



# CMX 9924

## Network Controller

The CMX 9924 is a cost-effective network controller for Andover's Continuum facility management system. While Andover's Infinet field application controllers are providing stand alone control of all building services — heating, ventilating, air conditioning, lighting, access control, and smoke control — the CMX 9924 controller provides a cost-effective means for dial-up and network communications, information management, and underground storage tank monitoring for small to medium facilities, and when Andover Continuum's modular I/O is not needed.

- Cost-Effective Network Controller with Optional Ethernet TCP/IP Connectivity
- Monitoring and Control of Andover's Infinet Distributed Controllers
- Four Communications Ports Enable Integration with Tank Monitoring, Fire Systems, Battery Monitoring, and Other Third-Party Systems
- Built-in Web Server Displays Building Information via Web Pages
- Flash EEPROM for Easy On-Line Software Updates
- 8 MB RAM Memory Provides Extensive Data Logging and Programming Capabilities
- Andover Plain English Language Simplifies Programming
- Both MTS TankNet and Veeder-Root Tank Monitoring Systems Supported

The CMX 9924 acts as a high-performance system coordinator for up to 64 distributed Infinet controllers, providing integrated global control, history logging, local and remote alarming, and a fully menu-driven user interface. Each CMX 9924 supports one Infinet network and the full family of Infinet controllers, including ACX access controllers and DCX 250 touch screen displays. Along with the RS-485 port to the Infinet with its adjacent Service Port connection, each CMX 9924 also features an RS-232 port for a modem or a user terminal, and two additional programmable ports (1-RS-232, 1- RS-485) for communications to third-party devices such as boilers, chillers, tank monitoring systems, and fire panels.

### COMMUNICATIONS — ETHERNET AND DIAL-UP

The CMX 9924 features an optional modem, providing a cost-effective means for communications with small and medium sized sites. In addition, optional factory-installed Ethernet connectivity is available for a direct high-speed connection to an Andover Continuum CyberStation workstation over a 10BASE-T Ethernet Local Area Network (LAN) using TCP/IP protocol. And because web server capabilities are built in to the CMX 9924, you can create web pages in the controller and display your building's information on a standard web browser.

### FLASH MEMORY

The CMX 9924 features Flash EEPROM. Flash memory allows you to download software revisions over Ethernet using an Continuum workstation and eliminates the need to perform EPROM change-outs in the field.

### OPTIONAL ENCLOSURE

The CMX 9924 comes standard with a metal baseplate and cover, suitable for panel mounting (open class). An optional gray enclosure (shown on front of data sheet) is available for wall mounting.

## SOFTWARE CAPABILITIES

The dynamic memory of the Andover Continuum CMX 9924 can be allocated for any combination of programs, scheduling, alarming, reporting, and data logging using the powerful Andover Plain English™ programming language. Our object-oriented Andover Plain English language with intuitive keywords provides an easy method to tailor the controller to meet your exact requirements. Programs are entered into the CMX 9924 using the Andover Continuum workstation or local user terminal. Programs are then stored in, and executed by, the CMX 9924.

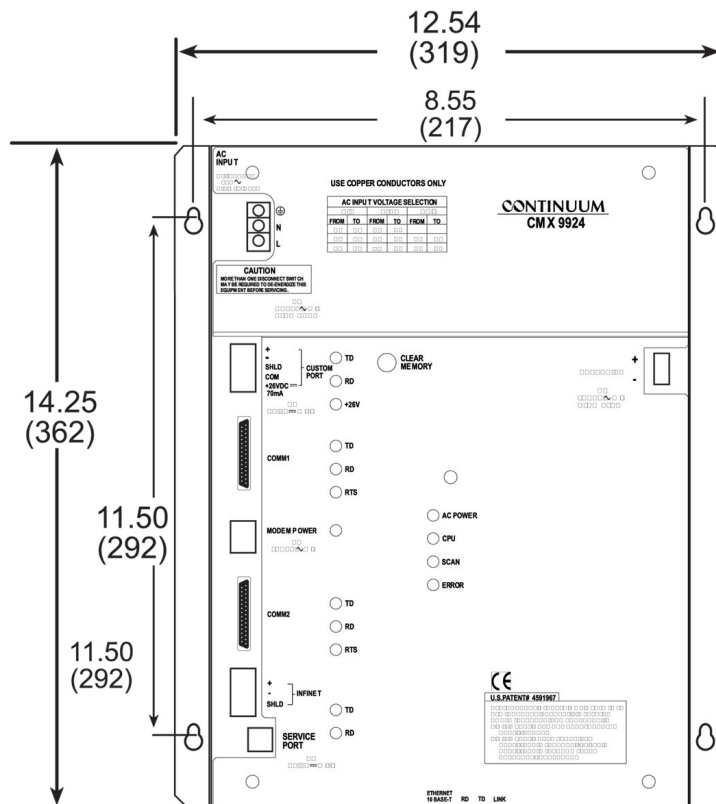
## UPS OPERATION

The Andover Continuum CMX 9924 incorporates software programmable battery backup that reduces or eliminates the impact of power failure. In powerfail mode, the CMX 9924 can support full operation, including modem communications, for up to four hours. In low power mode, the battery powers the SDRAM and real-time clock for up to 14 days. Switching between the two modes is configurable using a Plain English program.

## UNDERGROUND TANK MONITORING

Each CMX 9924 supports both MTS tank probes and the newer Veeder-Root tank monitoring system. (See "Communications" specs on next page for details.) Leak detection, inventory analysis, and alarming of all tank conditions are incorporated into the Andover system to comply with EPA standards for underground storage tank leak detection.

## DIMENSIONAL DRAWINGS



# SPECIFICATIONS

## CMX 9924 Network Controller

### ELECTRICAL

**Power:**

24/115/230 VAC, 50/60 Hz

**Power Consumption:**

32 VA

**Overload Protection:**

Fused with 1.5A3AG fuse, 1500 volt transformer isolation. MOV protected

**Real Time Clock:**

Battery-backed by UPS

### MECHANICAL

**Operating Environment:**

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

**Size:**

19"H x 15"W x 4 3/4"D (482.6H x 381.0W 120.6D) mm (with enclosure)

14 1/2"H x 10 1/2"W x 3 3/16"D (368.3H x 266.7W x 80.9D) mm (without enclosure)

**Weight:**

21 lbs. (9.5 kg) (with enclosure), 5 lbs. (2.3 kg) (without enclosure)

**Enclosure Type:**

Optional NEMA 1-style enclosure, flammability rating of UL 94-5 V, IP 20

### BATTERY

**Battery Backup:**

Programmable for 14 days memory and real-time clock to 4 hours full UPS, including modem. Requires 6V/10Ahr lead-acid batteries (P/N:01-2100-159). Expandable by use of greater amp hour batteries. Charge time will vary.

### COMMUNICATIONS

**Comm. Error Checking:**

International Standard CRC 16

**Optional Ethernet LAN interface (factory-installed only):**

10BASE-T: 327 ft (100m) standard between 2 nodes using 10BASE-T unshielded twisted pair cable. Standard Ethernet repeaters allow for longer distances

**Serial Comm. Interface:****Port 1**

RS-485 - Infinet only, expandable to 64 nodes

**Port 2 (labeled COMM1)**

RS-232 - user terminal, modem, XDriver

**Port 3 (labeled COMM2)**

RS-232 - user terminal, modem, XDriver (default modem port; may also be used as interface to Veeder-Root tank monitoring system)

**Port 4 (labeled Custom Port)**

RS-485 - TankNet, XDriver

Note: Port 4 includes +26VDC, 70mA power for existing MTS tank probes. May also be used as an interface to Veeder-Root tank monitoring system; requires additional RS-485 to RS-232 converter.

**Serial Comm. Speed:**

300 to 19.2K baud selectable for Infinet and serial comm ports (9600K baud for modem)

**Andover Infinet Bus Length:**

4,000 ft. (1,220m) standard for Infinet using approved shielded, twisted pair, low capacitance cable. InfiLink module allows extension to longer distances

### CONNECTIONS

**Power:**

3-position barrier strip

**Ethernet:**

RJ-45 connector for Ethernet 10BASE-T

**Andover Infinet:**

3-position removable terminal strip

**Andover Infinet Service Port:**

RJ-11 jack

**User Terminal, Modem:**

Male RS-232C 25-pin D connector

**Custom Port:**

5-position removable terminal strip, includes +26VDC power for existing MTS tank probes

### USER LEDS/SWITCHES

**Status indicator LEDS:**

AC POWER	CMX 9924 Power is ON
CPU	CPU Active
SCAN	CMX 9924 Scanner ON
ERROR	CMX 9924 Error

INFINET TD	Infinet Transmit Enable
INFINET RD	Infinet Receive Data

COMM1 TD	Comm 1 Transmit Data
COMM1 RD	Comm 1 Receive Data
COMM1 RTS	Comm 1 Request to Send

COMM2 TD	Comm 2 Transmit Data
COMM2 RD	Comm 2 Receive Data
COMM2 RTS	Comm 2 Request to Send

CUSTOM PORT TD	Custom Port Transmit Enable
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CUSTOM PORT RD	Custom Port Receive Data
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CUSTOM PORT +26V	MTS TankNet Power is ON
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MODEM POWER	Modem Power is ON
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ETHERNET TD	ETHERNET Transmit Data
ETHERNET RD	ETHERNET Receive Data
ETHERNET LINK	ETHERNET Link Connected

**PUSH BUTTON SWITCHES**

Clear Memory RESET/Clear Memory

# SPECIFICATIONS

(Continued)

## GENERAL

### Microprocessor:

68ECO20 running at 24 MHz

### Memory:

SDRAM: 8 Mb; Flash : 2 MB

## AGENCY LISTINGS

UL/CUL 916, FCC part 15 Class A,  
ICES-003 Class A, CE

## OPTIONS

Ethernet (TCP/IP) Module, 10BASE-T  
(Twisted Pair)

XDriver Support (2 Comm Ports  
Maximum)

9600 Bps Modem (UPS-Supported)

NEMA 1-Style Enclosure (for Wall  
Mounting)

4, 8, 32, or 64 Infinet Controller  
Support

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