

# ENC 520 Series Enterprise Network Controller



## SPECIFICATIONS

### HARDWARE

#### Dimensions

9.75 in. W x 11.6 in. H x 2.5 in. D  
(248 mm x 295 mm x 64 mm)

#### Weight

8.5 lbs (3.9 kg) with parts kit.  
10 lbs (4.5 kg) as shipped.

### CHASSIS

#### Mounting

Intended for indoor wall mounting only. When mounting, add clearance of 2 in. (51 mm) at top and bottom, and 1 in. (25 mm) on left and right sides.

#### Construction

Steel chassis.

#### Cooling

Internal air convection (vertical mounting required).

### PLATFORM

#### Microprocessor

Motorola RISC Processor at 250 MHz.

#### Memory

256 MB RAM.  
128 MB Flash for database backup.

### TAC I/A Series ENC 520 Series

The TAC I/A Series™ ENC 520 Enterprise Network Controller (ENC) is a compact, embedded-processor platform with flash memory for backup. The ENC 520 can integrate combinations of LON, Modbus, or BACnet™ devices with the appropriate optional drivers. It provides integrated control, supervision, and network management solutions for a network of LONWORKS™-based, BACnet MS/TP-based, or Modbus-based controllers for building control. When connected over an Ethernet network, the ENC 520 can communicate to BACnet devices or systems and share data between LONWORKS, BACnet, and Modbus systems.

A complete set of Java™-based control, application, logging, and user interface “objects” are included in a library. Models with the ENC-520-WEB option offer Web User Interface Service. In this configuration, the system’s graphical views can be accessed using any standard Web browser, such as Netscape™ Communicator or Microsoft™ Internet Explorer.

### Applications

Specifically designed for mechanical room, factory floor, and other commercial environments. The ENC 520 is wall-mounted, using its integral metal enclosure.

In a small building application, a single UNC can be used to support a network of BACnet, LONWORKS, or Modbus devices that can be accessed directly over the Ethernet LAN, remotely over the Internet, or via dial-up modem.

### Operating System

QNX Operating System with IBM J9 Java Virtual Machine.

Control Engine software.

### Backup

Battery backup.

### Clock

Real-time clock.

*Specifications continued on next page.*

Specifications continued from first page.

**ELECTRICAL**

**Input Power Supply**

**ENC-520-2**

- 120 Vac, 50/60 Hz, 25 VA max.
- Lead wires for hot/neutral (wire nut), stud for ground connection.

**ENC-520-2-N**

- 240 Vac, 50/60 Hz, 25 VA max.
- Terminal block for hot/neutral, stud for ground connection.

**ENVIRONMENT**

**Operating Temperature**

32 to 122 °F (0 to 50 °C)

**Shipping and Storage Temperature**

32 to 158 °F (0 to 70 °C)

**Humidity**

5 to 95% RH, non-condensing

**BATTERY BACKUP**

Battery Backup provided for all onboard functions.

Battery is monitored and trickle charged. Expected battery life is three years. In environments outside of recommended temperature range, battery life expectancy is one year.

Battery maintains processor operation through power failures for a predetermined interval, then writes all data to flash memory, shuts processor down, and maintains clock for a minimum of 5 years.

**AGENCY LISTINGS**

**US**

FCC Part 15, Class A

UL 916, File #E207782 Category PAZX

**Canadian**

UL Listed to Canadian Safety Standards (CAN/CSA 22.2). No. 205-M 1983, "Signaling Equipment."

**Australian**

Meets requirements to bear the C-Tick Mark

**European Community**

EMC Directive 89/336/EEC, EN50081-1 (EMC Immunity), EN50082-1 (AC Mains Power Line Voltage).

**COMMUNICATIONS**

- One 10/100 Mbit Ethernet port. RJ-45 connector.
- Four RS-485 ports (up to 76.8 Kbaud). Three-position screw terminal connectors, electrically isolated.
- Two RS-232 ports. RJ-45 connectors.
- One LONWORKS port – FTT-10A (up to 78 kbps). Two-pin Weidmuller connector, electrically isolated.

**BACnet COMPLIANCE**

BACnet Building Controller (B-BC).

**FEATURES**

- Integral BACnet/IP and BACnet/Ethernet communications support.
- Integral LONWORKS communications support.
- Embedded RISC Microprocessor platform provides high computing speeds.
- Distributes real-time data across an Ethernet LAN.
- Cost effective for any size commercial building applications.
- Provides alarming, logging, scheduling, control, and custom HVAC applications.
- Multiple ENC stations can be used in larger multi-building system configurations, offering true peer-to-peer operation and full application sharing.
- Password-protected access.
- Optional Web User Interface supports many simultaneous users over Intranet or Internet, via standard Web browser.



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## MODELS

Part Number	Voltage	Description
ENC-520-2	120 Vac, 50/60 Hz, 25 VA Max.	Enterprise Network Controller, includes: <ul style="list-style-type: none"> <li>• 10/100 Mbit Ethernet port</li> <li>• 2 RS-232 ports, RJ-45 connectors</li> <li>• 4 RS-485 ports, two-pin Weidmuller connectors (electrically isolated)</li> <li>• 1 LonWORKS port, with driver (electrically isolated)</li> <li>• LON Tunnel service</li> <li>• BACnet/IP (client), BACnet/Ethernet (client), and BACnet MS/TP drivers</li> <li>• QNX™ operating system with IBM J9™ Java Virtual Machine</li> <li>• Control Engine software</li> </ul>
ENC-520-2-N	240 Vac, 50/60 Hz, 25 VA Max.	

## OPTIONS

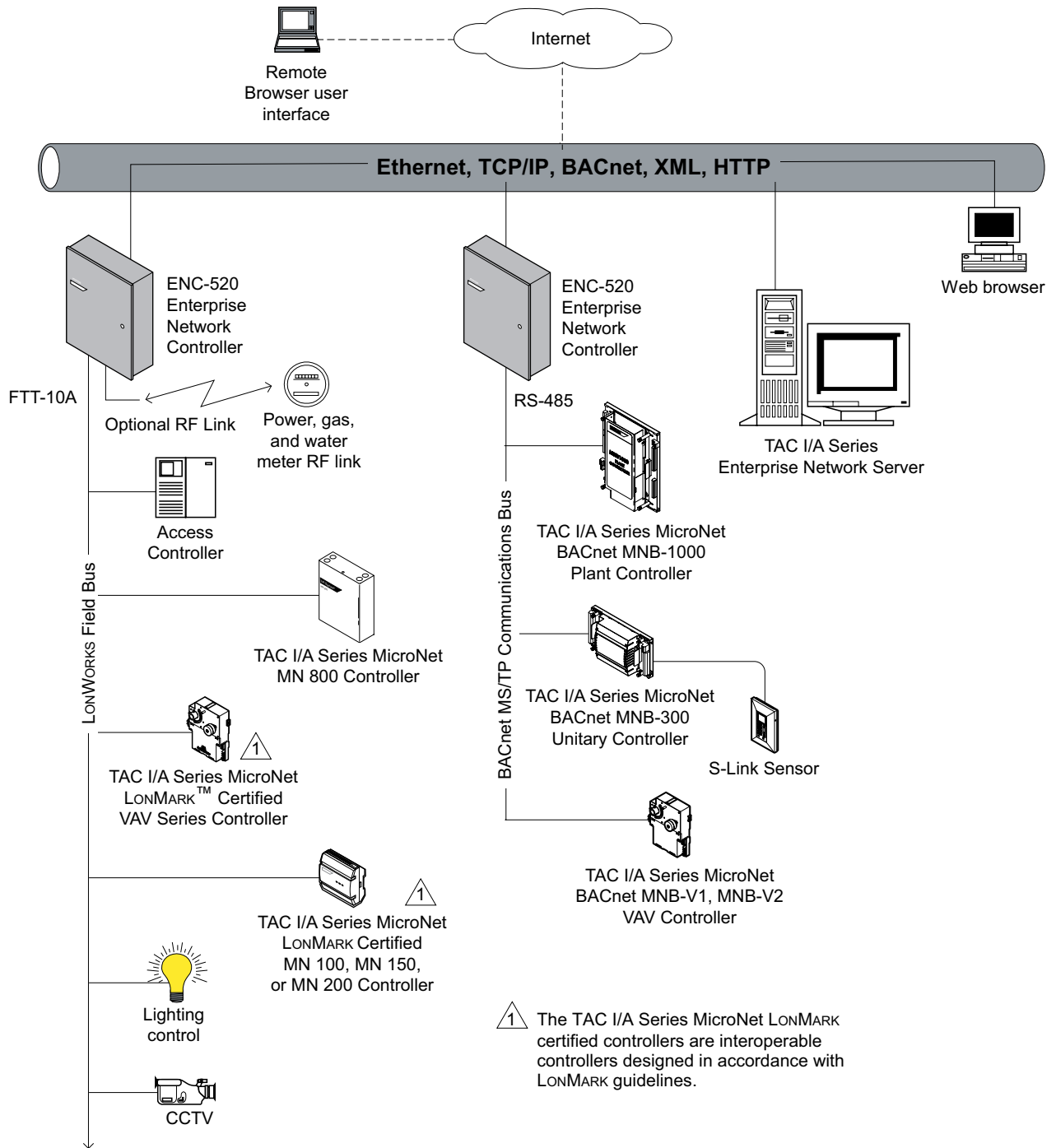
Part Number	Description
UNC-410-MDM	Internal auto-dial/auto-answer 56k modem, RJ-11 connector for North American applications
ENC-520-P2P	Peer-to-peer connectivity (enables ENC-to-ENC and ENC-to-Enterprise Network Server communications links, as well as BACnet Export capability)
ENC-520-WEB	Web user interface
ENC-DRV-ASD	ASD device driver for direct ASD Bus support
ENC-DRV-DMS	DMS serial device driver; includes tunnel support for OPRIF
ENC-DRV-MS31	MicroSmart™ device driver; for direct MicroSmart Bus support of 31 controllers on a single trunk; includes tunnel support for OPRIF, Level 9/10/11 firmware supported.
ENC-DRV-MS62	MicroSmart device driver; same as above but supports 62 controllers
ENC-DRV-MS93	MicroSmart device driver; same as above but supports 93 controllers
ENC-DRV-MS124	MicroSmart device driver; same as above but supports 124 controllers
ENC-DRV-MOD	Modbus device driver; direct Modbus support
ENC-DRV-MOD-R	Modbus slave device driver; Modbus TCP support; ENC 520 acts as Modbus slave using Ethernet TCP
ENC-DRV-MOD-S	Modbus slave device driver; ENC 520 acts as Modbus slave using RTU protocol
ENC-DRV-MOD-T	Modbus master device driver; Modbus TCP support; ENC 520 acts as Modbus master using Ethernet TCP
ENC-DRV-NW8	NETWORK 8000 serial device driver; includes tunnel support for XPSI
ENC-DRV-SNMP	Simple Network Management Protocol (SNMP) driver
ENC-WB	Embedded workbench tool

**Note:** Be sure to verify compatibility with a vendor's devices before specifying third-party device drivers.

## ACCESSORIES

Part Number	Description
UNCC-405	RJ-45 socket to DB-9 socket adapter, null modem
UNCC-430	RJ-45 socket to DB-25 plug adapter, straight through
CBL-RJ45-4	Flat silver satin cable, 4 ft
CBL-RJ45-10	Flat silver satin cable, 10 ft
CBL-RJ45-25	Flat silver satin cable, 25 ft

ARCHITECTURE



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