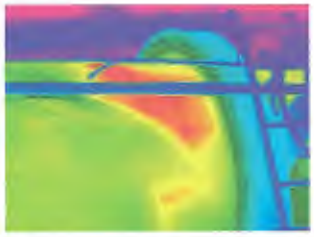
IC – Intelligent and Clever...

IC cameras have everything that you would expect from a professional thermal imaging camera whilst at the same time being surprisingly inexpensive to buy. Clever electronics and functions, intelligent power management and mobility concept:

High precision even at high temperatures...



A geometric resolution of up to 1.3 mrad, the high thermal sensitivity and an image repetition frequency of 50/60 Hz enable precise thermograms to be made in real-time in every possible measuring situation – in a measuring range between -20 °C and +1,500 °C depending on the type of model.

We don't do things by halves: Always in the picture thanks to real-time display...

REAL TIME The IC thermal imaging camera's highly developed sensor system constantly determines even the smallest temperature changes.

As many as 110,592 autarkic temperature measuring points measure the current values close to 60 times a second and transfer this information to an LCD display. The high image repetition frequency guarantees that not a single image – i.e. valuable thermographic information - is left out and that the infrared image is displayed in real-time.

Without real-time, half is missing...

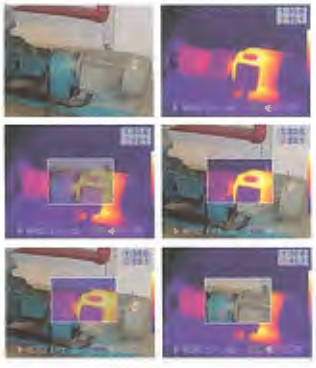
Only a high image refresh rate of 50/60 Hz guarantees working without fatigue and exact measurements, even in the case of moving objects.

You won't miss a thing – with DuoVision...

DUO VISION The IC cameras in the V and LV Series are equipped with an additional digital camera for real images and an integrated photo lamp to light up dark areas.

The patented DuoVison-technology does not only enable infrared or real images to be displayed individually, it can also supply an individually selectable four-stage combined overlapping depiction of both images. This means that any damage or defects can be detected at a single glance.

Regardless which of the display options you use, both the real image and the infrared image information is stored separately so that the measuring data can be fully retrieved when needed.



The IC gets to the point...

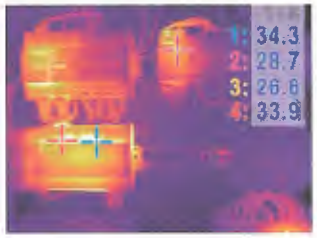
The integrated laser pointer makes it easy to locate problem areas quickly and the integrated hot spot/cold spot detection saves you having to search for the hottest or coldest point in the image.

Due to the short minimum focusing distance of just 10 cm, even close-up objects can be examined with pinpoint accuracy.

A clear target in view,...

...or two, or three, or four?

The powerful camera technology allows differential measurements at up to four movable temperature measurement points, of which three can be individually configured.



In addition, temperature limits that you set yourself via an alarm or isotherm function can be displayed by a special colour or by an alarm signal – ideal for **dew point detection** on surfaces!

The IC shows everything as clear as daylight...

A high-quality germanium lens guarantees perfect thermographic images, which are shown in real-time on the brilliant LCD display.

The tilting monitor element can be ergonomically adjusted to suit the observer in every recording situation.

Thanks to the folding mechanism, the monitor element can be folded down fully after measurements are completed, thus protecting the LCD display and the operating keypad against dirt.

Rough shell, clever core...

All interfaces are located centrally and well protected in the base of the sturdy IP54 housing, which is also suitable for use under the harshest environmental conditions.

Thanks to the intelligent power management, the cameras are ready for use quickly at all times – the advanced camera circuitry places numerous measurement functions at the user's disposal just a few seconds after switching on.

Quality is standard...

The software included in the package is not just a simple data transfer or display tool – with each IC camera you get a professional, full-value analysis and documentation program with numerous functions for evaluation, organisation and documentation of your measurement results.

DUO VISION The software's DuoVision function also offers the option to overlap infrared and real images in varying degrees of intensity.

These DuoVision images can also be stored and they are then not only easier to evaluate but also provide a more professional means of documentation.

IR-cameras from the IC series – further information…

Technical data		IC090 EX	IC060	IC080	IC120	IC080 V	IC120 V	IC080 LV	IC120 LV
Article no.		3.110.003.016	3.110.003.008	3.110.003.010	3.110.003.018	3.110.003.011	3.110.003.019	3.110.003.012	3.110.003.020
Measure-ment	Temperature range	-20 °C to +250 °C	-20 °C to +250 °C	-20 °C to +600 °C	-20 °C to +1,500 °C	-20 °C to +600 °C	-20 °C to +1,500 °C	-20 °C to +600 °C	-20 °C to +1,500 °C
	Accuracy	±2 °C or 2 % of the measured value							
Image output radiometric	Detector type	Focal Plane Array (FPA), uncooled microbolometer							
	Detector resolution	160 x 120 pixels						384 x 288 pixels	
	Spectral range	7.5 to 14 µm	8 to 14 µm					7.5 to 14 µm	
	Field Of View (FOV)	38° x 28.5°	20° x 15°					24° x 21°	
	Geometric resolution	4.4 mrad	2.2 mrad					1.3 mrad	
	Thermal sensitivity	0.1 °C at 30 °C						0.08 °C at 30 °C	
	Image refresh rate	50/60 Hz							
	Focus	manuell							
	Min. focussing distance	0.10 m							
Image perform-ance visual	Digital photo camera	–				Colour depiction 680 x 480 Pixel, integrated photo lamp			
	Video norm	–				PAL/NTSC			
Image repre-sentation	Image display	2.5" LCD, pseudo colours, 6 colour palettes							
	Image display options	IR image				IR image, real image, 4 DuoVision options for the combined display of IR and real image			
Measuring functions	Measuring point	Up to four moveable measuring points (3x manual and 1x automatic)							
	Isotherm	Yes (between the upper and lower limit values)							
	Emission factor	Variably adjustable from 0.01 to 1.0							
	Measurement correction	Automatic on the basis of user-defined specifications for environmental temperature, distance, relative humidity							
Image storage	Storage medium	Integrated flash memory cardfor approx. 1,000 images				Interchangeable memory card slot for mini-SD card			
	Data format radiometric	14-bit radiometric IR format							
	Data format visual	–				CCD			
	Video recording	–				Comments can be stored with each IR image (optional Bluetooth expansion kit and Bluetooth headset necessary)			
System sta-tus indicator	Status display	LCD display	–						
Laser	Type	Semiconductor AlGaInP Diode Laser, 1 mw/635 nm red							
	Classification	Class 2							
Power supply	Battery type	Rechargeable standard lithium-ion battery, replaceable							
	Operating time	≈ 2.5 h							
	Mains operation	8 - 11V DC							
	Energy saving mode	user-defined							
Ambient conditions	Operating temperature	0 °C to +40 °C							
	Storage temperature	-40 °C to +70 °C							
	Humidity	10 % to 95 % r.H. (non-condensing)							
	Protection class	IP 54 IEC 529							
	Shockproof to	25G IEC 68-2-29							
	Vibration-proof to	2G IEC 68-2-6							
Physical parameters	Dimensions	211 x 80 x 195 mm				230 x 80 x 195 mm			
	Weight	700 g				740 g			
	Stand mounting	1/4-inch - 20							
Interfaces	PC	USB 1.1				USB 2.0			
	Video output	Composite Video							
Package contents	Standard lens	38° x 28.5°	20° x 15°					24° x 21°	
	Standard equipment	Camera with standard lens, LCD display and laser, battery charger 110/230 Volt (IC090 Ex-protected) with charging status indicator, Li-ion battery (IC090 two Ex-protected special rechargeable batteries), video cable, USB cable for downloading images to your PC, operating instructions, carry case, software package, temperature test certificate, mini-SD interchangeable memory card (only V and LV models)							
	Optional interchangeable lenses	–	38°-, 28°-, 14°-, 12°-, 9°-, 6.4°-, 4.8°-, 3.5°-Linse					48°-, 12°- lens	
	Optional accessories	on request	Tripod mount bracket, power supply, 12V adapter for cigarette lighter, additional battery, leather holster, Bluetooth expansion kit and Bluetooth headset (only V and LV models), software upgrade for thermographic video recordings and evaluations in real-time (only V and LV models), further software packages on request						