

OSV424 & OSTV424

VAV Control Kits

BACnet MS/TP & Wi-Fi



Description

- Configurable Wall Controller
- ASHRAE G36 Compliant Applications: VAV
- 10 I/O: 4 UI, 2 AO, 4 BO
- Sensors: Temp, RH% - Standard
- Motion and CO2: Optional
- Wi-Fi 6: WPA2/WPA3, 2.4 GHz
- BACnet MS/TP: BTL Listed (B-BC profile)
- BACnet/IP over Wi-Fi 6: BTL Listed (B-BC profile)



OPENSTAT VAV Series VAV Control Kits	OPENSTAT Touch VAV Series Touch VAV Control Kits	Temp, RH%	Motion	CO2 NDIR	BACnet WiFi6	MSTP
OSV424HW	OSTV424HW	X			X	X
OSV424MHW	OSTV424MHW	X	X		X	X
OSV424MHCW	OSTV424MHCW	X	X	X	X	X

Note: These kits include the wall controller and the OSA damper actuator.

Application: The OSV424 and OSTV424 controller kits simplify the control of standard VAV and VVT box applications, including Single-Duct, Series Fan-Powered, Parallel Fan-Powered, and Bypass systems. The kits offer flexible configuration options to accommodate a wide range of equipment and project requirements.

Controller Technical Specifications

Power supply:

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

Current Consumption:

- 100 VA max total (Class 2), incl. 10 VA for controller + OSVA. BO: 2 A max each, 90 VA max combined.

Communication Protocols:

- BACnet MS/TP half-wave device (If BACnet MS/TP is used with third party devices, half-wave devices or MS/TP isolator is required)
- Baud 9600, 19200, 38400, 76800 Bps (76800 default) RS485 transceiver is a $\frac{1}{4}$ load device
- Mini B USB MS/TP network access (for Strato USB-485 cable adapter)
- Wi-Fi 6: 2.4GHz BACnet IP
- Integrated WEB services that fully support REST API's

Hardware

- Microprocessor: STM32 (ARM Cortex™ M33) 32 bits, with 2MB internal flash
- CPU Speed: 250 MHz
- External Flash (8MB OS) (16MB OST)
- RAM: 640 KB SRAM
- Real-time clock (RTC): Built-in capacitor (3 to 4 days backup)
- Full color, IPS, backlit LCD
- Capacitive touchscreen (OST)
- Display resolution: 320 x 480 (3.5" OST), 320 x 240 (2.4" OS)
- Dedicated OSVA Port (RJ45): **Connect directly to the OSVA unit only.**

Configuration

- Configurable using the wall controller's buttons, writing to the BACnet configuration objects, utilizing the Wi-Fi embedded WEB page, Strato's App (NFC) and OCN+ BMS system.

Inputs:

- 4 Universal Inputs (AI/BI)
- Thermistor 10K Ω (type 2 or 3)
- Dry contact
- Voltage 0-10 Vdc (Input impedance of 20 K Ω)
- Current 4-20 mA (internal resistance of 162 Ω)
- Resolution: 12 Bits

Outputs:

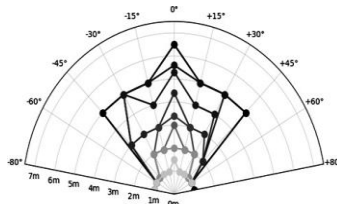
- 4 Binary Outputs
- MOSFET Solid State Relays 2.0A max (24 VAC/VDC $\pm 15\%$)
- 2 Analog Outputs
- Voltage 0 - 10 VDC linear

Humidity & Temperature Sensors

- Sensirion™ SHT40
- $\pm 1.8\%$ RH @ 25-75% RH overall $\pm 1-3\%$
- $\pm 0.2\%$ °C @ 0 °C to 50 °C
- ($\pm 0.36\%$ °F @ 32 °F to 122 °F)

Radar Motion Detection Sensor:

- Operating Principle: Radar cross-section optimized for human presence
- Hold time 0.1 s to 30 min
- Detection distance and angle:
- 20 feet (6M) @ 0°
- 16 feet (5M) @ $\pm 45^\circ$
- 3 feet (1M) @ $\pm 80^\circ$



Optional CO2 Sensor: Telaire™ T6793

- Non-dispersive infrared (NDIR) Self-calibrating with ABC Logic™
- Sensor Range: 400-2000 ppm
- Accuracy: ± 45 ppm + 3% of reading
- Accuracy is valid after a minimum of 2 weeks of continuous operation.
- Response Time of 5 minutes

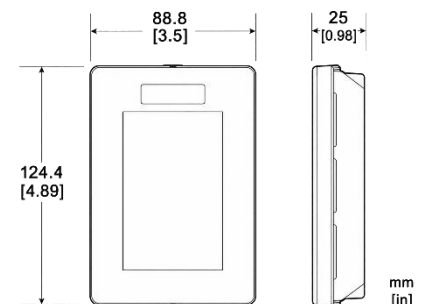
Mechanical:

- Dimensions: 124.4 (H) x 88.8 (W) x 25 (D) mm (4.89 (H) x 3.5 (W) x 0.98 (D) in)
- Storage temperature: -30 °C to 50 °C / (-22 °F to 122 °F)
- Operating conditions: 0 °C to 50 °C / 32 °F to 122 °F 10% to 90% RH without condensation
- Mounting type: Standard 51 x 102 mm (2" x 4") electrical junction box
- Enclosure: White color, PC ABS material UL94V0

Warranty: 2 Years

Certifications:

- UL 916 Energy Management Equipment
- BTL listed B-BC, BACnet Building Controller
- FCC Class B digital device, pursuant to part 15 of the FCC Rules



Description

- Connect to 4 AI/BI's, 2 AO's & 4 BO's.
- Also embeds BACnet MS/TP BTL listed as a B-BC, ceiling interconnect.

Application

The OSVA damper actuator includes integrated airflow inlets for connection to duct airflow pickup tubes. Designed for use with the OSV424 and OSTV424 kits, it connects to the wall controller using an Ethernet cable (*order cable separately*), with optional wiring depending on the equipment being controlled.

A snap-fit, pivoting cover provides quick and easy access to all ceiling-side connections.



Actuator Technical specifications

Electrical data

- 24 VAC/VDC $\pm 15\%$; Class 2
- Power consumption (motor only) < 3.5 VA

Differential pressure sensor

- Dynamic version (500 Pa / 2.0" w.c.)
- Burst pressure 1 bar (14.5 psi)
- Pressure sensor rated for non-corrosive air media across a process airstream temperature range of -40°F to 185°F (-40°C to 85°C) and 5% to 95% RH (non-condensing).
- Mounting position: Any. Exception: OSVA cannot be installed face down.
- Connection tube clip $\varnothing$ 4-6 mm (0.16-0.24 in)

Functional data

- Torque 5 Nm (44.3 lb-in) @ standard running time
- Standard running time: 100 s / 90° (adjustable 60...120 s / 90°)
Angle of rotation 0°...max. 95° can be limited with adjustable mechanical end stops
- Manual override gear de-clutch with pushbutton
- Sound power level < 35 dB(A) @ standard running time
- Shaft coupling universal clamp
Round shafts $\varnothing$ 8 - 20 mm / (5/16" – 3/4")
Square shafts $\varnothing$ 8 - 15 mm / (5/16" – 9/16")
- Service life
> 100 000 cycles (0°...95°...0°) @ standard running time
> 1 500 000 cycles (max. $\pm 5^\circ$)
- Position indication mechanical with pointer
- Mounting position: Any. Exception: OSVA cannot be installed face down (as stated by UL certification)
- Provides digital position feedback over the communication network continuously reporting actual percentage position to the controller

Environmental

- Ambient temperature
normal operation 0°C...+50°C / (32°F...+122°F)
Storage temperature -20°C...+80°C / (-4°F...+176°F)
- Ambient humidity 5...95% RH non-condensing

Ethernet cable

The required standard Cat 5e or 6a Ethernet cable is not included in the kits. You can order separately:

Part number: **ETH-25**
Description: Cat 5e black Ethernet network cable (25 Feet) with two RJ45 dust covers

Dimensions

- 162 (H) x 197 (W) x 50 (D) mm
6.4 (H) x 7.75 (W) x 1.97 (D) in
- Weight 0.82 Kg (1.8 lb)

Warranty:

- 5 years on damper actuator motor
- 2 years on other components

Certifications:

- Interconnect enclosure: PC ABS material UL94V0
- UL 916 Energy Management Equipment (pending)
- UL 2043 Plenum rated (pending)

