# **RK400-13 Radar Rainfall Sensor**

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The Radar Rainfall Sensor is a precipitation sensor which can be used to determine both the type of precipitation and its quantity and intensity. The RK400-13 operates with a 24GHz Doppler radar, which records raindrop fall speed. The precipitation quantity is then calculated by means of the correlation of raindrop size and speed.RK400-13 is more sensitive and has faster response time than tipping bucket rainfall gauge, It's configurable as a replacement for tipping bucket systems and the leaves fallen on its surface won't matter at all, no necessary to add extra heating device to protect it from, The RK400-13 precipitation sensor allows fast measurement of precipitation intensity and distinguishes between precipitation type (Rain, snow, hail).

# FEATURES

- Compact size for easy use
- High accuracy, good stability
- Light weight
- Free calibration and maintenance

## Parts:

1. Rainfall sensor with cable: 1

## SPECIFICATIONS

Item	Specification
Distinguishable type	Rain, Snow, Hail
Measure Range	0-100mm/hour
Sample frequency	0.1s
Resolution	0.1mm
Accuracy	$\pm 10\%$ (wind speed<5m/s)
Supply	Mark on the label
Output	RS485,RS232,SDI-12 Optional
Operating temperature	-30-+60°C
Operating humidity	0-100%
Main material	ABS+ aluminum alloy
Dimension	Ø105 * 178mm
Weight(unpacked)	0.45kg

### MOUNTING

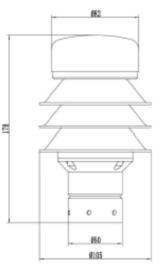
1

Follow the instructions below to guarantee correct long-term operation:

- Installation height above the ground 2 meters
- Distance to road carriageway at least 10m

- Distance to trees or bushes at the height of the sensor at least 10m

- When selecting the installation location please take care to position the device at a suitable distance from other systems incorporating a 24GHz radar sensor, such as traffic counting devices on overhead gantry signs. Otherwise cross effects and system malfunctions may occur. In the final analysis, the distance to other measuring systems also depends on their range of coverage and signal strength.



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# ELECTRICAL CONNECTIONS

Connector (cable)	SDI-12	RS485
Pin 1 (red/Brown)	V+	V+
Pin 2 (black/Blue)	V-	V-
Pin 3 (yellow)		RS485A
Pin 4 (Green)	DATA	RS485B

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

### Distinguishable type:

0x0001>>Rain

0x0002>>Snow

0x0003>>Hail

#### Note:

1. All underlined is fixed bit;

2. The last two bytes is CRC check command.

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Communication Protocol (MODBUS)

Transmission mode: MODBUS-RTU, Baud rate: 9600bps, Data bits:8, Stop bit:1, Check bit: EVEN Slave address: the factory default is 01H (set according to the need, 00H to FFH)

• The 03H Function Code Example: Read The Rainfall(32-bit floating point number) Host Scan Order(slave address:0x01)

01 03 00 00 00 10 4406

Slave Response

3164

Distinguishable type:0001>>Rain

Rainfall:( 3DA4D964)H>>0.08mm

Rainfall(accu.):(3AA8037A)H>>0.001mm

# 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.

C Complies with applicable CE directives. Manual subject to change without notice. Version 1.0 Copyright © 2015 Hunan Rika Electronic Tech Co.,Ltd

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