

Part number:

**61001-1105**

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Corporate Headquarters

FLIR Systems, Inc.  
27700 SW Parkway Ave.  
Wilsonville, OR 97070  
USA  
Telephone: +1-503-498-3547

Website

<http://www.flir.com>

Customer support

<http://support.flir.com>

Legal disclaimer

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General description

The FLIR A310 pt Pan&Tilt offers an affordable solution for anyone who needs to solve problems that need built in "smartness" such as analysis and alarm functionality. The FLIR A310 pt Pan&Tilt has all the necessary features and functions to build distributed single- or multi-camera solutions to cover large areas to monitor such as in Coal pile monitoring, Sub-station monitoring utilizing standard Ethernet hardware and software protocols.

The A310 pt-Series precision pan/tilt mechanism gives operators accurate pointing control while providing fully programmable scan patterns, radar slew-to-cue, and slew-to-alarm functionality.

Multi-sensor configurations also include a day/night 36x zoom color CCD camera on the same pan/tilt package.

Key features:

- Built-in extensive analysis functionality.
- Extensive alarm functionality, as a function of analysis and more.
- H.264, MPEG-4 and MJPEG streaming.
- Built-in web server.
- 100 Mbps Ethernet (100 m cable, wire ss, fiber, etc.).
- Composite video output.
- Precise Pan/Tilt mechanism.
- Daylight camera.
- IP66
- IP control, the PT-Series can be integrated in any existing TCP/IP network and controlled over a PC.
- Serial control interface, use Pelco D or Bosch commands over RS-232, RS-422 or RS-485 to a remotely control the A310 pt.
- Multi-camera software: FLIR Sensors Manager allows users to manage and control a PT-Series camera in a TCP/IP network.

Imaging and optical data (thermal camera)

IR resolution	320 × 240 pixels
Thermal sensitivity/NETD	< 0.05°C @ +30°C (+86°F) / 50 mK
Field of view (FOV)	90° × 73°
Minimum focus distance	20 mm (0.79 in.)
Focal length	4 mm (0.157 in.)
Spatial resolution (IFOV)	6.3 mrad
Lens identification	Automatic
F-number	1.3
Image frequency	30 Hz
Focus	Automatic or manual (built in motor)
Zoom	1–8x continuous, digital, interpolating zooming on images

Detector data (thermal camera)

Detector type	Focal Plane Array (FPA), uncooled microbolometer
Spectral range	7.5–13 μm
Detector pitch	25 μm
Detector time constant	Typical 12 ms

Measurement (thermal camera)

Object temperature range	–20 to +120°C (–4 to +248°F) 0 to +350°C (+32 to +662°F)
Accuracy	±4°C (±7.2°F) or ±4% of reading

Measurement analysis (thermal camera)

Spotmeter	10
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## Measurement analysis (thermal camera)

Area	10 boxes with max./min./average/position
Isotherm	1 with above/below/interval
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 and individual object parameters

## Alarm (thermal camera)

Alarm functions	6 automatic alarms on any selected measurement function, camera temperature
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## Set-up (thermal camera)

Color palettes	Color palettes (BW, BW inv, Iron, Rain)
Set-up commands	Date/time, Temperature°C/°F

## Imaging and optical data (visual camera)

Field of view (FOV)	57.8° (H) to 1.7° (H)
Focal length	3.4 mm (wide) to 122.4 mm (tele)
F-number	1.6 to 4.5
Focus	Automatic or manual (built in motor)
Optical Zoom	36x continuous
Electronic Zoom	12x continuous, digital, interpolating

## Detector data (visual camera)

Focal Plane Array (FPA)	1/4" Exview HAD CCD
Effective pixels	380,000

## Technical specification (pan & tilt)

Azimuth Range	Az velocity 360° continuous, 0.1 to 60°/sec max
Elevation Range	El velocity +/- 45°, 0.1 to 30°/sec. max
Programmable presets	128
Automatic heaters	Clears window from ice. Switched on at +4°C (39°F). Switched off at +15°C (59°F).

## Ethernet (complete system)

Ethernet	Control, result and image
Ethernet, type	100 Mbps
Ethernet, standard	IEEE 802.3
Ethernet, connector type	RJ-45
Ethernet, communication	TBA
Ethernet, video streaming	Two independent channels for each camera - MPEG-4, H.264, or M-JPEG
Ethernet, protocols	Ethernet/IP, Modbus TCP, TCP, UDP, SNTP, RTSP, RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS), DHCP, MDNS (Bonjour), uPnP

## Composite video (complete system)

Video out	Composite video output, PAL compatible
Video, standard	CVBS (ITU-R-BT.470 PAL)

## Power system (complete system)

Voltage	24 VAC (21-30 VAC) 24 VDC (21-30 VDC)
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# FLIR A310pt 90° PAL

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## Power system (complete system)

Power	24 VAC: 215 VA max w/heater 24 VDC: 195 W max w/heater
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## Environmental data (complete system)

Operating temperature range	-25°C to +50°C (-13°F to +122°F)
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>
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Encapsulation	IP 66 (IEC 60529)
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Bump	5 g, 11 ms (IEC 60068-2-27)
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Vibration	2 g (IEC 60068-2-6)
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## Physical data (complete system)

Weight	18.1 kg (40.0 lb.)
Size (L x W x H)	460 x 467 x 326 mm (18.1 x 18.4 x 12.8 in.)
Base mounting	TBA
Housing material	Aluminum

## Scope of delivery (complete system)

- Cardboard box
- Pan & tilt with infrared camera including lens and visual camera
- Calibration certificate
- Downloads brochure
- FLIR Sensors Manager CD-ROM
- Lens cap
- Printed Getting Started Guide
- Printed Important Information Guide
- Service & training brochure
- Small accessories kit
- User documentation CD-ROM
- Registration card

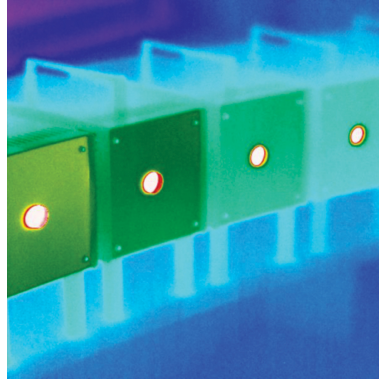
## Optional Accessories

- T197000 High temp. option +1200°C/+2192°F for FLIR T/B2xx to T/B4xx and A3xx, A3xxf, A3xxpt, A3xxsc series
- 4119468 ADAPTER PLATE - PT-SERIES
- 223-0017-00 JOYSTICK ASSY, NEXUS CONSOLE
- 500-0461-00 PEDESTAL MOUNT ASSY - PT-SERIES
- 500-0509-00 POLE ADAPTER - PT-SERIES
- 4124857 POWER SUPPLY ASSY, 24VAC - PT-series
- 500-0460-00 WALL MOUNT ASSY - PT-SERIES
- 324-0010-00 Hard case - PT-SERIES

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## T197000; High temp. option +1200°C/+2192°F for FLIR T/B2xx to T/B4xx and A3xx, A3xxf, A3xxpt, A3xxsc series



### General description

For high temperature applications the camera can be calibrated for high temperature ranges.

### Technical data

Optional object temperature range +200°C to +1200°C (+392°F to +2192°F)

v1.02

## 4119468; ADAPTER PLATE - PT-SERIES



### General description

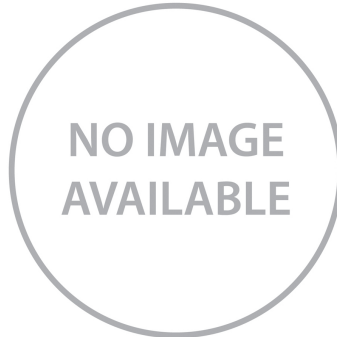
PT and FLIR A310pt series adapter plate:  
Can be used to mount a PT series network-ready multi-sensor or a FLIR A310pt series to a wide variety of existing mounts.

v1.01

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## 223-0017-00; JOYSTICK ASSY, NEXUS CONSOLE



### General description

Nexus Console Joystick:  
Joystick to control the D series or a FLIR A310pt series.

v1.02

## 500-0461-00; PEDESTAL MOUNT ASSY - PT-SERIES



### General description

PT and FLIR A310pt series pedestal mount:  
Mount to install a PT series network-ready multi-sensor or a FLIR A310pt series. Typically used on a flat horizontal surface such as a wall or the top of a pole.

v1.02

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### 500-0509-00; POLE ADAPTER - PT-SERIES



#### General description

PT and FLIR A310pt series pole mount adapter:  
Adapts the PT and FLIR A310pt series wall mount for installation on a pole.

v1.02

### 4124857; POWER SUPPLY ASSY, 24VAC - PT-series



#### General description

Power supply to power a FLIR A310pt series.

v1.02

### 500-0460-00; WALL MOUNT ASSY - PT-SERIES



#### General description

PT and FLIR A310pt series wall mount:  
Can be used to mount a PT series network-ready multi-sensor or a FLIR A310pt series against a wall.

v1.01

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### 324-0010-00; Hard case - PT-SERIES



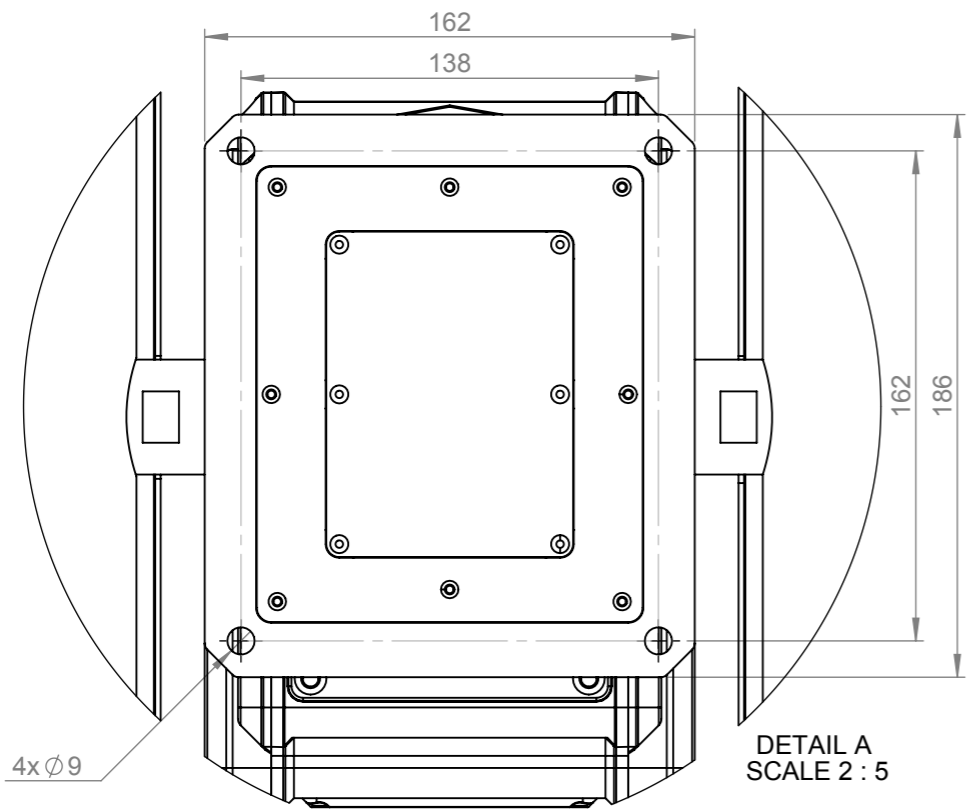
#### General description

Hard transport case for FLIR A3xxpt series thermal imaging camera:  
Rugged, watertight plastic shipping case. Holds all items securely. The case can be locked with padlocks and features a breather valve to prevent pressure build-up in airplane cargo holds.

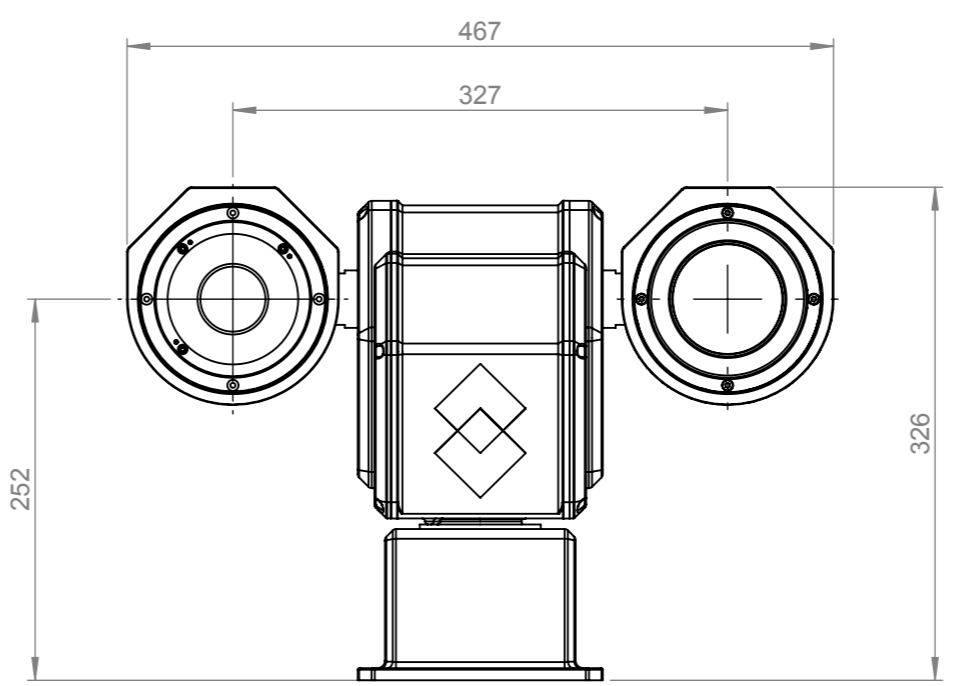
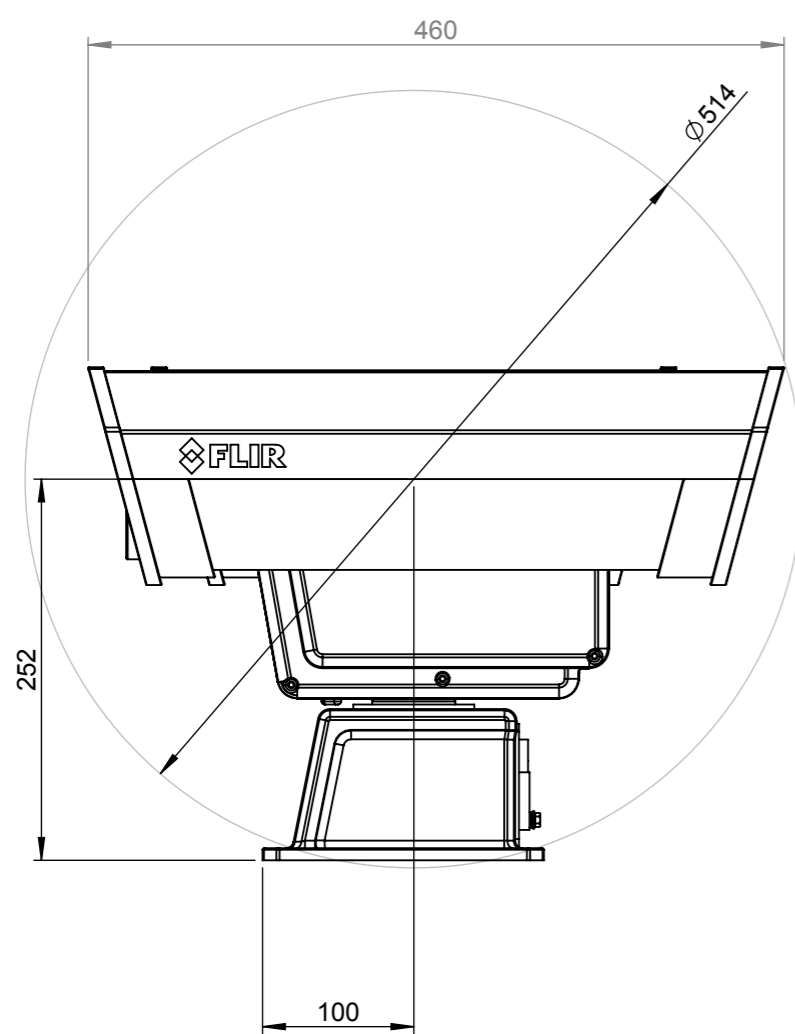
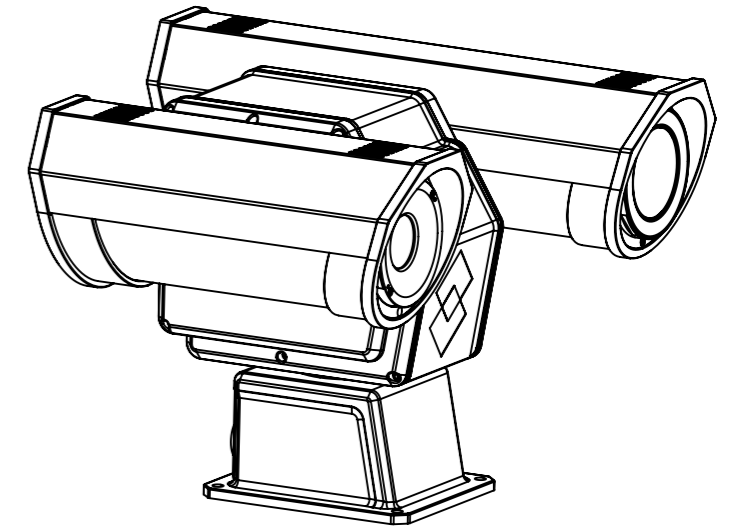
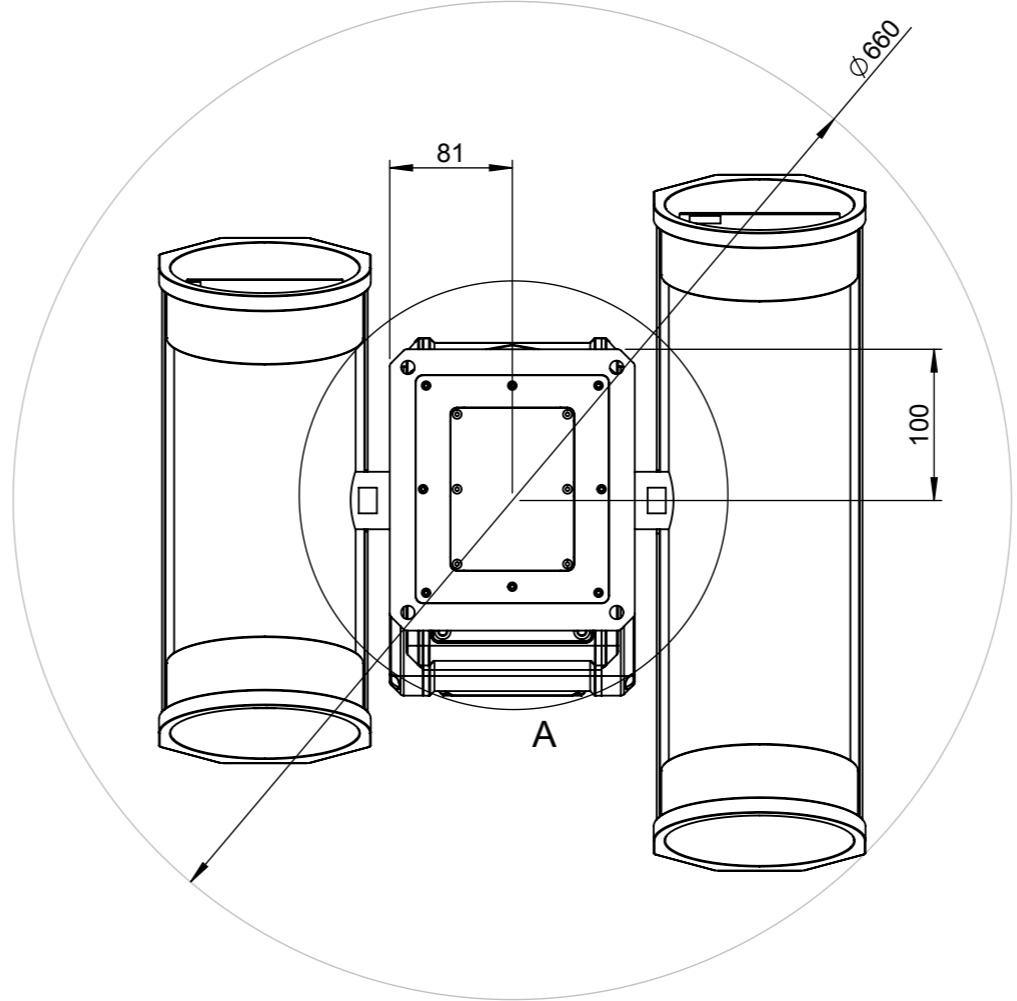
v1.0

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DETAIL A  
SCALE 2:5



Konstr/Drawn <b>H. ÖSTLING</b>	Datum/Date <b>2011-10-31</b>	Kontr/Check <b>ULGU</b>	Material	
Ändrad av/Modified by <b>H. ÖSTLING</b>	Ändrad/Modified <b>2011-11-28</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>DIMENSIONAL DRAWING PT</b>		Skala/Scale <b>1:5</b>	Blad/Sheet <b>1(1)</b>
0,5-6 ±0,1 Hålkårsradier (6)-30 ±0,2 Fillet radii (30)-120 ±0,3 (120)-400 ±0,5 Kanter brutna (400)-1000 ±0,8 Edges broken			ArtNo.	Size <b>A3</b>
			Ritn nr/Drawing No <b>T127400</b>	Rev <b>B</b>