The i2810 Series controllers are designed for control of Air Handling Units, Roof Top Units, and other mechanical plant equipment.
Andover Continuum Infinet II
i2810 Series Local Controllers

Features

Choose the i2810 model with the configuration that matches your application:

• The **i2810**, designed for stand-alone equipment control of Roof Top Units, Air Handling Units, or other packaged mechanical equipment, features eight universal inputs, one Smart Sensor/Room Sensor input, plus eight program-controlled digital outputs.

• The **i2814**, designed for stand-alone equipment control of Roof Top or Air Handling Units, features eight universal inputs, one Smart Sensor/Room Sensor input, plus four program-controlled digital outputs and four analog outputs for direct control of devices requiring 0-10 volt control signals.

Note: The i2814 is only compatible with Andover Continuum.

Both models feature an additional room sensor input, which supports Andover Continuum Smart Sensor, or any standard room temperature sensor. The i2810 Series also features universal inputs, a real-time clock, override switches on all outputs, two-piece removable connectors, and the ability to expand the I/O for additional points.

The i2810 Series features Flash memory, increased user memory, and a fast (32-bit) processor for faster scan times, with plenty of memory available for data logging of your critical data.

The i2810 communicates with the entire Andover Continuum Infinet RS-485 field bus (i.e. both Andover Infinet and Andover Infinet II controllers) and is compatible with both the Andover Continuum CyberStation and Infinity SX 8000 front-ends. The i2814 is only compatible with Andover Continuum. Up to 254 Andover Continuum Infinet devices can be networked to any Andover Continuum network controller.
Increased Reliability with Flash Memory
The i2810’s non-volatile Flash memory stores your operating system and application programs, so that in the event of a power loss, your application will be 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 proms.

The i2810 controllers include an on-board battery to safeguard your runtime data — protecting all point data and log data from being lost if power is removed.

Inputs
The input configuration on the i2810 Series consists of eight full range, 12-bit universal inputs that accept voltage (0-10VDC), digital (on/off), counter signals (up to 4Hz), temperature signals, or supervised alarm circuits for security applications or broken wire detection. The i2810 Series offers an additional input to support the Andover Continuum Smart Sensor, or any standard room temperature sensor.

Outputs
The i2810 contains eight Form C relay outputs, each rated for 24 VAC/30 VDC, 3 amp, while the i2814 contains four Form C relay outputs and four analog outputs (0-10V). Both the relay and analog outputs have manual override switches, with software feedback of the switch position.

I/O Expansion
The i2810 contains an I/O expansion port for the addition of up to two Andover Continuum xP expansion modules directly on the bottom of the controller. The xP family of modules includes the xPUI4, xPDI8, xPDO2, xPDO4, xPAO2, and xPAO4. In addition to two input/output modules, the I/O bus supports the xP Local Display Module, which allows the user to view and change point values.
### Software Capabilities

The dynamic memory of the i2810 can be allocated for any combination of programs, scheduling, alarming, and data logging using the powerful Andover Continuum 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 i2810 using the Andover Continuum CyberStation. Programs are then stored and executed by the i2810 controllers.

Programming multiple i2810 Series controllers is inherently easy with Plain English. A complete copy of one i2810 controller’s programs can be loaded directly into other i2810 controllers without changing any point names or programs.

### Smart Sensor Interface

The i2810 provides a built-in connection for Andover Continuum Smart Sensor. The Smart Sensor provides a 2-character LED display and a 6-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 4-digit custom LCD that provides the following icons: PM, %, °, Setpoint, Cool, Heat, CFM, Fan, OA, and SP.

### Local Display

The local display with keypad (xP-Display) allows for the addition of a fully programmable local display module that can be mounted within 10 feet (3 meters) of the controller. Connected via a ribbon cable, the xP-Display easily allows the Operator Interface to be mounted on the door of an enclosure or on a wall below or next to the controller.

### Optional Wireless Andover Continuum Infinet

The i2810 Series 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 Andover Continuum Infinet messages.
## i2810 Series Local Controllers

### Electrical

**Power**
24VAC, 12-24VDC - auto sensing, +10% -15%, 50/60 Hz

**Power Consumption**
30 VA

**Overload Protection**
Fused with 3 amp fuse. MOV protected

**Real-Time Clock**
Battery-backed real-time clock

### Mechanical

**Operating Environment**
32°–120°F (0–49°C), 10–95% RH (non-condensing)

**Size**
9.51˝ H x 7.26˝ W x 2.14˝ D (241 H x 184 W x 54 D) mm

**Weight**
1.65 lbs. (0.75 kg)

**Enclosure Type**
UL Open class, IP 10.

**Flammability rating of UL94-5V**

**Mounting**
Panel mount

**Battery**

**Battery Backup**
Replaceable, non-rechargeable, lithium battery. Provides 5 years typical accumulated power failure backup of RAM memory

### Communications

**Communications Interface**
Through Andover Andover Continuum Infinet RS-485 field bus to network controller

**Communications Speed**
1200 to 19.2K baud

**Bus Length**
4,000 ft. (1,220m) standard for Andover Continuum Infinet, i2 Infilink module allows extension to longer distances and is required after every group of 32 units on the network.

**Bus Media**
Andover Continuum Infinet: twisted, shielded pair, low capacitance cable RS-485 port for implementing Wireless Infinet II connection, including:
Standard service port, four-position shrouded connector Comm. Error Checking International Standard CRC 16

**Compatibility**
Andover Continuum Cyberstation and Infinity SX 8000 systems

Note: The i2814 is compatible with Andover Continuum software version 1.5 (or later).

### Inputs/Outputs

**Inputs**
8 Universal inputs: Voltage (0-10 VDC); Temperature -30°F to 230°F (-34°C to 110°C), Digital (on/off), Counter (up to 4Hz at 50% duty cycle, 125 ms min. pulse width), Supervised Alarm (single or double resistor).

Current input (0 - 20 mA) using external 500 ohm resistor

1 Smart Sensor Temperature Input (32°F to 105°F) (0°C to 41°C)

**Input Voltage Range**
0-10 volts DC

**Input Impedance**
30.1K ohm to 10V or 5M ohm with pull-up resistor disabled

**Input Resolution**
2.5 mV

**Input Accuracy**
±7.5mV (±0.25°C from -23°C to +54°C) or (±0.46°F from -10°F to +130°F)

**Digital Outputs**
8 single pole single throw (SPST) Form C relays (4 Form C on i2814)

(Any two consecutive Form C outputs can be configured as one Form K Tri-state)

**Output Rating**
Maximum 3A, 24VAC/30VDC,
±1500V transients (Tested according to EN61000-4-4)

**Output Accuracy**
0.1 sec. for pulse width modulation
Analog Outputs
4 analog outputs (i2814 only)

Output Rating
0-10V or 0-20mA
For 0-10V: 5mA maximum source, 1mA maximum sink
2K ohm minimum impedance (sourcing only), 750 ohm maximum
+/-1000V transients (Tested according to EN61000-4-4). Fuse-protected only
on the i2814.

Output Resolution
0.1V for 0-10V, 0.1mA for 0-20mA

Output Overrides
Each output is equipped with a manual override switch. Software feedback
of the switch position is provided, for display and alarming.

Expansion Bus
Interfaces to optional xP I/O
Expansion Modules

Connections
Power
3-position fixed screw terminal connector

Inputs
Removable two-piece terminal strip

Outputs
Removable two-piece terminal strip

Smart Sensor
Removable two-piece terminal strip

Communications
Removable 3-position terminal connector

Expansion Port
6-position shrouded connector

Service Port
4-position shrouded connector

User LEDs/Switches
Status Indicator LEDs
CPU CPU Active
TD Transmit Data
RD Receive Data
Output Output Status (per output) (Digital only)

EXPANSION PORT PWR Power Status

Switches
RESET

Input Pull-up Resistor Switch (per input)
Individual Output Override Switches

General
Memory
256K SRAM, 1MB FLASH

Processor
Motorola 32-Bit Coldfire

Agency Listings
UL/CUL 916, FCC CFR 47 Part 15,
ICES-003, EN55022, ASIN2S 3548,
Class A, CE

Models
i2810
Infinit II i2810 Local Controller

i2810-WL
Wireless Infinit II i2810 Local Controller

i2814
Infinit II i2814 Local Controller

i2814-WL
Wireless Infinit II i2814 Local Controller

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