



Product introduction

Soil heat flux sensor (also known as "soil heat flux plate", "heat flow meter") is mainly used to measure the energy balance of the soil and the thermal conductivity of the soil layer. The soil heat flux sensor measures temperature gradients using a thermopile consisting of two different metallic materials. Thermopile detectors receive thermal radiation, which can generate a thermoelectric potential between junctions of two dissimilar materials. The heat flux sensor outputs in the form of voltage, the voltage is proportional to the heat flux, the output voltage is a millivolt signal, and the millivolt signal is read by the data acquisition system.

This product has high measurement accuracy, convenient use and maintenance-free, and can be widely used in various environmental monitoring.

Technical Parameters

Measuring range: $-500\sim 500\text{W/m}^2$

Accuracy: $\pm 5\%$

Power supply mode:

- DC 5V
- Other

Output form:

- Voltage: $-100\text{mV}\sim 100\text{mV}$
- Voltage: $0\sim 2.5\text{V}$
- Other

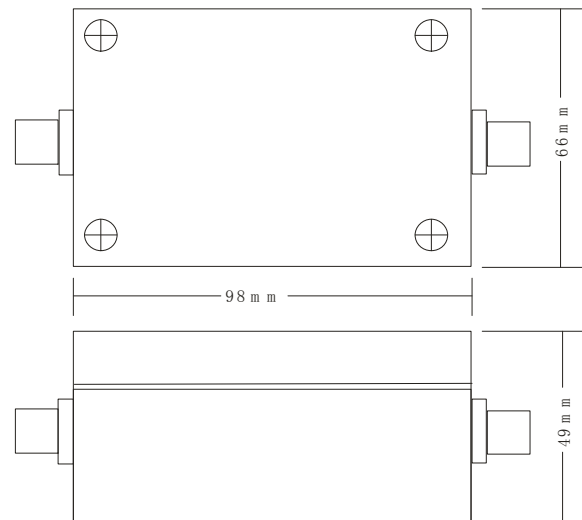
Instrument cable length:

- Standard: 10 meters
- Other

Working temperature: $-40\text{ }^\circ\text{C}\sim 50\text{ }^\circ\text{C}$

Working humidity: $0\sim 100\%\text{RH}$

Transmitter Dimensions



Instruction manual

The installation of the soil heat flux sensor should select a representative place within the research range. If the surface layer is more complex, the sensor should be placed in an effective part with a lower coverage and a more balanced soil heat flux. During use, be sure to pay attention to the front and back of the heat flux sensor, the correct placement is the front side up.

First, use a small shovel to dig a vertical hole, determine the distance from the heat flux sensor to the top of the ground according to the user's requirements, then use a small knife to make a horizontal cut in the side of the hole, try to keep the soil surface intact, or the minimum. Without being damaged, insert the heat flux sensor into the horizontal cutout. In order to obtain accurate soil heat flux, it is necessary to ensure that the heat flux plate is in full contact with the soil.

Remember, do not lead the output wire of the heat

flux plate directly to the soil surface. A small section of the output wire of the heat flux plate should be buried in the soil to reduce the heat conduction of the output wire.

After all sensors are installed, be sure to return the excavated soil to its original position as soon as possible.

During the year, the soil heat flux changes with the change of seasons. In summer, the soil heat flux is positive, that is, there is heat entering the soil layer, and the amount is large; in winter, the soil heat flux is negative, and the soil heat flux is negative. The heat is released to the atmosphere, but in small amounts.

Notice

1. Please check whether the packaging is in good condition, and check whether the product model is consistent with the selection;
2. Do not connect with live power. After the wiring is completed and checked, the power can be turned on;
3. The length of the sensor line will affect the output signal of the product. Do not arbitrarily change the components or wires that have been soldered when the product leaves the factory. If you need to change it, please contact the manufacturer;
4. The sensor is a precision device, please do not disassemble it by yourself, or touch the surface of the sensor with sharp objects or corrosive liquid, so as not to damage the product;
5. Please keep the verification certificate and qualification certificate, and return it together with the product during maintenance.

trouble clearing

1. During analog output, the indicator indicates that the value is 0 or not within the range. The collector may not be able to obtain information correctly due to wiring problems. Please check whether the wiring is correct and firm, and whether the power supply voltage is normal;

2. If it is not for the above reasons, please contact the manufacturer.

Selection table

No	Power supply	Output signals	Description
-			Soil Heat Flux Sensor (transmitter)
	5V-		5V Power supply
	YV-		Other Power supply
		0	no transmission
		V	-100mV~100mV
		X	Other
For example: -5V-V: Soil heat flux sensor (transmitter) 5V power supply, -100mV~100mV output			