

KD2Pro Thermal Conductivity Analyzer



Manufacturer: Decagon Devices, Inc.

Technical Specifications

Controller:

Power: 4 AA batteries

Case Size: 15.5 cm x 9.5 cm x 3.5 cm

Display: 3 cm x 6 cm, 128 x 64 pixel graphics LCD

Keypad: 6 key, sealed membrane

Data Storage: 4,095 measurements in flash memory (both raw and processed data are stored for download)

Interface: 9-pin serial

Read Modes: Manual and Auto Read

Sensors

1. 6 cm (small) single needle (KS-1)

Size: 1.3 mm diameter x 6 cm long

Range: 0.02 to 2.00 W/ (m * K)(thermal conductivity)

50 to 5000 °C * cm/W (thermal resistivity)

Accuracy:

(Conductivity): $\pm 5\%$ from 0.2 to 2 W / (m * K) ± 0.01 W/ (m * K)

From 0.02 to 0.2 W/ (m * K)

Cable length: 0.8 m

2. 10 cm (large) single needle (TR-1)

Size: 2.4 mm diameter x 10 cm long

Range: 0.1 to 4.0 W / (m * K) (thermal conductivity)

25 to 1000 °C * cm/W (thermal resistivity)

Accuracy:

(Conductivity): $\pm 10\%$ from 0.2 to 4.0 W/ (m*K) ± 0.02 W/ (m*K)

from 0.1 to 0.2 W/ (m*K)

Cable length: 0.8 m

3. 3 cm dual-needle (SH-1)

Size: 1.3 mm diameter x 3 cm long, 6 mm spacing

Range: 0.02 to 2.00 W/ (m*K) (thermal conductivity)

50 to 5,000 °C * cm/W (thermal resistivity)

0.1 to 1.0 mm²/s (diffusivity)

0.5 to 4.0 mJ/ (m³K) (volumetric specific heat)

Accuracy:

(Conductivity) $\pm 10\%$ from 0.2 to 2 W/ (m*K)

$\pm 0.01 \text{ W/ (m}\cdot\text{K)}$ from 0.02 to 0.20 $\text{W/ (m}\cdot\text{K)}$

(Diffusivity) $\pm 10\%$ at conductivities above 0.1 $\text{W/ (m}\cdot\text{K)}$

(Volumetric Specific Heat) $\pm 10\%$ at conductivities above

0.1 $\text{W/ (m}\cdot\text{K)}$

Cable length: 0.8 m