

## RK330-02 Wall-mounted Atmospheric Temperature & Humidity Sensor

### SPECIFICATIONS

Item	Technical Specification	
	Temperature	Humidity
Range	-30-+70℃,0-50℃	0-100%RH
Resolution	0.1℃	0.1%RH
Accuracy	±0.3℃	±3%RH
Long term stability	<0.1℃/year	<0.5%RH/year
Supply	Mark on the label	
Output Signal	4-20mA,0-5V,0-10V,RS485(MODBUS-RTU)	
Operating Temperature	-40℃-+70℃	
Ingress Protection	IP65	
Storage	10-60℃@20%-90%RH	
Weight(unpacked)	170g	
Dimension	117*86*41mm	
Shelter material	ABS	

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RK330-02 Atmospheric Temperature & Humidity Sensor is a professional measurement of air temperature, & relative humidity. Sensors are built-in the water-proof and anti-UV shelter. It is widely used in agriculture, forestry, meteorology as well as a climate chamber, warehousing and other places.

### FEATURES

- High Sensitivity
- Fast response time
- Long service life
- Low consumption
- Good stability of output

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### OUTPUT CHARACTERISTICS

- **Current**

$T=(I-4)/16*100-30$ , (where T = temperature(℃),I = output current(mA))

$H=(I-4)/16*100\%$ , ((where H = humidity(RH),I = output current(mA)) )

- **Voltage**

$T=V/V\_full\ scale*(Rang\_max-Range\_min)+Range\_min$ , (where T = temperature(℃),V= output voltage(V),V\_full scale= 5V or 10V)

$H=V/V\_full\ scale*100\%$ , (where H = humidity(RH),V= output voltage(V),V\_full scale= 5V or 10V)

### MOUNTING

- Install the product in stable environment area, avoid direct sunlight, away from windows air-conditioning, heating and other equipment. Otherwise it will cause measurement inaccuracies.

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## ELECTRICAL CONNECTIONS

Cable	Current/Voltage	RS485
Red	V+	V+
Yellow	T-Signal	RS485A
Black	V-	V-
Green	H-Signal	RS485B

Note: This product has been tested and complies with European CE requirements for EMC directive.

## WARRANTY

This product is warranted to be free of defects in materials and construction for a period of 12 months from date of lead time.

Liability is limited to repair or replacement of defective item.

## PARAMETER SELECTION TABLE

Remark	Series	Type	Supply	Output	Display	Cable Length	
RK							
	330						
		02					
			A				5V
			B				12-24V
			X				Other
				A			4-20mA
				B			0-5V
				C			0-10V
				D			RS485
				X			Other
					A		With display
					N		Without display
						...	Units:mm

Example: RK330-02BAN2000 Supply: 12-24V, Output:4-20mA, Without display,Cable Length:2m.

## Communication Protocol (MODBUS)

Transmission mode: MODBUS-RTU, Baud rate: 9600bps, Data bits:8, Stop bit:1, Check bit:no

Slave address:the factory default is 01H (set according to the need,00H to FFH)

- The 03H Function Code Example: Read The Temperature & Humidity

Host Scan Order(slave address:0x01)

01 03 00 00 00 02 C40B

Slave Response

01 03 04 01 23 01 64 0A7E

Temperature:(0123)H<0x8000,(0123)H=(291)D,291/10=29.1(°C)

If the data  $\geq$  0x8000, for example:0x8023,according to the following method to calculate:

0x8000-0x8023=(-23)H=(-35)D,-35/10=-3.5(°C)

Humidity:(0164)H=(356)D,356/10=35.6(%)

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- The 06H Function Code Example: Modify the slave address (ensure that no other devices on the bus at this time)

Host Scan Order (Changed the 02H to 01H):

02 06 00 30 00 01 4836

Slave Response:

02 06 00 30 00 01 4836

If you forget the original address, you should use the broadcast address(FEH) (ensure that no other devices on the bus at this time).

Note:

- All underlined is fixed bit;
- The last two bytes is CRC check command.

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 Complies with applicable CE directives.

Manual subject to change without notice. Version 1.0

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