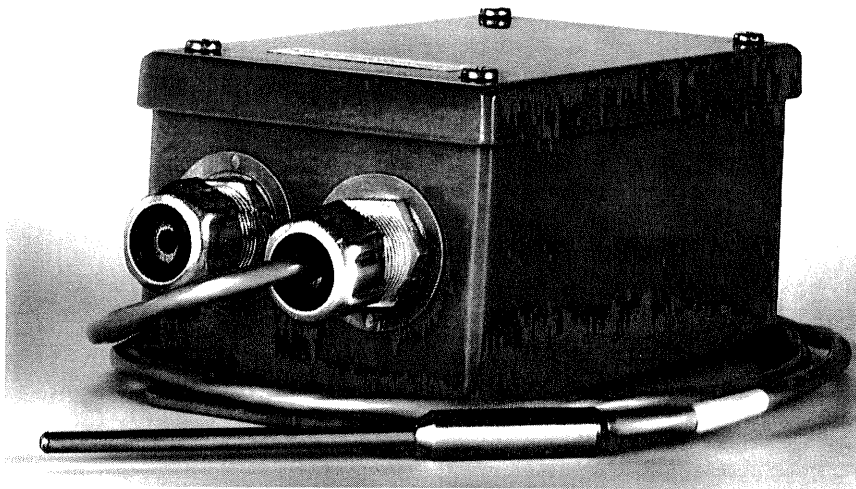


Remote Temperature Measuring System, Temperature Probes

- Weatherproof steel closure
- Output compatible with many telemetry systems



TEMPERATURE

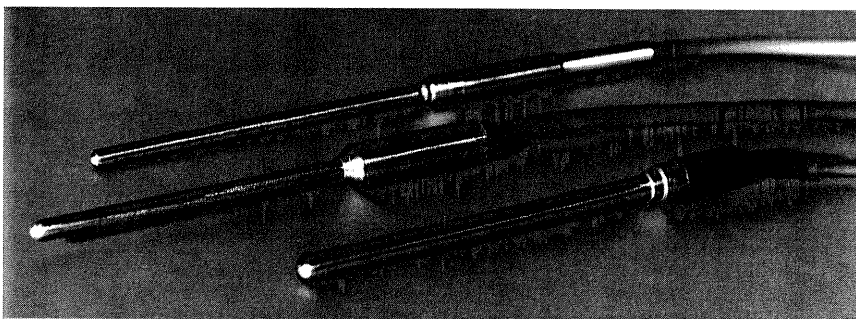
Remote Temperature Measuring System

Description

The Model 4350-A is a low power, temperature measuring system designed for use in remote areas. It is composed

of a Model 4480-B thermistor temperature probe and a translator housed in a weatherproof steel enclosure. The enclosure has waterproof cable glands for signal and power cables and is easily mounted on a mast or wall. Power is provided by an external 12 VDC source.

The translator converts the output of the probe to a 0 to 5 VDC output proportional to temperature. Precision resistors are used to maintain system accuracy and define the sensor range. The output is compatible with many types of telemetry systems.



Probes

Several different types of Temperature Probes are available for air, water, and soil temperature measurements.

Model 4480-A

Model 4480-A, the most commonly used probe, incorporates a precision composite thermistor that produces a linear output voltage which is proportional to the range of temperature.

The Model 4480-A features a 3 element composite, with a measuring range of -50° to $+50^{\circ}\text{C}$.

Model 4470-A

The Model 4470-A probe utilizes a platinum element. It has an accuracy of

$\pm 0.1^{\circ}\text{C}$ and a measuring range of -50° to $+100^{\circ}\text{C}$. Other probes are available for special measurements.

Model 4485

Includes waterproofing features for underwater and soil temperature use.

Model 4482

Incorporates the same probe, but it also includes hardware to mount it in a Model 6821 evaporation pan.

Specifications

Remote Temperature Measuring System

Sensor:	Thermistor probe, Model 4480-B
Translator:	DC amplifier with resistive bridge input
Power source:	+12 VDC at 5 mA max
Translator temperature:	-50° to 50°C (-58 to 122°F)
Signal range:	0 to 5 VDC
Sensor accuracy:	±0.1°C (±0.22°F)
Translator accuracy:	±.23°C (±0.5°F)
Translator size:	6" L x 4" W x 3" H (152 x 102 x 76 mm)
Translator weight/ shipping:	3 lbs/5 lbs (1.4 kg/2.3 kg)

Probes

Sensor Element:	
Model 4470-A:	100-ohm platinum wire, (American curve, $\alpha=0.00392$)
Models 4480, 4482, 4485:	3-element composite thermistor
Range:	
Model 4470-A:	-50° to +100°C
Models 4480, 4482, 4485:	-50° to +50°C
Accuracy:	
Model 4470-A:	±0.1°C
Models 4480, 4482, 4485:	±0.2°C
Time Constant:	
Model 4470-A:	15 seconds
Models 4480, 4482, 4485:	15 seconds
Size:	
Model 4470-A:	0.4" dia x 6" L (10 x 152 mm)
Models 4480:	0.43" dia x 5.25" L (11 x 133 mm)
Model 4482:	2" W x 8.5" L (51 x 216 mm)
Model 4485:	0.5" dia x 3.2" L (13 x 80 mm)

* Maximum sensor error at any temperature is the sum of the thermistor accuracy and interchangeability, the linearity deviation, and the uncertainty due to fixed resistor tolerance.

Ordering Information

Remote Temperature Measuring System

Model 4350-A	Remote Temperature Measuring System, including Model 4480-B thermistor temperature probe with 20 feet of cable and weather-proof translator
T600504	4-conductor, 20 AWG shielded cable to connect translator to battery and output device, or for additional distance between probe and translator
8141-B	Self-Aspirated Radiation Shield, for 4470 and 4480 series temperature probes
11510	Battery, 12 VDC

Probes

4470-A	Air Temperature Probe, platinum resistance element includes 5' cable
4480-A	Air Temperature Probe, 3-element thermistor, includes 5' cable
4480-B	Air Temperature Probe, same as 4480-A except includes 20' cable
4480-C	Air Temperature Probe, same as 4480-B except includes 30' cable
4482	Underwater Temperature Probe; includes mounting hardware for evaporation pan and 50' cable
4485	Soil/Water Temperature Probe, includes 50' cable
T600504	Cable for Model 4480, as well as Model 4470-A when connected to a signal conditioning module, 4-conductor, 20 AWG shielded
T600704	Cable for Models 4482 and 4485, 4-conductor, 18 AWG neoprene