

Infinity

LCX 810 Local Control Unit

The *Infinity* LCX 810 is a stand-alone, programmable, microprocessor-based controller that is used for Direct Digital Control and monitoring of packaged HVAC units, heat pumps, and fan coil units. The Inifinet's true peer-to-peer communications protocol provides the *Infinity* LCX 810 with the ability to instantly communicate with an *Infinity* network controller such as the CX 9200, as well as the entire network of Andover Inifinet field controllers. Up to 254 LCX 810s can be networked with the *Infinity* CX family of controllers.

The LCX 810 comes standard in a molded plastic enclosure suitable for panel mounting (shown). An optional metal enclosure is available for wall mounting.

COMMUNICATIONS

Communication to the *Infinity* LCX 810 is handled via the Inifinet bus, a twisted pair, half duplex RS-485 interface. Communication is accomplished with a token passing protocol which provides full transparent data transfer between all *Infinity* controllers on the network.

INPUTS

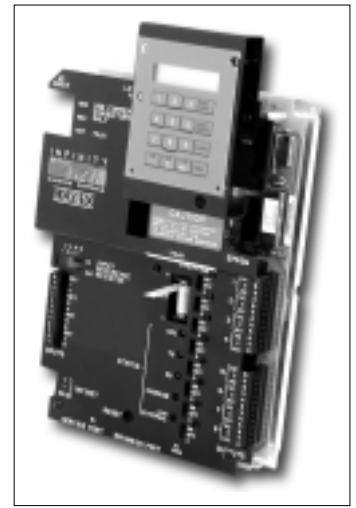
The *Infinity* LCX 810 is capable of sensing eight inputs. Each input can accept a digital (on/off), counter (up to 4 Hz), voltage (0-10VDC), or temperature signal.

OUTPUTS

The *Infinity* LCX 810 has eight Form C relay outputs rated at 5 amp 24VAC/DC, which provide on/off or pulse width modulation switching for control of fans, heating and cooling equipment, and economizers. Each output has a built-in switch for manual override.

I/O EXPANSION

The LCX 810 contains an I/O expansion port for the addition of low-cost I/O modules directly onto the bottom of the controller. The family of modules includes the EMX 140 (two pneumatic outputs), the EMX 150 (two analog outputs), and the EMX 160 (eight digital inputs), etc.



FEATURES

- **Stand-alone DDC for System Reliability**
- **Peer-to-Peer Communications Provide Transparent Data Transfer**
- **Plain English™ Language Simplifies Programming**
- **Universal Inputs for Flexible Control Configurations**
- **Form C Outputs Provide On/Off or Pulse Width Modulation Switching**
- **Expandable I/O Meets Additional Point Count Needs**
- **Detachable Input/Output Connectors for Easy Installation**
- **Full Function Manual Overrides Provide Status Feedback**
- **Optional Display/Keypad for Local Information Control**
- **Battery Backup For Seven Years Accumulated Power Failure of RAM Memory and Real-Time Clock**

PROGRAMMING

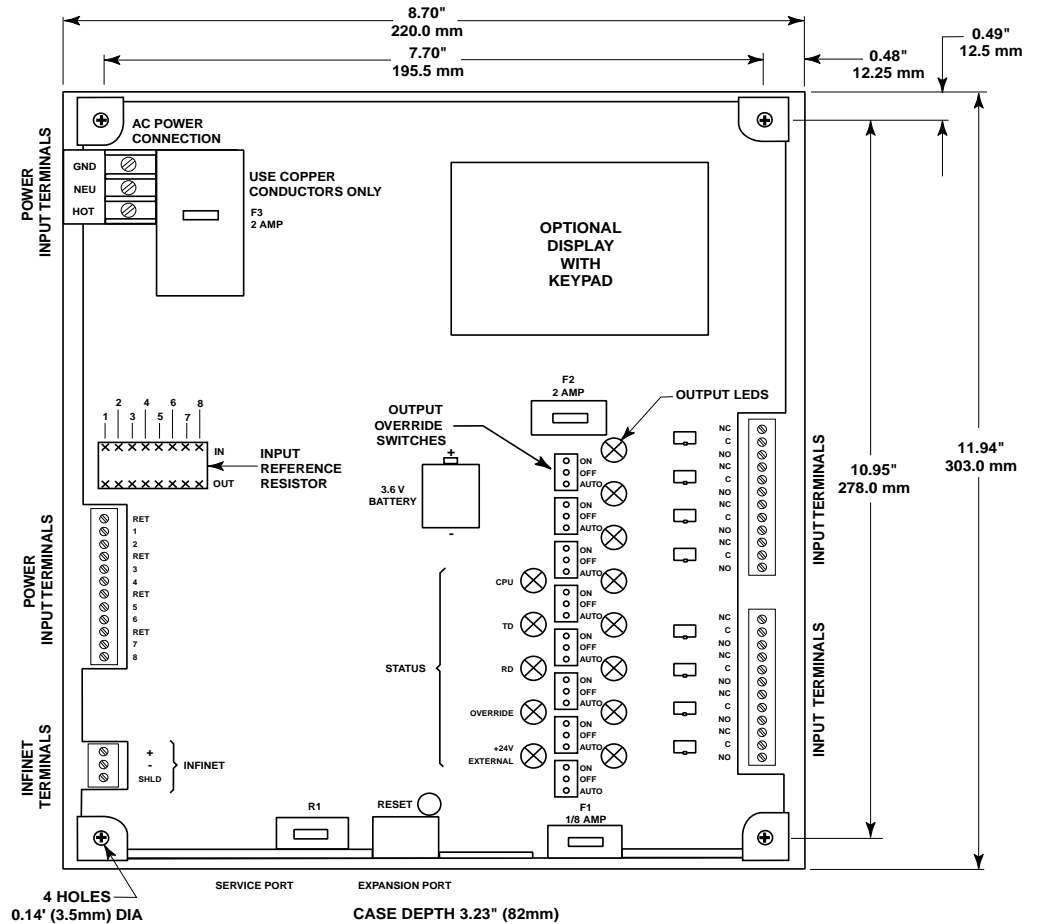
Every LCX 810 can be configured to meet the exact distributed control requirements of your application using Andover Controls' powerful *Plain English*™ programming language. Programs can be activated within individual LCX 810s or any network controller. Programs are entered into an LCX 810 using an SX 8000 workstation, the LSX 280 Lap-Top Service Tool, or network controller. The program is then stored in, and executed by, the LCX 810.

SOFTWARE CAPABILITIES

The dynamic memory of the LCX 810 can be allocated for any combination of *Plain English* control programs, scheduling, alarming and data logging. Andover's object-oriented language with intuitive keywords provides easy operation and programming. In addition, *Plain English's* pre-defined and customized functions and powerful math capabilities reduce programming time for repetitive applications.

LOCAL DISPLAY WITH KEYPAD

An optional 2 x 16 character liquid crystal display provides for local viewing of point values and setpoint modifications in the LCX 810.



SPECIFICATIONS

ELECTRICAL

Power:	24 VAC, 50/60 Hz
Power Consumption:	18 VA
Overload Protection:	Fused with 2 amp pico fuse. MOV protected.
Real-Time Clock:	Battery-backed real-time clock.

MECHANICAL

Operating Environment:	-10 to 140°F (-23 to 60°C), 10 to 95% RH (non-condensing) 32 to 104°F (0 to 38°C) with display option
Size:	11 13/16"H x 8 9/16"W x 3 3/16"D (300.0H x 217.5W x 80.9D)mm (without enclosure)
	19"H x 15"W x 4 3/4"D (482.6H x 381.0W x 120.6D)mm (with enclosure)
Weight:	5.0 lbs. (2.3 kg) (without enclosure) 19.0 lbs. (8.6 kg) (with enclosure)
Enclosure Type:	UL open class, IP 10 Optional NEMA 1-style enclosure, UL flame retardancy #94-5V, IP 20

BATTERY

Battery Backup:	Replaceable, non-rechargeable, lithium battery. Provides 7 years typical accumulated power failure backup of RAM memory and real-time clock.
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COMMUNICATIONS

Communications Interface:	Through Infinet field bus to <i>Infinity CX</i> or CMX Network Controller or Lap-Top Service Tool.
Communications Speed:	300 to 19.2k baud
Bus Length:	4,000 ft. (1,220m) standard for Infinet, Infilink amplification module allows extension to longer distances and is required after every group of 32 units on the network.
Bus Media:	Infinet: twisted, shielded pair, approved, low capacitance cable

SPECIFICATIONS (Cont'd)

Comm. Error Checking: International Standard CRC 16

INPUTS/OUTPUTS

Inputs:	8 Universal inputs: digital (on/off), counter (up to 4 Hz at 50% duty cycle), temperature (-30 to +230½F) (-34 to 110°C), voltage (0 - 10VDC)
Input Voltage Range:	0 - 10 volts DC
Input Impedance:	10 meg ohms minimum with pull-up disabled
Input Protection:	24 VAC or 24 VDC indefinitely on any single channel, ± 1500 volt transients
Input Resolution:	2.5 mV
Input Accuracy:	±5 mV (± 0.46°F over range of -10 to +150½F) (± 0.26°C over range of -23 to +65°C)
Outputs:	8 single-pole double throw (SPDT) Form C relays
Output Ratings:	5A, 24 VAC, ± 1500 volt transients
Output Resolution:	0.1 sec. for pulse width modulation
Overrides:	Each output is equipped with an HOA switch for manual control of the output.
Expansion Bus:	Interfaces to optional I/O expansion modules

CONNECTIONS

Power:	Three-position barrier strip
Outputs:	Removable two-piece terminal strip
Inputs:	Removable two-piece terminal strip
Infinet Bus:	Removable two-piece terminal strip

GENERAL

Memory Size: 128K EPROM, 32K RAM, 128 Byte EEPROM

AGENCY LISTINGS UL/CUL 916, FCC, CE

OPTIONS

- 2 x 16 Character Liquid Crystal Local Display
 - NEMA 1-Style Enclosure (for Wall Mounting)
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**Andover Controls Corporation
World Headquarters**
300 Brickstone Square
Andover, Massachusetts 01810 USA
Tel: 978 470 0555 • Fax: 978 470 0946
<http://www.andovercontrols.com>

Andover Controls Ltd.
Smisby Road
Ashby-de-la-Zouch
Leicestershire LE65 2UG England
Tel: 01530 417733 • Fax: 01530 415436

Andover Controls GmbH
Am Seerhein 8
D-78467 Konstanz, Germany
Tel: 07531 99370 • Fax: 07531 993710

Andover Controls S.A.
Immeuble Dolomites 2
58 Rue Roger Salengro
94126 Fontenay Sous
Bois Cedex, France
Tel: 331 53 99 16 16 • Fax: 331 53 99 16 15

Andover Controls Asia
Unit 1201-02, Phase I,
Cheuk Nang Centre
9 Hillwood Road, Tsim Sha Tsui
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: 525 661 56 72 • Fax: 525 661 54 15

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