

RK500-01 Soil/Liquid Temperature Sensor is used to measure the temperature of the soil or liquid medium, applied to the automatic meteorological station, soil temperature testing, pond or reservoir water temperature detection and other fields. The products can be used into the water or buried in the soil. Sensor with precision thermal resistance as a sensing component, built-in signal sampling and amplification, zero drift and temperature compensation function, has the characteristics of high measuring precision and good stability.

FEATURES

- Real-time temperature measurement
- Good corrosion resistance, suitable for all kind of soil
- High accuracy
- Good linearity
- All stainless steel probe



APPLICATIONS

- Environmental monitoring
- Weather station
- Aquaculture
- Ground temperature detection
- Water conservancy
- Agriculture

TECHNICAL SPECIFICATION

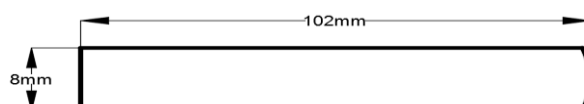
Item	Technical Specification
Range	-20~+50°C, -50~+100°C
Supply	5VDC, 12-24VDC
Accuracy	±0.5°C
Response time	<1s
Output signal	PT100/PT1000 class A (3-wires), 4-20mA, 0-5V, RS485
Operating temperature	-50°C~+80°C
Ingress protection(probe)	IP68
Storage	10-60°C@20%-90%RH
Size	4-20mA, 0-5V, RS485: Probe: Ø8*102 mm, Transmitting module: Ø27*120mm⓪ PT100: Probe: Ø6 x50mm
Probe weight(unpacked)	145g
Housing material	304 stainless steel

⓪If you select 4-20mA, 0-5V, RS485 output, need add transmitting module.

DIMENSION

Unit:mm

4-20mA/0-5V/RS485 output



OUTPUT CHARACTERISTICS

- **PT100(IEC60751)**

$T=0^{\circ}\text{C}$, $R=100\Omega$, $T\approx 100+0.385\Delta t$, Temperature and resistance is direct ratio relation.

- **4-20mA**

$T=((I_{out}-4)/(20-4))*(Range_max-Range_min)+Range_min$

- **0-5V**

$T=(V_{out}/5)*(Range_max-Range_min)+Range_min$

- **RS485**

If the transmission distance is over 100m, please add a 120Ω terminal matching resistances on the front end and back end of bus interface respectively. See the modbus communication protocol specification.

PARAMETER SELECTION TABLE

Remark	Series	Type	Range	Supply	Output	Cable Length	
RK							
	500						
		01					
			A				-20~+50°C
			B				-50~+100°C
			X				Other
				A			5V
				B			12-24V
				X			Other
					A		PT100(3-wires)
					B		4-20mA
					C		0-5V
					D		RS485
					X		Other
						5000	Unit(mm) default
						...	Unit(mm)

Example: RK500-01ABB10000 Range:-20~+50°C, Supply:12-24V, Output:4-20mA Cable length:10m.



Complies with applicable CE directives.

Specifications subject to change without notice. Version 3.0

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