

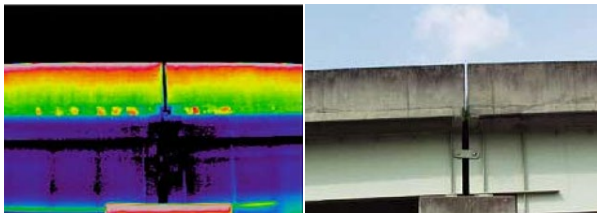
Infrared Thermal Imaging Camera

High Resolution・Multi-purpose Model

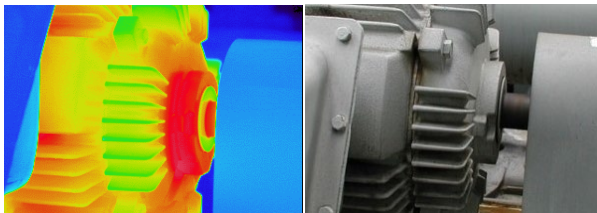
InfReC R450 Series

High resolution, high sensitivity, high precision !
Versatile model which is useful in wide variety of scenes from structure diagnosis to research of micro component.

**High performance
at affordable price**



Diagnosis of structure (Bridge)



PPM (Motor bearing, etc)



Feature 1

[Fine image for wider area]

FOV : 24°×18°
Pixels : 480×360
Spatial resolution : 0.87mrad

Feature 2

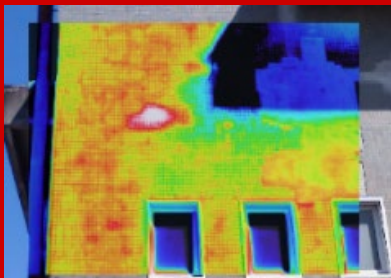
[Wide measurement range]

Room temp. to 1500℃
Changing temperature of object
can be measured in one range
without range change
※R450Pro

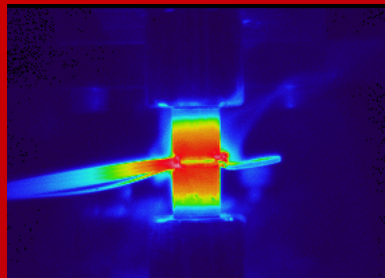
Feature 3

**[Close-up image
with high resolution !]**

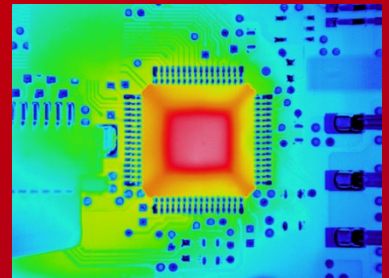
960×720 pixels ※SR mode
Micro object can be measured
without optional lens



Building diagnosis



Observation of
heat storage/heat release



Thermal test of device



Composite mode support ease of viewing

■ Easy switch with one button



Side-by-side



Picture-In-Picture (transparency changeable)

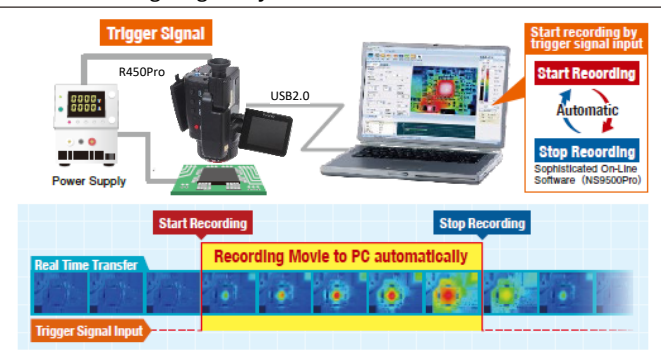


Fusion (transparency changeable)

Automatic Movie Recording Feature Built In(R450Pro)

■ Recording movie connected PC automatically by external trigger input to R450

■ Data recording linked with test equipment and filed facility is available without configuring I/O system



Measuring Distance and F.O.V.

Field of View and Spatial Resolution are the same magnification with measuring distance.

Lens Type		2x Telephoto Lens	Normal Lens	2x Wide Angle Lens
L=1m	Field of View(H)×(V)	21×16cm	43×32cm	86×64cm
	Spatial Resolution	Normal Mode	0.45mm	0.9mm
		Super Resolution (SR) mode	0.3mm	0.6mm

Options

Options/Model		Specification/remarks
Lens	2x Telephoto lens, IRL-TX02C-B	12" (H) x 9" (V)
	2x Wide Angle Lens, IRL-WX02C-B	48" (H) x 36" (V)
	52 μm Closeup Lens, IRL-C052UC	25mm(H) x 18.7mm(V), Working Distance 56mm
Accessory	AC adaptor, SDI50-9-UD-P14-110V / 220V	110V or 220V
	3-terminal Battery Pack, 2NCR18650BF-G-0077	2800mAh
	3-terminal Battery Charger, BC251P-110V / 220V	110V or 220V

■ 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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Specification

Feature	R450Pro	R450Pro-D	R450	R450-D
Basic Performance	Uncooled Focal Plane Array (Microbolometer)			
	Spectral Range 8 to 14 μm			
	Measuring Range -40 to 1500°C			
	Sensitivity (NETD) 0.025°C at 30°C (with S/N improvement)			
	Accuracy ±1°C +1			
	Frame Rate 40Hz			
	Detector Pixels 480(H) × 360(V) pixels			
	Recording Pixels Standard mode: 480(H) × 360(V), Super Resolution (SR) mode: 960(H) × 720(V) *2			
	Field of View 24"(H) × 18"(V) (with standard lens)			
	Spatial Resolution Standard mode: 0.87mrad, Super Resolution (SR) mode: 0.58mrad equivalent *3			
Image Display	Focal Distance 10cm to infinity (with standard lens) *4			
	Focus Auto / Manual			
	Auto Function Auto Scale, Auto Focus, Full Auto			
	Color Palettes 7 palettes (Rainbow, Brightness, Hot-white, Hot-black, etc.)			
	Gradation 256 / 32 / 16 / 8 grade			
	Visible Camera CMOS camera 5M pixels			
	Visible/Thermal Fusion Side-by-side, Fusion (transparency changeable), Picture-In-Picture (transparency changeable)			
	Display Functions 1 to 8 times continuous zoom (with display positioning scroll), Grid Overlay, 9 images multi-display (replay mode)			
	Image Quality Improvement Denoising, Averaging (with ghost rejection), Edge enhancement			
	Point Temperature 10 Movable Points, Temperature search: MAX/MIN x 1 each, Delta T			
Measuring Functions	Temperature Display in Assigned Region MAX, MIN and AVG in BOX (Up to 5 boxes)			
	Line Profile Horizontal, Vertical, Horizontal & Vertical			
	Alarm Function Alarm Display, Alarm Sound, Color Alarm, Alarm Recording, Alarm Signal Output			
	Temperature Correction Emissivity, Environmental/Background, Distance			
	Emissivity Multi-point Correction, Emissivity Table			
	Emissivity Reverse Calculation N/A			
	Drift Stabilizer Yes			
	Storage Device SD card, Conforms to SDHC			
	Data Format Still image : JPEG *5 with temperature data, 14bit (with visible image) Movie : SVX file (Dedicated format)			
	Data Storage Still image: JPEG *5 with temperature data, 14bit, Recorded with visible image			
Storage & Output	Super Resolution (SR) Yes			
	Quick Panorama Horizontal equivalent to 75° / Vertical equivalent to 56°			
	SD Movie Recording Max 5Hz			
	Interval Recording 3 sec to 60 min interval, with Visible image recorded			
	External Trigger Recording Yes			
	Voice Recording 30sec Recording, replay per a Thermal image			
	Text Annotation Annotate up to 128 Characters per a Thermal Image, Characters imported from SD Card			
	USB2.0			
	Mass Storage Yes			
	Movie Data Transfer Thermal image: Max: 40Hz, Recorded with visible image *6			
Others	External Trigger Input Automatic recording function by external trigger input			
	Video Output NTSC / PAL Switchable			
	Alarm Output Contact Signal, No Voltage			
	External Trigger Input Pulse Signal			
	Display 3.5" LCD Monitor (with tilt and brightness adjustment), Color View Finder (with tilt adjustment)			
	Auxiliary Laser Pointer (Red, class 2, IEC 60825-1 2007/2014), LED Light, Remote Controller			
	Operating Temperature & Humidity -15° C to 50° C, 90%RH (non-condensing)			
	Storage Temperature & Humidity -40° C to 70° C, 90%RH (non-condensing)			
	Vibration & Shock 29.4mm/sec ² (3G), 294mm/sec ² (30G)			
	EMC Conform to CE regulations (Class A)			
Others	Dust & splash proof Protection class IP54 equivalent			
	Battery Operation 2.5hours (Typ), Rechargeable Li-Ion battery			
	AC Power 100V ~ 220V AC, 50/60Hz			
	Dimensions Approx. H121mm x W105mm x D195mm (excluding projection)			
	Weight Approx. 1.3kg (including Battery Pack)			
	Standard Accessories Wired remote Controller x 1, SD Card x 1, USB Cable x 1, Neck Strap x 1, Grip Belt x 1, Rechargeable Li-Ion Battery x 1, Software x 1, Operation Manual x 1, and Carrying Case x 1			
	Standard Software InReC Analyzer NS9500Professional InReC Analyzer NS9500Standard *7			
	*1 Only the Range 1 at the environmental temperature from 20 to 30°C (In other condition, it is ±2°C or ±2%).			
	*2 Still Image Only			
	*3 This increased resolution results from detecting characteristic within all frames acquired by the SR process and removing such effects as those caused by hand vibration.			
	*4 For temperature accuracy: 30cm to infinity			
	*5 SAX format for USA and European countries. JPEG is not available.			
	*6 Thermal image only when image transfer speed at 40Hz			
	*7 In order to transfer thermal image movie data by R450 / R450-D, you need to upgrade to " InReC Analyzer NS9500 Professional " (optional software).			

Power Kit

R450 series is not including AC adapter, battery charger and AC cables. Please order below Power Kit With R450 series main unit.

Item	Model	Specification/remarks
Power Kit	PKB-110VGM	For 100 to 120V region
	PKB-220VGM	For 220 to 240V region

AC adapter x 1, battery charger x 1 and AC cable x 2



WARNINGS & CAUTIONS

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

Distributor: