FLIR A700 24° Standard Science Kit

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Website

http://www.flir.com

Customer support

http://support.flir.com

Disclaimer

Specifications subject to change without further notice. Camera models and accessories subject to regional market considerations. License procedures may apply. Products described herein may be subject to US Export Regulations. Please refer to exportquestions@flir.com with any questions.

Imaging and optical data	
Infrared resolution	640 × 480 pixels
Thermal sensitivity (NETD)	<40 mK, 24° @ +30°C (+86°F)
Field of view (FOV)	24° × 18°
Minimum focus distance	0.15 m (0.49 ft)
Focal length	17 mm (0.67 in)
Spatial resolution (IFOV)	0.7 mrad/pixel
Lens identification	Automatic
f-number	1.3
Image frequency	30 Hz
Focus	• One-shot contrast • Motorized • Manual

Detector data	
Focal plane array/spectral range	Uncooled microbolometer/7.5–14 µm
Detector pitch	12 µm

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Measurement	
Camera temperature range	• –20 to 120°C (–4 to 248°F) • 0 to 650°C (32 to 1202°F) • 300 to 2000°C (572 to 3632°F)
Object temperature range and accuracy (for ambient temperature 15–35°C (59–95°F))	• Range –20 to 120°C (–4 to 248°F): ◦ –20 to 100°C (–4 to 212°F), accuracy ±2°C (±3.6°F) ◦ 100 to 120°C (212 to 248°F), accuracy ±2% • Range 0 to 650°C (32 to 1202°F): ◦ 0 to 100°C (32 to 212°F), accuracy ±2°C (±3.6°F) ◦ 100 to 650°C (212 to 1202°F), accuracy ±2% • Range 300 to 2000°C (572 to 3632°F): ◦ accuracy ±2%

Ethernet	
Interface	Wired
Connector type	• M12 8-pin X-coded, Female • RP-SMA, Female
Ethernet, purpose	Control, result, image, and power
Ethernet, type	1000 Mbps
Ethernet, standard	IEEE 802.3
Ethernet, communication	• GigE Vision ver. 1.2 • Client API GenICam compliant • TCP/IP socket-based FLIR proprietary
Ethernet, power	Power over Ethernet, PoE IEEE 802.3af class 3
Ethernet, protocols	• IEEE 1588 • SNMP • TCP, UDP, SNTP, RTSP, RTP, HTTP, ICMP, IGMP, sftp (server), FTP (client), SMTP, DHCP, MDNS (Bonjour), uPnP

Digital Input/output	
Connector type	M12 12-pin A-coded, Male (shared with external power)
Digital input	2x opto-isolated Vin(low)= 0–1.5 V, Vin(high)= 3–25 V
Digital input, purpose	• NUC • NUC disable • Image TAG (Start, Stop, General) • Image flow control (acc. SFNC 2.3) ◦ Single frame (on trigg) ◦ Multiframe (on trigg) ◦ Continuous ◦ Frame rate ◦ ROI
Digital output	• 3x opto-isolated, 0–30 V DC, max. 300 mA (derated to 200 mA at 60C) • Solid state opto relay • 1x dedicated as Fault output (NC)

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Digital Input/output	
Digital output, purpose	• Programmatically set • Fault (NC)
Digital I/O, isolation voltage	500 VRMS

Power system	
Connector type	M12 12-pin A-coded, Male (shared with Digital I/O)
Power consumption	• 7.5 W at 24 V DC typical • 7.8 W at 48 V DC typical • 8.1 W at 48 V PoE typical
External power operation	24/48 V DC 8 W max
External voltage	Allowed range 18–56 V DC

Environmental data	
Operating temperature range	–20 to 50°C (–4 to 122°F) Cooling plate is needed in temperatures above 40°C (104°F). Maximum camera case temperature: 65°C (149° F)
Storage temperature range	IEC 68-2-1 and IEC 68-2-2, –40 to 70°C (–40 to 158°F) for 16 hours
Humidity (operating and storage)	IEC 60068-2-30/24 hours, 95% relative humidity, 25–40°C (77–104°F)/2 cycles
EMC	• ETSI EN 301 489-1 (radio) • ETSI EN 301 489-17 (radio) • EN 61000-4-8 (magnetic field) • FCC 47 CFR Part 15 Class B (emission US) • ISO 13766-1 (EMC - Earth-moving and building construction machinery) • EN ISO 14982 (EMC - Agricultural and forestry machinery)
Radio spectrum	• FCC 47 CFR Part 15 Class C (2.4 GHz band US) • FCC 47 CFR Part 15 Class E (5 GHz band US) • RSS-247 (2.4 GHz and 5 GHz band Canada) • ETSI EN 300 328 V2.1.1 (2.4 GHz band EU) • ETSI EN 301 893 V2.1.1 (5 GHz band EU)
Encapsulation	IEC 60529, IP 54, IP66 with accessory
Shock	IEC 60068-2-27, 25 g
Vibration	• IEC 60068-2-6, 0.15 mm at 10–58 Hz and 2 g at 58–500 Hz, sinusoidal • IEC 61373 Cat 1 (Railway)
Safety	IEC 62368-1 (IT equipment audio-visual products)
Corrosion	• ISO 12944 C4 G or H • EN60068-2-11

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Shipping information	
Packaging, type	Cardboard box
Packaging, contents	• Camera with Advanced Image Streaming configuration and 24° lens • Hard case for FLIR A400/A700 series • Ethernet cable M12 to RJ45, 2 m • Ethernet cable M12 to RJ45F, 0.3 m • Ethernet cable CAT6, 2 m/6.6 ft • Cable M12 to pigtail, 2 m • Gigabit PoE injector 16 W, with multi-plugs • Option, Macro mode 50/71/101 µm for 24° • Research Studio - 1 Year Subscription (Online Activation) • Printed documentation including the username and password for log in to the web interface of the camera
Packaging, weight	4.44 kg (9.79 lb)
Packaging, size	500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in)
EAN-13	7332558026830
UPC-12	845188022877

Supplies & accessories:

- T130665ACC; Cooling plate
- T300075ACC; IP hood for lens
- T300163; Hard case for FLIR A400/A500/A700 series
- T300202; Connector cap kit
- T300216; Axxx Accessory kit
- T300218; Two-ball mounting bracket kit
- T300268ACC; A-series connection board
- T911850ACC; Antenna for WLAN 2.4/5 GHz
- T911852ACC; Cable M12 to pigtail, 2 m
- T911853ACC; Cable M12 to pigtail, 10 m
- T911854ACC; Ethernet cable M12 to RJ45, 2 m
- T911855ACC; Ethernet cable M12 to RJ45, 10 m
- T911869ACC; Ethernet cable M12 to RJ45F, 0.3 m
- T951004ACC; Ethernet cable CAT6, 2 m/6.6 ft.
- T911183; Gigabit PoE injector 16 W, with multi-plugs
- T199507; Gigabit PoE injector 15 W
- T300241; IR lens, f=29 mm (14°)
- T300240; IR lens, f=17 mm (24°)
- T300239; IR lens, f=10 mm (42°)
- T199870; Extended Calibration Certificate for A7xx
- T300295; Option, Visual camera including MSX
- T911850; Antenna WLAN 2.4/5 GHz + Wi-Fi
- 4220499; FLIR Research Studio - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio - Perpetual License (online activation)
- 4220646; FLIR Research Studio - Perpetual License (USB dongle)
- INST-EW-0185; Extended Warranty 1 Year for A7xx
- INST-EWGM-0160; Premium Service Package for A7xx
- INST-GM-0135; General Maintenance Package for A7xx
- T199865; Standard Smart Sensor to Standard Image Streamer
- T199866; WiFi Option, excluding Antenna