

## P/N: 89829-0201

### Copyright

© 2021, 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.: 89829-0201

Commit: 76247

Language:

Modified: 2021-04-30

Formatted: 2021-05-04

### 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.



Imaging and optical data	
Infrared resolution	464 × 348 pixels
Thermal sensitivity (NETD)	<35 mK
Field of view (FOV)	29° × 22°
Minimum focus distance	0.25 m (0.82 ft)
Focal length	14.3 mm (0.56 in)
Spatial resolution (IFOV)	1.2 mrad/pixel
f-number	1.4
Image frequency	30 Hz
Focus	Fixed
Detector data	
Focal plane array/spectral range	Uncooled microbolometer/7.5–14 μm
Detector pitch	17 μm
Measurement	
Camera temperature range	<ul style="list-style-type: none"> <li>–20 to 175°C (–4 to 347°F)</li> <li>175 to 1000°C (347 to 1832°F)</li> </ul>
Object temperature range and accuracy (for ambient temperature 15–35°C (59–95°F))	<ul style="list-style-type: none"> <li>Range –20 to 175°C (–4 to 347°F):               <ul style="list-style-type: none"> <li>–20 to 100°C (–4 to 212°F), accuracy ±2°C (±3.6°F)</li> <li>100 to 175°C (212 to 347°F), accuracy ±2%</li> </ul> </li> <li>Range 175 to 1000°C (347 to 1832°F): accuracy ±2%</li> </ul>
Video/Radiometric streaming RTSP	
Protocol	RTSP
Unicast	Yes
Multicast	Yes
Multiple image streams	Yes
Video streaming	
Image quality	Bit rate set through Camera web
Video streaming, Image source 0:	
Resolution (source 0)	640 × 480 pixels



# FLIR A50 29° Research & Development Kit

P/N: 89829-0201

© 2021, FLIR Systems, Inc.

#89829-0201; r. 76247;

<b>Video/Radiometric streaming RTSP</b>	
Contrast enhancement	FSX / Histogram equalization (IR only)
Overlay (source 0)	With / Without
Image source (source 0)	Visual / IR / MSX
Pixel format (source 0)	YUV411
Encoding (source 0)	H.264 / MPEG4 / MJPEG
<b>Video streaming, Image source 1:</b>	
Resolution (source 1)	1280 × 960 pixels
Overlay (source 1)	No
Image source (source 1)	Visual
Pixel format (source 1)	YUV411
Encoding (source 1)	H.264 / MPEG4 / MJPEG
<b>Radiometric streaming</b>	
Resolution (radiometric)	464 × 348 pixels
Source	IR
Pixel format (radiometric)	MONO 16
Encoding (radiometric)	<ul style="list-style-type: none"> <li>Compressed JPEG-LS</li> <li>FLIR Radiometric</li> </ul>
<b>Video/Radiometric streaming GVSP (GigE Vision)</b>	
Protocol	GVSP
Unicast	Yes
Multicast	Yes
Multiple image streams	No, 1 stream only
<b>Video streaming</b>	
<b>Video streaming, Image source 0:</b>	
Resolution (source 0)	640 × 480 pixels
Contrast enhancement	FSX / Histogram equalization (IR only)
Overlay (source 0)	With / Without
Image source (source 0)	Visual / IR / MSX
Pixel format (source 0)	YUV422 or MONO 8
Encoding (source 0)	Un-compressed
<b>Radiometric streaming</b>	
Resolution (radiometric)	464 × 348 pixels
Source	IR
Pixel format (radiometric)	MONO 16
Encoding (radiometric)	<ul style="list-style-type: none"> <li>Temperature linear</li> <li>FLIR Radiometric</li> <li>Compressed JPEG-LS</li> </ul>
<b>Ethernet</b>	
Interface	<ul style="list-style-type: none"> <li>Wired</li> <li>Wi-Fi</li> </ul>
Connector type	<ul style="list-style-type: none"> <li>M12 8-pin X-coded, Female</li> <li>RP-SMA, Female</li> </ul>
Ethernet, purpose	Control, result, image, and power



# FLIR A50 29° Research & Development Kit

P/N: 89829-0201

© 2021, FLIR Systems, Inc.

#89829-0201; r. 76247;

<b>Ethernet</b>	
Ethernet, type	1000 Mbps
Ethernet, standard	IEEE 802.3
Ethernet, communication	<ul style="list-style-type: none"> <li>GigE Vision ver. 1.2</li> <li>Client API GenICam compliant</li> <li>TCP/IP socket-based FLIR proprietary</li> </ul>
Ethernet, power	Power over Ethernet, PoE IEEE 802.3af class 3
Ethernet, protocols	<ul style="list-style-type: none"> <li>IEEE 1588</li> <li>SNMP</li> <li>TCP, UDP, SNTP, RTSP, RTP, HTTP, ICMP, IGMP, sftp (server), FTP (client), SMTP, DHCP, MDNS (Bonjour), uPnP</li> </ul>

<b>Digital Input/output</b>	
Connector type	M12 12-pin A-coded, Male (shared with external power)
Digital input	2x opto-isolated Vin(low)= 0–1.5 V, Vin(high)= 3–25 V
Digital input, purpose	<ul style="list-style-type: none"> <li>NUC</li> <li>NUC disable</li> <li>Image TAG (Start, Stop, General)</li> <li>Image flow control (acc. SFNC 2.4)</li> </ul>
Digital output	<ul style="list-style-type: none"> <li>3x opto-isolated, 0–30 V DC, max. 300 mA (derated to 200 mA at 60C)</li> <li>Solid state opto relay</li> <li>1x dedicated as Fault output (NC)</li> </ul>
Digital output, purpose	<ul style="list-style-type: none"> <li>Programmatically set</li> <li>Fault (NC)</li> </ul>
Digital I/O, isolation voltage	500 VRMS

<b>Power system</b>	
External power	18 VDC – 56 VDC, Max 8 W
Power over Ethernet (PoE)	44 VDC – 56 VDC, Max 8.1 W
Connector type	External power: <ul style="list-style-type: none"> <li>M12 12-pin A-coded, Max 450 mA (shared with Digital I/O)</li> </ul> PoE: <ul style="list-style-type: none"> <li>M12 8-pin X-coded, Max 350 mA</li> </ul>

<b>RS-232/485 serial interface</b>	
Connector type	M8 A-coded, Male
Prerequisite for use	ONVIF must be initiated.
Serial communication, purpose	Pan & Tilt control
Serial communication, standard	Pelco D
Serial communication, HW interface	RS232 and RS485 exclusively
Scanlist support	Yes

<b>Wi-Fi</b>	
Connector type	RP-SMA, Female
Standard	IEEE802.11a/b/g/n



# FLIR A50 29° Research & Development Kit

P/N: 89829-0201

© 2021, FLIR Systems, Inc.

#89829-0201; r. 76247;

<b>Wi-Fi</b>	
Antenna	Dipole antenna 2.4/5 GHz (gain: maximum 2 dBi)
Connection type	Peer to peer (ad hoc) or infrastructure (network)
<b>Environmental data</b>	
Operating temperature range	-20 to 50°C (-4 to 122°F), internal temperature should be kept below 70°C (158°F), all included cooling plates are recommended to be kept mounted.
Storage temperature range	IEC 68-2-1 and IEC 68-2-2, -40 to 70°C (-40 to 158°F) for 16 hours
Humidity (operating and storage)	IEC 60068-2-30/24 hours, 95% relative humidity, 25-40°C (77-104°F)/2 cycles EN60068-2-38
EMC	<ul style="list-style-type: none"> <li>ETSI EN 301 489-1 (radio)</li> <li>ETSI EN 301 489-17 (radio)</li> <li>EN 61000-4-8 (magnetic field)</li> <li>FCC 47 CFR Part 15 Class B (emission US)</li> <li>ISO 13766-1 (EMC - Earth-moving and building construction machinery)</li> <li>EN ISO 14982 (EMC - Agricultural and forestry machinery)</li> </ul>
Radio spectrum	<ul style="list-style-type: none"> <li>FCC 47 CFR Part 15 Class C (2.4 GHz band US)</li> <li>FCC 47 CFR Part 15 Class E (5 GHz band US)</li> <li>RSS-247 (2.4 GHz and 5 GHz band Canada)</li> <li>ETSI EN 300 328 V2.1.1 (2.4 GHz band EU)</li> <li>ETSI EN 301 893 V2.1.1 (5 GHz band EU)</li> </ul>
Encapsulation	IEC 60529, IP66
Shock	IEC 60068-2-27, 25 g
Vibration	<ul style="list-style-type: none"> <li>IEC 60068-2-6, 0.15 mm at 10-58 Hz and 2 g at 58-500 Hz, sinusoidal</li> <li>IEC 61373 Cat 1 (Railway)</li> </ul>
Safety	IEC 62368-1 (IT equipment audio-visual products)
Corrosion	<ul style="list-style-type: none"> <li>ISO 12944 C4 G or H</li> <li>EN60068-2-11</li> </ul>
<b>Shipping information</b>	
Packaging, type	Hard case
Packaging, contents	<ul style="list-style-type: none"> <li>Camera with Image Streaming configuration and 29° lens</li> <li>Hard case</li> <li>Ethernet cable M12 to RJ45, 2 m</li> <li>Ethernet cable M12 to RJ45F, 0.3 m</li> <li>Ethernet cable CAT6, 2 m/6.6 ft</li> <li>Cable M12 to pigtail, 2 m</li> <li>Gigabit PoE injector 16 W, with multi-plugs</li> <li>Antenna WLAN 2.4/5 GHz + Wi-Fi</li> <li>Cooling plate</li> <li>Focus adjustment tool</li> <li>Visual camera including MSX</li> <li>Research Studio - 1 Year Subscription (Online Activation)</li> <li>Printed documentation including the username and password for log in to the web interface of the camera</li> </ul>
Packaging, weight	2.83 kg (6.24 lb)
Packaging, size	370 × 290 × 149 mm (14.6 × 11.4 × 5.87 in)



# FLIR A50 29° Research & Development Kit

P/N: 89829-0201

© 2021, FLIR Systems, Inc.

#89829-0201; r. 76247;

Shipping information	
EAN-13	7332558028056
UPC-12	845188024314

## Supplies & accessories:

- T951004ACC; Ethernet cable CAT6, 2 m/6.6 ft.
- T300202; Connector cap kit
- T300268ACC; A-series connection board
- T911850ACC; Antenna for WLAN 2.4/5 GHz
- T911852ACC; Cable M12 to pigtail, 2 m
- T911853ACC; Cable M12 to pigtail, 10 m
- T911854ACC; Ethernet cable M12 to RJ45, 2 m
- T911855ACC; Ethernet cable M12 to RJ45, 10 m
- T911869ACC; Ethernet cable M12 to RJ45F, 0.3 m
- T911183; Gigabit PoE injector 16 W, with multi-plugs
- T911997; Tripod
- T199507; Gigabit PoE injector 15 W
- T199870; Extended Calibration Certificate for A7xx
- T300292; Advanced Image Streaming configuration
- T300293; Advanced Smart Sensor configuration
- T911850; Antenna WLAN 2.4/5 GHz + Wi-Fi
- INST-EW-0185; Extended Warranty 1 Year for A7xx
- INST-EWGM-0160; Premium Service Package for A7xx
- INST-GM-0135; General Maintenance Package for A7xx
- T199865; Standard Smart Sensor to Standard Image Streamer
- T199866; WiFi Option, excluding Antenna