

# PTM600

portable composite gas analyzer



PTM600 series is suitable for detecting the concentrations of gases in the atmosphere environment in the pipeline or confined space. The types for detection are more than 500 types.

User-friendly, reliable and cost-effective way to ensure safety, compliance and productivity.

Arbitrary combination of 1 ~ 6 types of gases which can be expanded to 18 or more types of gases, such as toxic gases, oxygen gas, carbon dioxide, inflammable and explosive gases, TVOC, etc.

**WATER  
RESISTANT**



**EXPLOSION  
PROOF**



## Optional items

- Temperature and humidity measurement function
- 1.2 m retractable sampling handle (1-10 meter hose, and the standard length is 1 meter)
- external remote sampling pump,
- high temperature sampling and cooling filter handle
- high temperature humidity pretreatment system
- CD-ROM (upper level computer communication software),
- external mini wireless infrared printer
- built-in mini printer
- SD card storage, USB disk storage, wireless data communications



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Technology

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### Standard Features

- **It is possible to simultaneously detect 1 ~ 6 types of gases, and the units can be switched freely.**  
Units that can be selected: PPM, mg/m<sup>3</sup>, Vol%, LEL%, PPHM, ppb, mg/l.
- **Built-in pump-suction type measurement, built-in water vapor and dust filter, fast response, and the long-distance sampling is supported.**
- **Rich human-machine interface**  
3.5-inch high-definition color screen, display the information such as real-time concentration, alarm, time, temperature, humidity, storage, and so on.
- **Function of large-capacity data storage (capacity can be customized), multiple storage modes are supported, and remote wireless transmission function is optional configuration**
- **Various kinds of communication interfaces and printing functions**  
Infrared communication interface, RS232 interface, USB interface automatic recognition, and the built-in or external wireless infrared printer is an optional configuration.
- **High temperature gas detection (optional)**  
The optional high-temperature sampling and cooling filter handle or high-temperature high-humidity pretreatment system will be possible to detect the smoke gas at the temperature of 1300 °C. The detection for the gases at other temperatures can be customized.
- **It is possible to switch among three display modes**  
Simultaneously display the concentrations of six types of gases, repeatedly display the concentration of single-channel gases in large font, and display the real-time curve.
- **Graphical display, and use the form of curve to reflect the trend of gas concentration changes in a certain period of time.**
- **Infrared remote control**  
Infrared remote control is an optional configuration; one-key operation can be realized via the function key on the infrared remote control, such as: modification of the alarm point, density calibration, zero-point calibration, noise reduction, restore the factory settings, and other functions.
- **Meet the requirements on the design of the intrinsically safe circuits, such as anti-static, anti-electromagnetic interference.**

### PTM600 Specifications

Size	230×210×120 mm (L×H×W)
Weight	2.5 Kg
Working Environment	Temperature: -40 °C ~ + 70 °C, humidity: ≤10 ~ 95% RH, and built-in filters can be used in high humidity or high dust environment.
Alarms	It is possible to set as sound & light alarm, turning off the alarm.
Response Time	T90≤20 seconds
Allowable Error	≤±2% F.S
Power Supply	3.6VDC, 10000mA high capacity rechargeable polymer battery
Data Storage	100, 000 entries
Ingress Protection	IP 66
Detection Gas Detection Range	Refer to Sensor Specifications (next page)
Detection Principle	Electrochemical, catalytic combustion, infrared, thermal conductivity, PID photoionization, and so on, depending on the type of gas, range, field environment and user demand.
Standard accessories	Manual, qualification certificate, warranty card, USB charger (including the data cable), high-grade aluminum instrument case, built-in humidity dust filter, 0.4 meter stainless steel sampling handle (1 meter of hose, with dust filter, not retractable),
Temperature and Humidity	temperature at -40 °C ~ + 70 °C, accuracy level at 0.5 °C; humidity at 0 ~ 100% RH, precision level at 3 % RH.



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### Sensor Specifications

Gas	Measuring Range	Minimum reading	Response time T90
Combustible gas ( EX )	0-100%LEL	0.1%LEL	≤10 seconds
Combustible gas ( EX )	0-100%Vol	0.1%Vol	≤10 seconds
Methane ( CH <sub>4</sub> )	0-100%LEL	0.1%LEL	≤10 seconds
Methane ( CH <sub>4</sub> )	0-100%Vol	0.1%Vol	≤10 seconds
Oxygen gas ( O <sub>2</sub> )	0-30%Vol	0.01%Vol	≤10 seconds
Oxygen gas ( O <sub>2</sub> )	0-100%Vol	0.01%Vol	≤10 seconds
Oxygen gas ( O <sub>2</sub> )	0-5000ppm	1ppm	≤30 seconds
Nitrogen gas ( N <sub>2</sub> )	0-100%Vol	0.01%Vol	≤10 seconds
Carbon monoxide ( CO )	0-100ppm	0.1ppm	≤25 seconds
Carbon monoxide ( CO )	0-1000ppm	0.1ppm	≤25 seconds
Carbon monoxide ( CO )	0-2000ppm	0.1ppm	≤25 seconds
Carbon monoxide ( CO )	0-20000ppm	1ppm	≤25 seconds
Carbon monoxide ( CO )	0-100000ppm	1ppm	≤25 seconds
Carbon dioxide ( CO <sub>2</sub> )	0-500ppm	1ppm	≤20 seconds
Carbon dioxide ( CO <sub>2</sub> )	0-2000ppm	1ppm	≤20 seconds
Carbon dioxide ( CO <sub>2</sub> )	0-50000ppm	1ppm	≤30 seconds
Carbon dioxide ( CO <sub>2</sub> )	0-20%Vol	0.01%Vol	≤30 seconds
Carbon dioxide ( CO <sub>2</sub> )	0-100%Vol	0.01%Vol	≤30 seconds

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Gas	Measuring Range	Minimum reading	Response time T90
Formaldehyde ( CH <sub>2</sub> O )	0-10ppm	0.001ppm	≤30 seconds
Formaldehyde ( CH <sub>2</sub> O )	0-10ppm	0.01ppm	≤30 seconds
Formaldehyde ( CH <sub>2</sub> O )	0-100ppm	0.01ppm	≤30 seconds
Formaldehyde ( CH <sub>2</sub> O )	0-5000ppm	1ppm	≤50 seconds
Ozone ( O <sub>3</sub> )	0-1ppm	0.001ppm	≤20 seconds
Ozone ( O <sub>3</sub> )	0-5ppm	0.001ppm	≤20 seconds
Ozone ( O <sub>3</sub> )	0-50ppm	0.01ppm	≤20 seconds
Ozone ( O <sub>3</sub> )	0-100ppm	0.01ppm	≤20 seconds
Ozone ( O <sub>3</sub> )	0-2000ppm	0.1ppm	≤30 seconds
Ozone ( O <sub>3</sub> )	0-30000ppm	1ppm	≤30 seconds
Ozone ( O <sub>3</sub> )	0-20mg/L	0.01mg/L	≤30 seconds
Ozone water ( O <sub>3</sub> )	0-20mg/L	0.01mg/L	≤30 seconds
Hydrogen sulfide ( H <sub>2</sub> S )	0-10ppm	0.001ppm	≤30 seconds
Hydrogen sulfide ( H <sub>2</sub> S )	0-50ppm	0.01ppm	≤30 seconds
Hydrogen sulfide ( H <sub>2</sub> S )	0-100ppm	0.01ppm	≤30 seconds
Hydrogen sulfide ( H <sub>2</sub> S )	0-2000ppm	0.1ppm	≤30 seconds
Hydrogen sulfide ( H <sub>2</sub> S )	0-10000ppm	1ppm	≤45 seconds
Sulfur dioxide ( SO <sub>2</sub> )	0-10ppm	0.001ppm	≤30 seconds

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Gas	Measuring Range	Minimum reading	Response time T90
Sulfur dioxide ( SO <sub>2</sub> )	0-20ppm	0.01ppm	≤30 seconds
Sulfur dioxide ( SO <sub>2</sub> )	0-100ppm	0.01ppm	≤30 seconds
Sulfur dioxide ( SO <sub>2</sub> )	0-500ppm	0.1ppm	≤30 seconds
Sulfur dioxide ( SO <sub>2</sub> )	0-2000ppm	0.1ppm	≤30 seconds
Sulfur dioxide ( SO <sub>2</sub> )	0-10000ppm	1ppm	≤30 seconds
Nitric oxide ( NO )	0-10ppm	0.001ppm	≤30 seconds
Nitric oxide ( NO )	0-100ppm	0.01ppm	≤30 seconds
Nitric oxide ( NO )	0-2000ppm	0.1ppm	≤30 seconds
Nitric oxide ( NO )	0-5000ppm	1ppm	≤30 seconds
Nitrogen dioxide ( NO <sub>2</sub> )	0-10ppm	0.001ppm	≤25 seconds
Nitrogen dioxide ( NO <sub>2</sub> )	0-100ppm	0.01ppm	≤25 seconds
Nitrogen dioxide ( NO <sub>2</sub> )	0-1000ppm	0.1ppm	≤30 seconds
Nitrogen dioxide ( NO <sub>2</sub> )	0-5000ppm	1ppm	≤30 seconds
Nitrogen oxide ( NO <sub>x</sub> )	0-10ppm	0.001ppm	≤30 seconds
Nitrogen oxide ( NO <sub>x</sub> )	0-100ppm	0.01ppm	≤30 seconds
Nitrogen oxide ( NO <sub>x</sub> )	0-2000ppm	0.1ppm	≤30 seconds
Nitrogen oxide ( NO <sub>x</sub> )	0-5000ppm	1ppm	≤30 seconds
Chlorine gas ( CL <sub>2</sub> )	0-10ppm	0.001ppm	≤30 seconds

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Gas	Measuring Range	Minimum reading	Response time T90
Chlorine gas ( CL <sub>2</sub> )	0-20ppm	0.01ppm	≤30 seconds
Chlorine gas ( CL <sub>2</sub> )	0-200ppm	0.1ppm	≤30 seconds
Chlorine gas ( CL <sub>2</sub> )	0-2000ppm	0.1ppm	≤30 seconds
Ammonia gas ( NH <sub>3</sub> )	0-50ppm	0.01ppm	≤30 seconds
Ammonia gas ( NH <sub>3</sub> )	0-100ppm	0.01ppm	≤30 seconds
Ammonia gas ( NH <sub>3</sub> )	0-1000ppm	0.1ppm	≤30 seconds
Ammonia gas ( NH <sub>3</sub> )	0-5000ppm	1ppm	≤30 seconds
Ammonia gas ( NH <sub>3</sub> )	0-100%LEL	0.1%LEL	≤10 seconds
Hydrogen gas ( H <sub>2</sub> )	0-100%LEL	0.1%LEL	≤10 seconds
Hydrogen gas ( H <sub>2</sub> )	0-1000ppm	0.1ppm	≤30 seconds
Hydrogen gas ( H <sub>2</sub> )	0-20000ppm	1ppm	≤30 seconds
Hydrogen gas ( H <sub>2</sub> )	0-40000ppm	1ppm	≤30 seconds
Hydrogen gas ( H <sub>2</sub> )	0-100%Vol	0.01%Vol	≤20 seconds
Helium gas ( He )	0-100%Vol	0.01%Vol	≤20 seconds
Argon gas ( Ar )	0-100%Vol	0.01%Vol	≤20 seconds
Xenon gas ( Xe )	0-100%Vol	0.01%Vol	≤20 seconds
Hydrogen cyanide ( HCN )	0-30ppm	0.01ppm	≤30 seconds
Hydrogen cyanide ( HCN )	0-100ppm	0.01ppm	≤30 seconds

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Gas	Measuring Range	Minimum reading	Response time T90
Hydrogen chloride ( HCL )	0-20ppm	0.01ppm	≤30 seconds
Hydrogen chloride ( HCL )	0-200ppm	0.1ppm	≤30 seconds
Phosphorus hydride ( PH <sub>3</sub> )	0-5 ppm	0.001ppm	≤30 seconds
Phosphorus hydride ( PH <sub>3</sub> )	0-25 ppm	0.01ppm	≤30 seconds
Phosphorus hydride ( PH <sub>3</sub> )	0-2000 ppm	1ppm	≤30 seconds
Chlorine dioxide ( CL O <sub>2</sub> )	0-1ppm	0.001ppm	≤30 seconds
Chlorine dioxide ( CL O <sub>2</sub> )	0-10ppm	0.01ppm	≤30 seconds
Chlorine dioxide ( CL O <sub>2</sub> )	0-200ppm	0.01ppm	≤30 seconds
Ethylene oxide ( ETO )	0-100ppm	0.01ppm	≤30 seconds
Ethylene oxide ( ETO )	0-1000ppm	0.1ppm	≤30 seconds
Ethylene oxide ( ETO )	0-100%LEL	1%LEL	≤30 seconds
Phosgene ( COCL <sub>2</sub> )	0-1ppm	0.001ppm	≤20 seconds
Phosgene ( COCL <sub>2</sub> )	0-50ppm	0.01ppm	≤20 seconds
Silane ( SiH <sub>4</sub> )	0-1ppm	0.001ppm	≤30 seconds
Silane ( SiH <sub>4</sub> )	0-50ppm	0.01ppm	≤30 seconds
Fluorine gas ( F <sub>2</sub> )	0-1ppm	0.001ppm	≤30 seconds
Fluorine gas ( F <sub>2</sub> )	0-10ppm	0.01ppm	≤30 seconds
Fluorine gas ( F <sub>2</sub> )	0-50ppm	0.01ppm	≤30 seconds

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Gas	Measuring Range	Minimum reading	Response time T90
Hydrogen fluoride ( HF )	0-10ppm	0.01ppm	≤30 seconds
Hydrogen fluoride ( HF )	0-50ppm	0.01ppm	≤30 seconds
Hydrogen bromide ( HBr )	0-50ppm	0.01ppm	≤30 seconds
Diborane ( B <sub>2</sub> H <sub>6</sub> )	0-10ppm	0.001ppm	≤30 seconds
Arseniuretted hydrogen ( AsH <sub>3</sub> )	0-1ppm	0.001ppm	≤30 seconds
Arseniuretted hydrogen ( AsH <sub>3</sub> )	0-10ppm	0.01ppm	≤30 seconds
Arseniuretted hydrogen ( AsH <sub>3</sub> )	0-50ppm	0.01ppm	≤30 seconds
Germane ( GeH <sub>4</sub> )	0-2ppm	0.001ppm	≤30 seconds
Germane ( GeH <sub>4</sub> )	0-20ppm	0.01ppm	≤30 seconds
Hydrazine ( N <sub>2</sub> H <sub>4</sub> )	0-1ppm	0.001ppm	≤30 seconds
Hydrazine ( N <sub>2</sub> H <sub>4</sub> )	0-300ppm	0.1ppm	≤30 seconds
Tetrahydrothiophene ( THT )	0-100mg/m3	0.01 mg/m3	≤60 seconds
Bromine gas ( Br <sub>2</sub> )	0-10ppm	0.001ppm	≤30 seconds
Bromine gas ( Br <sub>2</sub> )	0-100ppm	0.01ppm	≤30 seconds
Bromine gas ( Br <sub>2</sub> )	0-2000ppm	1ppm	≤30 seconds
Ethyne ( C <sub>2</sub> H <sub>2</sub> )	0-100%LEL	0.1%LEL	≤30 seconds
Ethyne ( C <sub>2</sub> H <sub>2</sub> )	0-100ppm	0.01ppm	≤30 seconds
Ethyne ( C <sub>2</sub> H <sub>2</sub> )	0-1000ppm	0.1ppm	≤30 seconds



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Ethylene ( C <sub>2</sub> H <sub>4</sub> )	0-100%LEL	0.1%LEL	≤30 seconds
Ethylene ( C <sub>2</sub> H <sub>4</sub> )	0-100ppm	0.01ppm	≤30 seconds
Ethylene ( C <sub>2</sub> H <sub>4</sub> )	0-2000ppm	0.1ppm	≤30 seconds
Acetaldehyde	0-10ppm	0.01ppm	≤30 seconds
Ethanol ( C <sub>2</sub> H <sub>6</sub> O )	0-100ppm	0.01ppm	≤30 seconds
Ethanol ( C <sub>2</sub> H <sub>6</sub> O )	0-2000ppm	1ppm	≤30 seconds
Methanol ( CH <sub>6</sub> O )	0-100ppm	0.01ppm	≤30 seconds
Methanol ( CH <sub>6</sub> O )	0-2000ppm	1ppm	≤30 seconds
Carbon disulfide ( CS <sub>2</sub> )	0-50ppm	0.01ppm	≤30 seconds
Carbon disulfide ( CS <sub>2</sub> )	0-5000ppm	0.01ppm	≤30 seconds
Acrylonitrile ( C <sub>3</sub> H <sub>3</sub> N )	0-50ppm	0.01ppm	≤30 seconds
Acrylonitrile ( C <sub>3</sub> H <sub>3</sub> N )	0-2000ppm	1ppm	≤30 seconds
Methylamine ( CH <sub>5</sub> N )	0-50ppm	0.01ppm	≤30 seconds
Iodine gas ( I <sub>2</sub> )	0-50ppm	0.01ppm	≤30 seconds
Styrene ( C <sub>8</sub> H <sub>8</sub> )	0-200ppm	0.1ppm	≤30 seconds
Styrene ( C <sub>8</sub> H <sub>8</sub> )	0-5000ppm	1ppm	≤30 seconds
Chloroethylene ( C <sub>2</sub> H <sub>3</sub> CL )	0-100ppm	0.01ppm	≤30 seconds
Trichloroethylene ( C <sub>2</sub> HCL <sub>3</sub> )	0-100ppm	0.01ppm	≤30 seconds

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Gas	Measuring Range	Minimum reading	Response time T90
Tetrachlorethylene ( C <sub>2</sub> CL <sub>4</sub> )	0-100ppm	0.01ppm	≤30 seconds
Laughing gas ( N <sub>2</sub> O )	0-100ppm	0.01ppm	≤30 seconds
Nitrogen trifluoride ( NF <sub>3</sub> )	0-100ppm	0.01ppm	≤30 seconds
Hydrogen peroxide ( H <sub>2</sub> O <sub>2</sub> )	0-100ppm	0.01ppm	≤30 seconds
Methyl bromide ( CH <sub>3</sub> Br )	0-100ppm	0.01ppm	≤30 seconds
Methyl bromide ( CH <sub>3</sub> Br )	0-30000ppm	1ppm	≤30 seconds
Methyl bromide ( CH <sub>3</sub> Br )	0-200g/m <sup>3</sup>	0.1g/m <sup>3</sup>	≤30 seconds
Sulfuryl fluoride ( SO <sub>2</sub> F <sub>2</sub> )	0-100ppm	0.01ppm	≤30 seconds
Sulfuryl fluoride ( SO <sub>2</sub> F <sub>2</sub> )	0-5000ppm	1ppm	≤30 seconds
Sulfuryl fluoride ( SO <sub>2</sub> F <sub>2</sub> )	0-10000ppm	1ppm	≤30 seconds
Benzene ( C <sub>6</sub> H <sub>6</sub> )	0-10ppm	0.01ppm	≤30 seconds
Benzene ( C <sub>6</sub> H <sub>6</sub> )	0-100ppm	0.01ppm	≤30 seconds
Benzene ( C <sub>6</sub> H <sub>6</sub> )	0-2000ppm	1ppm	≤30 seconds
Benzene ( C <sub>6</sub> H <sub>6</sub> )	0-20000ppm	1ppm	≤30 seconds
Methylbenzene ( C <sub>7</sub> H <sub>8</sub> )	0-10ppm	0.01ppm	≤30 seconds
Methylbenzene ( C <sub>7</sub> H <sub>8</sub> )	0-100ppm	0.01ppm	≤30 seconds
Methylbenzene ( C <sub>7</sub> H <sub>8</sub> )	0-2000ppm	0.1ppm	≤30 seconds
Methylbenzene ( C <sub>7</sub> H <sub>8</sub> )	0-20000ppm	1ppm	≤30 seconds

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### Sensor Specifications

Gas	Measuring Range	Minimum reading	Response time T90
Dimethylbenzene ( C <sub>8</sub> H <sub>10</sub> )	0-10ppm	0.01ppm	≤30 seconds
Dimethylbenzene ( C <sub>8</sub> H <sub>10</sub> )	0-100ppm	0.01ppm	≤30 seconds
Dimethylbenzene ( C <sub>8</sub> H <sub>10</sub> )	0-2000ppm	0.1ppm	≤30 seconds
Dimethylbenzene ( C <sub>8</sub> H <sub>10</sub> )	0-20000ppm	1ppm	≤30 seconds
Total Volatile Organic Compound gases ( TVOC )	0-10ppm	0.001ppm	≤30 seconds
Total Volatile Organic Compound gases ( TVOC )	0-10ppm	0.01ppm	≤30 seconds
Total Volatile Organic Compound gases ( TVOC )	0-100ppm	0.01ppm	≤30 seconds
Total Volatile Organic Compound gases ( TVOC )	0-2000ppm	0.1ppm	≤30 seconds
Total Volatile Organic Compound gases ( TVOC )	0-200000ppm	1ppm	≤30 seconds
Volatile gases ( PID )	0-10ppm	0.001ppm	≤30 seconds
Volatile gases ( PID )	0-10ppm	0.01ppm	≤30 seconds
Volatile gases ( PID )	0-100ppm	0.01ppm	≤30 seconds
Volatile gases ( PID )	0-2000ppm	0.1ppm	≤30 seconds
Volatile gases ( PID )	0-200000ppm	1ppm	≤30 seconds
Dimethylbenzene ( C <sub>8</sub> H <sub>10</sub> )	0-10ppm	0.01ppm	≤30 seconds
Dimethylbenzene ( C <sub>8</sub> H <sub>10</sub> )	0-100ppm	0.01ppm	≤30 seconds
Dimethylbenzene ( C <sub>8</sub> H <sub>10</sub> )	0-2000ppm	0.1ppm	≤30 seconds
Dimethylbenzene ( C <sub>8</sub> H <sub>10</sub> )	0-20000ppm	1ppm	≤30 seconds