

## P/N: 91902-0202

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### Website

<http://www.flir.com>

### Customer support

<http://support.flir.com>

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<b>Imaging and optical data</b>	
Infrared resolution	320 × 240 pixels
Thermal sensitivity (NETD)	<40 mK, 24° @ +30°C (+86°F)
Field of view (FOV)	24° × 18°
Minimum focus distance	0.15 m (0.49 ft)
Focal length	17 mm (0.67 in)
Spatial resolution (IFOV)	0.7 mrad/pixel
Lens identification	Automatic
f-number	1.3
Image frequency	30 Hz
Focus	<ul style="list-style-type: none"> <li>• One-shot contrast</li> <li>• Motorized</li> <li>• Manual</li> </ul>
<b>Detector data</b>	
Focal plane array/spectral range	Uncooled microbolometer/7.5–14 μm
<b>Measurement</b>	
Camera temperature range	<ul style="list-style-type: none"> <li>• -20 to 120°C (-4 to 248°F)</li> <li>• 0 to 650°C (32 to 1202°F)</li> <li>• 300 to 1500°C (572 to 2732°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 120°C (-4 to 248°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 120°C (212 to 248°F), accuracy ±2%</li> </ul> </li> <li>• Range 0 to 650°C (32 to 1202°F): <ul style="list-style-type: none"> <li>◦ 0 to 100°C (32 to 212°F), accuracy ±2°C (±3.6°F)</li> <li>◦ 100 to 650°C (212 to 1202°F), accuracy ±2%</li> </ul> </li> <li>• Range 300 to 1500°C (572 to 2732°F): <ul style="list-style-type: none"> <li>◦ accuracy ±2%</li> </ul> </li> </ul>



# FLIR A400 24° Standard Science Kit

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<b>Ethernet</b>	
Interface	Wired
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
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 2.3)               <ul style="list-style-type: none"> <li>Single frame (on trigg)</li> <li>Multiframe (on trigg)</li> <li>Continuous</li> <li>Frame rate</li> <li>ROI</li> </ul> </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>	
Connector type	M12 12-pin A-coded, Male (shared with Digital I/O)
Power consumption	<ul style="list-style-type: none"> <li>7.5 W at 24 V DC typical</li> <li>7.8 W at 48 V DC typical</li> <li>8.1 W at 48 V PoE typical</li> </ul>
External power operation	24/48 V DC 8 W max
External voltage	Allowed range 18–56 V DC



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<b>Environmental data</b>	
Operating temperature range	-20 to 50°C (-4 to 122°F) Cooling plate is needed in temperatures above 40°C (104°F). Maximum camera case temperature: 65°C (149°F)
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
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, IP 54, IP66 with accessory
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	Cardboard box
Packaging, contents	<ul style="list-style-type: none"> <li>• Camera with Advanced Image Streaming configuration and 24° lens</li> <li>• Hard case for FLIR A400/A700 series</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>• Option, Macro mode 50/71/101 μm for 24°</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	4.44 kg (9.79 lb)
Packaging, size	500 × 190 × 370 mm (19.7 × 7.5 × 14.6 in)
EAN-13	7332558027646
UPC-12	845188023898

### Supplies & accessories:

- T130665ACC; Cooling plate



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- T300075ACC; IP hood for lens
- T300163; Hard case for FLIR A400/A500/A700 series
- T300202; Connector cap kit
- T300216; Axxx Accessory kit
- T300218; Two-ball mounting bracket 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
- T951004ACC; Ethernet cable CAT6, 2 m/6.6 ft.
- T911183; Gigabit PoE injector 16 W, with multi-plugs
- T199507; Gigabit PoE injector 15 W
- T300241; IR lens, f=29 mm (14°)
- T300240; IR lens, f=17 mm (24°)
- T300239; IR lens, f=10 mm (42°)
- T199869; Extended Calibration Certificate for A4xx
- T300295; Option, Visual camera including MSX
- T911850; Antenna WLAN 2.4/5 GHz + Wi-Fi
- 4220499; FLIR Research Studio - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio - Perpetual License (online activation)
- 4220646; FLIR Research Studio - Perpetual License (USB dongle)
- INST-EW-0175; Extended Warranty 1 Year for A4xx
- INST-EWGM-0150; Premium Service Package for A4xx
- INST-GM-0130; General Maintenance Package for A4xx
- T199865; Standard Smart Sensor to Standard Image Streamer
- T199866; WiFi Option, excluding Antenna