

# S2216N Series

## Continuous Monitoring Particle Counter

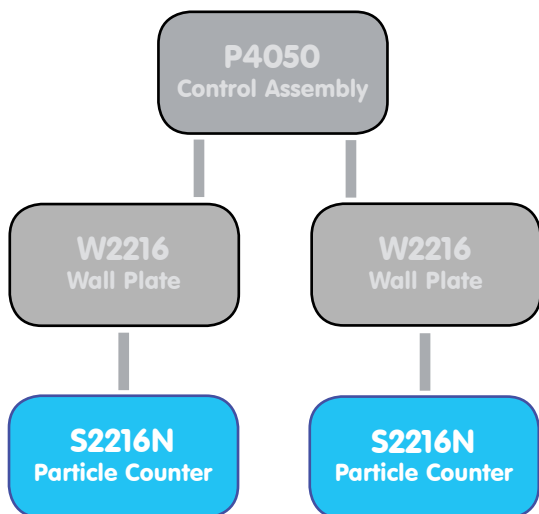
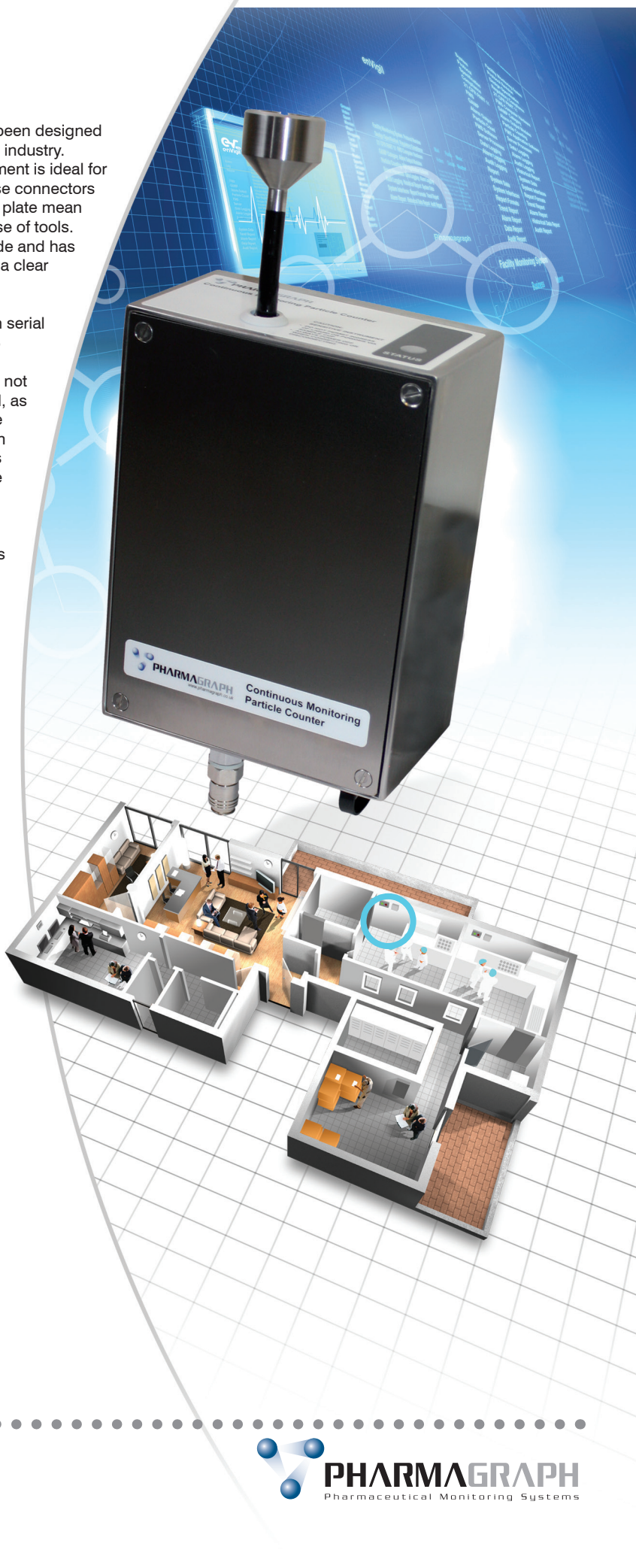
The S2216N series of continuous monitoring particle counters has been designed from the ground up to meet the requirements of the pharmaceutical industry. Robust and reliable in a sealed stainless steel enclosure, the instrument is ideal for use in clean rooms where frequent sanitisation occurs. Quick release connectors for vacuum and power/communications and a slot based mounting plate mean that the unit can be removed for service or calibration without the use of tools. The particle counter sensor itself features a 10 year MTBF laser diode and has integral flow measurement to ensure that you get reliable counts or a clear indication of flow failure if a cap is left on follow sanitisation.

The S2216N is available with two communications options, one with serial RS485 and one with Ethernet. Both allow you to use standard CAT5 cabling and accessories, with the normally spare cores in the cable being used to carry power to the counter. The serial RS485 units do not require to be re-programmed with an address when being swapped, as the address is provided by the control assembly located outside the clean room. Therefore, with the serial option the particle counter can be swapped by clean room staff ensuring that production continues with the absolute minimum down time. With the Ethernet option, the IP address of each counter is set using a setup utility running on a spare PC prior to deploying it in the clean room.

Available for each variant is a Control Assembly (P4050) that houses a power supply, control electronics and vacuum pumps that greatly simplifies on-site installation. A single communications cable (serial or Ethernet) runs from the PC to the Control Assembly that provides control and power for the up to four vacuum pumps mounted at the base of the assembly. For the serial RS485 option the control assembly provides the addressing for four S2216NSP particle counters, and again provides the 24VDC power on spare cores of the outgoing cables. With the Ethernet option, the control assembly provides four Ethernet outputs to the S2216NEP particle counters including the 24VDC injected into spare cores. Where more than four particle counters are required, slave versions of the Control Assemblies are available to expand system capacity.

Wall plates with quick release connectors are also available for the Ethernet and serial variants, together with umbilicals that connect between the wall plates and the particle counters.

For systems that involve sanitisation with hydrogen peroxide vapour, an alternative particle counter (GP6015) is available that uses motorised stainless steel valves to protect the counter during sanitisation.



## S2216N Particle Counter Specification

- MetOne 6015: 2 Channel 0.5 $\mu$  and 5.0 $\mu$
- Flow rate: 1cfm with integral flow measurement
- 304 Stainless steel satin finish enclosure
  - Width 160mm
  - Height 220mm
  - Depth 105mm (including mountings)
  - Weight 2.4kg
- Power supply
  - 9 to 28VDC
  - 4.3W (Ethernet), 3.3W (Serial)
- Vacuum supply
  - At least 40.6 cm (16 inches) Hg
- Interfaces
  - Ethernet: Modbus TCP/IP protocol (S2216NEP)
  - Serial: RS485 Modbus RTU protocol (S2216NSP)
- Environmental
  - Operating temperature 10 to 32°C
  - Storage temperature -40 to 70°C

## W2216 Wall Plate Specification

- 304 Stainless steel face plate
  - Width 180mm
  - Height 90mm
- Plastic back box
  - Width 135mm
  - Height 75mm
  - Depth 38mm

## Ordering Information

- S2216NEP Continuous Monitoring Particle Counter complete with Met One 6015 with Ethernet interface
- S2216NSP Continuous Monitoring Particle Counter complete with Met One 6015 with Serial RS485 interface
- M1616U Universal Mounting Plate for S2216NE or S2216NS
- W2216 Universal Wall plate for S2216NE or S2216NS
- U1500 1.5m long Universal Vacuum/Power/Communication umbilical for S2216NEP or S2216NSP
- S2216NEN Empty enclosure with vacuum and communication connector ready to house Met One 6015 Ethernet interface particle counter (Beckman-Coulter P/N 2088615-DF-E)
- S2216NSN Empty enclosure with vacuum and communication connector ready to house Met One 6015 Serial interface particle counter (Beckman-Coulter P/N 2088615-DF-S)

## Optional Accessories

- P4050-4E Master Power and Vacuum Control Assembly for up to 4 S2216NE
- P4055-4E Slave Power and Vacuum Control Assembly for up to 4 additional S2216NE
- P4050-4G Power and Vacuum Control Assembly for up to 4 S2216NS
- P4050-2G Power and Vacuum Control Assembly for up to 2 S2216NS

