

LX-VAVLF-1, LX-VAVLN-1, and LX-VVTLF-1

LX Series Variable Air Volume (VAV)/Variable Volume and Temperature (VVT) Controllers

Description

The LX Series VAV/VVT Controllers use the latest technology to provide you more flexibility and reliability of control. The LX-VAVLF-1, LX-VAVLN-1, and LX-VVTLF-1 controllers are designed to meet the requirements of single duct VAV or VVT applications.

The LX VAV/VVT controllers are based on LONWORKS® technology for interoperability and peer-to-peer communication between controllers without any intermediary, but also integrate seamlessly into the Facility Explorer system.

For additional information, see the *LX Series Variable Air Volume (VAV)/Variable Air Volume and Temperature (VVT) Product Bulletin (LIT-12011495)*.

Features

- configurable software - features FX Workbench compatible wizards, which provide the ability to easily configure inputs, outputs, and sequence options. Configured device complies with LONMARK Space Comfort Control (SCC) profile for interoperability with other LONMARK devices
- robust hardware - allows you to use any commercially available thermistor type (100 ohm to 10 k ohm) and setpoint potentiometer type. Features an extremely accurate onboard airflow sensor for pressure independent single duct VAV applications. The controller can read differential pressure as small as 0.04 milli-inches
- powerful control options - performs Demand Control Ventilation based on CO₂ sensor readings to ensure high indoor air quality in an efficient manner. Provides you with the ability to link VAV occupancy status with local lighting control



LX-VAVLF-1 Controller

Repair Information

If the LX-VAVLF-1, LX-VAVLN-1, or LX-VVTLF-1 controller fails to operate within its specifications, replace the unit. For a replacement, contact the nearest Johnson Controls® representative.

Selection Chart

Code Number	Description
LX-VAVLF-1	Configurable VAV controller, actuator with feedback, flow sensor, 10 I/O (4 Universal Inputs [UIs], 4 triac Digital Outputs [DOs], 2 Universal Outputs [UOs]) and wizard.
LX-VAVLN-1	Configurable VAV controller, flow sensor, 10 I/O (4 UIs, 4 triac DOs, 2 UOs) and wizard. No actuator.
LX-VVTLF-1	Configurable VAV controller, actuator with feedback, 10 I/O (4 UIs, 4 triac DOs, 2 UOs) and wizard. No flow sensor.

Technical Specifications

LX-VAVLF-1, LX-VAVLN-1, LX-VVTLF-1 Controllers		
Product Codes		LX-VAVLF-1, LX-VAVLN-1, LX-VVTLF-1
Power Requirements	Voltage	24 VAC/DC; ±15%, 50/60 Hz, Class 2
	Protection	3 A removable fuse for triac when using the internal power supply
	Consumption	5 VA
	Maximum Consumption	10 VA (normal), or 85 VA if internal power supply is used for triac (special application)
Ambient Conditions	Ambient Operating Temperature	0 - 70°C (3 to 158°F)
	Ambient Storage Temperature	-20 to 70°C (-4 to 158°F)
	Relative Humidity	0 to 90%
General	Processor	Neuron® 3150®, 8 bits, 10 MHz
	Memory	Nonvolatile Flash 64k (storage) (APB application) Non-volatile Flash 64k (storage)
	Media Channel	TP/FT-10, 78 Kbps
	Communication	LonTalk® protocol
	Transceiver	Echelon FTT-10
Enclosure (housing)	Material	FR/ABS Resin
	Dimensions (with screws)	4.88 x 8.9 x 2.48 in. (124 x 226 x 63 mm)
	Shipping Weight	2.30 lb (1.05 kg)

LX Series Variable Air Volume (VAV)/Variable Volume and Temperature (VVT) Controllers (Continued)

LX-VAVLF-1, LX-VAVLN-1, LX-VVTLF-1 Controllers		
Inputs	Quantity	4 universal software configurable
	Input Types	Digital: Dry Contact, Analog Voltage: 0 -10 VDC, Accuracy: ±0.5%, Analog current: 4 to 20 mA with 249 ohm external resistor
	Resistor Support	Thermistor: 100 ohm (PT100), 1 K (RTD I K Type 85), 10 K (Type, 2, 3), Range: -40 to 125°C, (-40 to 257°F) Accuracy: ±0.5°C, ±0.9°F Resolution: 0.1 to 0.18°F (10k ohm to 100k ohm supported using translation table)
	Potentiometer	10k ohm or 100k ohm, translation table (21 points)
	Differential Range	0-250 Pa (0-1 in. H ₂ O)
	Pressure Sensor	(VAV model only): Resolution 0.04 milli-inches H ₂ O
	Accuracy	±0.3% full scale
	Input Resolution	16-bit analog/digital converter
Hardware Outputs	Quantity	6 Hardware 4 Digital: Triac 0.75 A at 24 VAC, External or Internal power supply 2 Universal: 0-10 VDC linear, digital 0-10 VDC linear, digital 0-12 VDC (Analog or Digital) or PWM 20 mA max, Maximum load 600 ohm Output Resolution: 10-bit digital/analog converter
Damper Actuator	Torque	35 in-lb, 4 N-m Angle of Rotation: 95° adjustable Fits Shaft Diameter: 5/16 to 3/4 in. (8.5 mm to 18.2 mm) Power Supply: from controller