

# VentSim™ CONTROL Monitoring and Control Station μMCS (MicroMCS1.8)

## Product specifications



### Part Numbers

Indoor model: MicroMCS-1.8

The MicroMCS unit is designed for air quality and equipment status monitoring and control via its proper user interface, or by automatic integration within the VentSim™ CONTROL software.

- )] No programming is required for control or the display interface. Each MicroMCS has pre-programmed control functions which are selectable via the touch-screen interface, or remotely via the VentSim™ CONTROL software.
- )] The MicroMCS measures temperature, humidity and velocity-flow (refer to unit specifications below). More measurements are possible with optional sensors.
- )] The MicroMCS can accept one velocity-flow measurement. Flow sensor is provided separately.
- )] Field wire termination is required for VFD, ON/OFF fan and regulator connection. (one at the time)
- )] The unit is Ethernet ready for Modbus TCP-IP communication
- )] CANopen (M12 connectors), 24 VDC (M8 connectors) and signal cable (M8 connectors) can be pre-fabricated at customer specified lengths with connectors on both ends (Plug and Play).
- )] User may interact with the unit via a color touchscreen.

### MicroMCS Indoor



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### Local control levels of MicroMCS control and measurement unit

#	Description	Symbols
	<b>Manual Control:</b>	
Level 1	Start/Stop of "ON/OFF" fans, adjustable speed value of VFD [0, 100] % and opening of regulators [0, 100] %. Output value by operator, schedule or VentSim™ CONTROL. Controller also has the capability of preprogrammed speeds: Low, Medium, and High.	Man
	<b>Timer Control:</b>	
Level 2	Depending on the timer set, the unit will control the time allotted for the respective actuators in manual mode according to the reference value previously fixed in the timer.	Timer
	<b>Scheduling:</b>	
Level 3	Possibility of programming up to 10 changes per day per controller (mode and setpoint). Depending on the event scheduled, the unit will control the respective actuators in manual mode and/or flow as reference values previously set in the event.	Scheduling
	<b>Flow control and limits of gases:</b>	
Level 4	<p>This level allows flow and/or gas control through the fans and/or regulators following the pre-set value by the operator, schedule, or VentSim™ CONTROL.</p> <p>The gas control allows a bias flow control by adding a PID controller adjustable to the controller setpoint.</p> <p>A flow sensor for flow control and gas sensor(s) for gas control required.</p> <p><i>Not available for fans ON / OFF.</i></p>	Flow

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Mechanical	
Part Numbers	Indoor model: MicroMCS-1.8
Unit Power	110-230 VAC 50-60 Hz
Enclosure	Polycarbonate Enclosure NEMA 4X: Width: 7" o 17.78 cm Length: 13.85" o 35.18 cm Height: 15.73" o 39.94cm Aluminum mounting plate: 12.75" x 10"
Banner	<ol style="list-style-type: none"> <li>Tactile NEMA 4 color display <ul style="list-style-type: none"> <li>Standard: 3.5"</li> <li>Optional: 5.7"</li> </ul> </li> <li>Status light on the HMI <ul style="list-style-type: none"> <li>Green (OK), yellow (controller alarm), flashing yellow (fan stall alarm), red (system failure)</li> </ul> </li> </ol>
Programming	<ul style="list-style-type: none"> <li>None required for HMI</li> <li>None required for controls</li> <li>Code update: insert provided USB key and reboot</li> </ul>

Communication	
Wired Ethernet	<ul style="list-style-type: none"> <li>1 ports on station</li> <li>802.3 connection to LAN</li> </ul>
VentSim™ CONTROL surface software (Optional)	<ul style="list-style-type: none"> <li>Uses one Ethernet port</li> <li>Communication via OPC</li> <li>Requires Modbus TCP driver with VentSim™ CONTROL surface</li> </ul>

Measurements			
Air velocity / flow sensor (Optional)	<ul style="list-style-type: none"> <li>One velocity flow sensor per MicroMCS (provided separately) from any combination of the following options:</li> </ul> <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="background-color: #0056b3; color: white;">Bi-directional flow sensors RS485</td> <td style="background-color: #e6f2ff;">BFS type (MCSBFS-M-1.2)</td> </tr> </table>	Bi-directional flow sensors RS485	BFS type (MCSBFS-M-1.2)
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### Remote I/O options

<p>Connector for regulator (C29)</p>	<ul style="list-style-type: none"> <li>) Maximum of 1 unit per MicroMCS*</li> <li>) Provision of two signals to the regulator, damper or door:             <ul style="list-style-type: none"> <li>o 4-20 mA output for opening setpoint</li> <li>o 4-20 mA input for actual opening reading</li> </ul> </li> </ul>
<p>Connector for ON/OFF starter (C29)</p>	<ul style="list-style-type: none"> <li>) Maximum of 1 unit per MicroMCS*</li> <li>) Provision of the following signals to the starter:             <ul style="list-style-type: none"> <li>o Run command (DO)</li> <li>o Stop (DO)</li> <li>o 24V Reset (DO)</li> <li>o Start (DO)</li> <li>o Run Feedback (DI)</li> <li>o Alarm 24V (DI)</li> <li>o Overload (DI)</li> <li>o Fault (DI)</li> <li>o Emergency stop status (DI)</li> </ul> </li> </ul>
<p>Remote gas measurement using a remote enclosure</p>	<ul style="list-style-type: none"> <li>) Up to two remote gas measurement enclosures</li> <li>) Remote enclosure cabled to MicroMCS up to 150 meters away with 24 VDC provided from MicroMCS</li> <li>) Remote enclosure may be up to 1 km away from MicroMCS with 24 VDC provided at the remote enclosure (requires optional remote 24 VDC module, sold separately)</li> <li>) Up to three gases may be connected to a remote gas enclosure</li> <li>) Gas sensors sold separately</li> <li>) May be added at any time in the future</li> </ul>

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### Remote I/O options

Connector for fan analog and digital (C29)

- ) Maximum of 1 units per MicroMCS
- ) Provision of the following signals to the starter:
  - o Run command (DO)
  - o VFD Reset (DO)
  - o 24V Reset (DO)
  - o Run Feedback (DI)
  - o Alarm 24V (DI)
  - o Overload (DI)
  - o Fault (DI)
  - o Emergency stop status (DI)
  - o Speed Feedback (AI)
  - o Speed setpoint (AO)
- ) May be added at any time in the future

\*The MicroMCS has the capability to control 1 regulator OR 1 fan starter