RK500-05 Soil Water Potential Sensor

www.rikasensor.com

Soil water potential is the amount of energy required to extract a unit of water from the soil at the same temperature in kilopascals (kPa). When the soil moisture is saturated, the water potential is zero. The water content is lower than the saturation state, and the water potential is negative. The more arid the soil is, the greater the negative value will be. In the study of plant water demand, soil water content cannot reflect the availability of plants, and soil water potential is the only index to judge the degree of drought.

FEATURES

- Real-time measurement
- Good corrosion resistance,
- High accuracy
- Good linearity
- Suitable for high salinity

APPLICATIONS

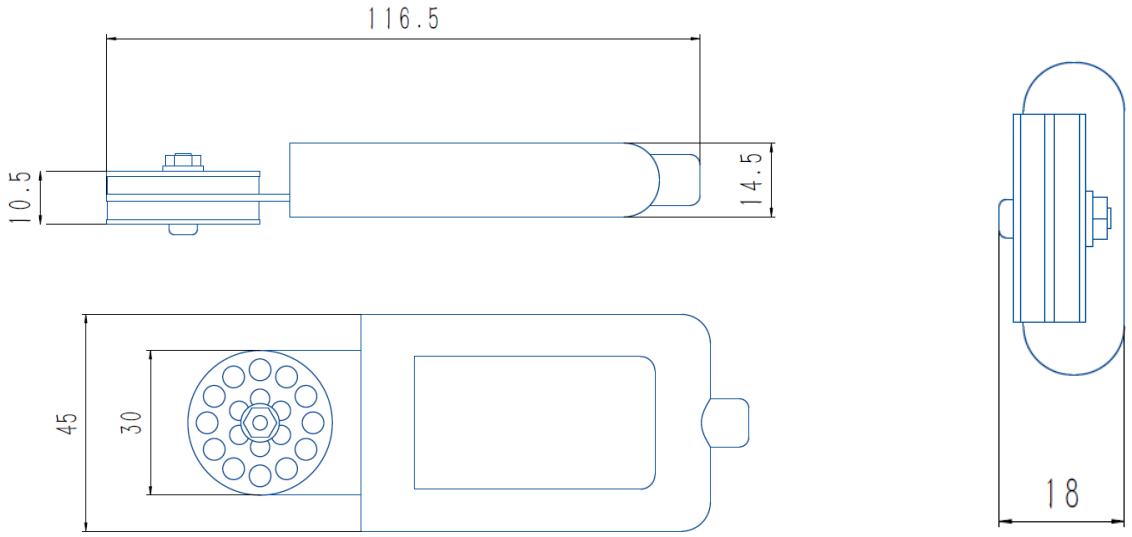
- Environmental monitoring
- Weather station
- Aquaculture
- Ground detection
- Water conservancy
- Agriculture

SPECIFICATIONS

Item	Technical Specification	
Range	-10~-500kPa,-100~-10kPa	
Supply	5VDC	5-30VDC
Output Signal	500~1000 mV	RS485
Accuracy	±25%(-5~-100kPa),±35%(-100~-300kPa),±50%(-300~-500kPa)	
Resolution	0.1kPa	
Power consumption	5mA@12V	
Element	Ceramic	
Response Time	200ms	
Operating	-40℃~+85℃@0%-100%RH	
Dimension	116.5 × 45 × 18mm	
Storage	-40~125℃@0%-80%RH(No condensation)	
Weight(unpacked)	200g	
Ingress Protection	IP68	

DIMENSION

Units:mm



PARAMETER SELECTION TABLE

Remark	Series	Type	Output	Range	Cable Length	
RK						
	500					
		05				
			A			500-1000mV
			B			RS485
			C			Customization
				A		-10~-500kPa
				B		-100~-10kPa
					1500	Units:mm(Typ.)
					3000	Units:mm
					...	Units:mm

Revision time	Reviser	Current Version	Remarks
20250702	Echo	V5.0	