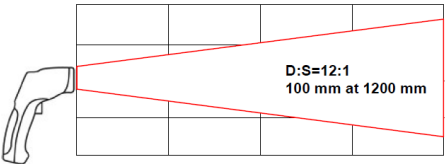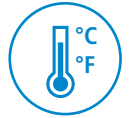# sauermann®

KIRAY 50

Infrared thermometer

Infrared thermometer KIRAY 50 is a key tool to diagnose, inspect and check any temperature, with the advantage of using "no-contact" technology. You can safely measure surface temperatures of hot objects, dangerous or difficult to access. Perfect tool to take temperature in a house, a garage, a workshop, an office, a car, a kitchen etc...

## Distance from the target

Distance	300	600	1200	mm
Diameter	25	50	100	mm

D:S=12:1
100 mm at 1200 mm

YES   NO
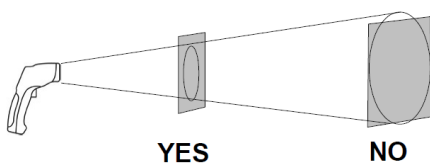
Technical features

Spectral response	6 - 14 µm
Optical	D.S : 12:1 (100 mm at 1200 mm)
Temperature range	From -50 to +380 °C
Accuracy*	From -50 to -20 °C: ±5 °C From -20 to +380 °C: ±2% of reading or ±2 °C
Display resolution	0.1 °C
Response time	Less than 1 second
Emissivity	0.95 (fixed value)
Over range indication	LCD will show: "HI" / "Lo"
Laser sighting	Wave length: from 630 nm to 670 nm Output < at 1mW, Class 2 (II)
Indication of positive or negative temperature	Automatic (no indication for a positive temperature) (-) sign for a negative temperature
Screen	4 digits with LCD backlighted screen
Auto-extinction	Automatic after 10 seconds of inactivity
Power supply	Alkaline 9 V battery
Autonomy	100 h (inactive laser and backlight) 30 h (active laser and backlight)
Use temperature	From 0 to +10 °C for a short period From +11 to +50 °C for a long period
Storage temperature	From -20 °C to +60 °C
Relative humidity	From 10 to 90%RH in operating mode and lower than 80%RH in storage
Dimensions	155 x 82 x 43 mm
Weight	170 g (included battery)

*Accuracy for an ambient temperature from 18 to 28°C (with a relative humidity lower than 80% RH)

Display
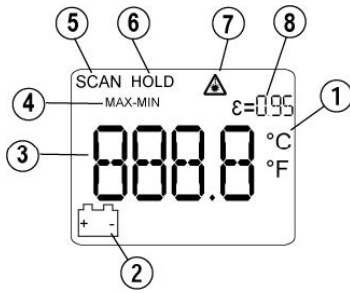
1 - Technical unit °C/°F
2 - Low battery indicator
3 - Temperature value
4 - MAX/MIN value indicator
5 - Current measurement indicator
6 - HOLD indicator (fixed measurement)
7 - Laser in operation indicator
8 - Emissivity value = 0.95 (fixed value)

Kiray 50 instrument buttons

1 - MAX/MIN button: It allows to display maximum and minimum values during a measurement.
2 - Backlight button: It allows to activate or deactivate LCD backlight.
3 - Laser button: It allows to activate or deactivate the laser.
4 - Technical unit button: It allows to choose measurement unit: °C or °F.

5 - Trigger: it allows to measure temperatures. Press the trigger: "scan" is indicated on the top left of the screen. Release it, "hold" is indicated on the top left of the screen and the last measurement is displayed. Device automatically shut off after 10 seconds of inactivity.

Description

1 - LCD backlighted display
2 - Max/Min button
3 - Backlight button
4 - Technical unit button (°C/°F)
5 - Laser button

1 - Laser sighting output
2 - IR sensor
3 - Trigger
4 - Battery compartment

Kit content

- Case holster with passer-by belt
- User manual

CE certification

This device meets with following standards' requirements.
EN 61326-1: 2013 and EN 61326-2: 2013
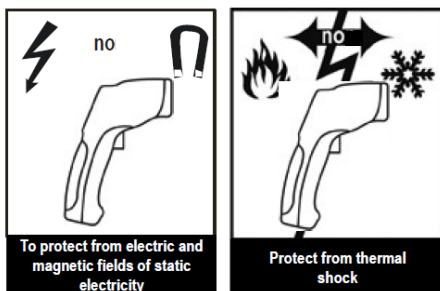
Important information

For correct measurements:
• Do not take any measurement on metal or shiny or reflective surfaces.
• Do not measure through transparent surfaces such as glass, for example.
• Water vapor, dust, smoke, etc... may prevent correct measurements because they obstruct the optical of the instrument.
• Make sure that the target is larger than the size of the laser sighting.
• Change the batteries when the low battery indicator blinks.

To avoid any inconvenience:
• Do not aim directly or indirectly (reflection on reflective surfaces) the laser in the eyes.
• Do not use the thermometer around explosive gas, vapor or dust
• Do not leave the device with the lock on (lock at the top right of the screen) because in this configuration, the instrument does not turn off automatically.

To prevent damage on your instrument or equipment please carefully respect these conditions:

To protect from electric and magnetic fields of static electricity

Protect from thermal shock

Maintenance

As battery power is not sufficient, LCD will display low battery indicator.

Replacement with one new battery type 9 V is required.

To install or change the 9 V battery, open the battery cover next to the trigger and put it in the battery compartment.

Emissivity

Emissivity is a term used to describe the energy-emitting characteristics of materials.
Most (90% of typical applications) organic materials and painted or oxidized surfaces have an emissivity of 0.95 (pre-set in the unit).
Inaccurate readings will result from measuring shiny or polished metal surfaces.
To compensate; cover the surface to be measured with masking tape or flat black paint.
Allow time for the tape to reach the same temperature as the material underneath it.
Measure the temperature of the tape or painted surface.

See table below for values of emissivity of specific materials:

Aluminum	0.30	Ice	0.98
Asbestos	0.95	Iron	0.70
Asphalt	0.95	Lead	0.50
Basalt	0.70	Limestone	0.98
Brass	0.50	Oil	0.94
Brick	0.90	Paint	0.93
Carbon	0.85	Paper	0.95
Ceramic	0.95	Plastic	0.95
Concrete	0.95	Rubber	0.95
Copper	0.95	Sand	0.90
Dirt	0.94	Skin	0.98
Frozen food	0.90	Snow	0.90
Hot food	0.93	Steel	0.80
Glass	0.85	Textile	0.94
Water	0.93	Wood	0.94
Fresh foodstuffs between 0 and 5 °C			0.90

Infrared thermometer, how does it works?

Infrared thermometers can measure the surface temperature of an object. Its optic lens catches the energy emitted and reflected by the object.
This energy is collected and focused onto a detector.
This information is displayed as temperature.
The laser pointer is only used to aim at the target.

Infrared sensor

Emitted energy by the object in the form of radiation

Laser sighting

CE