

## P/N: 74335-0101

### Copyright

© 2016, FLIR Systems, Inc.

All rights reserved worldwide. Names and marks appearing herein are either registered trademarks or trademarks of FLIR Systems and/or its subsidiaries. All other trademarks, trade names or company names referenced herein are used for identification only and are the property of their respective owners.

### Document identity

Publ. No.: 74335-0101

Release:

Commit: 36981

Language: en-US

Modified: 2016-08-24

Formatted: 2016-08-24

### Website

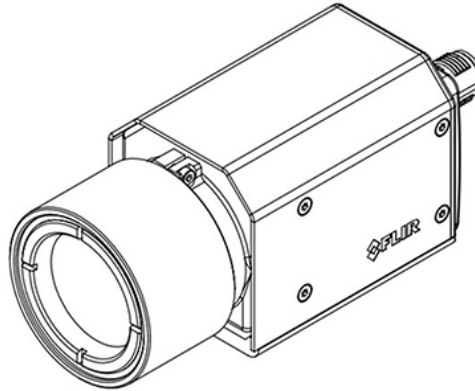
<http://www.flir.com>

### 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](mailto: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)	13° × 10.8°
Focal length	35 mm (1.38 in.)
Spatial resolution (IFOV)	0.714 mrad
F-number	1.2
Image frequency	60 Hz
Focus	Fixed

P/N: 74335-0101

© 2016, FLIR Systems, Inc.


#74335-0101; r. /36981; en-US

<b>Detector data</b>	
Detector type	Focal plane array (FPA), uncooled VOX microbolometer
Spectral range	7.5–13 $\mu\text{m}$
Detector pitch	25 $\mu\text{m}$
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	$\pm 5^\circ\text{C}$ ( $\pm 9^\circ\text{F}$ ) 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)

P/N: 74335-0101

© 2016, FLIR Systems, Inc.

#74335-0101; r. /36981; en-US

<b>Digital input/output</b>	
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)
<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)	116.8 × 49.6 × 46.6 mm (4.6 × 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 13 (60 Hz, ver. 2016)

P/N: 74335-0101

© 2016, FLIR Systems, Inc.

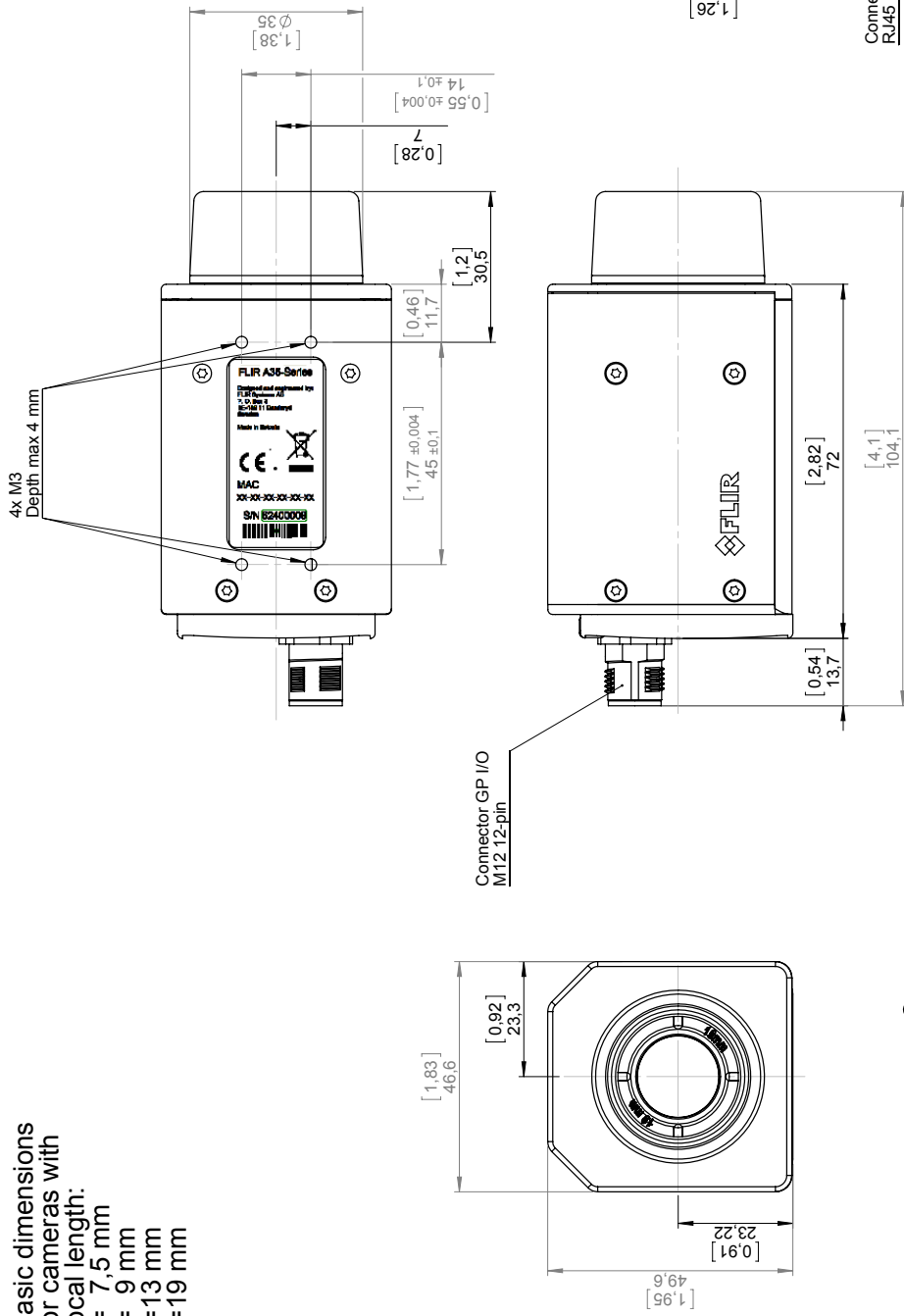
#74335-0101; r. /36981; en-US

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>• Printed documentation</li></ul>
EAN-13	7332558012291
UPC-12	845188013400
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
- 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

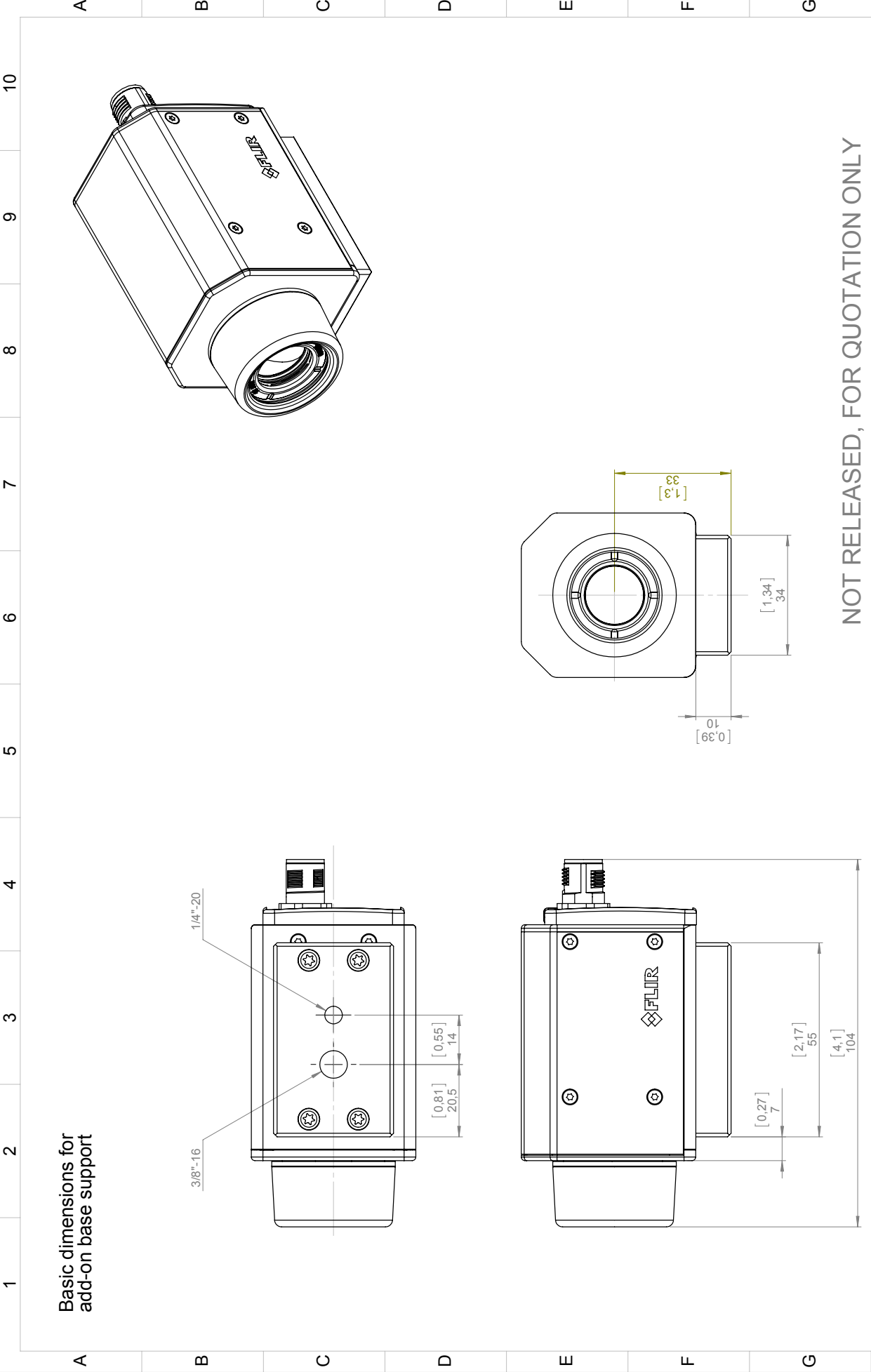
Basic dimensions  
for cameras with  
focal length:  
f= 7,5 mm  
f= 9 mm  
f=13 mm  
f=19 mm



NOT RELEASED, FOR QUOTATION ONLY

<b>FLIR</b> Bild/Sheet Size: 1(7) A3 Rev: -002 RitrinnDrawing No: T129297		Skala/Scale: 1:1 ArtNo.	
Konstr/Drawing: P. MARCUS Datum/Date: 2015-12-14 Ändrad av/Modified by: P. MARCUS 2015-12-18 Benämning/Denomination: Basic dimensions Ax5 w. flag shutter f=7,5 mm to f=100 mm	Kontroll/Check: - Material: Ytbehandling/Surface treatment:	Material: - Ytbehandling/Surface treatment:	Ra: $\mu\text{m}$ Benämning/Denomination:
Där ej annat anges/tillsats annars så tillåts Ultragraf utöver från ISO 2768-m 0,5-6 Hålltoleranser 0,1-320 Fillet radii 120-400 Kanter brutna 400-1000 $\pm 0,8$ Edges broken		Material: - Ytbehandling/Surface treatment:	

Den här handlingen är ett delat dokument och ska inte användas för andra ändamål utan tillstånd från FLIR SYSTEMS AB. Översättning eller andra åtgärder som innebär meddelande av gällande lag, kopiering eller annan kommunikation av dokumentet är förbjuden. Detta dokument ska inte användas för andra ändamål utan tillstånd från FLIR SYSTEMS AB.



Basic dimensions for add-on base support

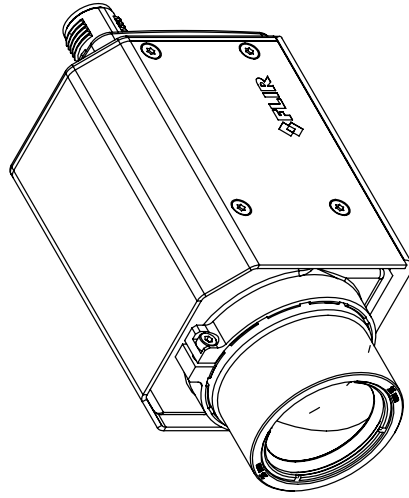
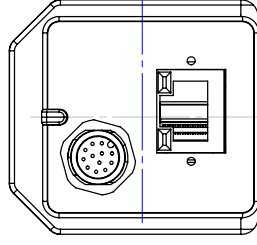
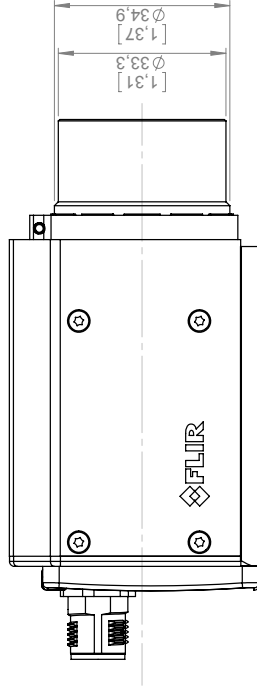
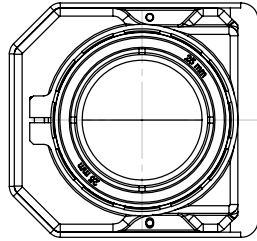
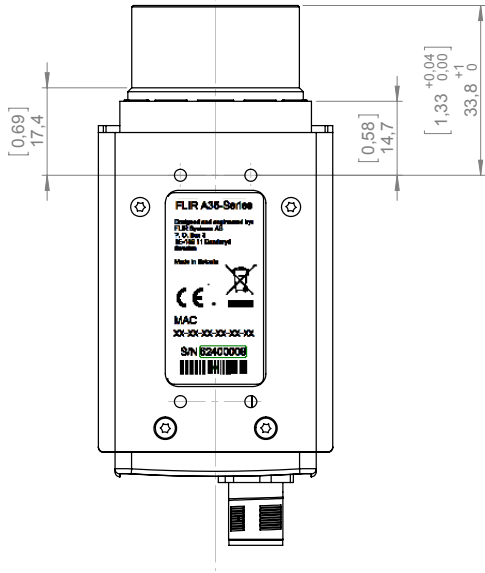
NOT RELEASED, FOR QUOTATION ONLY

				Scale/Scale 1:1 AINo.		Rev T129297	
Konstr/Drawing <b>P. MARCUS</b>		Datum/Date 2015-12-14		Kontr/Check -		Material -	
Använd av/Modified by <b>P. MARCUS</b>		Ändrad/Modified 2015-12-18		Ytjämnhet/Roughness Ra		Ytbehandling/Surface treatment	
Ditt ej annat anges/Unless otherwise stated Gen/Gen ISO 2768-mK		Benämning/Denomination Urtag ur/Exempt from ISO 2768-m		<b>Basic dimensions Ax5 w. flag shutter</b> <b>f=7,5 mm to f=100 mm</b>			
0,50 Hålsläpplar (30)-120 Fillet radi (20)-400 Fillet radi (40)-1600 Ränder brutna 2x3 Edges broken							

FLIR SYSTEMS AB  
 This document must not be communicated or copied completely or in part, without our permission.  
 Any infringement will lead to legal proceedings.

FLIR SYSTEMS AB  
 Detta handling får ej delas ut eller kopieras om inte tillstånd har givits av FLIR SYSTEMS AB.  
 Om någon ändå gör så, kommer det att leda till rättsliga åtgärder.

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.



NOT RELEASED, FOR QUOTATION ONLY

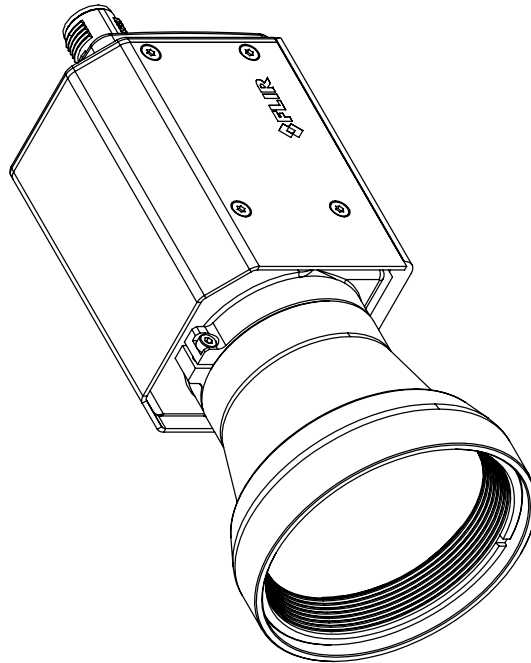
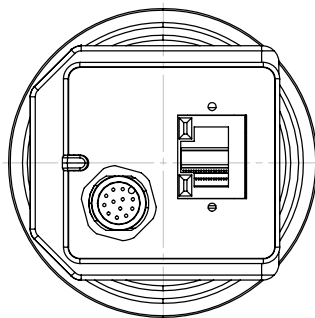
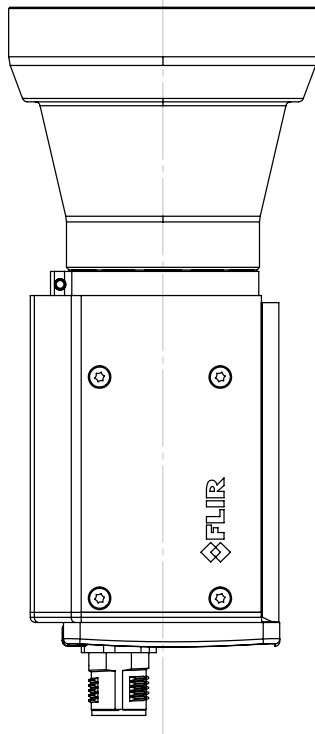
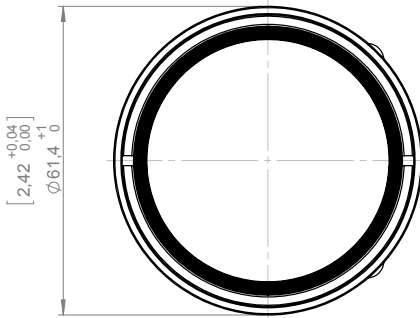
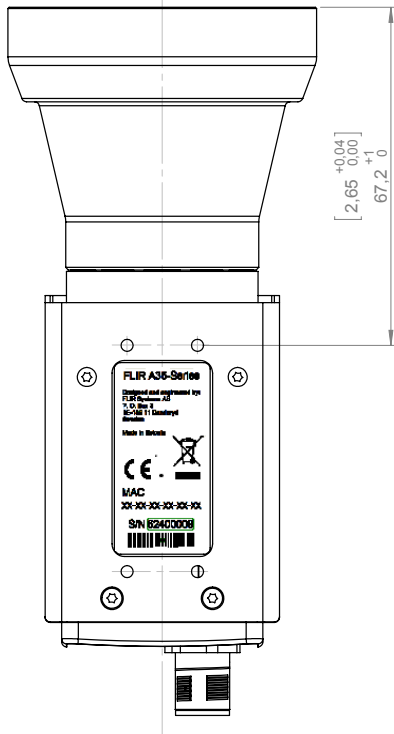
Konstr/Drawing	P. MARCUS		Datum/Date	2015-12-14	Kontroll/Check	-	Material	-
Ändrad av/Modified by	P. MARCUS		Ändrad/Modified	2015-12-18	Ytjämnhet/Roughness	Ra	Ytbehandling/Surface treatment	-
Dir. ej annat angavs/Unless otherwise stated	Gen. tol. ISO 2768-mK		Benämning/Denomination	Basic dimensions Ax5 w. flag shutter f=7,5 mm to f=100 mm				
UTRAGE ur/Exempt from ISO 2768-m	0,50							
0,50	40,1							
(30)-120	40,3							
(120)-400	40,5							
(400)-1600	40,8							
	40,9							
	41,0							
	41,1							
	41,2							
	41,3							
	41,4							
	41,5							
	41,6							
	41,7							
	41,8							
	41,9							
	42,0							
	42,1							
	42,2							
	42,3							
	42,4							
	42,5							
	42,6							
	42,7							
	42,8							
	42,9							
	43,0							
	43,1							
	43,2							
	43,3							
	43,4							
	43,5							
	43,6							
	43,7							
	43,8							
	43,9							
	44,0							
	44,1							
	44,2							
	44,3							
	44,4							
	44,5							
	44,6							
	44,7							
	44,8							
	44,9							
	45,0							
	45,1							
	45,2							
	45,3							
	45,4							
	45,5							
	45,6							
	45,7							
	45,8							
	45,9							
	46,0							
	46,1							
	46,2							
	46,3							
	46,4							
	46,5							
	46,6							
	46,7							
	46,8							
	46,9							
	47,0							
	47,1							
	47,2							
	47,3							
	47,4							
	47,5							
	47,6							
	47,7							
	47,8							
	47,9							
	48,0							
	48,1							
	48,2							
	48,3							
	48,4							
	48,5							
	48,6							
	48,7							
	48,8							
	48,9							
	49,0							
	49,1							
	49,2							
	49,3							
	49,4							
	49,5							
	49,6							
	49,7							
	49,8							
	49,9							
	50,0							
	50,1							
	50,2							
	50,3							
	50,4							
	50,5							
	50,6							
	50,7							
	50,8							
	50,9							
	51,0							
	51,1							
	51,2							
	51,3							
	51,4							
	51,5							
	51,6							
	51,7							
	51,8							
	51,9							
	52,0							
	52,1							
	52,2							
	52,3							
	52,4							
	52,5							
	52,6							
	52,7							
	52,8							
	52,9							
	53,0							
	53,1							
	53,2							
	53,3							
	53,4							
	53,5							
	53,6							
	53,7							
	53,8							
	53,9							
	54,0							
	54,1							
	54,2							
	54,3							
	54,4							
	54,5							
	54,6							
	54,7							
	54,8							
	54,9							
	55,0							
	55,1							
	55,2							
	55,3							
	55,4							
	55,5							
	55,6							
	55,7							
	55,8							
	55,9							
	56,0							
	56,1							
	56,2							
	56,3							
	56,4							
	56,5							
	56,6							
	56,7							
	56,8							
	56,9							
	57,0							
	57,1							
	57,2							
	57,3							
	57,4							
	57,5							
	57,6							
	57,7							
	57,8							
	57,9							
	58,0							
	58,1							
	58,2							
	58,3							
	58,4							
	58,5							
	58,6							
	58,7							
	58,8							
	58,9							
	59,0							
	59,1							
	59,2							
	59,3							
	59,4							
	59,5							
	59,6							
	59,7							
	59,8							
	59,9							
	60,0							
	60,1							
	60,2							
	60,3							
	60,4							
	60,5							
	60,6							
	60,7							
	60,8							
	60,9							
	61,0							
	61,1							
	61,2							
	61,3							
	61,4							
	61,5							
	61,6							
	61,7							
	61,8							
	61,9							
	62,0							
	62,1							
	62,2							
	62,3							
	62,4							
	62,5							
	62,6							
	62,7							
	62,8							
	62,9							
	63,0							
	63,1							
	63,2							
	63,3							
	63,4							
	63,5							
	63,6							
	63,7							
	63,8							
	63,9							
	64,0							
	64,1							
	64,2							
	64,3							
	64,4							
	64,5							
	64,6							
	64,7							
	64,8							
	64,9							
	65,0							
	65,1							
	65,2							
	65,3							
	65,4							
	65,5							
	65,6							
	65,7							
	65,8							
	65,9							
	66,0							
	66,1							
	66,2							
	66,3							
	66,4							
	66,5							
	66,6							
	66,7							
	66,8							
	66,9							
	67,0							
	67,1							
	67,2							
	67,3							
	67,4							
	67,5							
	67,6							
	67,7							
	67,8							
	67,9							
	68,0							
	68,1							
	68,2							
	68,3							
	68,4							
	68,5							
	68,6							
	68,7							
	68,8							
	68,9							
	69,0							
	69,1							
	69,2							
	69,3							
	69,4							
	69,5							
	69,6							
	69,7							
	69,8							
	69,9							
	70,0							
	70,1							
	70,2							
	70,3							
	70,4							
	70,5							
	70,6							
	70,7							
	70,8							
	70,9							
	71,0							
	71,1							
	71,2							
	71,3							
	71,4							
	71,5							
	71,6							
	71,7							
	71,8							
	71,9							
	72,0							
	72,1							
	72,2							
	72,3							
	72,4							
	72,5							
	72,6							
	72,7							
	72,8							
	72,9							
	73,0							
	73,1							
	73,2							
	73,3							
	73,4							
	73,5							
	73,6							
	73,7							
	73,8							
	73,9							
	74,0							
	74,1							
	74,2							
	74,3							
	74,4							
	74,5							
	74,6							
	74,7							
	74,8							
	74,9							
	75,0							







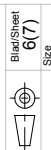
Basic dimensions:  
 Camera with focal length  
 f=60 mm IR lens.  
 Only dimensions valid for  
 this IR lens.  
 For all other dimensions see pages  
 1 and 2.



NOT RELEASED, FOR QUOTATION ONLY

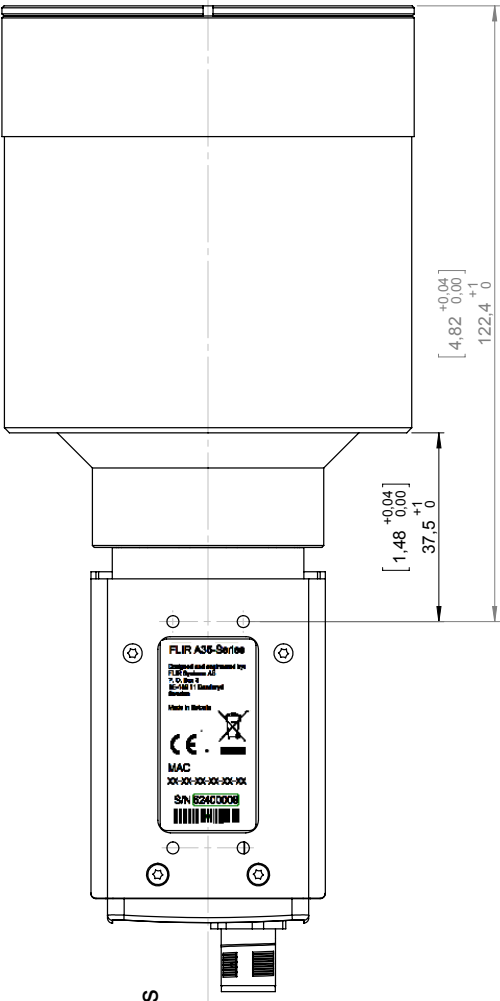
Konstr/Drawn	Datum/Date		Kontroll/Check	Material
P. MARCUS	2015-12-14		-	-
Ändrad av/Modified by	Ändrad/Modified		Ytbehandling/Roughness	Ytbehandling/Surface treatment
P. MARCUS	2015-12-18		Ra	µm
Benämning/Denomination				
Dir ej ansvar ängas/Unless otherwise stated				
Genför ISO 2768-mK				
Utmått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

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

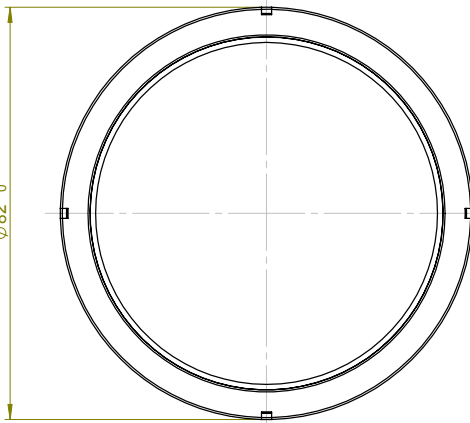


Rev  
 -002

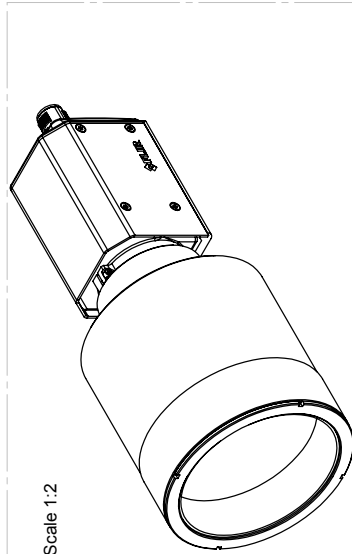
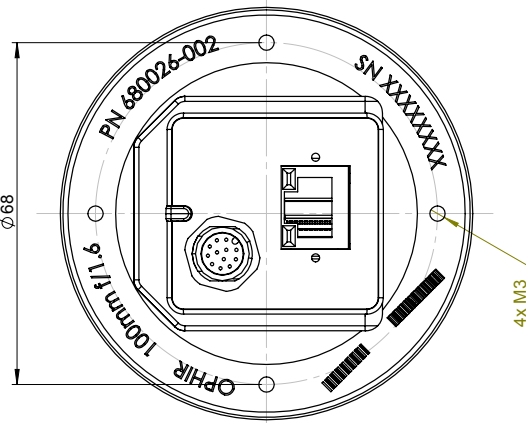
Basic dimensions:  
 Camera with focal length  
 f=100 mm IR lens.  
 Only dimensions valid for  
 this IR lens.  
 For all other dimensions see pages  
 1 and 2.



[ 3,23 0,00 ]  
 Ø82,0



[ 2,68 ]  
 Ø68



Scale 1:2

NOT RELEASED, FOR QUOTATION ONLY

Konstruktör/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	-
Dir. ej annat anges/Unless otherwise stated	Central ISO 2768-mK	Benämning/Denomination		µm			
UTdrag ur/Excerpt from ISO 2768-m	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						
	125,00						
	160,00						
	200,00						
	250,00						
	315,00						
	400,00						
	500,00						
	630,00						
	800,00						
	1000,00						
	1250,00						
	1600,00						
	2000,00						
	2500,00						
	3150,00						
	4000,00						
	5000,00						
	6300,00						
	8000,00						
	10000,00						
	12500,00						
	16000,00						
	20000,00						
	25000,00						
	31500,00						
	40000,00						
	50000,00						
	63000,00						
	80000,00						
	100000,00						
	125000,00						
	160000,00						
	200000,00						
	250000,00						
	315000,00						
	400000,00						
	500000,00						
	630000,00						
	800000,00						
	1000000,00						
	1250000,00						
	1600000,00						
	2000000,00						
	2500000,00						
	3150000,00						
	4000000,00						
	5000000,00						
	6300000,00						
	8000000,00						
	10000000,00						
	12500000,00						
	16000000,00						
	20000000,00						
	25000000,00						
	31500000,00						
	40000000,00						
	50000000,00						
	63000000,00						
	80000000,00						
	100000000,00						
	125000000,00						
	160000000,00						
	200000000,00						
	250000000,00						
	315000000,00						
	400000000,00						
	500000000,00						
	630000000,00						
	800000000,00						
	1000000000,00						
	1250000000,00						
	1600000000,00						
	2000000000,00						
	2500000000,00						
	3150000000,00						
	4000000000,00						
	5000000000,00						
	6300000000,00						
	8000000000,00						
	10000000000,00						
	12500000000,00						
	16000000000,00						
	20000000000,00						
	25000000000,00						
	31500000000,00						
	40000000000,00						
	50000000000,00						
	63000000000,00						
	80000000000,00						
	100000000000,00						
	125000000000,00						
	160000000000,00						
	200000000000,00						
	250000000000,00						
	315000000000,00						
	400000000000,00						
	500000000000,00						
	630000000000,00						
	800000000000,00						
	1000000000000,00						
	1250000000000,00						
	1600000000000,00						
	2000000000000,00						
	2500000000000,00						
	3150000000000,00						
	4000000000000,00						
	5000000000000,00						
	6300000000000,00						
	8000000000000,00						
	10000000000000,00						
	12500000000000,00						
	16000000000000,00						
	20000000000000,00						
	25000000000000,00						
	31500000000000,00						
	40000000000000,00						
	50000000000000,00						
	63000000000000,00						
	80000000000000,00						
	100000000000000,00						
	125000000000000,00						
	160000000000000,00						
	200000000000000,00						
	250000000000000,00						
	315000000000000,00						
	400000000000000,00						
	500000000000000,00						
	630000000000000,00						
	800000000000000,00						
	1000000000000000,00						
	1250000000000000,00						
	1600000000000000,00						
	2000000000000000,00						
	2500000000000000,00						
	3150000000000000,00						
	4000000000000000,00						
	5000000000000000,00						
	6300000000000000,00						
	8000000000000000,00						
	10000000000000000,00						
	12500000000000000,00						
	16000000000000000,00						
	20000000000000000,00						
	25000000000000000,00						
	31500000000000000,00						
	40000000000000000,00						
	50000000000000000,00						
	63000000000000000,00						
	80000000000000000,00						
	100000000000000000,00						
	125000000000000000,00						
	160000000000000000,00						
	200000000000000000,00						
	250000000000000000,00						
	315000000000000000,00						
	400000000000000000,00						
	500000000000000000,00						
	630000000000000000,00						
	800000000000000000,00						
	1000000000000000000,00						
	1250000000000000000,00						
	1600000000000000000,00						
	2000000000000000000,00						
	2500000000000000000,00						
	3150000000000000000,00						

