

BZ122-LX Configurable VAV Zone Controller

ONYXX[®] LX VAV-ASC | PRODUCT DATA SHEET

Designed and assembled in Canada

Description

- ✓ Supports BACnet MS/TP
- ✓ Has 1 AI/BI, 2 AOs & 2 BOs
- ✓ 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: **BZ122-LX**

ONYXX[®] LX

BY LYNXSPRING



Application

This controller is designed to facilitate control and management of simple VAV equipment typically used in the HVAC industry. It allows powerful yet flexible solutions that can be tailored and sized according to any project need.

Technical Specifications

POWER SUPPLY

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

CURRENT CONSUMPTION

5 VA controller only
Up to 32 VA (8 VA each) with the 2 BOs and 2 AOs @ 0.35 A each

INPUTS

- 1 x AI/BIs universal input
- 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 (no override switches)
- Voltage 0 - 10 Vdc linear

INTERNAL ACTUATOR OUTPUTS

- 2 BO Triad
- 1 extra AO for analog actuators



BACnet is a registered trademark of ASHRAE. ASHRAE does not endorse, approve or test products for compliance with ASHRAE standards. Compliance of listed products to the requirements of ASHRAE Standard 135 is the responsibility of BACnet International. BTL is a registered trademark of BACnet International.

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

WIRE SIZE

18 – 24 AWG accepted; 18 AWG 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

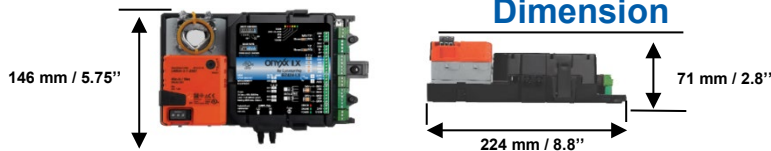
ENCLOSURE

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



© 2022 by Lynxspring, Inc. All rights reserved. The information and/or specifications published here are current as of the date of publication of this document. Lynxspring, Inc. reserves the right to change or modify specifications without prior notice. The latest product specifications can be found by contacting our corporate headquarters in Lee's Summit, Missouri. Products or features contained herein are covered by one or more United States or foreign patents. Other brand and product names are trademarks or registered trademarks of their respective holders. This document may be copied by parties who are authorized to distribute Lynxspring products in connection with distribution of those products, subject to the contracts that authorize such distribution. It may not otherwise, in whole or in part, be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form without prior written consent from Lynxspring, Inc. Complete Confidentiality, Trademark, Copyright and Patent notifications can be found at: lynxspring.com/company/legal.

Lynxspring[®], JENEsys[®], JENEsys Edge[®], Onyx[®] and Helix[®] are registered trademarks of Lynxspring, Inc. Niagara Framework[®] is a registered trademark of Tridium, Inc.

2900 NE Independence Ave
Lees Summit, MO 64064
sales@lynxspring.com
1 (877) 649-5969


LYNXSPRING
www.lynxspring.com

© 2022 Lynxspring, Inc.
All Rights Reserved
Revised 4/26/2023
Onyx-BZ122-LX-DS-V1.2