FLIR A700 Thermal Core

P/N: 85900-0000

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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.

General
When a camera is ordered the following must be selected, as a minimum:

1. one of the camera bodies:
   - FLIR A400 Thermal Core
   - FLIR A700 Thermal Core
2. one of the configurations:
   - Smart Sensor configuration
   - Image Streaming configuration
3. one (or several) of the lenses:
   - IR lens, f=70 (6°) with case
   - IR lens, f=29 (14°)
   - IR lens, f=17 (24°)
   - IR lens, f=10 (42°)

   For orders of more than one lens, select the primary lens to be mounted on the Thermal Core camera body at delivery. The additional lenses are then delivered in separate boxes. Due to its size, the IR lens, f=70 (6°), is always delivered in a case.

The following options are available:

- Option, Wi-Fi including antenna
- Option, Visual camera including MSX
- Advanced Smart Sensor configuration
- Advanced Image Streaming configuration
- Option, Macro mode 50/71/101 μm for 24°

> 📑 **NOTE**
>
> The *Advanced Smart Sensor configuration* and the *Advanced Image Streaming configuration* require the *Smart Sensor configuration* and the *Image Streaming configuration*, respectively.

Imaging and optical data	
Infrared resolution	640× 480 pixels
Thermal sensitivity (NETD)	*Depending on lens used; see lens specification*
Field of view (FOV)	*Depending on lens used; see lens specification*
Minimum focus distance	*Depending on lens used; see lens specification*
Focal length	*Depending on lens used; see lens specification*
Spatial resolution (IFOV)	*Depending on lens used; see lens specification*
Lens identification	Automatic
f-number	*Depending on lens used; see lens specification*
Image frequency	30 Hz
Focus	• One-shot contrast • Motorized • Manual

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

Visual imaging and optical data (Option)	See Visual camera including MSX option
Still image resolution	
Image stream resolution and formats	
Focus	
Field of view (FOV)	
LED lamp	

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%

Measurement analysis	See Smart Sensor and Image Streaming configurations
Standard functions	
Automatic hot/cold detection	
Schedule response	
Measurement presets	
Atmospheric transmission correction	
Lens transmission correction	
Emissivity correction	
Reflected apparent temperature correction	
External optics/windows correction	
Measurement corrections	
Measurement frequency	
Measurement result read-out	

Alarm	See Smart Sensor configurations
Alarm functions	
Alarm output	

Configuration of camera	See Smart Sensor and Image Streaming configurations
Web interface	

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Recording of still images/video	See Smart Sensor configurations
Image storage	
Video storage	

Video/Radiometric streaming RTSP	See Smart Sensor configurations and Advanced Image Streaming configuration
Protocol	
Unicast	
Multicast	
Multiple image streams	
Video streaming	
Image quality	
Video streaming, Image source 0:	
Resolution	
Contrast enhancement	
Overlay	
Image source	
Pixel format	
Encoding	
Video streaming, Image source 1:	
Resolution	
Overlay	
Image source	
Pixel format	
Encoding	
Radiometric streaming	
Resolution	
Source	
Pixel format	
Encoding	

Video/Radiometric streaming GVSP (GigE Vision)	See Image Streaming configurations
Protocol	
Unicast	
Multicast	
Multiple image streams	
Video streaming	
Video streaming, Image source 0:	
Resolution	
Contrast enhancement	
Overlay	
Image source	
Pixel format	
Encoding	
Radiometric streaming	
Resolution	

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Video/Radiometric streaming GVSP (GigE Vision)	See Image Streaming configurations
Source	
Pixel format	
Encoding	

Ethernet	
Interface	• Wired • Wi-Fi (option)
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	*See Smart Sensor and Image Streaming configurations*
Ethernet, power	Power over Ethernet, PoE IEEE 802.3af class 3
Ethernet, protocols	*See Smart Sensor and Image Streaming configurations*

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	*See Smart Sensor and Image Streaming configurations*
Digital output	• 3x opto-isolated, 0–48 V DC, max. 350 mA (derated to 200 mA at 60C) • Solid state opto relay • 1x dedicated as Fault output (NC)
Digital output, purpose	*See Smart Sensor and Image Streaming configurations*
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

RS-232/485 serial interface	**Can only be used with Advanced Smart Sensor and Advanced Image Streaming configurations**
Connector type	M8 A-coded, Male
Prerequisite for use	
Serial communication, purpose	
Serial communication, standard	

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RS-232/485 serial interface	Can only be used with Advanced Smart Sensor and Advanced Image Streaming configurations
Serial communication, HW interface	
Scanlist support	

Wi-Fi (Option)	See Wi-Fi option
Connector type	RP-SMA, Female
Standard	
Antenna	
Connection type	

Environmental data	
Operating temperature range	–20 to 50°C (–4 to 122°F): • –20 to 40°C (–4 to 104°F) (in free air) • 40 to 50°C (104 to 122°F) (mounted on cooling plate accessory) 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

Physical data	
Weight (including 24° lens)	0.82 kg (1.8 lb)
Size (L × W × H)	123 × 77 × 77 mm (4.84 × 3.03 × 3.03 in)
Base mount	4× M4 on 4 sides
Tripod mounting	UNC ¼″-20 on 2 sides
Housing material	Aluminium
Color	Black

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Warranty and service	
Warranty	http://www.flir.com/warranty/

Shipping information	
Packaging, type	TBD
Packaging, contents	TBD
Packaging, weight	TBD
Packaging, size	TBD
EAN-13	TBD
UPC-12	TBD
Country of origin	Sweden

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