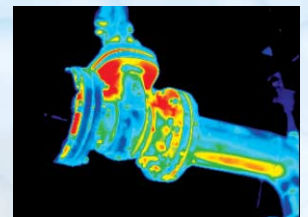


## Infrared Thermal Imager Thermo Tracer TH9100 ML/WL

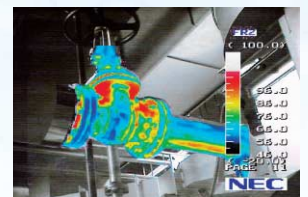
**New Feature Visual and Thermal Image Composite Included!**



Visual Image



Thermal Image



Composite Image

### Visual camera built into IR lens

Built-in visual camera on Standard, Telephoto and Wide Angle lens provides minimal parallax and the same magnification with the infrared lens. Simultaneous storage of infrared and visual image in the same file. Standard lens has high resolution I.F.O.V 1.2mrad.

### Easy operation

Easy-to-use joystick control  
Pull down menu  
Multilingual Menu  
(English, French, German, Italian, Japanese, Korean, Portuguese, Russian, Spanish, Simplified Chinese, Traditional Chinese)

### High performance UFPA detector

Temperature resolution (TH9100ML)  
0.08°C at 30°C 60Hz  
0.04°C at 30°C  $\Sigma$  16  
Measuring accuracy  $\pm 2\%$  or  $\pm 2^\circ\text{C}$

### Automatic functions

Level/sense/focus, Level trace & Auto gain control

### Visual and thermal image composite function included

Measures visual image and infrared image simultaneously and displays the composite image which is easy to identify abnormal thermal spots.

### High quality flip out 3.5inch LCD

Adapts to sun light reflection or low light conditions for both outdoor and indoor. Fully functional in bright light. Detachable and extendable with optional extension cable. Remote controller available as option.

### Lengthy battery life

Approx. 2 and half hours operation available with a small and lightweight battery (approx. 100g). Battery life indicator tells you the timing to change the battery.

### Light weight & robust body

Weight approx. 1.7kg (including battery and LCD)  
Operating temperature -15 to 50°C  
Dust/splash-proof IP54  
Shock-proof 294m/sec<sup>2</sup>(30G) Vibration-proof 29.4m/sec<sup>2</sup>(3G)

## Specifications

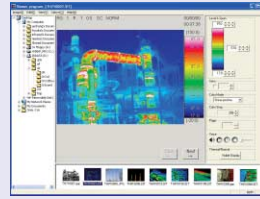
Measuring range	Range 1	TH9100ML	TH9100WL
	Range 2	-20 to 100°C	-40 to 120°C
	Range 3 (option)	0 to 250°C	0 to 500°C
	Range 4 (option)	100 to 800°C	200 to 2000°C
	Range 4 (option)	200 to 2000°C	—
Resolution	Range 1	0.08°C (at 30°C 60Hz) 0.04°C (at 30°C $\Sigma$ 16)	0.10°C (at 30°C 60Hz) 0.05°C (at 30°C $\Sigma$ 16)
	Accuracy	$\pm 2^\circ\text{C}$ or $\pm 2\%$ of reading whichever greater	
Detector	Uncooled focal plane array (microbolometer)		
Spectral range	8 to 14 $\mu\text{m}$		
I.F.O.V.	1.2mrad		
Focusing range	30cm to infinity		
Field of view	21.7°(H) x 16.4°(V)		
Frame time	60 frames/sec		
Display	View finder and 3.5 inch LCD monitor with auto switch		
Thermal image pixels	320 (H) x 240 (V) pixels		
A/D resolution	14 bits		
Measuring functions	Run/Freeze		
	S/N improvement $\Sigma 2, \Sigma 8, \Sigma 16$ and spatial filter ON/OFF		
Alarm	Screen display and alarm sound (ON/OFF)		
Interval measurement	Recording on memory card : 5 to 3600 sec interval (thermal image) 30 to 3600 sec. (thermal & visual image) Trigger function provided		
Emissivity correction	0.10 to 1.00 (at 0.01 step), Emissivity table provided		
Env. temp. correction	Provided (including interval NUC)		
User setup	Pre-registration of environmental setup (max. 10 setups)		
Ambient compensation	Atmospheric temp., humidity and distance compensation		
Background comp.	Provided		
Auto functions	Full automatic (level, sense, focus)		
	Level trace, auto-gain control		
Display functions	Thermal/visual composite image display (parallax adjustable manually)		
	Display color : color/monochrome, positive/negative		
	Gradation : 16, 32, 64, 128, 256		
	Color palette : rainbow, brightness, shine, hot-iron, medical, fine		
	Isothermal band display : max. 4 bands		
	Thumbnail display : 12 thermal images replay		
	Multi-sense display, Battery life indicator		
Image processing functions	Line-profile : X, Y line profile (waveform display)		
	Multilingual menu		
	Variable level/sense		
	Multi-point temperature display (10pts)		
	Multi-point emissivity display (10pts)		
	$\Delta t$ display		
	Max/Min (peak hold) temperature display		
Annotation	Alarm (full screen or specified box)		
	Digital zoom : 2, 4 times (Run/Freeze)		
Storage device	Box setting (max. 5 boxes)		
Annotation	Text and voice annotation (30 sec per image)		
Storage device	Compact flash memory card for; Thermal image in SIT or BMP file format Visual image in SIT or JPEG file format		
Video signal output	NTSC/PAL composite video signal, S-video		
Interface	IEEE1394, RS-232C, USB(optional)		
Operating temp/humidity	-15 to 50°C, 90% RH or less (not condensed)		
Storage temp/humidity	-40 to 70°C, 90% RH or less (not condensed)		
Power supply	AC adaptor : 100V to 240V, DC 7.2V (nominal)		
Power consumption	Approx. 6W (typ)		
Shock and vibration	294m/sec <sup>2</sup> (IEC60068-2-27), 29.4m/sec <sup>2</sup> (IEC60068-2-6)		
Environmental protection	IP54 (IEC60529)		
Dimensions	Approx. 108 (W) x 113 (H) x 189 (D) mm (excluding projection)		
Weight	Approx. 1.4kg (excluding LCD & battery)		
	Approx. 1.7kg (including LCD & battery)		
Standard accessories	AC adaptor, battery pack (2pcs), battery charger, compact flash memory card, grip belt, neck strap, lens cap, carrying case, viewer software, operation manual		

Specifications are subject to change without prior notice.

## Visual Camera

Pixels	0.41Mega pixels
Effective image pixels	752 (H) x 480 (V) pixels
Field of view	30.1° (H) x 22.7° (V)
Sensitivity	1 lux
Focusing distance	30cm to infinity
Auto exposure	Provided
Video signal	NTSC/PAL

## Viewer Software



- Thermal image display :
- Thermal image thumbnail (Windows Explorer)
- Thermal image replay
- Image preview
- Setup & Functions :  
Level, Sense, Span, Voice replay,  
Selection of thermal or visual image,  
Color bars, Gradation, Page
- Edit :  
Image save (BMP or JPEG)  
Select folder

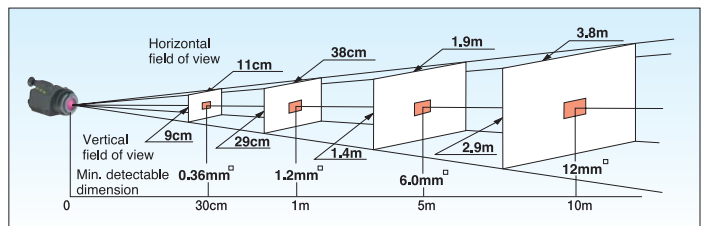
## Options

TH91-390	High temperature range for TH9100MLN*1 R3: 100 to 800°C, R4: 200 to 2000°C
TH91-392	High temperature range for TH9100WLN*1 R3: 200 to 2000°C
TH91-313	USB Interface with TH91-737 remote program *1
TH91-384	Telephoto lens (x2) 10.9°(H) x 8.2°(V) with visual camera
TH91-383	Wide angle lens 42.0°(H) x 32.1°(V) with visual camera
TH91-386	Close-up lens, 95 $\mu\text{m}$ , 30mm(H) x 22mm(V) W.D. 75mm
TH91-385	Close-up lens, 37 $\mu\text{m}$ , 11mm(H) x 8mm(V) W.D. 13mm
TH91-387	External lens adaptor for TH71-344A wide angle lens, TH71-377/378 close up lenses
TH71-464	Rechargeable battery pack (Li-ion) 7.2V 1800mAh
TH71-340	Battery charger for 100/110V (2 battery slots)
TH71-339	Battery charger for 220/240V (2 battery slots)
TH71-334	AC adaptor (100/110V AC)
TH71-360	AC adaptor (110V AC) UL
TH71-359	AC adaptor (220/240V AC) CE
TH91-375	Remote controller
TH91-398-L05	5m cable for remote controller TH91-375
TH71-347	LCD remote controller (TH91-347-L connecting cable is required)
TH91-347-L05	5m cable for LCD remote controller TH71-347
TH91-347-L10	10m cable for LCD remote controller TH71-347
TH91-347-L15	15m cable for LCD remote controller TH71-347
TH91-347-L20	20m cable for LCD remote controller TH71-347
TH91-349	RS232C Cable
TH91-348	S-video cable
TH91-713	Report Generator Software *2
TH91-711	Image Processor Software (TH91-713 is required) *2
TH91-712	Image Processor Pro Software *2
TH71-717	IEEE1394 Data Capture Software *2
MikroSpec	Thermal Imaging Software *2
MikroSpec R/T	Real-Time Thermal Data Acquisition & Analysis Software *2
irMotion	Recorder, Trigger and Measurement Software *2
Trigger Box	Trigger box for irMotion

\*1 Specify these options when ordering the main unit (TH9100MLN/WLN)

\*2 Compatible with the Microsoft Windows 2000 professional, Windows XP

## Field of View Diagram (Thermal image)



**CAUTION  
FOR SAFETY**

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

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