



RK500-13 LC(Liquid cooling) EC Sensor



Overview

With the rapid development of AI computing, new energy, and other fields, the computing power and cooling requirements of devices continue to rise, making liquid cooling technology a mainstream cooling solution for high heat density scenarios.

However, under long-term high-load operation of the liquid cooling system, impurities will gradually mix into the cooling liquid, leading to a slow increase in conductivity. If not monitored in time, once the conductivity exceeds the safety threshold, it may cause server short circuits or even complete cabinet malfunction, resulting in huge losses for enterprises. In industrial manufacturing such as new energy batteries and precision machining, abnormal fluctuations in the conductivity of cooling liquid can also affect machining accuracy, and even lead to equipment damage, production delays, and weakened competitiveness of enterprises.

The RK500-13LC conductivity sensor utilizes advanced anti-polarization and signal isolation technology, effectively eliminating external interference and ensuring precise and stable performance even in complex electromagnetic environments. Its convenient installation and compatibility with various media such as propylene glycol, ethylene glycol, and deionized water provide reliable safety guarantees for liquid cooling systems.

Features

Applications

<ul style="list-style-type: none"> On-line & real-time measurement High accuracy Electromagnetic isolation Strong resistance to corrosion Polarization resistance Wetted material matching liquid cooling industry Integral design without external transmitter 	<ul style="list-style-type: none"> Liquid cooling industry Environmental protection Water conservancy Sewage treatment
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Technical Parameter

Item	Technical Specification		
Main material	316L		
Applicable medium	Deionized water, PG25,EG25		
O-ring material	EPDM		
Process connection	Upper:G3/4	Upper and lower NPT3/4 threads	50.5 Chuck
Sealing method	End face seal	Thread seal	Gasket
Cable	M16 connector,Direct line		
Accuracy	±1%FS@0-5000µS/cm,25°C		
Resolution	1µS/cm		
Power consumption	<0.2W		
Operating temperature	0-+60°C		



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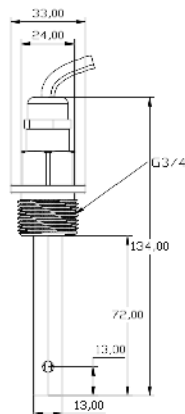
Technical Parameter

Item	Technical Specification
Temp. compensation	Thermal resistance
Range	0-20 μ S/cm, 0-200 μ S/cm, 0-2000 μ S/cm, 0-5000 μ S/cm (0-10000 μ S/cm can be customized)
Supply	7-30VDC
Output	4-20mA&RS485 at the same time
Response time	1s
Pressure resistance	1MPa(10Bar)
Ingress protection (probe)	IP68
Storage	10-60 $^{\circ}$ C@20%-90%RH
Cable length	5m default, other cable lengths can be customized

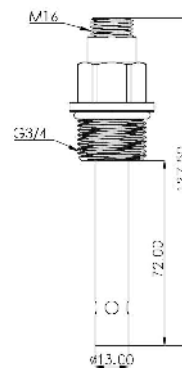
Dimension

Unit:mm

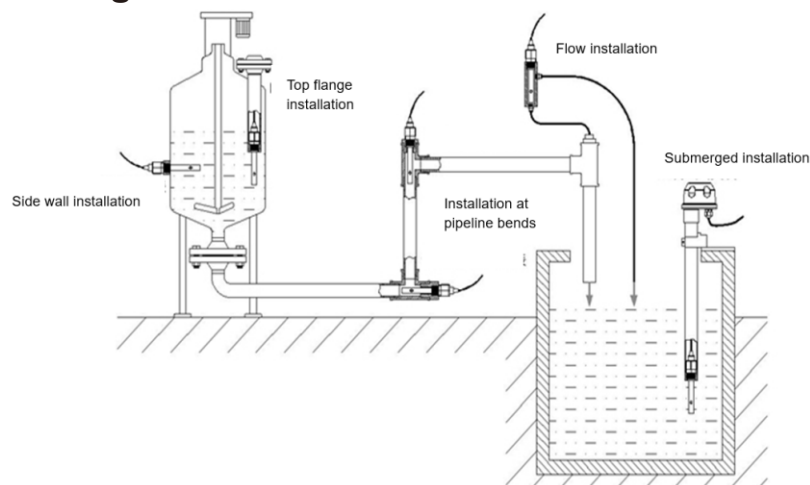
G3/4, Direct line



G3/4, M16 connector



Dimension&Mounting



Note: Regardless of the installation method used, please avoid bubbles in the conductivity cell. When selecting the M16 connector, the length of the reserved straight section at the outlet end should not be less than 70 mm to avoid cable breakage or core wire breakage caused by a too small bending radius.



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Parameter Selection Table

Remark	Series	Type	Supply	Range	Process Connection	Cable	Cable Length
RK							
	500						
		13LC					
			A				7-30VDC
			X				Other
				A			0-20μS/cm
				B			0-200μS/cm
				C			0-2000μS/cm
				D			0-5000μS/cm
				E			0-10000μS/cm
				X			Other
					A		G3/4
					B		NPT3/4
					C		50.5 Chuck
					X		Other
						A	M16 connector
						B	Direct line
							5000 Unit(mm)
							... Unit(mm)

Example: RK500-13LC AAAA5000 Supply:7-30VDC, Range: 0-20μS/cm, Process connection: G3/4, Cable : M16 connector,Cable length:5m.

Revision time	Reviser	Current Version	Remarks
20260420	Echo	V5. 1. 1	