Infrared Thermal Leak Detector

Model: KC-186

Operation Manual

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Overview

KC-186 Thermal Leak Detector is a non-contact temperature measuring instrument using infrared technology. You could use this product to measure the surface temperature, which is not suitable for traditional measuring (such as moving objects、charged objects、toxic objects or hard-to-reach object).

It has the advantages of low consumption, LCD and backlight, auto save the measuring data and laser pointer. Its easy operation and portability design makes it widely used for applications of finding the hot spot of electric connection and bearing, measuring the hot and high-frequency objects, monitoring food processing and storage, inspecting temperature leak for heating & refrigeration system、inspecting temperature for technics control of metallurgy industry、inspecting temperature during laying asphalt and fire-control work, or any others. It is a good helper for measuring and discovering leak for the metallurgy, the electric power, the chemical industry, the rubber, the spinning and weaving, the plastic, the papermaking and the food processing.etc.

KC-186 is Class II laser product and accords with EN60825-1 safety standard.

Safety Instructions

Failure 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 with 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 the 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 and magnifying glass.

●To avoid burning danger, remember that the reflective objects make the reading lower than their actual temperature.

●Warning

DANGER

Class II Laser Product

Maximum Power Output< 1mW

Wavelength: 630-660nm

Do not stare into beam!

Avoid direct eye exposure!

This tool emits a laser radiation!

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.

Instrument components

A．Laser pointer

B．Infrared sensor

C．Trigger —— ON / Measuring key

D．Battery compartment

E．Light changes color to indicate hot and cold leaks

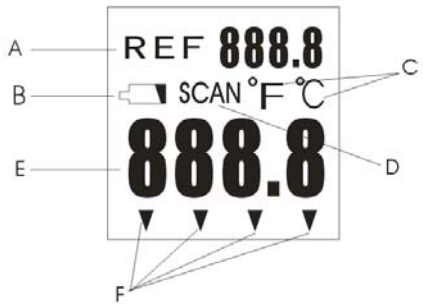
F．LCD screen with backlight——Show reading data and information

G．Different in temperature setting（±0.5℃，±3.0℃，±5.5℃）down /turn off key

H．Different in temperature setting（±0.5℃，±3.0℃，±5.5℃）up key

I．Green key has three functions——Set reference temperature, Fahrenheit/Centigrade switch and hold the key to turn off the instrument.

Illustration of display screen



A．Reference data icon　　B．Low battery indicator
C．Temperature units　　D．Scan temperature icon
E．Scan and hold the data　　F.　Arrows for different threshold

Operation Steps

1、 The trigger is for starting measuring. Be sure to hold the trigger more than 0.5 seconds to have an accurate data. In measuring status, the backlight is on, the screen shows SCAN icon and the reading data, the up shows “REF----”. When released, the reading is stored. 15s backlight off and 1 minute product off if there is no action.

2、 In measuring status (hold the trigger), every press the green key to set the reference temperature date.

3、 In ON status (but not measuring), every press the green key to exchange the units ℉ and ℃.

4、 In ON status (but not measuring), hold the green key for 2s to turn the product off.

5、 In measuring status (hold the trigger), the laser is turn on ; Release the trigger, the laser is off.

6、 The yellow button controls three ranges of leak differences（±0.5℃，±3.0℃，±5.5℃）and one off function. When press the left or the right button, the screen arrows will show the indicated temperature differences or off function. When finish setting the reference temperature and leak differences range, the green color indicates the temperature within the range; the blue color indicates the temperature lower than the range with slow buzzer sound; the red color indicates the temperature higher than the range with quick buzzer sound; In the followed conditions, the top has no colors: not-measuring status、measuring status without reference temperature setting、the reference temperature is set but leak differences control is off .

7、 One buzzer occurs when trigger on、measuring、pressing green key for exchange the temperature units、setting reference temperature; Two buzzers occur when turn off the product yourself or itself.

8、 The low battery icon appears when the power is low.

9、 When the environment temperature is higher than the product operation temperature, there will be fast-paced buzzers, at the same time displays ErAH; When the environment temperature is lower than the product operation temperature, there will be slow-paced buzzers, at the same time displays ErAL; When the target temperature is higher than the measuring temperature, there will be fast-paced buzzers, at the same time displays ErOH; when the target temperature is below the measuring range, there will be slow-paced buzzers, at the same time displays ErOL.

● Operation Notes

1、No glass, plastic or water vapor .etc should be placed between the product and target object.

2、Keep the device away from the following places, which will damage the devices:

a、Environment has vapor and dust;

b、EMF places（Electro-magnetic fields: such as arc welders、induction heaters）;

c、Static environment;

d、Heat shock (by abrupt temperature changes, allow 30 minutes for unit to stabilize before use.);

e、High temperature objects.

● Trouble shootings

Problems	Causes	Solutions
No vision	Dead battery	Check and replace battery.
Show“ ”	Low battery	Replace battery
Show “ErOL”	The target temperature is lower than measuring range.	Choose target within the range.
Show “ErOH”	The target temperature is higher than measuring range.	Choose target within the range.

● Maintenance

1、Cleaning the lens: Abrupt temperature changes will cause vapour, please clean 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 clean; avoid dropping; use only mild soap and damp cloth to clean the tool. Never let any liquid get inside the tool; never immerse any part of the tool into a liquid.

C a u t i o n s

- 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.

Technical Specifications

Name	Thermal Leak Detector
Model	KC-186
Measuring range	-40℃～220℃(-40℉～428℉)
Response wavelength	8～14μm
Measuring precision	±2℃(±3.6℉) or ±2% of reading（when T>0℃）
	±3℃(±5.4℉) or ±3% of reading, whichever is greater（when T ≤0℃）
Repetition	1℃
Response time	500mSec，95% response
Optical ratio（D：S）	8：1
Emissivity	0.95
Display resolution	±0.1℃
Laser wavelength	630～660nm
Power of laser	<1mW
Laser class	Class II
Data hold	√
Temperature units exchange	√
High/low warning	√
Low battery indication	√
Backlight shut off	No action in 15s
Auto turn off for tool	No action in 60s
Power supply	One 9V battery (6F22/6LR61)
Max. power	<30mA
Operating temperature	0℃～40℃(32℉～104℉)
Operating humidity	0～75%RH non-condensing
Storage temperature	-20℃～60℃(-4℉～140℉)，≤85%（w/o battery）
Product dimension	135 mm×173 mm×42mm
Product weight	About 167g (w/o battery)

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 into the dustbin.