InfRed Camera

MICROWATT
Making Safety Work
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Avio

Thermo GEAR

G120EX/G100EX Series

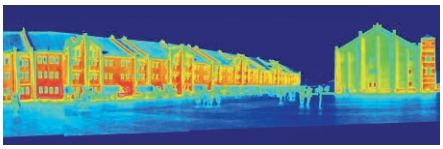
New EX Series with Upgraded Performance!!

- Measures high temperature up to 1500°C
- NETD : 0.04°C (with S/N improvement at 30°C)
- 'Averaging Improvement' function for better image quality
- Standard grip belt for better safety & operability

Wide-Angle Shot

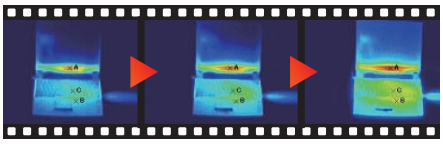
World's First *1

Panoramic Thermal Image *2



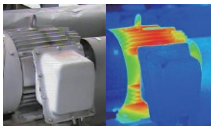
Thermal Image Movie

Direct Recording on SD Card in Fully Radiometric (G120EX:10fps, G120EXD:8.5fps)*2

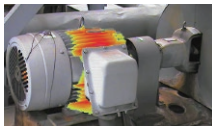


IR/Visual Integrated Display

Split-Screen, Fusion, Alpha Blending



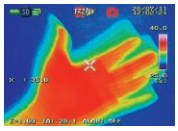
Split-Screen



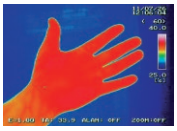
Fusion

Averaging Improvement

Minimizes residual images of moving object while averaging



Existing averaging Function



With 'Averaging Improvement'

Alarm Function

World's First *1

Vibration*2
Sound and Display

High Temp Measurement

Up to 1500°C, Standard

3.5 inch LCD Screen

Tilting Display for Flexible Easy Shooting Posture

Wide Field of View

Ideal for Short Distance
32°(H) × 24°(V)

Macro Shot

Min. Focus Distance:10cm

Easy Operation

GUI and Joystick for Intuitive Operation, Auto Focus/ Level-Sense

*1:World's first [Panoramic Thermal Image Shooting Function],[Vibration Alarm Function] (Surveyed by our company at end of December,2009.) *2:Provided on G120EX Series only.

NIPPON AVIONICS CO.,LTD.

An NEC Group Company

Specifications

Item			G120EX	G120EXD	G100EX	G100EXD
Basic Performance	Infrared Detector		Uncooled Focal Plane Array (microbolometer)			
	Spectral Range		8 to 14μm			
	Measuring Range		-40 to 1500°C			
	Sensitivity (NETD)		0.04°C at 30°C (with S/N improvement)			
	Accuracy		±2°C or ±2%*1			
	Frame Rate		60Hz	8.5Hz	60Hz	8.5Hz
	Detector Pixels		320(H)×240(V) pixels			
	Field of View		32°(H)×24°(V) (with standard lens)			
	Spatial Resolution		1.78mrad			
	Focal Distance		10cm to infinity (with standard lens)			
	Focus		Auto / Manual			
Image Display	Auto Functions		Auto-scale, Auto-focus, Full-auto			
	Color Pallet		Rainbow, Iris, Brightness, Hot iron, Hot white, Hot black			
	Gradation		256/16/8 tones			
	Visual Camera		CMOS camera 2M pixels			
	Display Functions	Fusion	Available			
		Picture-In-Picture	Available			
		Alpha Blending	Available			
		Side-by-Side	Available			
		Digital Zoom	1 to 4 times continuous zoom			
		Multi-Image-Display	Display 9 images(replay mode)			
	Image Quality Improvement	Averaging	Off / Σ4/ Σ8/ Σ16 (with ghost rejection)			
		Edge Enhancement	Available		N/A	
		Filtering	Available			
Measuring Functions	Point Temperature		1 Center Point, 5 Movable Points			
		Temperature Search	MAX/MIN			
		Delta Temperature	Available			
	Temperature Display in Assigned Region		MAX, MIN and AVG in Box (for up to 5 Boxes)			
	Line Profile		Horizontal, Vertical or Horizontal & Vertical			
	Alarm function		Alarm Sound, Alarm Display, Color Alarm(ISO)			
		Vibration Alarm	Available		N/A	
		Alarm Recording	Available			
		Alarm Output	Available			
	Temperature Correction Function		Emissivity, Environment/Background, Distance, NUC			
		Emissivity	Multi-Point Correction, Emissivity Reverse Calculation, Emissivity Table			
Storage / Output	Storage Device		SD Card, Compatibility SDHC			
	Data Storage		Still Image : JPEG with Temperature Data (14 bit), Movie : SVX file (exclusive), Visual Image Simultaneously Recorded		Still Image : JPEG with Temperature Data (14 bit), Visual Image Simultaneously Recorded	
		Panoramic Image	Horizontal Equivalent to 100°, Vertical Equivalent to 75°		N/A	
		Movie Recording	Max 10 fps in SD Card	Max 8.5 fps in SD Card	N/A	
		Interval Recording	3s to 60min, Visual Image Simultaneously Recorded			
		Voice Annotation	30sec Recording/Replay per Image			
		Text Annotation	Annotate up to 128 Characters with each Thermal Image Import Characters from SD Card			
	Interface	USB2.0	Mass-Storage			
		Video output	NTSC or PAL (Simultaneous use with LCD not available)			
		Alarm output	Available (Contact Closure. No Voltage)			
Auxiliary Measuring Functions	Graphical User Interface's Supported Language		English, French, Spanish, German, Italian, Portuguese, Russian, Finnish, Danish, Norwegian, Swedish, Dutch, Chinese (Traditional, Simplified), Korean and Japanese.			
	Display		3.5" LCD Monitor (with Tilt and Brightness Adjustment Available)			
	Auxiliary Device	Laser Pointer	Available (Class-2 Red color)			
		LED Light	Available			
Others	Environment Resistance	Operating temperature / Humidity	-15°C to 50°C, 90%RH			
		Vibration / Shock	29.4m/sec²(3G), 294m/sec²(30G)			
		EMC	Compliant to CE (Class A)			
		Dust / Splash Proof	IP54			
	Battery Operation		4hours (typ), Rechargeable Li-Ion battery			
	AC Power		100V to 220V AC, 50/60Hz			
	Power Consumption		4.3W (typ)			
	Dimensions		Approx. 212mm(H) × 75mm(W) × 138mm(D) (excluding projections)			
	Weight		Approx. 800g (including Battery Pack)			
	Standard Accessories		AC Adapter ×1, Battery Charger ×1, Rechargeable Li-Ion Battery ×1, SD Card ×1, USB Cable ×1, Wristband ×1, Grip Belt ×1, Software ×1, Operation Manual ×1, and Carrying Case ×1			
	Standard Software		InfReC Analyzer NS9500LT			

*1 Operating Temperature : 0 to 40°C

InfReC InfraRed Camera

[InfReC] is the coined abbreviation word of "Infrared Camera" and also has the meaning of [The Device Recording Infrared Information] . Our product research and development is targeted at improving the quality of life by protecting people and simplifying their daily tasks while measuring temperature, controlling environments, enhancing security, etc.

PC Software

InfReC Analyzer NS9500 Lite

Thermal Image Processing and Report Generator Software
Easily identifiable menu system guides you to intuitive operation

【Features】

- **Easy Report Generation (MS-WORD/MS-EXCEL Format)**
- **Rich Processing Functions**

Fusion Display of Thermal Image / Visual Image
Subtraction Function for Thermal Image

Panoramic Composite Function for Thermal Image
Radiation Heat Quantity Analysis※1

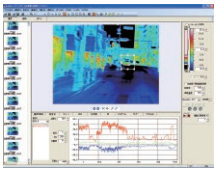
Length Measuring/Area Calculation Function※1 for Thermal Image

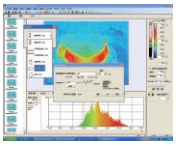
Trend Graph Display※1

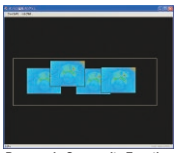
Line Profile Display

Drawing Function for Designated Point / Line / BOX / Circle※1 / Polygon Shape※1

Analysis for Max./Min./Peak Temperature


Trend Graph Display


Radiation Heat Quantity Analysis

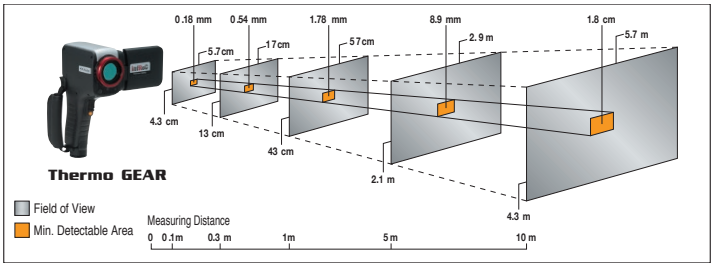

Panoramic Composite Function for Thermal Image

※1: Optional Software Model NS9500 Standard only
※ Compatible PC configuration, OS system and associated application software are to be consulted beforehand. Some old or new system might not be supported.

Options

Options	Model	Specifications / Remarks
2 x Telephoto Lens	IRL-TX02A-B	16°(H) x 12°(V) 0.89mrad (f=28mm)
Rechargeable Battery Pack	T2UR18650F5928	2,500mAh, 4 Hours of Continuous use (typical)
Battery Charger	NC-LSC05-110V / NC-LSC05-220V	110v or 220v
AC Adapter	RC60G-09D-110V / RC60G-09D-220V	
LCD Hood	IRU-F01A	
Video cable	FVC-135A	3.5mm plug, 1.5m
Tripod (small)	U9800BK	
InfReC Analyzer Standard	NS9500STD-B	PC Software
Portable Power for longer operation	TVB-C501	Case for 2 extra batteries (battery not included)
2 year warranty	IRS-GG100 A-B	

Dimensions of Measuring Distance and Field of View (Standard 14mm Lens)



NIPPON AVIONICS has long experience and expertise in developing infrared cameras since the early 1970's.
There is a wide range of portable and fixed mount thermal imagers available.To find out more, visit us at : www.avio.co.jp/english/ or contact our local distribution partners.

▪ Listed specifications, appearance and design are subject to change without notice. ▪ Company and commodity names are trade names or registered trade marks of each company. ▪ NIPPON AVIONICS Co., Ltd. will not be responsible for any damage of infrared detectors due to incoming strong light (e.g. laser) through lens(es). ▪ This product is subject to Japanese Export Control Law. Depending on its destination, prior assessment and authorization may be required. When exporting from country of initial purchase destination, please be sure to follow that country's export regulations as it may require an export permit beforehand.

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WARNINGS & CAUTIONS

- Before using this product, please carefully read the provided Operation Manual "WARNINGS" & "CAUTIONS" section to ensure proper operation.
- Please do not place the product in high temperature, high humidity or high inert gas environments.

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