

## P/N: 71201-0101

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### 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	
<p>The FLIR AX8 camera/sensor provides an affordable and accurate temperature measurement solution for anyone who needs to solve problems that need built in "smartness" such as analysis, alarm functionality, and autonomous communication using standard protocols. The FLIR AX8 also has all the necessary features and functions to build distributed single- or multi-camera solutions utilizing standard Ethernet hardware and software protocols.</p>	
<p>The FLIR AX8 also has built-in support to connect to industrial control equipment such as PLCs, and allows the sharing of analysis and alarm results and simple control using the Ethernet/IP and Modbus TCP field bus protocols.</p>	
<p>Key features:</p> <ul style="list-style-type: none"> <li>• Support for the EthernetIP field bus protocol (analyze, alarm, and simple camera control).</li> <li>• Support for the Modbus TCP field bus protocol (analyze, alarm, and simple camera control).</li> <li>• Built-in analysis functionality.</li> <li>• Alarm functionality, as a function of analysis and more.</li> <li>• Built-in web server for control and set up.</li> <li>• MJPEG, MPEG-4, or H.264 image streaming.</li> <li>• PoE (Power over Ethernet).</li> <li>• General-purpose output.</li> <li>• 100 Mbps Ethernet (100 m cable).</li> <li>• On alarm: file sending (FTP) or e-mail (SMTP) of analysis results or images.</li> </ul>	
<p>Typical applications:</p> <ul style="list-style-type: none"> <li>• Electrical and mechanical condition-monitoring applications where temperature or temperature trends can be an indication of a potential risk of failure.</li> <li>• Simple process control applications.</li> </ul>	
Imaging and optical data	
IR resolution	80 × 60 pixels
Thermal sensitivity/NETD	< 0.10°C @ +30°C (+86°F) / 100 mK
Field of view (FOV)	48° × 37°
Depth of field	0.1 m (0.33 ft.), infinity
Focal length	1.54 mm (0.061 in.)



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Imaging and optical data	
Spatial resolution (IFOV)	11.1 mrad
F-number	1.1
Image frequency	9 Hz
Focus	Fixed

Detector data	
Detector type	Focal plane array (FPA), uncooled microbolometer
Spectral range	7.5–13 $\mu\text{m}$
Detector pitch	17 $\mu\text{m}$
Detector time constant	Typical 12 ms

Visual camera	
Built-in digital camera	640 × 480
Digital camera, FOV	Adapts to the IR lens
Sensitivity	Minimum 10 lux without illuminator

Measurement	
Object temperature range	–10 to +150°C (14 to +302°F)
Accuracy	$\pm 2^\circ\text{C}$ ( $\pm 3.6^\circ\text{F}$ ) or $\pm 2\%$ of reading (+10 to +100°C @ +10 to +35°C ambient)

Measurement analysis	
Spotmeter	6
Area	6 boxes with max./min./average
Automatic hot/cold detection	Max./min. temperature value and position shown within box
Measurement presets	Yes
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 0.01 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

Alarm	
Alarm functions	Automatic alarms on any selected measurement function. A maximum of 5 alarms can be set.
Alarm output	Digital out, store image, file sending (FTP), email (SMTP), notification

Set-up	
Color palettes	Color palettes (BW, BW inv, Iron, Rain)
Set-up commands	Date/time, Temperature ( $^\circ\text{C}/^\circ\text{F}$ )
Web interface	Yes

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<b>Storage of images</b>	
Storage media	Built-in memory for image storage
Image storage mode	IR, visual, MSX
File formats	JPEG + FFF
<b>Image streaming</b>	
Image streaming formats	<ul style="list-style-type: none"> <li>• Motion JPEG stream MJPEG Baseline Process Encoder Baseline ISO/IEC 10918-1 JPEG compliance</li> <li>• MPEG stream Stream format MPEG-4 ISO/IEC 14496-2 Simple Profile level 2</li> <li>• H.264 stream Stream format H.264 Baseline Profile level 2.0</li> </ul>
Image streaming resolution	640 × 480
Image modes	<ul style="list-style-type: none"> <li>• Thermal</li> <li>• Visual</li> <li>• MSX</li> </ul>
Automatic image adjustment	Continuous
Multi Spectral Dynamic Imaging (MSX)	IR image with enhanced detail presentation
<b>Ethernet</b>	
Ethernet	Control, result and image
Ethernet, type	100 Mbps
Ethernet, standard	IEEE 802.3
Ethernet, connector type	M12 8-pin X-coded
Ethernet, communication	TCP/IP socket-based FLIR proprietary
Ethernet, video streaming	Yes
Ethernet, power	Power over Ethernet, PoE IEEE 802.3af class 2.
Ethernet, protocols	Ethernet/IP, Modbus TCP, TCP, UDP, SNMP, RTSP, RTP, HTTP, ICMP, IGMP, sftp, SMTP, DHCP, MDNS (Bonjour)
<b>Power system</b>	
External power operation	12/24 VDC, 2 W continuously/ 4.7 W absolute max
External power, connector type	M12 8-pin A-coded (Shared with digital I/O)
Voltage	Allowed range 10.8–30 VDC
<b>Environmental data</b>	
Operating temperature range	–0°C to +50°C (+32°F to +122°F)
Storage temperature range	–40°C to +70°C (–40°F to +158°F) according to IEC 68-2-1 and IEC 68-2-2
Humidity (operating and storage)	IEC 60068-2-30/24 h 95% relative humidity +25° C to +40°C (+77°F to +104°F)/ 2 cycles
EMC	<ul style="list-style-type: none"> <li>• EN 61000-6-2:2001 (Immunity)</li> <li>• EN 61000-6-3:2001 (Emission)</li> <li>• FCC 47 CFR Part 15 Class B (Emission)</li> </ul>
Encapsulation	IP 67 (IEC 60529)
Bump	25 g (IEC 60068-2-29)
Vibration	2 g (IEC 60068-2-6)



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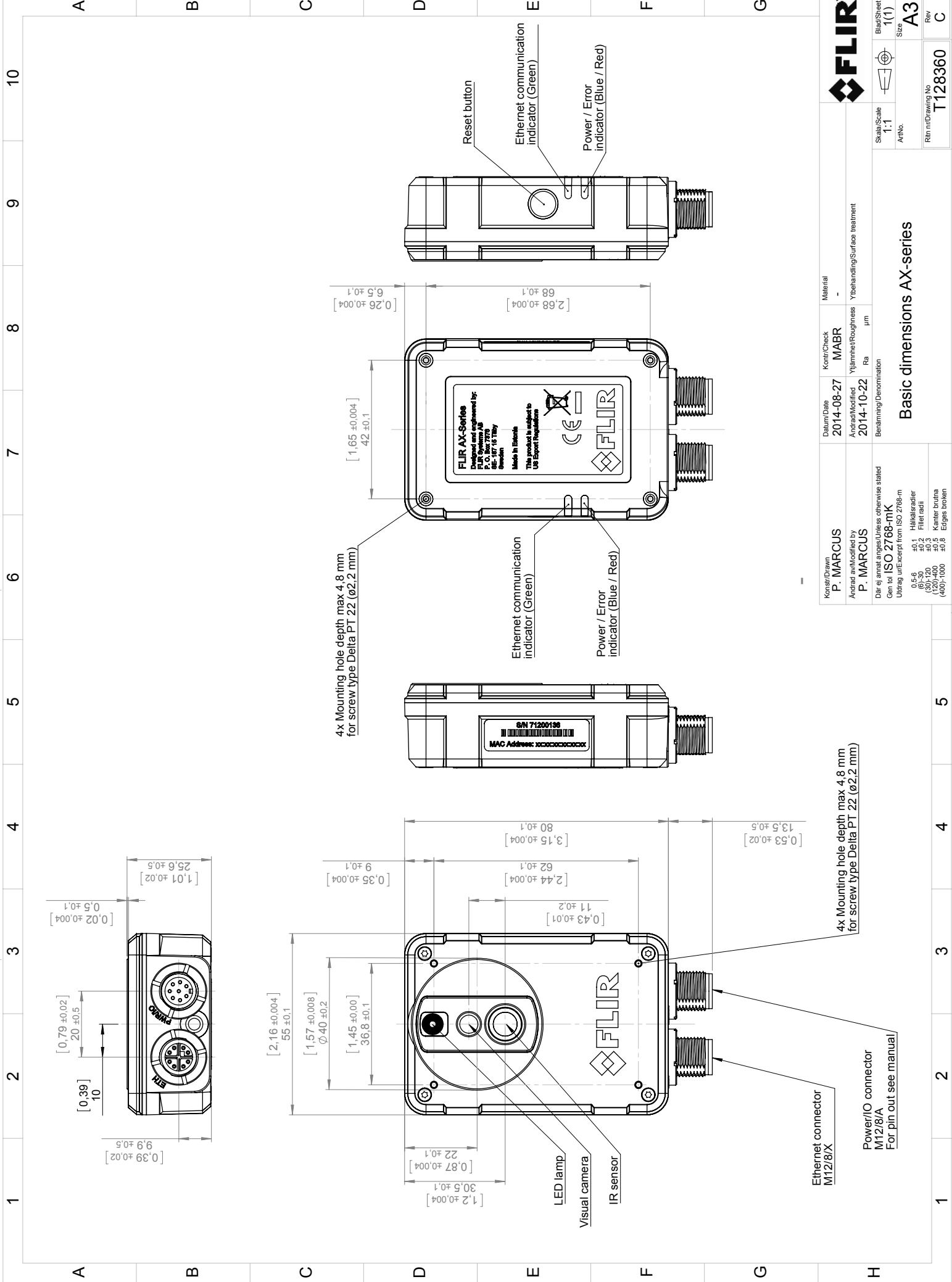
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Physical data	
Weight	0.125 kg (0.28 lb.)
Camera size (L x W x H)	<ul style="list-style-type: none"><li>54 x 25 x 79 mm (2.1 x 1 x 3.1 in.) without connectors</li><li>54 x 25 x 95 mm (2.1 x 1 x 3.7 in.) with connectors</li></ul>
Base mounting	4x mounting hole depth max 4.8 mm for screw type Delta PT 22 (ø2.2 mm)
Housing material	PA6 with 30% GF (glass fiber reinforced)
Shipping information	
Packaging, type	Cardboard box
List of contents	<ul style="list-style-type: none"><li>Infrared camera with lens</li><li>Cardboard box</li><li>Printed documentation</li><li>User documentation CD-ROM</li></ul>
EAN-13	4743254001725
UPC-12	845188009373
Country of origin	Estonia

### Supplies & accessories:

- T128391ACC; Cable, M12 to pigtail (FLIR AX series)
- T128390ACC; Ethernet cable, M12 to RJ45
- T199019; PoE injector, incl. cables



<b>FLIR</b>		Material	
Konstr/Drawn <b>P. MARCUS</b>		Kontr/Check <b>MABR</b>	
Datum/Date <b>2014-08-27</b>		Material -	
Ändrad/Modified <b>P. MARCUS</b>		Ytämhet/Roughness Ra $\mu\text{m}$	
Gen to/ISO 2768-mK Ultrag urförskrift from ISO 2768-m		Benämning/Denomination <b>Basic dimensions AX-series</b>	
Dir ej anslutningspunkter, utom såvida inte annat anges/Unless otherwise stated		Skala/Scale 1:1	
0,5-6 (6)-30 (30)-100 (100)-1000 ±0,1 Hållisradier ±0,2 Fillet radii ±0,5 Kantar brutna ±0,8 Edges broken		Aritm. 1(1)	
Gen to/ISO 2768-mK		Bladsheet 1(1)	
0,5-6 (6)-30 (30)-100 (100)-1000 ±0,1 Hållisradier ±0,2 Fillet radii ±0,5 Kantar brutna ±0,8 Edges broken		Size <b>A3</b>	
Dir ej anslutningspunkter, utom såvida inte annat anges/Unless otherwise stated		Rev C	
0,5-6 (6)-30 (30)-100 (100)-1000 ±0,1 Hållisradier ±0,2 Fillet radii ±0,5 Kantar brutna ±0,8 Edges broken		Rit nr/Drawing No <b>T128360</b>	

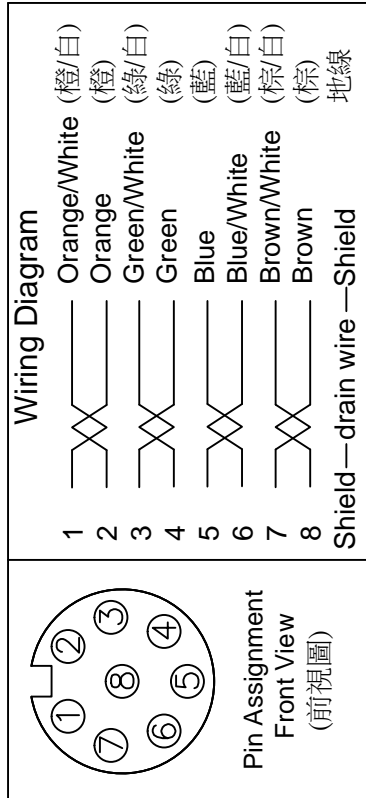
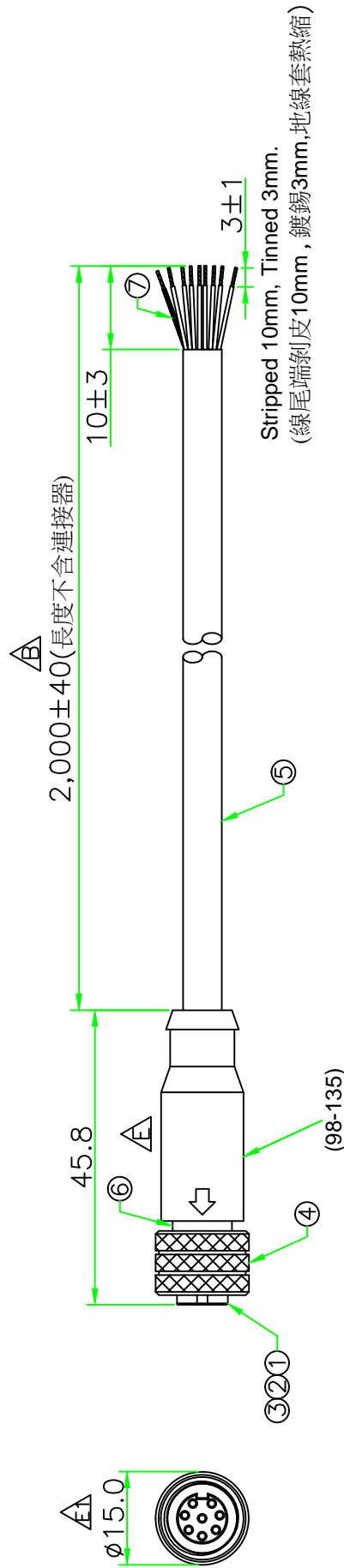




RoHS

IP67

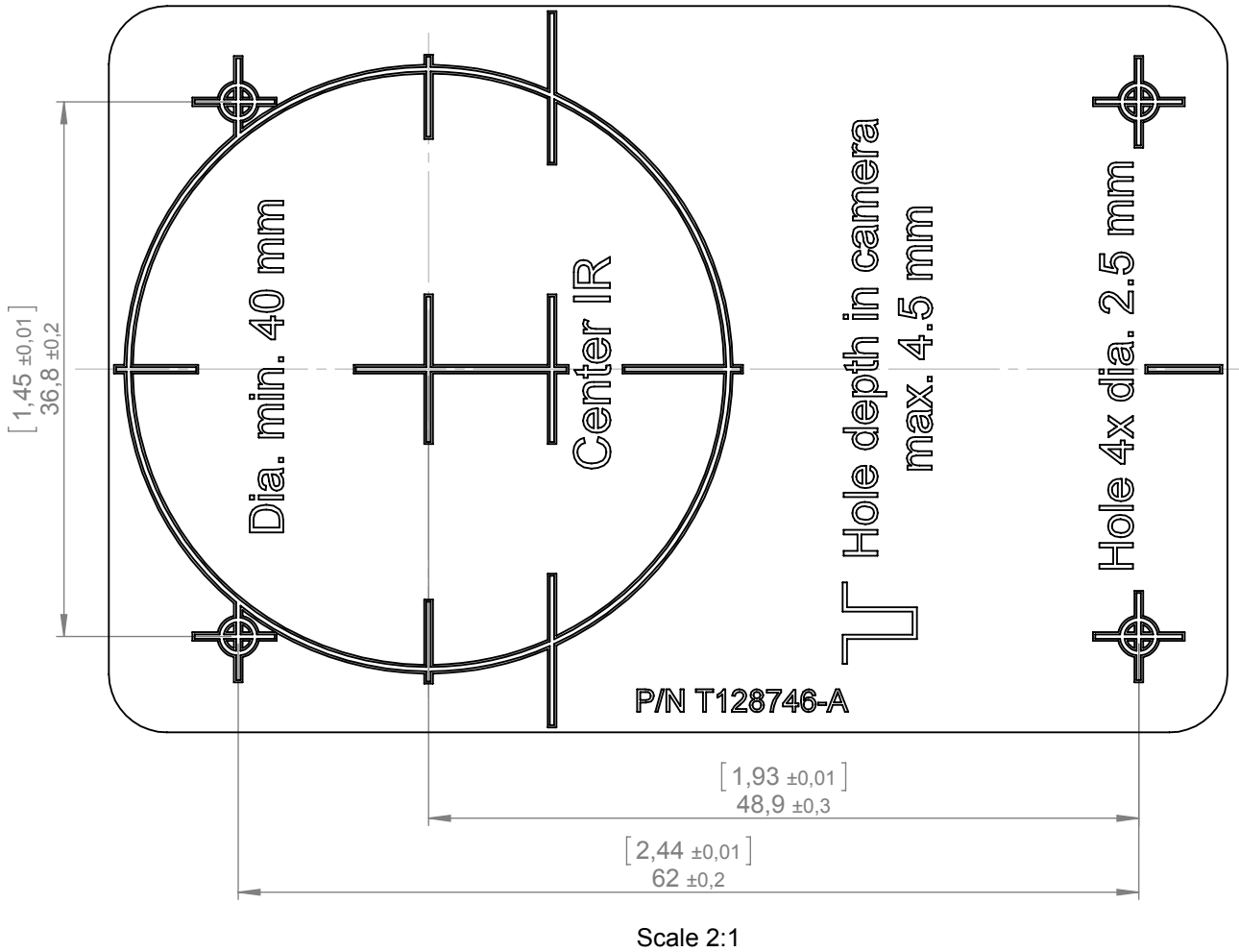
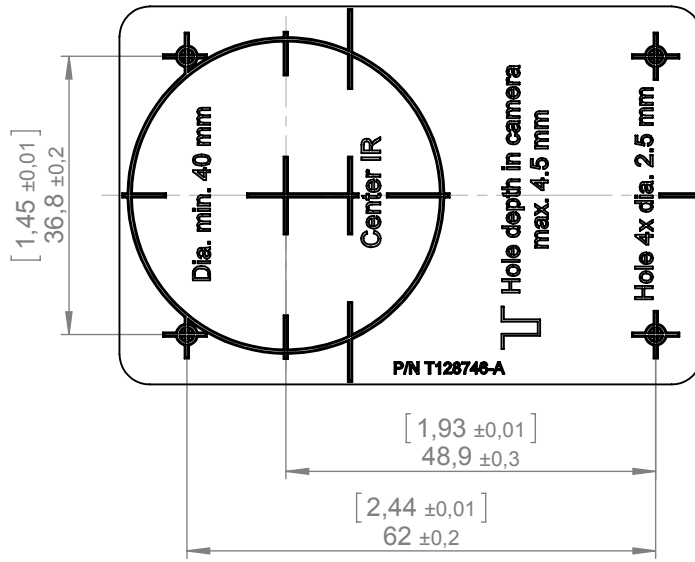
REV.	DESCRIPTION	DATE
A	ISSUE	Dec/23/2013
B	Modify cable length.	Dec/25/2013
C	Add note.	Mar/20/2014
D	Modify P/N.	Sep/25/2014
E	Modify connector to shielding type.	Nov/12/2014
E1	Change ring nut to shielding type.	Nov/25/2014



7	TUBE	Heat shrink tube.	BLACK	1	
6	SHIELD	Brass, Nickel Plated. $\Delta$		1	
5	CABLE	CAT5E FTP 24AWG x 4 PAIR + AL/MY + Drain wire.	BLACK	1	WAC2B0026
4	RING NUT	Brass, Nickel Plated.		1	M12S-RN-D985
3	O-RING	Viton.	BLACK	1	M12-O-VK
2	CONTACT	Brass, Female pin, 6 u" Gold plated.		8	AASPF-1008-0.8
1	CONNECTOR	M12 A-coding Female connector insert. Nylon+GF.	BLACK	1	M12A-08F
No.	PART NAME	DESCRIPTION	COLOR	Q'TY	REMARKS

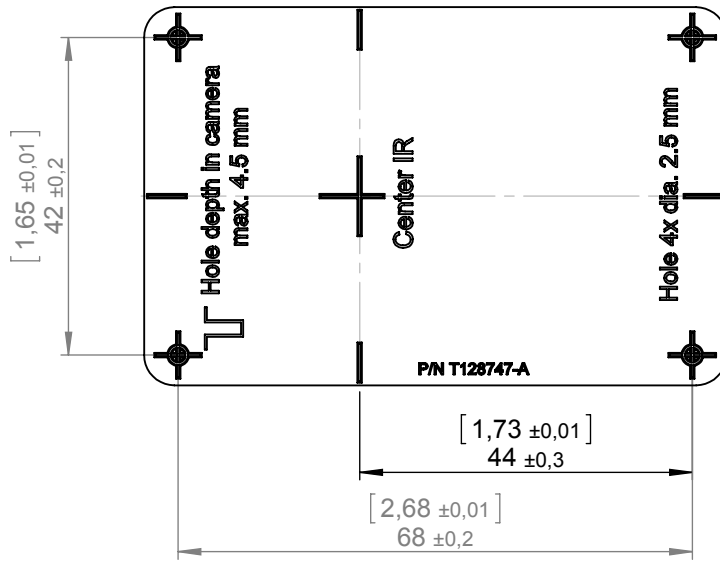
Customer: FLIR

	TITLE	M12 A-Coding 8P Female Molded Cable Assy
	UNIT: mm	1:1
	SCALE	1:1
	UNLESS OTHERWISE SPECIFIED TOLERANCES:	X ± 0.25 XX ± 0.1 XXX ± 0.05 ANGLE ± 1°X
	REV.	E1 1/1
	SHEET	1/1
	DWG NO:	T128391 $\Delta$
	P/N:	K129351003
	DR.	Stanley
	CH.	ERJC
	AP.	

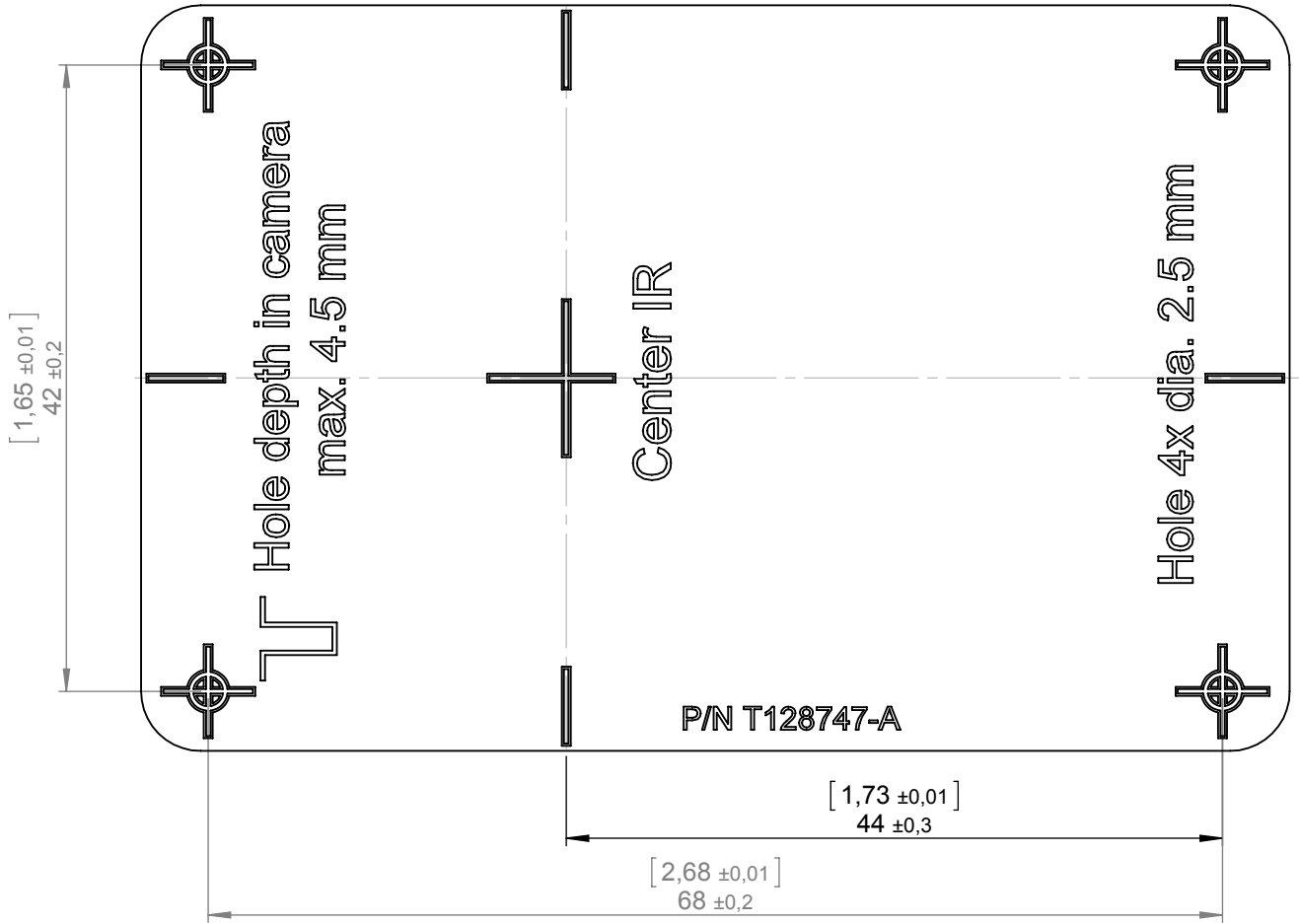


Konstr/Drawn <b>P. MARCUS</b>	Datum/Date <b>2014-10-06</b>	Kontr/Check <b>JAMA</b>	Material <b>Note 1</b>		
Ändrad av/Modified by <b>P. MARCUS</b>	Ändrad/Modified <b>2015-03-04</b>	Ytjämnhet/Roughness Ra      μm	Ytbehandling/Surface treatment		
Där ej annat anges/Unless otherwise stated Gen tol <b>ISO 2768-mK</b> Utdrag ur/Excerpt from ISO 2768-m	Benämning/Denomination <b>Drilling template front</b>			Skala/Scale <b>2:1</b>	Blad/Sheet <b>2(2)</b>
0,5-6      ±0,1      Hålkälsradier (6)-30    ±0,2      Fillet radii (30)-120 ±0,3 (120)-400 ±0,5      Kanter brutna (400)-1000 ±0,8      Edges broken				Art.No.	Size <b>A4</b>
				Ritn nr/Drawing No <b>T128746</b>	Rev <b>A</b>





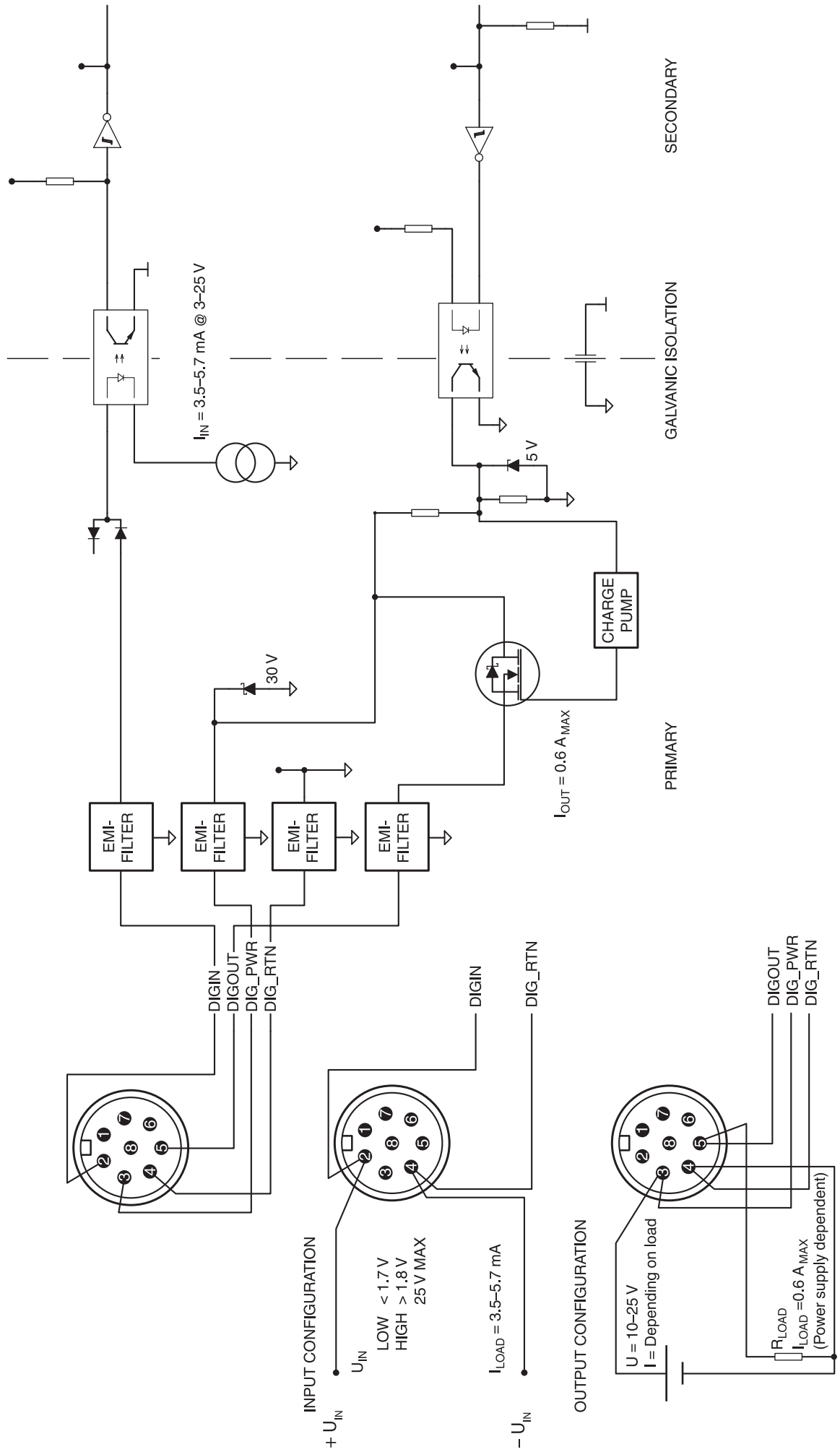
Scale 1:1



Scale 2:1

Konstr/Drawn <b>P. MARCUS</b>	Datum/Date <b>2014-10-06</b>	Kontr/Check <b>JAMA</b>	Material <b>Note 1</b>	
Ändrad av/Modified by <b>P. MARCUS</b>	Ändrad/Modified <b>2015-03-04</b>	Ytjämnhet/Roughness Ra      μm	Ytbehandling/Surface treatment	
Där ej annat anges/Unless otherwise stated Gen tol <b>ISO 2768-mk</b> Utdrag ur/Excerpt from ISO 2768-m	Benämning/Denomination <b>Drilling template rear</b>			Skala/Scale <b>2:1</b>
0,5-6      ±0,1      Hålkälsradier (6)-30    ±0,2      Fillet radii (30)-120 ±0,3 (120)-400 ±0,5      Kanter brutna (400)-1000 ±0,8      Edges broken				Blad/Sheet <b>2(2)</b>
				Art.No. <b>T128747</b>
				Size <b>A4</b>
				Rev <b>A</b>

# Digital I/O connection diagrams FLIR AX8



## 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**

Standards:

**Information technology: EN 55022 Radio disturbance characteristics-  
(AC:2011)**

**Information technology: EN 55024 Immunity characteristics-  
(CISPR 24:2010)**


Additional standards:

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

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

System: **FLIR Ax8-series**

FLIR Systems AB  
Quality Assurance



Björn Svensson  
Director