75F® Smart Node™

Flexible terminal equipment controller with 11 Interface ports for nearly any equipment type or brand.

THE INTERNET OF AIR

RTU1 - OAO

84% **400**PPM

Damper | CO₂

MAT - 52℉ | RAT - 32℉

- (4) universal input/output digital/analog low power 1A ports

- (2) floating point 75F Smart Damper™ outputs

- (2) thermistor inputs

- (2) thermistor (temperature) inputs

- (1) 3-pin serial communications port

- (1) RS-485 4-pin serial communications port

- (1) IR port

- (1) LED display with user navigation buttons

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Put the power, flexibility and speed of IoT in your building automation system with 75F® Smart Node™. Gone are the days of pulling thousands feet of com wire from field controllers to supervisory devices and PLCs. Power up a Smart Node close to your equipment, select a pre-written sequence of operation recommended by ASHRAE with auto-updating from the cloud, pair the Smart Node with its supervisor over a secure and encrypted 900 MHz wireless mesh network, and move on.

Each Smart Node includes 11 interface ports to support a wide range of I/O uses and unlimited applications. Enjoy the comfort and energy savings made possible only by 75F in one-tenth the effort it used to be.

OVERVIEW

The Smart Node is a revolutionary equipment controller with flexible software-defined configurations which can control a range of single and dual stage equipment across all 75F application solutions – RTU functions, 2 and 4 pipe fan coil units, economizer damper actuators, VAV with Reheat systems, smart dampers, pumps and heat pumps, hot water mixing valves, lighting panels, energy meters or current transformers and more.

Each Smart Node operates off 24V AC or DC and is designed to accept daisy-chain power, making installation of your power bus simple and fast. This device marries multiple digital and analog inputs and outputs with mesh network communication and Bluetooth commissioning, virtually eliminating the need to install network cabling in your building. Hardware defined by software means simplicity – one Smart Node, unlimited applications.

KEY FEATURES

- Adaptable to unlimited applications. The Smart Node was designed and built from the studs out to control nearly any equipment type and brand with zero programming required.

- OLED display that makes life easy. An onboard display with large user navigation buttons enables field testing and adjusting without external devices such as voltmeters and laptops.

- Automatic and wireless upgrades. Pre-written sequences of operation always update for seamless performance benefits.

- Fast, easy installation. Backlit text and light-pipe enabled ports indicate which inputs/outputs are enabled.

- Secure Wireless Mesh Network. The Smart Node takes advantage of 75F's secure and proprietary encrypted 900Mhz mesh-network to connect sensors and terminal equipment to the 75F Central Control Unit™.

ADDITIONAL FEATURES

- Robust construction with machined metal studs for mounting.
- Commissions in just minutes with Bluetooth pairing
- BACNet IP available points

APPLICATIONS

- 75F® Smart VAV with Reheat™
- 75F® Hydronic Controls™
- 75F® Advanced Lighting™
- Remote equipment & sensor monitoring

INCLUDED

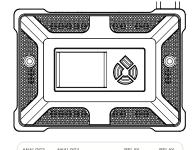| |
| --- |
| (1) Smart Node |
| (1) Remote Temperature & Humidity Sensor (RTH) |
| (1) 20' cable |

75F®

888.590.8995 | support@75f.io | www.75f.io

75F® Smart Node™

MECHANICAL

Dimensions	135.9mm x 150.1mm x 27.7mm
Operating Range	Humidity 20-85% non condensing. Temperature 0 to 122°F (-17 to 50°C)
Screen	OLED
Termination	WAGO2061 series poke-in connectors. 3 and 4-wire Molex connectors. RJ-45 for 75F Smart Dampers.

135.9mm

27.7mm

27.89

150.1mm

I/O

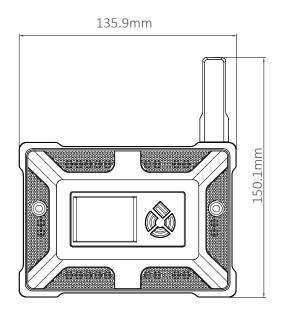|	
Inputs	A. (2) thermistor inputs. 10K Type 2 or 0-50KΩ resistance B. (2) 0-10v analog inputs. 10K impedance
Outputs	C. (2) 0-10v or 4-20ma analog outputs D. 2 relays. Rated for 24V AC/DC, 1A, Resistive load E. (2) RJ-45 ports for 75F Smart Dampers. Motor output: 2W / 6.5V, 300mA

COMPLIANCE

Pollution Grade	2
Certification	ROHS, UL 60730-1- Automatic Electrical Controls

COMMUNICATIONS

Bluetooth	BLE 4.1 for commissioning, triangulation and communication to wireless sensors
Mesh	915 Mhz Mesh IEEE 802.15.4-compliant, for communications to CCU
Wired	4 wire interface for RS 485 communication @ 115200 baud and 5V 100mA power source 3 wire sensor bus for daisy chained sensor communication and 3V power

ELECTRICAL

Supply	24V AC/DC input (+/- 15%)
Peak Consumption	5VA (during Smart Damper calibration). Typical <1VA consumption
Protection	IP 20, NEMA Type 1
Rated Impulsive Voltage	330V RMS

75F

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COMPONENTS

1	Front Cover Top Orange	**9**	OLED Display
2	Allen Screw to Mount SN to Damper	**10**	Daughter PCB
3	Front Cover Bottom	**11**	Mother PCB Screw
4	Middle Cover	**12**	Mother PCB
5	Antenna Back Cover	**13**	Bottom Cover
6	Antenna Back Cover Screw	**14**	Metal Plate
7	4 Way Actuation Button	**15**	Silicon Rubber at Back
8	Daughter PCB Screw	**16**	Allen Screw Back to Front Cover