

Electrostatic Dust Meter



This device confirms the online emission amount (mg/sec) or concentration (mg/m³) of dust particles by sensing and monitoring the charge induction generated by the dust particles flowing around the probe, thereby realizing real-time online monitoring of dust concentration.

Features

- ☆ Adopt mixed signal processing method, strong anti-interference ability
- ☆ Easy to use The dust contamination of the probe do not affect the measurement sensitivity,
- ☆ By intelligent successive approximation algorithm, it can adapt to more working conditions



Specifications

Model	PW-ESDM series
Operate temperature range	-20~60°C
Operate humidity range	No condensation of 90%
Operate vibration environment	Maximum continuous oscillation, any direction, any frequency: ROOT mean square value 2g (20m/s ²)
Operate electromagnetic field	Maximum: 60A/m at 50 Hz (equivalent to a 50AT magnetic field in a 1m x 1m square solenoids)
Operate environment protection	IP66/NEMA4 aluminum alloy housing, suitable for installation in non-corrosive environment, stainless steel probe
Pipeline gas pressure	-0.1~1MPa
Pipeline gas flow rate	1m/s ~ 30m/s
Pipeline gas temperature	-50~450°C
Pipe outer diameter	0.1~4m
Probe structure	Standard probe is M6, 160 mm long, 316 stainless steel rod.
Dust particle range	Nominal 0.1μM ~ 200μM (Particles exceed nominal range can be received but the signal characteristics are different)
Time zero drift	Less than 1% per year.
Temperature zero drift	Less than 1% over the specified temperature range
Time full scale drift	Less than 1% per year.
Temperature full scale drift	Less than 1% over the specified temperature range
Line stability	All parts of the system are made of high-stability electronic assemblies
Noise resistance	All 50/60 Hz audio & harmonics are filtered out before signal is received
Measure range	0-9/12/25/50/100/200/400/800/1000 mg/M ³
Transmitter output mode	Two-wire 4 – 20mA (built-in isolator, explosion-proof & anti-interference)
Transmitter power	15V – 32VDC

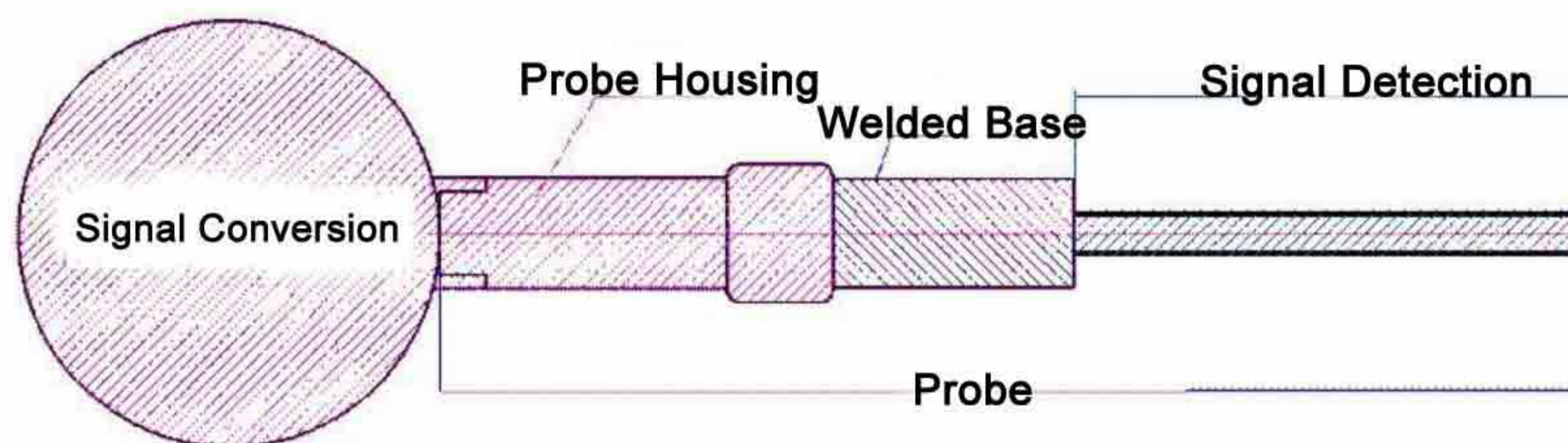
Electrostatic Dust Meter



Principle

Charge transfer occurs when two objects rub or touch. The device adopts accurate and reliable AC electrostatic measurement technology. When the dust particles pass through the sensor, the weak charges carried by the dust particles are collected by the sensor and sent to the processor. The processor converts the signal processing result into an output value that is linearly related to the dust content.

Structure



How to choose a model

Electrostatic Dust Meter (PW-ESDM)				
category	Sensor type			
<input type="checkbox"/> W	with LCD display			
<input type="checkbox"/> /	without LCD display			
category	Length of probe			
<input type="checkbox"/> 60	60mm			
<input type="checkbox"/> 96	96mm			
<input type="checkbox"/> 100	100mm			
<input type="checkbox"/> 150	150mm			
<input type="checkbox"/> 200	200mm			
<input type="checkbox"/> 300	300mm			
<input type="checkbox"/> xx	customerize			
category	category	Material		
<input type="checkbox"/>	<input type="checkbox"/> S	Steel jade tube material (standard)		
	category	Measure range		
	<input type="checkbox"/> 10	0~10mg/m ³		
	<input type="checkbox"/> 15	0~15mg/m ³		
	<input type="checkbox"/> 25	0~25mg/m ³		
	<input type="checkbox"/> 30	0~30mg/m ³		
	<input type="checkbox"/> 40	0~40mg/m ³		
	<input type="checkbox"/> 50	0~50mg/m ³		
	<input type="checkbox"/> xx	Customerize range can be 0~1000mg/m ³		
	category	Signal output		
	<input type="checkbox"/> C	4~20mA three wire		
	<input type="checkbox"/> V	0-10V three wire		
	<input type="checkbox"/> A	Upper and lower switch alarm output		
	category	Power supply		
	<input type="checkbox"/> N	12~36V DC		
Example: PW-ESDM-W60S10CN means electrostatic dust meter with LCD display, 60mm, 0~10mg/m ³ , 4-20mA output, 12-36V DC				