RK330-02 Wall-mounted Atmospheric Temperature & Humidity Sensor

Hunan Rika Electronic Tech Co.,Ltd

Add: 401, 1st Unit, 10th Bd, International Enterprise Center, No.268 Xinxing Rd, Yuhua Dist, Changsha, 410116 Hunan, China.

T:+86-731-85132979

E:info@rikasensor.com

W:www.rikasensor.com

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

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	

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.

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(℃)

If the data≧0x8000, for example:0x8023,according to the following method to calculate：

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

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

● **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:

1. All underlined is fixed bit;

2. The last two bytes is CRC check command.

CE Complies with applicable CE directives.

Manual subject to change without notice. Version 1.0

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