

MAKING TEMPERATURE MEASUREMENTS IN HOSTILE ENVIRONMENTS

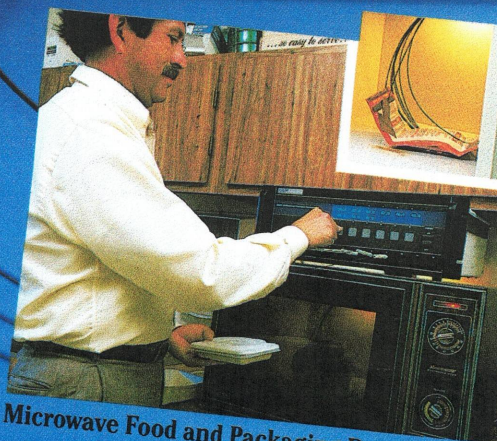
THE NEWEST
LUXTRON LEADER—
MODEL 755

The Luxtron Model 755 and 950 thermometry systems are versatile four and twelve channel fiberoptic temperature measurement instruments capable of making measurements in the toughest of hostile environments. Temperature measurements can be made in the presence of intense RF and microwave fields as well as very high voltages and strong magnetic fields.

This capability is due to the unique decay time based "Fluoroptic Thermometry®" technology developed and patented by Luxtron. The technology uses fiber optic probes which are chemically and electrically inert. The accuracy and repeatability of the measurements are assured even in the most hostile environments.

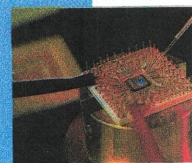
MODEL 755/950 FEATURES:

- Immersion and surface measurements
- Wide temperature range (-200°C to $+450^{\circ}\text{C}$)
- Can be used with or without calibration
- Fully interchangeable probes for different applications, some with replaceable tips
- Simple instrument operation with self guiding menus
- Low thermal mass and thermal conductivity (Does not act as a heat sink and responds quickly to temperature changes)
- Computer compatible (RS232 and IEEE-488)
- Built in data logger



Microwave Food and Packaging Development

- Unaffected by microwave fields
- Fast response
- Surface or immersion measurement
- Easy to use
- Degrees C or F at the push of a button



Electronics

- Allows IC's and components to be measured
- Useful for evaluating microelectronics
- Microelectronics of 1 mil or less
- Fast response

FOR EXTENDED CAPABILITIES— MODEL 950

LUXTRON

950 Multichannel Fluoroptic Thermometer

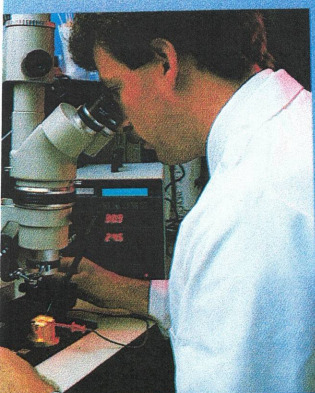
1 2 3 4 5 6
(Standby) 08/24/88 13:38
OPERATE CAL PROBE TIME PROC DIAG

7 8 9 10 11 12 POWER

ON

OFF

1 2 3 4 5 6 7 8 9 10 11 12



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mining device temperature and
l bonding
ows contact measurement



Semiconductor Manufacturing

- Good surface measurements, even in a vacuum
- Can be used reliably during RF or microwave processing
- Choice of contact or remote measurement techniques
- Speed and computer compatibility allow on-line process control
- Special fittings for vacuum processing applications



High Voltage/Electrical Power

- Sensors can be permanently mounted in high voltage apparatus and used without calibration
- Total electrical safety at very high voltages
- Special probes and fittings available for high pressure or underoil applications
- Remote operation and interrogation via digital ports

MODEL 755/950 SPECIFICATIONS

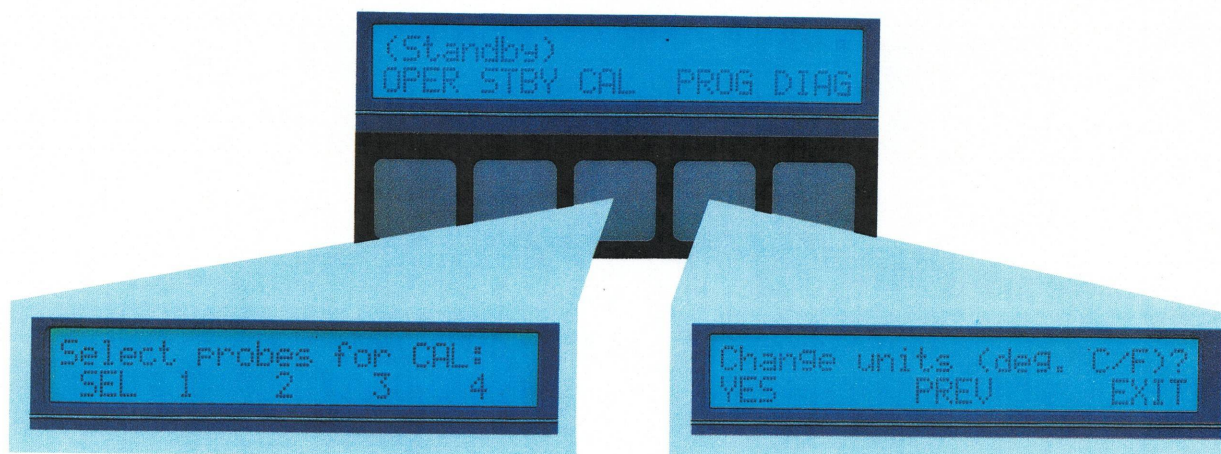
The Luxtron Models 755 and 950 are four and twelve channel microprocessor controlled temperature measurement systems that utilize flexible fiber optic probes to make reliable temperature measurements in hostile environments. These instruments may be operated and programmed via simple

menus and prompts shown on the front panel display.

Both instruments incorporate "DATASAVE" a feature that allows the instruments to store up to 6000 readings. Readings can be stored at rates from 10 per second up to one every 999 hours. At the users request, the collected data

can be retrieved via the RS232 port. The RS232 interface is bi-directional, allowing a host computer to control the instruments as well as collect the temperature readings.

A serial printer may also be connected directly to the 755 or 950 so that a continuous record can be obtained without the use of a computer.



Range:

— 200 to + 450° C

Precision:

± 0.1° C RMS, @ 20 samples per measurement

Resolution:

0.1° C Display

0.01° C RS232 Serial port

Accuracy:

± 0.1° C (At calibration point)

± 0.5° C (Within 50 Deg C of cal point)

± 1.0° C (Within 100 Deg C of cal point)

± 2.0° C (With no calibration)

Sample Rate:

1 to 10 samples per second

Averaging:

1 to 999 samples per measurement

Display:

755: Liquid crystal display for menu selection during set up and LED's for on line temperature display

950: Fluorescent display for both menu selection and on-line temperature display

Controls:

The instrument is controlled by membrane switches located immediately below the display. These switches operate an easy to follow menu and selection guide to control the instrument.

RS232:

The RS232 digital port allows access to all of the features of the instrument. The instrument can be controlled remotely and can output digital data for storage or analysis. Without a computer, a serial printer can be connected directly to the RS232 port of the 755 or 950 to print out measurements.

RS232 Rate:

4 samples per second (maximum)

DATASAVE:

Up to 6000 measurements can be stored (1500 per channel on the 755 and up to 500 per channel on the 950)

DATASAVE Rate:

10 samples per second

IEEE 488: (755 only)

All of the control alternatives of RS232.

IEEE Rate:

5 samples per second (maximum)

Analog Output: (755 only)

This option provides an analog voltage output for each of the 4 channels. The user has control of both the scale factor and the offset temperature. Can be used to operate alarms or controls in conjunction with adjustable upper and lower temperature limits.

Analog Rate:

10 samples per second (maximum)

General:

Meets FCC requirements for emission of RFI by a computer system. The 950 is housed in a specially shielded, rack mountable package to allow operation in stray RF or microwave fields of up to 10 mW/cm².

Configuration:

755 Bench top portable with handle

950 Bench top or rack mount

Power:

100/120 or 220/240; 50/60 Hertz; 755 150 watts, 950 150 watts

Vibration:

Designed to meet Mil-Std 810C (Para. 4.6.12.2)

Environment:

10° C to 40° C operating

Dimensions:

755—8.6"H X 8.6"W X 16"D

218mm H x 218mm W x 406mm D

950—7"H X 19"W X 19"D

178mm H x 483mm W x 483mm D

Weight:

755—25 pounds

11.4 kg

950—60 pounds

27.3 kg

LUXTRON

FLUOROPTIC® TEMPERATURE SENSING

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