

Andover Continuum™ Infinet II

i2865/866/885-V VAV

Controllers with Built-in Actuator

The i2865-V, i2866-V, and i2885-V are unique, low-cost VAV box controllers that come equipped with a built-in actuator to streamline hardware installation and save commissioning time.



Andover Continuum Infinet II i2865/866/885-V VAV Controllers with Built-in Actuator Features



Universal inputs, an airflow sensor, Form A triac-based outputs, and an integrated damper actuator make these controllers perfect for VAV applications.

The i2865/866-V models feature a room sensor input, which supports an Andover Continuum Smart Sensor, or any standard room temperature sensor.

	i2865-V	i2866-V	i2885-V
Universal Inputs	4	4	2
Airflow Sensor	Yes	Yes	Yes
Smart Sensor Input	Yes	Yes	No
Form A Triac Outputs	3	3	2
Analog Outputs	-	2	-
Integrated Actuator	Yes	Yes	Yes
Service Port	Yes	Yes	Yes
Wireless Option	Yes	Yes	Yes



PRODUCT AT A GLANCE

- Low-cost VAV control in compact package
- Built-in damper actuator simplifies hardware installation
- Universal inputs with Form A, Form K, and analog outputs for flexible control options
- Non-volatile flash memory stores both application program and operating system
- Easy on-line software updates
- On-board airflow sensor
- Optional Andover Continuum Smart Sensor Display
- Local on-board service port
- Support for Wireless Andover Continuum Infinet II Field Bus communications



- The i2865-V is the base model with four universal inputs, an airflow sensor, three Form A triac-based outputs, and an integrated damper actuator.
- The i2866-V model is identical to the i2865-V, with the exception that it also offers damper position feedback and two analog outputs to control reheat valves, lighting ballasts, etc.
- The i2885-V has a reduced I/O point count for smaller VAV applications.
- All VAV models feature Flash memory, user memory for programs and a fast (32-bit) processor for faster can times, with plenty of additional memory available for data logging of your critical data.

The i2865/866-V VAV controllers communicate with the entire Andover Andover Continuum Infinet RS-485 field bus (i.e. both Andover Continuum Infinet and Andover Continuum Infinet II controllers) and are compatible with both the Andover Continuum CyberStation and Infinity SX 8000 front ends. The i2885-V VAV controllers are compatible with the Andover Continuum CyberStation front end (v1.5 and higher). Up to 254 Infinet devices can be networked to any Andover Continuum network controller.

Andover Continuum Infinet II i2865/866/885-V VAV Controllers with Built-in Actuator Features (continued)

Increased Reliability with Flash Memory

The i2865/866/885-V controller's non-volatile Flash memory stores your operating system and application programs, so that in the event of a power loss, your application is restored when power is returned. In addition, the Flash memory allows for easy upgrades of your operating system via software downloads, eliminating the need to swap out memory chips. Each controller, except the i2885-V, includes an on-board battery to safeguard your runtime data — protecting all point data and log data from being lost if power is removed.

Optional Wireless Andover Continuum Infinet

The i2865/866/885-V Andover Continuum Infinet controllers can also communicate using a wireless mesh network. Simply plug Andover Continuum Wireless Adapters into the service ports of these controllers with wireless compatible firmware to create a wireless mesh network that sends and receives Infinet messages.

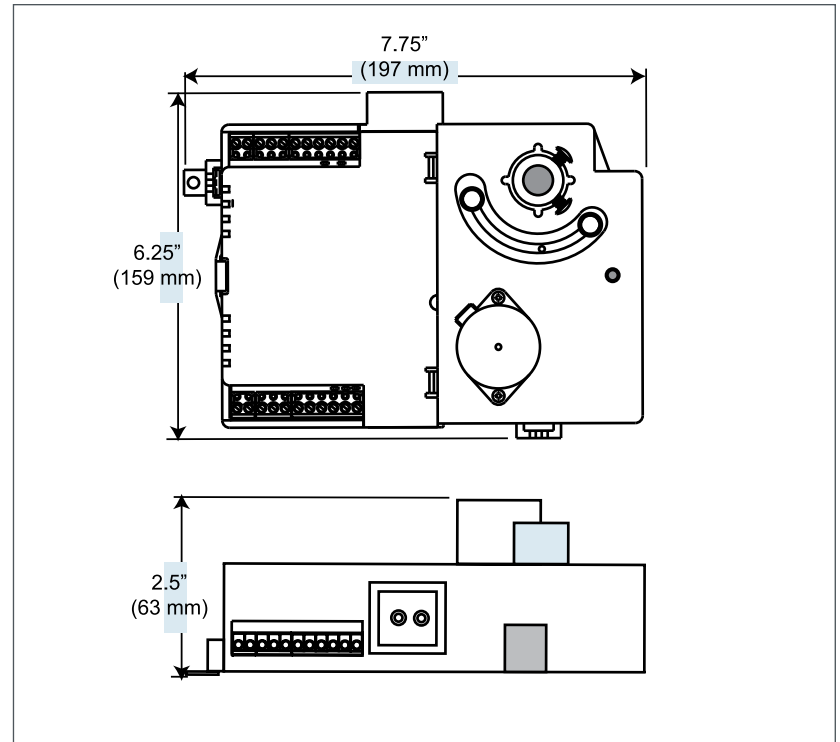
Inputs

The input configuration on the i2865/866-V controllers consist of four full-range Universal inputs that accept voltage (0-5VDC), digital (on/off), counter signals (up to 4Hz), or temperature signals, plus an on-board air flow sensor. The i2885-V controller consists of two full-range Universal inputs. The i2865/866-V models also offer an additional input to support the Andover Continuum Smart Sensor, or any standard room temperature sensor.

Outputs

The i2865/866-V controllers contain three Form A Triac-based outputs. The i2885-V controllers contains two Form A Triac-based outputs. These outputs can be used separately for on/off or pulsed control of lighting, heat, and fan units or for bi-directional control of dampers and valves; or configured into one Form K Tri-state output and one Form A output. (Note: Any two consecutive Triac outputs can be configured as a Form K output.) Outputs are rated for AC loads only. The i2866-V controller also offers two (0-10V) analog outputs.

Dimensional Drawing



Andover Continuum Infinet II i2865/866/885-V VAV Controllers with Built-in Actuator Features (continued)

Damper Actuator

The integrated damper actuator allows simple direct mounting of the controller directly over the existing damper shaft. This eliminates the need for separate mounting, wiring, and positioning of the damper motor. Also, the actuator has a built-in clutch button to temporarily disengage the direct-drive gears during commissioning. The controller's actuator may be preset for a limited range of motion using the mechanical "stops" provided.

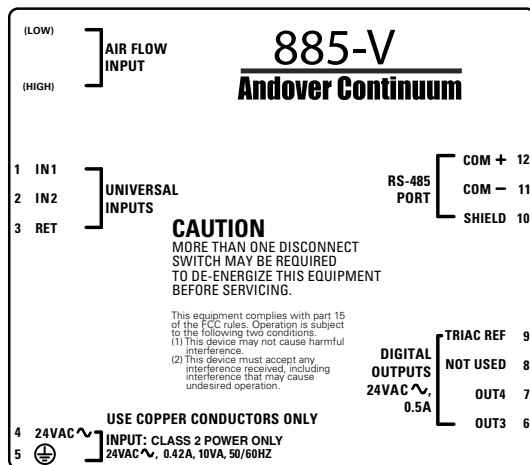
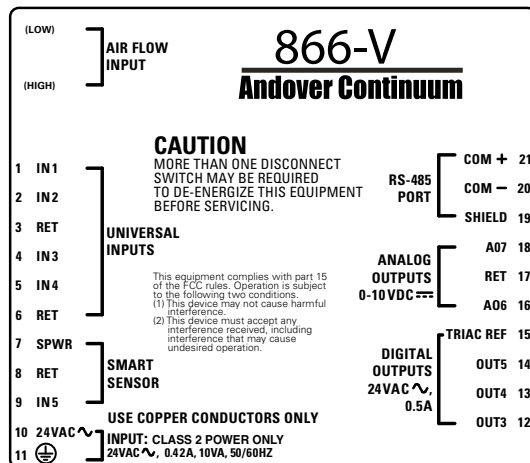
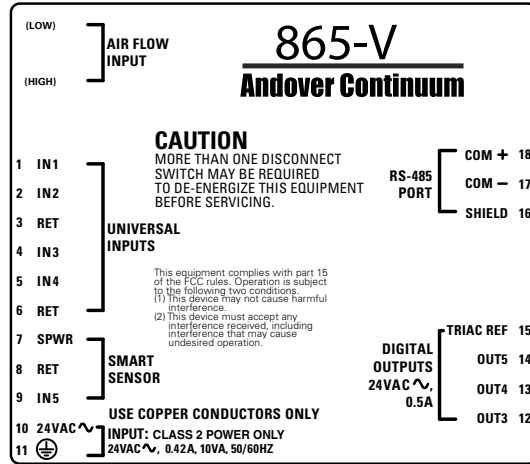
Software Capabilities

The dynamic memory of the controllers can be allocated for any combination of programs, scheduling, alarming, and data logging using the powerful Andover Plain English programming language. Our object-oriented Plain English language with intuitive keywords provides an easy method to tailor the controller to meet your exact requirements. Programs are entered into the controllers using the Andover Continuum CyberStation application. Programs are then stored and executed by the controller. Programming multiple controllers is inherently easy with Plain English. A complete copy of one i2865/866/885-V's programs can be loaded directly into other i2865/866/885-Vs without changing any point names or programs.

Smart Sensor Interface

The i2865/866-V controllers provide a built-in connection for Andover Continuum Smart Sensor. The Smart Sensor provides a two-character LED display and a six-button programmable keypad that enables operators and occupants to change setpoints, balance VAV boxes, monitor occupancy status, and turn equipment on and off. An enhanced version of the Smart Sensor is also available with a four-digit custom LCD that provides the following icons: PM, %, °, Setpoint, Cool, Heat, CFM, Fan, OA, and SP.

Connection Labels



Andover Continuum Infinet II i2865/866/885-V VAV Controllers with Built-in Actuator Specifications

i2865/866/885-V Controller

Electrical

Power

24 VAC, +10%-15%, 50/60 Hz,
Class 2 Limited Power

Power Consumption

Less than 10 VA

Overload Protection

Fused, MOV protected

Mechanical

Operation Environment

32° to 122°F (0-50°C),
10 - 90% RH (non-condensing)

Dimensions

7.75" W x 6.25" L x 2.5" H
(197 mm W x 159 mm L x 63 mm H)

Weight

2.30 lbs (1.04 kg)

Battery

Battery Backup

Replaceable, rechargeable battery.
Provides 30 days typical accumulated
power failure backup of RAM memory.
All data stored in Flash on power loss.

Communications

RS-485 port for implementing Andover Continuum Andover Continuum Infinet II connection, including:

Three-position removable screw terminal
Standard service port,
four-position shrouded connector
LEDs:

TD = Transmit Enable

RD = Received Data

Wired/Wireless Field Bus

RS-485 port for implementing Wireless Andover Continuum Infinet II connection, including:

Standard service port,
four-position shrouded connector

User LEDs

Status Indicator LEDs

CPU CPU Active
Yellow = Infinet II

Damper Shaft Mounting Screws

Torque Minimum

Varies according to shaft material

Torque Maximum

30 inch-pounds (3.4 Nm)

Hex Screws

10-32 (with supplied hex wrench)

Airflow Input

Range

0 to 1" W.C. (0-250 Pa)

Resolution

0.0013" W.C. (0.33Pa) @ 73°F (23°C)

Accuracy

+ 0.05" W.C. (12.50 Pa) @ 73°F (23°C)

Damper Actuator Motor

Shaft Diameter

1/2" (with a 3/8" adapter)
12.6 mm (with a 9.45 mm adapter)

Shaft Torque

53 inch-pounds (5.989 Nm)

Damper Speed

180 sec. @ 60 Hz and
216 sec @ 50 Hz: for 90°
adjustable end limits with two set screws

Motor

Type: 24 VAC synchronous
Motor Protection: Mechanical clutch
Manual clutch override with a
push-button release
Hardware position feedback
(model i2866-V only)

Universal Inputs

Connections

Model i2865 -V:
Four inputs and two returns
Model i2866-V:
Four inputs and two returns
Model i2885-V: Two inputs and one return

Input Voltage Range

0 to 5.115 VDC

Input Impedance

10K ohm to 5.120 V

Input Voltage Resolution

5.0 mV

Digital Resolution

10 bits

Input Voltage Accuracy

+ 15m V

Temperature Range

-30° to 230°F (-34° to 110°C)

Temperature Accuracy

+ 1° F from -10° to 150°F
(+ 0.56°C from -23° to +66°C)

Counter Frequency

4 Hz @ 50% duty cycle

Input Protection

+ 1000 V transients

Input Filter

16 Hz with one pole RC filter

Connector

Removable, 5 mm screw terminal

Andover Continuum Infinet II i2865/866/885-V VAV Controllers with Built-in Actuator Specifications (continued)



i2865/866/885-V Controller

Smart Sensor Interface

Connections

Model i2865-V: One input, SPWR, and return

Model i2866-V: One input, SPWR, and return

Model i2885-V: Not available

Digital Outputs

Connections

Model i2865-V:

Three triac outputs and one reference

Model i2866-V:

Three triac outputs and one reference

Model i2885-V: Two triac outputs and one reference

SPST Accuracy

0.1 second for pulse width modulation

Contact Ratings

0.5 A Maximum, 24 VAC

Connector

Removable, 5mm screw terminal

Analog Outputs

Connections

Model i2865 : Not available

Model i2866:

Two analog outputs and one return

Model i2885: Not available

Analog Output Channels Required

Two, voltage only

Voltage Output Range

0 - 10 V

Output Source Current

5 mA Maximum

Voltage Output Load

2K ohm Minimum Impedance

Voltage Output Resolution

50 mV

Digital Resolution

8 bits

Output Voltage Accuracy

100 mV

Connector

Removable, 5mm screw terminal

Agency Listings

FCC Rules and Regulations CFR 47, Part 15, Class A, ICES-003, AS/NZS 3548, European Union (EU) Directive 2002/96/EC

Models

i2865-V

Infinet II 865-V VAV Controller

i2866-V

Infinet II 866-V VAV Controller

i2885-V

Infinet II 885-V VAV Controller

i2865-V-WL

Wireless Infinet II 865-V VAV Controller

i2866-V-WL

Wireless Infinet II 866-V VAV Controller

i2885-V-WL

Wireless Infinet II 885-V VAV Controller

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