

FLIR A35 f=9 mm with SC kit

P/N: 73309-0102

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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 320 x 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 (40 mm x 43 mm x 106 mm).
- GigE Vision and GenICam compliant.
- GigE Vision lockable connector.
- PoE (power over Ethernet).
- 8-bit 320 x 256 pixel images streamed at 60 Hz, signal linear.
- 14-bit 320 x 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 x 256 pixels
Thermal sensitivity/NETD	< 0.05°C @ +30°C (+86°F) / 50 mK
Field of view (FOV)	48° x 39°
Minimum focus distance	3.2 cm (1.6 in.)
Focal length	9 mm (0.35 in.)
Spatial resolution (IFOV)	2.78 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
Detector pitch	25 µm
Detector time constant	Typical 12 ms

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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	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
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	1x, 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	1x, 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 +50°C (+5°F to +122°F) <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  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. </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 (IEC 60068-2-6)
Physical data	
Weight	0.200 kg (0.44 lb.)
Camera size (L × W × H)	106 × 40 × 43 mm (4.2 × 1.6 × 1.7 in.)
Tripod mounting	1 × UNC 1/4"-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	<ul style="list-style-type: none"> Hard transport case Infrared camera with lens Base support Cable tie (2 ea.) Ethernet cable CAT-6, 2m/6.6 ft (2 ea.) FLIR ResearchIR Standard 4 Focus adjustment tool Gooseneck Mains cable kit (UK,EU,US) PoE Injector (power over Ethernet) Printed documentation Table stand
Packaging, weight	



FLIR A35 f=9 mm with SC kit

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Shipping information	
Packaging, size	370 × 180 × 320 mm (14.6 × 7.1 × 12.6 in.)
EAN-13	7332558010570
UPC-12	845188011246
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
- T199356; FLIR Ax5 accessory starter kit
- 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
- 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

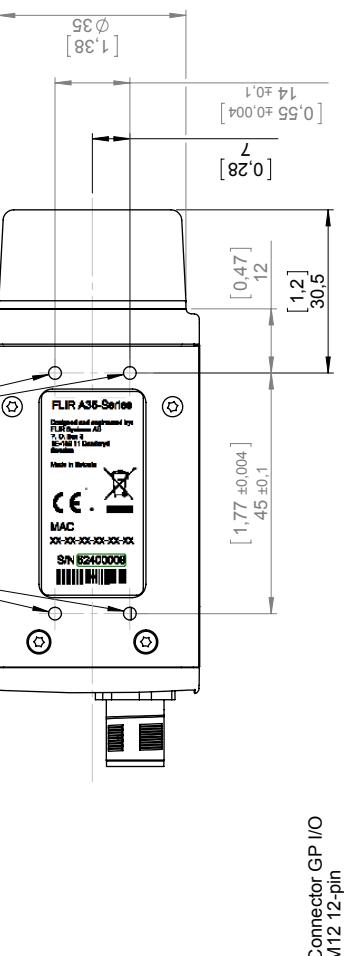
10

9

8

Basic dimensions
for cameras with
focal length:
 $f = 7,5 \text{ mm}$
 $f = 9 \text{ mm}$
 $f = 13 \text{ mm}$
 $f = 19 \text{ mm}$

A



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C

C

D

D

E

E

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G

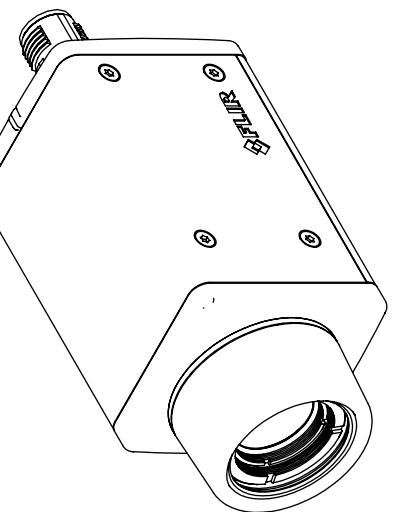
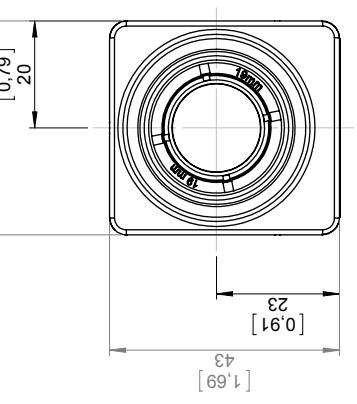
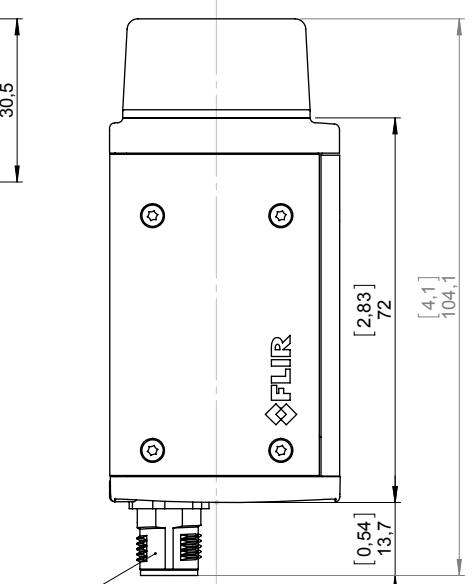
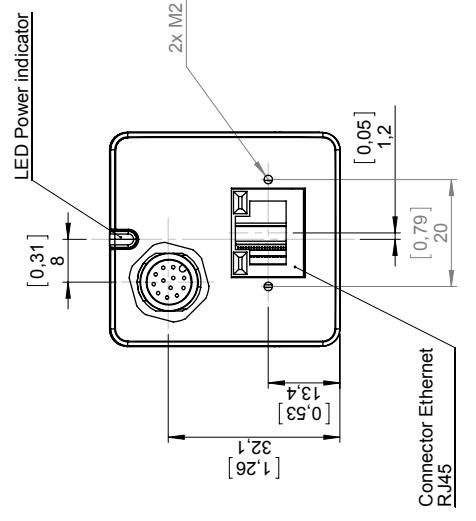
G

B

B

H

H



FLIR		Sheet/Size	1.1
		ArtNo.	A3
		Rain mfd Drawing No	T128116
		Rev	A
		Blaad/Sheet	1(7)

Basic dimensions Ax5
 $f=7,5 \text{ mm to } f=100 \text{ mm}$

Konstr/Drawn	P. MARCUS	Datum/Date	2014-01-29	Kontroll/Check	MABR	Material
Ändrad av/Modified by	P. MARCUS	Ändrad/Modified	2014-02-11	Ytjämmer/Roughness	Ytbehandling/Surface treatment	
Där ej annat anges/Unless otherwise stated				Ra	μm	
Gen ISO 2768-mK						
Utdrag ur Excerpt from ISO 2768-m						
Halksradien						
(6)-30	10.1					
(30)-120	10.2					
(120)-400	10.3					
(400)-1000	10.5					
Kanter bruta						
Edges broken						

1 2 3 4 5 6 7 8 9 10

A B C D E F G H

Basic dimensions for add-on base support

1/4"-20

3/8"-16

[0.81]

[0.55]

[14]

[20.5]

[0.28]

[2.17]

[4.1]

[7]

[55]

[104]

10

Basic dimensions Ax5
f=7,5 mm to f=100 mm

1	2	3	4	5	6	7	8	9	10
FLIR									
Konstr./Drawn P. MARCUS									
Ändrad av/Modified by P. MARCUS									
Där ej annat inges.Unless otherwise stated									
Gen tol ISO 2768-1K									
Utdr. utv. except from ISO 2768-1m									
Höjdskifte 0.5-6 (6-30)									
Fillets 0.2 (0.2-0.5)									
Kantradius 40 (120)-400									
Edges 0.8 (400)-1000									
Ritn nr/Drawing No T128116									
Skala/Scale 1:1									
Art.no.									
Bt Size									
MABR									
Material									
Kont/Chek									
Datum/Date 2014-01-29									
Ändrat/Modified 2014-02-11									
Ytbehandling/Surface treatment Ra µm									
Benämning/Denomination									

[33]

[1.34]

[34]

[10]

[0.4]

Basic dimensions for add-on base support

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9
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A

B

C

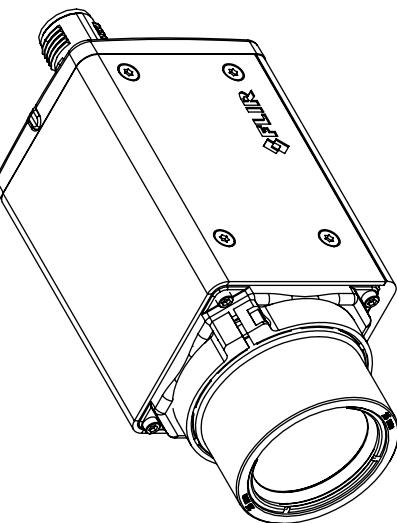
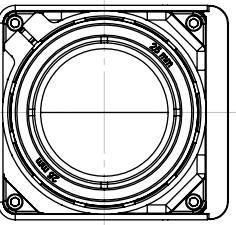
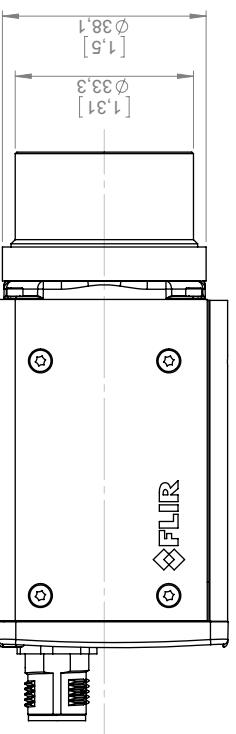
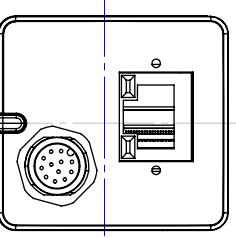
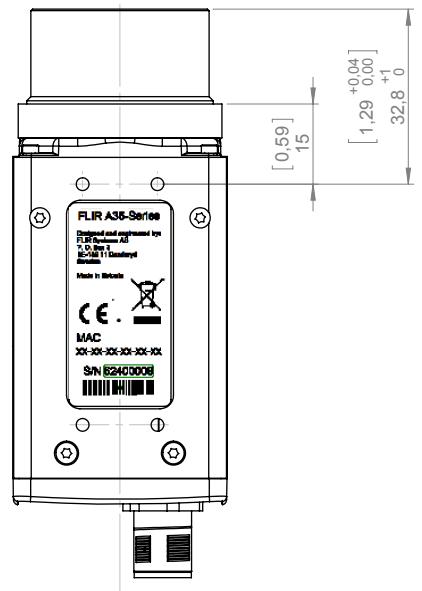
D

E

F

G

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.

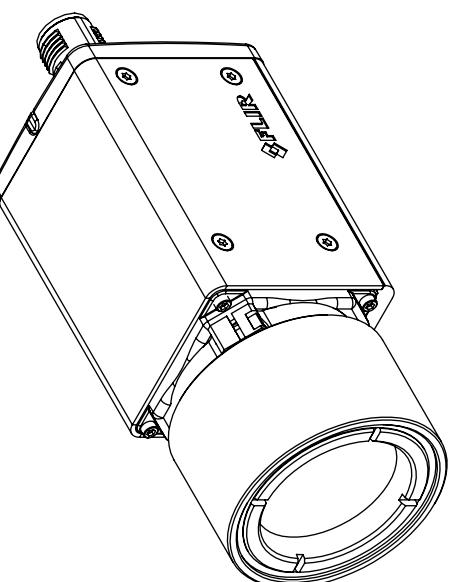
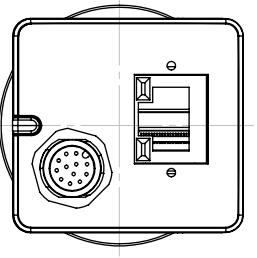
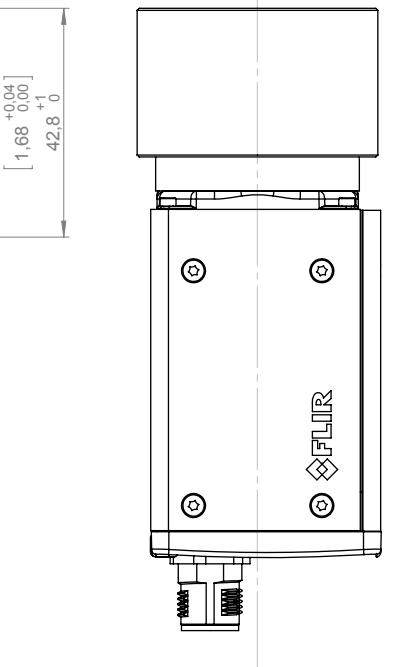
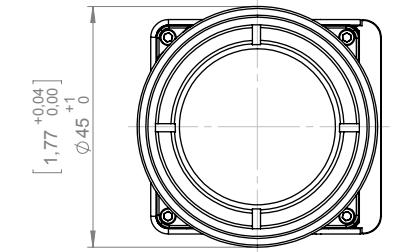
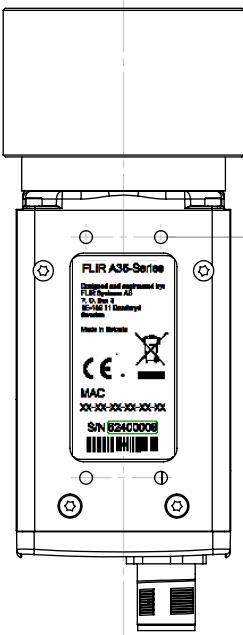


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Rev A	Blad/Sheet 3(7)
A3	Size
T128116	Ref no/drawing no
	Date 10/10/2012
	Author/Check
	MABR
	Material
P. MARCUS	Datum/Date 2014-01-29
	Ändrad av/Modified by P. MARCUS
	Ytjämnhet/Roughness Ra μm
	Benämning/Denomination
Konstr/Drawn P. MARCUS	Gren till ISO 2768-mK Uttag unEcept from ISO 2768-m
Ändrad av/Modified by P. MARCUS	Halkalsradier (8)-30 ± 0.1
	Fillet radii (30)-120 ± 0.2
	Kanter bruta (120)-400 ± 0.3
	Edges broken (400)-1000 ± 0.8
Där ej annat anges/unless otherwise stated	

Basic dimensions Ax5
 $f=7,5$ mm to $f=100$ mm

1 2 3 4 5 6 7 8 9 10

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



A	B	C	D	E	F	G	H
1	2	3	4	5	6	7	8
1	2	3	4	5	6	7	8
1	2	3	4	5	6	7	8
1	2	3	4	5	6	7	8
1	2	3	4	5	6	7	8
1	2	3	4	5	6	7	8
1	2	3	4	5	6	7	8

FLIR	Rev A
FLIR SYSTEMS AB	4(7)
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SE-177 30 Göteborg	Blad/Sheet
Sweden	4(7)
Phone: +46 31 700 80 00	Rev A
Fax: +46 31 700 80 01	
E-mail: info@flir.se	
www.flir.se	

Basic dimensions Ax5
 $f=7,5$ mm to $f=100$ mm

Konstr/Drawn	Datum/Date	Kont/Chek	Material
P. MARCUS	2014-01-29	MABR	-
Ändrad av/Modified by	2014-02-11	Ytjämhet/Roughness	Ytbehandling/Surface treatment
P. MARCUS	Ra	µm	µm
Där ej annat anges/unless otherwise stated			
Gen to ISO 2768-mK			
Utdrag ur/EExcerpt from ISO 2768-m			
0.5-6	±0.1	Halkalsradier	
(8)-30	±0.2	Fillet radi	
(30)-120	±0.3	Kanter bruta	
(120)-400	±0.5	Edges broken	
(400)-1000	±0.8		

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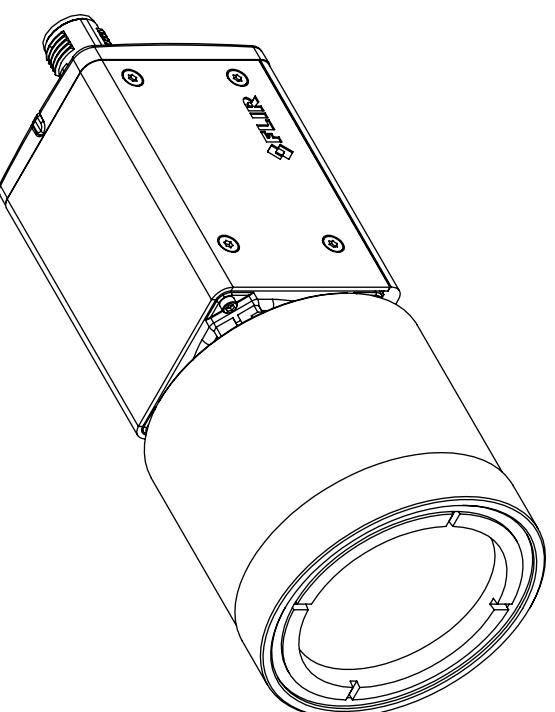
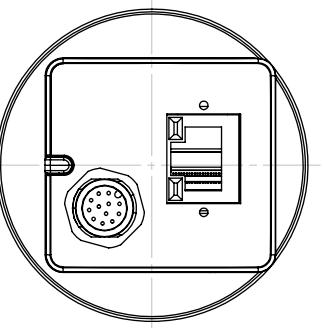
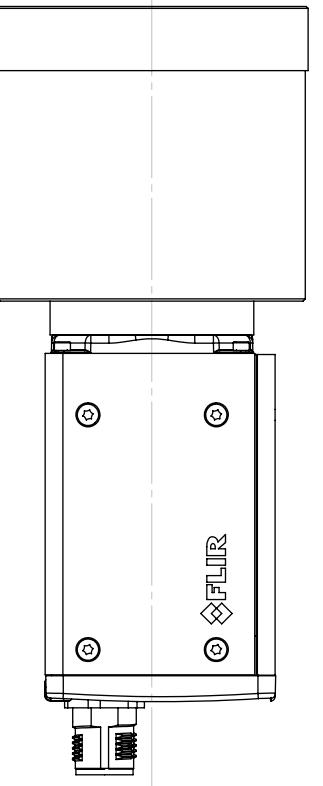
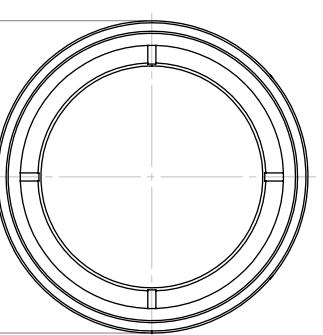
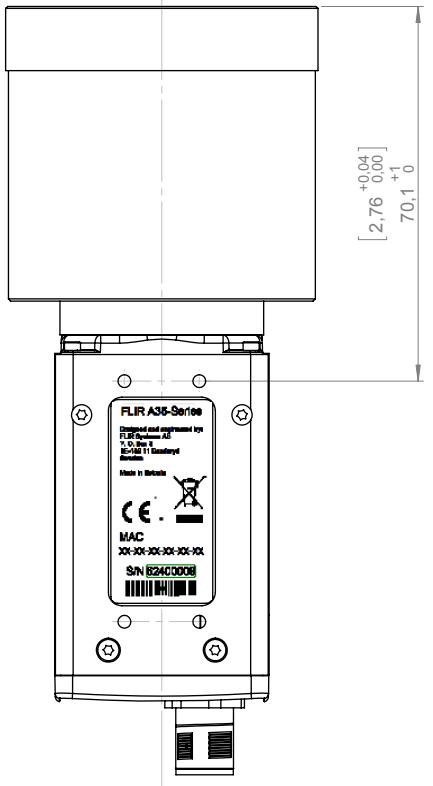
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3

2

1

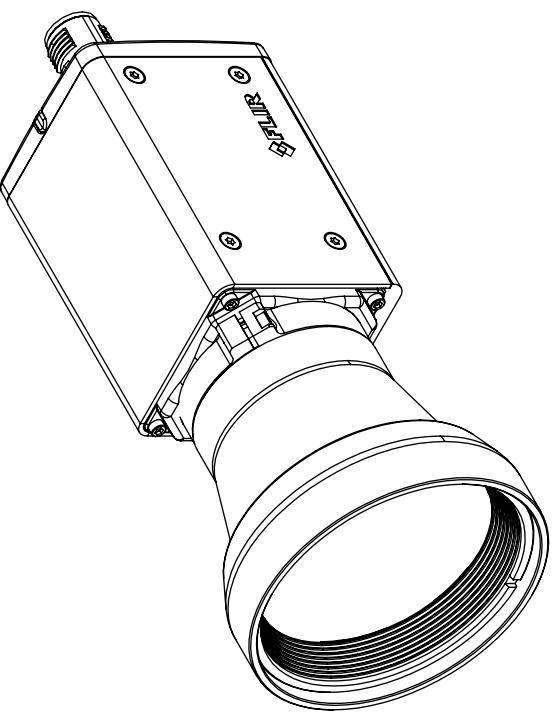
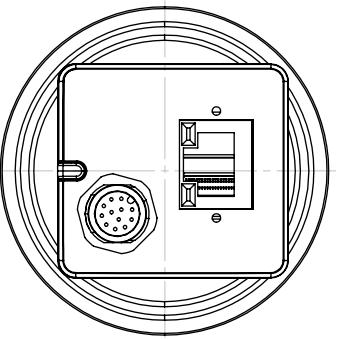
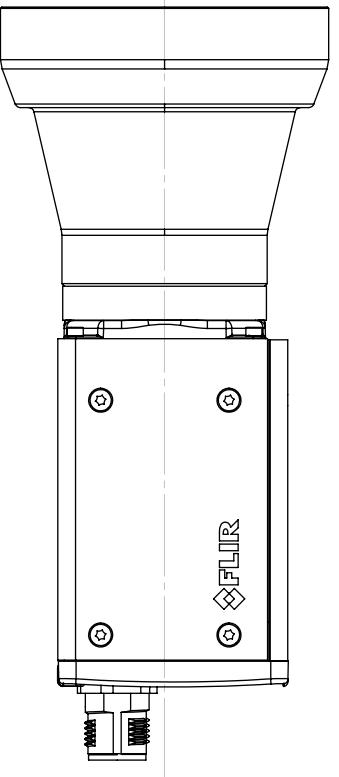
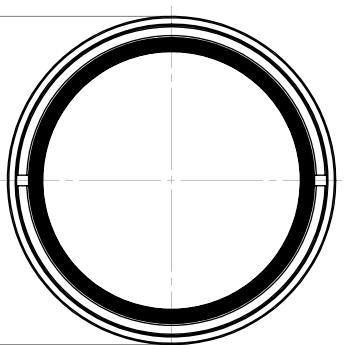
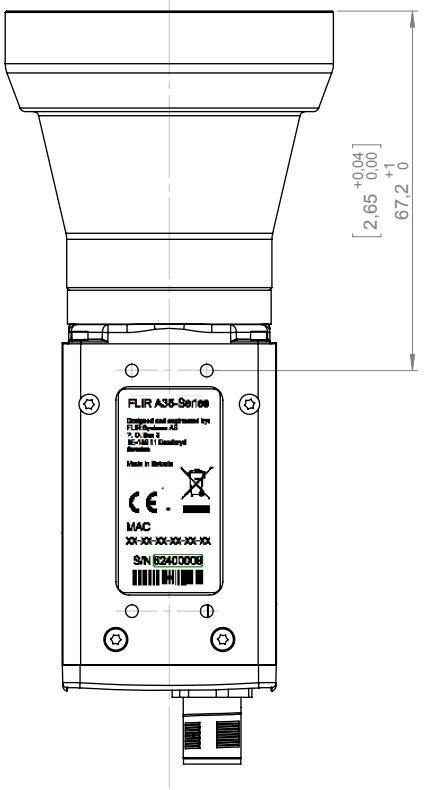
Basic dimensions:
Camera with focal length
f=50 mm IR lens.
Only dimensions valid for
this IR lens.
For all other dimensions see pages
1 and 2.



FLIR	
Rev A	Blad 5/7
A3	Size A
T128116	Drafnr Drawing No
	Page 1 of 1
Basic dimensions Ax5	
f=7,5 mm to f=100 mm	
Konstr/Drawn P. MARCUS	Datum/Date 2014-01-29
Ändrad/Modified by P. MARCUS	Ändrad/Modified 2014-02-11
Där ej annat anger/Unless otherwise stated	Kont/Chek MABR
Gen ISO 2768-mK Utdrag ur/EExcerpt from ISO 2768-m	Ytjämhet/Roughness
0,5-6 (8)-30	Ra
±0,1 ±0,2 (30)-120	µm
Halkalsradier Fillet radii	
0,3 0,5 (120)-400	
Kanter bruta Edges broken	
0,8 0,8 (400)-1000	
Bemärke! Detta är en teknisk ritning och måste inte överensstämma med den faktiska produkten. Denne handling er et teknisk tegning og skal ikke overensstamme med den faktiske produkten. Denna handling är en teknisk ritning och måste inte överensstämma med den faktiska produkten. THIS DOCUMENT MUST NOT BE COMMUNICATED OR COPIED COMpletely OR IN PART, WITHOUT THE PERMISSION OF FLIR SYSTEMS AB FLIR SYSTEMS AB Är ej tillämplig för teknisk utveckling. Any infringement will lead to legal procedure.	

1 2 3 4 5 6 7 8 9 10

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.



FLIR*		Datum/Date 2014-01-29	Kotir/Chek MABR	Material -	Surface treatment	Scale/Scale 1:1	ArtNo.	Blad/Sheet 6(7)	Size A3								
Andrad/Modified by P. MARCUS																	
Där ej annat anger/Unless otherwise stated																	
Gen to ISO 2768-mK	Utdrag ur/EExcerpt from ISO 2768-m																
Där ej annat anger/Unless otherwise stated																	
0.5-6	±0.1	Halkalsradier															
(6)-30	±0.2	Fillet radi															
(30)-120	±0.3	Kanter bruta															
(120)-400	±0.5	Edges broken															
(400)-1000	±0.8																

Basic dimensions Ax5
 $f=7,5$ mm to $f=100$ mm

10

8

6

4

3

2

1

A

B

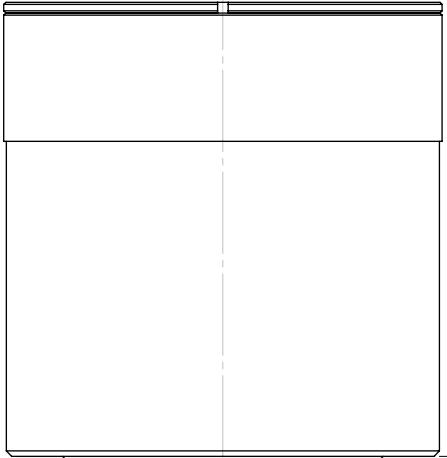
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D

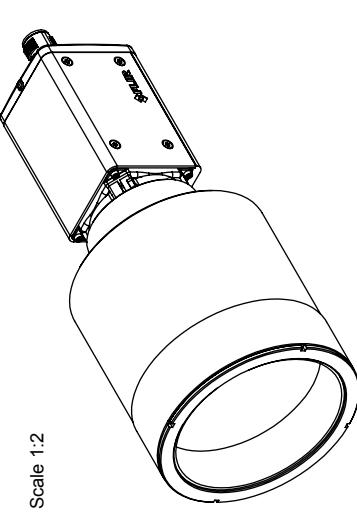
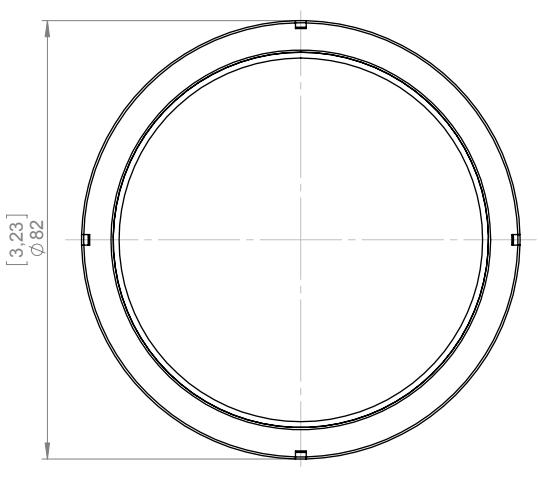
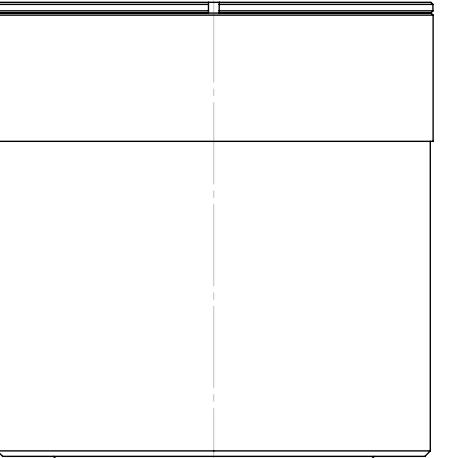
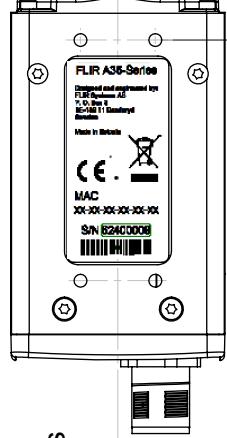
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F

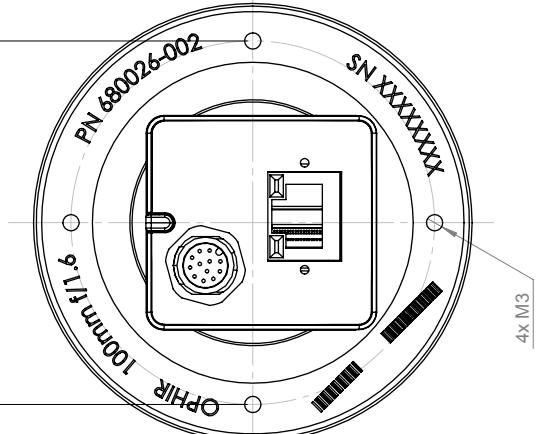
G



[1,48^{+0,04}₋₁] 37,5^{+0,04}₀ [4,8^{+0,04}₋₁] 122,0



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.



4x M3

FLIR	
Rev A	Blad/Sheet 7(7)
A3	Size
T128116	Ref no/drawing no
	Page
1.1	Scale/Scale
ArtNo.	ArtNo.

Basic dimensions Ax5
 $f=7,5$ mm to $f=100$ mm

Konstr/Drawn	Datum/Date	Kont/Chek	Material
P. MARCUS	2014-01-29	MABR	-
Ändrad av/Modified by	Andrad av/Modified by	Ytämmhet/Roughness	Ytämmhet/Surface treatment
P. MARCUS	2014-02-11	Ra	µm
Där ej annat angas/unless otherwise stated	Benämning/Denomination		
Gen ISO 2768-mK			
Utdrag ur/EExcerpt from ISO 2768-m			
0,5-6	Halkalsradier		
(8)-30	±0,1		
(30)-120	±0,2		
(120)-400	±0,3		
(400)-1000	±0,5		
	Kanter bruta		
	Edges broken		
	0,8		

Scale 1:2



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 Compability

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