

# IR-TA SERIES HAND-HELD TYPE DIGITAL INFRARED THERMOMETER



## MODELS IR-TAP and IR-TAM

The IR-TA series hand-held type thermometers are easy to use and can be applied to a variety of applications. The thermometers can quickly measure temperature of small objects from a distance without contact. The built-in laser sight helps to pinpoint a measured spot accurately.



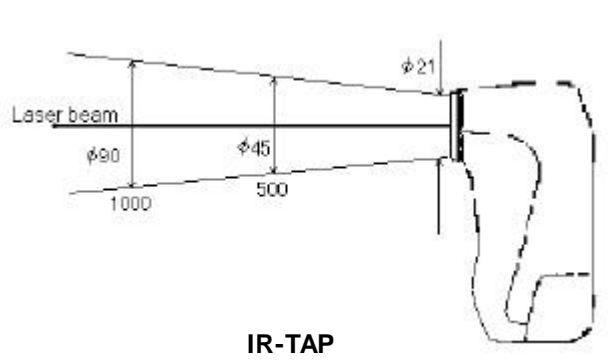
IR-TAP

IR-TAM

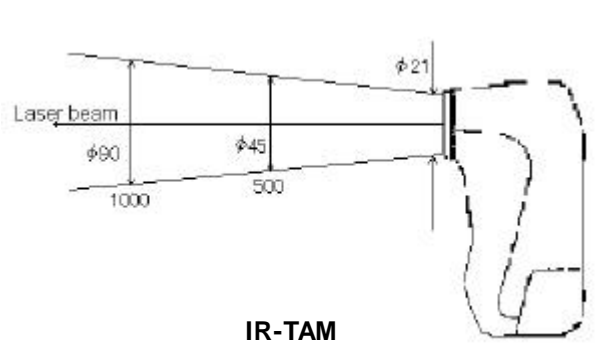
### FEATURES

- Temperature range:  $-40$  to  $500^{\circ}\text{C}$
- Spot size:  $\phi 30/1000\text{mm}$  (IR-TAP)
- Automatic backlit LCD display at dark places by a brightness sensor.
- Palm size, lightweight  
IR-TAP: 220g, IR-TAM: 180g
- Automatic power off for saving battery life
- Storing data: Up to 150 data
- Stored data backed-up for battery shortage
- Conforms to CE (IR-TAP)
- Report creation of stored data by a personal computer (Data processing software package required separately)
- Maximum, minimum, average and (maximum - minimum) values displayed
- Audible buzzer alarm
- Emissivity adjustable from 0.30 to 1.90
- Traceability certificate available (For HACCP or ISO 9000)

### SPOT SIZE/DISTANCE



IR-TAP



IR-TAM

Unit: mm

## ■ GENERAL SPECIFICATIONS

### ■ Model IR-TAP

Temperature range	-40 to 500°C
Detector	Thermopile
Spectral response	8 to 14 $\mu$ m
Spot size	$\phi$ 30/1000mm (Refer to Spot size/distance)
Accuracy	$\pm 1\%$ of readings $\pm 1$ digit or $\pm 2^\circ\text{C} \pm 1$ digit, whichever larger $\pm 3^\circ\text{C}$ at $-30^\circ\text{C}$ to $0^\circ\text{C}$ , $\pm 5^\circ\text{C}$ at lower than $-30^\circ\text{C}$ (at ambient temperature $25^\circ\text{C} \pm 2^\circ\text{C}$ )
Repeatability	Within $\pm 1^\circ\text{C} \pm 1$ digit
Response time	0.8 second (90% response)
Display	3-digit LCD
Resolution	$0.1^\circ\text{C}$ at $-19.9$ to $99.9^\circ\text{C}$ ; $1^\circ\text{C}$ except this range
Display renewal cycle	0.25 second
Target	Marking center of measuring spot by laser beam
Beam output	Red laser beam, Less than 1mW, 670 nm (JIS class 2)
Storing data	Up to 150
Number of memory group	Maximum 15 memory groups
Display contents	Current readings, emissivity value setting, alarm setting, low battery, memory group No., year-month/day-hour/minute, stored data, calculated value of stored data, measurement unit ( $^\circ\text{C}$ or $^\circ\text{F}$ )
Auto power-Off	Auto power-off in 30 seconds after key operation
Data output	RS-232C
Contents of data output	For personal computer Stored data output mode <ul style="list-style-type: none"><li>Year/month/day-hour/minute and label at data transmitting</li><li>Tag, emissivity value and alarm setting (high/low limits) per group, and measured value with measured year/month/day-hour/ minute</li></ul> For printer Real data output mode <ul style="list-style-type: none"><li>Measured value, measured year/month/day-hour/minute and tag</li></ul> Stored data output mode <ul style="list-style-type: none"><li>Year/month/day-hour/minute and label at printing out</li><li>Tag, emissivity value and alarm setting (high/low limits) per group, and measured value with measured year/month/day-hour/minute</li></ul>
Alarm	High and low alarms per group
Emissivity	0.30 to 1.90 (default: 0.95)
Display illumination	Automatic backlit LCD by brightness sensor
Operating temperature	$0$ to $50^\circ\text{C}$
Operating humidity	Lower than 80%RH (No dew condensation)
Storage temperature	$-20$ to $55^\circ\text{C}$
Storage humidity	Lower than 80%RH (No dew condensation)
Power	Alkaline AA (UM-3) battery, 2 pieces
Battery life	About 30 hours continuous operation
Size	W92 x H155 x D44 mm
Weight	About 220g
Belongings	Alkaline AA (UM-3) battery 2 pieces
CE	EN55022 Class B, EN50082-1

■ **Model IR-TAM**

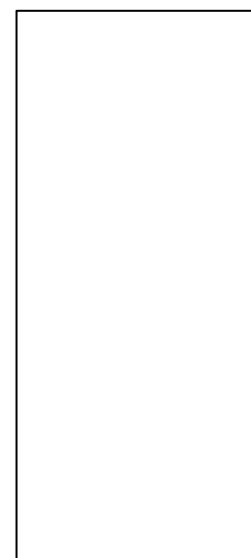
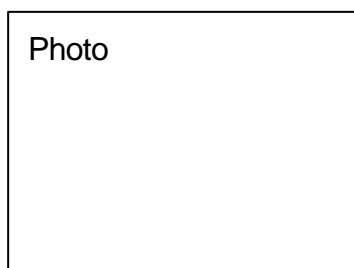
<b>Temperature range</b>	-40 to 500°C
<b>Detector</b>	Thermopile
<b>Spot size</b>	Refer to Spot size/distance.
<b>Accuracy</b>	±1% of readings or ± 2°C, whichever larger; ±3°C at -30°C to 0°C; ±5°C at lower than -30°C (at ambient temperature 25°C)
<b>Repeatability</b>	Within ± 1°C
<b>Response time</b>	0.8 second (90% response)
<b>Display</b>	3-digit LCD
<b>Resolution</b>	0.1°C at -19.9 to 99.9°C; 1°C except this range
<b>Display renewal cycle</b>	0.25 second
<b>Target</b>	Marking center of measuring spot by laser beam
<b>Beam output</b>	Red laser beam, Less than 1mW, 670 nm (JIS class 2)
<b>Storing data</b>	Up to 150
<b>Contents of data output</b>	Number of stored data, stored data (with alarm status), emissivity value setting, alarm setting, maximum value/minimum value/(maximum – minimum) value/average value of stored data, labels
<b>Alarm</b>	High alarm (low alarm – option)
<b>Emissivity</b>	DARK: 0.95 BRIGHT: 0.8 FREE: 0.30 to 1.90 (default: 1.00)
<b>Display Illumination</b>	Automatic backlit LCD by brightness sensor
<b>Operating temperature</b>	0 to 50°C
<b>Operating humidity</b>	Lower than 90%RH (No dew condensation)
<b>Storage temperature</b>	-20 to 55°C
<b>Storage humidity</b>	Lower than 90%RH (No dew condensation)
<b>Power</b>	Alkaline AA (UM-3) battery, 2 pieces
<b>Battery Life</b>	About 40 hours continuous operation
<b>Size</b>	W81 × H142 × D32 mm
<b>Weight</b>	About 180g
<b>Belongings</b>	Alkaline AA (UM-3) battery 2 pieces Soft vinyl case

■ **Printer Model: MP9100**

The data stored in IR-TAP or IR-TAM can be printed out by this printer for easy data management.

Connection cable:

1 m, with D-sub 9 pins female connector



Printing example

## DATA PROCESSING SOFTWARE PACKAGE

### Model: MP9010 (for IR-TAP)

**Environment:** Windows 95 / 98  
(Minimum 4MB free space)

**Interface:** RS-232C (by exclusive cable)

**Cable:** 1 m, with D-sub 9 pins female connector

#### Communications function with IR-TAP:

- Automatically power on
- Reading of stored data classified by groups  
(Maximum 15 groups), Up to 150 data
- Reading and setting of clock
- Reading and setting of parameters
  - Name of IR-TAP (Label: within 10 alphanumeric letters)
  - Name of groups (Tag: within 10 alphanumeric letters)
  - Emissivity value, high / low alarms
- Erasing all stored data
  - Memory clear: Initializing all parameters to defaults
- Detecting function for interrupted of communications by low batteries
- All the above functions are available on a personal computer without any operation by IR-TAP.

#### Display function:

- Display the data of each group read from IR-TAP
- Stored data, stored data, alarm status, etc.
- Maximum value, minimum value and average value
- Display all programmed parameters of each group

#### Comment adding function:

- Entering of a measuring object and a measurer to each group is possible.
- Entering a comment to each data

#### File storage/read function:

- 3 kinds of file storage type are available.  
(Exclusive type, .csv, .txt)

#### Printing function:

- Printing out as a report form
- Selection of printout enabled or disabled for each group is possible.
- Format - A4 size

#### Help function:

- Simple operation guidance is contained in "Help".

### Model: MP9000 (for IR-TAM)

**Environment:** Windows 95 / 98  
(Minimum 4MB free space)

**Interface:** RS-232C (by exclusive cable)

**Cable:** 1 m, with D-sub 9 pins female connector

#### Reading of data stored in IR-TAM:

- 2 kinds of label for data management (in case of these labels pre-programmed by a personal computer)
- Number of stored data, stored data No. and stored data
- Alarm setpoint and alarm status (attached to individual data)
- Maximum value / minimum value / (maximum – minimum) value / average value in stored data

#### Printing out of stored data:

- All data / partial data
- Selection of item for printing out  
Emissivity, alarm judgment, remarks  
(comment to data)

#### Data storage:

- File for replay by this software package
- File with .txt (Text file)
- File with .csv (File for worksheet applications including Excel)

#### Comment adding function:

- Title of report (within 20 alphanumeric letters or selection from pre-registered 10 titles)
- Data of report (default: time of data collection)
- Measurer (within 16 alphanumeric letters or selection from pre-registered 10 measurers)
- Comment to each individual measured data

#### Label to IR-TAM:

- 2 kinds (within 10 alphanumeric letters)



#### CAUTION

- Please do not aim or direct laser toward faces.
- On measurement of targets like as glossy metal, be careful with influences by the reflection from it.

Specifications subject to change without notice. Original 2000.11

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