

**NEW**

**NEC**

Fixed Mount Type Infrared Thermal Imager  
**Thermo Tracer**  
**TS9260/TS9230**

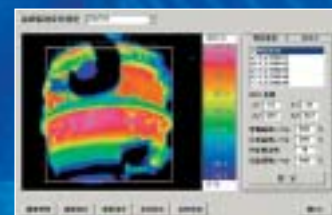
FA / Production line / Security for High performance Infrared thermography



**TS9260**



**TS9230**



For Production line



For security



For Production control

**NEC UFPA detector built in**  
(Made in Japan)

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

**Basic performance**

NETD: 0.06°C@30°C  
Accuracy: ±2%(Reading) or ±2°C

**Compact & light weight**

TS9260: 80×87×211mm 1.2kg  
TS9230: 65×65×208mm 1.0kg  
(At 21° manual lens)

**Toughness & high reliability**

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

**Easy maintenance**

High reliability UFPA detector and  
optimization of moving mechanism  
for easy maintenance

**Ethernet & IEEE1394**

Easy connection to PC  
Real time image transfer and  
various system-up are available by  
high speed data transfer

**Alarm output**

Detects abnormal condition and  
outputs by itself. It makes cost  
down for the system

**High cost performance**

Optimizes necessary performance  
for each application and realizes  
high cost performance

**Rich options**

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



NEC Avio Infrared Technologies Co., Ltd.

## Specifications

Type	TS9260	TS9230
Temperature range	-40°C to 500°C (Range 1: -40 to 120°C, Range 2: 0 to 500°C) (Select either standard or option) Option: 200 to 2000°C	
NETD	0.08°C (@30°C, 30Hz)	0.08°C (@30°C, 60Hz)
Accuracy	±2%(Reading) or ±2°C	
Spectral range	8 to 13μm	
Detector	NEC 640×480 UFPA (MICROBOLOMETER)	NEC 320×240 UFPA (MICROBOLOMETER)
Field of view (Standard lens)	21.7° (H) × 16.4° (V)	
I.F.O.V (Standard lens)	0.6mrad	1.2mrad
Focus (Standard lens)	30cm to infinity	
Frame rate	30 frames/sec	60 frames/sec
A/D resolution	14bit	
Measuring function	Run/Freeze, Auto level/Sense, Level trace, Auto gain control	
S/N improvement	Σ2, 8, 16	
Correction	Emmissivity / Environment temp / Back ground	
Display functions	Color/white and black/Posi/Nega ISO thermal: max 4 bands Multilingual menu	
Image processing functions	Level/Sense Multi point (10), Multi emissivity (10), Max/Min temperature display, Alarm Image filter (Median, Sharpness, etc.)	
Image Output	Composite video (NTSC/PAL)	
Interfaces	RS232C IEEE1394a (6pin): Option Ethernet (100/10baseT): Option **Users can select only one of IEEE1394 or Ethernet.	
Operating temp/humidity	-15°C to 50°C / 90%RH or less (Not condensed)	
Storage temp/humidity	-40°C to 70°C / 90%RH or less (Not condensed)	
Power supply	11 to 13V DC	
Power consumption	10W (TYP) (*1)	8W (TYP) (*1)
Shock & Vibration	294m/s <sup>2</sup> (S) / 29.4m/s <sup>2</sup> (V)	
Environmental protection	IP54 (IEC60529)	
Dimensions	80×87×211mm (*1)	65×65×208mm (*1)
Weight	1.2 kg (*1)	1.0 kg (*1)

\*1 With 21° 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)	10.5° telephoto lens 45° wide angle lens	10.5° telephoto lens 30° wide angle lens
Software development kit	Windows2000, Windows XP, Windows Vista compatible	

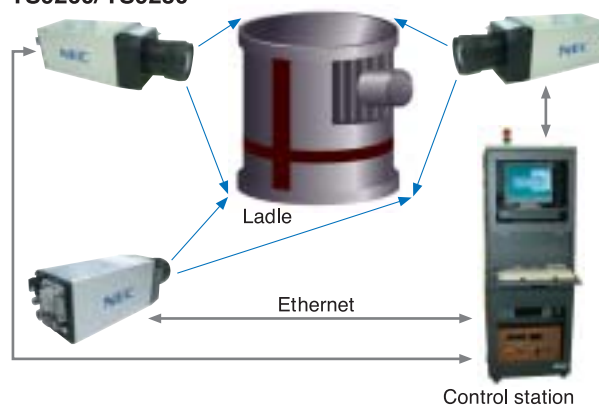
\*2 Select when ordering

## System example

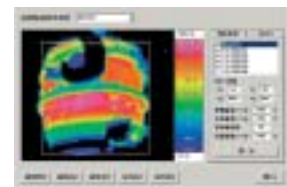
### Outline

- This system measures the steel ladle exterior temperature, analyses 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.



### CAUTION FOR SAFETY

Please read "WARNING" & "CAUTION" in the operation manual attached to the product carefully for proper operation before using the product.

## NEC Avio Infrared Technologies Co., Ltd.

1-5, Nishi-Gotanda 8-chome, Shinagawa-ku,  
Tokyo 141-8535, Japan  
Phone: +81-3-5436-1614  
Fax : +81-3-5436-1395  
E-mail: osd@nec-avio.co.jp  
Web : http://www.nec-avio.co.jp/en/



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