BZ424-LX Configurable VAV Zone Controller
ONYXX® LX VAV-ASC | PRODUCT DATA SHEET

Designed and assembled in Canada

ONYXX® LX
BY LYNXSPRING

Description

✓ Supports BACnet MS/TP
✓ Has 4 AI/BIs, 2 AOs & 4 BOs 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 Onyxx LX USB to RS-485 adapter to program with Onyxx LX UI
✓ To order use part number: **BZ424-LX**

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 ± 15%
2 A replaceable fuse
LED power indicator

CURRENT CONSUMPTION
5 VA controller only
Up to 48 VA (8 VA each) with the 4 BOs and 2 AOs @ 0.35 A each

INPUTS
4 x AI/BIs universal inputs
- Thermistor 10 K Ω Type 2 or 3)
- Dry contact, 500 ms minimum (On-Off)
- Voltage 0 - 10 Vdc (Input impedance of 100 K Ω)
- Current 0 - 20 mA (internal resistance of 162 Ω)
- Resolution: 12 bits (4,096 segments)

OUTPUTS
2 x BOs Triad
- External or internal powered (jumper selectable)
- 10 to 30VAC/VDC, 0.35A max+
- Built-in thermal overcurrent protection (automatic reset)
- Supports PWM (Pulse-width modulation)
2 x AOs
- Voltage 0 - 10 Vdc linear

INTERNAL ACTUATOR OUTPUTS
2 BO Triad
1 extra AO for analog actuators

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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 CortexTM 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

WIRE SIZE
18-24 AWG accepted; 18 recommended

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

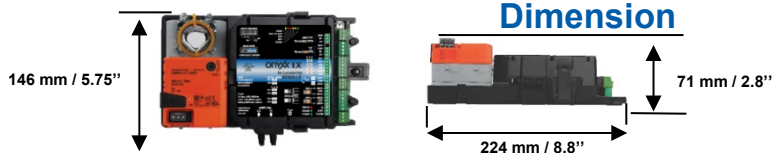### ENCLOSURE
Black color, ABS material UL94-5V
Material FR/ABS

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

WARNING: Internally, this device utilizes a half-wave rectifier and therefore can only share the same AC power source with other half-wave rectified devices

CE RoHS Pb Lead free

Dimension

146 mm / 5.75''

71 mm / 2.8''

224 mm / 8.8''