

# digiCam/2-IR

## Infrared Thermal Imaging Cameras



Flexible and Easy-To-Use  
Thermal Imaging to Serve a Wide Range of Needs



# Comprehensive Thermal Analysis Made Flexible and Easy

Flexible

Easy-To-Use

Selectable Temperature Ranges

Wide Range of Measurement Functions

The digiCam/2-IR camera series combines state-of-the-art thermal imaging, ease-of-use and flexible functionality to serve a wide range of applications.

We have packaged our models to serve different needs, through progressive feature sets.

This provides you the flexibility to choose a model that serves your anticipated range of uses, and at an attractive price-per-feature.

# Best

For complex **Analysis** applications when advanced functionality, comprehensive thermal data analysis, temperature ranges up to 2192°F are needed:

**Complex Monitoring**  
**Research and Development**  
**Laboratory Applications**

### Feature Set:

- Three Temperature Ranges standard (0-350°C and 250-600°C), and optional 500-1200°C
- Selectable (on/off) Center Point, Cursor Point (fully radiometric), Center Box, Coldest Point temperature display
- Thermal image saves with 1920x1080 resolution and temperature data
- Includes **Image Analysis PC** software for comprehensive thermal data analysis
- Programmable Image Capture
- 2X Electronic Zoom
- Adjustable Image Enhancement
- On-Camera Image Text Annotations
- Selectable isotherm temperature

# Good

# M

series

For general **Maintenance** applications -- when basic functionality and temperature ranges up to 350°C (662°F) will do:

- Energy Efficiency Auditing
- Equipment Safety Monitoring
- Predictive Maintenance
- General Process Monitoring

### Feature Set:

- Two Temperature Ranges (0-100°C and 0-350°C)
- Selectable (on/off) Center Point temperature
- Thermal image saves as JPG image file, and can include centerpoint temperature
- Includes **Image Report** PC software, for image viewing and report generation



- Programmable Button Modes
- Image File Name (.JPG file)
- Emissivity Setting
- Background Temperature
- Cursor
- Date
- Centerpoint Temperature
- Time
- Color Palette
- Temperature Mode (C, F or K)
- Power Source / Battery Charge

# Better

# P

series

For detailed **Process** applications -- when rich functionality and high temperature ranges up to 1200°C (2192°F) are needed:

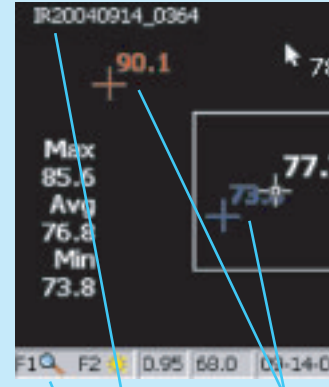
- Wider Maintenance Application Range
- Process Monitoring and Reporting
- Quality Control Activities

### Feature Set:

- Three Temperature Ranges standard (0-100°C, 0-350°C and 250-600°C), and optional 500-1200°C
- Selectable (on/off) Center Point, Cursor Point (fully radiometric), and Center Box temperature
- Thermal image saves as JPG image file, and can include all temperature points displayed
- Includes **Image Report** PC software, for image viewing and report generation



- Programmable Button Modes
- Center Box Temperatures
- Image File Name (.JPG file)
- Emissivity Setting
- Background Temperature
- Cursor
- Cursor Point Temperature
- Date
- Centerpoint Temperature
- Palette Temp. (Click to Adjust)
- Color Palette
- Temperature Mode (C, F or K)
- Power Source / Battery Charge



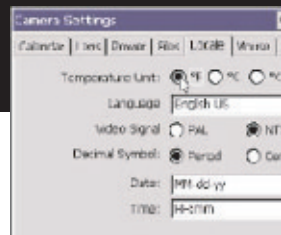
- Programmable Button Modes
- 2X Image Zoom
- Center Box Temperatures
- Image File Name (.JPG file)
- Emissivity Setting
- Background Temperature
- Cursor
- Cursor Point Temperature
- Hottest and Coldest Points
- Date



A 180° articulating lens provides flexibility to view the target



Interchangeable lens options enable adjusting to an ideal field of view



Easy-to-use camera software provides you options to view temperatures in Celsius, Fahrenheit or Kelvin, and navigate in English, Spanish, French, Italian or German.

**A**  
series

Applications --  
Quality,  
data, and high  
to 1200°C

and Analysis  
Development  
Options

Standard (0-100°C,  
optional 500-1200°C)  
Point, Cursor Point  
Hot and Hottest and  
Display  
200 points of

software, for com-  
pact analysis  
e

ent  
station  
ure band



- Neck Strap Mount
- Compact Flash Memory Card Slot
- Interchangeable Infrared Germanium Lens
- Image Mode Button (Live, Paused or Saved)
- NTSC/PAL Video Output
- Mouse Control Button
- Crosshair Mode Button
- Programmable Button 1
- Programmable Button 2
- Camera On / Standby Button
- Power Adapter and USB Ports
- Battery Release Latch
- Battery
- Tripod Mount
- Menu Select Button
- Mouse Click Button
- Temperature Scale
- Color Palette Button



- Centerpoint Temperature
- Time
- Palette Temp. (Click to Adjust)
- Color Palette
- Temperature Mode (C, F or K)
- Power Source / Battery Charge

**Image Analysis Software**

- Organize images
- Analyze fully radiometric images
- Collect data
- Automatically generate reports

With the "A" series Image Analysis PC Software, you will be able to conduct thorough and detailed thermal analysis of raw temperature data.

An analysis toolbar provides you the ability to select particular areas of an image for review. You can select points, lines, rectangles, circles, polygons, and cold and hot points on the image, and data about the selected area displays in a table.

This information can also be automatically output as a printed report, or exported to other database programs for analysis.

Label	Emiss	BG	Avg	SD	Max	Min	Unit
A1	0.95	68.0	88.03	10.52	131.2	81.2	F
Hot	0.95	68.0	142.93	0.00	142.9	142.9	F

# Specifications

**M**  
series  
features

**P**  
series  
features

**A**  
series  
features

## Imaging Performance

Detector	Focal Plane Array (FPA), Uncooled Microbolometer		
Spectral Band	8 - 12 $\mu\text{m}$		
Focusing	Manual		
Image Enhancement	Fixed at Normal	Adjustable / Automatic Full-time Enhanced	
NETD @ 30Hz	< 0.10°C at 30°C		< 0.09°C at 30°C
Electronic Zoom	2X		

## Display and Image Storage

Display	5 inch high-resolution, 320 x 240, sunlight readable color LCD		
On-screen Indicators	Battery status, target emissivity, background temperature and real-time clock		
Palettes	Up to eight unique palettes available		
Storage Medium	Compact Flash		
File Formats Supported	JPEG	JPEG	Image file with 14 bit full image data included
Text Annotation of Images	On-camera, user definable, automatically included in reports		

## Temperature Measurement

Available Temp. Ranges	0°C to 100°C (32°F to 212°F)		
	0°C to 350°C (32°F to 662°F)		
	N/A	250°C to 600°C (482°F to 1112°F)	
	N/A	500°C to 1200°C (900°F to 2192°F)	
Accuracy	$\pm 2^\circ\text{C}$ or $\pm 2\%$ of reading or measured temperature		
Emissivity Correction	Based on user input. Variable from 0.1 to 1.0		
Measurement Corrections	Automatic, based on user input for ambient temperature and optics		
Measurement Modes	Center point	Center point	Center point
		Center box - min, max, avg	Center box - min, max, avg.
		Full Image - moveable point	Full Image - moveable point
		Alarm above and below range	Alarm above and below range Hottest and Coldest point Isotherm

## Power

Battery Type	7 Volt, Lithium-Ion Rechargeable Smart Battery (2 batteries and charger supplied with each camera)
Battery Operating Time	2+ hours continuous operation
Battery Charging	2-bay intelligent charger powered via AC outlet (an optional 12v charger adapter is also available)
AC Operation	AC adapter 110/220 VAC, 50/60Hz
Power Saving	Automatic shutdown and sleep mode (user specified)

## Interfaces

Video Output	RS170 EIA/NTSC or CCIR/PAL composite video output
USB	2 USB Ports, for factory use only

## Physical Characteristics

Weight	1.95kg (4.3 lbs) including battery
Overall Dimensions	69mm x 262mm x 162mm (2.75" x 10.5" x 6.5") camera only

## Environmental

Operating Temperature	-10°C to +50°C (14°F to 122°F)
Storage Temperature	-40°C to +70°C (-40°F to 158°F)
Humidity	10% to 95%, non-condensing
Shock	25G, IEC 68-2-29
Vibration	3G, IEC 68-2-6
Transit Drop	MIL-STD-810F, Method 516.5, Procedure IV
Encapsulation	IP54

NIST Calibration Provider



These cameras comply to the following standards and directives:  
 Electromagnetic Emissions (by Council Directive 89/336/EEC)  
 Electromagnetic Immunity (by Council Directive 89/336/EEC)  
 EN 61326 Class A  
 EN 61000-4-3

Each digiCam/2-IR camera comes with:

- Heavy duty, padded carrying case
- Operation manual / Software
- 2 rechargeable batteries with charger
- Video cable
- Auxiliary AC power unit
- Shoulder and hand strap
- Compact Flash memory card
- USB and PCMA CF card reader

To order additional accessory or replacement items, please contact Iacon.

	<b>Lens</b>	<b>Field of View</b>
	10.5mm	42.5° H x 32.5° V
	20mm (standard)	23.1° H x 17.4° V
	54mm	8.6° H x 6.5° V

## Part Numbers

Feature Set	Lens Package	Temperature Configuration
<b>A</b>	<b>1 0 0</b>	<b>1</b>
A = A series	100 = 20mm	1 = Std. Temp Range Model
P = P series	101 = 10.5mm	
M = M series	102 = 54mm	2 = Hi Temp Range Model
	103 = 20mm & 10.5mm	
	104 = 20mm & 54mm	
	105 = 20mm, 10.5mm & 54mm	
	106 = 10.5mm & 54mm	

	Temp Range (Celsius)	Lens Pack	Model #
		10.5 20 54	
<b>M</b> series	0-350°		M 100-1
	0-350°	■	M 101-1
	0-350°		M 102-1
	0-350°	■	M 103-1
	0-350°	■	M 104-1
	0-350°	■	M 105-1
<b>P</b> series	0-600°		P 100 1
	0-1200°	■	P 100-2
	0-600°	■	P 101-1
	0-600°		P 102-1
	0-600°	■	P 103-1
	0-1200°	■	P 103-2
	0-600°	■	P 104-1
	0-1200°	■	P 104-2
	0-600°	■	P 105-1
	0-1200°	■	P 105-2
<b>A</b> series	0-600°		A 100-1
	0-1200°	■	A 100-2
	0-600°	■	A 101-1
	0-600°		A 102-1
	0-600°	■	A 103-1
	0-1200°	■	A 103-2
	0-600°	■	A 104-1
	0-1200°	■	A 104-2
	0-600°	■	A 105-1
	0-1200°	■	A 105-2
0-600°	■	A 106-1	

Note: 1200°C calibration is only available with 20mm lens



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Part No. 010160 Rev B

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Printed in USA 06/05

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**Research and Development**  
**Laboratory Applications**

### Feature Set:

- Three Temperature Ranges standard (0-100°C, 0-350°C and 250-600°C), and optional 500-1200°C
- Selectable (on/off) Center point, Cursor Point (fully radiometric), Center Box and Hottest and Coldest Point temperature display
- Thermal image saves with 19,200 points of temperature data
- Includes **Image Analysis** PC software, for comprehensive thermal data analysis
- Programmable Image Capture
- 2X Electronic Zoom
- Adjustable Image Enhancement
- On-Camera Image Text Annotation
- Selectable isotherm temperature band



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- Neck Strap Mount
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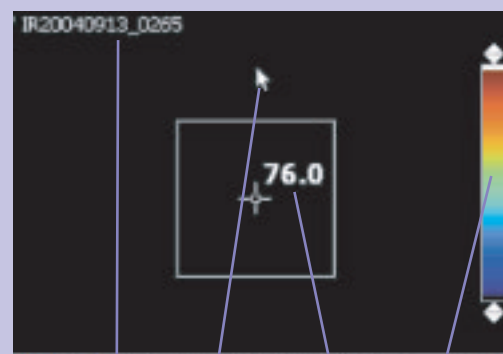
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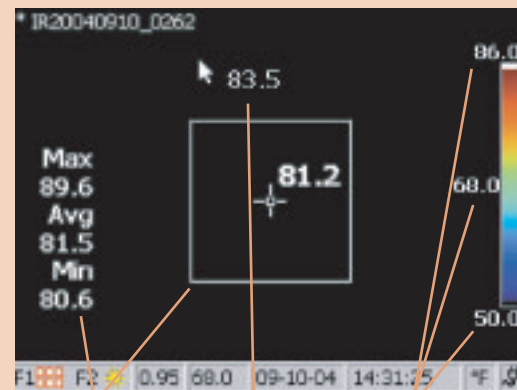
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- Power Source / Battery Charge



- Programmable Button Modes
- 2X Image Zoom
- Center Box Temperatures
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