

# BZ424-LX Configurable VAV Zone Controller

ONYXX® LX VAV-ASC | PRODUCT DATA SHEET

Designed and assembled in Canada

## Description

- ✓ Supports BACnet MS/TP
- ✓ Has 4 AI/BI's, 2 AO's & 4 BO's with local HOA switches for the outputs
- ✓ Uses a pre-calibrated, precise digital MEMS Omron flow through airflow sensor
- ✓ BTL certified as a B-ASC (BACnet Application Specific Controller)
- ✓ Supports up to 3 TZ100-LX or TZ200-LX room sensors
- ✓ Requires Onyx LX USB to RS-485 adapter to program with Onyx LX UI
- ✓ To order use part number: **BZ424-LX**

# ONYXX® LX

by Lynxspring



## Application

This controller is designed to facilitate control and management of various VAV equipment typically used in the HVAC industry. It allows powerful yet flexible solutions that can be tailored and sized according to any project needs. Single or dual duct, with or without fan.

## Technical Specifications

### POWER SUPPLY

- 24 Vac/dc  $\pm$  15%
- 2 A replaceable fuse
- LED power indicator

### CURRENT CONSUMPTION

- 5 VA controller only
- Up to 38.6 VA with all 4 BO's @ 0.35 A each

### INPUTS

- 4 x AI/BI's universal inputs
  - Thermistor 10 K  $\Omega$  (type 2 or 3)
  - Dry contact, 500 ms minimum (On-Off)
  - Voltage 0 - 10 Vdc (Input impedance of 100 K  $\Omega$ )
  - Current 0 - 20 mA (internal resistance of 162  $\Omega$ )
- Resolution: 12 bits (4,096 segments)

### OUTPUTS

- 4 x BO's Solid State
  - 10 to 30 Vac/dc, 0.35 A maximum
  - Sink or source
  - Built-in overcurrent protection
  - Thermal protection with automatic reset
  - Solid State BO's can be used as pulse outputs
- 2 x AO's
  - Voltage 0 - 10 Vdc linear

### INTERNAL ACTUATOR OUTPUTS

- 2 BO Solid State (Open/Close)
- 1 extra AO for analog actuators

### AIR FLOW SENSOR

- MEMS Omron D6F-PH
- 1 in. / 250 PA range with rapid response.
- Resolution: 12 bits (4,096 segments).
- 5/32 in. tubes required for airflow probe.

### REAL-TIME CLOCK (RTC)

- Built in with one-week capacitor backup when charged

### MICROPROCESSOR

- STM32 (ARM Cortex™ M3)
- 32 bits, 72 MHz

### MEMORY

- Flash: 768 KB non-volatile for the application program
- RAM: 96 KB

### RS485 BACNET MS/TP COMMUNICATION SPEED

- 9600, 19200, 38400, 76800 Bps

### CONTROLLER ADDRESSING

- Via DIP switch

### EXTERNAL CONNECTIONS

- Mini USB Type-A connector allows local access to the MS/TP network.
- Requires the USB to RS-485 adapter: USB-MSTP-LX.

### FLOATING ACTUATOR SUPPLIED

- Belimo LMB24-3-T
- 45 in./lb. 5 Nm

### TZ100-LX/TZ200-LX WALL INTERFACE

- Up to 3 controllers based on solution used.
- Daisy-chained wiring on local RS-485 port.

### COMMUNICATION PROTOCOLS

- BACnet MS/TP

### DIMENSIONS

- 4.9 in. x 8.5 in. x 2.5 in.
- 123 mm X 215 mm X 63 mm

### MAXIMUM WIRE SIZE

- 16 AWG

### STOCKING TEMPERATURE

- 30 °C to 50 °C / -22 °F to 122 °F

### OPERATING CONDITIONS

- 25 °C to 45 °C / -13 °F to 113 °F
- 10% to 90% rH without condensation

### WEIGHT

- 744 g. / 1.5 lb.

### MOUNTING TYPE

- Standard Belimo mounting hardware.
- Directly on VAV shaft and duct.

### WARRANTY

- 1 year

### ENCLOSURE

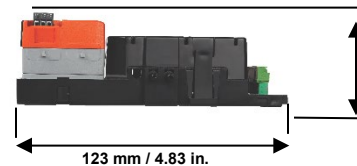
- Black color, ABS material UL94-5V
- Material FR/ABS

### CERTIFICATIONS

- UL 916 Energy Management Equipment
- BTL listed: B-ASC, BACnet Application Specific Controller

## Dimensions

214 mm / 8.43 in.



63 mm / 2.48 in.

123 mm / 4.83 in.

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