

P/N: 74319-0101

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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 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, 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)	24° × 19.2°
Focal length	19 mm (0.75 in.)
Spatial resolution (IFOV)	1.32 mrad
F-number	1.25
Image frequency	60 Hz
Focus	Fixed

Detector data

Detector type	Focal plane array (FPA), uncooled VOX microbolometer
Spectral range	7.5–13 μm

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Detector data	
Detector pitch	25 µm
Detector time constant	Typical 12 ms
Measurement	
Object temperature range	<ul style="list-style-type: none"> • -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 @ 60 Hz <ul style="list-style-type: none"> • Signal linear/ DDE • Automatic/ Manual • Flip H&V 14-bit 320 × 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	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

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Digital input/output	
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)	104.1 × 49.6 × 46.6 mm (4.1 × 1.9 × 1.8 in.)
Tripod mounting	UNC ¼"-20 (on three sides)
Base mounting	4 × M3 thread mounting holes (bottom)
Housing material	Magnesium and aluminum



FLIR A35 FOV 24 (60 Hz, ver. 2016)

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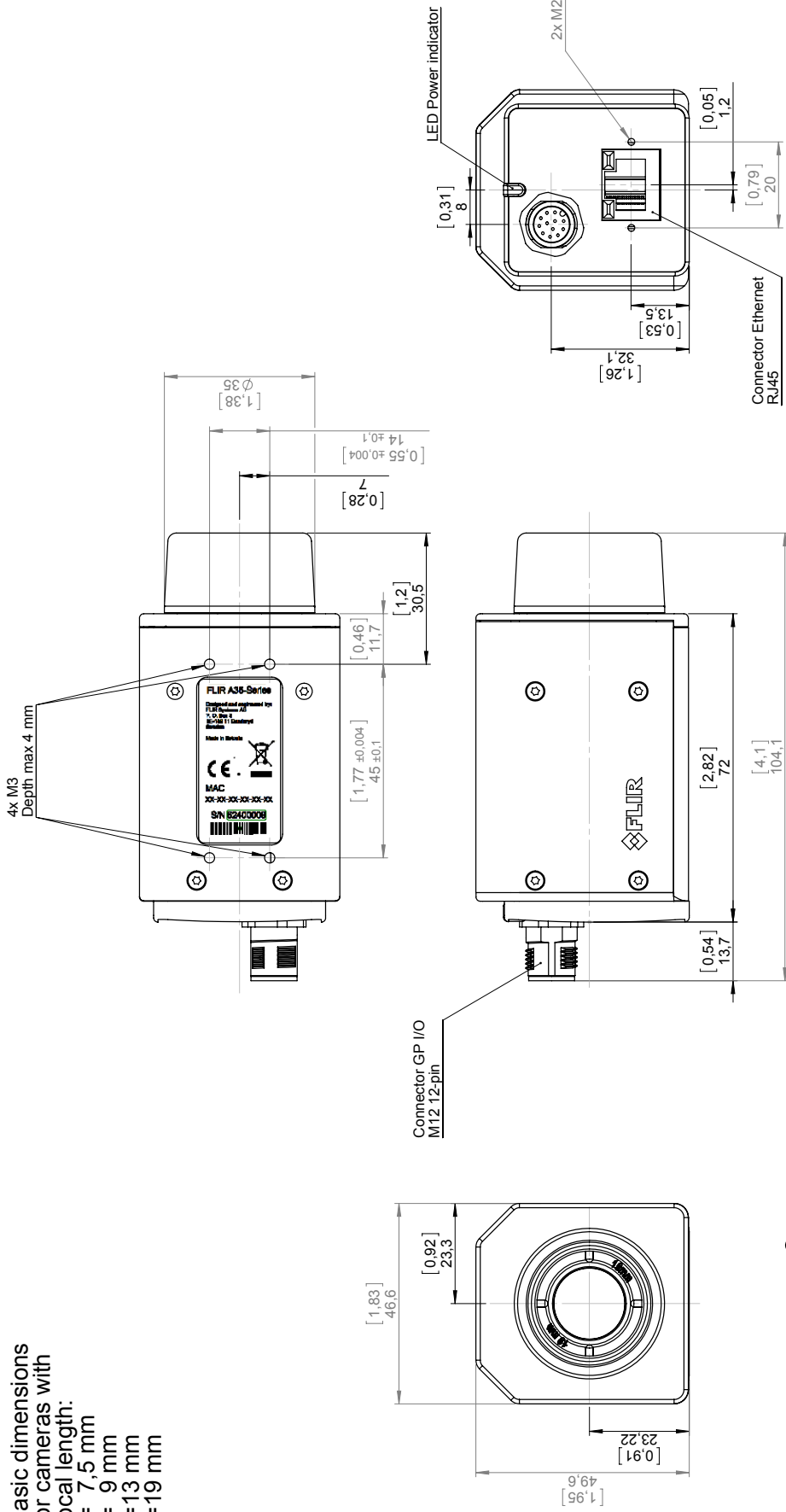
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Shipping information	
Packaging, type	Cardboard box
List of contents	<ul style="list-style-type: none">• Infrared camera with lens• Base support• Focus adjustment tool• Printed documentation
EAN-13	7332558011096
UPC-12	845188011963
Country of origin	Sweden

Supplies & accessories:

- T951004ACC; Ethernet cable CAT6, 2 m/6.6 ft.
- T198349; Base support
- T198348; Cable kit Mains (UK,EU,US)
- T198392; Table stand kit
- T911183; Gigabit PoE injector 16 W, with multi-plugs
- T127605ACC; Cable M12 Pigtail
- T127606ACC; Cable M12 Sync
- T198342ACC; Focus adjustment tool
- T198594ACC; Transport case Ax5
- T199356; FLIR Ax5 accessory starter kit
- T198584; FLIR Tools
- T198583; FLIR Tools+ (download card incl. license key)
- DSW-10000; FLIR IR Camera Player
- 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

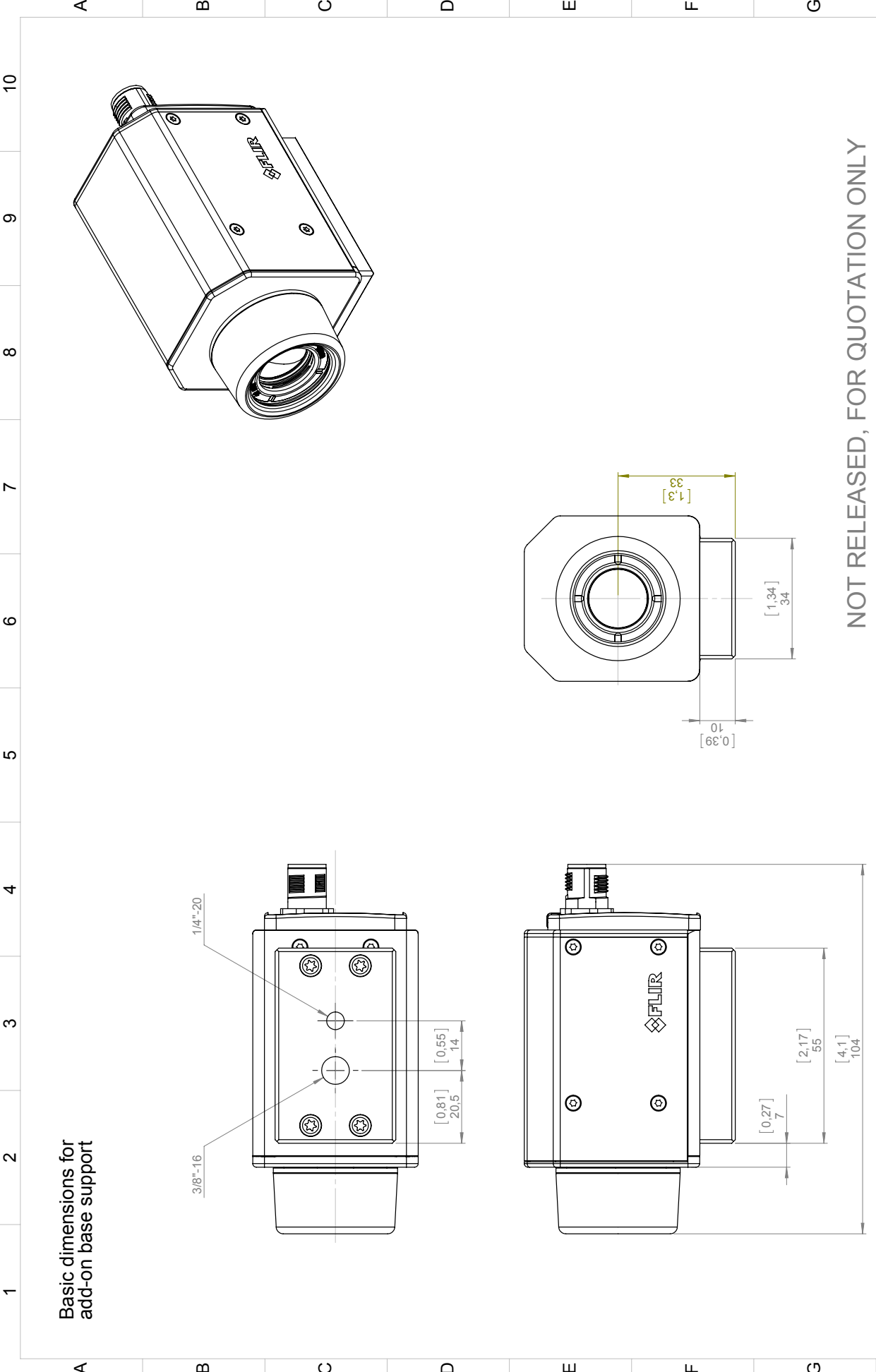


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Konstr/Drawing	P. MARCUS	Kontroll/Check	-	Material	-
Datum/Date	2015-12-14	Ytämnel/Approval	Ytämnel/Approval	Ytämnel/Approval	Ytämnel/Approval
Ändrad av/Modified by	P. MARCUS	Ra	µm	Slip/Surface	1:1
Ändrad av/Modified by	P. MARCUS	Benämning/Denomination	Basic dimensions Ax5 w. flag shutter		
Där ej annat anges/tillsats annars så tillåts					
Genom ISO 2768-mK					
Utmått utöver från ISO 2768-m					
0,5-6					
±0,1					
Hållsladd					
±0,2					
Fillet radi					
±0,5					
Kantströmma					
±0,5					
(120)-400					
±0,8					
Kantströmma					
±0,8					
(400)-1000					
±0,8					
Edges broken					
Bladd/Sheet	1(7)	Skala/Scale	1:1	ArtNo.	T129297
Size	A3	Rev	-	Revised Drawing No	-002



Rev
-002



Basic dimensions for add-on base support

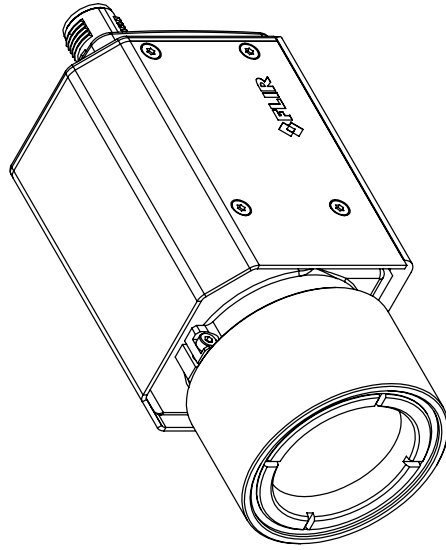
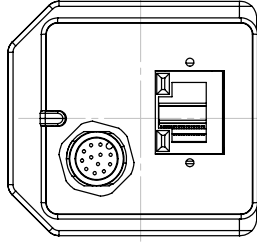
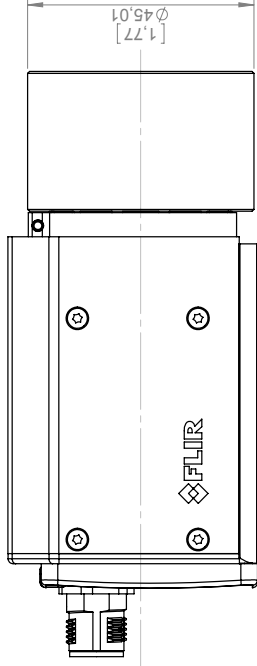
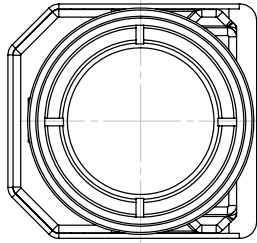
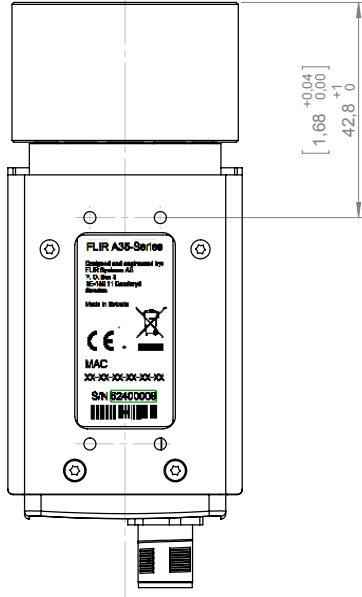
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Konstr/Check: - Ytbehandling/Surface treatment: -		Ytämhet/Roughness: Ra Benämning/Denomination:	
Skala/Scale: 1:1 AritNo.:		Blad/Sheet Size: A3 Rev: -002	
Titel: Basic dimensions Ax5 w. flag shutter f=7,5 mm to f=100 mm			
Konstr/Drawn: P. MARCUS Använd/Modified by: P. MARCUS Datum/Date: 2015-12-14 Ytbehandling/Surface treatment: -		Konstr/Check: - Datum/Date: 2015-12-14 Ytämhet/Roughness: Ra Benämning/Denomination:	
Ditt ej annat anges/Unless otherwise stated: Gen/ISO 2768-mK Urtrog ur/Except from ISO 2768-m		0,50 Hålsläppligt 0,30 Filat 0,20 Filat 0,10 Filat 0,05 Filat 0,02 Filat 0,01 Filat 0,005 Filat 0,002 Filat 0,001 Filat	

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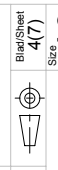
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 Om någon ändå gör detta kan det leda till rättsliga åtgärder.

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.



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Konstruktör P. MARCUS	Datum/Date 2015-12-14	Kontroll/Check -	Material -
Ändrad av/Modified by P. MARCUS	Ändrad/Modified 2015-12-18	Ytjämnhet/Roughness Ra	Ytbehandling/Surface treatment
Dir. ej annat anges/Unless otherwise stated Gen. tol. ISO 2768-mK UTdrag ur/Excerpt from ISO 2768-m	Benämning/Denomination	Skala/Scale 1:1	Blad/Sheet 4(7)
0,50 0,63 0,80 1,00 1,25 1,60 2,00 2,50 3,15 4,00 5,00 6,30 8,00 10,00 12,50 16,00 20,00 25,00 31,50 40,00 50,00 63,00 80,00 100,00	Stål/Steel	ÄRnA.	Rev T129297
0,50 0,63 0,80 1,00 1,25 1,60 2,00 2,50 3,15 4,00 5,00 6,30 8,00 10,00 12,50 16,00 20,00 25,00 31,50 40,00 50,00 63,00 80,00 100,00	Basic dimensions Ax5 w. flag shutter f=7,5 mm to f=100 mm		ÄRnA. -002



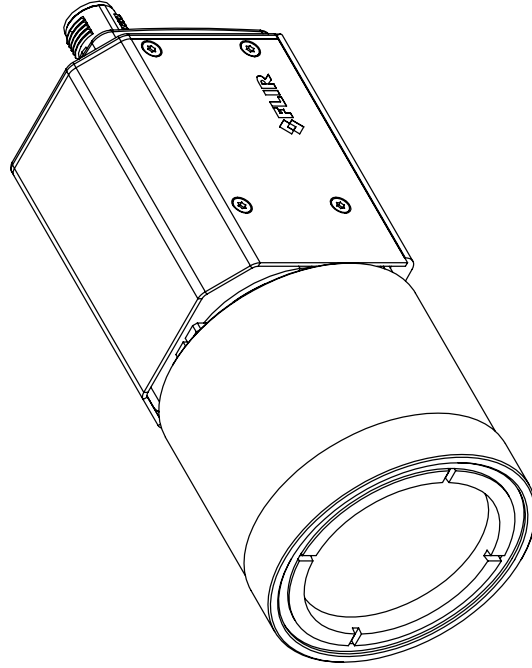
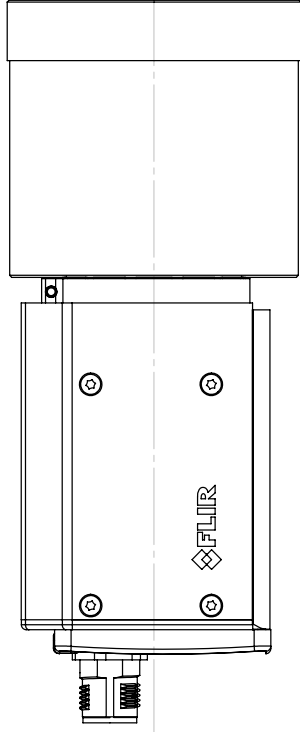
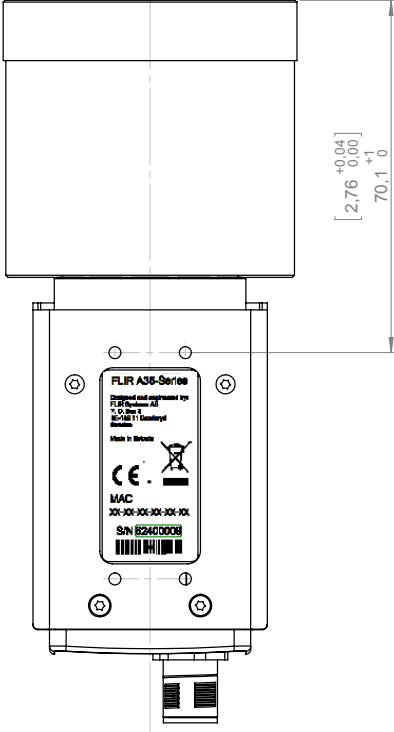
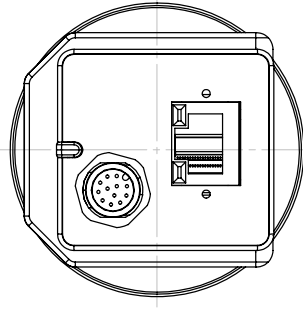
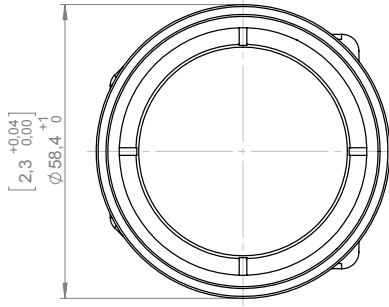
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Basic dimensions:
 Camera with focal length
 f=50 mm IR lens.
 Only dimensions valid for
 this IR lens.
 For all other dimensions see pages
 1 and 2.



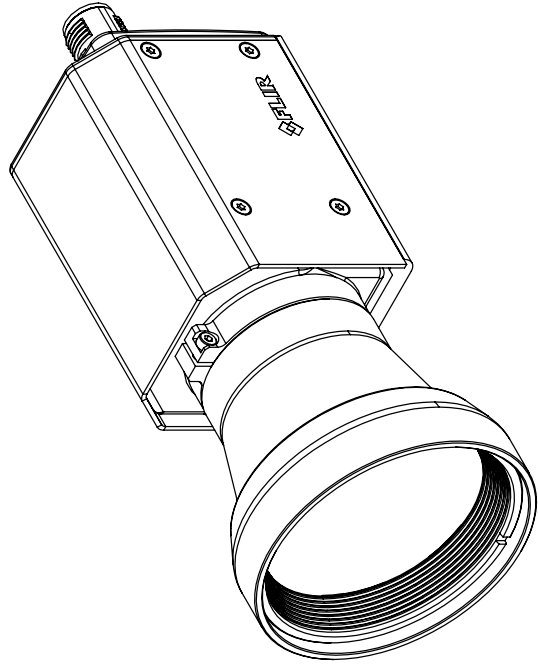
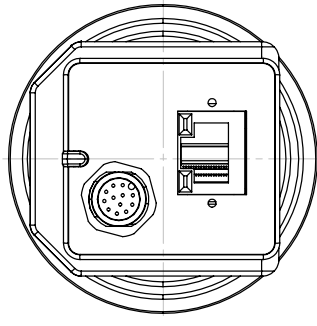
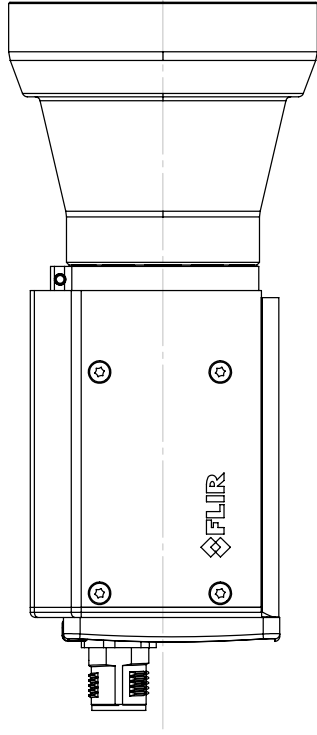
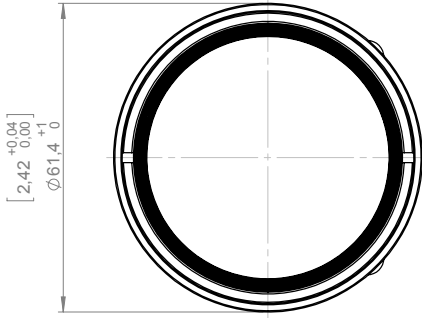
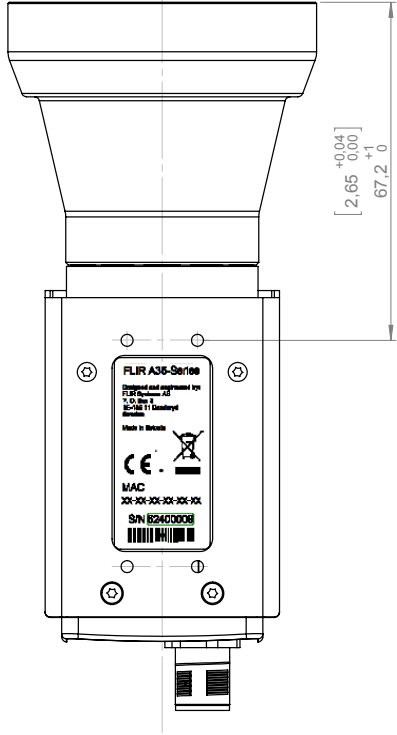
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Konstr/Drawing	P. MARCUS		Datum/Date	2015-12-14	Kontroll/Check	-	Material	-
Ändrad av/Modified by	P. MARCUS		Ändrad/Modified	2015-12-18	Ytjämnhet/Roughness	Ra	Ytbehandling/Surface treatment	
Gen/Gen	ISO 2768-mK		Benämning/Denomination		µm			
Ditt ej annat angavs/Unless otherwise stated Utmärkt ur/Exempt from ISO 2768-m 0,50 40,1 Hålltolerans (30)-120 40,3 FLIR: radi (120)-400 40,3 (40)-160 40,3 Kantslöta (40)-160 40,3 Edges broken								
Scale/Scale 1:1 A/Rn. A/Rn. Sheet/Sheet Size 5(7) Basic dimensions Ax5 w. flag shutter f=7,5 mm to f=100 mm Rtn m/Drawing No. T129297 Rev. -002								



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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.



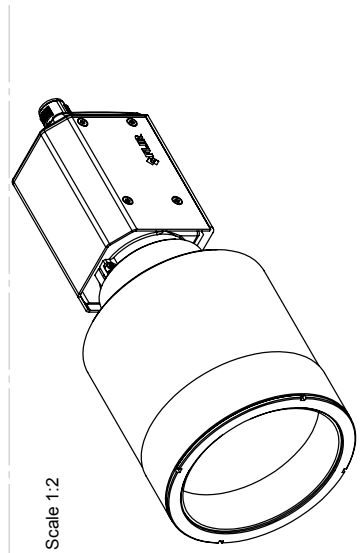
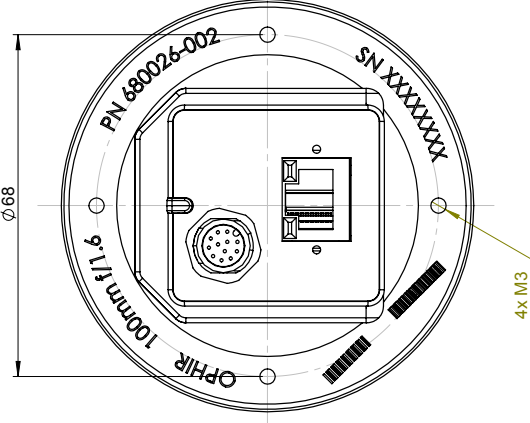
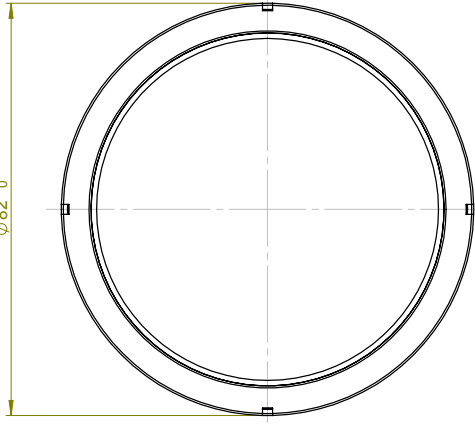
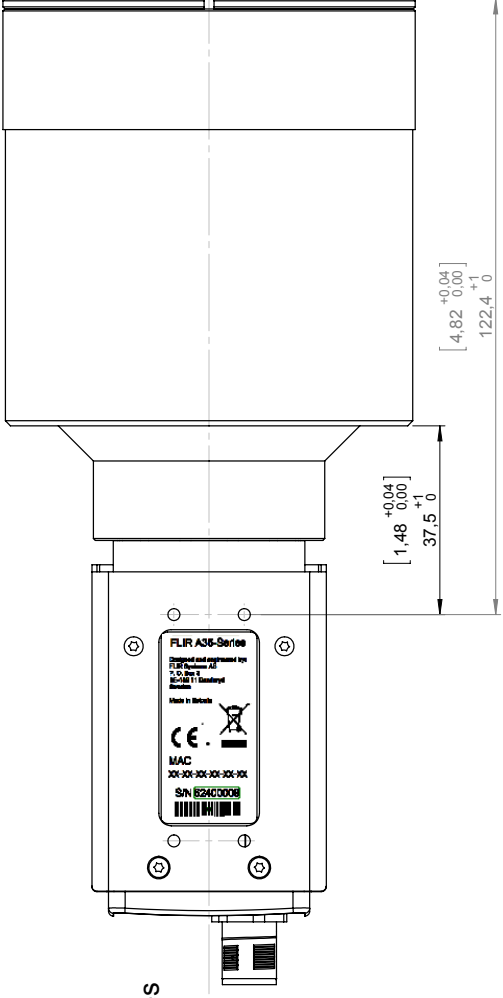
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Konstr/Drawn P. MARCUS	Datum/Date 2015-12-14	Kontroll/Check -	Material -
Ändrad av/Modified by P. MARCUS	Ändrad/Modified 2015-12-18	Ytjämnhet/Roughness Ra μm	Ytbehandling/Surface treatment
Benämning/Denomination Basic dimensions Ax5 w. flag shutter f=7,5 mm to f=100 mm			
Dir ej ansvar angavs/Unless otherwise stated Genför ISO 2768-mK Utvärderad/Examined from ISO 2768-m 0,50 Hålslöpar (30)-120 40,1 Hålslöpar (40)-100 40,3 FLIR: cadt (60)-100 40,5 Kontur brutna (40)-100 40,5 Edges broken		Skala/Scale 1:1 A/Nr. -	Blad/Sheet 6(7) Size A3 Rev T129297 -002



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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.



Scale 1:2

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Konstr/Drawn P. MARCUS	Datum/Date 2015-12-14	Kontroll/Check -	Material -	
Ändrad av/Modified by P. MARCUS	Ändrad/Modified 2015-12-18	Ytjämnhet/Roughness Ra	Ytbehandling/Surface treatment	
Den ej annat anges/Unless otherwise stated Control ISO 2768-mK	Benämning/Denomination	Scale/Scale 1:1 A/IN:		
UTFRÅG ur/Exempt from ISO 2768-m 0.50 40.1 Hålltolerans (30)-120 40.3 Fläkt radi (20)-400 40.5 (40)-1000 40.6 (40)-1000 40.6	Basic dimensions Ax5 w. flag shutter f=7,5 mm to f=100 mm		Bladd/Sheet 7(7) Size A3 Rev T129297 -002	

CE Declaration of Conformity

This is to certify that the System listed below have been designed and manufactured to meet the requirements, as applicable, of the following EU-Directives and corresponding harmonising standards. The systems consequently meet the requirements for the CE-mark.

Directives:

Directive 2004/108/EC; **Electromagnetic Compatibility**
Directive 2006/95/EC; **“Low voltage Directive” (Power Supply)**
Directive 2002/96/EC **Waste electrical and electronic equipment; WEEE**
 (As applicable)

Standards:


Emission: **EN 61000-6-3; Electromagnetic Compatibility**
 Generic standards - Emission

Immunity: **EN 61000-6-2; Electromagnetic Compatibility;**
 Generic standards - Immunity

Safety (Power Supply): **EN 60950; (or other) Safety of information technology**
 equipment

System: **FLIR AXX series**

FLIR Systems AB
Quality Assurance



Björn Svensson
Director