

## P/N: 74307-0101

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### Document identity

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### Website

<http://www.flir.com>

### Customer support

<http://support.flir.com>

### Disclaimer

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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 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)	63° × 50°
Focal length	7.5 mm (0.30 in.)
Spatial resolution (IFOV)	3.33 mrad
F-number	1.4
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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<b>Detector data</b>	
Detector pitch	25 $\mu$ m
Detector time constant	Typical 12 ms
<b>Measurement</b>	
Object temperature range	<ul style="list-style-type: none"> <li>-25 to +135°C (-13 to 275°F)</li> <li>-40 to +550°C (-40 to +1022°F)</li> </ul>
Accuracy	$\pm$ 5°C ( $\pm$ 9°F) or $\pm$ 5% of reading
<b>Measurement analysis</b>	
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
<b>Ethernet</b>	
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"> <li>Signal linear/ DDE</li> <li>Automatic/ Manual</li> <li>Flip H&amp;V</li> </ul> 14-bit 320 x 256 pixels @ 60 Hz <ul style="list-style-type: none"> <li>Signal linear/ DDE</li> <li>Temperature linear</li> </ul> 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
<b>Digital input/output</b>	
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)
Digital output	1x opto-isolated, 2-40 VDC, max. 185 mA
Digital I/O, isolation voltage	500 VRMS

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<b>Digital input/output</b>	
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)
<b>Power system</b>	
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
<b>Environmental data</b>	
Operating temperature range	-15°C to +60°C (+5°F to +140°F)
	<div style="border: 1px solid black; padding: 5px;"> <p> <b>NOTE</b></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"> <li>• EN 61000-6-2 (Immunity)</li> <li>• EN 61000-6-3 (Emission)</li> <li>• FCC 47 CFR Part 15 Class B (Emission)</li> </ul>
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
<b>Physical data</b>	
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 63 (60 Hz, ver. 2016)

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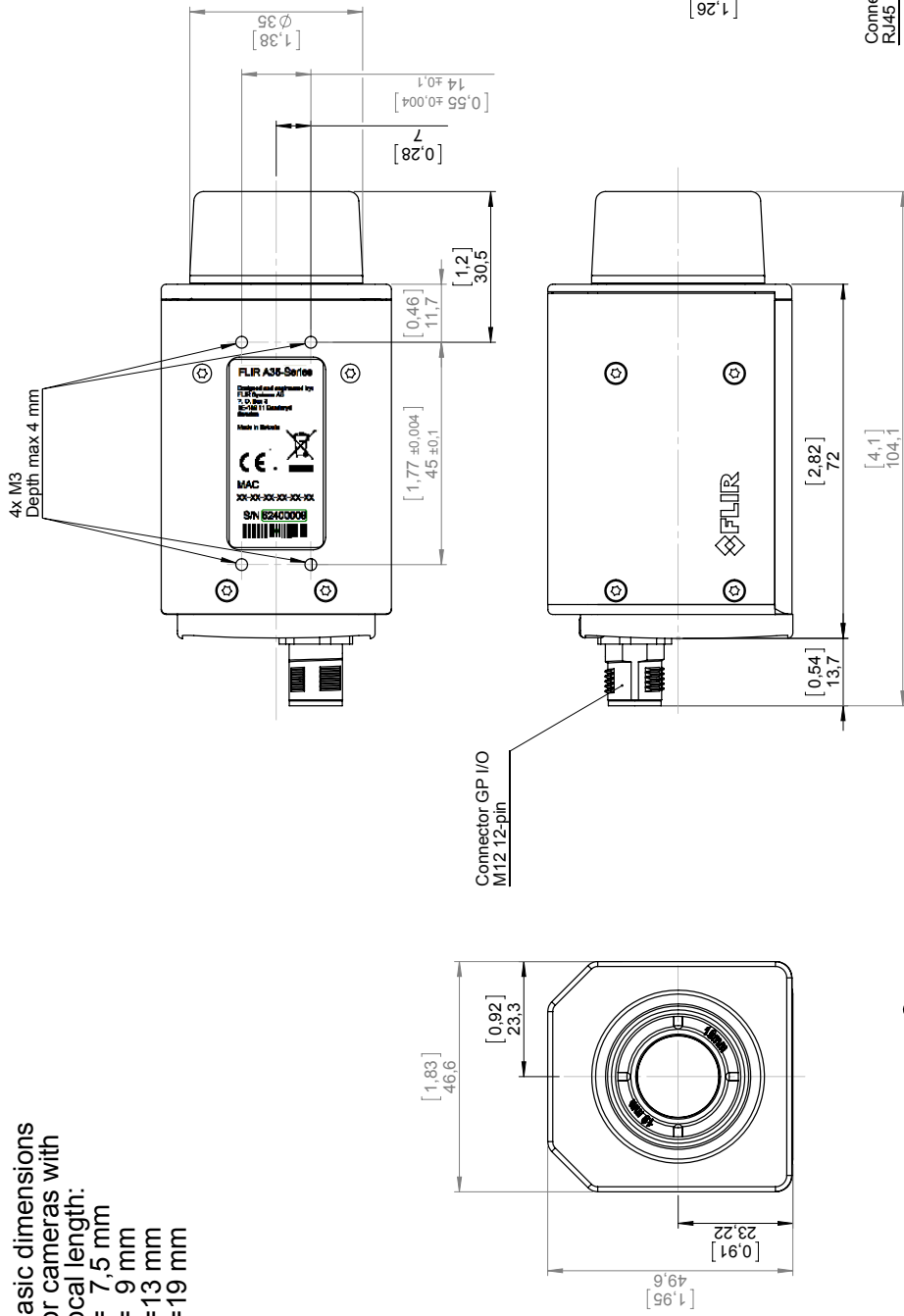
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Shipping information	
Packaging, type	Cardboard box
List of contents	<ul style="list-style-type: none"><li>• Infrared camera with lens</li><li>• Base support</li><li>• Focus adjustment tool</li><li>• Printed documentation</li></ul>
EAN-13	7332558011614
UPC-12	845188012564
Country of origin	Sweden

### Supplies & accessories:

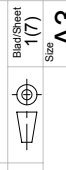
- T951004ACC; Ethernet cable CAT6, 2 m/6.6 ft.
- T198349; Base support
- T198348; Cable kit Mains (UK,EU,US)
- T198392; Table stand kit
- T911183; Gigabit PoE injector 16 W, with multi-plugs
- T127605ACC; Cable M12 Pigtail
- T127606ACC; Cable M12 Sync
- T198342ACC; Focus adjustment tool
- T198594ACC; 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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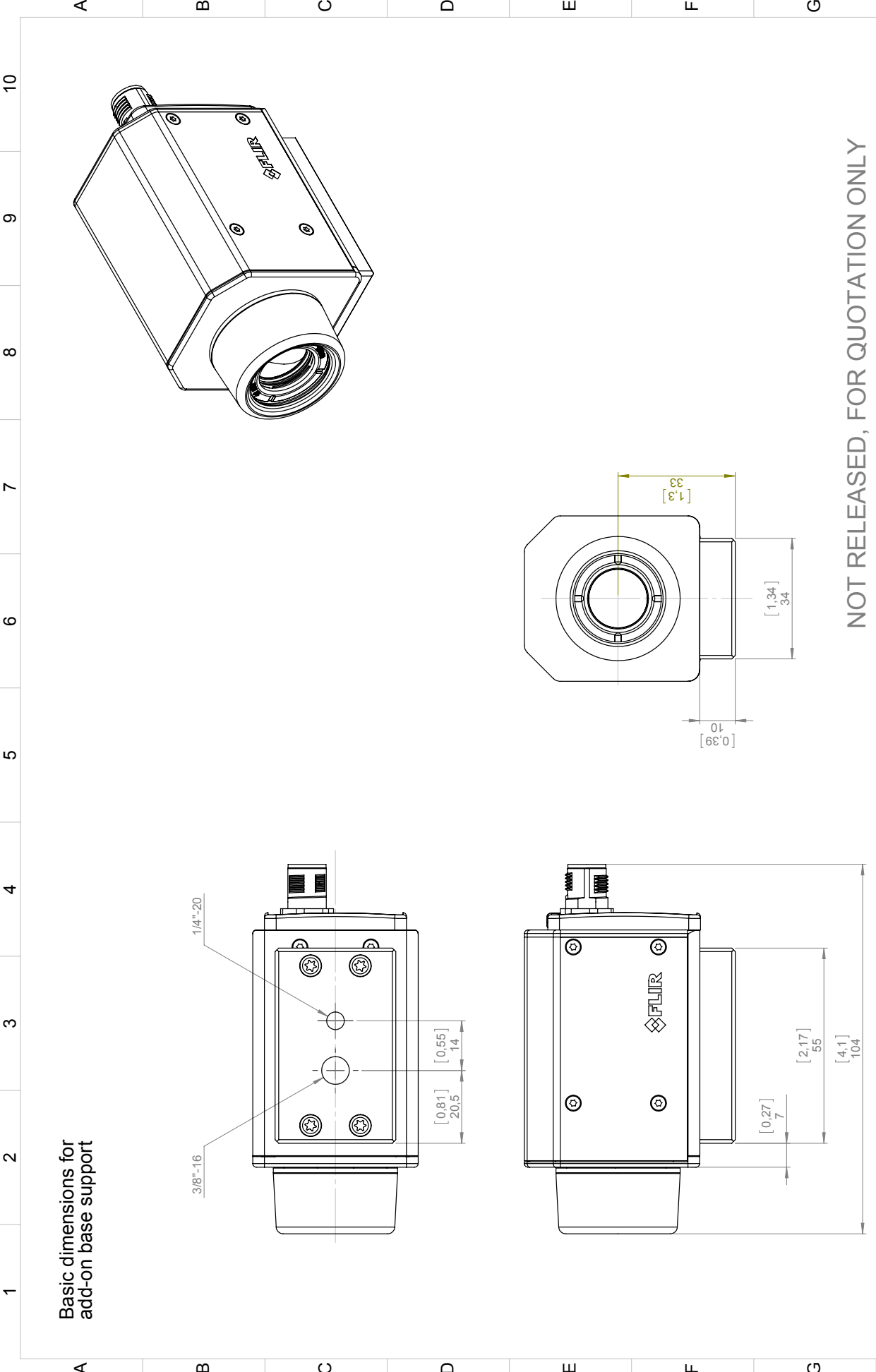
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Datum/Date	2015-12-14	Ytämne/Modified	Ytbehandling/Surface treatment	
Ändrad av/Modified by	P. MARCUS	Ra	µm	
Benämning/Denomination				
Basic dimensions Ax5 w. flag shutter				
f=7,5 mm to f=100 mm				
Dir ej ansvarat/Not responsible otherwise stated		Blatt/Sheet Size		
Genet ISO 2768-mK		1(7)		
Utmått ut/except from ISO 2768-m		ArtNo.		
0,5-6	±0,1	Ritning/Drawing No		
6,0-120	±0,2	T129297		
120-400	±0,5	Rev		
400-1000	±0,8	-002		
		Edges broken		



Rev  
-002

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Basic dimensions for  
add-on base support

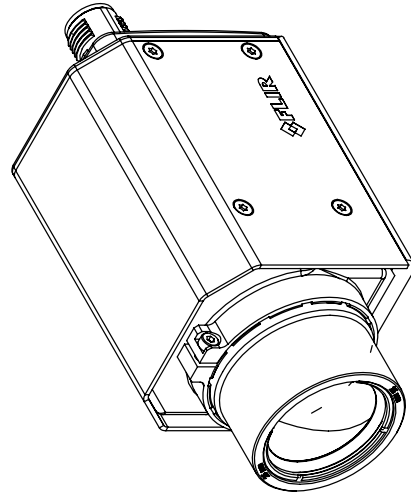
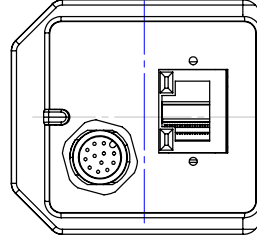
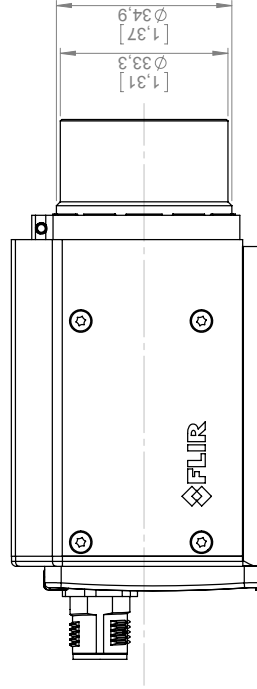
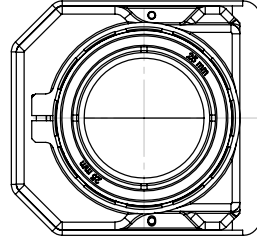
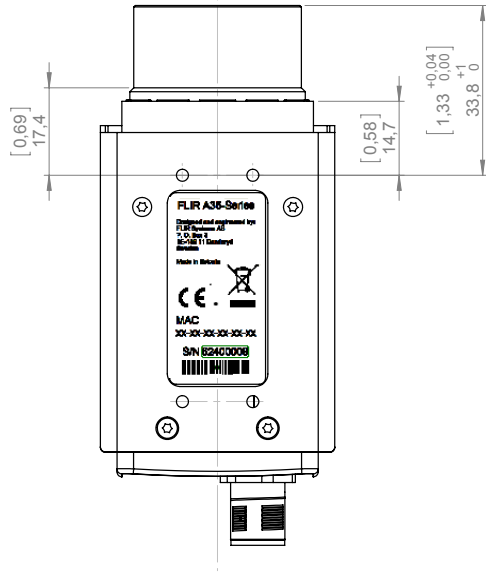
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Ändrad av/Modified by	Ändrad/Modified	Ytfinish/Roughness	Ytbehandling/Surface treatment
P. MARCUS	2015-12-18	Ra	µm
Benämning/Denomination			
Bas för ISO 2768-mK Urtag ur/Exempt from ISO 2768-m 0.5 30 40.1 Hållåtgärder 0.5 30 40.3 Fillet radi 0.20 40.0 40.5 Kanter brutna 0.05 10.0 20.0 Edges broken			
Scale/Scale 1:1 AINo.			
Basic dimensions Ax5 w. flag shutter f=7,5 mm to f=100 mm			
Ritning/Rev		T129297	

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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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Konstr/Drawing		Datum/Date		Material	
P. MARCUS		2015-12-14		-	
Ändrad av/Modified by		Ändrad/Modified		Y-behandling/Surface treatment	
P. MARCUS		2015-12-18		Ra	
Dir. ej annat angavs/Unless otherwise stated		Benämning/Denomination		Stålskala 1:1	
URTRAG ur/Excerpt from ISO 2768-mK		Ra		Blad/Sheet 3(7)	
0,50 30-120 40-100 40-100		40,1 40,3 40,3 40,3		A/Rn	
Hållåtgärder Flät i rad		Kontur brutna 20,0		Rev	
Kantåtgärder 40,0		Kantåtgärder 20,0		Ritn nr/Drawing No	
				T129297	
Basic dimensions Ax5 w. flag shutter				-002	
f=7,5 mm to f=100 mm					



Scale/Scale  
1:1

Blad/Sheet  
3(7)

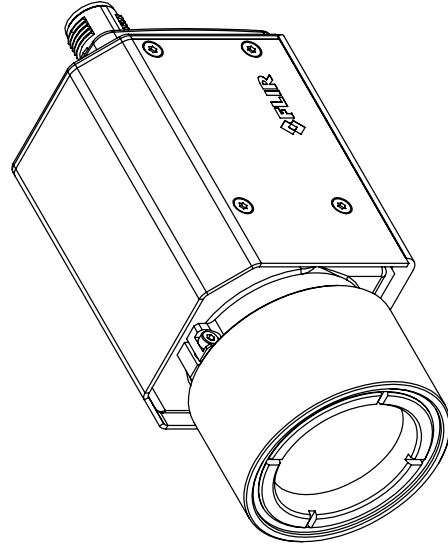
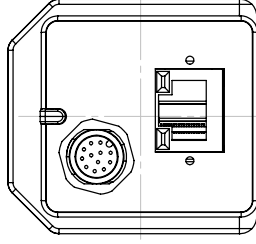
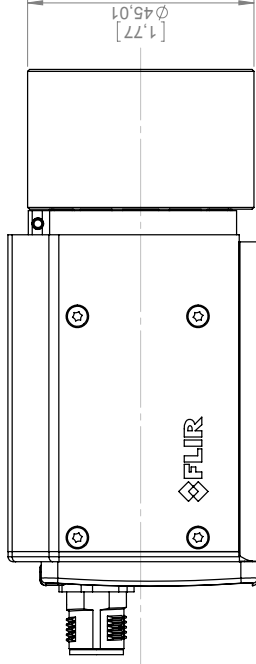
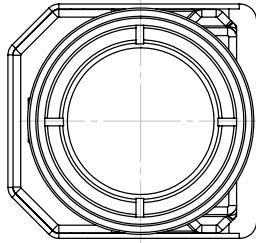
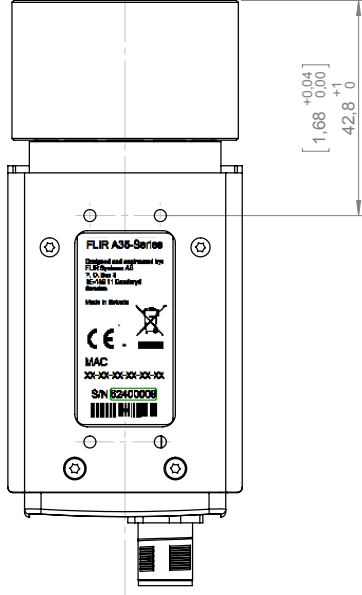
A/Rn

Rev

Ritn nr/Drawing No  
T129297

-002

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.



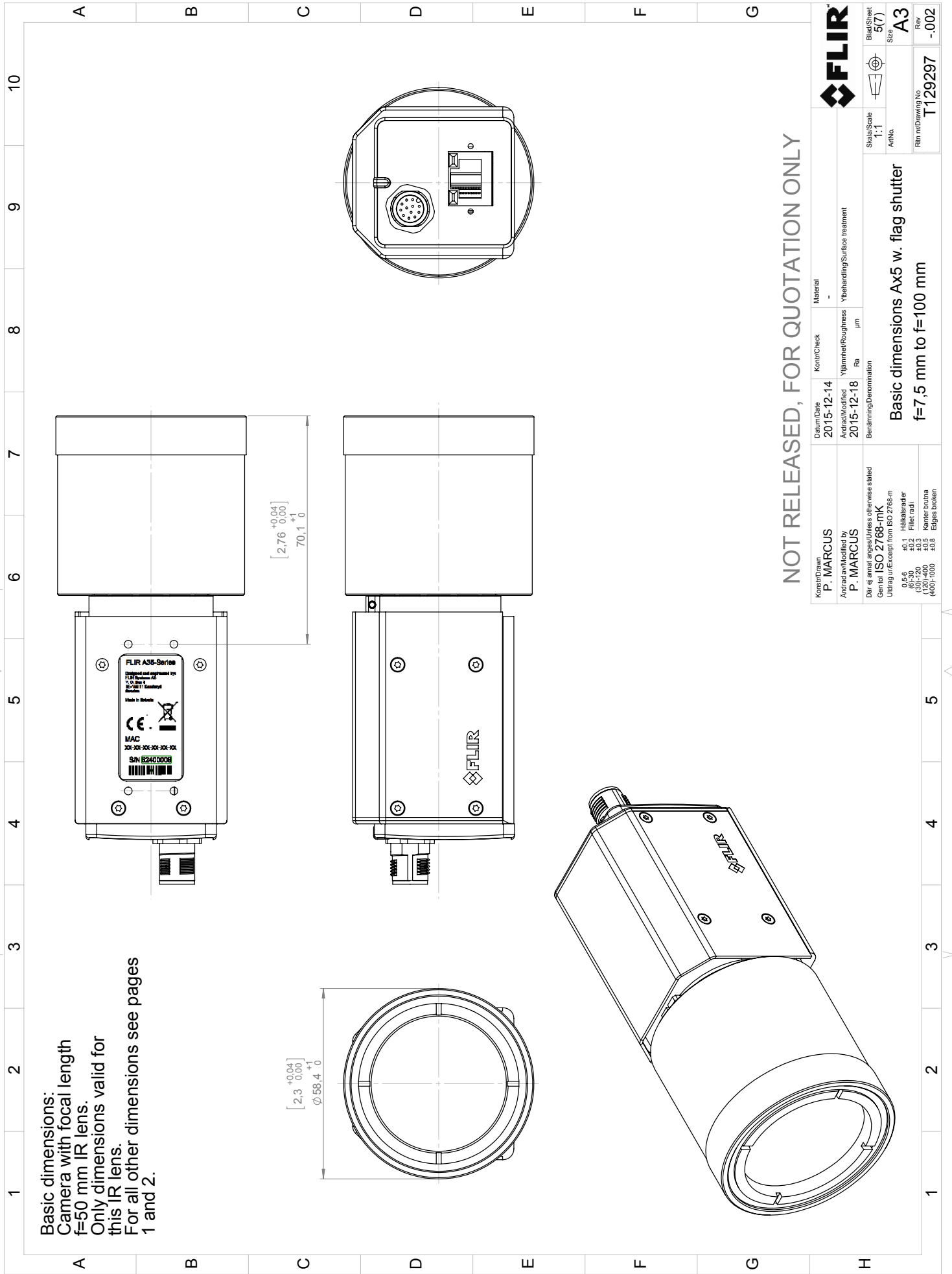
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Konstr/Drawn	P. MARCUS	Datum/Date	2015-12-14	Kontroll/Check	-	Material	-
Ändrad/Modified by	P. MARCUS	Ändrad/Modified	2015-12-18	Ytjämnhet/Roughness	Ra	Y-behandling/Surface treatment	
				Benämning/Denomination	µm		
Där ej annat anges/Unless otherwise stated Genför ISO 2768-mK Utgång ur Exempt from ISO 2768-m		Skala/Scale	1:1	Bladd/Sheet	4(7)	Rev	A3
0,50	40,1	Bladd/Skaler		Artno.		Ritn nr/Drawing No	T129297
(30)-120	40,3	Fläkt/Ear					
(20)-400	40,5	Kant/butna					
(40)-1600	40,6	Äggen/broken					
Basic dimensions Ax5 w. flag shutter f=7,5 mm to f=100 mm							





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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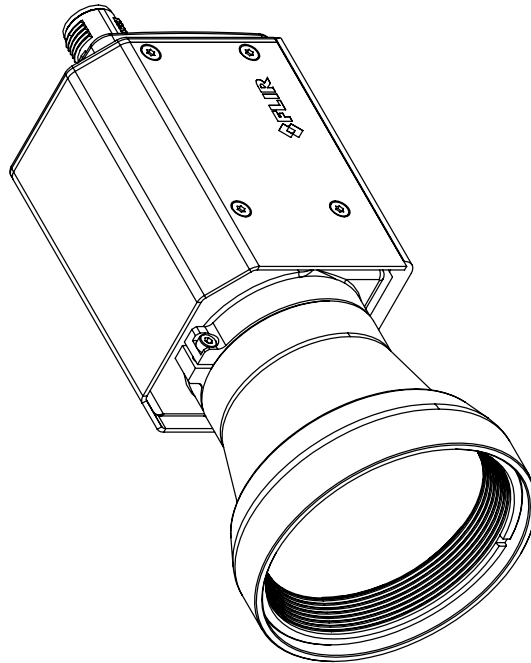
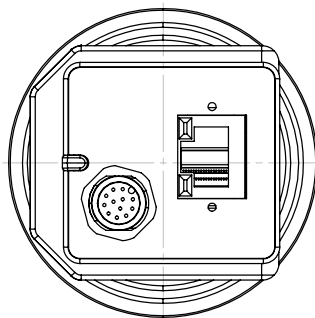
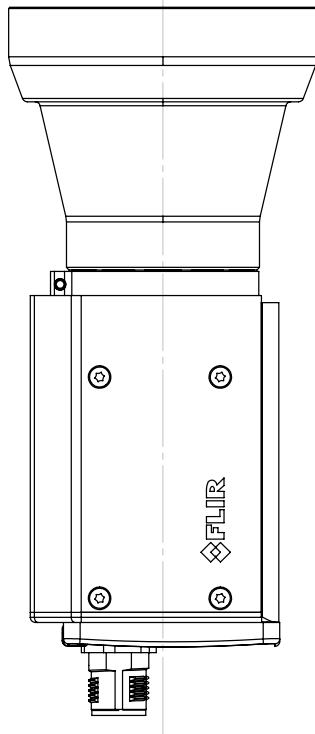
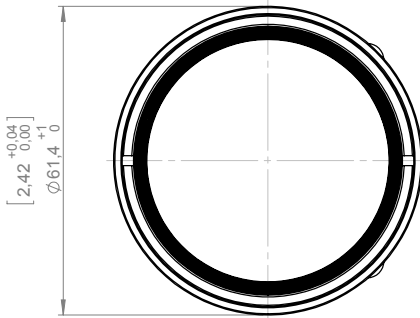
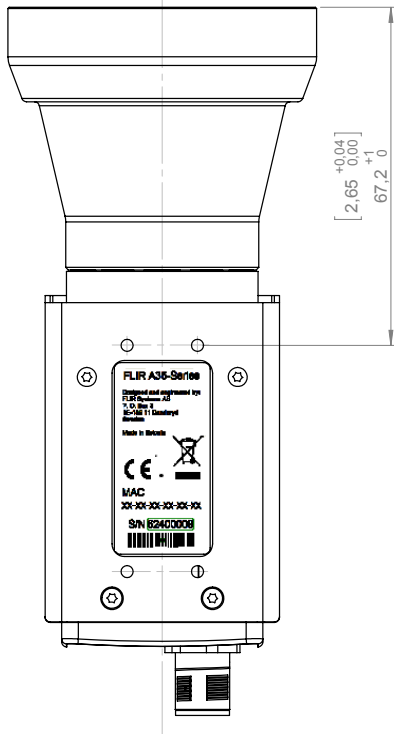
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Scale/Scale 1:1	ArtNo.	Ritm nr/Drawing No T129297	
Konstr/Drawn P. MARCUS	Datum/Date 2015-12-14	Material -	
Ändrad av/Modified by P. MARCUS	Ändrad/Modified 2015-12-18	Kontroll/Check -	Behandling/Surface treatment Y
Dir ej annat angavs/Unless otherwise stated Gen/for ISO 2768-mK	Benämning/Denomination	Ytjämnhet/Roughness Ra	µm
UTRAGE ur/Exempt from ISO 2768-m			
0.50 0.63 0.80 1.00 1.25 1.60 2.00	40.1 50.1 63.0 80.0 100.0 125.0 160.0	Hålsläpstad Flät/Flat	Kantlar brutna Edges broken

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

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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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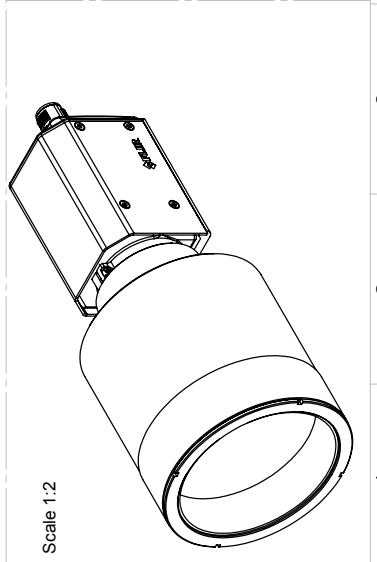
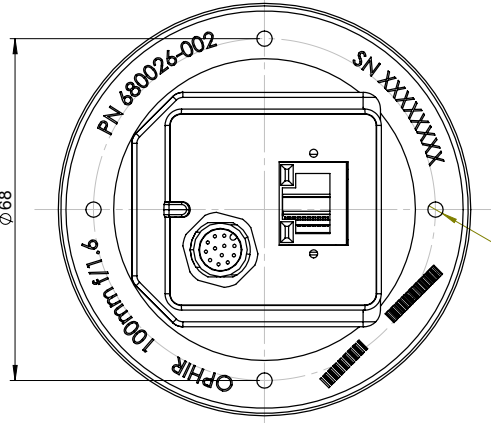
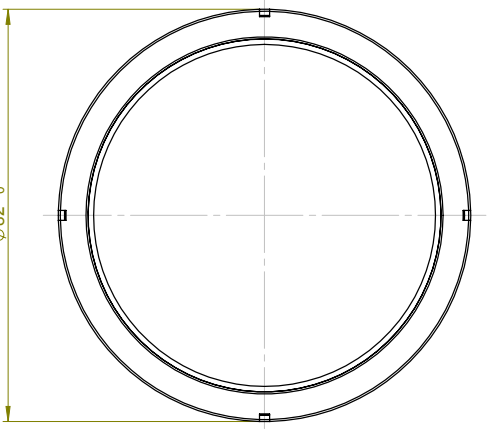
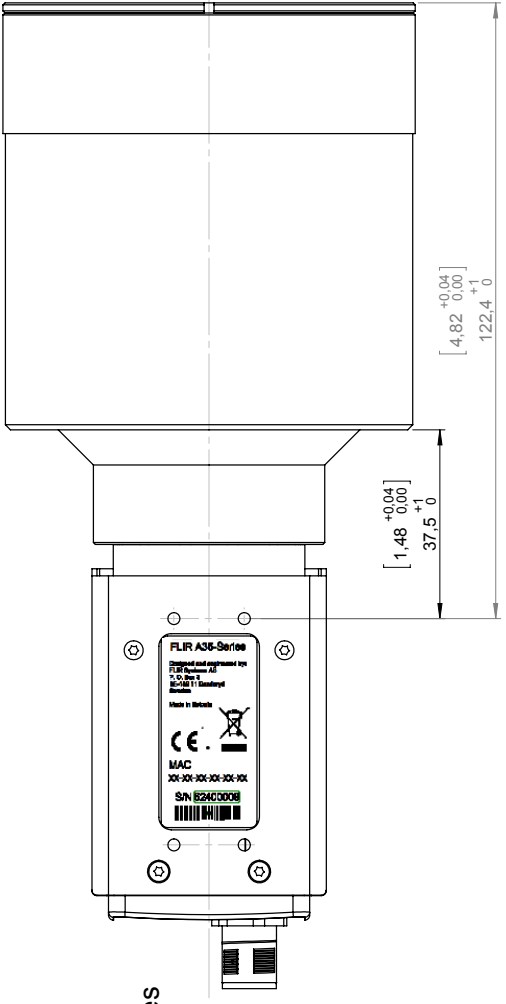
Konstr/Drawn	Datum/Date		Kontroll/Check	Material
P. MARCUS	2015-12-14		-	-
Ändrad av/Modified by	Ändrad/Modified		Ytbehandling/Surface treatment	
P. MARCUS	2015-12-18		Ra	µm
Benämning/Denomination				
Dir ej ansvar angår/Unless otherwise stated				
Genför ISO 2768-mK				
Utmått ur/Exempt from ISO 2768-m				
0,50	40,1	Hållfasthet		
(30)-120	40,3	Flökt/Defl.		
(120)-400	40,5	Kontor brutna		
(40)-1600	40,6	Edgar broten		
Stapel/Scale				
1:1				
AritNo.				
Blad/Sheet				
6(7)				
Size				
A3				
Rev				
T129297				
Ritn nr/Drawing No				
-002				

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



1 2 3 4 5 6 7 8 9 10

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.



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Konstruktör <b>P. MARCUS</b>	Datum/Date	2015-12-14	Kontroll/Check	-	Materiál	-
	Ändrad av/Modified by	<b>P. MARCUS</b>	Ytjämnhet/Roughness	Ra	Ytbehandling/Surface treatment	
	Dir. ej annat angavs/Unless otherwise stated		Benamning/Denomination			
UTMÄTTNINGAR ENKELT FRÅN ISO 2768-m 0,50 40,1 Hållfärdighet (30)-120 40,3 Fil-färdi (40)-400 40,5 Kantfärdighet (40)-1000 40,5 Eggen bryttn		Skalor/Scale 1:1 A1/A4		Bladd/Sheet 7(7) Size A3		Riktning/Rev T129297 -002

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

A B C D E F G H

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July 2, 2013

AQ320030

## 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

A blue ink signature of Björn Svensson, consisting of several loops and a horizontal stroke across the top.  
Björn Svensson  
Director