ONYXX® LX
BY LYNXSPRING

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 Onyxx LX USB to RS-485 adapter to program with Onyxx LX UI
✓ To order use part number: **BZ122-LX**

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 ± 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
- 10 to 30 Vac/dc, 0.35 A maximum
- Sink or source
- Built-in overcurrent protection
- Thermal protection with automatic reset
- Triad BOs can be used as pulse outputs.
2 x AOs (no override switches)
- Voltage 0 - 10 Vdc linear

INTERNAL ACTUATOR OUTPUTS
2 BO Triad
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 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 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.
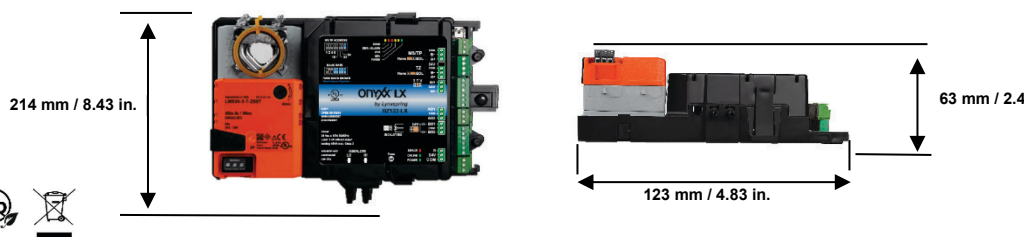Directly on VAV shaft and duct.

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

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CE ✓ RoHS (Pb) Lead Free 🗑

Dimension

214 mm / 8.43 in.

123 mm / 4.83 in.

63 mm / 2.48