Product Data Sheet

CC9058 – Counter Controller

- Controls a single particle counter
- Easy implementation of gassing in isolators
- Integrated control logic for diverter valves
- 5 Isolated Digital inputs
- 8 Digital outputs
- RS485 communications interface
- Modbus and FXB protocol

The CC9058 Counter Controller Module is designed to permit gassing operations to take place within an isolator without the risk of damaging a particle counter's sensitive optical system. The CC9058 acts as an interface module that coordinates a series of valves to control the air path during normal operation and during the gassing process used to decontaminate the isolator.

A motorized stainless-steel diverter valve in the particle sampling path is used to direct the flow of H^2O^2 gas (HPV) away from the particle counter and back to the return plenum of the isolator. The CC9058 coordinates the valve position/interlocks and performs address mapping for the particle counter. It also offers a simple electrical interface to the isolator control system.

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The particle counter itself does not require to be programmed with a unique address when being swapped, as the address is actually provided by the CC9058 controller that can be located within the isolator or plant room.

The CC9058 offers control via digital inputs or Modbus registers to implement 'Run Request' and 'Gas Request' to the system. Digital outputs and associated Modbus registers offer corresponding 'ClearToRun' and 'ClearToGas' signals. A Modbus state register includes:

- Off
- Valves in transit (between running and gassing)
- Running
- Gassing
- Fault

Digital outputs are available to drive a pump or solenoid valve to control the vacuum supply to the particle counter, along with red and green lamps to indicate normal operation or alarm (out of compliance) operation.

When not part of an isolator gassing system, the valve is simply omitted allowing the CC9058 to act as an address mapper and vacuum controller.

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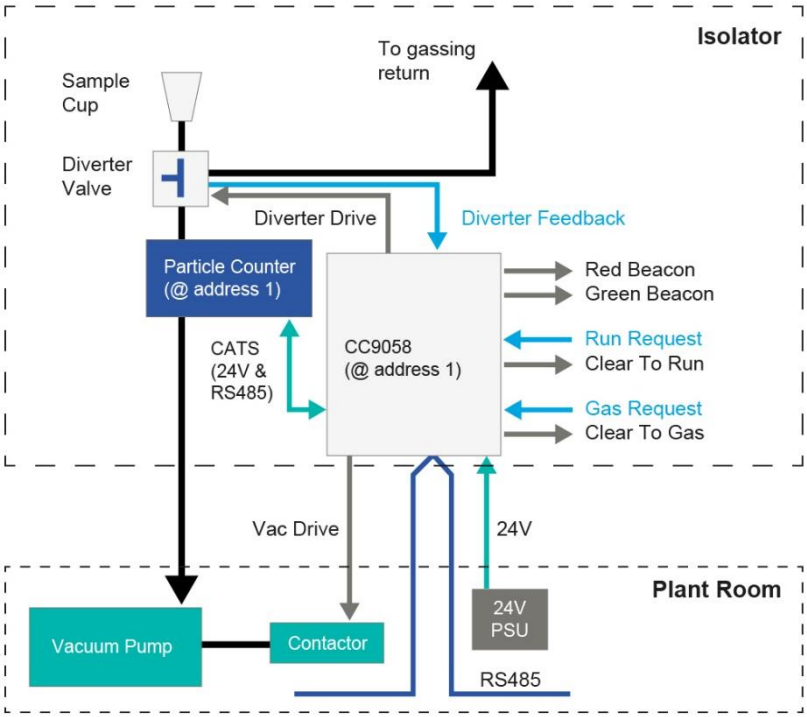
When used in a gassing isolator, a pair of CC9058 modules can be used to simplify the wiring between the plant room and isolator. One CC9058 is located in the plant room close to the vacuum pump and defines the address of the particle counter which is located in the isolator. It performs the address mapping and communicates with a second CC9058 located within the isolator. The second CC9058 drives all the valves and can interface to the isolator PLC via digital inputs and outputs. The pair of CC9058 modules communicate with each other via single CAT5 cable between the plant room and isolator in the clean room.



CC9058 Specification

- Digital Inputs to request ‘Run’ and ‘Gas’ operation
- Digital Outputs to indicate ‘ClearToRun’ and ‘ClearToGas’ states
- Modbus RTU protocol (and FXB protocol with no gassing capability)
- Power supply requirement
  - 24Vdc ±10%, 200mA (typical), maximum depends on diverter valve
- Interfaces
  - RS485 host, 19k2 baud, 1.2km
  - RS485 to particle counter, 9k6 baud, 1.2km
- DIN rail mounting enclosure
  - W: 23mm
  - H: 85mm
  - D: 105mm
  - Weight 85g
- Environmental
  - Operating temperature 0 to 50°C
  - Storage temperature -20 to 60°C

Ordering Information

Item	Description
CC9058	Particle Counter Controller for gassing operation

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