75F® HyperStat Split

Advanced Packaged Air Conditioning Unit Controls Over Two Wires

Standard 18/2 Thermostat Wire

- Dual enthalpy economizer, demand-control ventilation (DCV), and variable frequency drive (VFD) control
- (7) Onboard sensors for occupancy, temperature, light, humidity, sound, CO_2 & optional particulate matter
- (8) Relays
- (4) Analog outputs
- (8) Universal Inputs
- BACnet and Modbus control

75F® HyperStat Split

The HyperStat Split empowers contractors to upgrade rooftop units with Advanced Packaged Air Conditioning Unit Control with unprecedented ease, bringing energy efficiency to more buildings than ever before. Using only two existing wires from the PACU or CSU to the thermostat, the HyperStat Split provides dual enthalpy economizer, demand-control ventilation, and VFD control. An onboard PIR occupancy sensor enhances energy savings with auto away, and its hefty I/O package enables alerts like condensate overflow and dirty filters.

OVERVIEW

The HyperStat Split facilitates ARC over the existing two wires in retrofit applications using a HyperLite and a Connect Module. Both an occupant interface and a powerful indoor air quality sensing station, the HyperLite takes user input and collects data on temperature, humidity, light, sound, CO_2, occupancy, and particulate matter. The Connect Module communicates with the HyperLite over two wires from the PACU or CSU and performs stage or modular control. With the ability to accept eight universal analog inputs, the back half of the Connect Module moves load control away from the zone.

KEY FEATURES

- Dual enthalpy economizer, demand-control ventilation, and VFD control for full Advanced Packaged Air Conditioning Unit Controls over two wires
- Condensate overflow and dirty filter sensors with notifications for advanced alerts
- Real-time access to sensor data and remote control over building parameters through Facilisight, 75F's building intelligence suite of web and mobile apps
- Secure and proprietary encrypted 900 MHz wireless mesh network allows for lightweight, reliable communications between devices, eliminating the need to run wires throughout a space

ADDITIONAL FEATURES

- Over-the-air firmware updates
- Works over the two wires provided for the thermistor to report temperature to the PACU or CSU
- Plug-and-Play solution for Advanced Packaged Air Conditioning Unit Control

EQUIPMENT CONTROL

Up to three stages of cooling/heating/fan or fully modulating:

- Rooftop Units
- Unit Heaters

INCLUDED

(1) Each of HyperLite and Connect Module	
(1) Mounting Adapter plate	
(2) Mounting Screws	

75F® HyperLite

MECHANICAL

Dimensions	6.5" x 4.5" x 1.15" (165mm x 115mm x 29 mm)
Mounting	(2) screws in drywall
Screen	2.8" 240x320 pixel TFT LCD
Operating Range	-4°F to 122°F (-20°C to 50°C)

SENSORS

Temperature	Operating range between -4°F to 122°F (-20°C to 50°C); typical accuracy of +/- 1°F or 0.2°C
Humidity	Operating range between 20 to 85% noncondensing; Typical accuracy of +/- 2% RH
Dedicated CO_2 Sensor	Range 0-40'000 ppm; Accuracy +/-30ppm over range of 400-10,000ppm and lifetime of 15 years
Light	Ambient light sensor; high-accuracy UV index sensor; matches erythemal curve; < 100 mix resolution
Sound	40-120dB response for 100 Hz to 10Khz
Occupancy	Passive Infra Red (PIR) with detection range of 4m with 30-degree angle

OPTIONAL SENSORS

PM2.5, PM10	Detection range of 0-1000ug/m3 and accuracy of +/-10ug/m3 (PM2.5, 0-100 ug/m3) or +/- 25ug/m3 (PM10, 0-100ug/m3)
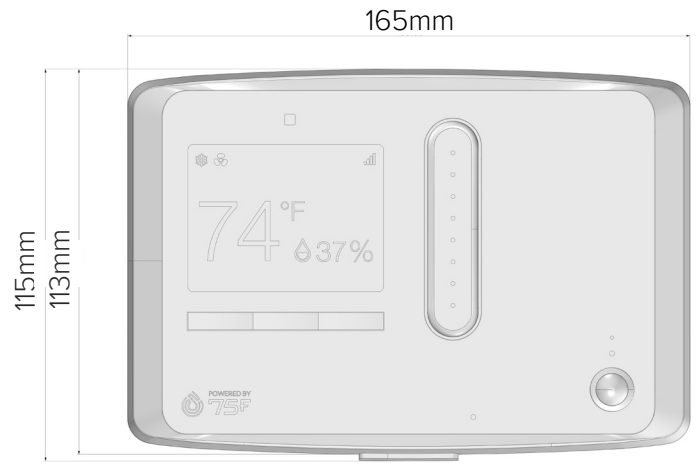
ELECTRICAL

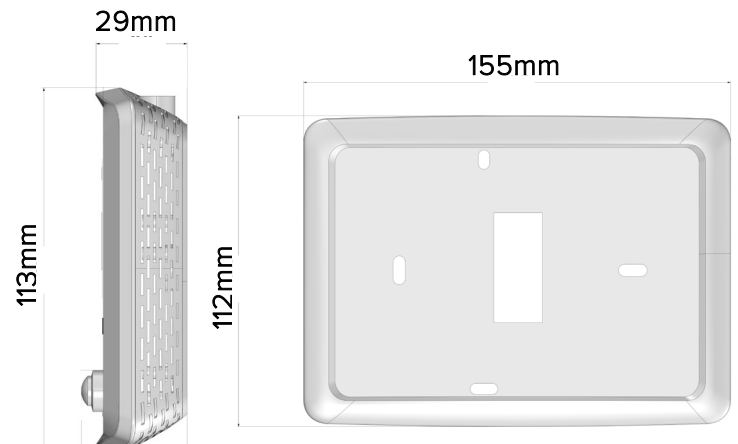|	
Power	24V AC/DC (+/-15%) with nominal power consumption 1.0W and maximum consumption of 2.5W

COMMUNICATIONS

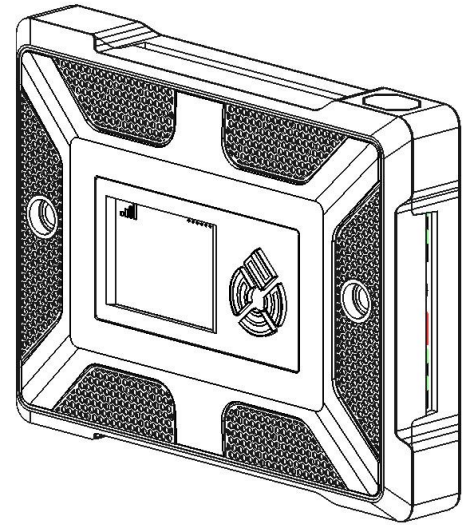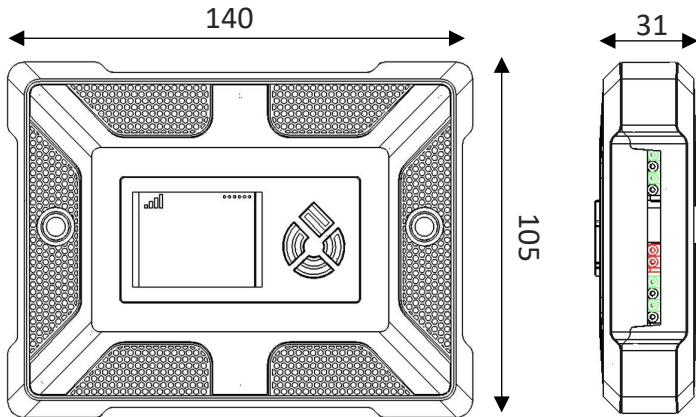|	
Bluetooth	BLE4.1; used during commissioning
Mesh	900 MHz IEEE 802.15.4-compliant; used for device communication on mesh network
Wired	4 wire RS-485 interface 3 wire connector for low-power sensor bus

75F® Connect Module

MECHANICAL

Dimensions	5.5" x 4.13" x 1.22" (140 mm x 105 mm x 31mm)
Mounting	Wall
Screen	TFT LCD, 1.77", 128(RGB)* 160 Pixels

COMMUNICATIONS

Bluetooth	Bluetooth – Available for future use.
Wired	• Modbus RTU / BACnet over RS485 communication • Sensor bus • Power over RS485 to enable communication with the HyperLite and power the unit over standard thermostat wires. • Dedicated Modbus/BACnet MSTP ports to interface with 3rd party BMS devices.

I/O

Inputs	A. (8) Universal inputs. B. (1) Sensor Bus
Outputs	C. (4) 0-10V dc or 4-20mA analog outputs D. (8) relays rated at 1A, 120V ac or 24 V ac/dc resistive load

ELECTRICAL

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