

TEMPERATURE SENSOR

LTM-100

Pocket-size Infrared Thermometer
(Waterproof)



CE
CE marked

RKC® RKC INSTRUMENT INC.

Handheld Infrared Temperature Measurement

Measure surface temperature easily from a distance. This non-contact type temperature sensor is ideal for applications where contact may cause contamination, the operator may be at risk due to high temperature, or when an object is in motion.

LTM-100



Washable

The unit has a water- and dust-proof structure (IP67) to allow washing with water.

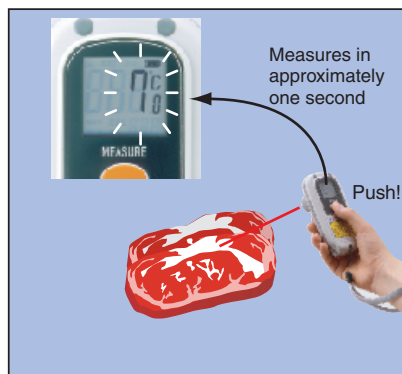
Use of antibacterial resin allows sanitary operation.



IP67:
Waterproof : Not affected when dropped into water.
Dustproof : No dust entry into the instrument.

High speed response

Temperature can be measured in approximately one second after a measurement button has been pressed. Temperature can be monitored while the measurement button is kept pressed.

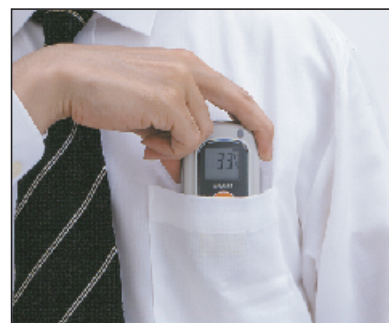


Easy-to-use with useful functions

Easy operation and useful functions such as °C/°F switchable, auto-power off, adjustable emissivity.

Compact and lightweight

Fits into your pocket for easy portability.



Name of Parts

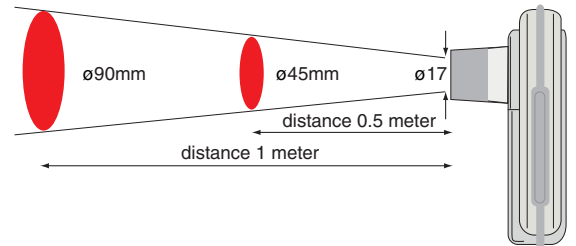


Specification

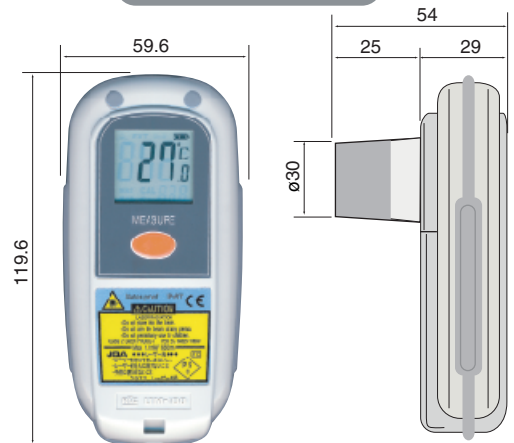
Measuring range	-40 to 300°C
Ambient temperature	0 to 50°C [32 to 122°F]
Ambient humidity	Less than 90%RH (no condensations)
Accuracy	When emissivity = 1 at ambient temperature 25°C ±2°C 0 to 300°C : ±(1% + 1 digit) of measured value or ±(2°C + 1 digit), whichever is larger. 0 to -30°C : ±3°C ± 1 digit Lower than -30°C : ±5°C ±1 digit
Repeatability	Within 1°C ± 1 digit
Response	1 second (90% response)
Collimation	Laser beam (650nm 1mW JIS class 2) specifies the center
Display resolution	0.5°C (lower than -20°C), 1°C (higher than 100°C)
Emissivity setting	0.8 to 1.0 (0.05 step, changeable with internal switch) * Default: 0.95
Auto power OFF	Power goes off about 30 seconds after the last key operation
Water and dust-proof structure	IP67
Safety standards	CE marking (EMI EN61326 ClassB, EMS EN61326 Annex C) PS/C mark (for portable devices with laser beam)
Housing material	ABS (antibacterial)
Weight	123g (including batteries)
Power supply	Batteries (2 pieces, AAA), continuous operation of 10 hours.

Measuring range

Displays average temperature in a red circle



External dimensions



Model code

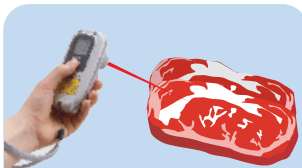
Pocket-size Infrared Thermometer

LTM-100

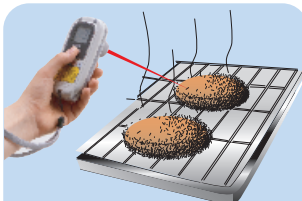
Accessory: Strap (1 piece),
Alkaline batteries (2 pieces, AAA [triple A])

Major applications

Food industry

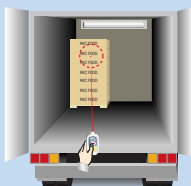


Surface temperature measurement of frozen food

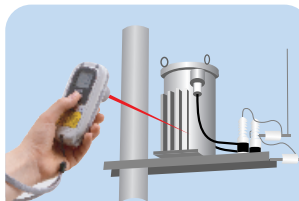


Surface temperature of foods

Refrigerator and maintenance

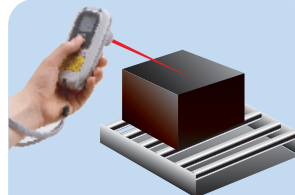


Temperature management of stored items in a refrigerator and transported items.

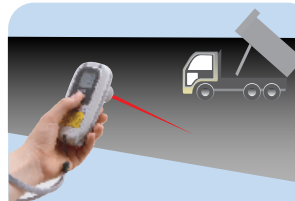


Temperature monitoring of transformers

Various industries



Surface temperature of heat treated metals

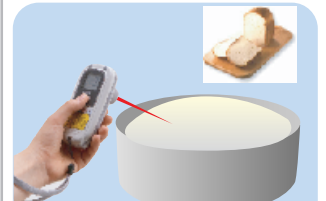


Temperature measurement of road surface (asphalt).

Cuisines



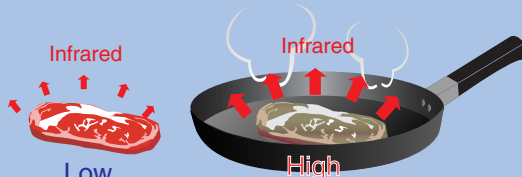
Temperature measurement of frying oil.



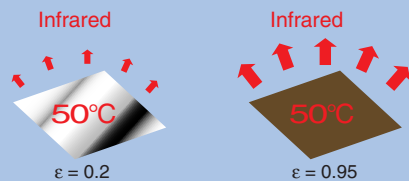
Fermentation temperature of yeast

Can we measure any objects with an infrared thermometer?

An infrared thermometer detects infrared to measure temperature. Normally, objects that absorb more infrared emit more infrared. This value is called emissivity (e). We can find many objects with emissivity around 0.95 in our normal surroundings, and this instrument can measure most materials both liquid and solid. (factory default: 0.95) Radiation emissivity can vary from object to object and is typically lower on objects having shiny surfaces. This may result in indication errors on the infrared thermometer.



Objects at a higher temperature emits more infrared.



At the same temperature, a shiny object has lower emissivity and produces less infrared emissivity.

Selecting Emissivity (Reference data)

This table shows emissivity from typical measured items. Note: Infrared emissivity amount depends on the surface status and measured temperature. Please refer to the following table just for a rough standard.

Objects	Emissivity	Objects	Emissivity
Water, Ice	0.98	Cloth, Fabrics (colored)	0.95
Soil	0.92 to 0.96	Leather and Fur	0.96
Concrete (wet)	0.96 to 0.98	Human skins	0.99
Concrete (dry)	0.91 to 0.95	Vege. and Fruits	0.98
Ceramic	0.85 to 0.95	Bread and Confection	0.98
Stones	0.92	Meat	0.98
Plastics	0.90 to 0.95	Copper oxide	0.5 to 0.6
Rubber (black)	0.95	Iron oxide	0.7 to 0.8
Wood	0.98	Painted surface	0.8
Paper	0.92	Tiles	0.8

Adjustable emissivity range : 0.8 to 1.0

Use cautions to measure under the following conditions.

Measurement through wrap or glass

Measures temperature of wrap and glass.



Surface of mirror and shiny objects

When an object is lower than ambient temperature

Temperature around the object is measured simultaneously



When an object is higher than ambient temperature

Results in indication error due to low emission

Measurement in vapor and powder dust

Temperature of vapor and powder dust is measured simultaneously.



<Options>

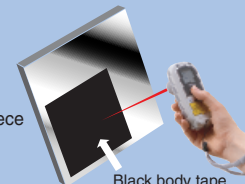
We supply black body tape and paints which are convenient for measuring surface temperature of shiny objects



Black body tape (200x220mm), 1 piece (max. temperature 300°C)
Type: LTMP-SPN



Black body paint, 1200g, 1 piece (max. temperature 1000°C)
Type: LTMP-ZPP



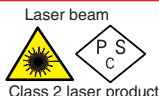
Black body tape

Use of a contact type and a non-contact type increases more precise setting of radiation factor from the measured object.

Contact type thermometers



Caution for using laser beam products



Do not look in the laser beam nor point it towards a person's eyes. (Use caution against reflection when measuring a shiny object like a mirror) Do not allow children to operate this device.



- For prevention of a fire, an explosion accident and machinery trouble, please do not use it at an atmosphere of inflammable or explosive gas, excessive dust, steam and electric conductivity excessive dust.
- This product is a sensor for the temperature measurement. This product is a sensor for the temperature measurement. Please be not used except for the temperature measurement.
- It is not designed for use with medical equipment.
- By surface state, temperature, color and atmosphere of a measurement object, there is the case that the measurement is difficult.

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