

The soil temperature and humidity sensor based on FDR (Frequency Domain Reflection) principle, using the FDR layered tube type soil moisture measuring method, according to the frequency change of the electromagnetic wave emitted by the detector in different dielectric coefficient material, calculated from the measured soil moisture. Capable of simultaneous measurement of different depth of soil moisture and soil temperature. This series of products can be widely used in drought monitoring, soil research, intelligent irrigation, agricultural production prediction and landslides.

FEATURES

- High precision
- Fast response
- Soil properties affect little
- Directly buried in soil
- Widely used



APPLICATIONS

- Agriculture irrigation
- Greenhouse
- Grass farm
- Environment monitoring
- Water conservation
- Soil testing

TECHNICAL SPECIFICATION

Item	Technical Specification			
	Moisture		Temperature	
Range	0-100% (m ³ /m ³)		-20°C-+60°C	
Accuracy	±3%(0-50%)		±0.5°C	
Output Signal	RS485			
Measurement level	3	4	8	10
Dimensions	Ø63*730mm	Ø63*865mm	Ø63*1200mm	Ø63*1520mm
Response Time	<1s			
Supply	12-24VDC			
Power consumption	<40mA @24VDC			
MTTF	2500h			
Housing	PVC			
Operating Temperature	-40°C-+80°C			
Ingress Protection	IP68(underground)			
Storage	10-60°C@20%-90%RH			

DEPTH OF MEASUREMENT

Measurement level	Depth of measurement
3	10cm-20cm-40cm
4	10cm-20cm-40cm-60cm
8	10cm-20cm-40cm-60cm-80cm
10	10cm-20cm-30cm-40cm-50cm-60cm-70cm-80cm-90cm-100cm

MOUNTING

Sensors should be installed on flat land over 10 meters from the edge of representative plots and roadside. They should avoid low-lying areas where water is easily accumulated, and keep a distance of more than 20 meters from ditches and water supply channels, so as to avoid the influence of lateral seepage of ditches on soil water content.

The representative plots in hilly areas should be larger than 1 mu in area, and should be located in the plots with smaller slope gradient and larger area, not at the bottom of ditches and large slope, while the representative plots in plain areas should be larger than 10 mu in area and in flat and non-water-accumulating plots.

PARAMETER SELECTION TABLE

Remark	Series	Type	Parameter	Supply	Output	Measurement level	Cable Length	
RK								
	520							
		04						
			A					Moisture & Temperature
			B					Only moisture(0-100%)
				A				12-24V
				X				Other
					A			RS485
					X			Other
						A		3
						B		4
						C		8
						D		10
						X		Other(Customized)
							2000	Units:mm (typ)
							...	Units:mm

Example: RK520-04AAAA2000 Moisture & Temperature, Supply: 12-24V, Output:RS485,Measurement level: 3, Cable Length:2m.

CE Complies with applicable CE directives.

Specifications subject to change without notice. Version 3.0

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