







THERMAL IMAGING INFRARED CAMERAS COMPARISON

Model no.	IC080V	IC080LV	IC120LV	EC060V	ICX640P	AC80V
						
TECHNICAL DATA						
Master data						
Article number	3.110.003.011	3.110.003.012	3.110.003.020	3.110.003.004	3.110.003.041	3.110.003.031
Temperature [°C]						
Min. measuring range	-20	-20	-20	-20	-20	-20
Max. measuring range	600	600	1,500	250	600	350
Accuracy, max.	± 2 °C/± 2 %	± 2 °C/± 2 %	± 2 °C/± 2 %	± 2 °C/± 2 %	± 2 °C/ ± 2 %	± 2 °C/ ± 2 %
Radiometric image performance						
Detector type	Focal Plane Array (FPA), uncooled microbolometer	Focal Plane Array (FPA), uncooled microbolometer	Focal Plane Array (FPA), uncooled microbolometer	Focal Plane Array (FPA), uncooled microbolometer	Focal Plane Array (FPA), uncooled microbolometer	Focal Plane Array (FPA), uncooled microbolometer
Detector resolution 80 x 60 pixels	-	-	-	-	-	-
Detector resolution 100 x 80 pixels	-	-	-	-	-	-
Detector resolution 160 x 120 pixels	Yes	-	-	Yes	-	Yes
Detector resolution 384 x 288 pixels	-	Yes	Yes	-	-	-
Detector resolution 640 x 480 pixels	-	-	-	-	Yes	-
Spectral range 7.5 - 14 µm	-	Yes	Yes	-	-	-
Spectral range 8 - 14 µm	Yes	-	-	Yes	Yes	-
Thermal sensitivity	0,08 °C	0,05 °C	0,05 °C	0,08 °C	<= 0,05 °C	0.08 °C
Image repetition frequency	50/ 60 Hz	50/ 60 Hz	50/ 60 Hz	50/ 60 Hz	50/ 60 Hz	50/ 60 Hz

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Geometric resolution	2,2 mrad	1,1 mrad	1,1 mrad	2,2 mrad	0,65 mrad	3 mrad
Standard lens	20° x 15°	24° x 12°	24° x 21°	20 ° x 15 °	24° x 18°	21° x 28°
Minimum focal length	0,10 m	0,10 m	0,10 m	0,10 m	0,50 m	0.5 m
Field of vision (FOV)	20° x 15°	24° x 21°	24° x 21°	20° x 15°	24° x 18°	21° x 28°
Display						
LCD	3,5"	3,5"	3,5"	3"	removable control unit with pivotable 5 inch TFT display	5"
TFT-LCD	-	-	-	-	-	-
Colour	Yes	Yes	Yes	Yes	Yes	Yes
Monochrome	-	-	-	-	-	-
800 x 600 pixels (viewfinder)	-	-	-	-	Yes	-
Visual image performance (integrated digital camera)						
Colour display/resolution 680 x 480 pixels	Yes	Yes	Yes	Yes	Yes	Yes
Video norm	PAL	PAL	PAL	PAL	NTSC/ PAL Composite Video	PAL
Standard lens	20° x 15°	24° x 21°	24° x 21°	20° x 15°	24° x 18°	21° x 28°
Focus						-
Minimum focal length	0,1	0,1	0,1	0,1	0,5	0.5
Interfaces						
USB 2.0	Yes	Yes	Yes	Yes	Yes	Yes
Composite video (video out)	Yes	Yes	Yes	Yes	Yes	-
Mains connection	Yes	Yes	Yes	-	Yes	-

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Bluetooth	-	-	Yes	-	Yes	Yes
RS-232	-	-	-	-	Yes	-
WLAN	-	-	-	-	Yes	Yes
USB 1.1	-	-	-	-	-	-
Power supply						
Via battery (Li ion, standard camcorder battery)	Yes	Yes	Yes	Yes	Yes	Yes
Via mains current	7,2 V DC	7,2 V DC	7,2 V DC	8- 11V DC	7,2V DV	5 V = 2,1 A
Via LAN (PoE)	-	-	-	-	-	-
12 V, 3 A (cigarette lighter)	Option	Option	Option	Option	Option	option
Operating time						
≈ 2.5 h	Yes	Yes	Yes	No	Yes	-
> 3 h	-	-	-	-	-	-
≈ 5 h	-	-	-	-	-	-
> 4 h	-	-	-	-	-	-
≈ 3 h	-	-	-	Yes	-	-
Device control						
Push buttons	Yes	Yes	Yes	Yes	Yes	-
Via PC (software)	-	-	-	-	Yes	-
Via joystick control unit	-	-	-	-	-	-
Memory organization						
Storage medium	Removable storage slot for miniSD card	Removable storage slot for miniSD card	Removable storage slot for miniSD card	Removable storage slot for SD card	Removable storage slot for SD card	flash,21 GB
File format radiometric	14 bit IR format	14 bit IR format	Yes	14 bit radiometric IR format	14- Bit- JPEG	14 bit IR format
File format visual	CCD	CCD	CCD	CCD	NTSC/ PAL Composite Video	JPG


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Voice recording	Option	Option	Option	-	Option	-
File format non-radiometric thermographic video	-	-	-	-	MPEG4 (storable on SD card)	Yes
Surrounding conditions						
Operation – min. temperature [°C]	-15	-15	-15	-15	-20	-20
Operation – max. temperature [°C]	50	50	50	50	50	50
Storage – min. temperature [°C]	-40	-40	-40	-40	-40	-40
Storage – max. temperature [°C]	70	70	70	70	70	70
Humidity min. [%]	10	10	10	10	10	10
Humidity max. (non-condensing) [%]	95	95	95	95	95	95
Type of protection						
IP54 IEC 529	Yes	Yes	Yes	Yes	Yes	Yes
Shock						
25G IEC 68-2-29	Yes	Yes	Yes	Yes	Yes	Yes
Vibration						
2G IEC 68-2-6	Yes	Yes	Yes	Yes	Yes	Yes
Laser						
Type	Semiconductor AlGaInO diode laser, 1 mw/635 nm red	Semiconductor AlGaInO diode laser, 1 mw/635 nm red	Semiconductor AlGaInO diode laser, 1 mw/635 nm red	Semiconductor AlGaInP Diode Laser	Semiconductor AlGaInO diode laser, 1 mw/635 nm red	Semiconductor AlGaInO diode laser, 1 mw/635 nm red
Classification	Class 2	Class 2	Class 2	Class 2	Class 2	Class 2
Wavelength [µm]	635	635	635	635	635	635
Housing design						
Plastic	Yes	Yes	Yes	Yes	Yes	Yes







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Weight (packing excluded)						
Weight [kg]	0,650	0,650	650	0,500	1,650	0.405
Dimensions (packing excluded)						
Length [mm]	230	230	230	175	327	174
Width [mm]	80	80	80	55	143	35
Height [mm]	195	195	195	160	170	102
STANDARD SCOPE OF DELIVERY						
Removable TFT control unit						
Option	-	-	-	-	Yes	-
Plug-on video lamp						
Option	-	-	-	-	Yes	-
Standard software package						
Option	Yes	Yes	Yes	Yes	Yes	Yes
Operating manual						
Option	Yes	Yes	Yes	Yes	Yes	Yes
SD memory card						
Option	2 GB	2 GB		2 GB	4 GB	-
Li-ion battery						
Option	1x	1x	Yes	1x	2x	Yes
Battery charger with charging status indicator						
Option	Yes	Yes	Yes	Yes	Yes	Yes
Video cable						
Option	Yes	Yes	Yes	Yes	Yes	-
Temperature test certificate						
Option	Yes	Yes	Yes	Yes	Yes	Yes
Transport case						
Option	Yes	Yes	Yes	-	Yes	Yes
Bluetooth headset						
Option	-	-	-	-	Yes	-
USB cable						

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Option	Yes	Yes	Yes	-	Yes	Yes
MiniSD memory card						
Option	Yes	Yes	Yes	-	-	-
SD card reader						
Option	Yes	Yes	-	Yes	Yes	-
Docking station						
Option	-	-	-	Yes	-	-
ASCERTAINABLE MEASURED VALUES AND FUNCTIONS						
Functions and equipment						
Manual focus	Yes	Yes	Yes	Yes	-	-
Auto focus	-	-	-	-	Yes	-
Motor-controlled focus	-	-	-	-	Yes	-
Image display (pseudo colours, 6 colour palettes)	Yes	Yes	Yes	Yes	Yes	Yes
Image display option IR image	Yes	Yes	Yes	Yes	Yes	Yes
Image display option real image	Yes	Yes	Yes	Yes	Yes	Yes
Image display option different DuoVision options for combined display of IR and real images	Yes	Yes	Yes	Yes	Yes	-

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Up to 2 movable measuring spots (1x manual and 1x automatic temperature tracking)	-	-	-	-	-	-
Up to 5 movable measuring spots (4x manual and 1x automatic temperature tracking)	Yes	Yes	Yes	Yes	Yes	Yes
Up to 6 movable measuring spots (5x manual and 1x automatic temperature tracking)	-	-	-	-	-	-
Up to 10 movable measuring spots (9x manual and 1x automatic temperature tracking)	-	-	-	-	Yes	-
Area measurement 1 area	-	-	-	-	-	-
Area measurement 5 areas	-	-	-	-	Yes	-
Isotherm measuring function	between upper and lower limit value	between upper and lower limit value	between upper and lower limit value	Yes	Yes	Yes







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Degree of emission adjustable from 0.1 to 1.0	Yes	Yes	Yes	Yes	Yes	Yes
Automatic measurement correction based on user-defined specifications for ambient temperature, distance, relative humidity	Yes	Yes	Yes	Yes	Yes	Yes
Voice recording	Option	Option	Option	-	Option	-
Tripod	Yes	-	-	Yes	Yes	-
Profile analysis	-	Yes	-	-	Yes	Yes
Differential measurement	Yes	Yes	-	Yes	Yes	-
Alarm function (acoustic) when exceeding/ falling below freely configurable temperature values	Yes	Yes	-	Yes	Yes	Yes
Integrated, inclinable viewfinder with diopter compensation (800 x 480 pixels)	-	-	-	-	Yes	-
Laser pointer	Yes	Yes	-	Yes	Yes	-

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Saving of non-radiometric MPEG-4 IR videos directly on SD card	-	-	-	-	Yes	-
Saving of fully radiometric JPEGs	-	-	-	-	Yes	Yes
DuoVision function for picture-in-picture display	Yes	Yes	-	Yes	Yes	-
Data transmission via USB	Yes	Yes	-	-	Yes	Yes
Integrated digital camera	Yes	Yes	Yes	Yes	Yes	Yes
Automatic contrast and brightness setting	Yes	Yes	-	Yes	Yes	Yes
2x digital zoom	-	-	-	-	-	-
10x digital zoom (adjustable in 0.1 degrees)	-	-	-	-	Yes	-
Automatic adjustment of the temperature range	Yes	Yes	-	Yes	Yes	Yes
Manual adjustment of brightness and contrast	Yes	Yes	-	Yes	Yes	Yes
Energy saving mode	user-defined	user-defined	user-defined	user-defined	-	user-defined
Tripod mounting	Yes	Yes	Yes	Yes	Yes	-
Integrated photo lamp	Yes	Yes	Yes	Yes	Yes	Yes
Freeze function	Yes	Yes	-	Yes	Yes	Yes

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Internal sensors						
Surface temperature [°C]	Yes	Yes	Yes	Yes	Yes	Yes
Surface temperature [°F]	Yes	Yes	-	Yes	Yes	Yes