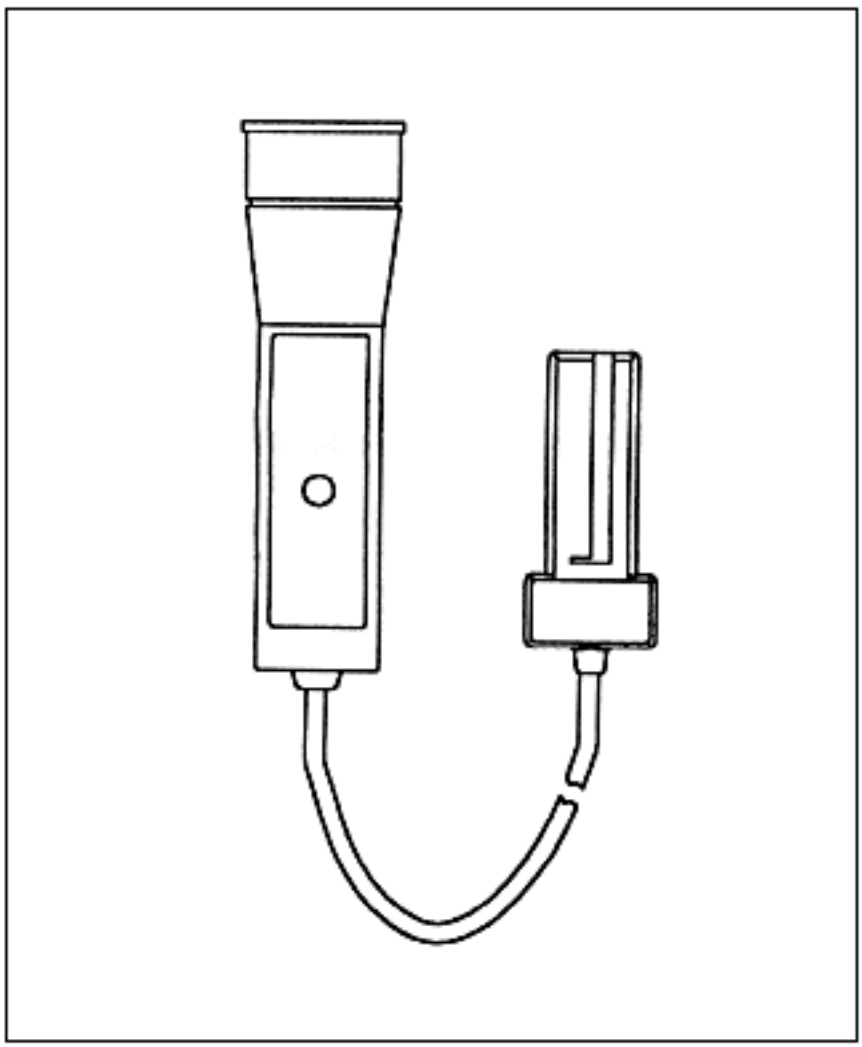
IR THERMOMETER PROBE

Model : YK-200PIR



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1. FEATURES

* Non−contact, Infrared Thermometer probe (YK−200PIR) connect with YK−2001TM will become a professional IR Thermometer with the following function :

  @ Records Maximum and Minimum readings with Recall facilities.
  @ Data hold function.
  @ Auto shut off prolongs battery life.
  @ RS 232 PC serial interface.
  @ Two temperature units, i.e. °C or °F.

* A factory preset emissivity value 0.95 which satisfies 90% typical applications.
* Separate probe, easy operation and remote measurement.
* Microprocessor circuit assures high accuracy performance available.

2. SPECIFICATIONS

2–1 General Specifications

Range	–10 to 300 °C / 14 to 572 °F.	
IR Sensor	Thermocouple pie.	
Emissivity Setting	0.95	
Measurement Wave length Region	6 to 12 micro meter.	
Distance Factor	D/S : Approx. 7:1. D – Distance, S – Spot.	
Main function **IR probe plug in the optional meter YK–2001TM.*	Memory Recall	Records Maximum and Minimum readings with RECALL facility.
	Power off	Manual power off by push button or Auto power off (Not activated during memory record function).
	Data Output Over load indication	RS 232 PC serial interface. Indicated by "– – – –".
	Sampling Time	Approx. 0.8 second.

Operating Temperature	0 to 50 °C
Operating Humidity	Max. 80% RH.
Size	Probe : Round, 40 mm Dia. x 150 mm length.
Accessories Included	Instruction manual.....1 PC.

2–2 Electrical Specifications(23 ± 5°C)

Measurement Range	– 10 °C to 300 °C / 14 °F to 572 °F.
Resolution/	1°C or 1°F.
Accuracy	± 3 % of reading or ± 3°C which ever is greater. * *Meter operating temp. within 23 ± 5 °C & the emissivity value of measurement target is 0.95.* * *Spec. tested under the 20 cm dia. black body, the measuring distance from the Probe sensing Head is 30 cm.* * *Spec. tested under the environment RF Field Strength less than 3 V/M & frequency less than the 30 MHz only.*

3. FRONT PANEL DESCRIPTION

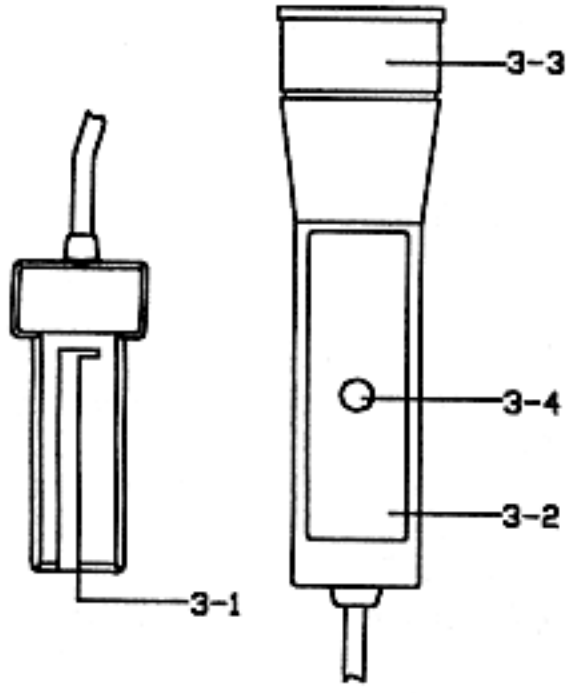

Fig. 1

3−1 IR Probe Plug
3−2 IR Probe Handle
3−3 IR Probe Sensing Head
3−4 Offset Adjust VR

4. MEASURING PROCEDURE

4−1 IR Thermometer measurement

1) Connect the " IR Thermometer Probe plug " (3−1, Fig. 1) into the meter (YK−2001TM).

Make sure that the probe lock switch of YK−2001TM slides to the lock position (🔒).

2) Power on the instrument (YK−2001TM).
3) Point the IR Thermometer probe to the object.
   ** The D/S (Distance/Spot) ratio factor is approx. 7:1.*
4) Press the " ° C,°F Button " of YK−2001TM to select the preferable temperature unit.

4−2 Other functions (Hold, Memory, RS232...)

Other functions, such as Data hold, Memory (max., min.,), RS232 interface, Auto power off, Auto power off disable, please refer the operation manual of YK−2001TM.

5. MEASURING TECHNIQUES

5−1 Offset Value adjustment

Caused by the environment temperature change or other reasons.... The measuring value may drift few degrees (1, 2 or 3 degrees).

If users found that the measuring values exist little deviation especially when measuring the low temperature, the offest value adjustement procedures are necessarily to be proceeded.

If find that the measuring values exist one or two degrees deviation especially when measure the low temperature, then slightly adjust the " Offset Adjust VR " (3−4, Fig. 1) to make the compensation until get the correct reading.

5−2 Measurement Field/Distance

The object must large than spot size calculated by the spot size calculated by the measurement field/distance (approx. 7:1). For the accurate measurement, the 1.5 times sport size is recommended.

5–3 Emissivity consideration

The IR probe default emissivity value 0.95 which satisfies 90% typical applications. If the meter seems to be giving incorrect reading, then the reasons may happen as below :

* *The surface to be measured is covered by frost or other material.*

Then clean it and expose the surface.

or

* *The emissivity value of the object is not 0.95.*
* *The surface to be measured is highly reflective.*

Then apply masking tape or apply the known " block body paint " such as emissivity 0.95.