enteliZONE®

VAV Controller: eZVP-440E

Description

The eZVP-440E is a fully programmable native BACnet Ethernet controller with an integrated airflow sensor and damper actuator for VAV and VVT applications. This controller provides full control sequence customization through GCL+ programming.

The controller supports BACnet Ethernet or BACnet/IP networking. Dual Ethernet ports provide the bandwidth of Ethernet/IP with the convenience of a traditional MS/TP daisy chain topology. The RS-485 subLAN port provides the option of adding Delta LINKnet network sensors.

Application

The eZVP-440E covers a wide range of VAV and VVT configurations including multi-stage reheat with analog, binary, or floating control, and series or parallel fan boxes.

The eZVP-440E includes built-in algorithms that are easy to configure for typical VAV/VVT applications.

The eZVP-440E is also fully programmable, allowing you to create your own custom zone programs or modify the built-in algorithm's behavior.

Features

▶ Native BACnet firmware allows easy integration with any BACnet system

▶ Local scheduling, trending, and alarming support

▶ Built-in configurable VAV algorithms for quick setup and commissioning

▶ Fully programmable capability allows customization for non-standard sequences or repurposing unused I/O

▶ BACnet IP/Ethernet dual port for high-bandwidth communications. Managed switch provides communication redundancy with daisy chain arrangement.

▶ Universal outputs provide flexibility for any combination of analog, binary, or floating output stages

▶ Configuration page in enteliWEB allows configuration of internal algorithms, their objects and I/O points

▶ Firmware upgrade and database load/save over the network

▶ RS-485 subLAN supports up to 4 DNS or eZNS LINKnet network sensors

▶ NetBuilder Android NFC app available for quick network setup

Specifications

BACnet Device Profile
BACnet Application Specific Controller (B-ASC)

Inputs (External)
4 universal inputs (12-bit), software-configurable for:
- 0–5 VDC
- 0–10 VDC
- 10 kΩ thermistor
- Dry contact (using 10k setting)

Outputs (External)
4 universal outputs, software-configurable for:
- Analog 0–10 VDC, 5 mA max
- 24 VAC TRIAC, 0.5 A max

Airflow Sensor
0–2 in. true differential pressure sensor

Actuator I/O
1 universal input for actuator feedback

1 universal output and 1 TRIAC output for damper control. Supports analog or floating actuator types.

Actuator Options
Belimo (-AB/-AAFB)
- 5 N·m (45 in-lb) nominal torque
- Optional position feedback

Siemens (-AS/-AFS)
- 5 N·m (44 in-lb) nominal torque
- Optional position feedback
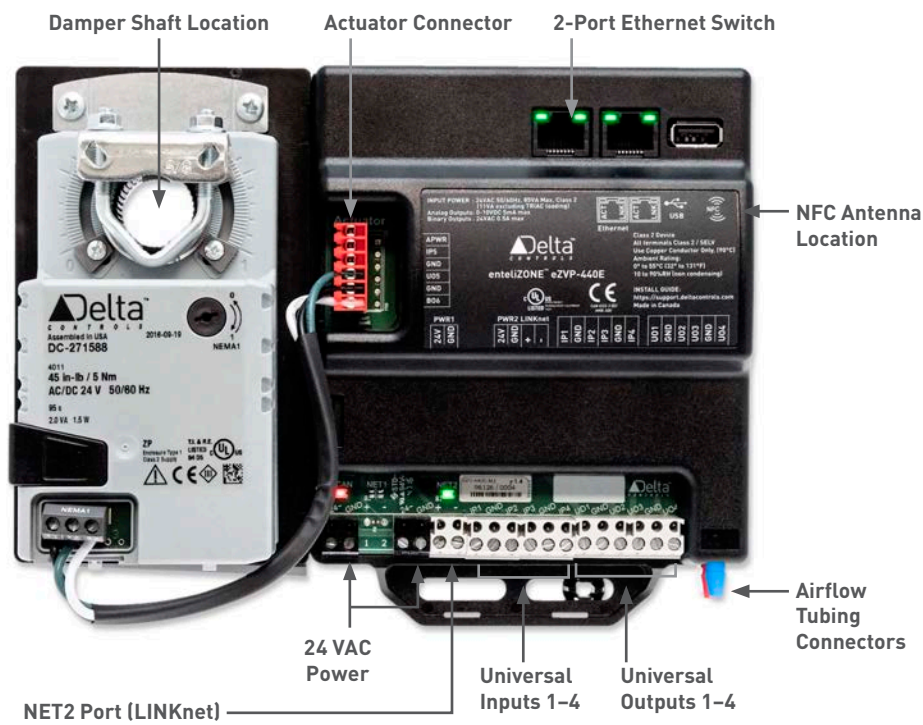
Device Addressing
Software addressed

Connectors
Removable screw-type terminal connectors

Wiring Class
Class 2 / SELV

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eZVP-440E: Board Layout Diagram

Damper Shaft Location Actuator Connector 2-Port Ethernet Switch

NFC Antenna Location

Airflow Tubing Connectors

24 VAC Power

Universal Inputs 1–4 Universal Outputs 1–4

NET2 Port (LINKnet)

Ordering

eZVP-440E	enteliZONE Programmable VAV Controller: Ethernet, 4 universal inputs, 4 universal outputs, onboard DP sensor, support for up to 4 eZNS and DNS LINKnet sensors

Actuator Options
Select an actuator option and append the actuator code to the base model name.
Example: eZVP-440E-AB.

-AB	Belimo Tri-State Actuator
-AAFB	Belimo Analog Actuator with Position Feedback
-AS	Siemens Tri-State Actuator
-AFS	Siemens Tri-State Actuator with Position Feedback

Accessories

eZNS-T100	enteliZONE Network Sensor: LINKnet room stat with multiple display, button, and input sensor options

Specifications (Continued)

Tubing
Flow sensor tubing must be 5/32 in. inside diameter

Power
24 VAC, 50/60 Hz

85 VA max (11 VA excluding TRIAC loading)

Technology
Arm® Cortex® M4 CPU
    1 MB flash
    192 KB RAM

16 Mbit external data flash

Communication Ports
2 port 10/100 Ethernet switch
    BACnet/IP
    BACnet Ethernet

RS-485 NET2
    Delta LINKnet @ 76800 bps (for addition of up to 4 DNS or eZNS network sensors)

Ambient Rating
0°C to 55°C (32°F to 131°F)
10% to 95% RH (non-condensing)

Dimensions
eZVP-440E with actuator:
20.4 × 15.7 × 7.4 cm (8.1 × 6.2 × 2.9 in.)

eZVP-440E without actuator:
12.2 × 17.5 × 4.2 cm (4.8 × 6.9 × 1.7 in.)

Weight
900 g (2.0 lb) with actuator
250 g (0.55 lb) without actuator

Compliance
CE
FCC Class B
EAC (eZVP-440E, eZVP-440E-AB)

Listings
UL 916 Listed

Updated December 2023

Subject to change without notice.

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