

P/N: 83225-0101

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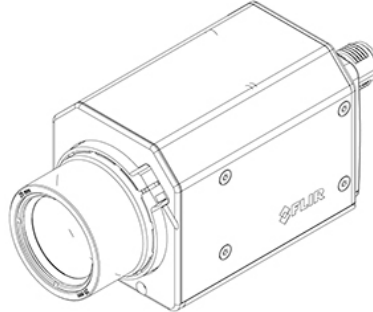
<http://www.flir.com>

Customer support

<http://support.flir.com>

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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 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 320 × 256 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 320 × 256 pixel images streamed at 60 Hz, signal linear.
- 14-bit 320 × 256 pixel images streamed at 60 Hz, signal and temperature linear.
- High frame rates (60 Hz).
- Synchronization between cameras possible.
- 1x+1x GPIO.
- Compliant with any software that supports GenICam, including National Instruments IMAQ Vision, Stammers 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)	13° × 10°
Minimum focus distance	30 cm (12 in.)
Focal length	25 mm (0.98 in.)
Spatial resolution (IFOV)	0.680 mrad
F-number	1.1
Image frequency	60 Hz
Focus	Fixed

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Detector data	
Detector type	Focal plane array (FPA), uncooled VOX microbolometer
Spectral range	7.5–13 μm
Detector pitch	17 μm
Detector time constant	Typical 12 ms
Measurement	
Object temperature range	<ul style="list-style-type: none"> –25 to +100°C (–13 to 212°F) –40 to +550°C (–40 to +1022°F)
Accuracy	$\pm 5^\circ\text{C}$ ($\pm 9^\circ\text{F}$) or $\pm 5\%$ 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 @ 60 Hz <ul style="list-style-type: none"> Signal linear/ DDE Automatic/ Manual Flip H&V 14-bit 320 x 256 pixels @ 60 Hz <ul style="list-style-type: none"> 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	1x opto-isolated, "0" <1.2 VDC, "1" = 2–25 VDC.
Digital output, purpose	General purpose output to ext. device (programmatically set)

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Digital input/output	
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
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)
	<div style="border: 1px solid black; padding: 5px;"> <p> NOTE</p> <p>The operating temperature range assumes that the camera is mounted on the base support (included in the package) or a similar type of heatsink.</p> </div>
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	<ul style="list-style-type: none"> • 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)	107.8 × 49.6 × 46.6 mm (4.2 × 1.9 × 1.8 in.)
Tripod mounting	1 × UNC ¼"-20 (with Base support accessory, included in the delivery box)

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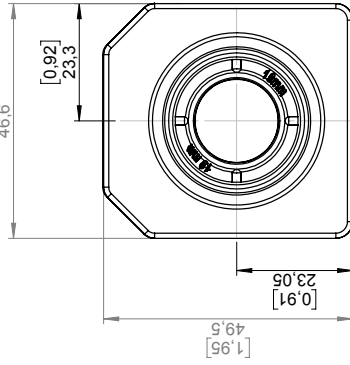
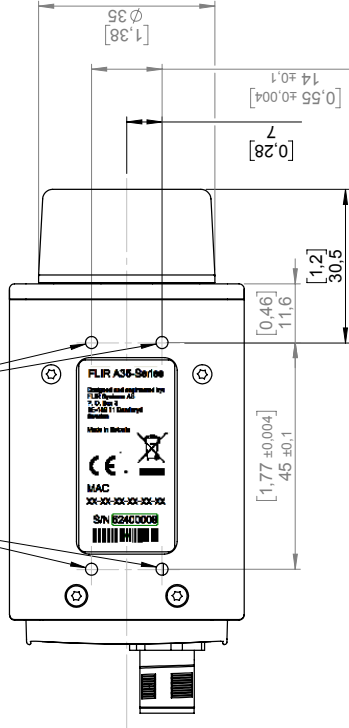
Physical data	
Base mounting	4 × M3 thread mounting holes (bottom)
Housing material	Magnesium and aluminum
Shipping information	
Packaging, type	Cardboard box
List of contents	<ul style="list-style-type: none">• Infrared camera with lens• Base support• Printed documentation
EAN-13	7332558013113
UPC-12	845188014872
Country of origin	Sweden

Supplies & accessories:

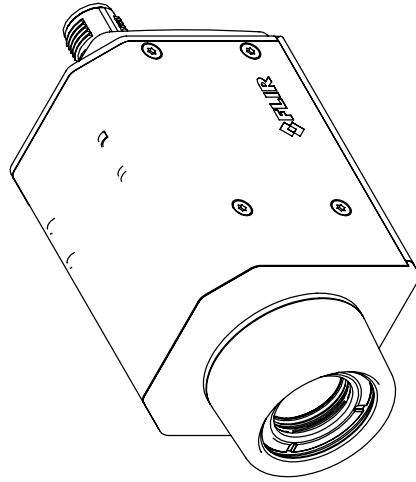
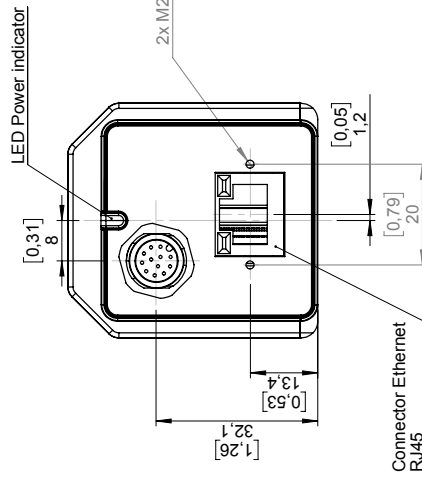
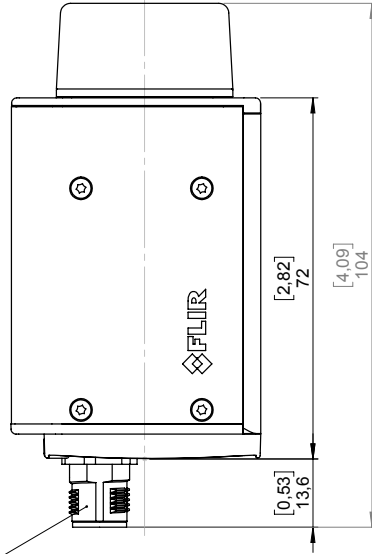
- T951004ACC; Ethernet cable CAT6, 2 m/6.6 ft.
- T198349; Base support
- T198348; Cable kit Mains (UK,EU,US)
- T127605ACC; Cable M12 Pigtail
- T127606ACC; Cable M12 Sync
- T199698; Environmental housing for Ax5
- T199356; FLIR Ax5 accessory starter kit
- T198342ACC; Focus adjustment tool
- T911183; Gigabit PoE injector 16 W, with multi-plugs
- T198392; Table stand kit
- T198594ACC; Transport case Ax5
- T198584; FLIR Tools
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB

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

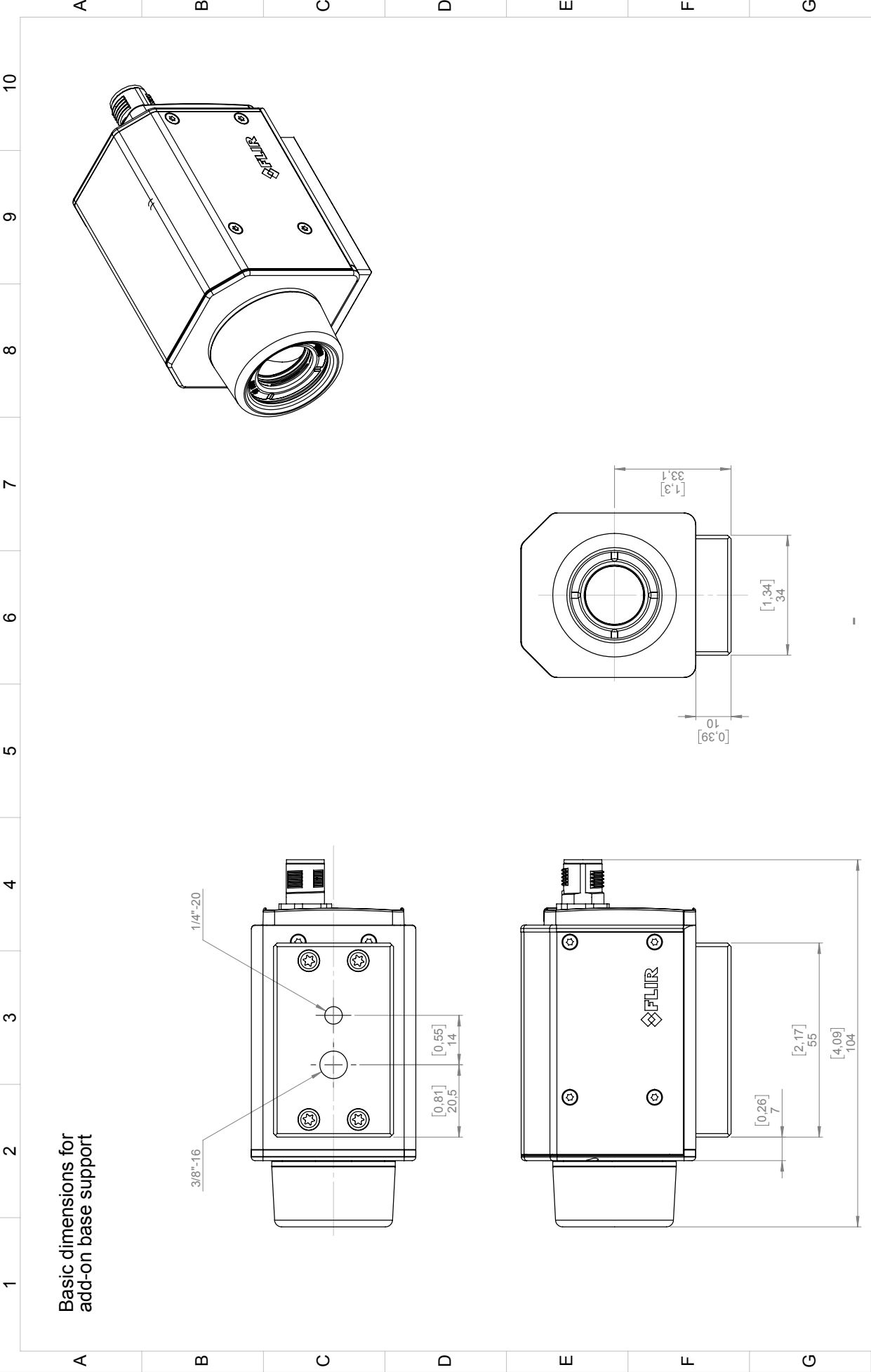
4x M3
Depth max 4 mm



Connector GP I/O
M12 12-pin



Konstr/Drawing	P. MARCUS	Kontroll/Check	-	Material	-
Datum/Date	2015-12-14	Ändrad/Modified	2016-10-18	Ytbehandling/Surface treatment	-
Ändrad av/Modified by	P. MARCUS	Ra	µm	Slip/Surface	1:1
Där ej annat anges/tjocklek ellers annars så tillåtet		Benämning/Denomination		ArtNo.	1(7)
Genl. till ISO 2768-mK		Basic dimensions Ax5 w. flag shutter		Ritning/Drawing No.	T129297
Utmått ut/except from ISO 2768-m		f=7,5 mm to f=100 mm		Rev	-002
0,5-6	±0,1	Hållsläddradier			
6,3-120	±0,2	Fillet radii			
(120)-400	±0,5	Kanter brutna			
(400)-1000	±0,8	Edges broken			



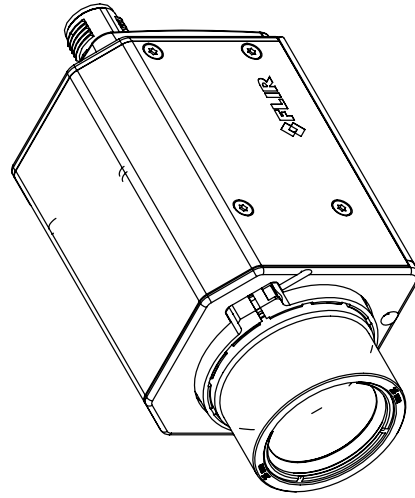
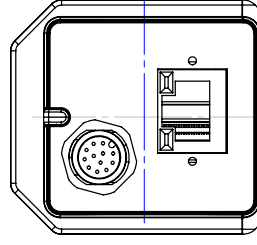
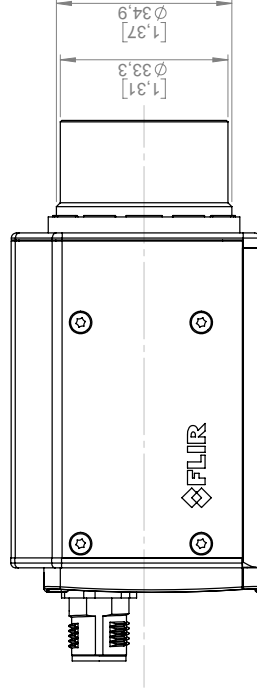
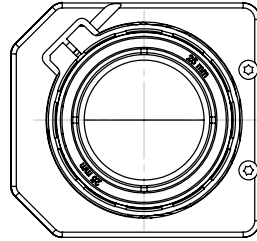
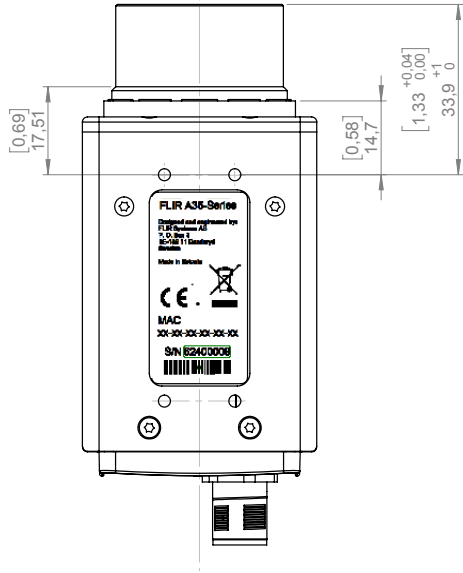
Basic dimensions for
add-on base support

FLIR		Blad/Sheet 2(7)		Scale/Scale 1:1		ArtNo.	
Konstr/Drawn P. MARCUS		Konstr/Check -		Material -		Datum/Date 2015-12-14	
Ändrad av/Modified by P. MARCUS		Ytjämnhet/Roughness Ra		Ytbehandling/Surface treatment		Ändrad/Modified 2016-10-18	
Ditt ej annat angavs/Unless otherwise stated Gen/Gen ISO 2768-mK		Benämning/Denomination		Rev T129297		Blad/Sheet A3	
URTRAG ur/Except from ISO 2768-m		Basic dimensions Ax5 w. flag shutter f=7,5 mm to f=100 mm		Rev -002		Blad/Sheet A3	
0,50 ±0,1 Hålltolerans (30)-120 ±0,3 FLIR: radi (20)-400 ±0,5 Kanten brutna (40)-1600 ±0,5 Edges broken							

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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.



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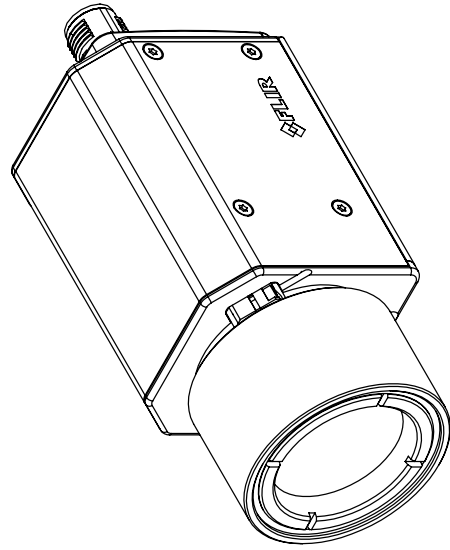
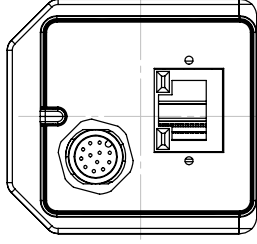
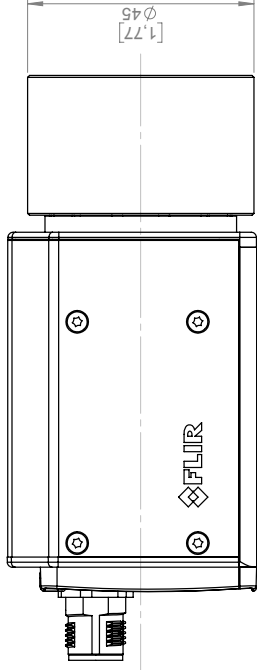
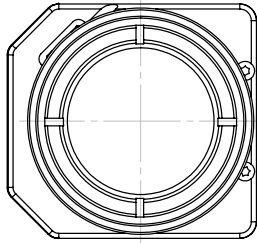
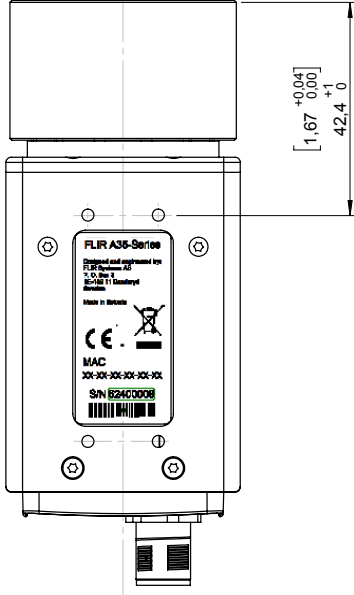
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Konstr/Drawn	P. MARCUS	Datum/Date	2015-12-14	Kontroll/Check	Material	
Ändrad av/Modified by	P. MARCUS	Ändrad/Modified	2016-10-18	Ytjämnhet/Roughness	Ytbehandling/Surface treatment	
Dir. ej annat angavs/Unless otherwise stated		Benämning/Denomination		Ra	µm	
Gen. tol. ISO 2768-mK		URTRAG ur/Except from ISO 2768-m				
0,50	40,1	Hålsläpplader				
(30)-120	40,3	FLIR: radi				
(20)-400	40,5	Kantlar brutna				
(40)-1600	40,6	Edgar brutna				
FLIR			Stapel/Scale			
3(7)			1:1			
Blad/Sheet			AritNo.			
Size			Rev			
A3			T129297			
-002			Ritn nr/Drawing No			

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



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.



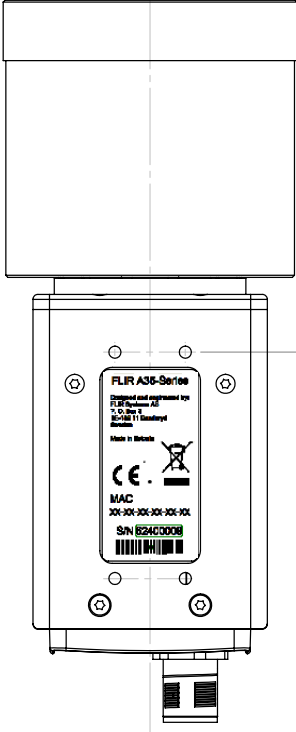
Konstr/Drawn	P. MARCUS	Datum/Date	2015-12-14	Kontroll/Check	Material
Ändrad/Modified by	P. MARCUS	Ändrad/Modified	2016-10-18	Ytjämhet/Roughness	YBehandling/Surface treatment
Gen/col	ISO 2768-mK	Benämning/Denomination	µm	Stapel/Scale	1:1
Ditt ej annat angavs/Unless otherwise stated Utmått ut/Except from ISO 2768-m 0,5-1 40,1 Hålltolerans (30)-120 40,3 Fläkt radi (120)-400 40,5 Kontur brutna (40)-1600 40,6 Edges broken		Blad/Sheet	4(7)	Rev	A3
Basic dimensions Ax5 w. flag shutter f=7,5 mm to f=100 mm		Ritn nr/Drawing No	T129297	Rev	-002



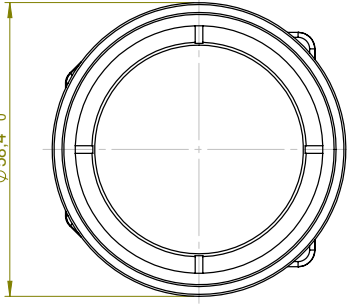
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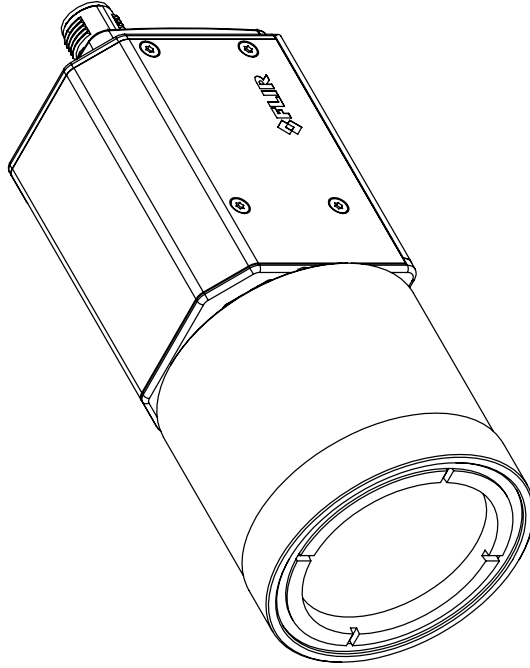
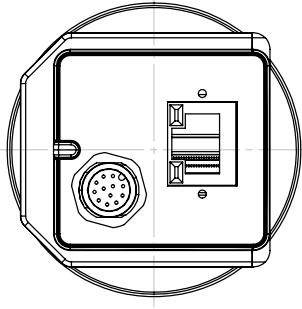
Basic dimensions:
 Camera with focal length
 f=50 mm IR lens.
 Only dimensions valid for
 this IR lens.
 For all other dimensions see pages
 1 and 2.



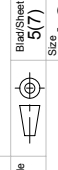
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 69,6 0



$[\begin{matrix} +0,04 \\ 2,3 & 0,00 \\ & +1 \end{matrix}]$
 $\varnothing 58,4 0$



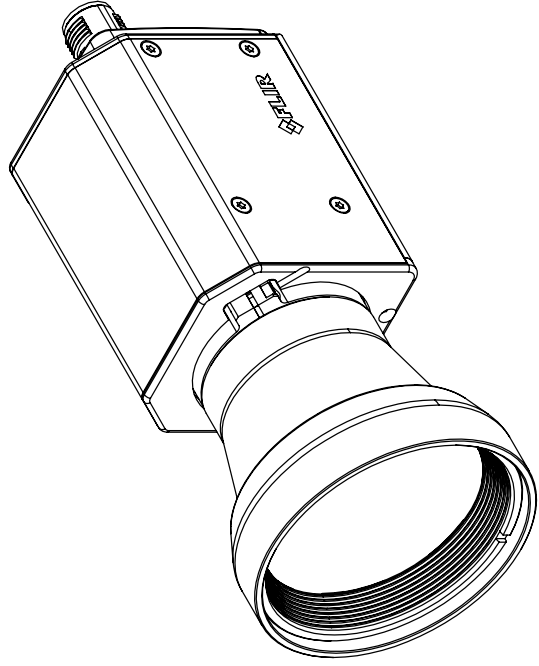
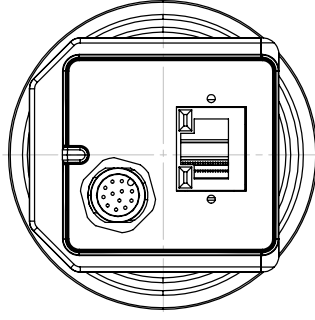
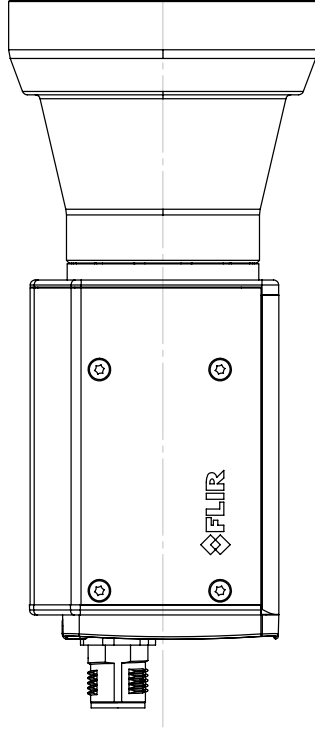
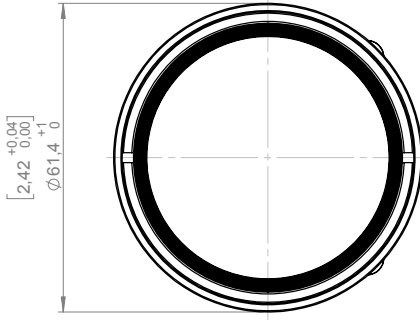
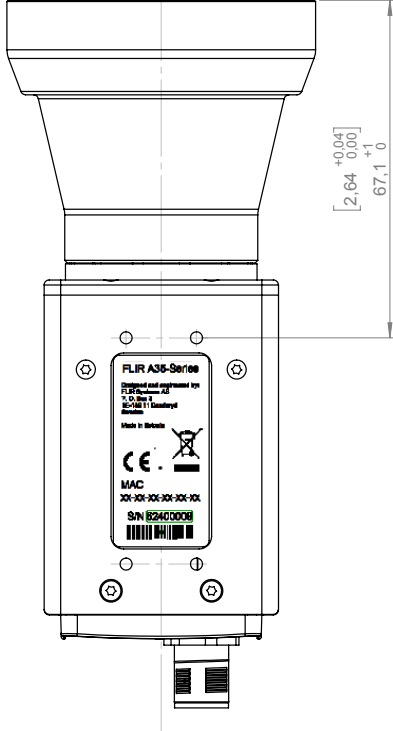
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Ändrad av/Modified by	P. MARCUS	Ändrad/Modified	2016-10-18	Ytjämnhet/Roughness	Ra	Ytbehandling/Surface treatment	
Dir. ej annat angavs/Unless otherwise stated		Benämning/Denomination					
Gen. tol. ISO 2768-mK							
UTRAGE ur/Excerpt from ISO 2768-m							
0,50	40,1	Hålsläpsholer					
(30)-120	40,3	Fläkt. radi					
(20)-400	40,5	Kontur brutna					
(40)-1600	40,6	Ädgen brutna					



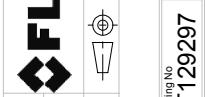
Scale/Scale 1:1
 A/Nr. -
 Blad/Sheet Size 5(7)
 Rev. -
 Ritr nr/Drawing No. T129297
 -002

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

Basic dimensions:
 Camera with focal length
 f=60 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/Modified by	P. MARCUS	Ändrad/Modified	2016-10-18	Ytjärnhet/Roughness	Ra	Ybehandling/Surface treatment	
Dir ej ansvar angår/Unless otherwise stated	Genetol ISO 2768-mK	Benämning/Denomination		µm			
Utmått ut/Except from ISO 2768-m	0,50						
	0,50						
	(30)-120						
	(40)-400						
	(60)-600						
	(80)-800						
	±0,1	Hålåbådder					
	±0,3	Fläkt rad					
	±0,5	Kanter brutna					
	±0,6	Edgar brutna					
FLIR A35-Series		Skala/Scale	1:1	Blad/Sheet		6(7)	Size
A3		Ärtno.		Ritn m/Drawing No		T129297	Rev
		Basic dimensions Ax5 w. flag shutter		f=7,5 mm to f=100 mm			-002



FLIR SYSTEMS AB
 Örnåkers härvägar 20
 221 82 Åkersberga
 Sweden

FLIR SYSTEMS AB
 Örnåkers härvägar 20
 221 82 Åkersberga
 Sweden

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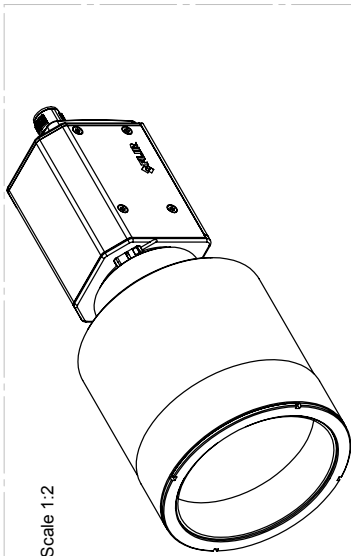
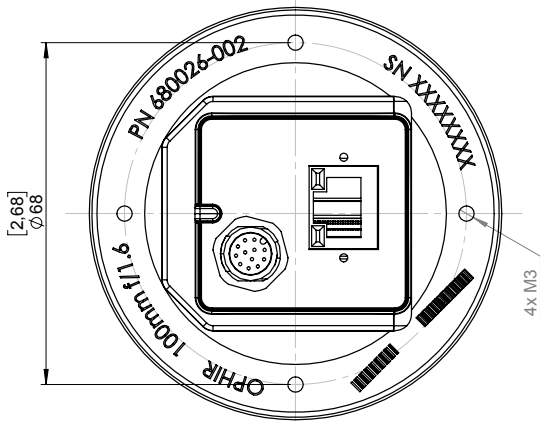
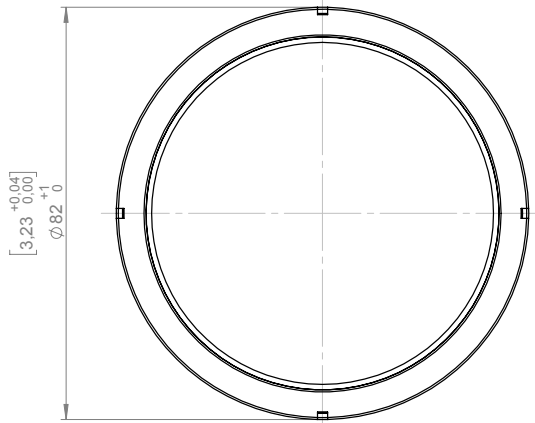
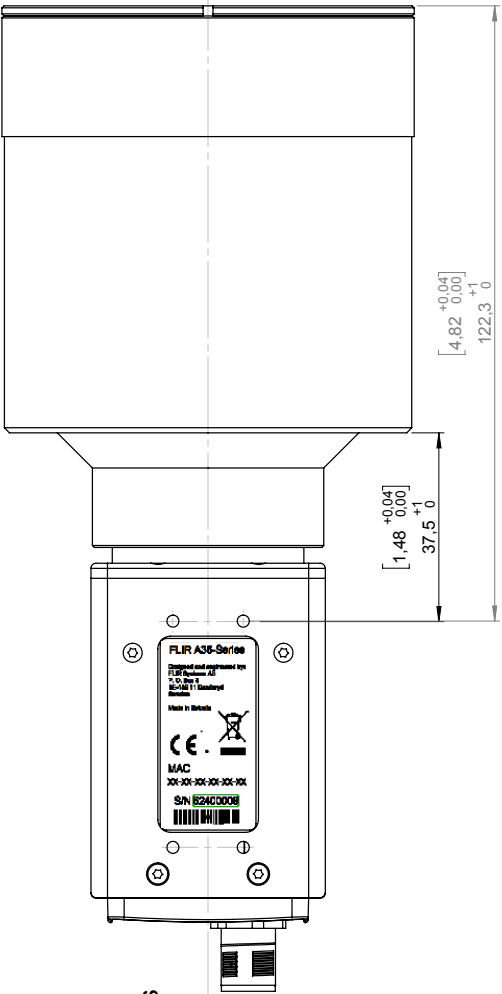
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 221 82 Åkersberga
 Sweden

FLIR SYSTEMS AB
 Örnåkers härvägar 20
 221 82 Åkersberga
 Sweden

Basic dimensions:
 Camera with focal length
 f=100 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	
Dir ej ansvar änges/Unless otherwise stated		Benämning/Denomination		URTRAG ur/Except from ISO 2768-m			
URTRAG ur/Except from ISO 2768-m		0.5		40.1			
0.5		30-120		40.3			
120-400		40.5		Kantbehandling			
40.5		40.5		Edges broken			



Skala/Scale	1:1	Blad/Sheet Size	7(7)
ArtNo.		Rev	A3
Ritn nr/Drawing No	T129297	Rev	-002

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

