

## RK900-09 miniature ultrasonic weather Station



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RK900-09 miniature ultrasonic weather station is a fully digital detection, high-precision sensor, which is integrated by the principle of ultrasonic wind speed and direction sensor, high-precision digital temperature, humidity, pressure sensor, can accurately and quickly detect wind speed, wind direction, atmospheric temperature, atmospheric humidity and Atmospheric pressure, built-in signal processing unit can output corresponding signals according to user needs, high-strength structure design can work reliably in harsh climate environment, can be widely used in meteorology, ocean, environment, airport, port, laboratory, industry, agriculture and transportation, etc.

### FEATURES

- High accuracy, fast response
- Easy to install, all-weather measurement
- RS485 output
- High-strength structural design

### Parts:

1. sensor: 1
2. Cable: 1

### SPECIFICATIONS

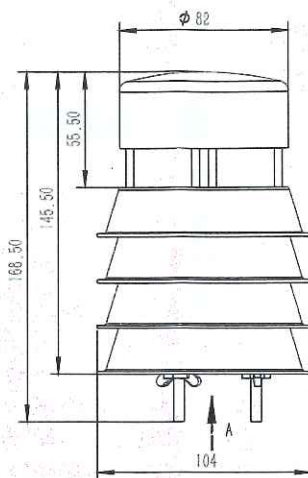
item	Principle	Range	Resolution	Accuracy
Wind speed	Ultrasonic	0-40m/s	0.01m/s	±0.5+2%FS
Wind direction	Ultrasonic	0-359°	1°	±3°
Atmospheric temperature	MEMS	-40-+100°C	0.1°C	±0.5°C
Atmospheric humidity	MEMS	0-100%RH	0.1%RH	±3%
Atmospheric pressure	MEMS	10-1100hPa	0.1hpa	±1.5hPa
Supply	Mark on the label			
Output	RS485			
Communication Protocol	Modbus-RTU			
Power consumption	0.6W			
Operating temperature	-40-+80°C			
IP Rating	IP65			
Main material	ABS+ Aluminum alloy			

### MOUNTING

- When installing the sensor, make sure that the indicator of the ultrasonic wind sensor on the sensor is consistent with the geographic north;
- The sensor shall be mounted on a bracket at a height of 500-600 mm from the ground or the deck of the ship.



## DIMENSION



## ELECTRICAL CONNECTIONS

Cable	RS485
Red/Brown	V+
Black/Green	V-
Yellow	RS485A
Blue	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.

## 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 value

Host Scan Order(slave address: 0x01)

01 03 00 00 00 05 85C9

Slave Response

01 03 0A 00 3A 00 8E 01 21 01 64 27 28 CE 43

Wind speed: (003A)H=58(D),  $58/100=0.58\text{m/s}$

Wind direction: (008E)H=142(D)=142°

Temperature: (0121)H=(298)D,  $298/10=28.9^{\circ}\text{C}$

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

Pressure: (2728)H=10024(D),  $10024/10=1002.4\text{mbar}$

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- The 10H Function Code Example: Modify the slave address

Host Scan Order (Changed to 02H, read and write address must be 00H):

00 10 02 FDC1

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Slave Response:

00 10 00 7C

- The 20H Function Code Example: Read The Slave Address (fixed command, ensure that no other devices on the bus)

Host Scan Order:

00 20 00 68

Slave Response(addr.=01H):

00 20 01 A9 C0

Note:

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

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**CE** Complies with applicable CE directives.

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