INFINET II

i2800 Series Local Controllers

The i2800 series are designed for control of small Air Handling Units, Unit/Roof Top, and other mechanical plant equipment. Choose the i2800 series controller with the configuration that matches your application:

- The **i2800,** designed for stand-alone equipment control of Roof Top or Air Handling Units, features eight Universal Inputs, one Smart Sensor/Room Sensor input, plus eight program-controlled Digital Outputs.

- The **i2804**, 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 i2804 is compatible with *Continuum* (only).

Both models feature an additional room sensor input, which supports Andover's *Smart Sensor*, or any standard room temperature sensor.

The i2800 series also 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 i2800 communicates with the entire Andover Controls Infinet™ RS-485 field bus; i.e., both Infinet and Infinet II controllers, and is compatible with both the *Continuum* CyberStation and *Infinity* SX 8000 front-ends. Up to 254 Infinet devices can be networked to any Andover network controller.

INCREASED RELIABILITY WITH FLASH MEMORY

The i2800'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 i2800 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.

- **Powerful, Flexible Local Controller for the Most Demanding Applications**

- **Non-Volatile Flash Memory Provides Utmost Reliability — Stores Both Application Program and Operating System**

- **Local, Extended Storage of Log Data**

- **View and Modify Information with Optional *Smart Sensor* Display**

- **Local, On-Board Service Port**

AndoverControls
WE'RE BUILDING SMART

INPUTS

The input configuration on the i2800 series consists of eight full range, 10-bit Universal inputs that accept voltage (0-5VDC), digital (on/off), counter signals (up to 4Hz), temperature signals, or supervised alarm circuits for security applications or broken wire detection. The i2800 series offers an additional input to support the Andover *Smart Sensor*, or any standard room temperature sensor.

OUTPUTS

The i2800 contains eight Form C relay outputs, each rated for 24 VAC/VDC, 3 amp, while the i2804 contains four Form C relay outputs and four analog outputs (0-10V, 4-20mA).
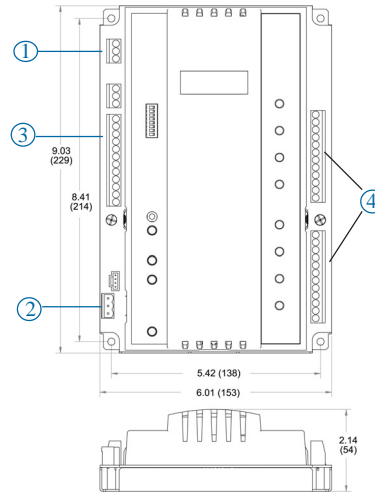
SOFTWARE CAPABILITIES

The dynamic memory of the i2800 can be allocated for any combination of programs, scheduling, alarming, and data logging using the powerful Andover Controls *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 i2800 using the *Continuum* CyberStation®. Programs are then stored and executed by the i2800 controllers.
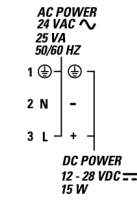
Programming multiple i2800 series controllers is inherently easy with *Plain English*. A complete copy of one i2800's programs can be loaded directly into other i2800s without changing any point names or programs.
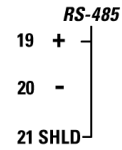
SMART SENSOR INTERFACE

The i2800 provides a built-in connection for Andover's *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.
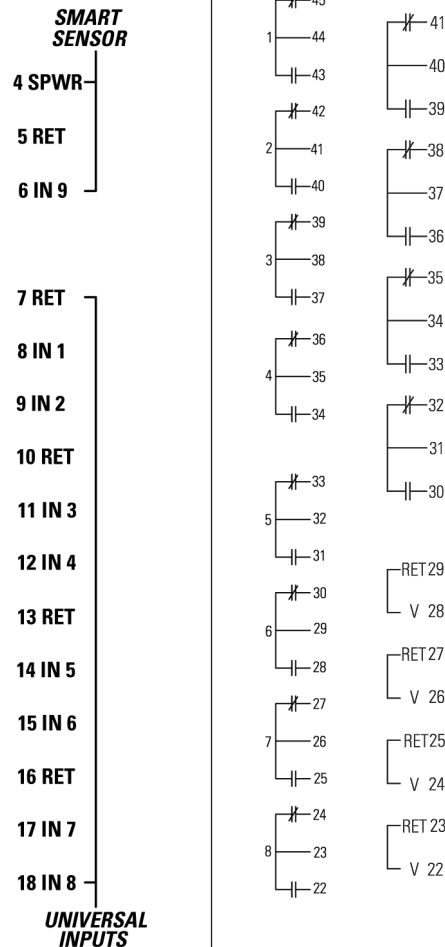
Dimensional Drawing

① Power Drawing

② Communications Drawing

③ Inputs/Smart Sensor Drawing

④ Outputs Drawings

ELECTRICAL

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

Power Consumption: 25 VA

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

Software Real-Time Clock: Synchronized through Infinet by network controller

MECHANICAL

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

Size: 9.03"H x 6.01"W x 2.14"D (229 H x 153 W x 54 D) mm

Weight: 1.34 lbs. (0.61 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 Infinet RS-485 field bus to network controller

Communications Speed: 1200 to 19.2K baud

Bus Length: 4,000 ft. (1,220m) standard for Infinet, I2 Infilink module allows extension to longer distances and is required after every group of 32 units on the network.

Bus Media: Infinet: twisted, shielded pair, low capacitance cable

Comm. Error Checking: International Standard CRC 16

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

Note: The i2804 is compatible with *Continuum* (only).

INPUTS/OUTPUTS

Inputs: 8 Universal inputs: Voltage (0-5.115 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 250 ohm resistor
1 *Smart Sensor* Temperature Input (32°F to 105°F) (0°C to 41°C)

Input Voltage Range: 0-5.115 volts DC

Input Impedance: 10K ohm to 5.120V or 5M ohm with pull-up resistor disabled

Input Resolution: 5.0 mV

Input Accuracy: ±15mV (±0.56°C from -23°C to +66°C or ±1°F from -10°F to +150°F)

INPUTS/OUTPUTS (CONTINUED)

Digital Outputs: 8 single pole single throw (SPST) Form C relays (4 Form C on i2804)
(Any two consecutive Form C outputs can be configured as one Form K Tri-state)

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

Output Accuracy: 0.1 sec. for pulse width modulation

Analog Outputs: 4 analog outputs (i2804 only)

Output Rating: 0-10 VDC

Output Resolution: 0.1V for 0-10V

CONNECTIONS

Power: 3-position fixed screw terminal connector

Inputs: 12-position fixed screw terminal connector

Outputs: i2800: 2- 12-position fixed screw terminal connector
i2804: 1-12-position fixed screw terminal connector and 1- 8-position fixed screw terminal connector

Smart Sensor: 3-position fixed screw terminal connector

Communications: 3-position removable screw terminal 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) (Digitals only)

Switches:
RESET
Input Pull-up Resistor Switch (per input)

GENERAL

Memory: 128K SRAM, 1MB FLASH

Processor: Motorola 32-bit Coldfire

Note: i2804 REQUIRES *Continuum* V1.5 version (or later) of software

AGENCY LISTINGS

UL/CUL 916, FCC CFR 47 Part 15, ICES-003, EN55022, AS/NZS 3548, Class A, CE

CE c(UL)us LISTED 58B2
OPEN ENERGY MANAGEMENT EQUIPMENT

OPTIONS

UL864, Smoke Control System Equipment, UUKL (i2800-S, i2804-S)

Andover Controls Corp.
World Headquarters
300 Brickstone Square
Andover, Massachusetts 01810 USA
Tel: +1 978 470 0555 Fax: +1 978 470 0946

Andover Controls Europe
Smisby Road
Ashby-de-la-Zouch
Leicestershire LE65 2UG England
Tel: +44 1530 417733
Fax: +44 1530 415436

Andover Controls Germany
Am Seerhein 8
D-78467 Konstanz
Germany
Tel: +49 7531 99370
Fax: +49 7531 993710

Andover Controls France
Immeuble Dolomites 2
58 Rue Roger Salengro
94126 Fontenay Sous Bois
France
Tel: +33 1 53 99 16 16
Fax: +33 1 53 99 16 15

Andover Controls Poland
Radzikowskiego 56
31-315 Krakow
Poland
Tel: +48 126385500
Fax: +48 126385501

Andover Controls Asia
Unit 1201-02, Phase 1, Cheuk Nang Centre
9 Hillwood Road,
Tsim Sha Tsui East
Kowloon, Hong Kong
Tel: +852 2739 5497
Fax: +852 2739 7350

Andover Controls Mexico
Insurgentes Sur 1722-501
Col. Florida
Mexico D.F. 01030, Mexico
Tel: +5255 5661 5672
Fax: +5255 5661 5415

www.andovercontrols.com

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