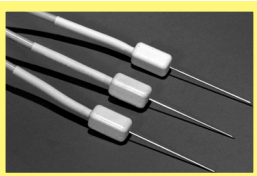


▶ Direct readout of thermal conductivity, thermal diffusivity, thermal resistivity & temperature.

# Portable 2-minute analysis of thermal conductivity and thermal diffusivity.

**T**he KD2 sensor is a needle in which a heater and a temperature sensor are sealed. The display module contains a battery, a 16-bit micro-controller/AD converter, and power control circuitry. The microcontroller switches



◀ Single needle sensor works in gels, liquids soils and porous media.

power to the sensor and measures the power dissipated and the temperature of the sensor.

### Easy readings.

A reading is initiated by pressing the left button on the

display module. The controller waits 90 seconds for temperature stability, then heats the probe with about 40 mA while reading its temperature each second for 30 seconds.

### Checking data.

**A**t the end of the reading, the controller computes the thermal conductivity and diffusivity from the temperature vs. time data. The left button allows scrolling through a display of thermal conductivity, thermal resistivity, and thermal diffusivity.

- ▶ Easy to use, Low power.
- ▶ No calibration necessary.
- ▶ Fast 2 minute read time.
- ▶ Simple menu structure.
- ▶ Easy to read display.



▶ Rugged stainless steel case and sensor.

### DECAGON

950 NE Nelson Court  
Pullman, Washington 99163

**800-755-2751**

fax 509-332-5158  
echo@decagon.com  
www.decagon.com/echo/

# Everything you need to begin taking thermal conductivity, thermal diffusivity and thermal resistivity measurements.

## **KD2 Specifications**

### **Measurement speed:**

2 minutes.

### **Accuracy:**

5% Thermal Conductivity.

10% Thermal Diffusivity.

### **Power:**

3.6 volt lithium battery.

### **Weight:**

115g (4oz).

### **Warranty:**

One year parts and labor.

### **Operating environment:**

5 to 40°C.

### **Range of measurement:**

**K** 0.1 to 2  $Wm^{-1} C^{-1}$

**D** 0.1 to 1.0  $mm^2s^{-1}$

**R** 0.5 to 10  $mC W^{-1}$

### **Sensor:**

Needle length—60 mm.

Needle diameter—0.9 mm.

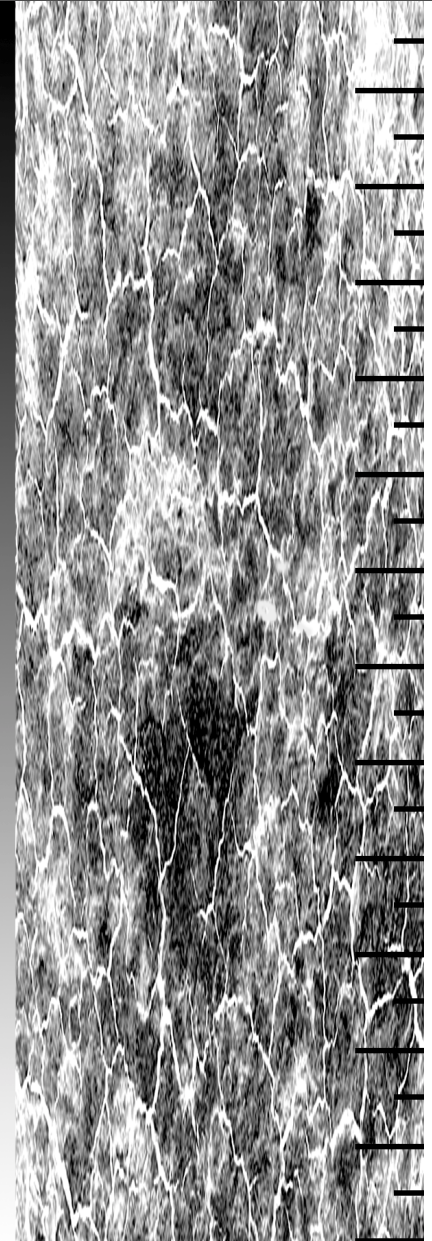
Cable length—72cm.

## **KD2 Thermal properties analyzer includes:**

- KD2 readout device.
- One KD probe.
- Manual.
- Protective carrying case.

## **Applications**

- ▶ Soil heat flux in energy balance studies.
- ▶ Heat dissipation from buried power lines.
- ▶ Geothermal designs.
- ▶ Soil heat flow under fires.
- ▶ Thermal properties in relation to moisture and density.



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