



SMART VAV

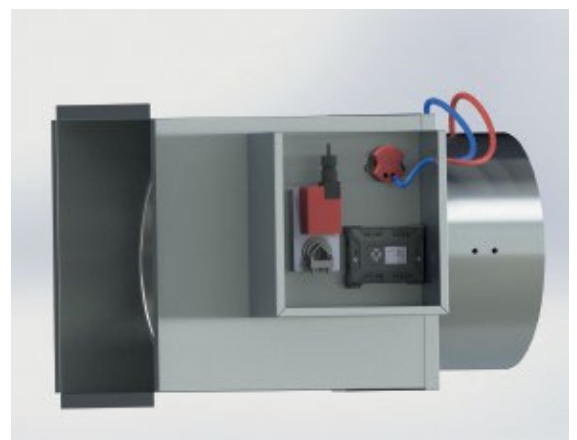
SAVE ENERGY. IMPROVE AIRFLOW. MAXIMIZE COMFORT.

A Smart Variable Air Volume (VAV) controller is an advanced building automation system that is designed to regulate the airflow in the HVAC systems of large commercial or industrial buildings. The 75F Smart VAV Controller efficiently integrates with other building systems to optimize HVAC airflow and temperature helping deliver energy efficiency, occupant comfort, and air quality. A key feature of the 75F Smart VAV controller is its ability to communicate and exchange data with other building automation systems via Standard Modbus protocols, leading to many advantages over traditional VAV systems.



KEY FEATURES

- High-precision design flow sensor grid.
- 10 sizes resulting in a total flow range of 45 to 7100 CFM.
- Heavy duty 22 gauge casing structure.
- Industry-standard round inlet collars that are sized to fit either flexible or rigid ducts.
- Internally lined casing that uses open-cell elastomeric nitrile foam rubber and is fiber-free, super silent, and microban resistant.
- Low-air leakage round damper blade made of an elastomeric gasket placed between two thick 22 gauge galvanized steel plates.
- 25mm or 32mm flange connection on the discharge plenum.



SIGNIFICANT BENEFITS



INTEROPERABILITY

Uses Standard Modbus RTU (RS485) protocols for communication. Works with conventional third-party systems. Complies with ASHRAE and out-of-the-box products.



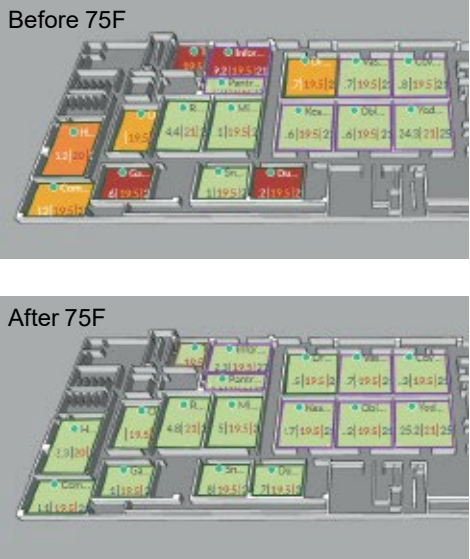
SCALABLE

Suitable for buildings of any size. Cloud access and heat map available with 75F's BMS software.



FRIENDLY USER INTERFACE

Our controller features a user-friendly interface that allows for easy customization and control, ensuring a hassle-free experience.



Unlike other controllers that require proprietary routers, the 75F controller can use any Modbus RS485-based protocol integrator, making it easy to install and integrate with existing systems. Fine-tuning VAV performance is essential for optimal building conditions and energy efficiency. With our controller's tuners, users can adjust VAV performance to meet specific building needs. The Smart VAV package includes Airtight GI Steel Box Enclosure with inbuilt cross flow tubes and removable cover; 75F Smart Node Controller; 75F DP Sensor connected to cross flow tubes via 0.5" plastic tubing; 75F Actuator to drive the inbuilt VAV damper. 75F Wall Temperature and Humidity Sensor.

TECHNICAL SPECIFICATIONS

75F® ACTUATOR™

- Torque Motor: 5Nm
- Operating Range Y: 0.5 – 10V
- Position Accuracy: +/- 5%

75F® SMART NODE LN

MECHANICAL

- Dimensions: 136.14mm x 150.14mm (5.36" x 5.91")
- Mounting: Wall, Duct Mount
- Screen: TFT LCD, 1.77"; 128 x 160 Pixels (RGB)

I/O

- Inputs: A. (2) Thermistor Inputs; 10K Type 2
B. (2) 0-10V DC Analog Inputs
- Outputs: C. (2) 0-10V DC or 4-20mA Analog Outputs
D. (2) Relays rated at 1A, 120V AC or 24V AC/DC Resistive Load

ELECTRICAL

- Power: 24V AC/DC (+/-15%) with nominal power consumption of 1.0W and maximum consumption of 2.5W

75F® DIFFERENTIAL PRESSURE SENSOR™

MECHANICAL

Dimensions: Diameter 60mm; Height 24mm; Mounting Side Length 72mm

Mounting: On the VAV Box

Operating Temp: 0°C to 50°C

Storage Temp: -10°C to 70°C

Relative Humidity: 0% to 95% RH, Non-condensing

Accuracy: 3% of measured value Zero Point (-0.1 Pa)

ELECTRICAL

Power: Supply voltage over a One Wire interface powered at 3.3V with a maximum current limit of 10mA

COMMUNICATIONS

Wired: 75F One Wire Protocol

75F® WALL SENSOR™

Temperature Accuracy: $\pm 0.2^{\circ}\text{C}$

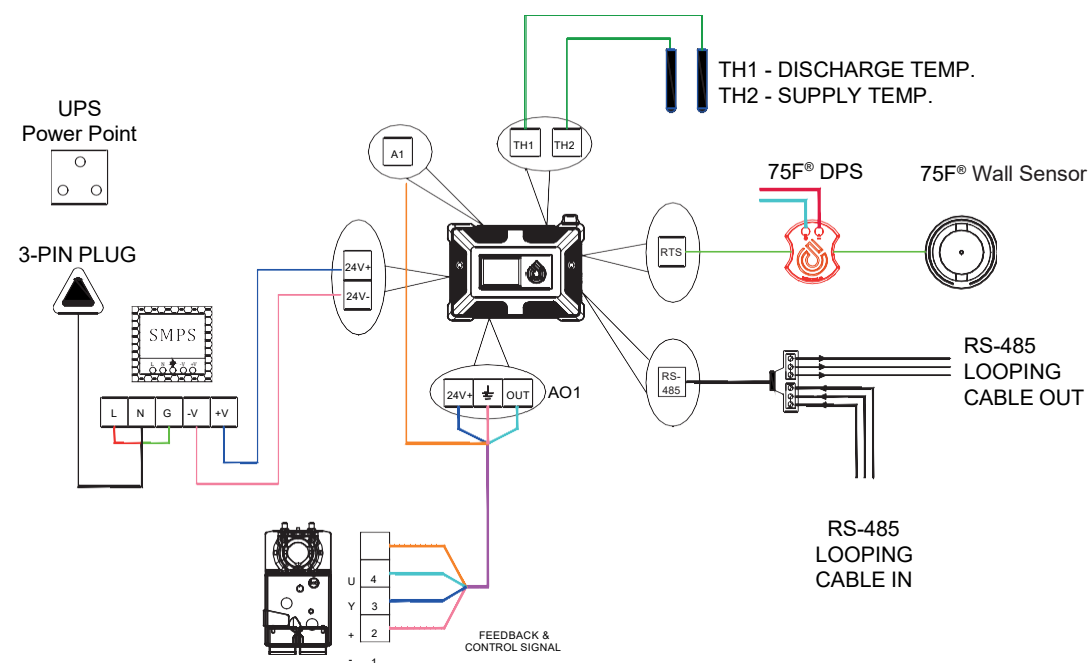
Humidity Accuracy: +/- 2% R.H.
















Power and Communication: One Wire Interface

Operating Range: Humidity 20-85% Non-condensing; Temperature 0°F to 122°F (-17°C to 50°C)

Storage Temperature: 0°F (-17°C) to 140°F (60°C)

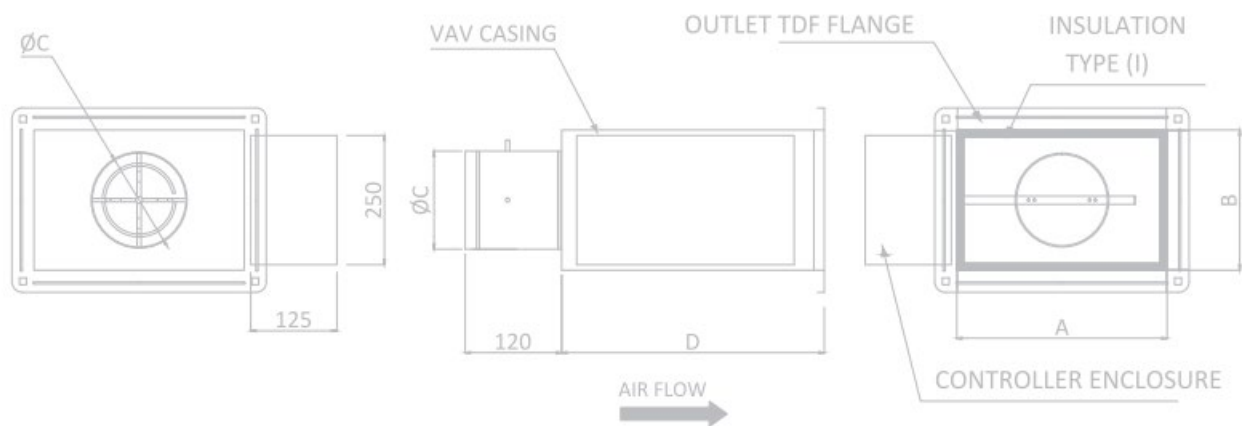
VARIABLE AIR VOLUME CONTROL WITH 75F® SMART NODE LN



LEGEND	
	75F® SMART NODE LN
	75F® ACTUATOR™
	75F® DIFFERENTIAL PRESSURE SENSOR™
	75F® WALL SENSOR™
	SMPS
	4-PIN RS485 DAISY CHAIN ADAPTOR
	75F® THERMISTOR
	3-PIN PLUG FOR SMPS
	UPS POWER SOCKET
	RS485 LOOPING CABLE
	CROSS FLOW TUBES
	75F 3-PIN CABLE
	4CX1SQMM CABLE
	2CX1SQMM CABLE
	3CX1SQMM POWER CABLE

75F® ACTUATOR

TECHNICAL INFORMATION DRAWING



Inlet size (inch)	Air Flow Range(CFM)	Pressure Drop (Pa)	A (mm)	B(mm)	ϕC (mm)	D(mm)
4	40 - 170	49	305	203	101	400
5	64 - 320	49	305	203	126	400
6	90 - 450	49	305	203	152	400
8	170 - 850	46	305	254	203	400
10	270 - 1350	44	356	318	254	400
12	380 - 1900	44	405	381	305	400
14	560 - 2800	41	508	444	356	500
16	740 - 3700	39	610	457	406	500