



- Powerful, Flexible Local Controller for the Most Demanding Applications
- Expandable I/O Meets Additional Point Count Needs
- Non-Volatile Flash Memory Provides Utmost Reliability — Stores Both Application Program and Operating System
- Optional Display/Keypad Provides Easy Operator Interface (Mounted Separately)
- Local, Extended Storage of Log Data
- View and Modify Information with Optional Smart Sensor Display
- Local, On-Board Service Port

INFINET II

i2810 Series Local Controllers

The i2810 Series controllers are designed for control of Air Handling Units, Roof Top Units, and other mechanical plant equipment. 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 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.

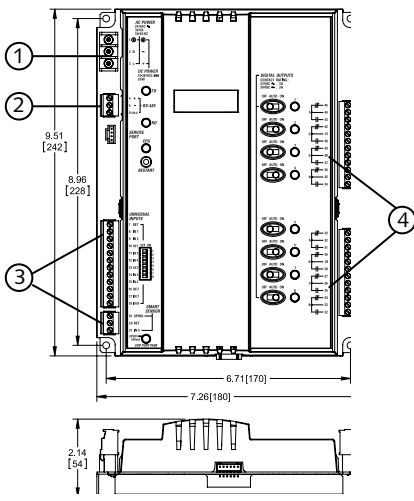
The i2810 communicates with the entire Andover Continuum Infinet RS-485 field bus (i.e. both Andover Infinet and Andover Infinet II controllers) and is compatible with both the Continuum CyberStation and Infinity SX 8000 front-ends. The i2814 is only compatible with Continuum. Up to 254 Andover Infinet 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.

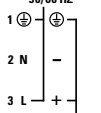
The i2810 controllers include an on-board battery to safeguard your runtime data — protecting all point data and log data from being lost if power is removed.



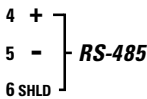


Dimensional Drawing

AC POWER
24 VAC ~
30 VA
50/60 HZ



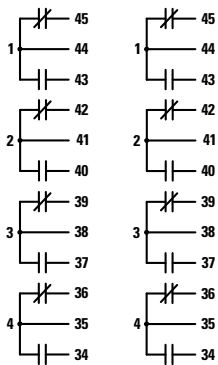
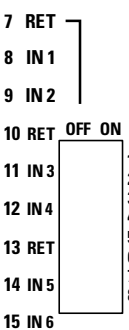
DC POWER
12-28 VDC ---
20W



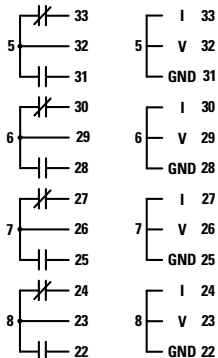
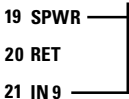
① Power Drawing

② Communication Drawing

UNIVERSAL INPUTS



SMART SENSOR



③ Smart Sensor and Inputs Drawing

④ i2810 i2814 Outputs Drawing

INPUTS

The input configuration on the i2810 Series consists of eight full range, 10-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 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 INFINET

The i2810 Series Inifinet 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 Inifinet messages.

SPECIFICATIONS

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 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 Infinet, i2 Infilink module
allows extension to longer distances
and is required after every group
of 32 units on the network.

Bus Media

Andover 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

Continuum Cyberstation and Infinity
SX 8000 systems

Note: The i2814 is compatible with
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). Cur-
rent 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

For 0-10V: 5mA maximum, 2K
ohm minimum impedance, ±1000V
transients (Tested according to
EN61000-4-4). Fuse-protected
only on the i2814

Output Resolution
0.1V for 0-10V

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
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Switches

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

SPECIFICATIONS

i2810 Series Local Controllers (continued)

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

Infinet II i2810 Local Controller

i2810-WL

Wireless Infinet II i2810 Local
Controller

i2814

Infinet II i2814 Local Controller

i2814-WL

Wireless Infinet II i2814 Local
Controller

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