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Facility Explorer

FXVMA Variable Air Volume (VAV) Box Controller

Description

The FXVMA is an integrated assembly used to control Variable Air Volume (VAV) boxes. The FXVMA consists of a high performance digital controller, a fast response actuator, and an accurate Differential Pressure Transducer (DPT), all of which are pre-wired together and integrated inside a single enclosure.

The FXVMA controller runs advanced application software with self-tuning algorithms to precisely control the room temperature. The FXVMA application software includes multiple configuration options (for example, box type, box heating type, or supplemental heating type) that you can easily select using the FX Tools software package.

Various software and accessories are available to assist you during the commissioning of the FXVMA and the VAV box, including a local Medium User Interface (MUI) with balancer functions and an automated box flow test.

Refer to the *FX20/FX60 Supervisory Controllers Product Bulletin (LIT-12011363)* for important product application information.

Features

- controller, actuator, and pressure sensor pre-wired together and integrated inside a single enclosure
- 60-second actuator
- configurable application software
- self-tuning control algorithms
- automated box flow test

Repair Information

If the FXVMA fails to operate within its specifications, replace the unit. For a replacement controller, contact the nearest Johnson Controls® representative.

FXVMA Variable Air Volume (VAV) Box Controller

Selection Charts

VAV Box Controllers and Accessories Ordering Information

Product Code Number	Description
LP-FXVMA11-1C	FXVMA VAV Box Controller: Cooling with reheat version with N2 Open communications
LP-FXVMA14-1C	FXVMA VAV Box Controller: Cooling with reheat version with BACnet® Master-Slave/Token-Passing (MS/TP) communications
LP-DIS60P20-0C	Remote Medium User Interface (MUI Version 3) - Local Mount (non-isolated model)
LP-DIS60P21-0C	Remote Medium User Interface (MUI Version 3) - Remote Mount (isolated model)
NS-WALLPLATE-0	Wall plate kit used to mount an 80 x 80 mm (3.15 x 3.15 in.) Network Room Module (NRM) onto a 2 x 4 in. wall box.
LP-FXTPRO-0	FX Tools Pro CD-Rom (FX Builder, FX CommPro N2, FX CommPro LON, FX CommPro BACnet, FX Loader, MD LON Loader)

Network Room Modules Ordering Information (North American Models)

Product Code Number	Description
LP-NRM001-000C	Network Room Module: Includes temperature sensor only (no Liquid Crystal Display [LCD] or dial). Housed in an 80 x 80 mm (3.15 x 3.15 in.) enclosure.
LP-NRM052-000C	Network Room Module: Includes temperature sensor, LCD, setpoint adjustment dial, °C/°F toggle button, and occupancy function. Housed in an 80 x 80 mm (3.15 x 3.15 in.) enclosure.
LP-NRM101-000C	Network Room Module, temperature sensor only, no display, no setpoint dial Housed in a 120 x 80 mm (4.72 x 3.15 in.) enclosure.
LP-NRM152-000C	Network Room Module: Includes temperature sensor, LCD, setpoint adjustment dial, °C/°F toggle button, and occupancy function. Housed in a 120 x 80 mm (4.72 x 3.15 in.) enclosure.

Network Room Modules Ordering Information (European Models)

Product Code Number	Description
LP-NRM001-000C	Network Room Module: Includes temperature sensor only (no LCD or dial). Housed in an 80 x 80 mm (3.15 x 3.15 in.) enclosure.
LP-NRM002-000C	Network Room Module: Includes temperature sensor, LCD, setpoint adjustment dial, and occupancy function. Housed in an 80 x 80 mm (3.15 x 3.15 in.) enclosure.

FXVMA Variable Air Volume (VAV) Box Controller (Continued)

Technical Specifications

FXVMA VAV Box Controller		
Product	LP-FXVMA1x-xxx	
Power Requirements	20-30 VAC/DC, 50/60 Hz – Safety Extra-Low Voltage (SELV) (Europe) – Class 2 North America	
Power Consumption	10 VA typical, 14 VA maximum. Power delivered to the devices connected to the binary outputs (for example, valves and relays) is not included in this rating.	
Ambient Operating Conditions	0 to 50°C (32 to 122°F), 10 to 95% RH (noncondensing)	
Ambient Storage Conditions	-40 to 70°C (-40 to 158°F), 10 to 95% RH (noncondensing)	
Power Supply for MUI	15 VDC on Remote Display connector at 100 mA maximum	
Terminations	6.33 mm (1/4 in) spade lugs, except communications and 24 VAC power, which are screw terminals	
Controller Addressing	DIP switch set (1-255)	
Communication Buses	Supervisory: 3-wire isolated N2 or BACnet MS/TP between FXVMA and supervisory class controller Remote Display: 4-wire nonisolated N2 between FXVMA and Network Room Module and/or Medium User Interface (MUI)	
Dimensions	Width: 182 mm (7 3/16 in.) Length: 182 mm (7 3/16 in.) Height: 64 mm (2 1/2 in.) Center of output hub to center of anti-rotation slot: 160 mm (6 5/16 in.)	
Weight	0.86 kg (1.9 lb)	
Actuator Ratings	4 N•m (35 lb•in), 60 seconds full rotation (90°) time	
Supported VAV Box Damper Shafts	Mount to damper shafts from 10 mm (3/8 in.) square up to 13 mm (1/2 in.) diameter round. Minimum shaft length = 44 mm (1 3/4 in.)	
BACnet Compliance	BACnet Testing Laboratories™ (BTL) Listing (Pending) BACnet Interoperability Building Blocks (BIBBs): BACnet Application Specific Controller (B-ASC) Protocol Implementation Conformance Statement (PICS) available on request	
Compliance	**Europe**	UL Listed, File E107041, CCN PAZX, UL916 Energy Management Equipment
	Canada	UL Listed, File E107041, CCN PAZX7, CAN/CSA C22.2 No. 205 Signal Equipment
	United States	CE Mark, EMC Directive 89/336/EED, in accordance with EN 61000-6-3 (2001) Generic Emission Standard for Residential and Light Industry and EN 61000-6-2 (2001) Generic Immunity Standard for Heavy Industrial Environment, and the Low Voltage Directive 73/23/EEC in accordance with EN 60730-1 (1999) Automatic electrical controls for household and similar use.