

# 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, Vanadium 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 x 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 programming 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

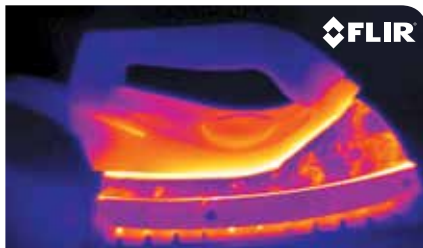
FLIR A655sc camera works seamlessly with FLIR ResearchIR Max software enabling intuitive viewing, recording and advanced processing of the thermal data provided by the camera.

## 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



## Imaging Specifications

System Overview	FLIR A655sc
Detector Type	Uncooled Microbolometer
Spectral Range	7.5 – 14.0 $\mu\text{m}$
Resolution	640 $\times$ 480
Detector Pitch	17 $\mu\text{m}$
NETD	<30 mK
Imaging	
Time Constant	<8 ms
Frame Rate (Full Window)	50 Hz
Subwindow Mode	User-Selectable 640 $\times$ 240 or 640 $\times$ 120
Maximum Frame Rate (@ Min. Window)	200 Hz (640 $\times$ 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	$\pm 2^\circ\text{C}$ or $\pm 2\%$ 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 $\mu\text{m}$ , 50 $\mu\text{m}$ , 100 $\mu\text{m}$
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 $\times$ W $\times$ H) w/o Lens	216 $\times$ 73 $\times$ 75 mm (8.5 $\times$ 2.9 $\times$ 3.0 in)
Mounting	1/4"-20 (on three sides), 2 $\times$ 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.

**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 06063  
USA  
PH: +1 603.324.7611

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

**UK**  
FLIR Systems UK  
2 Kings Hill Avenue  
Kings Hill  
West Malling - Kent  
ME19 4AQ  
United Kingdom  
PH: +44 (0)1732 220 011

**SWEDEN**  
FLIR Systems AB  
Antennvägen 6,  
PO Box 7376  
SE-187 66 Täby  
Sweden  
PH: +46 (0)8 753 25 00

www.flir.com  
NASDAQ: FLIR

Specifications are subject to change without notice  
©Copyright 2014, FLIR Systems, Inc. All other brand and product names are trademarks of their respective owners. The images displayed may not be representative of the actual resolution of the camera shown. Images for illustrative purposes only. (Created 08/14)