Bench Top Thermal Imaging Camera Kit

Real-Time Thermal Imaging and Analysis

OSXL-ASC Series

2 YEAR WARRANTY

RoHS

OMEGA® Powered By FLIR®

- Designed Specifically for Thermal Benchtop Testing Applications
- Compact, Rugged, and Lightweight
- Plug-and-Play Compatibility
- Fast Data Transfer
- Includes Everything Needed for Quick "Out of Box" Deployment
- Compliant with Any Software that Supports GenICam™, Including National Instruments IMAQ Vision, Stemmers
- Common Vision Blox, and COGNEX Vision Pro
- GigE Vision™ Standard Compatibility
- GenICam™ Protocol Support
- PoE (Power Over Ethernet)
- GPIO (General Purpose Input/Output)
- Wide Temperature Range
- High Sensitivity <50 mK

Thermal imaging cameras can be used for a wide variety of R&D applications. Until today using a thermal imaging camera was often the privilege for large R&D departments. With the extremely affordable OSXL-A35SC/ OSXL-A15SC and OSXL-A5SC thermal imaging systems are now bringing the advantages of thermal imaging to the test bench of every R&D engineer.

OSXL-A35SC shown smaller than actual size.

Rear view.

The OSXL-A35SC/OSXL-A15SC and OSXL-A5SC models are not only extremely affordable, they contain both the hardware and software for analyzing and verifying your R&D projects. You will be able to visualize and measure temperatures in a non-contact mode.

The OSXL-A35SC produces crisp thermal images of 320 x 256 pixels. Users that do not need this high image quality for their application can choose the OSXL-A15SC which produces thermal images of 160 x 128 pixels or the OSXL-A5SC which produces thermal images of 80 x 64 pixels.

The OSXL-A35SC, OSXL-A15SC, and OSXL-A5SC are affordable infrared camera kits designed specifically for thermal benchtop testing applications. The compact packaging makes the OSXL-A5SC a perfect fit for the benchtop and allows for deployment in locations where size constraints are critical. They are available in a variety of pixel resolutions and can meet the spatial resolution requirements of most applications.

Note: Not for Export – USA only

Eliminate the guesswork, see heat patterns with the thermal imagery and extract temperature values from live or recorded imagery. This instrument has uncooled micro bolometer detector that is maintenance-free and provides excellent long wave imaging performance. The pixel resolution and optics are available in 80 x 64, 160 x 128, 320 x 256 pixel formats to achieve numerous fields of view. Versatile, compact, rugged, and lightweight with straightforward mounting that permits quick installation and easy movement for new application requirements. Plug-and-play compatibility, is an ideal system integration solution through GigE Vision and GenICam protocols, these cameras can be fully configured from a PC, allowing

camera control and image capture in real time. Fast data transfer and RJ45 GB Ethernet connection supply 14-bit images at frame rates as high as 60 Hz. Image and data acquisition can record thermal snapshots and movies with OSXL-ASC tools + recording and analysis software.

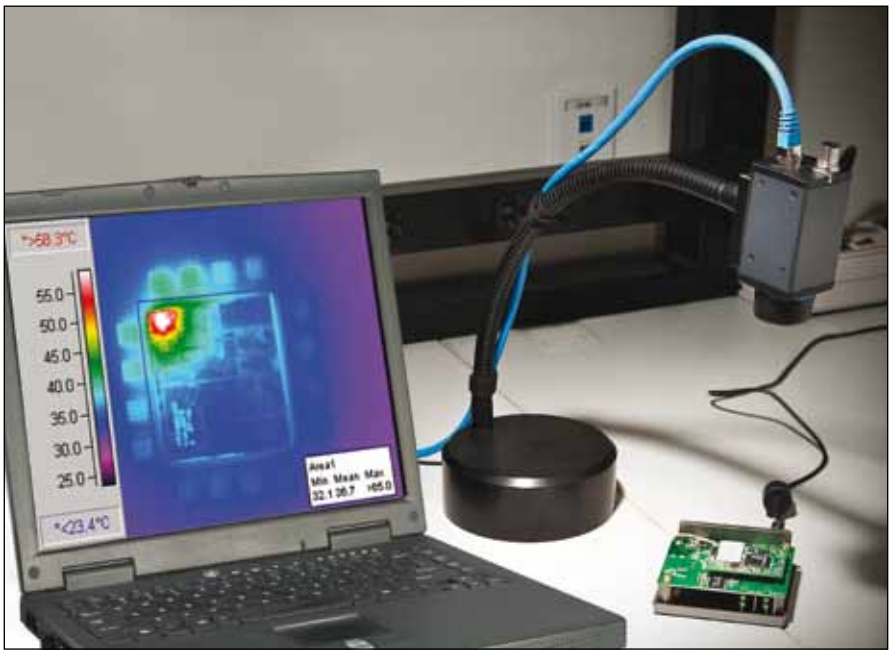
GigE Vision® is a new camera interface standard developed using the Gigabit Ethernet communication protocol. GigE Vision is the first standard video interface to allow for fast image transfer using low cost standard cables even over long distances. With GigE Vision, hardware and software from different vendors can interoperate seamlessly over GigE connections.

The goal of GenICam™ is to provide a generic programming interface for all types of cameras. Regardless of interface technology (GigE Vision, Camera Link®, 1394 DCAM, etc.) or features implemented, the Application Programming Interface (API) will always be the same. The GenICam protocol also makes it possible to use third party software with the camera. GenICam makes the OSXL-A35SC plug-and-play when used with software packages such as IMAQ Vision and Halcon.

Specifications

IR Resolution:
OSXL-A35SC: 320 x 256 pixels
OSXL-A15SC: 160 x 128 pixels
OSXL-A5SC: 80 x 64 pixels

FOV (Field of View)/Focal Length:
OSXL-A5SC/OSXL-A15SC: 48° (H) x 39° (V) with 9 mm lens
OSXL-A35SC: 44° (H) x 36° (V) with 5 mm lens



Benchtop computer board thermal analysis using GenICam software.

Spatial Resolution (IFOV):
OSXL-A5SC: 2.78 mrad for 9 mm lens
OSXL-A15SC: 5.56 mrad for 9 mm lens
OSXL-A35SC: 10.0 mrad for 5 mm lens

Detector Pitch:
OSXL-A5SC: 25 µm
OSXL-A15SC/OSXL-A35SC: 50 µm

Thermal Sensitivity/NETD: <0.05°C @ 30°C (86°F)/50 mK

Minimum Focus Distance: Fixed

F-Number: 1.25

Image Frequency: 60 Hz

Focus: Fixed

Focal Plane Array (FPA)/ Spectral Range: Uncooled VOX micro bolometer/7.5 to 13 µm

Detector Time Constant: Typical 12 ms

Object Temperature Range: -40 to 160°C (-40 to 320°F)/ -40 to 550°C (-40 to 1022°F)

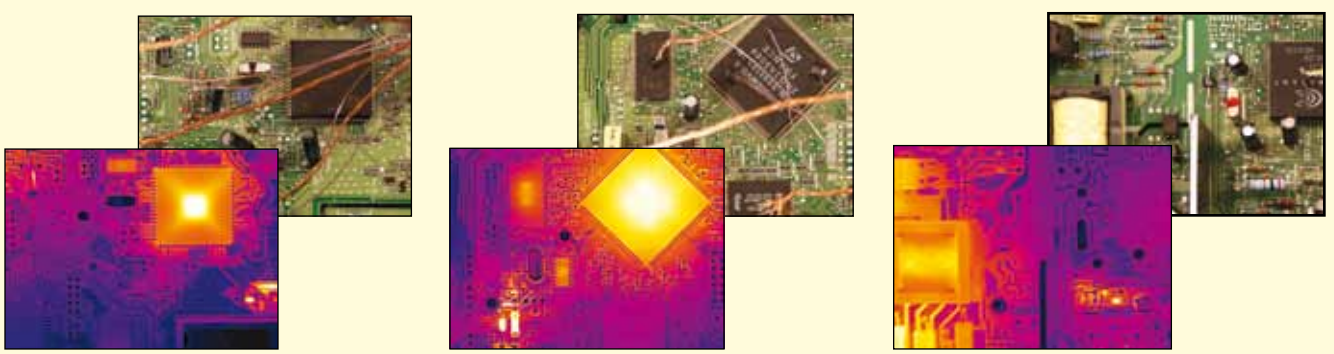
Accuracy: ±5ºC or ±5% of reading

Ethernet: Control and image
Type: Gigabit Ethernet
Standard: IEEE 802.3
Connector Type: RJ45
Communication: GigE Vision version 1.2; Client API GenICam compliant
Image Streaming: 14-bit signal linear/DDE, GigE Vision and GenICam compatible
Power: Power over Ethernet, PoE IEEE 802.3af class 0 power
Protocols: TCP, UDP, ICMP, IGMP, DHCP, GigEVision

Digital Input/Output:
Input: General purpose; 1× opto-isolated, "0" < 2, "1" = 2 to 40 Vdc
Output: General purpose output to external device (programmatically set); 1× opto-isolated, 2 to 40 Vdc, maximum 185 mA

Digital I/O:
Isolation Voltage: 500 VRMS
Supply Voltage: 2 to 40 Vdc, maximum 200 mA
Connector Type: 12-pole M12 connector (shared with digital synchronization and external power)

Computer chip IR analysis.



Digital Synchronization:
In: Frame sync into control camera; 1×, non-isolated; LVC buffer @3.3V, "0" <0.8 V, "1" >2.0 V
Out: Frame sync out to control another Ax5 camera; 1×, non-isolated; LVC buffer @ 3.3V, "0" = 24 MA maximum, "1" = -24 mA maximum
Connector Type: 12-pole M12 connector (shared with digital I/O and external power)

External Power: 12/24 Vdc, <2.5 W absolute maximum
Connector Type: 12-pole M12 connector (shared with digital I/O and digital synchronization)
Voltage: Allowed range 10 to 30 Vdc

Operating Temperature Range: -15 to 50°C (5 to 122°F)

Storage Temperature Range: -40 to 70°C (-40 to 158°F)

Operating and Storage Humidity: IEC 60068-2-30/24 h 95% relative humidity, 25 to 40°C (77 to 104°F)
EMC: EN 61000-6-2 (immunity), EN 61000-6-3 (emission), FCC 47 CFR Part 15 Class B (emission)

Encapsulation: IP 40 (IEC 60529)

Bump: 25 g (IEC 60068-2-29)

Vibration: 2 g (IEC 60068-2-6)

Weight: 0.2 kg (0.44 lb)

Dimensions: 106 L x 40 W x 43 mm H (4.2 x 1.6 x 1.7")

Tripod Mounting: Optional with accessory T198349, base support

Base Mounting: 4 × M3 thread mounting holes (bottom)

Housing Material: Magnesium and aluminum

Comes complete with hard transport case, infrared camera with lens, focus adjustment tool, base support, gooseneck table stand, PoE injector (power over ethernet), two 2 m (6.6') ethernet CAT-6 cables, FLIR tools, analysis and recording software, user's manual, service and training brochure.

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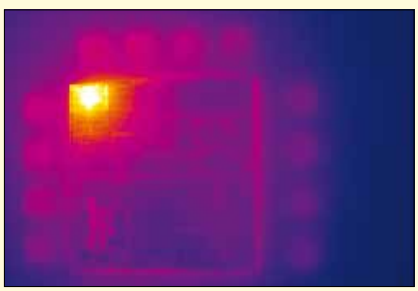
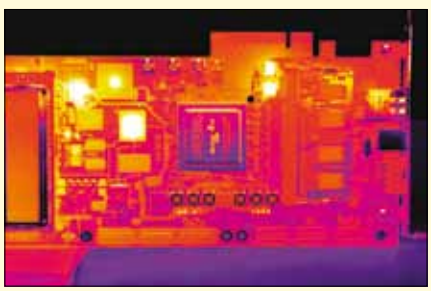
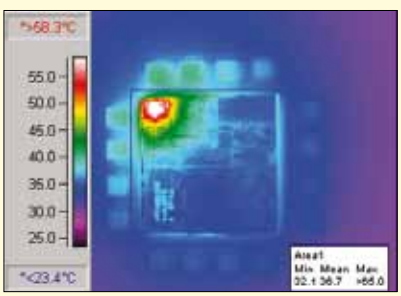
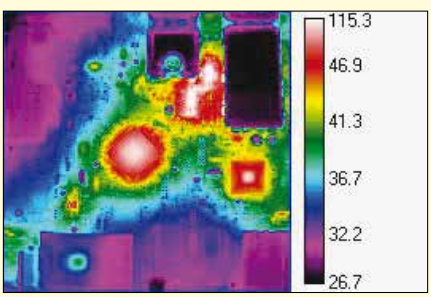
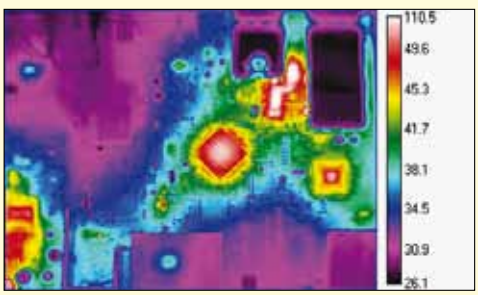
Computer Chip IR Analysis











To Order *Visit omega.com/osxl-sc_series for Pricing and Details*

Model No.	Description
OSXL-A5SC	Thermal imaging camera with 80 x 64 pixels infrared resolution
OSXL-A15SC	Thermal imaging camera with 160 x 128 pixels infrared resolution
OSXL-A35SC	Thermal imaging camera with 320 x 256 pixels infrared resolution

Kit comes complete with hard transport case, infrared camera with lens, focus adjustment tool, base support, gooseneck table stand, PoE injector (power over ethernet), two 2 m (6.6') ethernet CAT-6 cables, FLIR tools, analysis and recording software, operator's manual, service and training brochure.

***Ordering Example: OSXL-A15SC,** thermal imaging camera with 160 x 128 pixels IR resolution.*