

# FLIR P-series

## Technical specifications

### Camera specific



	FLIR P620	FLIR P640	FLIR P660
<b>Imaging performance</b>			
Field of View (FOV) / minimum focus distance	24° x 18° / 0.3 m	24° x 18° / 0.3 m 12° x 9° / 1.2 m 45° x 34° / 0.2 m lens needs to be specified when ordering	24° x 18° / 0.3 m 12° x 9° / 1.2 m 45° x 34° / 0.2 m lens needs to be specified when ordering
Spatial resolution	0.65 mrad for 24° lens	0.65 mrad for 24° lens 0.33 mrad for 12° lens 1.3 mrad for 45° lens	0.65 mrad for 24° lens 0.33 mrad for 12° lens 1.3 mrad for 45° lens
Thermal sensitivity	40 mK at 30°C	30 mK at 30°C	30 mK at 30°C
Electronic zoom	1-2x continuous including pan function	1-8x continuous including pan function	1-8x continuous including pan function
Electric and manual focus with USM technology	Auto and manual	Auto and manual	Auto (follows laser spot) and manual
<b>Image presentation</b>			
Automatic contrast optimization	N/A	N/A	Adjustable DDE
Thermal Fusion	IR image shown above, below or within temperature interval on the visual image (with 24° lens only)	IR image shown above, below or within temperature interval on the visual image (with 24° lens only)	IR image shown above, below or within temperature interval on the visual image (with 24° lens only)
Picture in Picture	Resizeable and moveable IR area on visual image (with 24° lens only)	Resizeable and moveable IR area on visual image (with 24° lens only)	Resizeable and moveable IR area on visual image (with 24° lens only)
<b>Measurement</b>			
Accuracy	± 2 °C or ± 2% of reading	± 2 °C or ± 2% of reading	± 1°C or ± 1% of reading (restricted range) ± 2°C or ± 2% of reading
<b>Measurement analysis</b>			
Spotmeter	3	10	10
Area	3 boxes or circles with Max./Min./Average	5 boxes or circles with Max./Min./Average	5 boxes or circles with Max./Min./Average
Measurement function alarm	N/A	Audible/visual alarms (above/below) on any selected measurement function	Audible/visual alarms (above/below) on any selected measurement function
Profile	N/A	1 live line, horizontal or vertical	1 live line, horizontal or vertical
<b>Image storage</b>			
In-camera storage	N/A	Built-in RAM for burst recording	Built-in RAM for burst recording
<b>Laser pointer</b>			
Laser alignment	N/A	N/A	Position is automatically displayed on IR image
Laser mode	N/A	N/A	Auto-focus / level / spotmeter
<b>Video streaming</b>			
Radiometric IR video recording	N/A	Real-time to built-in RAM, transferrable to memory card	Real-time to built-in RAM, transferrable to memory card
Non-radiometric video recording	N/A	MPEG-4 to memory card	MPEG-4 to memory card
<b>Geographic Information System</b>			
Built-in GPS	N/A	N/A	Location data automatically added to every image for referencing on WEB maps



## General

<b>Imaging Performance</b>	
IR resolution	640 x 480 pixels
Spectral range	7.5 - 13 $\mu$ m
Image frequency	30 Hz
Focus	Automatic or manual
Focal Plane Array (FPA)	Uncooled microbolometer
<b>Image presentation</b>	
Display	Built-in Widescreen, 5.6" color LCD, 1024 x 600 pixels
Viewfinder	Built-in, tiltable LCD, 800 x 600 pixels
Automatic image adjustments	Continuous/manual; linear or histogram based
Manual image adjustments	Level/span/max./min.
Image modes	IR image, Visual image, Thumbnail gallery, Thermal Fusion, Picture in Picture
Reference image	Shown together with live IR image
<b>Measurement</b>	
Temperature range	-40°C to +500°C (optional up to +2000°C)
<b>Measurement analysis</b>	
Isotherm	2 with above/below interval
Difference temperature	Delta temperature between measurement functions or reference temperature
Automatic hot / cold detection	Max./Min. temp. value and position shown within box, circle or on a line
Reference temperature	Manually set or captured from any measurement function
Emissivity correction	Variable from 0.01 to 1.0 or selected from list of materials
Measurement corrections	Reflected temperature, optics transmission and atmospheric transmission
External optics/windows correction	Automatic, based on inputs of optics/window transmission and temperature
<b>Setup</b>	
Set-up controls	Local adaptation of units, language, date and time formats
Programmable buttons	2
<b>Image storage</b>	
Type	SD memory card
Format	Standard JPEG - including measurement data
Modes	IR/visual images, simultaneous storage of IR and visual images, visual image is automatically associated with corresponding IR image
Periodic image storage	Every 10 seconds up to 24 hours
Panorama	For creating panorama images
<b>Image annotations</b>	
Voice	60 seconds stored with the image
Text	Predefined text or free text from PDA (via IrDA) stored with the image
Image marker	4 on IR or visual image
<b>Digital camera</b>	
Built-in digital camera	3.2 Mpixel auto-focus with video lamp
<b>Laser Pointer</b>	
Laser	Semiconductor AlGaInP diode laser, Class 2
<b>Power System</b>	
Battery time	Rechargeable Lithium-ion battery, field replaceable
Battery operating time	3 hours
Charging system	In camera, AC adaptor, 2-bay charger or 12 V from a vehicle
Power management	Automatic shutdown and sleep mode (user selectable)
AC operation	AC adaptor, 100-240 V AC, 50/60 Hz
Adaptor voltage	12 VDC out
<b>Environmental specifications</b>	
Operating temperature range	-15 °C to +50 °C
Storage temperature range	-40 °C to +70 °C
Humidity (operating and storage)	IEC 68-2-30/24 h 95% relative humidity +25 °C to +40 °C
Shock	25 g (IEC 60068-2-29)
Vibration	2 g (IEC 60068-2-6)
Encapsulation	IP 54 (IEC 60529)
<b>Interfaces</b>	
USB-A	Connect external USB device (copy to memory stick)
USB-Mini-B	Data transfer to and from PC / streaming MPEG-4
Composite video	PAL or NTSC
IrDA	For sending text comment files from PDA to camera, wireless transfer of text
WLAN	Optional
Headset connection	Yes
<b>Physical characteristics</b>	
Camera weight, incl. battery	1.8 kg
Camera size (L x W x H)	299 x 144 x 147 mm
Shipping size	520 x 400 x 200 mm
Shipping weight	8.2 kg
<b>Standard package</b>	
FLIR P620, FLIR P640 or FLIR P660: Hard transport case, Infrared camera with lens, Battery (2 ea., one inserted in camera, one outside camera), Battery charger, Calibration certificate, FLIR QuickReport™ PC software CD-ROM, FireWire cable, 4/6 (FLIR P640 and P660 only), FireWire cable, 6/6 (FLIR P640 and P660 only), Headset, Lens cap (mounted on lens), Lens cap (2 ea.), Mains cable, Memory card-to-USB adaptor, Memory card with adaptor, Power supply, Printed Getting Started Guide, Shoulder strap, USB cable, User documentation CD-ROM, Video cable, Warranty extension card or Registration card	