

# PSS-333071

## Atmospheric visibility sensor 10KM

### Related Products

Product.	Interf.	Descriptions
PSS-333071	RS485	Atmospheric visibility sensor (485, 10KM $\pm$ 2%, resolution 1m)
PSS-333072	RS485	Atmospheric visibility sensor (485, 50KM $\pm$ 2%, resolution 1m)
PSS-333073	RS485	Atmospheric visibility sensor (485, 80KM $\pm$ 2%, resolution 1m)

### Product introduction

PSS-333071 The atmospheric visibility sensor is a device that determines the visibility distance by measuring the intensity of scattered light caused by gas molecules, aerosol particles, fog drops, etc. in a certain volume of air. It can adapt to various severe weather conditions. The integrated design makes the internal cable layout more reasonable. The lens of the optical component is downward and equipped with a protective cover to effectively prevent precipitation, droplets or dust from entering the lens and reduce the pollution of the probe surface.

### Detection principle

The visible distance is determined by measuring the intensity of scattered light caused by gas molecules, aerosol particles, fog drops, etc. in a certain volume of air.

### Product features

- ❖ 35 ° forward scattering principle, more accurate measurement
- ❖ Simple structure, good stability, high reliability, low energy consumption, easy use and maintenance
- ❖ Infrared LED light source, increased filter design and anti light source interference
- ❖ Anti corrosion treatment shall be carried out on the equipment surface to prevent rainwater corrosion
- ❖ Low power consumption, anti-interference design of internal circuit
- ❖ Continuous measurement output of atmospheric visibility
- ❖ The DC power supply circuit of the instrument has dual design of anti reverse connection and self recovery insurance



### Product parameters

### Parameters

Measuring range	10KM
Measurement error	$\leq 1\text{KM} \pm 2\% \pm 10\% > 1\text{KM}$
Resolving power	1m
Update interval	20s
Mean time between failures	(MTBF) more than 18000 hours
Operating ambient temperature	-40~60℃
Operating relative humidity	Not more than 95% (30 ℃)
Weight	< 10kg
Power waste	0.5W

### Communication

Output signal	RS485
---------------	-------

### Warranty

Warranty period	1 year
-----------------	--------

### Machinery

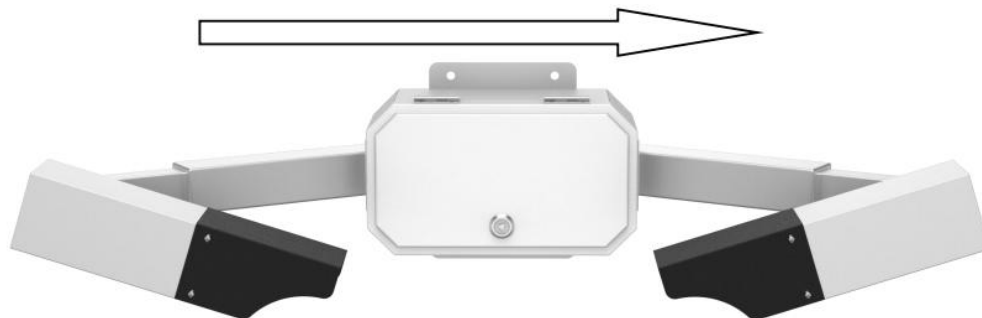
Size	986mm×236mm
Product maintenance	This instrument has been outdoors for a long time, and the operating environment is very harsh. Therefore, the surface of the instrument should be kept clean and often wiped with a soft clothwipe, the instrument should be cleaned once a month for long-term work, and once every three months;

### Power

Power	10V~30V DC
-------	------------

## Installation method

Select a suitable place to install the equipment. The equipment shall be provided with an installation hoop. The hoop shall be used to install the equipment on a 75mm vertical pole. Pay attention to the installation direction of the equipment



Note: Install the visibility sensor about 2 meters from the ground. Ensure that there is no other object below the visibility to interfere with the test. The ideal installation site should be at least 100 meters away from large buildings or other facilities that will generate heat and hinder rainfall, and should also avoid the impact of shade. The site shall be free of obstacles, reflective surfaces and obvious pollution sources that interfere with optical measurement.

## Application

The products are widely used in road meteorological information system, fog detection network, airport meteorological system, cooling tower smoke detection, meteorological monitoring and port security.

## Ordering Guide

- ❖ PSS-333071 sensor is a sensor only, it needs to use with WxS terminals to combine to different product series; On the basis of the combination, multiple PSS sensors can be loaded through the Multiple Purpose Interface (MPI) of the intelligent IoT terminal.
- ❖ According to the specific scenario of use case, the enclosure and antenna of intelligent IoT terminal will be replaced to ensure the product quality and performance.
- ❖ PSS sensors can be integrated with the WxS terminal via the MPI interface to form different product series.
- ❖ Example of products are as follows:
  - WxS7800-333071 WiFi Series Atmospheric visibility Smart Sensor& RTU 2-in-1 Terminal
  - WxS8800-333071 LoRaWAN Series Atmospheric visibility Smart Sensor& RTU 2-in-1 Terminal
  - WxS9800-333071 NB-IoT (China) Series Atmospheric visibility Smart Sensor& RTU 2-in-1 Terminal
  - WxS9900-333071 NB-IoT (Global) Series Atmospheric visibility Smart Sensor& RTU 2-in-1 Terminal
  - WxSC800-333071 LTE Cat1 Series Atmospheric visibility Smart Sensor& RTU 2-in-1 Terminal
  - WxSC900-333071 LTE Cat1 w/GPS Series Atmospheric visibility Smart Sensor& RTU 2-in-1 Terminal
  - WxSD800-333071 LTE Cat4 Series Atmospheric visibility Smart Sensor& RTU 2-in-1 Terminal
  - CxS1800-333071 Ethernet (RJ45) Series Atmospheric visibility Smart Sensor& RTU 2-in-1 Terminal