

Infinity

EMX 150, EMX 151, EMX 155, EMX 156, EMX 160 Expansion Modules

The Andover Controls *Infinity* family of expansion modules provides a convenient and cost effective means to add input and output points to Andover's Infinet distributed application controllers.

Up to two modules can be powered directly from any of these Infinet controllers: the SCX 920, LCX 810, TCX 850, TCX (IDX) 851, TCX 853, TCX 855, and the ACX 700. Additional modules can be added by providing power from an external 24 VDC supply. Consult the *Infinity Expansion Module Configuration Guide* for more specific information on the use of expansion modules.

EMX150

The EMX 150 contains two analog outputs configurable for either 0 - 20 VDC or 0 - 20 mA operation. Each output contains an override switch and potentiometer for local control.

EMX151

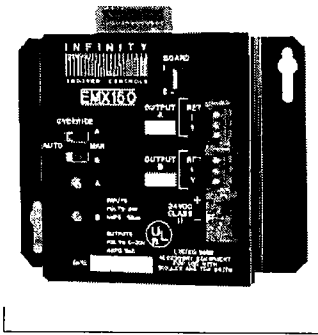
The EMX 151 contains 2 high-resolution, 12-bit analog outputs configurable for either 0-10 VDC or 0-20 mA operation. No override switches are provided.

EMX155

The EMX 155 provides two Form C relay outputs rated for 24 VAC/VDC operation. Each relay can be used for on/off control of motors and lighting, or can be used for pulse width modulation control, with 0.1 second resolution. Each output contains an override switch for manual operation, with software feedback of the switch position.

EMX156

The EMX 156 provides 2 digital outputs rated for 120/240 VAC operation. Each output is a field replaceable, solid state device that can be used for control of motors and lighting, or can be used for pulse width modulation control, with 0.1 second resolution. Each output has 4000 V RMS isolation, and has a maximum surge current of 80 amps. Each output contains an override switch for manual operation, with software feedback of the switch position.



FEATURES

- **Cost Effective I/O Expansion to Meet Additional Point Count Needs**
- **Additional Points Provide Seamless Controller Performance**
- **Modular Design for Easy Plug-in Installation**

EMX160

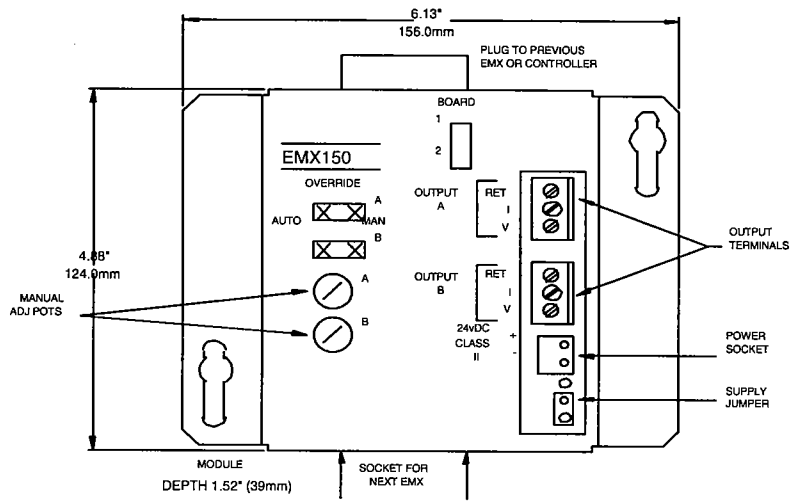
The EMX 160 contains 8 digital inputs designed for dry contact signals. In addition, each input can be configured to accept pulses up to 140 per second.

PROGRAMMING

Expansion module points are treated in the same manner as the built-in I/O of each Inifnet controller. Once expansion points are assigned using Andover's *Plain English*™ programming language, they are automatically added to operator input and output summaries, and can be used unrestricted in programs, reports, and alarms.

INSTALLATION

Expansion modules are designed to be plugged into the expansion port found at the bottom of each Inifnet controller. The expansion module enclosure is intended for panel mounting, using two sheet metal screws.



Note: Size differs for all EMX Modules

SPECIFICATIONS

ELECTRICAL

Power:	Up to two modules can be powered directly from the Infinet controller (Only 1 EMX 151). Additional modules can be powered with an external 24 VDC power supply.
---------------	---

MECHANICAL

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

Enclosure Type:	UL open class sheet metal, IP 10
------------------------	----------------------------------

COMMUNICATIONS

Communication Interface:	Through expansion serial port of the local Infinet controller.
---------------------------------	--

CONNECTIONS

External Power Connector:	2-position connector
----------------------------------	----------------------

I/O Connectors:	Removable two-piece terminal blocks. (EMX 156 has screw terminals).
------------------------	---

GENERAL

EMX Modules/Infinet Controller:	Consult the <i>Infinity Expansion Module Configuration Guide</i> for the maximum number of inputs/outputs allowed on each particular Infinet controller.
--	--

AGENCY LISTINGS	UL/CUL 916, FCC, CE
------------------------	---------------------

EMX 150

Points:	2 analog outputs
----------------	------------------

Range:	0-20 mA or 0-20 VDC for each output
---------------	-------------------------------------

Impedance:	0-20 mA into maximum 750 ohms 0-20 VDC into minimum 4,000 ohms
-------------------	---

Resolution:	0.1 mA or 0.1 VDC
--------------------	-------------------

Overrides:	2-position plus potentiometer, no software feedback
-------------------	---

Power Consumption:	55 mA
---------------------------	-------

Dimensions:	6.13"W x 4.88"H x 1.52"D (155W x 124H x 39D)mm
--------------------	--

EMX 151

Points:	2 high-resolution analog outputs
----------------	----------------------------------

Range:	0-20 mA or 0-10 VDC
---------------	---------------------

SPECIFICATIONS (Cont'd)**EMX 151 (Continued)**

Impedance:	0-20 mA into maximum 1,000 ohms 0-10 VDC into minimum 4,000 ohms
Resolution:	4.88 μ A or 2.44 mV
Accuracy:	\pm 0.1% of span
Power Consumption:	70mA
Dimensions:	6.13"W x 4.88"H x 1.52"D (155W x 124H x 39D)mm

EMX 155

Points:	2 digital outputs
Type:	Form C relay
Contact Rating:	5A, 24 VAC / VDC
Resolution:	0.1 second
Overrides:	Hand-off-auto switch with software feedback
Power Consumption:	46 mA
Dimensions:	6.13"W x 4.42"H x 1.82"D (155W x 112H x 46D)mm

EMX 156

Points:	2 high voltage digital outputs
Type:	Form A solid state device, field replaceable
Contact Rating:	3A, 120/240 VAC @ 25°C, 2A, 120/240 VAC @ 50°C (DC loads not permitted).
Minimum Load:	12 VAC, 20 mA
Single Cycle Surge Current:	80A
Contact Isolation:	4,000 V RMS
Allowable Power Factor:	EMX 156 provides switching for inductive loads with 0.4 to 1.0 power factor.
Resolution:	0.1 second
Overrides:	Hand-off-auto switch with software feedback
Power Consumption:	32 mA
Dimensions:	6.13"W x 4.42"H x 1.52"D (155W x 112H x 39D)mm

EMX 160

Points:	8 digital inputs. Any or all points can be assigned as counter inputs. All inputs must be dry contacts.
Maximum Counter Frequency:	140 Hz, 50% duty cycling, 3.57 ms minimum pulse width
Reference Voltage:	5 VDC into 24k ohms
Input Protection:	24 VAC / VDC indefinitely on any single channel, 1500 volt transients
Power Consumption:	12 mA
Dimensions:	6.13"W x 5.72"H x 1.52"D (155W x 145H x 39D)mm

**Andover Controls Corporation
World Headquarters**
300 Brickstone Square
Andover, Massachusetts 01810 USA
Tel: 508 470 0555 • Fax: 508 470 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.
93 avenue de Fontainebleau
94270 Le Kremlin-Bicetre
Tel: 1 49 606363 • Fax: 1 49 606271

Andover Controls Asia
707 Chinachem Golden Plaza
77 Mody Road, Tsimshatsui East
Kowloon, Hong Kong
Tel: 2739 5497 • Fax: 2739 7350

U.S. Patent #4591967
©1998 Andover Controls Corporation.
Data subject to change without notice.
Consult *Andover Product Installation Guides* for exact installation instructions and specifications.
#DS-EMX150-3.96