FLIR A500 Thermal Core

P/N: 90600-0000

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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 camera body:
   - FLIR A500 Thermal Core
2. one of the configurations:
   - Smart Sensor configuration
   - Image Streaming configuration
3. one (or several) of the lenses:
   - IR lens, f=70 mm (6°) with case
   - IR lens, f=29 mm (14°)
   - IR lens, f=17 mm (24°)
   - IR lens, f=10 mm (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.

   Please note that other P/Ns are used when the lenses are ordered as accessories.

The following options are available:

- Antenna WLAN 2.4/5 GHz + Wi-Fi
- 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	464 × 348 pixels
Thermal sensitivity (NETD)	• <30 mK, 42° @ +30°C (+86°F) • <40 mK, 24° @ +30°C (+86°F) • <50 mK, 14° @ +30°C (+86°F)
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*

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Imaging and optical data	
Image frequency	30 Hz
Focus	• One-shot contrast • Motorized • Manual

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

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)[1]
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)[1]: ◦ accuracy ±2%

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)

1. For 42° lens; 300 to 1800°C

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Digital Input/ output	
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

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

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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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

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

Shipping information	
Packaging, type	Cardboard box
Packaging, contents	• Infrared camera (without lens) • Ethernet cable M12 to RJ45F (0.3 m), P/N T911869ACC • Printed documentation including the username and password for log in to the web interface of the camera
Packaging, weight	1.14 kg (2.51 lb)
Packaging, size	207 × 142 × 129 mm (8.15 × 5.59 × 5.08 in)
EAN-13	7332558026793
UPC-12	845188022839
Country of origin	Sweden

Supplies & accessories:

- T130665ACC; Cooling plate
- T300075ACC; IP hood for lens
- T300163; Hard case for FLIR A400/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
- T911997; Tripod
- T199609; Option, Macro mode 50/71/101 µm for 24°
- 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°)
- T300292; Advanced Image Streaming configuration
- T300293; Advanced Smart Sensor configuration
- 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)
- T199865; Standard Smart Sensor to Standard Image Streamer

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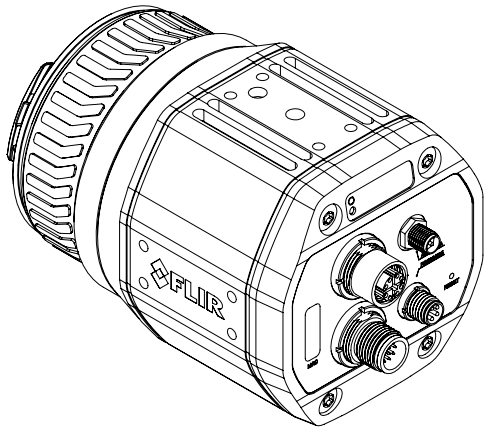
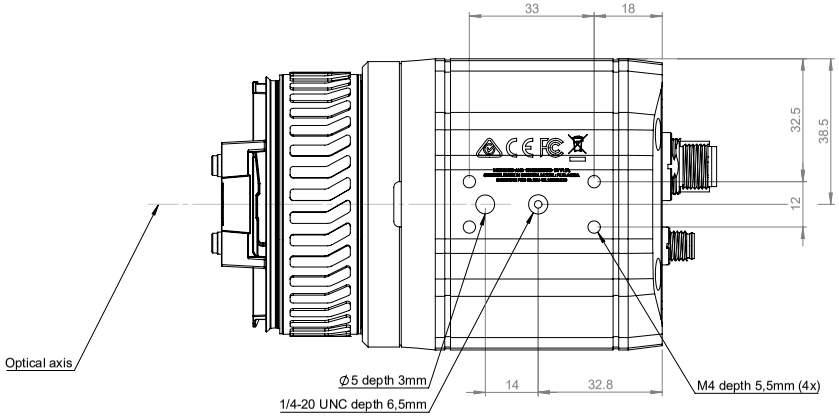
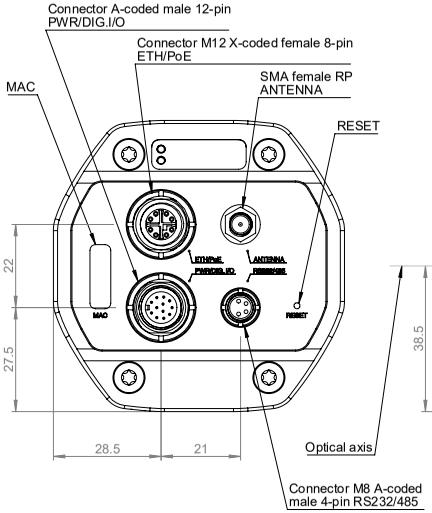
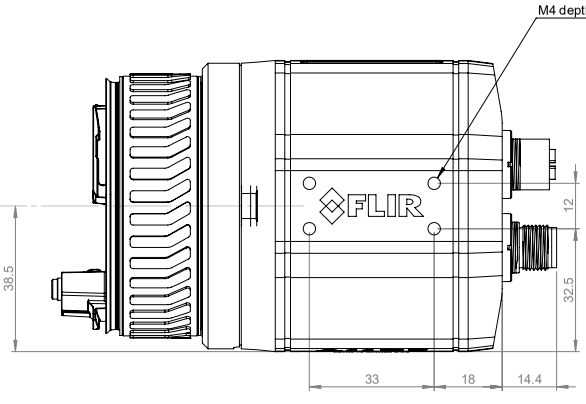
- T199866; WiFi Option, excluding Antenna

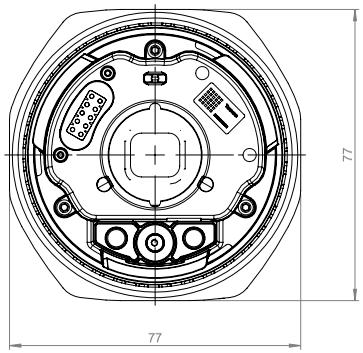
Default

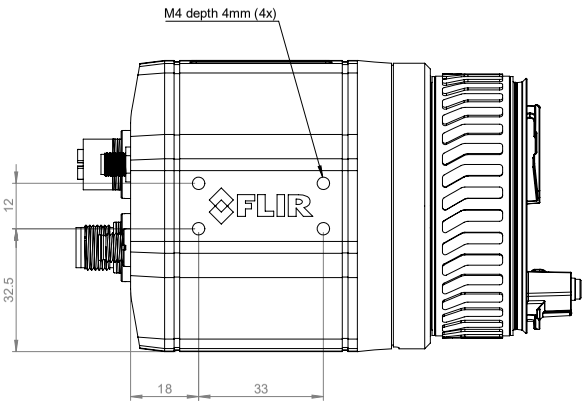


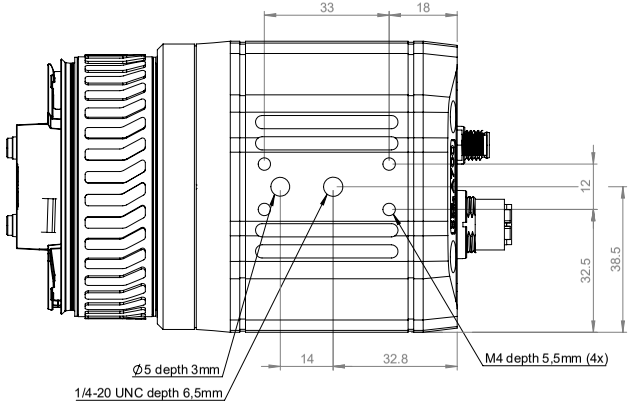






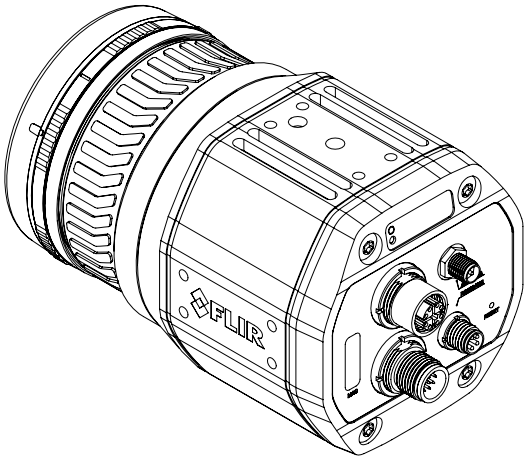


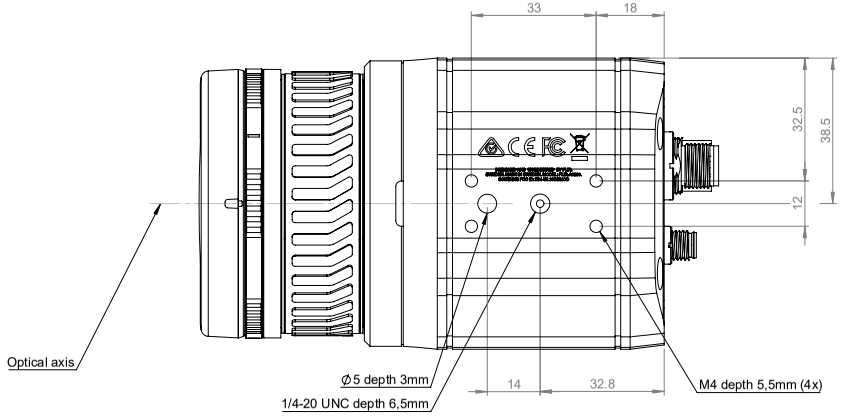


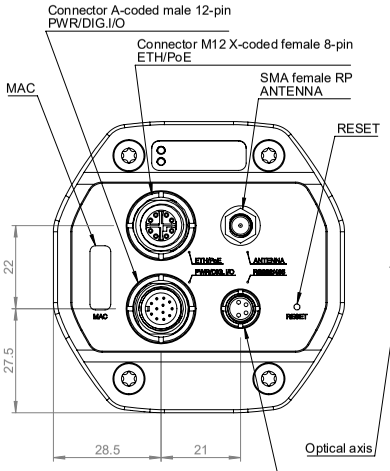


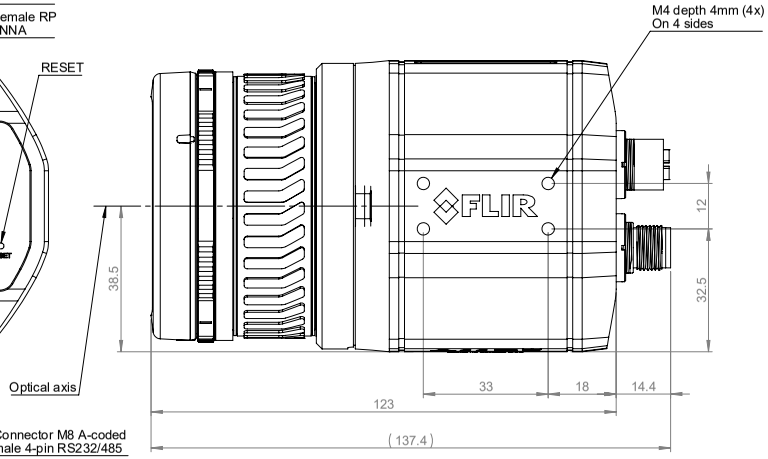
Modified: 2020-01-10	Check: -	Drawn by: R&D Instruments	FLIR
Denomination: Basic dimension Axxx/GF7xa		Size: A2	
		Scale: 1:1	Sheet: 1(3)
		Drawing No.: T130771	Rev: A

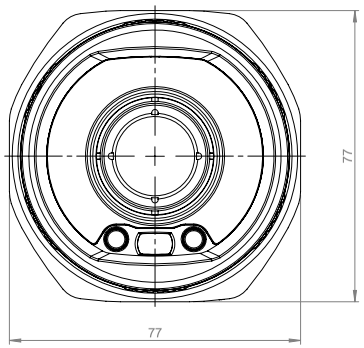
Incl. STD Lenses & Macro

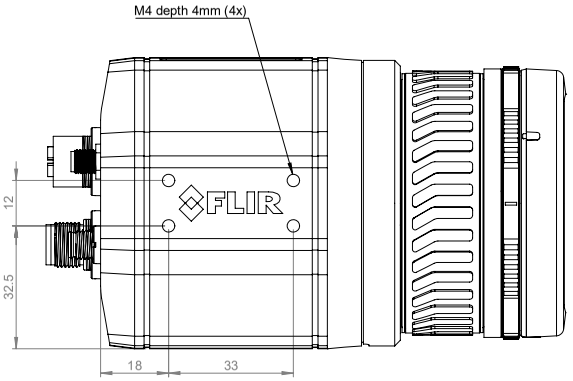


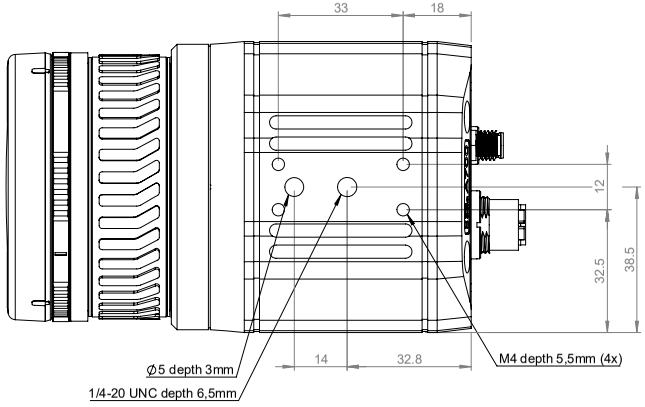












Basic dimensions for cameras with focal length:
f= 10mm
f= 17mm
f= 29mm

Macro WD=18mm

Modified	Check	Drawn by
2020-01-10	-	R&D Instruments

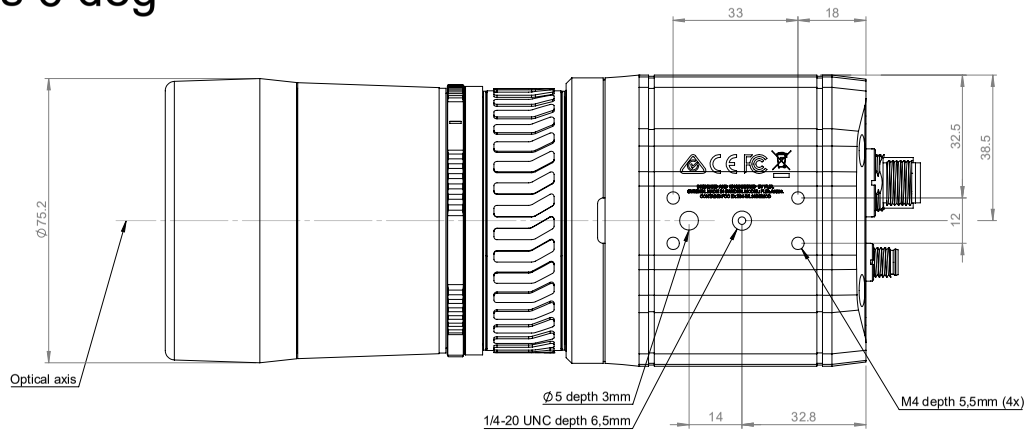
Denomination

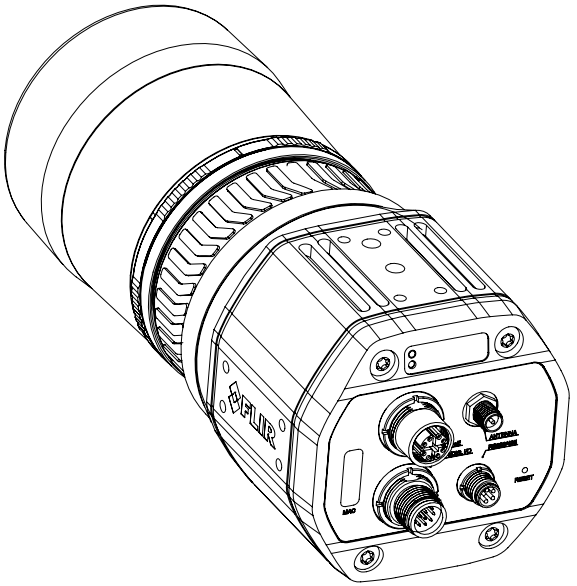
Basic dimension Axxx/GF7xa

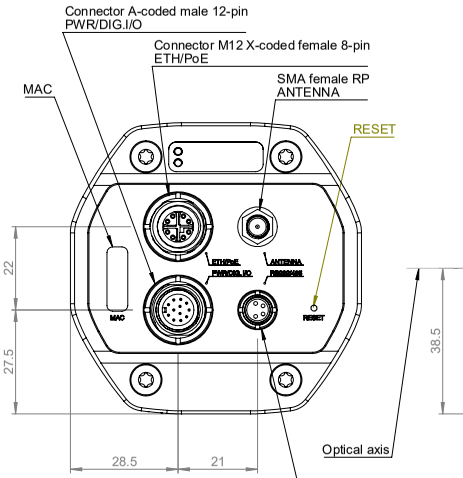
Size A2 | Scale 1:1 | Sheet 2(3)

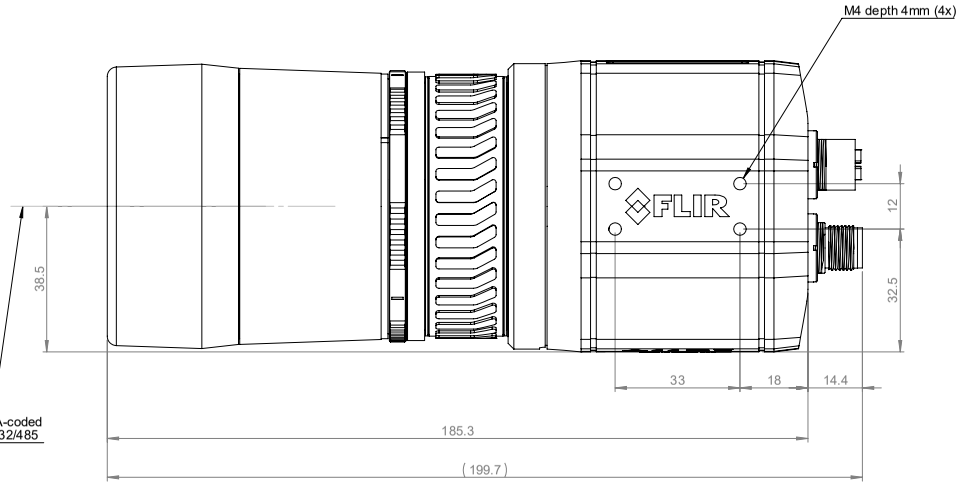
Drawing No. T130771 | Rev A

Incl. IR Lens 6 deg

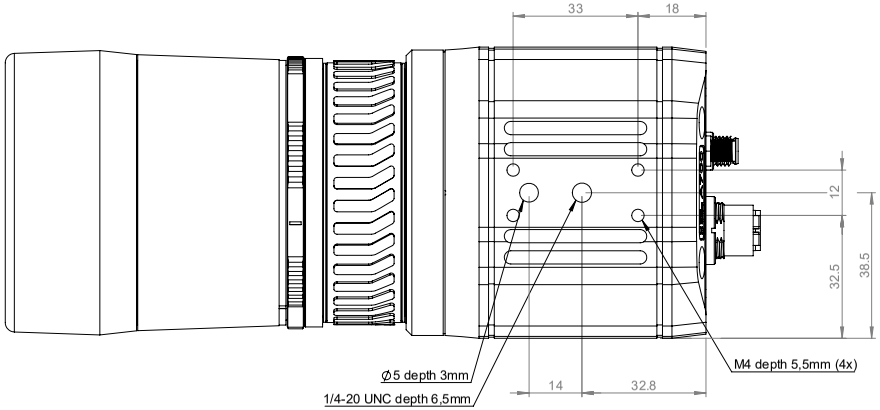








Connector M8 A-coded
male 4-pin RS232/485



Basic dimensions for cameras with focal length:
f= 70mm

Modified	Check	Drawn by	
2020-01-10	-	R&D Instruments	FLIR
Denomination		Size	
Basic dimension Axxx/GF7xa		A2	
		Scale 1:1	Sheet 3(3)
		Drawing No. T130771	Rev A

June 22, 2020 Täby, Sweden AQ320379

CE Declaration of Conformity – EU Declaration of Conformity

Product: FLIR A4XX-, A5XX, A7XX-series and GF7Xa
Name and address of the manufacturer:
FLIR Systems AB
PO Box 7376
SE-187 15 Täby, Sweden

This declaration of conformity is issued under the sole responsibility of the manufacturer.
The object of the declaration: FLIR A4XX-, A5XX, A7XX-series and GF7Xa (Product Model Name FLIR-A8590).
The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

Directives:

Directive	2012/19/EU	Waste electrical and electric equipment
Directive	2011/65/EU	RoHS and 2015/830/EU (Phtalates)
Directive	2014/53/EU	Radio Equipment Directive (RED)

Standards:

Emission:	EN 55032:2015	Electromagnetic compability multimedia
Immunity:	EN 55035:2017	Electromagnetic Compability Multimedia
	ETSI EN 301489-1 v2.2.1	ERM – EMC for radio equipment
	ETSI EN 301489-17 v3.2.0	ERM – EMC Wideband data
Radio:	ETSI EN 300 328 v2.1.1	Harmonized EN covering essential requirements of the R&TTE Directive
	ETSI EN 301 893 v.2.1.1	5GHz WLAN
Safety:	IEC 62368-1:2014 (2nd Edition) + Cor.1:2015 + Cor.2: 2015 and EN62368-1:2014 + AC: 2015 + A11: 2017 + AC: 2017 Video, information and communication tech	
RoHS	EN 50581:2012	Technical documentation

FLIR Systems AB
Quality Assurance

Lea Dabiri
Quality Manager