

YF-8500-PM/JD electrostatic dust detector

Use to explain the book.

safety instruction

Strictly abide by the assembly and installation regulations.

Before using this instrument, please read and fully understand the contents of this manual, and strictly abide by the provisions in this manual. The electrostatic dust detection instrument is only applicable to the range specified in the manual.

Product maintenance

Electrostatic dust detection instruments must be tested and maintained by trained professionals every three to six months, and maintenance records should be kept. Only spare parts approved by our company can be used for maintenance.

Use in explosion danger zone

According to the regulations of China and foreign countries on the use of electrical equipment in explosive dangerous areas, the equipment and components certified by explosion-proof testing can only be used in the occasions specified in the certification. It is forbidden to use faulty or incomplete components, and it is not allowed to change the components used at will. When it is necessary to repair explosion-proof equipment or components, please be sure to comply with the relevant national regulations.

In order to prevent explosion danger, when the detector needs to be opened or the safety barrier removed when it is charged, it should carry a portable combustible gas monitor with it to ensure that there is no dangerous flammable and explosive gas in the environment around the instrument.

Attribution of equipment performance responsibility

If the use of the electrostatic dust detection instrument does not conform to the provisions in the manual, or the electrostatic dust detection instrument has been repaired by technicians other than our company, our company will no longer be responsible for the performance of the electrostatic dust detection instrument. The user will be responsible for the damage caused by not complying with the above suggestions, and the above suggestions are also applicable to the provisions on quality assurance and responsibility division in the sales contract.

2. Introduction

2.1 Scope of application

Dust concentration detector is widely used in various industrial applications, typical applications include detecting the damage of filter bag of bag filter, or monitoring the total amount of powder material recycling and product delivery, or monitoring the concentration of boiler smoke emission of various sizes and fuels.

3、Description of technical parameters

3.1 Product dimensions and specifications: as shown in Figure 1.

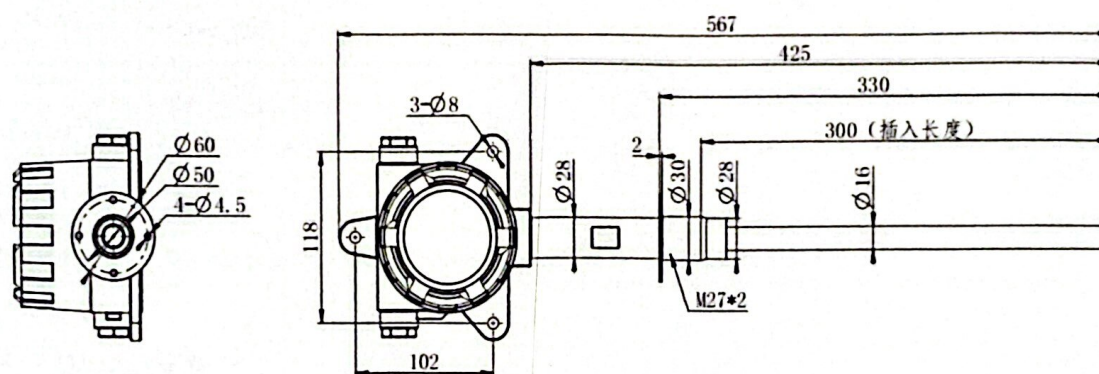


figure 1

3.2 Signal output (to central controller, transmitted by three-core shielded cable)

Measuring current signal underflow signal overflow

4~20mA 3.8~4mA 20~20.5mA

Transmitter fault < 3.2mA

Maintenance signal 4±1mA, 1Hz modulation

Optional signal (controllable switch)

Warning output 1 second fault signal every 10 seconds.

Digital signal RS485 is transmitted by shielded twisted pair.

3.3 working power supply

Working voltage 12VDC.

Peak current 10 microseconds

750 mA Working current

50-110mA

Instrument with counter electrode protection

The cable connection terminal can receive a cable with a size of 16AWG.

3.4 Technical parameters

Operating ambient temperature	-20~60℃
Operating environment humidity	No condensation 90%
Operating environment vibration	Maximum continuous oscillation, in any direction and at any frequency: root mean square value 2g (20m/s ²).
Operating environment protection	Protection grade: IP66 cast aluminum shell, suitable for installation in non-corrosive environment.
Pipeline gas pressure	-0.1 – 1MPa
measuring range	100mg/m ³
Operating environment humidity	No condensation 90%
Outside diameter of pipeline	0.1m ~ 4m
Probe structure	The standard probe is $\phi 16\text{mm}$, and the length is 100mm-1000mm.

4. Operation

4.1 installation

4.1.1 Installation regulations

The working power supply of the transmitter is 12~24V DC, which determines the distance between the monitoring system/power supply and the transmitter. The connecting cable adopts 16~22AWG(0.5~1.5mm²) four-core shielded cable.

There must be no thermal radiation source at the installation point to avoid the temperature in the transmitter being higher than 149 °F(65 °C). It is suggested to install anti-radiation shield.

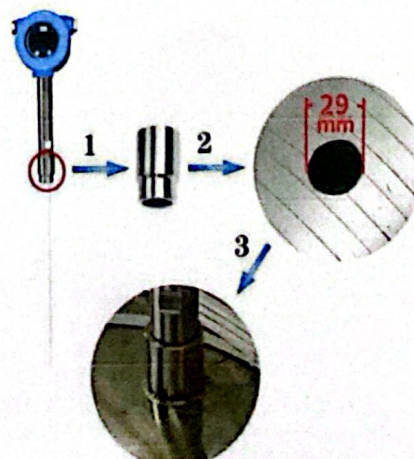
The transmitter must be installed vertically (sensor facing down).

The instrument shell is sealed and flameproof, which is suitable for outdoor environment, waterproof, dustproof and windproof.

4.1.2 Installation method

Installation of sensor:

(1) the sensor is best installed on the vertical pipeline, which is more than 5 times the diameter of the valve and elbow. When sampling in the horizontal pipeline, it shall not be installed at the bottom. For the gas dust removal system with multiple boxes running in parallel, an opening (the opening size is $\phi 29\text{mm} \times 2\text{mm}$) should be made in the pipeline before entering the clean gas main pipe at the outlet



of the dust removal box to be tested, and the base interface end of the fixed sensor should be vertically welded at the top of the horizontal pipeline with a long straight pipe section.

- (2) The length of the sensor probe shall be supplied by the instrument manufacturer according to the pipe diameter required by the user. The base should be the top of the insulation sleeve of the sensor probe, which is flat with or protrudes from the inner wall of the pipeline. The base is supplied by the instrument manufacturer.

Figure 2

- (3) Add a copper pad between the sensor and the socket, connect it with threads and tighten it to prevent the toxic gas in the tube from leaking.

④ The sensor junction box is rain-proof. The signal cable is directly connected to the terminal in the box through the threading hole on the junction box, and then the sealing rubber ring is pressed tightly. The external cable should be fixed nearby to prevent it from swinging back and forth in the wind and rain, causing mechanical damage to the transmission conductor.

Attention during installation:

- (1) The base and length of the sensor are provided by the manufacturer, and the opening size of the base in the pipeline is $\varnothing 29\text{mm}$ 2mm.
- (2) Please choose 0.5 mm-1.5 mm² ordinary twisted pair for transmission conductor (in the environment with particularly strong interference, please use shielded double-core cable and ground the shielding layer well).