

**KM330 DIGITAL
THERMOMETER
OPERATING
INSTRUCTIONS**

**ENGLISH
FRANÇAIS
DEUTSCH
ITALIANO
ESPAÑOL
DUTCH**



ENGLISH
KM330 DIGITAL THERMOMETER
OPERATING INSTRUCTIONS

1. GENERAL INFORMATION

It is recommended that you read the safety and operation instructions before using this instrument.



WARNING

TO AVOID ELECTRIC SHOCK DO NOT ALLOW ANY PROBE OR SENSOR TO COME INTO CONTACT WITH LIVE ELECTRICAL POWER CONDUCTORS WITH VOLTAGES IN EXCESS OF 30V AC RMS OR 30V DC.

TO AVOID DAMAGE OR BURNS, DO NOT MAKE TEMPERATURE MEASUREMENTS IN MICROWAVE OVENS.

THE  SYMBOL ON THE INSTRUMENT INDICATES THAT THE OPERATOR MUST REFER TO THE WARNINGS GIVEN HERE.

CAUTION

Temperature Measurement Probes

This precision instrument has been designed for use with the extensive range of Comark temperature probes. The use of other probes may impair the performance and accuracy of the instrument. Full details of Comark probes and sensors can be obtained from Comark Customer Support Department or your local distributor.

Repeated sharp flexing can break thermocouple probe leads. To prolong lead life, avoid sharp bends or kinks in the leads, especially near the connector.

This instrument complies with the Electromagnetic Compatibility Directive 89/336/EEC.



Declaration of Conformity available. Contact Comark Customer Support or your local Distributor.

In line with its policy of continuous development, Comark Limited reserves the right to alter the instrument specification without prior notice. Further information is available from Comark Limited or your distributor.

2. CALIBRATION, CERTIFICATION AND SERVICE



Certification

Comark can provide Certificates of Calibration which may be required to meet Quality Assurance procedures, Food Hygiene or Environment regulations. This is an independent quality controlled process which compares the measurement of the performance of a product against an agreed National Standard. Annual certification/recalibration is recommended, and is required by the regulations in many cases. Two types of certification are offered:-

- a) **NAMAS Certification**
Comark has one of the finest NAMAS accredited temperature calibration laboratories in the UK for contact temperature measurement. NAMAS (National Accreditation for Measurement and Sampling) is a service of UKAS (United Kingdom Accreditation Service). The Comark laboratory carries out certification

to strict NAMAS standards over a temperature range of -70°C to $+1100^{\circ}\text{C}$, with uncertainties as low as $\pm 0.01\text{K}$.

NAMAS certification for other measurement parameters can be provided via an external accredited laboratory.

- (b) **National Standards Certification**
Certification can also be provided by the Comark certification laboratory using equipment traceable to National Standards.

Conformance

Certificates of conformance can be supplied for new, serviced and recalibrated instruments, at the time of manufacture or service. These confirm that the instrument has been manufactured, inspected and tested in accordance with the conditions of supply and conforms to the product specification. Please note that certificates of conformance do not equate to or replace certificates of calibration.

Service/Repairs

Regular servicing and any necessary repairs, under warranty or thereafter, can be carried out by the Comark Service Department.

Full details of all the above facilities can be obtained from Comark Customer Support in the UK, or your local Distributor.

3. INTRODUCTION

This instrument is a portable $3\frac{1}{2}$ digit, compact-sized digital thermometer designed to use external type-K thermocouples as temperature sensors. It is compatible with the full range of Comark type-K thermocouple probes.

4. OPERATING INSTRUCTIONS

4.1 Selecting the Temperature Scale

Readings are displayed in either degrees Celsius ($^{\circ}\text{C}$) or degrees Fahrenheit ($^{\circ}\text{F}$).

When the thermometer is turned on, it is set to the temperature scale that was in use when the thermometer was last turned off. To change the temperature scale, press the $^{\circ}\text{C}$ or $^{\circ}\text{F}$ key.

4.2 Selecting the Display Resolution

The thermometer allows two choices of resolution

High resolution: 0.1°C or 0.1°F

Standard resolution: 1°C or 1°F

To select the alternate display resolution, press the corresponding "1" or "0.1" key.

4.3 HOLD Mode

Pressing the HOLD key to enter the Data Hold mode, the "D-H" annunciator is displayed. When HOLD mode is selected, the thermometer holds the present reading and stops all further measurements.

Pressing the HOLD key again cancels HOLD mode, causing the thermometer to resume taking measurements.

4.4 MAX Mode

Press the MAX key to enter the MAX mode. The thermometer then records and updates the maximum value and the MAX annunciator appears on the display. Press the MAX key again to exit the MAX recording mode.

In the MAX mode, press HOLD key to stop the recording, press HOLD again to resume recording.

The maximum function is limited to use on a single temperature scale at a time and for readings which do not make a transition through zero.

5. OPERATOR MAINTENANCE

5.1 Battery Replacement

Power is supplied by a 9 volt, PP3 battery. The battery sign appears on the LCD display when a replacement is needed. To replace the battery, remove the three screws from the back of the instrument and lift off the front case. Exchange the battery in the protection tube located at the top of the rear cover. Replace the instrument front squarely with the rear cover and secure with the three screws.