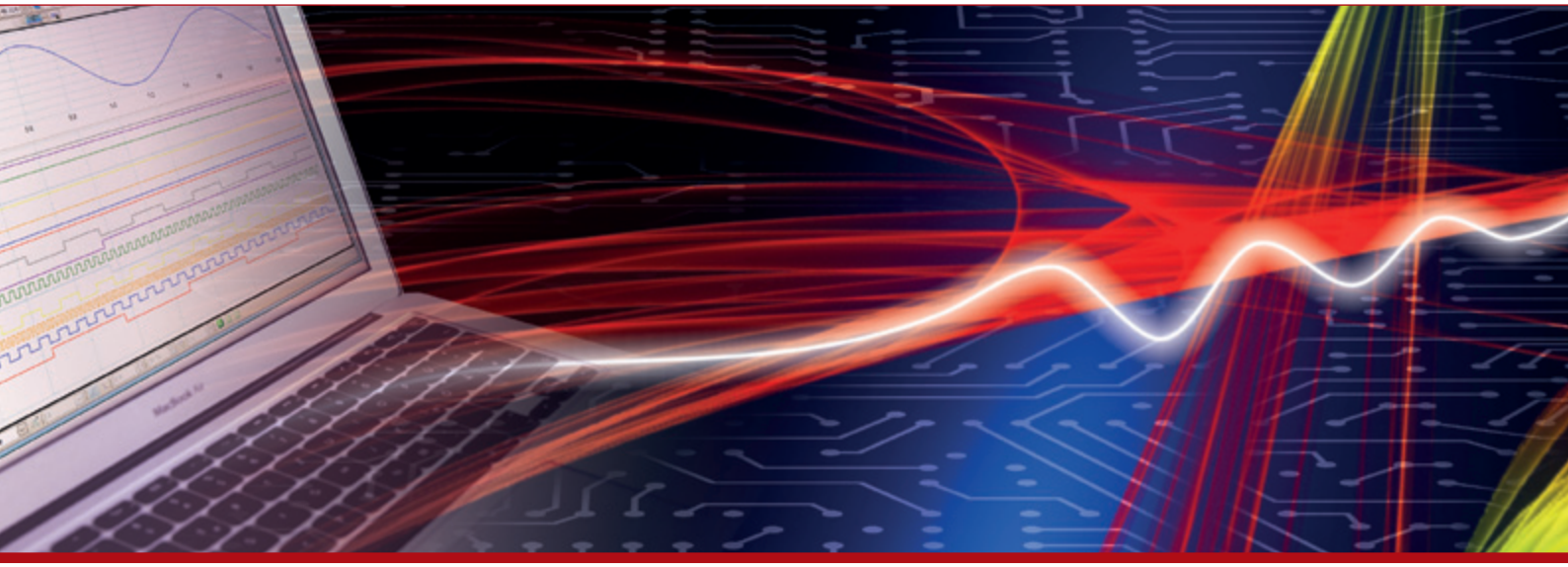
Product Datasheet - Technical Specifications



More information in our Web-Shop at ▸ **www.meilhaus.com**

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FLIR ETS320

P/N: 63950-1001

Document identity

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Website

http://www.flir.com

Customer support

http://support.flir.com

General description
The FLIR ETS320 is FLIR's first electronic test bench camera, designed for a quick temperature check of PCB boards and electronic devices. The FLIR ETS320 is sensitive enough to detect subtle temperature difference with an accuracy of ±3°C (5.4°F), so you can quickly find hot spots and potential points of failure. The 320 × 240 pixel infrared detector offers more than 76 000 points of temperature measurement, eliminating the guesswork of legacy measurement tools. Designed specifically for bench-top work, the battery-powered FLIR ETS 320 connects to your PC for immediate analysis and sharing of thermal data.
Benefits: • Reduces test times: Quickly identify hot spots, thermal gradients, and potential points of failure. • Improves product design: Know where and when to add fans and heatsinks, and ensure products are operating within specification for their maximum lifetime. • Saves money: Improve rapid prototyping and reduce product development cycles. • Optimizes lab time: Battery powered and hands-free, and offers complete measurement and analysis in the camera.
Key features: • >76 000 points of non-contact temperature measurement at the push of a button. • 320 × 240 pixel detector provides crisp thermal imagery. • Time versus temperature measurement with FLIR Thermal Studio. • Small-component measurement, down to 170 µm per pixel spot size. • Lens offers a 45° thermal view of the target for the quick detection of hot spots. • Records radiometric imagery in standard JPEG format for easier sharing. • ±3% accuracy promotes quality assurance and factory acceptance of PCBs. • Quickly mounts on the supplied stand for immediate use. • Crisp 3 in. LCD display provides immediate thermal feedback. • World-class software provided for advanced measurement corrections/capabilities.

Imaging and optical data	
IR resolution	320 × 240 pixels
Thermal sensitivity/NETD	<0.06°C (0.11°F)/<60 mK
Field of view (FOV)	45° × 34°
Fixed focus distance	70 mm ± 10 mm (2.8 in. ±0.4 in.)
Spatial resolution (IFOV)	2.6 mrad
F-number	1.5
Image frequency	9 Hz

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Detector data	
Detector type	Focal plane array (FPA), uncooled microbolometer
Spectral range	7.5–13 µm

Image presentation	
Display	3.0 in. 320 × 240 color LCD
Image adjustment	Automatic/manual

Measurement	
Object temperature range	–20°C to +250°C (–4°F to +482°F)
Accuracy	±3°C (±5.4°F) or ±3% of reading, whichever greatest, for ambient temperature 10°C (50°F) to 35°C (95°F) and object temperature above +0°C (+32°F)

Measurement analysis	
Spotmeter	Center spot
Area	Box with maximum/minimum
Emissivity correction	Variable from 0.1 to 1.0
Emissivity table	Emissivity table of predefined materials
Reflected apparent temperature correction	Automatic, based on input of reflected temperature

Set-up	
Color palettes	Black and white, iron, and rainbow
Set-up commands	Local adaptation of units, language, date and time formats

Video streaming	
Radiometric IR video streaming	Full dynamic to PC (FLIR Thermal Studio) using USB
Non-radiometric IR video streaming	Uncompressed colorized video using USB

Storage of images	
File formats	Standard JPEG, 14-bit measurement data included

Data communication interfaces	
Interfaces	USB Micro: Data transfer to and from PC and Mac devices

Power system	
Battery type	Rechargeable Li ion battery
Battery voltage	3.7 V
Battery operating time	Approximately 4 hours at 25°C (77°F) ambient temperature and typical use
Charging system	Battery is charged inside the unit
Charging time	2.5 hours to 90% capacity
Power management	Automatic shut-down
AC operation	AC adapter, 90–260 V AC input, 5 V DC output to camera

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Environmental data	
Operating temperature range	10–40°C (50–104°F)
Storage temperature range	–40 to +70°C (–40 to +158°F)
Humidity (operating and storage)	IEC 60068-2-30/24 h 95% relative humidity
Encapsulation	IP 40 (IEC 60529)

Directives and regulations	
Directives and regulations	• Battery Directive 2006/66/EC • EMC Directive 2014/30/EU • FCC 47 CFR Part 15 Class B Subpart B • REACH Regulation EC 1907/2006 • RoHS2 Directive 2011/65/EC • WEEE Directive 2012/19/EC
Declaration of conformity	See: https://support.flir.com/resources/DoC

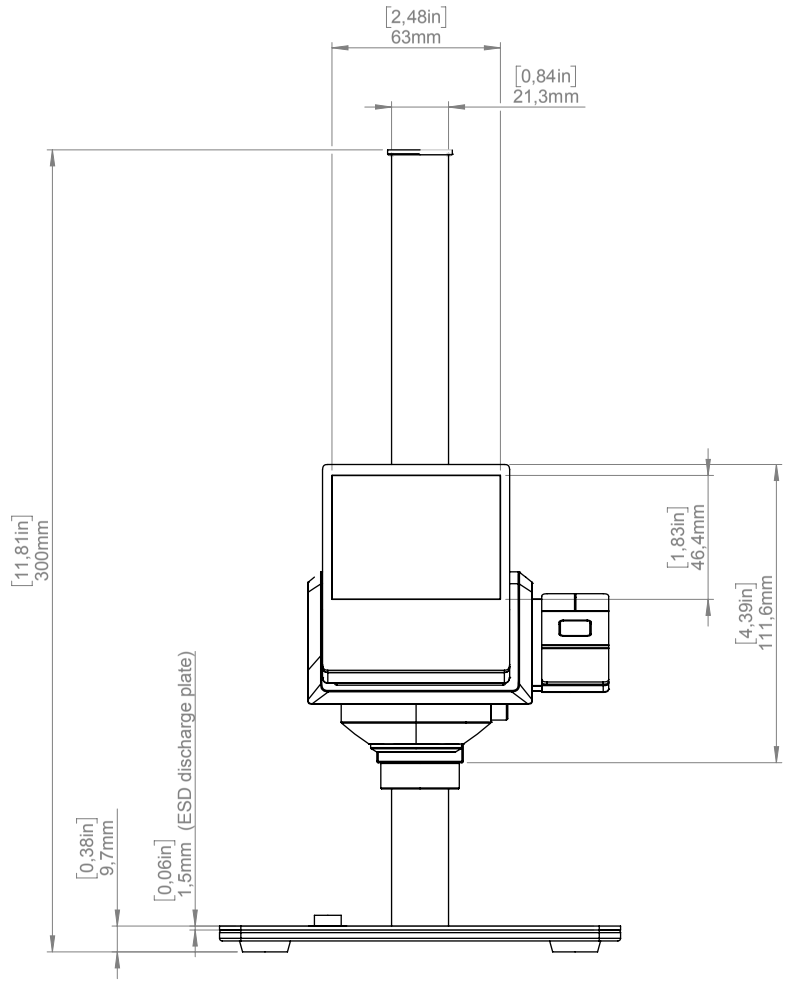
Physical data	
System weight, incl. battery	1.8 kg (4.0 lb.)
System size (L × W × H)	220 × 150 × 300 mm (8.7 × 5.9 × 11.8 in.)
Color	Black and gray

Shipping information	
Packaging, type	Cardboard box
List of contents	• Infrared camera unit • USB cable • Power supply • FLIR Thermal Studio Starter • Printed documentation
Packaging, weight	2.9 kg (6.4 lb.)
Packaging, size (L × W × H)	290 × 170 × 378 mm (11.4 × 6.7 × 14.9 in.)
EAN-13	4743254002913
UPC-12	845188014186
Country of origin	Designed & Engineered by FLIR Systems, Sweden. Assembled in Taiwan.

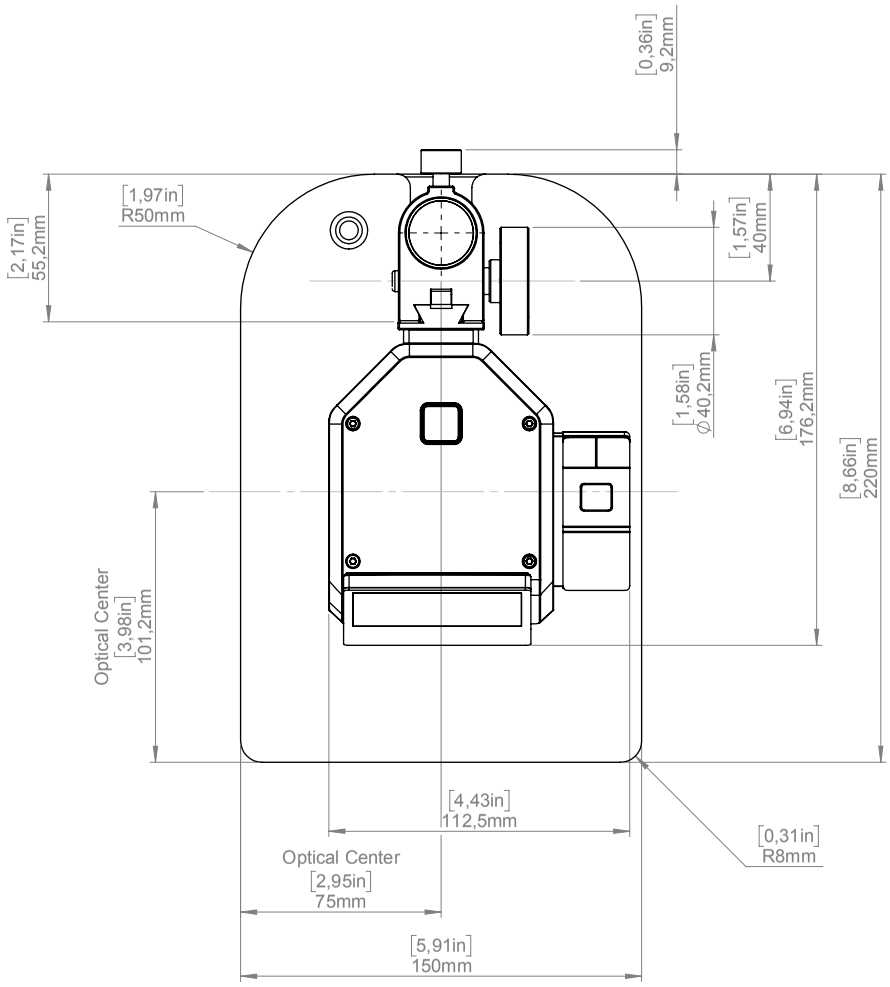
Supplies & accessories:

- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300341; FLIR Thermal Studio Standard, 1 Year Subscription
- T300258; FLIR Thermal Studio Standard, Perpetual license
- 4232535; FLIR Research Studio, Professional Edition - 1 Year Subscription (online activation)
- 4232556; FLIR Research Studio, Professional Edition - Perpetual License (online activation)
- 4232590; FLIR Research Studio, Professional Edition - Perpetual License (USB dongle)
- 4232557; FLIR Research Studio, Professional Edition - USB dongle only
- 4220499; FLIR Research Studio, Standard Edition - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio, Standard Edition - Perpetual License (online activation)
- 4220646; FLIR Research Studio, Standard Edition - Perpetual License (USB dongle)
- 24971-010; FLIR Research Studio, Standard Edition - USB dongle only
- 4232591; FLIR ResearchIR to Research Studio, Professional Edition - 1 Year License Upgrade

Front View



Top View



Modified	Check	Drawn by
2017-03-01	TMHA	R&D Instruments

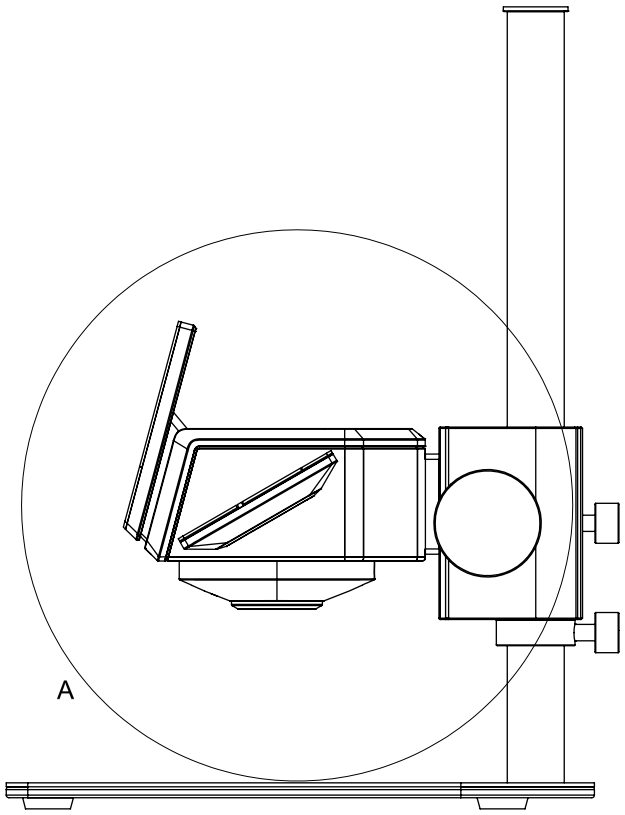
Denomination

Basic Dimension ETS 320

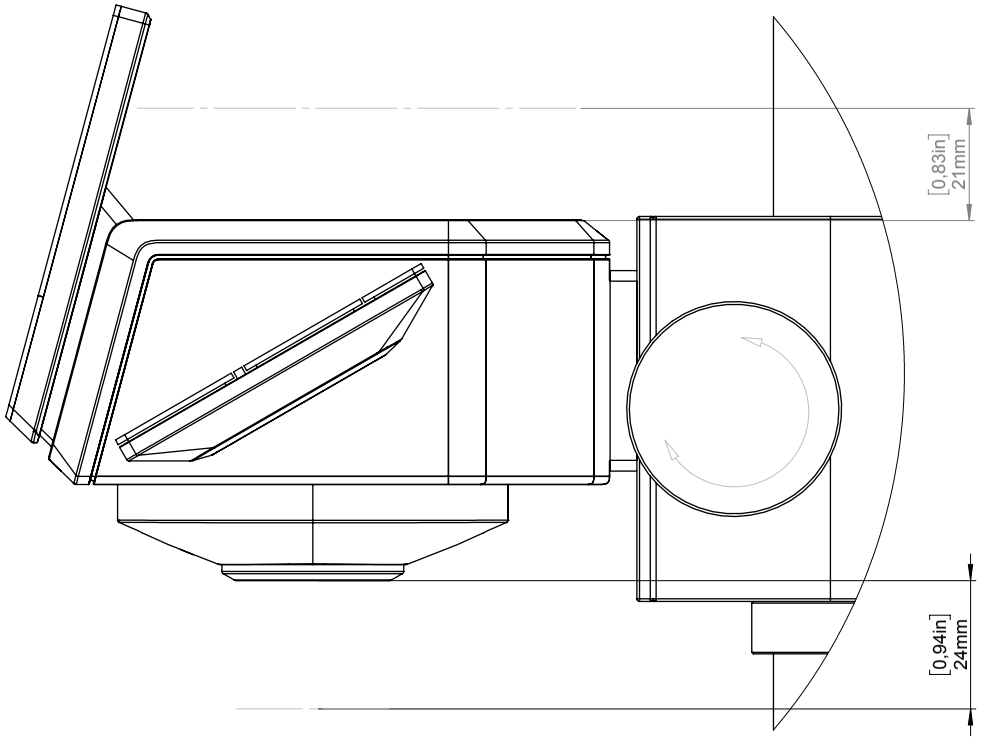
Size	Sheet
A3	1(4)
Scale 1:2	
Drawing No. T130266	Rev A

Modified 2017-03-01	Check TMHA	Drawn by R&D Instruments	Size A3	Sheet 2(4)		
Denomination			Scale 1:2	Drawing No. T130266		Rev A

Basic Dimension ETS 320



DETAIL A
SCALE 1 : 1



Total adjustment length (locked): 45mm (1,77 in)

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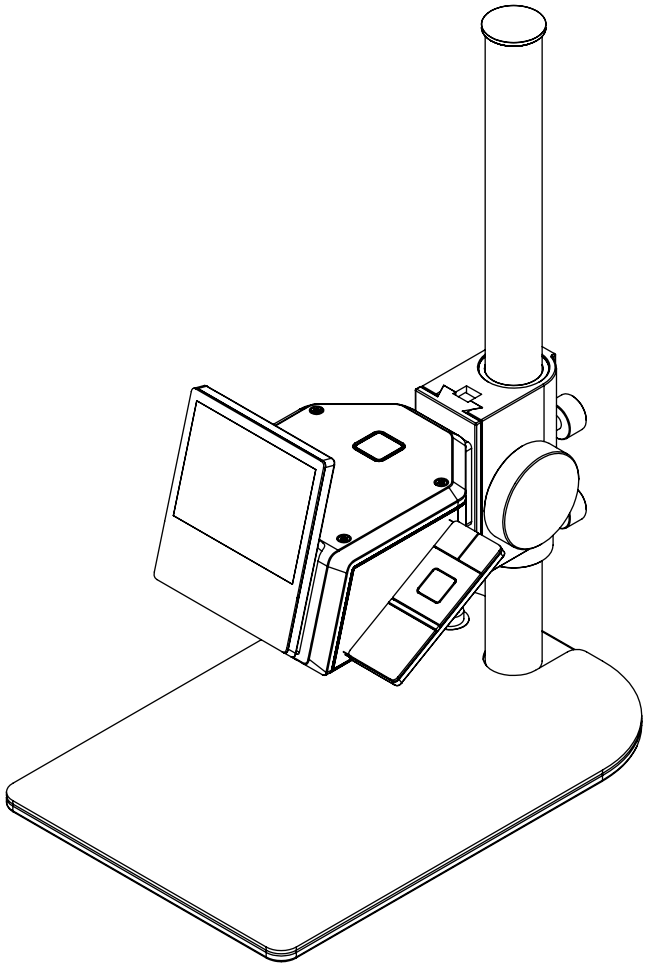
Basic Dimension ETS 320

Size	Sheet
A3	3(4)

Scale 1:2

Drawing No.	Rev
T130266	A



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2017-03-01	TMHA	R&D Instruments

Denomination

Basic Dimension ETS 320

Size	Sheet
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Scale	Drawing No.	Rev
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