FMS-2000C Critical Environment Controller

Control and monitor the important parameters that keep critical spaces safe for occupants.

The power behind **your mission**

Johnson Controls


The FMS-2000C enables you to immediately identify and address system alarms so you can maintain safety and compliance.

Meet the next generation of critical environment control.

The FMS-2000C Critical Environment Controller helps ensure laboratory and healthcare settings are safe for occupants in accordance with the requirements set by the American Society for Health Care Engineering (ASHE), the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), the United States Pharmacopeia (USP), and other standard-issuing organizations.

The FMS-2000C can control and monitor six parameters across four different spaces including differential pressure, temperature, humidity, CO_2 levels, airflow, and air changes per hour.

Through controlling and monitoring these vital parameters, the FMS-2000C plays an integral role in mitigating airborne contaminants, providing airborne infection control, and preserving research integrity.

Robust Features

Optimize your critical environments with the FMS-2000C

Control and monitor up to 6 parameters across 4 spaces including:

- Differential pressure
- Temperature
- Humidity
- Air flow
- Air changes per hour
- CO_2

Other features:

- Sleek high definition 5" touchscreen display
- Intuitive user interface that navigates like a mobile device
- 360° Safely Halo edge lighting
- Two levels of password protection – administrators and restricted/end user
- BACnet® MS/TP
- 2 thermistor inputs
- 4 configurable digital inputs
- 4 configurable digital relay outputs
- 4 configurable universal analog inputs
- 4 configurable universal analog outputs
- Fast PID control to support complex lab solutions
- Non-volatile memory saves settings in case of a power outage
- Door switch support increases Venturi valve actuator life span and reduces nuisance alarms
- User interface translated into 17 languages

Increased status visibility with the Safety Halo 360° edge lighting

The FMS-2000C display provides maximum room status visibility where you need it most. If the set parameters go out of range, it immediately updates with an audible alarm and visual alerts so you can promptly address concerns.

The signature 360° Safety Halo edge lighting enables staff to easily monitor spaces down long corridors with a simple glance.

Simplify Complex Critical Environments

Save time with management tools at your fingertips

The display name can be customized

The user menu is accessible by administrators and restricted/end users

360° Safety Halo edge lighting immediately alerts you if any parameter is out of range

Large, easy to see parameter reading

Large, color-coded background and action icon indicates the status of the measured parameter

Display up to 6 parameters on one screen

The settings menu is accessible only by administrator level users

Staff can adjust the temperature within a set range from the display to accommodate occupant comfort or to create certain therapeutic healing environments required by patient needs

Tap anywhere on the screen to snooze the alarm or set an alarm delay to help reduce audible alarm fatigue

End User Tutorial

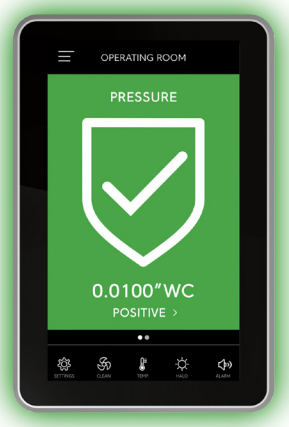
To support frequent staff turnover, especially nurses overseeing compliance, the FMS-2000C display includes an embedded QR code that leads to an end user tutorial video. Users can scan the code and view the tutorial on their mobile device.

Display Customization

Configure the home screen to fit your needs

Visual Confirmation for Multiple Locations

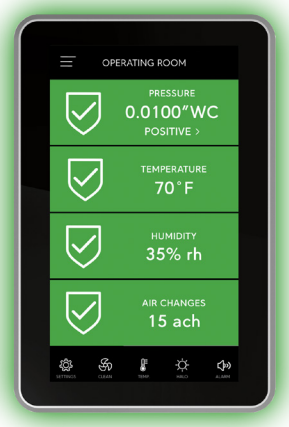
The FMS-2000C provides an easy way to control and monitor two spaces at one time like an ante room and patient isolation room. Customizing panels with room labels eliminates guesswork so you can quickly address issues and maintain safety.



Single View

Double View

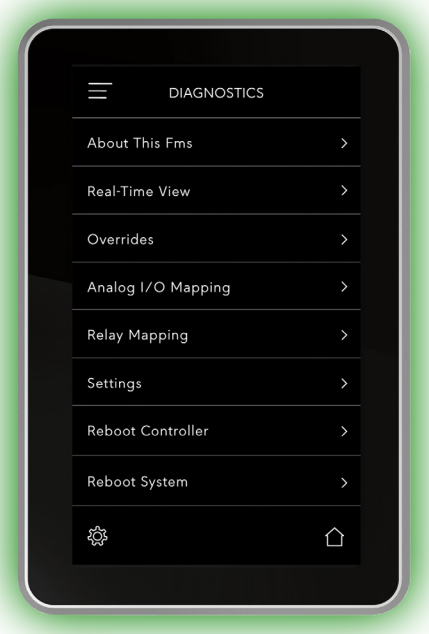
Triple View



Quad View

Power healthy, flexible facilities

Improve building efficiency and avoid costly downtime



Optimize Your Time

The FMS-2000C includes convenient facility management features that make supervising complex critical environments straightforward.

The diagnostics menu makes troubleshooting simple with a series of tools that help facility management and technicians quickly identify and address issues to avoid costly downtime.

New BAS Writeable Isolation Modes

Facility managers can utilize the BAS and the FMS-2000C to prepare patient rooms based on changing healthcare demands.

The updated controller includes new BAS writable isolation modes that enable facility managers to change a room's isolation mode from positive to neutral to negative from the BAS dashboard and the display itself. This enables you to create a healthy, safe and flexible facility ready to adjust to changing needs.

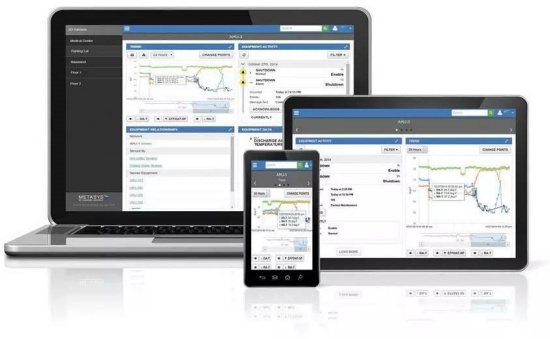
Turnover Patient Rooms with Ease

With the tap of a finger staff can activate the cleaning mode, designed to flush the air of contaminants between patients. Activating the cleaning mode opens up exhaust valves to the maximum setting for a pre-determined timespan.

When the air in the room has been completely replaced by fresh air and the status ring completes its circuit, the room returns to its preconfigured state and is ready to receive the next patient.

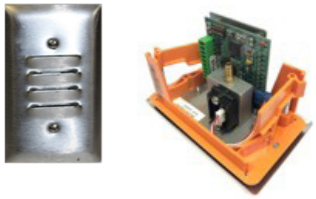
Metasys Compatibility

The FMS-2000C provides a seamless connection with Metasys. It turns data into powerful information that enables you to identify inefficiencies and immediately address system alarms so you can maintain compliance and reduce costs. The FMS-2000C and Metasys provides an exceptional value and service over a reliable network.



What's in the box?

Select mounting options and number of sensors



FMS-2000C Display

The FMS-2000C display is packaged in a separate protective box. Mounting hardware is ordered separetely and options include new construction or retrofit to an existing wall.

FMS-2000C Controller

The controller comes housed in a plenum rated box small enough to mount in the ceiling outside the controlled space or in a control room.

Remote Pressure Sensor(s)

Customers can order between zero to four remote pressure sensors per one FMS-2000C controller. Not shown is the pre-wired 10 ft interface cable to connect to the controller, and tubing to connect the sensor to the reference plate.

"Setup was flawless and easy. There were no glitches, and it was connected to a very full trunk of 3rd party devices. It was very stable and tracked as it should."

-HVAC technician
for a children's hospital

The thin display mount keeps busy corridors clear for staff.

Compare Your Options

Choose the solution that best fits your needs

Johnson Controls offers a controller and monitor-only option. The FMS-2000C is the most robust offering and can control and monitor room parameters - both hard wired and network variables. The FMS-2000M monitors parameters and alarms for pressure. It can display additional network variables for four rooms, providing a convenient room level view for all parameters associated with the space. Compare the full specifications for the FMS-2000C and FMS-2000M within the online Johnson Controls Knowledge Exchange.

FMS-2000C
Critical Environment Controller

FMS-2000M
Critical Environment Monitor

Specification	FMS-2000C	FMS-2000M
Differential pressure control	✓	✗
Differential pressure monitoring	✓	✓
Air flow	✓	✓*
Volumetric offset control	✓	✗
Temperature	✓	✓*
External thermostat integration	✓	✗
Relative humidity	✓	✓*
Air change rate	✓	✓*
CO_2 concentration	✓	✓*
BACnet® MS/TP communications	✓	✓
Door switch support	✓	✓
Occupancy switch support	✓	✗
Override switch support	✓	✗
Analog input override	✓	✗
Analog output override	✓	✗
Universal analog inputs	4	0
Universal analog outputs	4	0
Digital inputs	4	4
Relay outputs	4	0
Thermistor inputs	2	0
Works with CMS-1655	✓	✗

*Read over the network

Specifications

Always refer to the Johnson Controls Knowledge Exchange for the most up-to-date and complete product specifications.

FMS-2000C Critical Environment Controller		
Intended use	Indoor use	
Over voltage category	II	
Altitude	Up to 2000 m	
Pressure range	± 0.2500 in. W.C. (± 62.27 Pa)	
Alarm range	± 0.2500 in. W.C. (± 62.27 Pa)	
Display range	± 0.2500 in. W.C. (± 62.27 Pa)	
Accuracy	± 0.5% full scale	
Air flow sensor type	Digital differential pressure features no offset, zero drift and is hysteresis free	
Pressure control resolution	± 0.0010 in. W.C. (± 0.2491 Pa)	
Displayed pressure resolution	± 0.0001 in. W.C. (± 0.0249 Pa)	
Control capability	Up to 4 independent spaces	
I/O Resources	4 universal inputs (0 mA – 20 mA, 4 mA – 20 mA, 0 VDC – 5 VDC, 0 VDC – 10 VDC, 1 VDC – 5 VDC, 2 VDC – 10 VDC) 2 thermistor inputs (NTC Type 2 or 3, 10K at 77° F or 10K at 35° C) 4 digital inputs (active-high or active-low) 4 universal outputs (0 mA – 20 mA, 4 mA – 20 mA, 0 VDC – 5 VDC, 0 VDC – 10 VDC, 1 VDC – 5 VDC, 2 VDC – 10 VDC) 4 relay outputs (NO or NC contacts 1A at 24 VDC)	
Operating temperature	32°F to 104°F (0°C to 40°C)	
Operating humidity	10% to 95% relative humidity, non-condensing	
Mounting	Thin mount for shallow wall cavities	
Alarm indication	360° Safety Halo color coded visual, audible alarm	
Alarm silence	Touchscreen, auto-reset	
Password protection	Up to 50 user passwords with two access levels (administrator and restricted)	
Communications protocol	BACnet® MS/TP (to BAS) 76.8k, 38.4k, 19.2k, 9600 baud	
Power requirement	24 VAC (nominal, 21.6 VAC minimum/26.4 VAC maximum), 50/60 Hz 30 VA power supply, Class 2, Limited Energy, or LPS, minimum power 30 VA transformer	
Power consumption	30 VA maximum	
Pollution degree	2	
Display resolution	720 pixels x 1280 pixels	
Pluggable screw terminal blocks	18 AWG to 22 AWG (1.0 mm to 0.6 mm diameter)	
Display dimensions (height x width x depth)	5.3 in. x 3.5 in. x 1.17 in. (134.62 mm x 88.9 mm x 29.72 mm)	
Mounted depth	Thin mount: 0.58 in (14.73 mm)	
Controller dimensions (height x width x depth)	6.56 in. x 5.5 in. x 1.88 in. (166.62 mm x 139.7 mm x 47.75 mm)	
Compliance	United States	UL Listed to UL 61010-1; FCC 47CFR Part 15; BTL Listed
	Canada	cUL Listed to CAN/CSA C22.2 NO. 61010-1; ICES-003
	Europe	CE (EMC Directive) to EN 61326-1
	Australia and New Zealand	RCM Mark (Australian Radiocommunications Act) to EN 61326-1

An industry-leading product

Comparing the FMS-2000C in the marketplace

When you choose Johnson Controls, you are choosing to utilize the best in the marketplace. The FMS-2000C provides precise and dependable control and monitoring that improves product communication and efficiency within your overall HVAC infrastructure.

Specification	FMS-2000C	Competitor 1	Competitor 2	Competitor 3
High resolution touchscreen	✓	✗	✗	✗
360° Safety Halo edge lighting	✓	✗	✗	✗
Support for 4 rooms	✓	✗	✗	✗
Standard model controls with 6 hardwired parameters	✓	✗	✗	✗
2 thermistors	✓	✗	✗	✗
4 digital inputs	✓	✗	✗	✓
4 analog outputs	✓	✗	✗	✓
4 relay outputs	✓	✗	✗	✓

Here to help

Utilize the subject matter experts on our team

Our goal is to help simplify the complexity of critical environment HVAC control so you can be confident the spaces you manage are working properly and protecting occupants. From operating suites to compounding pharmacies and teaching laboratories, our team of subject matter experts can help you select products and design a critical environment HVAC system that optimizes building performance.

To contact the Johnson Controls Critical Environment team email BE-NA-CESales@jci.com

These are just a few of the critical environments where we provide guidance

Healthcare

- Operating Suites
- Patient isolation rooms
- Clean rooms
- Emergency rooms
- Oncology suites
- Burn units
- Linen storage
- Instrument processing rooms
- Correctional facility isolation cells

Laboratories

- Compounding pharmacies
- Pharmaceutical research labs
- Indoor growing facilities
- Biocontainment facilities
- Food research labs
- Oil and gas labs
- Crime labs
- Autopsy spaces

Higher Education and Research

- Teaching labs
- Research vivariums
- Chemistry labs
- Faculty research labs
- Tissue sample storage
- Hazardous material storage

About Johnson Controls

At Johnson Controls (NYSE:JCI), we transform the environments where people live, work, learn and play. As the global leader in smart, healthy and sustainable buildings, our mission is to reimagine the performance of buildings to serve people, places and the planet.

Building on a proud history of more than 135 years of innovation, we deliver the blueprint of the future for industries such as healthcare, schools, data centers, airports, stadiums, manufacturing and beyond through OpenBlue, our comprehensive digital offering. Today, with a global team of 100,000 experts in more than 150 countries, Johnson Controls offers the world`s largest portfolio of building technology and software as well as service solutions from some of the most trusted names in the industry.

To contact the Johnson Controls Critical Environment team email BE-NA-CESales@jci.com

Visit www.johnsoncontrols.com for more information and follow @Johnson Controls on social platforms.

The power behind **your mission**

Johnson Controls