

BW437-DB

Dump Box VAV

Configurable Wall
VAV BACnet MS/TP
Controller



Description

- ▶ BW437DB with factory-loaded licensed firmware for Dump Box VAV applications
- ▶ 14 I/O - 4 UI, 3 AO, 6 BO, & 1 Universal AO/BO (*Jumper Selectable*)
- ▶ Options: RH%, PIR (Motion) & CO2
- ▶ BACnet MS/TP **BTL** certified as a B-ASC

Model number	Built-in humidity sensor	Built-in PIR motion sensor	Built-in CO2 NDIR sensor
BW437-RTU			
BW437MH-RTU	√	√	
BW437HC-RTU	√		√
BW437MHC-RTU	√	√	√



Application

The BW437 DB controller is designed to facilitate the control of VAV dump Box equipment. The BW437DB controls the damper for heat or cooling with a changeover sensor and includes DCV and reheat. Damper can be operated by Floating or Modulating control, direct or reverse acting.

Technical specifications

Power supply:

- 24 VAC/VDC \pm 15%; Class 2

Current Consumption:

- 1.5 VA controller only
- 96 VA Max (including outputs 0.5A each)

Communication Protocols:

- BACnet MS/TP half-wave device
- BTL listed: B-ASC, BACnet Application Specific Controller
- Baud 9600, 19200, 38400, 76800 Bps (76800 default)
- Addressing: Keypad configuration
- Mini USB2 MS/TP network access (Strato Automation USB-485 cable adapter)
- **All Strato Controllers are 1/4 unit load devices.**

Hardware

- Microprocessor: STM32 (ARM Cortex™ M3) 32 bits
- CPU Speed: 72MHz
- Memory: 768 KB non-volatile Flash (Application Program)
- RAM: 96 KB RAM
- Real-time clock (RTC): Built-in capacitor (one-week backup)

Programming

- Configurable using the local keypad, writing to the BACnet objects, or utilizing Strato Software tools.

Inputs:

4 Universal Inputs (AI/BI)

- Thermistor 10K Ω (type 2 or 3)
- Dry contact, 500 ms minimum (On-Off)
- Voltage 0 - 10 Vdc (Input impedance of 100 K Ω)
- Resolution: 12 Bits (4096 segments)

Outputs:

6 Binary Outputs

- MOSFET Solid State Relays, Isolated
- 10 to 30VAC/VDC, 0.5A max

3 Analog Outputs

- Voltage 0 - 10 VDC linear

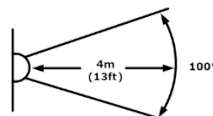
1 Universal AO/DO

- Jumper selectable
- *Same specification as above*

Humidity Sensor: *Sensirion™* SHT31 \pm 2 @ 0-100% RH

PIR Sensor:

- Operating Principle: Passive Infrared
- Detection Angle: 100 degrees
- Detection Distance: 4M (13ft) maximum
- Detection Area



CO2 Sensor: *Sensirion™* SCD30

- Self-calibrating, non-dispersive infrared (NDIR)
- Sensor Range: 0-5000 PPM
- Accuracy: \pm 30 PPM @ 3% of reading
- Accuracy is valid after a minimum of 3 weeks of continuous operation.
- Response Time T63: 2 minutes

Mechanical:

- Dimensions: B 3.25" (82.5 mm) x A 4.88" (123.9mm) x H 0.93" (23.62mm)
- Stocking temperature: -30 °C to 50 °C / -22 °F to 122 °F
- Operating conditions: -25 °C to 50 °C / -13 °F to 113 °F 10% to 90% H.R. without condensation
- Mounting type: Standard 2" x 4" electrical junction box
- Enclosure: White color, ABS material UL94VO

Warranty: 1 Year

Certifications:

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

