VentSim™ CONTROL Monitoring and Control Station with gases MSg (MSG-3.0)
Product specifications

Part Numbers

Model: MSG-3.0

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

- No programming is required for the display interface.
- The MSg measures temperature, humidity and velocity-flow (refer to unit specifications below). More measurements are possible with optional sensors.
- The MSg can accept up to two velocity-flow measurements with the 4-20 mA input connectors. Flow sensors are provided separately.
- The MSg can accept up to two fan static pressure measurements with the 4-20 mA input connectors. Static pressure sensors are provided separately.
- The MSg can measure up to three gases locally at the unit. Additional gas enclosures may be added if more than three types of gas sensors are required.
- No field wire termination is required for sensors. All cables interface to the unit via standard connectors.
- The unit is Ethernet ready with Modbus-TCP communication capability. The unit can also communicate via Modbus-RTU protocol using an RS485 connection.
- CANopen (M12 connectors), 24 VDC (M8 connectors) and signal cable (M8 connectors) are pre-fabricated at customer specified lengths with connectors on both ends (Plug and Play).
- User may interact with the unit via a color touchscreen or via web access through Ethernet.

Mechanical	
Part Numbers	Model: MSG-3.0
Unit Power	110-230 VAC 50-60 Hz
Enclosure	• SS304 construction, NEMA 4 • Approximate dimensions: 17.5”x17.5”x8” • Gas sensor presence requires approx. and additional 7.25’’ in height • Mounting Plate: 27” x 29” **Options:** • SS316 • Outdoor model with double door enclosure for exterior use with heater, thermostat and breather

Banner	1. Tactile NEMA 4 color display
	  ○ Standard: 3.5”
	  ○ Optional: 5.7”
	2. Imbedded web server, HMI accessible remotely via Ethernet intranet except via Leaky Feeder
	3. Large LED Status light

Howden – Simsmart Technologies is a trading arm of Howden Alphair Ventilating Systems Inc a company incorporated in Canada (Registered Number 946508-1) and having its Registered Office at 1221 Sherwin Road, Winnipeg, Manitoba, R3H 0V3, Canada
4 Place du Commerce, Suite 100, Brossard, Quebec, Canada J4W 3B3.
Tel: (450) 923-0400, Fax: (450) 923-0038
E-mail: Simsmart.Solution@howden.com Web: www.simsmart.com

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	○ Green (OK), yellow (sensor alarm), flashing yellow (fan stall alarm), red (system failure)
Programming	• None required for HMI • None required for controls • Code update: insert provided USB key and reboot

Communication	
Wired Ethernet	• 3 ports on station • 802.3 connection to LAN • Modbus TCP communication protocol to drives, smart relays and other PLCs
Unit is fiber Ethernet ready provided if the following option is selected	• 1 port on station, 802.3 connection to LAN • Optional internal cable to built-in switch and fiber optic external connector May be added at any time in the future
RS-485	• 4 ports on station • Modbus RTU communication protocol to drives, smart relays and other PLCs • Optional Profibus converters
Leaky Feeder (Optional)	• Uses one Ethernet port • Leaky Feeder interface enclosure up to 48” from MCS • One data channel on VFH Leaky Feeder • Requires Leaky Feeder head end modem (sold separately)
VentSim™ CONTROL surface software (Optional)	• Uses one Ethernet port • Communication via OPC • Requires Kepware Modbus TCP OPC driver with VentSim™ CONTROL surface

Measurements	
Local measurements included in each unit	• Dry bulb temperature • Relative humidity • Wet bulb temperature (calculated) • Dew point temperature (calculated)
Air velocity / flow sensor (Optional)	• Maximum of two velocity flow sensors per MSg (provided separately) from any combination of the following options: Unidirectional flow 4-20 mA sensors (Cabled to MSg up to 150m away) — Vortex type (MCSVOR-1.3) or Third party 4-20 mA sensors Bi-directional flow 4-20 mA sensors (Cabled to MSg up to 150m away) — BFS type (MCSBFS-A-1.2) or Third party 4-20 mA sensors

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	Bi-directional flow sensors RS485 — **BFS type (MCSBFS-M-1.2)** • May be added at any time in the future, connectors are standard on every MSg
Fan static pressure sensor (Optional)	• Maximum of two static pressure sensors per MCS • Cabled to MCS up to 150 meters away • Used for alarming and for fan stall detection
Local gas sensors (Optional)	• Optional gas measurement at MSg location (up to 3 sensors, provided separately) from the following list: Carbon Monoxide (CO) Nitric Oxide (NO) Nitrogen Dioxide (NO2) Oxygen (O2) Hydrogen (H2) Hydrogen Sulfide (H2S) Sulfur Dioxide (SO2) Germane (GeH4) Ammonia (NH3) Silane (SiH4) Phosphine (PH3) Bromine (Br2) Fluorine (F2) Arsine (AsH3) Chlorine Dioxide (ClO2) Ozone (O3) Chlorine (Cl2) Hydrogen Fluoride (HF) Phosgene (COCl2) Hydrogen Chloride (HCl) Diborane (B2H6) Hydrogen Cyanide (HCN) Formaldehyde (HCHO) Hydrogen Selenide (H2Se) Ethylene Oxide (ETO) Hydrogen Peroxide (H2O2)

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