DTS-T000 Gas pretreatment online monitoring system



Henan DUOTESI Electronic Technology Co., Ltd.

Version V1.1

Thank you for using our company's product series. Before using this product, please read this manual carefully and strictly follow the relevant operating procedures to prevent equipment damage due to incorrect operation.

I.User Guide

1. Before using this product, please verify that the certificate of conformity, factory inspection report, and warranty card are all complete.
2. For twelve months from the date of sale, if the product quality falls below the technical specifications while users comply with storage, transportation, and usage requirements, free repair is provided.
3. For damages caused by violation of operating procedures, malfunctions not repaired by our company's designated authorized technical service department, or failures due to force majeure, our company will charge fees as appropriate.
4. Show your warranty card when the product is repaired.
5. If you have any comments and suggestions on our products and services, please contact us in a timely manner.

Warning: Do not open the detector cover while powered on at the work site. Before powering on the instrument, carefully check the wiring connections. Any internal operations of the detector must be performed by qualified personnel.

II. Main Technical Specifications

Detection principles: Catalytic combustion, electrochemistry, infrared, PID, semiconductor

Detectable gases: Toxic, flammable and explosive, oxygen, TVOC, etc.

Sampling method: Free diffusion.

Test range: 0-1000 PPM; 0-100% LEL; 0-100%VOL

Discrimination rate: 0.01 / 0.1 / 1

Accuracy: ≤ 5% FS.

Debugging mode: Key and remote control (optional).

Response time:Ccombustible category <30s, toxic measurement category <60s.

Recovery time: Combustible class <30s, toxic class <60s.

The ambient temperature was-20℃ ~ 55℃.

Relative humidity: ≤95%.

Explosion-proof type: Flameproof.

Power supply: DC24V±12V/220V.

Output signal: (4 ~ 20)mA, RS485.

Sampling method: Pump suction;

Alarm method: Acoustic and visual alarm

III. Product Structure Diagram and Component Illustrations

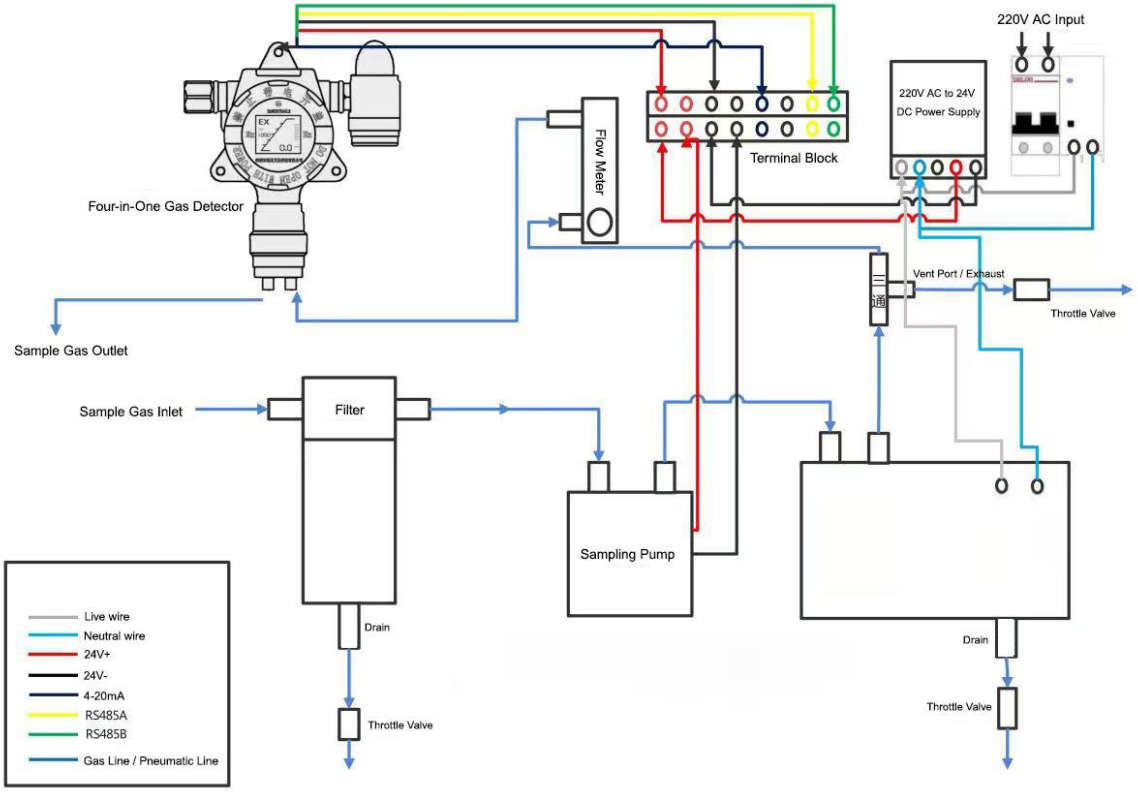
3.1 External appearance diagram of the internal gas detection device:



3.2 Schematic Diagram of the Online Monitoring System for Pre-treatment



3.3 Internal Structure Diagram of the Pre-treatment Online Monitoring System



1. Three-stage filtration device: oil removal, dust removal, and drying

2. Gas sampling device: vacuum sampling pump

3. Gas detection device: Monitoring of toxic and harmful gases and other industrial exhaust gases

4. Built-in drainage pump for automatic condensate discharge

5. Flow control device: Real-time gas flow control

6. Waterproof design with rapid, reliable, and stable detection.

7. The gas analyzer can be integrated into the chassis or installed externally.

IV. Gas Pretreatment Procedure Instructions

4.1 Includes the following accessories:

Detector*1

Switching power supply*1

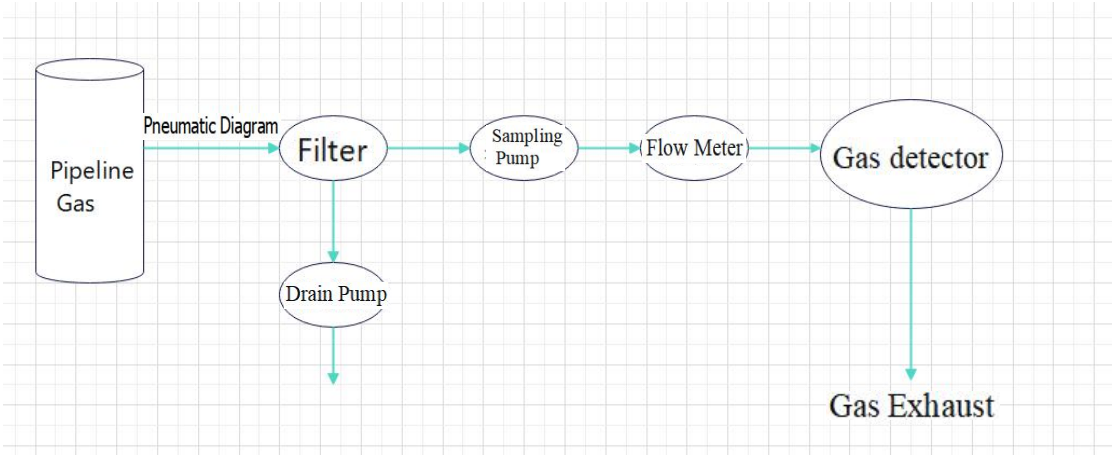
Protect Filter*1

Brushless vacuum pump*1

Flowmeter*1



4.2 Preprocessing Cabinet: Usage Steps and Schematic Diagram



1. As shown in the figure above, before energizing, connect the gas tube to be tested to the inlet port. The tube has an outer diameter of 8mm.

2. Connect the exhaust pipe and drainage pipe with an outer diameter of 8mm.

3. Connect the power supply and start the system. Set the flow meter to the appropriate flow rate within the range of 0.1 to 1.0L.

4.3 Function List Details:

1. Level 1 alarm threshold (underreporting setting)

Select the menu "FU--1", press "Confirm" or "En" to display "20" (default first-level alarm value). Press "()" to select the bit to adjust, press "()" to increase the first-level alarm value, then press "Confirm" or "En" to save the current alarm value and return to the menu. Press "Exit" or "Cl" to return to the working state.

2. Secondary alarm threshold (overreport setting)

Select the menu "FU--2", press "Confirm" or "En" to display "50" (default secondary alarm level). Press "()" to select the target bit, then press "()" to increase the alarm level. Press "Confirm" or "En" to save the current alarm value and return to the menu. Press "Exit" or "Cl" to return to the working state.

3. Precision Settings

Select the menu "FU--3" and press "OK" or "En". The current precision will be displayed. Press "()" or "()" to adjust the precision value. Press "OK" or "En" to save the current precision and return to the menu. Press "Exit" or "Cl" to return to the working state.

4. Range Settings

Select the menu "FU--4" and press "OK" or "En". The current range will be displayed. Press "()" to select the bit to adjust, then press "()" to increase the value. Press "OK" or "En" to save the current range and return to the menu. Press "Exit" or "Cl" to return to the working state.

5. Zero Point Calibration

In the clean air mode, select the menu "FU--5" and press "Confirm" or "En" to display the current zero-point A/D value. Once the display stabilizes, press "Confirm" or "En" to activate the change immediately.

6. Gas Calibration

In a clean environment, select the menu "FU--6" and press "Confirm" or "En" to display the standard gas concentration value. Users may adjust the concentration as needed, then press "Confirm" or "En" again to show the current A/D value. Introduce the standard gas, wait for the displayed value to stabilize, and press "Confirm" or "En" to complete the calibration.

7. Working Mode

Adjust the detector's operating mode. It is preconfigured and requires no user modification.

8. Detector number (address setting) applies only to bus probes

Select the menu "FU--8" and press "Confirm" or "En" to set the detector number. The detector number cannot be duplicated for the same host.

9. Gas Type (Gas Settings)

The detector's gas detection types are preconfigured at factory and require no user modifications.

10. Unit Settings

Adjust the unit for the detector to detect gas. It is pre-set at the factory, and users do not need to modify it.

11.4-20mA current calibration (current setting)

Select the menu "FU--C" to adjust the detector output current. The factory preset is already configured, so users need not modify it.

12. Reset to factory settings

Select the menu "FU--E" to restore factory settings. Use this function with caution.

V. Scope of Application for Gas Pretreatment System:

Application area：

Applicable to gas sampling, purification, and environmental emission control for flue gas, exhaust gas, waste gas, and other gases from combustion equipment such as boilers, heating furnaces, kilns (including cement kilns, glass kilns, ceramic kilns, etc.), roasting furnaces, incinerators, and coke ovens. Suitable for high-temperature or low-temperature environments including agricultural greenhouses, laboratories, cold storage facilities, and high-temperature furnaces.

Attachment: Explosion-proof box dimensions (400×500×150 mm)

