Andover Controls

Infinity

LCX 890, 891, 892, 898 Lighting Controllers

The *Infinity* LCX 890 series of Lighting Controllers provides unparalleled performance and flexibility in lighting control. Each controller switches up to 48 high voltage, 20-amp lighting circuits, using mechanically held latching relays. The LCX 890's wide selection of input points and powerful *Plain English*® programming language allow you to individually control each lighting circuit using an extensive range of lighting control strategies.

The LCX 890 is an intelligent, stand-alone *Infinity* controller that resides directly on the Infinet field bus. The Infinet is a peer-to-peer, token-passing, network that provides communications and full transparent data transfer between the LCX 890 and all *Infinity* controllers in the system. Up to 254 LCX 890s can be networked to each *Infinity* CX series controller.

OUTPUTS

Choose the LCX controller with the quantity and type of output relays to match your application. The LCX 890 contains 8 relays, the LCX 891 contains 16 relays, the LCX 892 contains 24 relays, and the LCX 898 contains 48 plug-in latching relays, rated for 27 VAC and 20 amps (347 VAC option for Canada). Two *types* of relays are available. The RR9 relay provides status feedback of the relay position, using a built-in pilot contact. The RR7 relay provides control of the circuit with no feedback. An on-board status LED for each output is provided when RR9 relays are used, as well as pilot light voltage for wall switches that have status indication.

The enclosure includes a separate compartment for the high voltage wiring. No other interface panels, multiplexors, or relays are needed to control the lighting circuits.

INPUTS

Up to 48 low voltage lighting control inputs are provided, one for each relay output. These inputs directly control the lighting relays, independent of any schedule or program. Wall switches, occupancy sensors, or a combination of both may be wired to these inputs.

FEATURES

- **48 High Voltage Lighting Relays for High Performance and Flexibility in Lighting Control**
- **Stand-Alone DDC for System Reliability**
- **Custom Lighting Control Strategies Using Andover's *Plain English*® Programming Language**
- **Direct Command Wall Switch and Occupancy Sensor Inputs Provide Override Capabilities**
- **Universal Inputs Monitor Photocells and Dimmers for Special Lighting Applications**
- **Replaceable Battery Provides Back-up for 7 Years Accumulated Power Failure of RAM and Real-Time Clock**

Twenty-four programmable inputs are also provided — 16 digital inputs (on/off) and 8 universal inputs (temperature, voltage, or digital). These inputs can be used to implement control strategies through *Plain English* programs. Dimmer switches, photocells, and other analog sensors can be tied into the universal inputs for special lighting applications.

PROGRAMMABLE INTERFACE INPUT

The LCX 890 series includes an input for the EMX 170 Programmable Interface, a low-cost user interface with an 8-character LCD display and 6 programmable push-buttons. An operator can use the EMX 170 for changing lighting schedules, turning on and off lighting circuits, and viewing the status of any input or output. Password protection can be added so that a pre-defined sequence of buttons must be pressed before items can be changed or viewed.

SOFTWARE CAPABILITIES

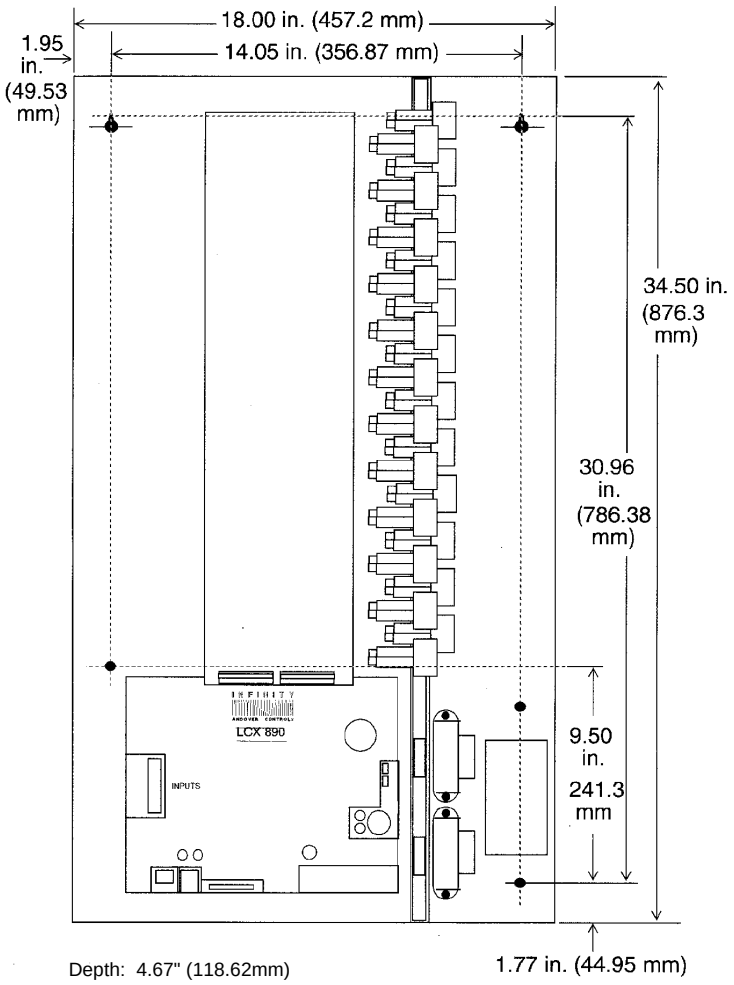
Plain English programming makes scheduling of lighting easy and understandable. The flexibility of *Plain English* goes beyond time-of-day and holiday schedules to incorporate more advanced strategies such as:

- Outdoor Lighting Control with a Photocell
- Daylight Control
- After-Hours Lighting Usage with Card Swipe Readers
- Adjustable Override Time with Flick Warning
- Cleaning Crew Override
- Data Logging and Reporting
- Run Time Analysis, including Accumulated On-Time and Percentage On-Time
- Tenant Billing Reports
- Custom Control Strategies

These programs can be easily modified to fit the exact needs of your project. SX 8000 workstation software enhances the operation of your lighting control system with dynamic color graphic displays and a mouse-driven user interface. It also includes pop-up calendar scheduling for 13 months in advance, extended billing reports, and global alarm annunciation.

PROGRAMMING

The LCX 890 can be configured to meet the exact requirements of your application, using Andover Controls' powerful *Plain English* programming language. Programs are entered into a LCX 890 using a SX workstation, the LSX 280 Lap-Top Service Tool, or from a dumb terminal connected to a CX or CMX series network controller. Programs are stored locally in the LCX 890. Power failures are not a problem, since all programs are stored in battery-backed RAM with up to 7 years of continuous protection.


18.00 in. (457.2 mm)
1.95 in. (49.53 mm)
14.05 in. (356.87 mm)
34.50 in. (876.3 mm)
30.96 in. (786.38 mm)
9.50 in. 241.3 mm
INFINITY
LCX 890
INPUTS
Depth: 4.67" (118.62mm)
1.77 in. (44.95 mm)

SPECIFICATIONS

ELECTRICAL

Power:	115/230/277 VAC, field selectable
Power Consumption:	120 VA
Overload Protection:	Fused with 2A, 500V fuse. MOV protected.
Real-Time Clock:	Battery-backed clock, synchronized through Infinet by CX series network controller.

MECHANICAL

Operating Environment:	32 to 120°F, (0 to 49°C) 10 to 95% RH (non-condensing)
Size	
LCX 890, 891, 892:	34 1/2"H x 18"W x 4 3/4"D (876.3 H x 457.2 W x 120.6 D)mm
LCX 898:	38 3/4"H x 27 1/2"W x 4 3/4"D (984.2 H x 698.5 W x 120.6 D)mm
Weight	
LCX 890, 891, 892:	38 Lbs. (17.2 kg) with no relays, 50 lbs. (22.7 kg) with relays.
LCX 898::	42 lbs. (19.1 kg) with no relays, 66 lbs (30.0 kg) with relays.
Enclosure Type:	NEMA 1-style metal enclosure, 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.

COMMUNICATIONS

Communications Interface:	Through *Infinity* CX or CMX Network Controllers or LSX 280 Lap-Top Service Tool.
Communications Speed:	1200 to 19.2 k baud
Bus Length:	4,000 feet (1,200m) standard for Infinet. InfiLink amplification module allows extension to longer distances.
Bus Media:	Infinet: twisted, shielded pair, approved low capacitance cable
Comm. Error Checking:	International Standard CRC 16

SPECIFICATIONS

INPUTS/OUTPUTS

Inputs:	8 (LCX 890, 16 (LCX 891), 24 (LCX 892) or 48 (LCX 898) Class II Low Voltage Inputs, providing direct control of lighting relays 16 Programmable Digital Inputs (On/Off) 8 Programmable Universal Inputs: Digital, Counter (up to 4 Hz at 50% duty cycle) Voltage (0-5.115 VDC, 10K impedance), or Temperature (-30 to 230°F)
Input Protection:	24 VAC/DC indefinitely on any single channel, ± 1500 volt transients
Input Resolution	
(Universal Inputs):	5 mV
Input Accuracy	
(Universal Inputs):	± 15 mV (± 1°F over range of -10 to 150°F)
Programmable Interface:	Screw terminal connection provided for EMX 170 Programmable Interface
Outputs:	8 Pulsed Output Lighting Control Relays (LCX 890), 16 in the LCX 891, 24 in the LCX 892, 48 in the LCX 898.
Output Relay:	RR7 or RR9, mechanically latched
Output Feedback:	RR9 relays have LED status indication and software feedback for relay status
Output Rating:	Lamp Load - 20 amps Tungsten Filament @125 VAC 20 amps Ballast @ 277 VAC (20 amps @ 347 VAC, Canada) Resistive Load - 20 amps @ 277 VAC (29 amps @ 347 VAC, Canada) Motor Load - 1/2 HP @ 110-125 VAC 1/2 HP @ 220-277 VAC (1/2 HP @ 347 VAC, Canada)
Pilot Contact Rating (RR9 only):	1 amp, 24 VAC, isolated

CONNECTIONS

Power:	Three-position barrier strip
Outputs:	Screw terminals
Prog. Universal Inputs:	Removable two-piece terminal strip
Prog. Digital Inputs:	Screw terminals

SPECIFICATIONS (Cont'd)

Direct Control Inputs:	Screw terminals
EMX 170 Prog. Interface:	Removable two-piece terminal strip
Infinet:	Removable two-piece terminal strip

GENERAL

Memory Size:	128K EPROM, 64K RAM, 1K bits EEPROM

MODELS

LCX 890	8 Outputs
LCX 891	16 Outputs
LCX 892	24 Outputs
LCX 898	48 Outputs

AGENCY LISTINGS	UL/CUL 916, FCC, CE Approval for LCX 890, 891, & 892 Only

OPTIONS

- No Relays on Outputs
- RR7 Relays on Outputs
- RR9 Relays on Outputs
- Canadian Relays (Call Factory for Specific Ordering Information)

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