



ThermaCAM™ P640

640 x 480 pixels professional infrared camera



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IMAGING PERFORMANCE

Thermal:

Field of view/min focus distance	24°x18° / 0.3 m
Spatial resolution (IFOV)	0.65 mrad
Thermal sensitivity	60mK at 30°C
Image frequency	30 Hz non-interlaced
Focus	Automatic or manual
Electronic zoom / pan function	1 - 8 x continuous, including pan function
Detector type	Focal Plane Array (FPA), uncooled microbolometer 640 x 480 pixels
Spectral range	7.5 to 13µm
Digital image enhancement	Normal and enhanced
Visual:	
Built-in digital video	1.3 Mpixel, full color / built-in Target Illuminator / exchangeable lens
Standard lens performance	f=8 mm / FOV 32°

IMAGE PRESENTATION

Video output	RS170 EIA/NTSC or CCIR/PAL composite video, IEEE-1394 FireWire, USB
Viewfinder	Built-in, tiltable, high-resolution color viewfinder (800 x 480 pixels)
External display	Built-in 5.6" LCD (1024 x 600 pixels)

MEASUREMENT

Temperature range	-40°C to +500°C, in 2 ranges; up to + 2000°C, optional
Accuracy	±2°C, ±2% of reading
Measurement mode	Spots/Areas (Boxes, Circles), Isotherms (above, below, interval), Delta T
Menu controls	Palettes , load custom palettes, auto adjust (manual/continuous/based on histogram equalization), on screen live and reference image (PoP), image gallery, sequence storage, programmable storage
Alarm Functions	Automatic alarm on any selected measurement function, audible/visible alarm above/below
Set-up controls	Date/time, Temperature °C/°F, language
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 or select from listings in pre-defined materials

list

Reflected ambient temperature correction

Automatic, based on input of reflected temperature

External optics/window correction

Automatic, based on input of optics/window transmission and temperature

IMAGE STORAGE

Type

Removable SD-card (256 MB)

Built-in RAM memory for burst recording

File formats - Thermal

Standard JPEG, 14 bit measurement data included

File formats - Visual

Standard JPEG, automatically associated with corresponding thermal image / possibility for visual marker

Voice annotation of images

30 sec. of digital voice "clip" stored together with the image wired headset

Text annotation of images

Predefined text selected and stored together with the image

Video STORAGE

Type

Recording of fully radiometric IR-video clips in camera, transferable to SD-card

Recording of MPEG-4 non-radiometric video to SD-card

Video streaming

Type

MPEG-4, IP-link using FireWire or USB

LENSES (OPTIONAL)

Field of view/min focus distance

12° x 9° / 0.9m tele lens

45° x 34° / 0.1m wide angle lens

Close-up 50µm 32 mm x 24 mm / 75 mm

Lens identification

Automatic

LASER POINTER

Classification

Class 2

Type

Semiconductor AlGaInP Diode Laser: 1mW/635 nm red

BATTERY SYSTEM

Type

Li-Ion, rechargeable, field replaceable

Operating time

3 hours continuous operation

Charging system

in camera (AC adapter or 12 V from car) or 2 bay intelligent charger

External power operation

AC adapter 110/220 V AC, 50/60 Hz or 12 V from car (cable with Std plug: optional)

Power saving

Automatic shutdown and sleep mode (user selectable)

ENVIRONMENTAL SPECIFICATION

Operating temperature range

-15°C to +50°C

Storage temperature range

-40°C to +70°C

Humidity

Operating and storage 10% to 95%, non-condensing

Encapsulation

IP 54 IEC 529

Shock

Operational: 25G, IEC 68-2-29

Vibration

Operational: 2G, IEC 68-2-6

PHYSICAL CHARACTERISTICS

Weight	1.7 kg incl. battery
Size	120 mm x 145 mm x 220 mm
Tripod mounting	1/4" - 20

INTERFACES

FireWire	IEEE-1394 FireWire output (real-time none-radiometric video / file transfer to PC)
USB	Image (thermal and visual), measurement, voice and text transfer to PC
IrDA	Wireless communication
SD-card (2)	I/O slot; storage slot