution. It has a high speed windowing function that increases the output frame rate up to 200 Hz at a 640 x 120 pixel window.

### GIGE VISION™ STANDARD COMPATIBILITY

GigE Vision allows fast image transfer using low cost standard cables up to 100 meters.With GigE Vision, hardware and software from different vendors can integrate seamlessly over gigabit ethernet connections.

### GENICAM™ PROTOCOL SUPPORT

GenICam creates a common application programing interface (API) for cameras regardless of the interface technology or features implemented. Because the API for GenICam cameras will always be the same, cameras like the A655sc camera can be easily integrated into third party software.

### SOFTWARE

FLIR A655sc camera works seamlessly with FLIR ResearchIR Max software enabling intuitive viewing, recording and advanced processing of the thermal data provided by the camera.

### MATHWORKS® MATLAB

Control and capture data directly into MathWorksR Matlab software for advanced image analysis and processing.

### KEY FEATURES

• UNCOOLED MICROBOLOMETER: 640 X 480  PIXELS

• GIGABIT ETHERNET AND USB  INTERFACE

* CLOSE-UP AND TELEPHOTO LENSES AVAILABLE

• RESEARCHIR MAX SOFTWARE INCLUDED

* MATLAB COMPATIBLE
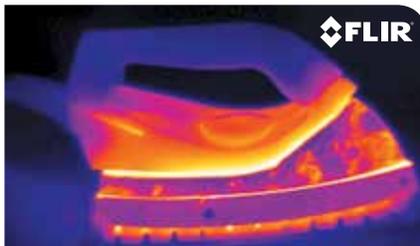


Thermal quality control on domestic appliances



Motorcycle break testing

The World's Sixth Sense™

## Imaging Specifications

| System Overview | FLIR 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) 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) 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 (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) |

Power Connector,
Screw Terminal
2-pole: 10-30 VDC, <10W

Gigabit Ethernet Port, 1000 mB,
RJ-45 Connector:
Control and image streaming

USB H2 Connector:
Camera control and
image streaming

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

△ Álava Ingenieros
GRUPO ÁLAVA

Edificio Antalia. Albasanz 16. 28037 Madrid

+34 91 567 97 00 | alavaingenieros.com | alava@alava-ing.es

Madrid | Barcelona | Zaragoza | Lisboa | Lima | Quito | Texas

www.flir.com

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