

UNC 410 Series Universal 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

128 MB RAM.

32 MB Flash for database backup.

Operating System

Wind River VxWorks™ Operating System with Jeode™ Java Virtual Machine.

Control Engine software.

Backup

Battery backup.

Clock

Real-time clock.

TAC I/A Series UNC 410 Series

The TAC I/A Series™ UNC 410 Series Universal Network Controller (UNC) is a compact, embedded processor platform with Flash Memory for backup. It provides integrated control, supervision, and network management solutions for up to 27 LonWorks™, BACnet/IP, and BACnet/Ethernet networked devices. When connected over an Ethernet network, the UNC 410 can communicate to BACnet™ devices or systems and share data between LonWorks and BACnet systems.

A complete set of Java™-based control, application, logging, and user interface “object” libraries are available to optimize building control and supervision. The UNC 410 includes six onboard Universal Inputs for digital/analog input signals and four digital outputs for control of local equipment. Also included is a Web User Interface Service for providing graphical Internet access to the UNC 410 controller 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 UNC 410 is wall mounted, using its integral metal enclosure.

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

ELECTRICAL

Input Power Supply

UNC-410-1

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

UNC-410-1-N

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

Output Power Supply

UNC-410-1 and UNC-410-1-N

20 Vdc at 80 mA output to source optional 4 to 20 mA powered sensors.

Specifications continued on next page.

Specifications continued from first page.

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, including I/O.

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).

INPUTS AND OUTPUTS

Universal Inputs

Quantity 6

10K ohm Type III (10K 4A1-International) Thermistors

Input has a range of -10 to 135 °F (-23.3 to 57.2 °C) with an accuracy of $\pm 1\%$ of span. Compatible sensors include TS-5700, TS-5711, TS-57011, TS-57031, and TSMN-90110 Series.

Resistive 0 to 100k ohms.

Voltage 0 to 10 Vdc. Accuracy $\pm 2\%$ of span.

Current

4 to 20 mA. Accuracy $\pm 2\%$ of span. External 500 ohm resistor required (six resistors included with unit).

Dry Contact

20 Hz max. frequency with a 50% duty cycle. 3 V open circuit, 300 mA short-circuit current.

Analog to Digital Conversion Resolution

12 bit.

Compatible Sensors

Board provides 20 VDC @ 80 mA to drive 4/20 mA powered sensors. 24 VDC terminal and external resistor can be used if monitoring contacts that require higher voltages or higher current.

Digital Outputs

Quantity 4

Contact Type

Form C (SPDT) relay outputs rated for 24 Vac/Vdc at 2 A resistive.

Status Indication LED.

COMMUNICATIONS

- One 10/100 Mbit Ethernet port. RJ-45 connector.
- One non-isolated RS-485 port (up to 76.8 Kbaud). Three-position screw terminal connectors, electrically isolated.
- One RS-232 port. RJ-45 connector.
- One LONWORKS port – FTT-10A (up to 78 kbps). Two-pin Weidmuller connector (maximum of 27 devices)
- Optional Internal auto-dial/auto-answer 56k modem. RJ-11 connector for North American applications (uses RS-232 port when installed).

FEATURES

- Integral BACnet IP and BACnet Ethernet communications support.
- Integral LONWORKS communications support of up to 27 controllers, expandable to 124.
- Six onboard universal inputs for thermistor temperature sensing, current/voltage input signals, dry contact digital inputs, resistance sensing, and fast count inputs.
- Four onboard digital outputs for time clock functions, boiler/chiller enable signals, and other basic HVAC applications.
- Embedded RISC Microprocessor platform provides high computing speeds.
- Distributes real-time data across an Ethernet LAN.
- Cost effective for smaller commercial building applications.
- Provides alarming, logging, scheduling, control, and custom HVAC applications.
- Multiple UNC stations can be used in larger multi-building system configurations, offering true peer-to-peer operation and full application sharing.
- Password-protected access.
- Web User Interface supports many simultaneous users over Intranet or Internet, via standard Web browser.

MODELS

Part Number	Voltage	Description
UNC-410-1	120 Vac, 50/60 Hz, 25 VA Max.	Universal Network Controller, includes: <ul style="list-style-type: none"> • 10/100 Mbit Ethernet port, RJ-45 connection • 1 non-isolated RS-485 port (up to 76.8 Kbaud) • 1 RS-232 port, RJ-45 connection • 1 FTT-10A LONWORKS port with driver • BACnet/IP and BACnet/Ethernet drivers • Wind River VxWorks™ with Jeode™ Java VM • Control Engine software • Web browser support • Six onboard Universal Inputs and four onboard Digital Outputs
UNC-410-1-N	240 Vac, 50/60 Hz, 25 VA Max.	

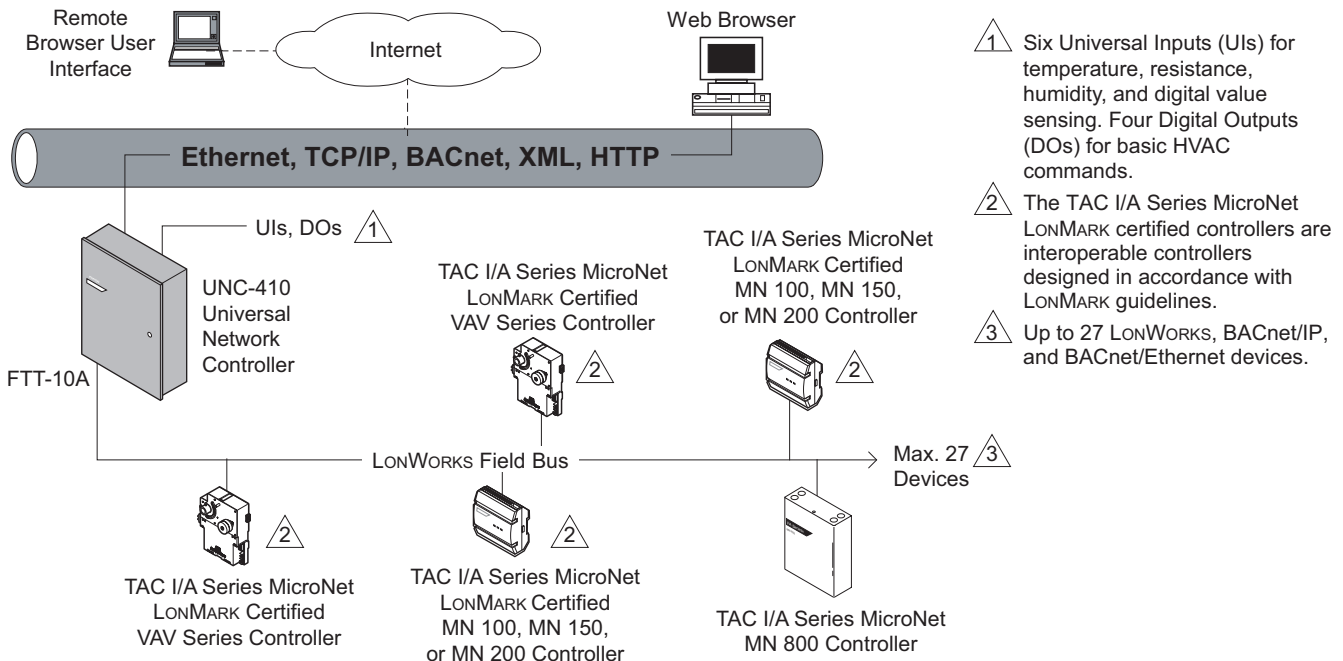
OPTIONS

Part Number	Description
UNC-410-MDM	Internal auto-dial/auto-answer 56k modem, RJ-11 connector for North American applications

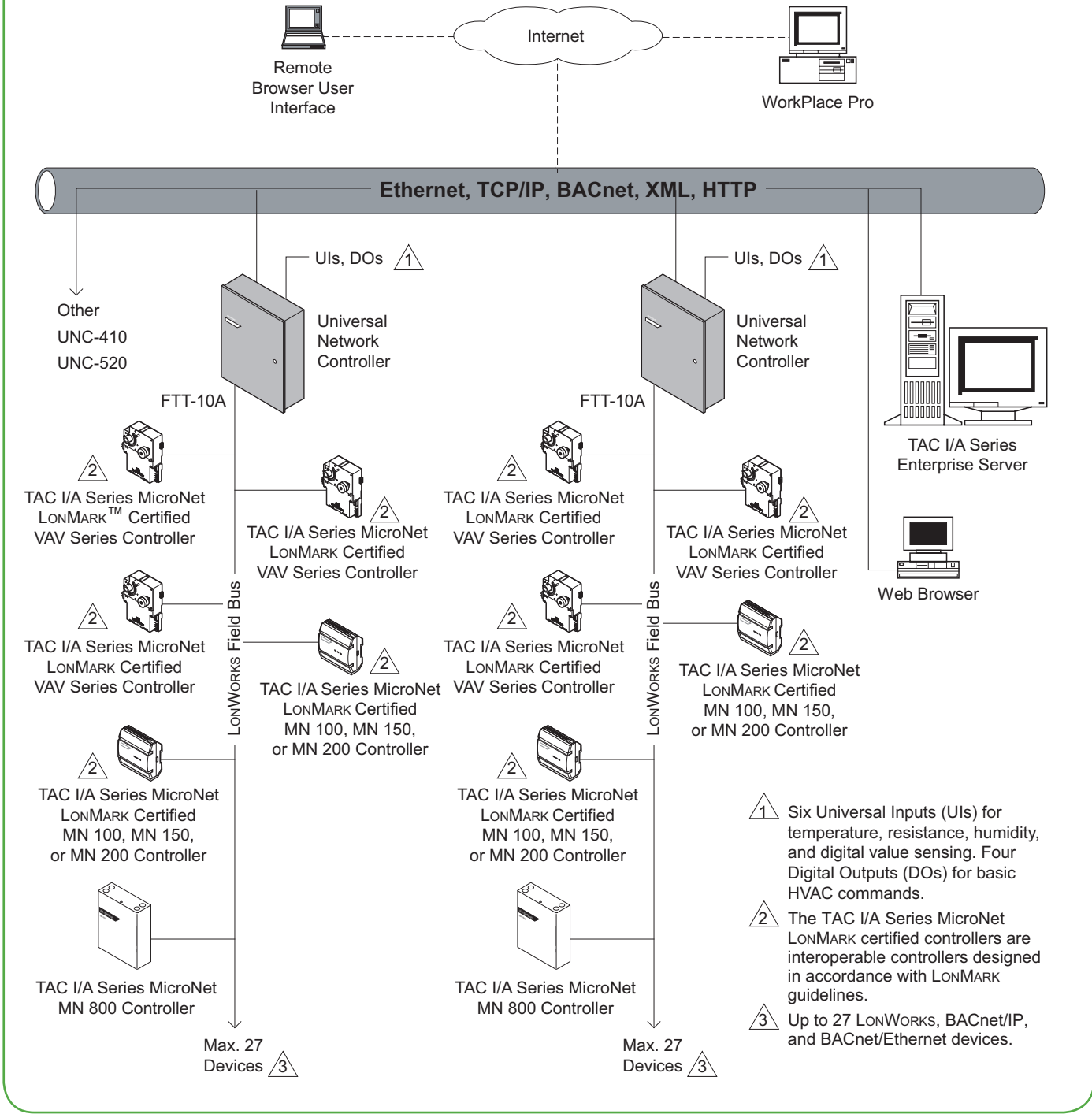
ACCESSORIES

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- SMALL SYSTEM



ARCHITECTURE - LARGE SYSTEM



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