Senovol Releases Upgraded Photoionization Gas Sensor (4PID Plus Series)

Addressing the three long-standing pain points consistently reported by customers in industrial VOC monitoring, environmental online monitoring, and portable detectors—namely data drift in high-humidity environments, tedious sensor maintenance, and limited power supply options—Senovol has completed a comprehensive technical iteration based on our mature 4PID series. **The new-generation 4PID Plus photoionization VOC sensor** is now globally available, achieving breakthrough upgrades in three major dimensions: detection performance, on-site operation and maintenance (O&M), and hardware compatibility.

1. Three Core Technological Innovations

1.1 Enhanced Anti-Humidity Design for Stable Output in High-Temperature, High-Humidity Conditions

- **The 4PID series** exhibits baseline fluctuations exceeding 15% FS and reduced detection accuracy under harsh conditions of 90% RH and 45°C for 24 consecutive hours.
- Optimized Structure for **4PID Plus Series** effectively weakens humidity interference. Baseline fluctuation is controlled at ≤10% FS under the same harsh hygrothermal working conditions. This makes it ideal for high-humidity scenarios such as outdoor monitoring stations in southern regions, chemical production workshops, wastewater treatment plants, and tunnels, effectively reducing the frequency of on-site calibration and minimizing operation and maintenance (O&M) workload.

1.2 Tool-Free Quick-Removal Design to Simplify Routine Maintenance and Significantly Reduce Lifetime Operational Costs

- **4PID Series:** Disassembly, assembly, and maintenance require specialized tools, leading to a high technical barrier and a risk of damaging precision components. In the event of an on-site failure, customers often have to replace the entire sensor unit, resulting in high long-term operation and maintenance (O&M) investments.
- **4PID Plus Series:** Equipped with an innovative tool-free, quick-disassembly structure. Without any tools, users can directly unscrew the top cover. The integrated POGO PIN spring probe structure then automatically pops up the electrode stack. This enables effortless routine cleaning and maintenance, rectifies minor drifts, and extends the sensor's lifespan. If data remains abnormal after cleaning, the unit can be returned to us for diagnostic inspection. As long as the circuitry is functional, it can be repaired by replacing individual spare parts rather than the entire assembly, significantly reducing customers' long-term O&M expenditures.

1.3 Expanded Operating Voltage Range for Broader Power Supply Compatibility

- **4PID series:** Operating voltage 3.2–5.5 VDC;
- **4PID Plus series:** Operating voltage expanded to 3.0–5.5 VDC, supporting a wider range of low-power handheld devices, battery-powered portable instruments, and distributed online monitoring modules. This simplifies instrument circuit development and enhances overall system design flexibility.

2. Full Scale Coverage: New vs. Old Series Model Comparison Table

The 4PID Plus series fully retains 9 measurement ranges, covering VOC detection requirements from 0–5 ppm to 0–10,000 ppm. The comparison table for new and old models, material codes, and supply status is as follows:

Detection Range	4PID Models	4PID Part Number	4PID Plus Models	4PID Plus Part Number	4PID Plus Series Supply Status as of June 2026
0~5 ppm	4PID-5	PID-106S-0050	4PID Plus-5	PID-106T-0050	Sample Available
0~10 ppm	4PID-10	PID-106S-0100	4PID Plus-10	PID-106T-0100	Sample Available
0~50 ppm	4PID-50	PID-106S-0500	4PID Plus-50	PID-106T-0500	Sample Available

0~100 ppm	4PID-100	PID-106S-1000	4PID Plus-100	PID-106T-1000	Available for Volume Purchase
0~200 ppm	4PID-200	PID-106S-2000	4PID Plus-200	PID-106T-2000	Available for Volume Purchase
0~1000 ppm	4PID-1000	PID-106S-1001	4PID Plus-1000	PID-106T-1001	Sample Available
0~2000 ppm	4PID-2000	PID-106S-2001	4PID Plus-2000	PID-106T-2001	Available for Volume Purchase
0~5000 ppm	4PID-5000	PID-106S-5001	4PID Plus-5000	PID-106T-5001	Sample Available
0~10000 ppm	4PID-10000	PID-106S-1002	4PID Plus-10000	PID-106T-1002	Sample Available

Note: The 4PID Plus Series supply status in this table is as of June 2026. Additional models will be added to mass production gradually. For the latest mass production updates, please contact our sales team at info@senovol.com.

3. **Supply Status Explanation:**
   - **Available for Bulk Purchase (Released Models):**
     The 4PID Plus-100, 4PID Plus-200, and 4PID Plus-2000 models are now in stable mass production, supporting regular bulk orders with short delivery cycles.
   - **Sample Request (Pending Release Models):**
     The remaining ranges (5/10/50/1000/5000/10000 ppm) support sample requests. Mass production will commence after our comprehensive performance validation is successfully completed.

4. **Product Application & Business Value**

   By delivering targeted upgrades in moisture resistance, ease of field maintenance, and hardware compatibility, the 4PID Plus Series serves as a comprehensive, versatile solution for the entire VOC detection market. Its 9 measurement ranges span from trace-level indoor air screening to high-concentration chemical leak detection and industrial emission monitoring.

   The series provides robust hardware support for a wide array of equipment, including:
   - Online environmental monitoring systems
   - Industrial patrolling and portable safety instruments
   - Soil remediation equipment
   - Coating, printing, and industrial exhaust monitoring tools

   The Core Advantage:

   Unlike traditional sensors that require full-unit replacement upon failure, the 4PID Plus series introduces a design focused on component-level servicing. Together with tool-free routine cleaning, this minimizes downtime and significantly reduces total lifecycle operation and maintenance expenditures for end-users.

5. **Technical Documentation Access**

   The datasheets for three mass-production models—4PID Plus-100, 4PID Plus-200, and 4PID Plus-2000—are now available on the product page of our official website. The remaining measurement ranges are currently open for sample testing only, and their official datasheets have not yet been released. For detailed technical specifications or maintenance service policies, please reach the Senovol sales team via the email: info@senovol.com.