

High-Flow, 8-Channel Portable Particle Counter



HAL-PPC803

- Large sampling flow of 28.3 Liters per minute (1.0 cfm)
- Simultaneously measure 8 user configurable particle sizes
- Touch-screen interface
- Counting modes with concentration, differential, and cumulative
- Auto delay, repeat timer
- Internal memory for 30,000 datasets
- USB interface for data downloading
- Built-in printer
- Dual power: AC and/or battery

In response to the continuing demand to regulate clean environments with high-flow particle monitoring, Hal Technology has introduced the HAL-PPC803 eight-channel, high-flow, portable particle counter. This counter can measure single particles suspended in the air and their distributions for clean environment applications in fields such as microelectronics, precision mechanics, optics, pharmaceuticals, medical devices, food processing, and aerospace. The basic principle of the HAL-PPC803 portable particle counter is to measure laser light scattered from suspended aerosol particles, which is detected by an optical sensor and counted using digital signal processing. The setting of measurement parameters, results display, data storage, USB data export, and printing are all controlled by a touch screen interface and the internal microcontroller unit (MCU). Up to eight particle size channels can be simultaneously measured and configured by the user.

The HAL-PPC803 is compliant with the ISO 14644-1 international standard. The instrument is simple to operate with its user-friendly touch-screen interface. A built-in printer allows on-site data print out. Additionally, a zero-count filter can be used to ensure the quality of measurement with on-site zero-count verification.

Specifications

Attributes	Specifications	Notes
Light Source	Laser diode	>100,000 hours
Sensitivity	0.3 μm	
Channels	Up to eight channels, typically, 0.3, 0.5, 0.7, 1.0, 3.0, 5.0, 7.0, 10.0 μm	User-configurable
Counting Efficiency	50 \pm 20% @0.3 μm 100 \pm 10% @0.5 μm	
Coincidence Loss	<5% @ 35,000 particles/liter	
Flow rate	28.3 Liters/minute (1 cfm)	Also 8.5 Liters/minute
Sampling Time	User defined: 5 to 6000 seconds and auto repeat (up to 9999 times)	
Count Limit Warning	ISO 14644-1 standards	TBD
Sampling Mode	Concentration, differential counts, and cumulative counts	
Error Indications	N/A	
Interface	Touch screen and USB drive	
Internal Memory	30,000 measurement data sets	
Power	AC/DC dual use: 80 W AC charger: 110-220 V, 50/60 Hz Rechargeable battery: 14.8V, 9.6Ah	Rechargeable lithium polymer battery operation for 5 hours
Ambient operating environment	Temperature: 20 to 35 $^{\circ}\text{C}$ Humidity: \leq 75% RH Non-corrosive air environment	
Humidity	0 to 94% at up to 150 $^{\circ}\text{F}$ for up to 48 hours	
Dimensions	200 \times 180 \times 200 mm	
Weight	5 kg	
Standard Accessories	Zero-count filter, AC charger, and portable carrying case	
Optional Accessories		TBD

Applications

- - Clean facility monitoring and certification
 - Indoor Air Quality
 - Test/Check Filter seal and efficiency
 - Trace contamination source
 - Analysis of particle size distribution