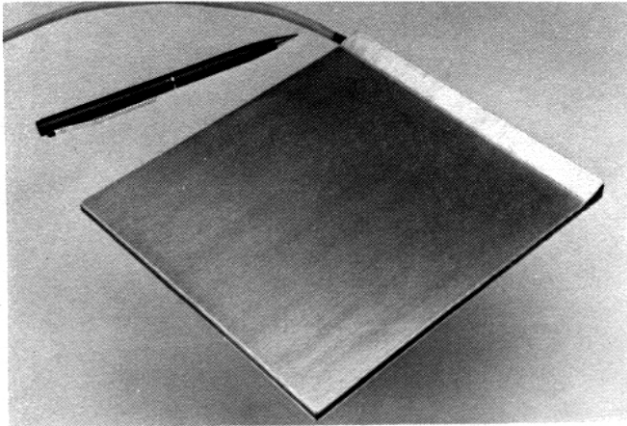


GEOTHERMAL HEAT FLOW TRANSDUCER



APPLICATION

The Model GHT-1C Geothermal Heat Flow Transducer measures directly, local heat fluxes in the earth. Bidirectional steady-state and transient heat flow may be sensed quantitatively and displayed upon any standard millivolt recorder. Integration of the resulting signal yields the mean flux over any desired time interval.

OPERATION

In use, the transducer may be either embedded in the earth, or attached to a body for surface heat flux measurements. The D.C. signal generated by the transducer is conducted to the readout by means of a waterproof cable. Upon attaining thermal equilibrium with its surroundings, the transducer develops a voltage which is directly proportional to the local heat flux. An array of three transducers, positioned at mutual right angles, yields the magnitude as well as the direction of the resultant heat flow.

PRINCIPLE

The flow of heat through the transducer creates a minute temperature difference between its surfaces. A multi-element, semi-conductor thermopile, consisting of hundreds of Bi/Te elements generates a D.C. voltage via the Seebeck effect. The resulting signal is directly proportional to the heat flux through the transducer.

CALIBRATION

All Model GHT-1C transducers are individually calibrated at a base temperature of 70°F. Lower

temperature calibrations are available for low temperature environments. An absolute calibration technique is used to determine the meter constant to the required accuracy. Each meter is supplied with its constant of calibrations.

SPECIFICATIONS

Sensitivity.....1.1 Watts/M²MV. (Nom.)
Accuracy.....1%
Dimensions.....0.225" x 6" x 6.5" (Al.clad)
Temperature.....-100°F to + 250°F
Internal Resistance.....13 Ohms
Time Constant.....15 Secs. (approx.)
Construction.....Waterproof
Heat Flow.....Bi-directional
Readout Required.....Portable Potentiometer,
Recorder, or Data Logger
Power Source Required.....None
Thermocouple.....Cu/Const.
Cable.....Attached, Waterproof, 4'

ORDERING INFORMATION

Delivery.....3-4 Wks, ARO
Shipping VWT.....5 Lbs (max.)
Terms.....Net 30 Days to established customers
F.O.B.....Del Mar, California

OTHER THERMAL INSTRUMENTS

Heat Flux Transducers, Primary Heat Flux Standards,
Heat Flux Measuring Systems, Thermopiles, Thermal
Conductivity Cells

