INFRARED THERMOMETER KC-180B

Introduction:

KC-180B-1 handheld Infrared thermometer is a non-contact temperature measuring instrument using laser and infrared technology. You could use this product to measure the surface temperature of objects, which are not suitable for traditional contact measuring (such as moving objects, charged objects, toxic objects and hard-to-reach objects).

The unit employs low consumption design and is capable to save the pre-set data automatically, avoiding resetting it after restart. The product features a LCD with backlight, holding the readings automatically and a laser pointer for accurate aiming. It has the advantages of rapid measuring, easy and safe operation and portability. It is widely used for applications as finding the hot spot of electric connections and bearings, measuring the temperature of high frequency induction heated objects, monitoring food processing and storage, inspecting temperatures of heat & refrigeration system, inspecting temperature for technics control in metallurgy industry, inspecting temperature during laying asphalt and fire-control process, or other circumstances in which the temperature field to be measured is not allowed to be compromised. It is an essential measuring instrument for the metallurgical industry, the electric power plants, the chemical industry, the rubber industry, the spinning and weaving industry, the plastic industry, the papermaking and the food processing. The product KC-180B-1 provides a type K-thermocouple input socket, which makes it possible to measure wider temperature range.

KC-180B-1 Infrared thermometer is a Class II laser product and in compliance with the safety standard EN60825-1.

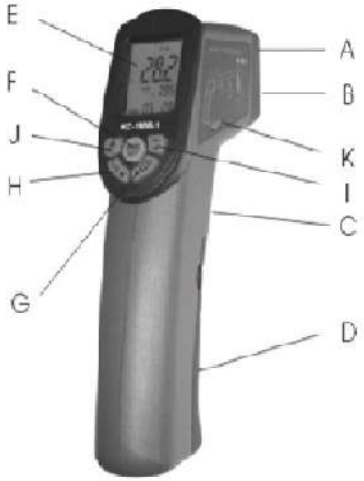
Safety Introductions

Fail to follow the instructions listed below may cause personal injury.

●Read and understand all instructions prior to any operation.
●Do not remove any labels from the tool.
●Do not operate the tool in the presence of flammable/explosive gases.
●Do not operate the laser tool around children or allow children to operate the laser tool, failure to do so will injure children's eyes.
●Do not stare into the laser beam.
●Do not project the laser beam directly into eyes of others.
●Do not set up the tool at eye level or operate the tool on or near a reflective surface, as the laser could be projected into people's eyes.
●Do not observe the laser beam by using optical tools such as binoculars, magnifying glasses.
●To avoid burning risk, please be advised that the readings of reflective objects may be lower than the actual temperature.

Battery Safety Instructions

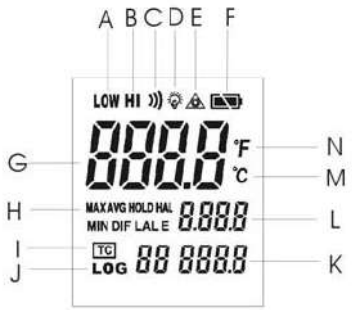
●Please remove the batteries when clean the product.
●Remove the batteries before long term storage
●Please install the batteries properly as the instructions of the positive and negative charges
●Please dispose the batteries properly. High temperature will cause explosions and do not burn the batteries. Strap insulated tape around the battery charges to avoid unsafe contacts with other objects. Many countries have regulations regarding battery disposal.Please follow the local regulations of battery disposing.



A. Laser pointer
B. Infrared sensor
C. Trigger —— ON / Measuring key
D. Battery compartment
E. LCD screen with backlight —— display reading data and other information
F. The middle key ——mode set/parameter set
G. The right down key —— browse saved date/increase preset data
H. The left down key ——temperature units exchange/decrease preset data
I. The right upper key —— switch between infrared and K-thermocouple
J. The left upper left key —— back light on/off and laser on/off
K. Type K-Thermocouple input socket.

Display Illustration

A：low temperature indicator
B：high temperature indicator
C：scanning indicator
D：back light on
E：laser on
F：low battery
G：reading
H：measuring method, hold data, set minimum and maximum temperature , emissivity indicator
I：K-thermocouple indicator
J：data log indicator
K：display logged data
L：display temperature, max and min temperature set, and emissivity
M: Celsius unit
N: Fahrenheit unit



Operation Steps

1. Pull the trigger to turn on the meter and hold the trigger for measuring. Be sure to hold the trigger more than 0.5 seconds to have an accurate reading. The scan icon “” flashes while scanning; After the trigger was released, the data is auto saved and the scan icon “” disappears, meanwhile the hold icon “” appears. The product saves the latest 10 sets of readings automatically. The product shuts off itself if not action in 30 seconds.
2. While ON status, the left down key on the panel is to exchange the Celsius/Fahrenheit units; the right down key on the panel is to browse the latest logged 10 sets of readings.
3. While holding the trigger(scanning temperature), press the left upper key to switch on and off the laser pointer, in the mean time the icon “” will be displayed or disappear.
4. While the product is inactive status (not scanning temperature), press the left upper key to switch on and off the backlight, meanwhile the icon “” will be displayed or disappeared.
5 Short press the middle key on the panel to set the data of MAX, AVG, MIN, DIF, LAL, HAL and E one by one, with the responding icons.
    a. MAX：display the maximum temperature of readings；
    b. AVG： display the average temperature of readings；
    c. MIN： display the minimum temperature of readings；
    d. DIF： display the max difference temperature based on the pre-set base temperature；
    e. LAL： display low temperature alarm data；
    f. HAL： display high temperature alarm data；
    g. E： display current emissivity

6 Press the middle key for 2s, then short press the left down key and the right down key to set the emissivity, low and high temperature threshold. Finally hold the middle key to finish the setting.

7 When the battery is low, the low battery icon “” will appear on the upper area of the screen. The “” and “” will appear on the upper of the display if the reading is lower or higher than the pre-set low(LAL) and high(HAL) set.

8 While inactive status, press the right upper key to switch between infrared measuring and thermocouple measuring. When appears, then plug in the type K-thermocouple into the socket which located on the right side of the instrument. Pull the trigger to get the reading.

Operation Introductions

1. Point the product to target objects, hold the trigger to get the reading.
2. The distance and scanned area: the value of D:S must be considered (as showed), the ratio should be no more than 12:1. In other words, if you are 12 inch(300mm) from the target, the detector will measure the average temperature over a circle 1 inch(25mm) in diameter. The field of view should cover the surface of measured objects.
3. Field of view: Be sure the target area is larger than the unit’s spot. The smaller the target area, the closer the distance between unit and target. However, if you want to have an accurate temperature of an object, be sure that the target is twice as large as the measuring area.

Operation notes

1. Leave no glass, plastic or water vapor etc. between the unit and target.
2. Keep the product away from the following places to reduce the risk of damaging the device:
   A, Environment with vapor and dust;
   B, EMF places（Electro-magnetic fields: such as arc welding machine, induction heaters）;
   C, Static environment;
   D, Heat shock (caused by abrupt temperature changes, allow 30 minutes for unit to stabilize before use in such circumstance);
   E, Stay away from high temperature objects.

Technical Specifications

Name	Infrared Thermometer
Model	KC-180B-1
Measuring range	-50℃～650℃(-58℉～1202℉)
Response wavelength	8～14μm
Measuring precision	±2℃(±3.6℉) or ±2%（T>0℃）
	±3℃(±5.4℉) or ±2% whichever is greater（T≤0℃）
Repetition	1% of readings or 1℃
Response time	500mSec，95% response
Optical ratio（D：S）	12：1
Emissivity	0.10～1. 00 adjustable（default 0.95）
Display precision	±0.1℃
Laser wavelength	630～660nm
Laser power	<1mW
Laser class	Class II
Laser switch	√
Backlight switch	√
Data hold	√

Maintenance

1. Lens protection: Abrupt temperature changes will cause vapor condensed on the lens, please clean the lens after the vapor disappears. Blow off loose particles using clean compressed air. Gently brush remaining debris away with a camel’s hair brush. Carefully wipe the surface with a moist cotton swab.
2. Keep the device clean and tidy, avoid dropping or shocking and keep it away from water. The housing could be cleaned with wet sponge.

CAUTIONS

- Don't drop and use the tool by force.
- Don't disassemble the tool, (avoid to cause trouble).
- Keep the tool dry and clean.
- Don't place the tool with corrosive gas or objects.
- Avoid dust and water, which may stain the lens.
- Don't clean the lens by any solvent.
- Don't immerse the tool into water to avoid damage.
- In case of damage of tool by deterioration of battery.
- Remove the battery when not in use for an extended period of time.

Warranty

The product is warranted to be free from defects in materials and workmanship for a period of one year from the date of purchase on the basis of providing relevant card.

Notice: The warranty does not apply to the following conditions:

●Disassembling the laser tool will void the warranty.

●We are not responsible for any damage resulting from abrasion, water, dropping or disassembling.

Tips：Most parts of the product could be recycled, please refer to your local regulations for disposing of them instead of throwing them into the dustbin.

Trouble Shooting

Problems	Causes	Possible Solution
no display	Dead battery	Check and replace battery.
“” appears	Low battery	Replace battery
“OL—” appears	The target temperature is lower than the range	Choose target within the functional range
“OH” appears	The target temperature is higher than the range	Choose target within the functional range
①Nreadings are inaccurate	ot suitable object or view field.	Choose proper field of view.①
	Wrong② emissivity setting.	②choose proper emissivity value