



# RK520-01 Soil Moisture & Temperature Sensor

## Overview

RK520-01A Soil Moisture & Temperature Sensor integrates the moisture and temperature measurement. The stainless steel probe is inserted into soil surface or soil profile to test soil moisture and temperature quickly. Moisture measurement part is designed on the basis of the principle of FDR, by measuring the dielectric constant of the soil in order to measure the volume of the soil moisture content, temperature part adopts precision platinum resistance element, the product built-in drift calibration and temperature compensation circuit, can adapt to most applications. The probe can be permanently embedded underground and be connected to a data logger for unlimited testing.

## Features

High precision  
Fast response  
Not affected by soil properties  
Directly buried in soil  
Widely used

## Applications

Agriculture irrigation  
Greenhouse  
Grass farm  
Environment monitoring  
Water conservation  
Soil testing

## Technical Parameter

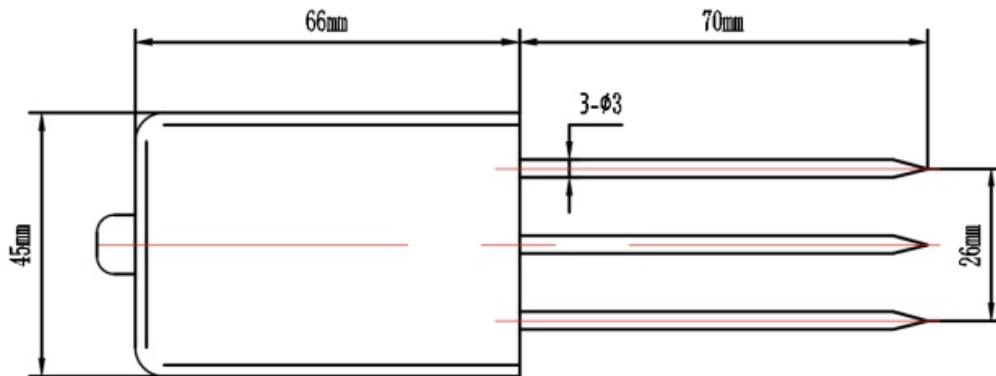
Item	Technical Specification	
	Moisture	Temperature
Range	0-100%(m <sup>3</sup> /m <sup>3</sup> )	-30°C-+70°C
Accuracy	±3%(0-50%)	±0.5°C
Output signal	4-20mA ,0-5V,0-2V,RS485 optional	
Response time	<1s	
Supply	3.9-30VDC(0-2V,RS485),12-24VDC(4-20mA ,0-5V)	
Effective measurement area	With the center of the probe diameter is 70mm, high 70mm cylinder	
Housing	ABS	
Dimensions	45*15*145mm( probe:3* Ø3*70mm)	
Operating temperature	-40°C-+80°C	
Ingress protection	IP68	
Storage	10-60°C@20%-90%RH	
Probe material	316L stainless steel	



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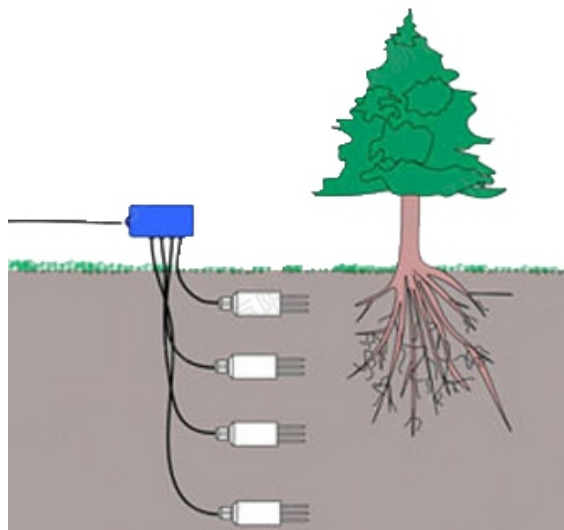
## Dimension

Unit:mm



## Mounting

1. Testing medium should be with uniform intensity.
2. If surface soil water content measurement, the sensor should be insert into soil vertically. Do not shake the sensor when inserted, otherwise the probe will be blended;
3. If multi-layer soil water content measurement, the sensor should be buried in the soil and parallel to the ground. Make sure the probe not be blended;
4. When removing sensors from the soil, please hold the sensor housing shell and do not forcibly pull on the cable. Soil on probes should be brushed tightly.
5. Please keep the sensor in dry & clean conditions.





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**Parameter Selection Table**

Remark	Series	Type	Parameter	Supply	Output	Cable Length	
RK							
	520						
		01					
			A				Moisture & Temperature
			B				Only moisture(0-100%)
			C				Only temperature(-30°C-+70°C)
			X				Other
				A			3.9-30V
				B			12-24V
				X			Other
					A		4-20mA
					B		0-5V
					C		0-2V
					D		RS485
					X		Other
						2000	Units:mm(typ)
						...	Units:mm

Example: RK520-01ABA2000 Moisture & Temperature, Supply: 12-24V, Output:4-20mA,Cable Length:2m.

Revision time	Reviser	Current Version	Remarks
20250804	Lee	V5.0	