

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(℃)

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:

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