# PCME Control Units

# ProController

The rugged ProController by PCME is an advanced display and control unit that provides power and central communications, and data acquisition and logging capabilities for PCME's dust, leak, and flow measurement sensors.

Multiple communications interfaces and a range of inputs and outputs are available for parallel access to data and for linking PCME sensors into plant networks and data acquisition systems (SCADA/DCS).
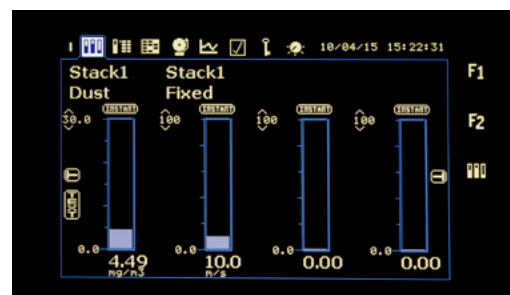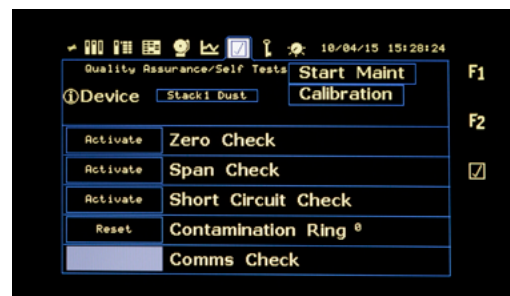
**Key Features:**

✔ High-contrast, anti-glare 7" TFT LCD

✔ Rapid menu access and response via softkeys

✔ Multi-client Ethernet access

✔ Multilingual, icon-driven display

✔ Additional functionality provided by the PC-ME DUST TOOLS software suite

✔ Compatibility with PCME sensors and control units for seamless integration with existing installations

## ADDED VALUE FEATURES AND BENEFITS

| Feature | Benefit |
|---|---|
| **ProController** | DUST: Menu configured to identify Dust sensors automatically. Allows full menu compatibility. Enhanced sensor and system features to suit Dust monitoring applications.<br>LEAK: The ProController is specifically tailored to increase the functionality of the sensors to support Enhanced Filter Performance capability. |
| **High-speed Ethernet and Data Downloads** | External, easy-access fast Ethernet and USB 2.0 ports for high-speed downloads without interruptions to online communications. |
| **Multi-client Ethernet** | Multi-client Ethernet communications for seamless integration into plant networks, providing simultaneous Ethernet access for up to five clients, which can be extended with a dedicated PC. |
| **Multiple I/Os** | Multiple data outputs: RS-485, Ethernet, USB, and Modbus (x2) for simultaneous data communication to plant DCS, Emissions Reporting Systems (DAHS), and Service Personnel. |
| **Multilingual, intuitive Menus** | Easy-to-use menu structure, available in a number of different languages, for navigating and updating sensor and system configuration options. |
| **High-contrast colour Display** | Clear emissions and alarm data displays on graphs, bar charts, and overview screens. |
| **Data Logging** | Data-logging capacity for recording historical emissions and alarm data. Convenient data downloads via USB. |
| **Sensor Network Support** | Fully compatible with all of PCME's sensors and network products, and capable of supporting up to 32 sensors for multi-stack and plant-wide monitoring. |

## ProController Specifications

| | |
|---|---|
| No. of Sensors/Channels | 1–32 |
| Enclosure Dimensions | W 390 x H 221 x D 118 mm (15.4 x 8.7 x 4.6 in.) |
| Enclosure Rating | IP66 |
| Enclosure Material | Die-cast aluminium (epoxy coated) |
| Weight | 5.7 kg (12.6 lb) |
| Environmental Information | The equipment is for indoor or sheltered outdoor use; it is suitable for RH up to 95%, non-condensing. |
| Ambient Temperature | -20°C to 50°C (-4°F to +122°F) |
| Power Supply | 85–265V AC, 50/60Hz |
| Power Consumption | max. 40W |
| Display | High-contrast, anti-glare 7" TFT (viewable) LCD |
| Screen Resolution | 800 x 480 pixels, WVGA |
| Features | • Navigation keys, plus five function keys (2x user-programmable, 1x return, and 2x short-cut keys)<br>• Power to sensor network<br>• Sensor and system setup, configuration options<br>• Secure password protection<br>• Data logging and reporting<br>• Sensor calibration screens<br>• Bar charts and graphs display<br>• LEDs for fault , alarm, and power indication<br>• Seamless integration with existing PCME control units and sensors |
| Network Modules | Suitable for use with all PCME network modules. |
| Cable Entries | 8x  M20 cable glands<br>1x  Ethernet (RJ45) connector jack<br>1x  USB 2.0, standard type A-to-A (female) connector jack |

## Sensor Network Specifications

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|---|---|
| 2x RS-485 | Modbus comms and power over RS-485 to PCME sensors and network modules |
| | Comms to sensor network:<br>• Modbus ASCII (default) or RTU<br>• Baud rates: 9600, 19200, 38400, 56000, 57600, 115200 |
| | Power supply to sensor network:<br>• Voltage output: 24V DC (±10%)<br>• Current: max. 1A |
| Data Logging | Capacity stated for one sensor (typically 991, 181, 990, 360):<br>• Long-term log (LT) :    48 months @ 15 min<br>• Short-term log (ST) :    28 days @ 1 min<br>• Pulse log :    32 hours @ 1s<br>• Alarms :    500 entries |
| Poll Rates | Once per second (for a 10-sensor network) |

## Control Network Connections

| | | |
|---|---|---|
| Ethernet (RJ45) | 1x Modbus TCP (over Ethernet); external RJ45 connection jack with screw cap. | |
| | For connection to a plant PLC/DAHS or to other control units. | |
| | • Data rate: 100 Mb/s<br>• Connection type: 100Base-T/TX<br>• Max. number of simultaneous connections: 5 | |
| USB 2.0 | 1x Modbus RTU (over USB 2.0), standard A-to-A type connection jack with screw cap. | |
| | Suitable for connecting to a local PC or laptop | |
| | • Current: 100 mA (one unit load)<br>• Voltage: 5V DC | |
| **OUTPUTS** | 1x RS-485 | Modbus over RS-485 for connection to plant PLC/DAHS.<br><br>• Modbus RTU (default) or ASCII<br>• Baud rates: 9600, 19200 (default) to 115200 |
| | 4x 4-20mA | User-programmable analogue outputs.<br><br>• Range: 4mA to 20mA<br>• Accuracy: typically 1%, max. 4%<br>• Resolution: 0.01% (10 bit)<br>• Load: max. 500 Ω<br>• Open circuit voltage: max. 18V<br>• Isolated (from system) |
| | 4x Alarm relays | User-programmable alarm relays, volt-free contacts SPCO.<br><br>1x mains (M) relay:<br>• Rated voltage: 250V AC<br>• Rated current: 3A<br>• Contact isolation voltage: 1 kV r.m.s<br>• Coil contact isolation voltage: 4 kV r.m.s<br><br>3x low-voltage relays:<br>AC OPERATION<br>• Rated voltage: 24V AC<br>• Maximum voltage: 48V AC<br>• Rated current: 3A<br>• Maximum current: 6A<br>DC OPERATION<br>• Rated voltage: 24V DC<br>• Maximum voltage: 24V DC<br>• Rated current: 3A<br>• Maximum current: 5A<br>ALL RELAYS<br>• Contact isolation voltage: 1 kV r.m.s<br>• Coil/contact isolation voltage: 4 kV r.m.s |
| **INPUTS** | 4x Digital inputs | Inputs for PLANT OFF indication, marker pulses for bag-cleaning sequences and multiple calibrations.<br><br>• Voltage input: max. 0.7V<br>• Current: max. 2.4mA<br>• Pulse duration: min. 0.1s<br>• Pulse hold: ≤ 5s<br>• Isolated (from system) |

Note: *For more information on product specifications and options, please refer to the ProController Specification Guide (available on request from PCME or your local PCME representative).*

## ABOUT PCME LTD

As a progressive environmental Company, PCME specialises in particulate and flow measurement for industrial processes. With a worldwide reputation for reliability, innovation and technological excellence, the Company produces equipment for concentration and mass monitoring for regulatory, environmental and process control requirements. A dedicated team of qualified application and sales engineers is always on hand for consultation regarding the selection and usage of the most suitable equipment for any particulate monitoring application.

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ISO 9001 REGISTERED
Certificate No:9386
Quality Assurance
UKAS QUALITY MANAGEMENT

THE QUEEN'S AWARDS FOR ENTERPRISE INTERNATIONAL TRADE 2013

THE QUEEN'S AWARDS FOR ENTERPRISE INNOVATION 2017

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