



Fixed Mount Type Infrared Thermal Imaging Camera Thermo Tracer TS9260/TS9230

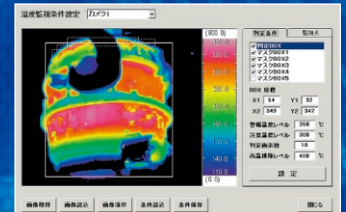
FA / Production line / Security for High performance Infrared Thermal Imaging Camera



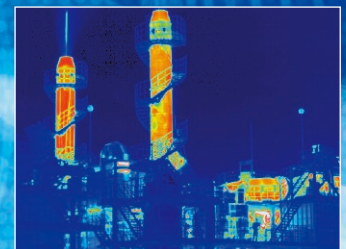
TS9260



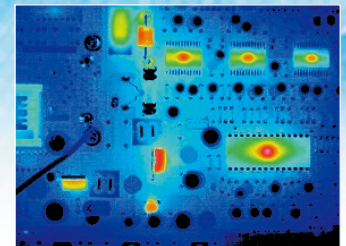
TS9230



For Production line



For Security



For Production control

NEC UFPA detector

Features

TS9260: High resolution 640×480
TS9230: High performance 320×240

Basic performance

NETD: 0.08°C@30°C
Accuracy: ±2%(Reading) or ±2°C

Compact & light weight

TS9260: 80×87×211mm 1.2kg
TS9230: 65×65×208mm 1.0kg
(with 21.7° manual lens)

Built tough for high reliability

Dust & splash proof, IP54
Rugged metal case,
Long-term continuous operation
with highly reliable design.

Easy maintenance

High reliability UFPA detector and
optimization of auto focus mechanism
for easy maintenance

Ethernet & IEEE1394

Easy connection to PC
Real time image transfer and
various system upgrades / camera controls
available by high speed data transfer

Alarm output

Detects abnormal temperature
conditions and outputs an alarm signal.
This feature reduces system cost.

Low cost / High Performance

Optimizes performance for each
application to deliver repeatable
high level performance

Many tailored options

Protection housing, lenses
interfaces, peripherals,
software development kit etc.

NIPPON AVIONICS CO.,LTD.

An NEC Group Company

Specifications

Item		TS9260	TS9230	
Basic Performance	Infrared Detector	Uncooled Focal Plane Array (microbolometer)		
	Spectral Range	8 to 14µm		
	Measuring Range	-40 to 500°C (Optional : 200 to 2000°C)		
	Sensitivity (NETD)	0.08°C at 30°C 0.04°C at 30°C (with S/N improvement)		
	Accuracy	±2°C or ±2°C		
	Frame Rate	30Hz	60Hz	
	Detector Pixels	640(H)×480(V) pixels	320(H)×240(V) pixels	
	Field of View	21.7°(H)×16.4°(V) (with standard lens)		
	Spatial Resolution	0.6mrad (with standard lens)	1.2mrad (with standard lens)	
	Focal Distance	30cm to infinity (with standard lens)		
Image Display	Auto Functions	Auto-gain control (Auto-scale), Level trace		
	Color Pallet	Rainbow, Shine, Fine(Iris), Brightness, Hot iron, Medical (Display color :color/mono, positive/negative)		
	Gradation	256/128/64/32/16 tones		
Measuring Functions	Point Temperature	10 Movable Points		
	Temperature Search	MAX/MIN		
	Delta Temperature	Provided		
	Temperature Display in Assigned Region	MAX, MIN and AVG in Box (for up to 5 Boxes)		
Output	Interface	Ethernet	Provided (RJ-45 Connector) : Option	
		IEEE1394a	Provided (6pin) : Option	
		RS232C	Provided	
		Video output	NTSC or PAL (BNC)	
Auxiliary Measuring Functions	Alarm output	Provided		
	Graphical User Interfaces Supported Language	English, French, Spanish, German, Italian, Portuguese, Russian, Chinese (Traditional, Simplified), Korean and Japanese.		
Others	Environment Resistance	Operating temperature / Humidity	-15°C to 50°C, 90%RH	
		Storage temperature / Humidity	-40°C to 70°C, 90%RH	
		Vibration / Shock	29.4m/sec ² (3G),294m/sec ² (30G)	
		Dust / Splash Proof	IP54	
		AC Power	DC11 to 13V	
		Power Consumption	10W(typ) *1	8W(typ) *1
		Dimensions	Approx. 80mm(H) x 87mm(W) x 211mm(D) *1	Approx. 65mm(H) x 65mm(W) x 208mm(D) *1
	Weight	Approx. 1.2kg *1	Approx. 1.0kg *1	

*1 With 21.7° manual focus lens and IEEE1394 interface

Option

Type	TS9260	TS9230
High temp. range *2	200 to 2000°C	
Protection housing	Operation temp. -15 to 50°C Cool & Purge air	
IEEE1394 *2	Frame rate: 30Hz	Frame rate: 60Hz
Ethernet *2	Frame rate: 7.5Hz	Frame rate: 30Hz
Lens *2	Manual lens	21.7 Standard lens
	Motor-drive lens	21.7 Standard lens 42° Wide angle lens 10.5° Telephoto lens
Software development kit	Windows2000, Windows XP, Windows Vista compatible	

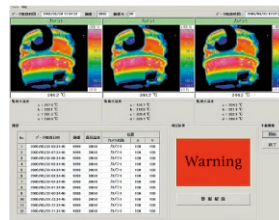
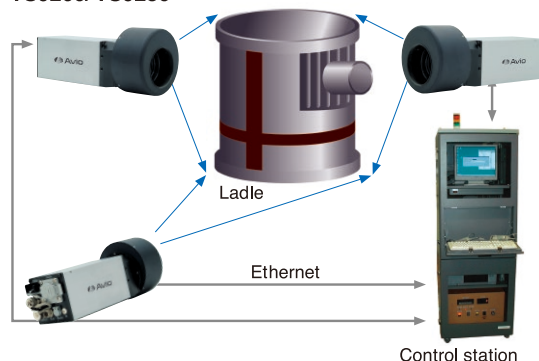
*2 Select when ordering

System example

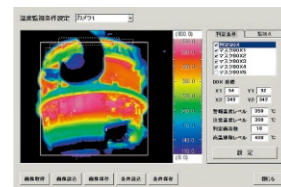
Outline

- This system measures the steel ladle exterior temperature, analyzes the data and signals any over-temperature situation.

TS9260/TS9230



System main image



Condition input image

Features

- Automatic monitoring of the steel ladle shell temperature with data analysis enables overheating to be signaled.
- Temperature distribution display indicates problem areas and location for prompt repair.
- Spillages of molten metal are prevented. Potential repair requirements are predicted and locations are automatically specified.

User benefits

- Users can benefit from easy prediction for repairs and prevention of molten iron leakage.

■ 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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