

# FOT Lab Kit

**Applications include:**

**Medical treatment and research**  
MRI, microwave hyperthermia, RF ablation

**Semiconductor equipment**  
Electrostatic chuck, chamber, RF showerheads

**Industrial applications**  
Microwave drying, chemistry

**Utility equipment**  
Transformer windings, circuit breakers,  
high voltage transmission lines

The FOT Lab Kit is a fiber optic thermometry system that allows users to measure temperature where conventional sensors fail. Luxtron's patented technology, known as Fluoroptic® Thermometry (FOT), offers probes that are totally immune to electromagnetic interference (EMI) and entirely non-metallic in construction. These qualities make FOT instruments perfectly suited for measuring temperature in harsh environments often encountered during research or in industrial processes, such as high voltages and strong radio frequencies (RF).

The FOT Lab Kit includes a Fluoroptic® thermometer shielded in a metal enclosure, universal power supply, an RS-232 cable, users manual and compact carrying case.

The FOT instrument supports analog output (0-10V) and PC serial communication. The instrument can be connected to a PC serial port with the included RS-232 cable. Data is logged with any terminal program (such as Microsoft Windows® Hyperterminal) or with Luxtron's optional TrueTemp graphing and data capture PC software.

A wide variety of probe configurations are available for specific measurement applications. The unique Fluoroptic® probes used with the FOT Lab kit are non-metallic, electrically non-conductive and are immune to electromagnetic interference and voltages that adversely

- **0.5°C Accuracy**
- **4 Measurement Channels**
- **-200 to 330°C Measurement Range**
- **4 Hz Measurement Rate**
- **RS-232 and Analog Output**

*Fiber Optic Sensors  
Immune, Accurate  
and Safe in Hostile  
Environments*



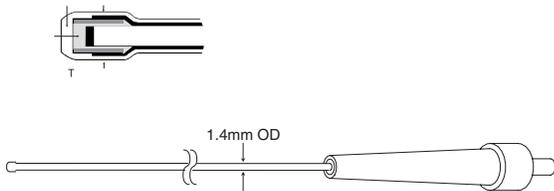
affect thermocouples, thermistors and RTDs. In addition, by using materials of minimal thermal conductance, these probes measure temperature on minute samples without perturbing or heat sinking the sample.

Fluoroptic®

## Standard Fluoroptic® Probes

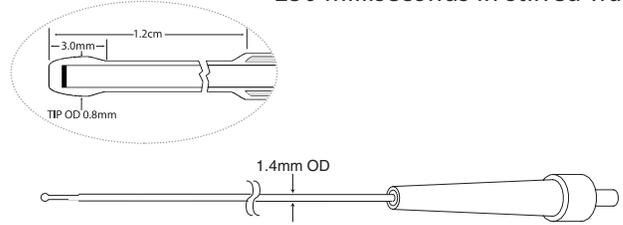
### STM Probe

**Application** General purpose immersion  
**Temperature Range** -25 to 250 °C \*  
**Response Time** 5 seconds still air;  
 0.7 seconds in stirred water



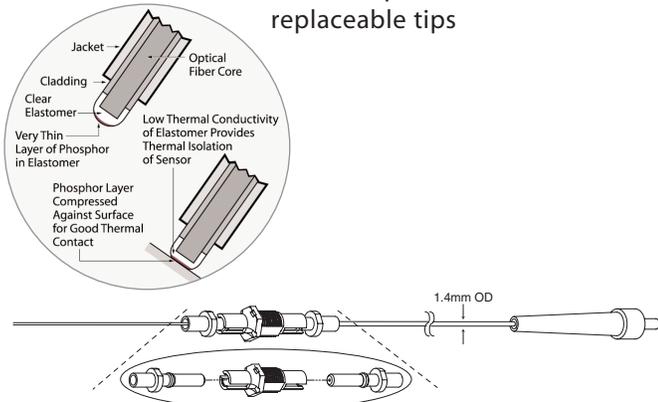
### STF Probe

**Application** Fast response immersion  
**Temperature Range** 0 to 295 °C \*  
**Response Time** 1.25 seconds still air;  
 250 milliseconds in stirred water



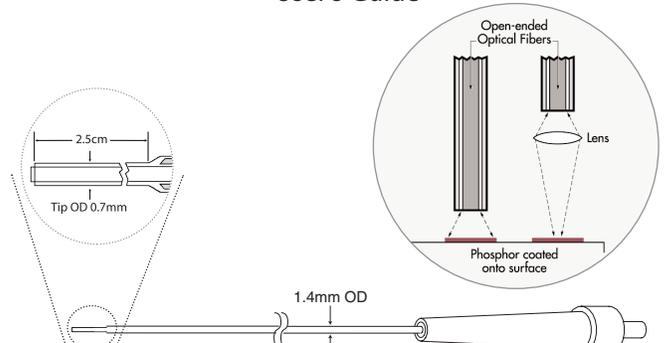
### STS Probe Kit

**Application** Surface contact  
**Temperature Range** -25 to 200 °C  
**Response Time** 25 milliseconds  
**Kit Includes** Standard probe and two 10cm replaceable tips



### STR Probe Kit

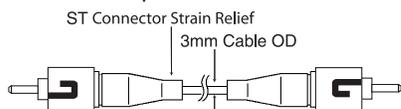
**Application** Non-contact remote sensing  
**Temperature Range** -25 to 330 °C  
**Kit includes** Alpha phosphor material, three types of binders, 2m STP-type blank probe, and Remote Sensing User's Guide



## Standard Fiber Optic Extensions

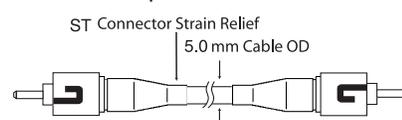
### SST Extension

**Application** General purpose fiber optic extension cable  
**Fiber Type** 400µm HCS with ST connectors



### HST Extension

**Application** Heavy duty fiber optic extension cable  
**Fiber Type** 600µm HCS with ST connectors



\* These probes can be special ordered to measure temperatures as low as -200 °C.

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