

P/N: 83209-0102

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Website

<http://www.flir.com>

Customer support

<http://support.flir.com>

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General description

The FLIR A35 has features and functions that make it the natural choice for anyone who uses PC software to solve problems and for whom 370 × 296 pixel resolution is sufficient.

Among its main features are GigE Vision and GenICam compliance, which makes it plug-and-play when used with software packages such as IMAQ Vision and Halcon.

Key features:

- Very affordable.
- Compact.
- GigE Vision and GenICam compliant.
- GigE Vision lockable connector.
- PoE (power over Ethernet).
- 8-bit 370 × 296 pixel images streamed at 30 Hz, signal linear.
- 14-bit 370 × 296 pixel images streamed at 30 Hz, signal and temperature linear.
- High frame rates (30 Hz).
- Synchronization between cameras possible.
- 1x+1x GPIO.
- Compliant with any software that supports GenICam, including National Instruments IMAQ Vision, Stemmers Common Vision Blox, and COGNEX Vision Pro.

Typical applications:

- Automation and thermal machine vision.
- Entry level "high-speed" R&D.

Imaging and optical data

IR resolution	320 × 256 pixels
Thermal sensitivity/NETD	< 0.05°C @ +30°C (+86°F) / 50 mK
Field of view (FOV)	69° × 56°
Minimum focus distance	3.2 cm (1.6 in.)
Focal length	9 mm (0.35 in.)
Spatial resolution (IFOV)	3.8 mrad
F-number	1.4
Image frequency	30 Hz
Focus	Fixed

Detector data

Detector type	Focal plane array (FPA), uncooled VOX microbolometer
Spectral range	7.5–13 μm
Detector pitch	34 μm
Detector time constant	Typical 12 ms

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Measurement	
Object temperature range	–25 to +135°C (–13 to 275°F) –40 to +550°C (–40 to +1022°F)
Accuracy	±5°C (±9°F) or ±5% of reading
Measurement analysis	
Atmospheric transmission correction	Automatic, based on inputs for distance, atmospheric temperature and relative humidity
Optics transmission correction	Automatic, based on signals from internal sensors
Emissivity correction	Variable from 0.5 to 1.0
Reflected apparent temperature correction	Automatic, based on input of reflected temperature
External optics/windows correction	Automatic, based on input of optics/window transmission and temperature
Measurement corrections	Global object parameters
Ethernet	
Ethernet	Control and image
Ethernet, type	Gigabit Ethernet
Ethernet, standard	IEEE 802.3
Ethernet, connector type	RJ-45
Ethernet, communication	GigE Vision ver. 1.2 Client API GenICam compliant
Ethernet, image streaming	8-bit monochrome @ 30 Hz - Signal linear/ DDE - Automatic/ Manual - Flip H&V 14-bit 370 × 296 pixels @ 30 Hz - Signal linear/ DDE - Temperature linear GigE Vision and GenICam compatible
Ethernet, power	Power over Ethernet, PoE IEEE 802.3af class 0 Power
Ethernet, protocols	TCP, UDP, ICMP, IGMP, DHCP, GigEVision
Digital input/output	
Digital input, purpose	General purpose
Digital input	1× opto-isolated, “0” <1.2 VDC, “1” = 2–25 VDC.
Digital output, purpose	General purpose output to ext. device (programmatically set)
Digital output	1× opto-isolated, 2–40 VDC, max. 185 mA
Digital I/O, isolation voltage	500 VRMS
Digital I/O, supply voltage	2–40 VDC, max. 200 mA
Digital I/O, connector type	12-pole M12 connector (shared with Digital synchronization and External power)
Synchronization in, purpose	Frame synchronization in to control camera
Synchronization in	1×, non-isolated
Synchronization in, type	LVC Buffer @3.3V, “0” <0.8 V, “1” >2.0 V.
Synchronization out, purpose	Frame synchronization out to control another FLIR Ax5 camera

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Digital input/output	
Synchronization out	1×, non-isolated
Synchronization out, type	LVC Buffer @ 3.3V, "0"=24 MA max, "1"= -24 mA max.
Digital synchronization, connector type	12-pole M12 connector (shared with Digital I/O and External power)
Power system	
External power operation	12/24 VDC, < 3.5 W nominal < 6.0 W absolute max.
External power, connector type	12-pole M12 connector (shared with Digital I/O and Digital Synchronization)
Voltage	Allowed range 10–30 VDC
Environmental data	
Operating temperature range	–15°C to +60°C (+5°F to +140°F)  NOTE The operating temperature range assumes that the camera is mounted on the base support (included in the package) or a similar type of heatsink.
Storage temperature range	–40°C to +70°C (–40°F to +158°F)
Humidity (operating and storage)	IEC 60068-2-30/24 h 95% relative humidity +25° C to +40°C (+77°F 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) with base support mounted
Shock	25 g (IEC 60068-2-27)
Vibration	2 g (IEC60068-2-6) and MIL-STD810G
Physical data	
Camera size (L × W × H)	104.1 × 49.6 × 46.6 mm (4.1 × 1.9 × 1.8 in.)
Tripod mounting	1 × UNC ¼"-20 (with Base support accessory, included in the delivery box)
Base mounting	4 × M3 thread mounting holes (bottom)
Housing material	Magnesium and aluminum
Shipping information	
Packaging, type	Cardboard box
List of contents	- Infrared camera with lens - Base support - Focus adjustment tool - Printed documentation
EAN-13	7332558013106
UPC-12	845188014889
Country of origin	Sweden

Supplies & accessories:

- T951004ACC; Ethernet cable CAT6, 2 m/6.6 ft.
- T198349; Base support
- T198348; Cable kit Mains (UK,EU,US)



FLIR A35 FOV 69 (30 Hz, ver. 2017)

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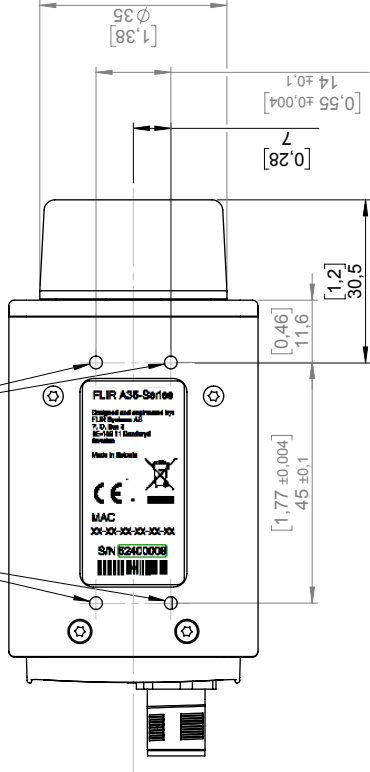
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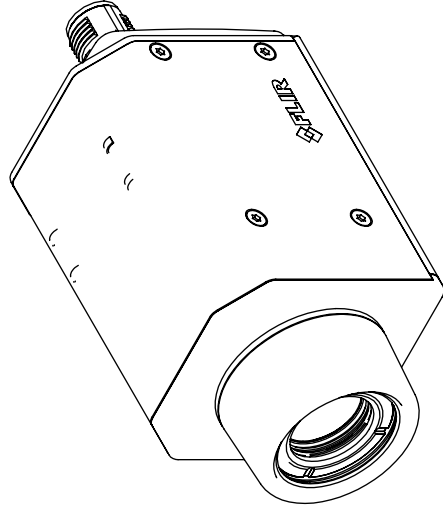
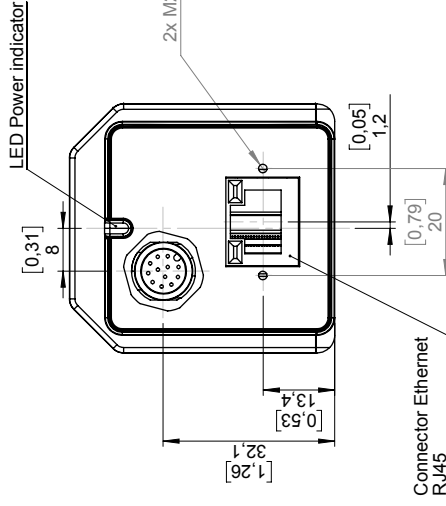
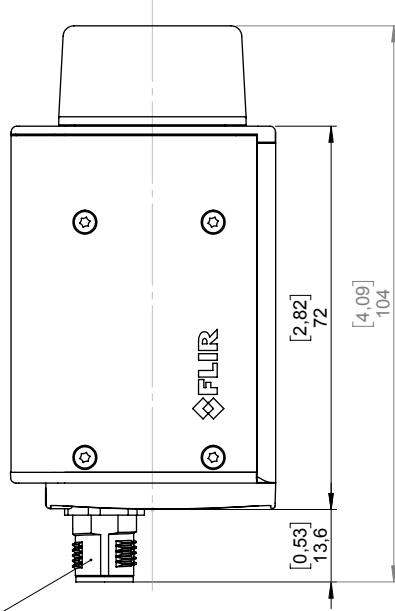
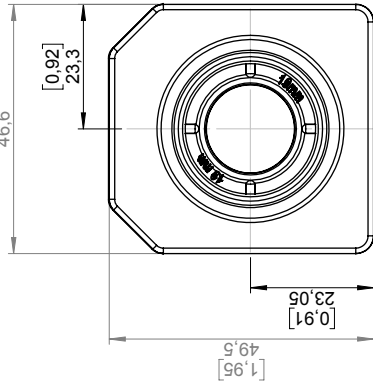
- T127605ACC; Cable M12 Pigtail
- T127606ACC; Cable M12 Sync
- T199698; Environmental housing for Ax5
- T199356; FLIR Ax5 accessory starter kit
- T198342ACC; Focus adjustment tool
- T911183; Gigabit PoE injector 16 W, with multi-plugs
- T198392; Table stand kit
- T198594ACC; Transport case Ax5
- T199722; ThermoVision EFD, max. 2 cameras
- T199724; ThermoVision EFD, max. 4 cameras
- 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
- T198584; FLIR Tools
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- 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-0135; Extended Warranty 1 Year for A35, A65
- INST-EWGM-0135; Premium Service Package for A35, A65, E53, E75, E85, E95
- INST-GM-0125; General Maintenance Package for A35, A65, Exx, Kxx

Basic dimensions
for cameras with
focal length:
f= 7,5 mm
f= 9 mm
f=13 mm
f=19 mm

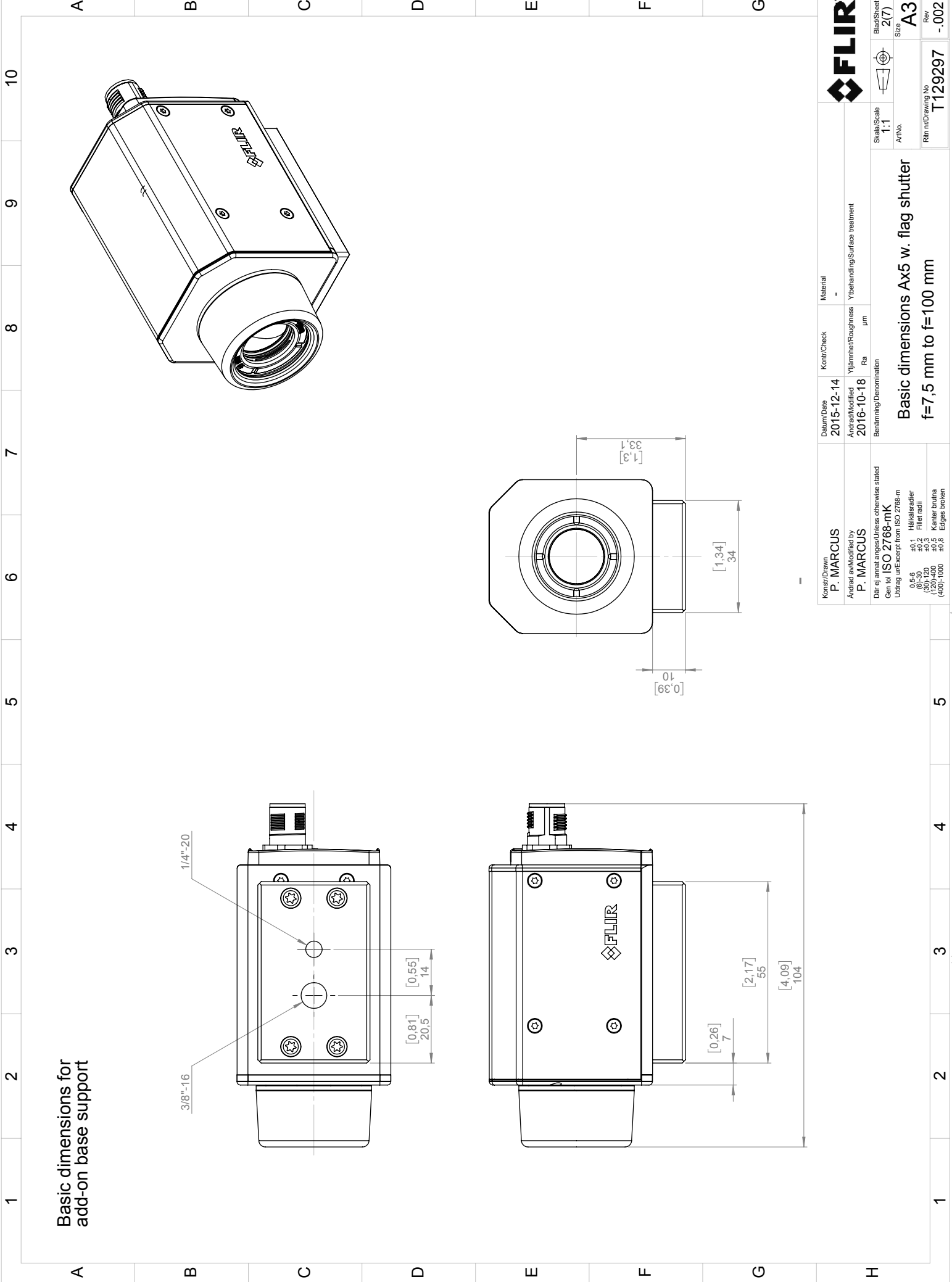
4x M3
Depth max 4 mm



Connector GP I/O
M12 12-pin



Konstruktör	Datum/Date	Kontroll/Check	Material
P. MARCUS	2015-12-14	-	-
Ändrad av/Modified by	Ändrad/Modified	Ytbehandling/Roughness	Ytbehandling/Surface treatment
P. MARCUS	2016-10-18	Ra	µm
Benämning/Denomination			
Basic dimensions Ax5 w. flag shutter f=7.5 mm to f=100 mm			



Basic dimensions for
add-on base support

3/8"-16 1/4"-20

[0.81]
20.5

[0.55]
14

[0.26]
7

[2.17]
55

[4.09]
104

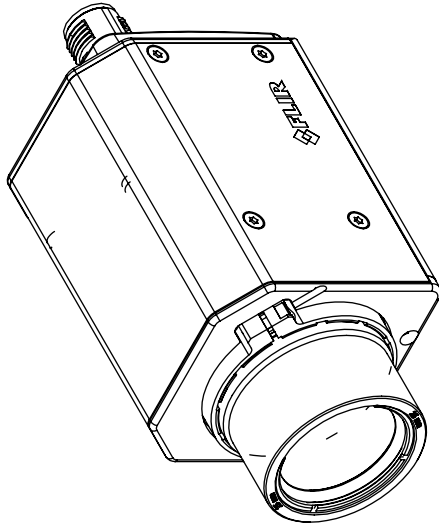
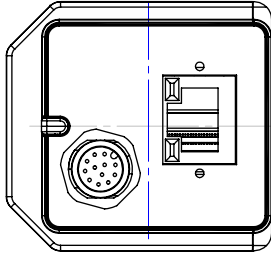
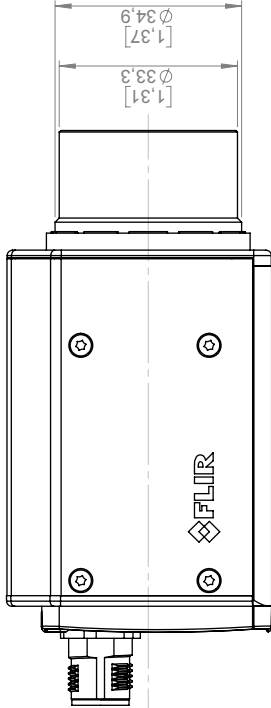
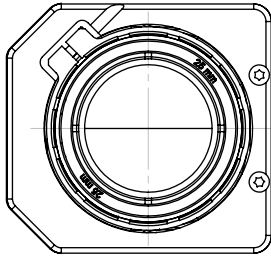
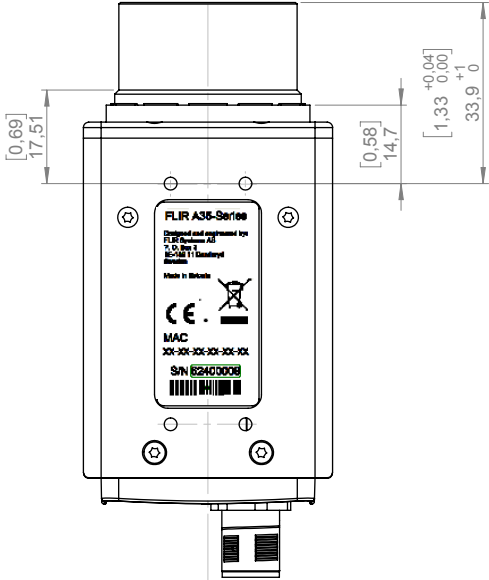
[1.34]
34

[0.39]
10

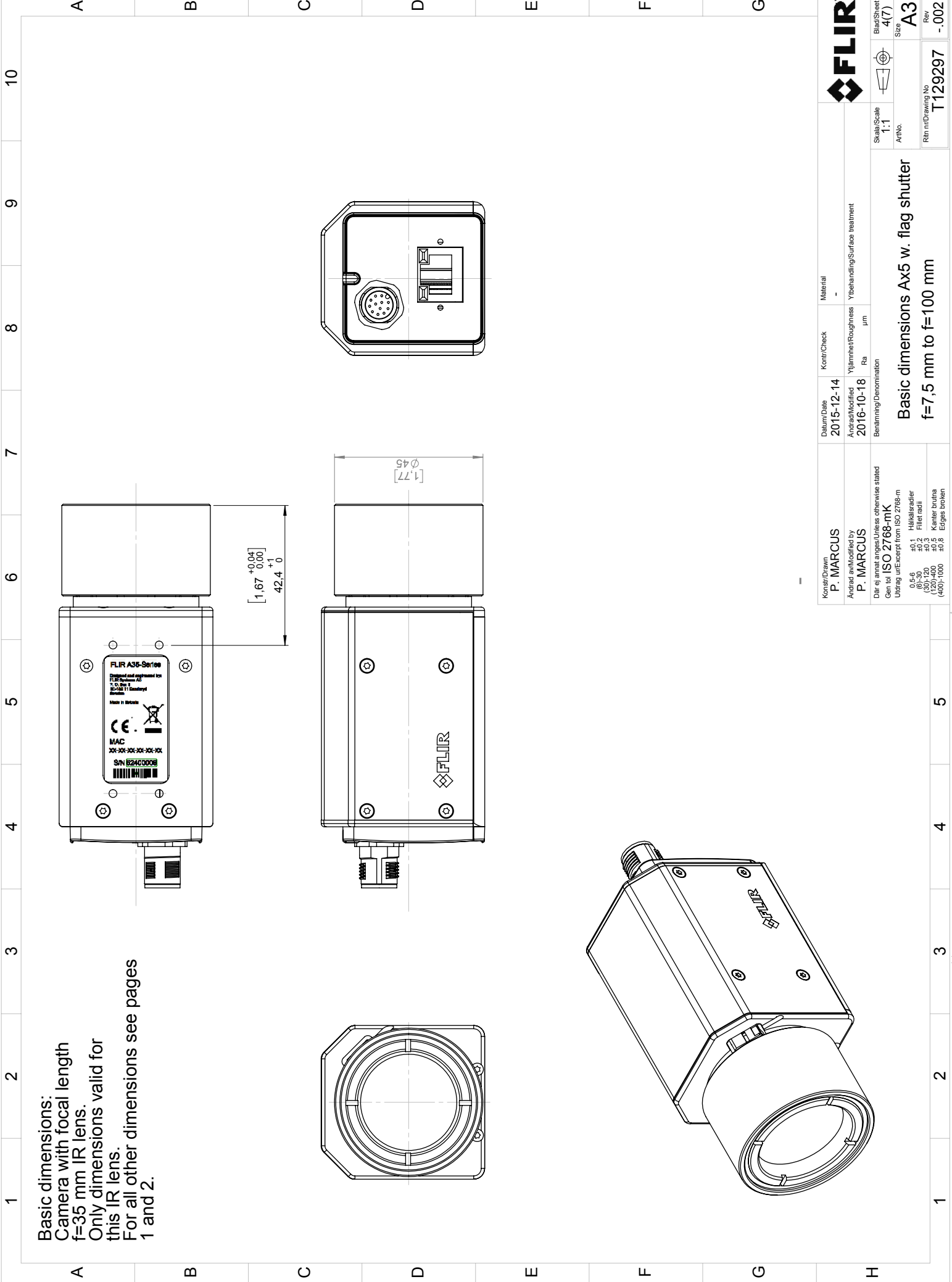
[33.1]
1.3

		Konstr/Drawn P. MARCUS		Datum/Date 2015-12-14		Kontr/Check -		Material -	
Ändrad av/Modified by P. MARCUS		Ändrad/Modified 2016-10-18		Ytämhet/Roughness Ra		Ytbehandling/Surface treatment µm		Skala/Scale 1:1	
Där ej annat anges/Unless otherwise stated Gen töl ISO 2768-mK Utmått ut/Excerpt from ISO 2768-m		Basic dimensions Ax5 w. flag shutter f=7.5 mm to f=100 mm		Blad/Sheet 2(7)		Size A3		Rev -	
0.5-6 ±0.1 Hållarsradier (6)-30 ±0.2 Fillet radii (120)-400 ±0.5 Kanter brutna (400)-1000 ±0.8 Edges broken		T129297		Artno.		Ritning/Drawing No.		-	

Basic dimensions:
Camera with focal length
f=25 mm IR lens.
Only dimensions valid for
this IR lens.
For all other dimensions see pages
1 and 2.



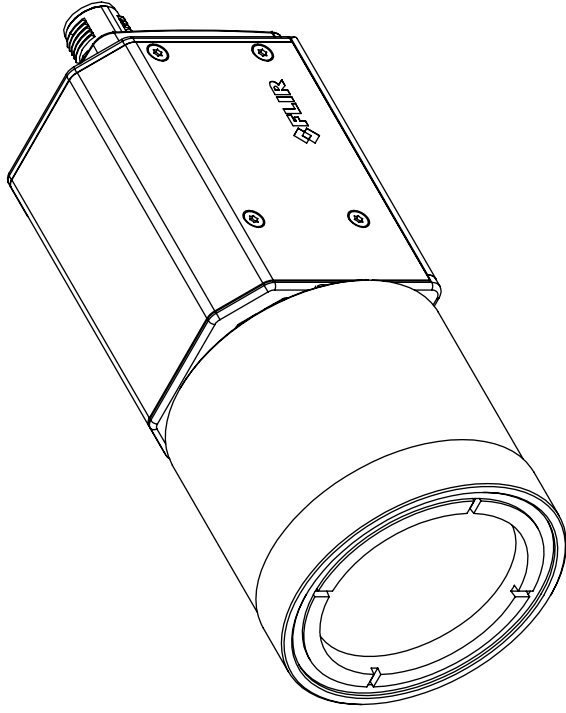
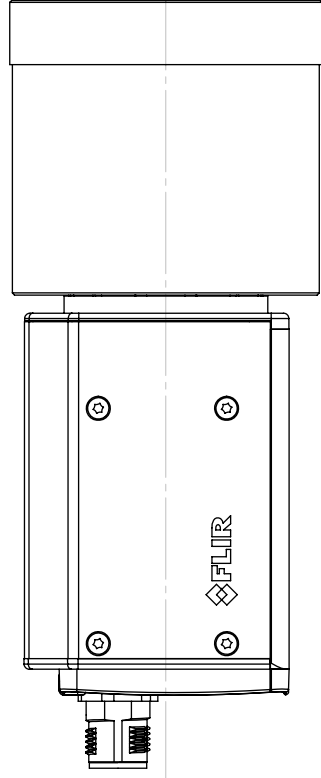
Konstr/Drawn P. MARCUS		Datum/Date 2015-12-14	Kontr/Check -	Material -	FLIR	
Ändrad av/Modified by P. MARCUS		Ändrad/Modified 2016-10-18	Ytämnhet/Roughness Ra	Ytbehandling/Surface treatment µm	A3	
Gen tid ISO 2768-mK Utmått ut/Excerpt from ISO 2768-m		Benämning/Denomination Basic dimensions Ax5 w. flag shutter f=7,5 mm to f=100 mm		Skala/Scale 1:1	Blad/Sheet 3(7)	Rev -002
Där ej annat anges/Unless otherwise stated		Artno. T129297		Ritning/Drawing No. T129297		
0,5-6 60-100 120-400 (400)-1000		Hållfärdighet Fillet radi Kantfil Kantfil brutna Edges broken				
±0,1 ±0,2 ±0,5 ±0,8						



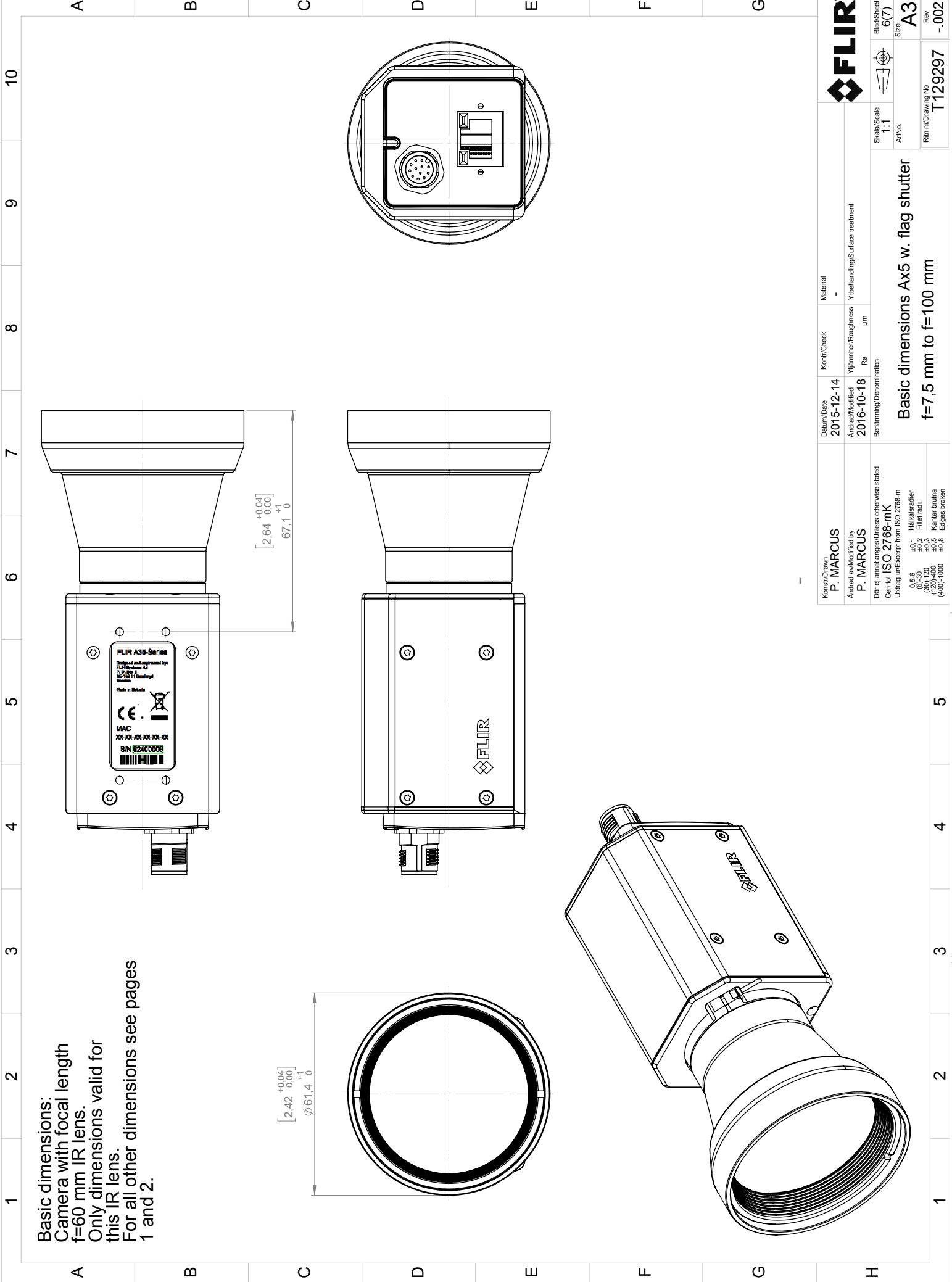
Basic dimensions:
Camera with focal length
f=35 mm IR lens.
Only dimensions valid for
this IR lens.
For all other dimensions see pages
1 and 2.

		Konstr/Drawn P. MARCUS		Datum/Date 2015-12-14	Kontroll/Check -	Material -
Ändrad av/Modified by P. MARCUS		Ändrad/Modified 2016-10-18		Ytjämnhet/Roughness Ra		Ytbehandling/Surface treatment µm
Där ej annat anges/Unless otherwise stated Gen töl ISO 2768-mK Utdrag ur/Excerpt from ISO 2768-m		Benämning/Denomination Basic dimensions Ax5 w. flag shutter f=7.5 mm to f=100 mm		Skala/Scale 1:1		Blad/Sheet 4(7)
0.5-6 ±0.1 Hållarsradier (6)-30 ±0.2 Fillet radii (120)-400 ±0.5 Kanter brutna (400)-1000 ±0.8 Edges broken		Artno. T129297		Size A3		Rev -002

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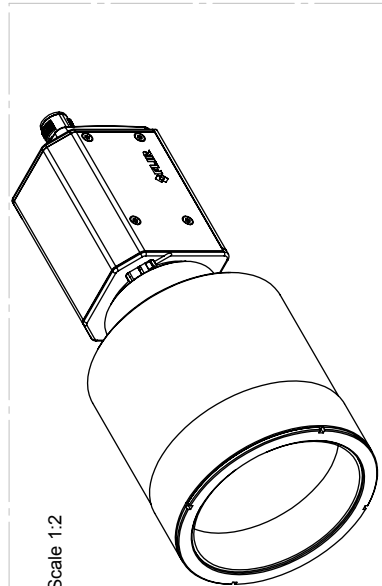
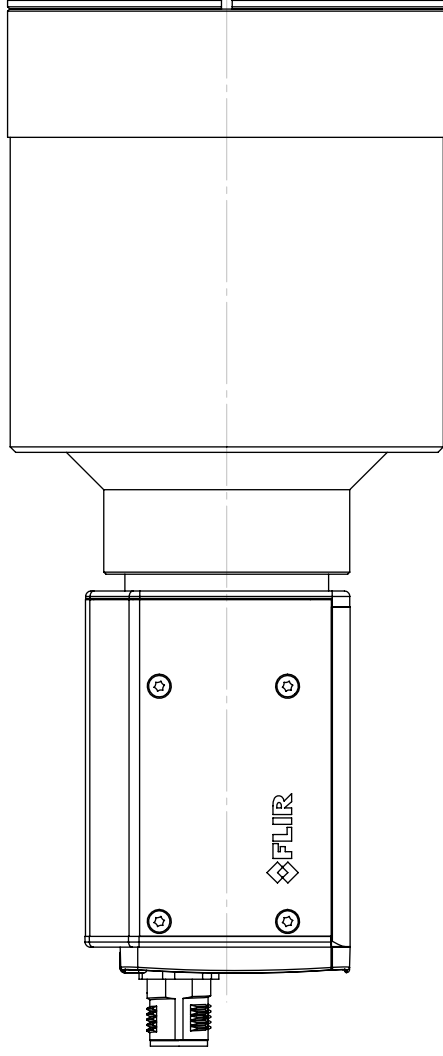


		Konstr/Drawn		Datum/Date		Kontr/Check		Material	
P. MARCUS		2015-12-14		-		-		-	
Ändrad av/Modified by		2016-10-18		Ytämhet/Roughness		Ra		Ytbehandling/Surface treatment	
P. MARCUS		2016-10-18		Ra		Ra		Ra	
Benämning/Denomination		Benämning/Denomination		Benämning/Denomination		Benämning/Denomination		Benämning/Denomination	
Gen töl ISO 2768-mK		Gen töl ISO 2768-mK		Gen töl ISO 2768-mK		Gen töl ISO 2768-mK		Gen töl ISO 2768-mK	
Utmätning utEexcept from ISO 2768-m		Utmätning utEexcept from ISO 2768-m		Utmätning utEexcept from ISO 2768-m		Utmätning utEexcept from ISO 2768-m		Utmätning utEexcept from ISO 2768-m	
0,5-6		0,5-6		0,5-6		0,5-6		0,5-6	
±0,1		±0,1		±0,1		±0,1		±0,1	
Höjlsradier		Höjlsradier		Höjlsradier		Höjlsradier		Höjlsradier	
±0,2		±0,2		±0,2		±0,2		±0,2	
Fillet radi		Fillet radi		Fillet radi		Fillet radi		Fillet radi	
±0,5		±0,5		±0,5		±0,5		±0,5	
Kantler brutna		Kantler brutna		Kantler brutna		Kantler brutna		Kantler brutna	
±0,8		±0,8		±0,8		±0,8		±0,8	
Edges broken		Edges broken		Edges broken		Edges broken		Edges broken	

Basic dimensions Ax5 w. flag shutter
f=7,5 mm to f=100 mm

Blad/Sheet	A3
Size	A3
Scale/Scale	1:1
ArtNo.	T129297
Ritning/Drawing No.	T129297
Rev.	-002

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Konstr./Drawn P. MARCUS Andert/modified by P. MARCUS	Datum/Date 2015-12-14 Andert/modified 2016-10-18	Kontroll/Check Ra µm	Material - Ytbehandling/Surface treatment	
Das get anntet angles-Unless otherwise stated Gen to ISO 2768-mK Uhring un-Except from ISO 2768-m				Skala/Scale 1:1
9.5-6 40.2 90-30 (30)-120 120-400 (400)-1000 Edges broken				Art.Nr.
Basic dimensions Ax5 w. flag shutter				Blad/Sheet 7(7)
f=7,5 mm to f=100 mm				Size A3
				Rev -002
				Ritm nr/Drawing No T129297



The World's Sixth Sense™

May 25, 2018 Täby, Sweden

AQ320295

CE Declaration of Conformity – EU Declaration of Conformity

Product: FLIR Ax5 -series

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 Ax5 -series.

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

Directives:

Directive: 2011/65/EU

RoHS

Directive 2014/30/EU

Electromagnetic Compatibility

Standards:

Emission: EN 61000-6-3:2007

EMC Emission residential, commercial, light-industrial

Immunity: EN 61000-6-2:2005

EMC Immunity for industrial environments

FLIR Systems AB

Quality Assurance

Lea Dabiri

Quality Manager