UNC 410 Series
Universal Network Controller

- Integral LonWorks communications support of up to 27 Controllers.
- 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.

The TAC I/A Series® UNC 410 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 a network of up to 27 LonWorks™- based controllers for building management control. 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™.

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.

Table-1 Model Chart.

Model	Description	Voltage
UNC-410-1	Universal Network Controller, includes: 10/100 Mbit Ethernet port, RJ-45 connection 1 non-isolated RS-485 bus (up to 76.8 Kbaud) 1 RS-232 port, RJ-45 connection 1 FTT-10A LonWorks port with driver (maximum of 27 devices) BACnet Ethernet and Ethernet IP driver Wind River VxWorks® with Jeode™ Java VM Niagara "Control Engine" software Web browser support Six onboard Universal Inputs and four onboard Digital Outputs	120 Vac 50/60 Hz, 25 VA Max.
UNC-410-1-N		240 Vac 50/60 Hz, 25 VA Max.

SPECIFICATIONS

PLATFORM

Motorola RISC Processor @ 250 MHz.

Battery Backup.

Real-time clock.

MEMORY

128 MB RAM.

32 MB Flash for Database backup.

COMMUNICATIONS - ALL VERSIONS

One 10/100 Mbit Ethernet RJ-45 connector.

One non-isolated RS-485 bus (up to 76.8 Kbaud).

One RS-232 port, RJ-45 connector.

One LonWorks port – 78.8 Kbaud FTT-10A with Weidmuller connector (maximum of 27 devices).

Optional Internal Auto-dial/Auto-Answer 56k modem, with RJ-11 connector for North American applications (uses RS-232 port when installed).

OPERATING SYSTEM

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

Niagara "Control Engine" Software - with LonWorks, BACnet Ethernet, and Ethernet IP support.

INPUT/OUTPUT POINTS

Universal Inputs

Six Universal Inputs compatible with TAC TS Series 10 K ohm thermistors, 4 to 20 mA. current signals, 0 to 10 Vdc input signals, resistive 0 to 100 K ohm or dry contact signals.

12-bit A/D converter.

Compatible sensors include the TAC TS-5700, TS-5711, TS-57011, TS-57031, and TSMN-90110 Series. The input has a range of -10 to 135 °F (-23.3 to 57.2 °C) with an accuracy of ±1% of span.

4 to 20 mA current and 0 to 10 Vdc input signals accuracy ±2% of span, external 500 ohm resistor for 4 to 20 mA current input (six resistors included with unit).

Dry contacts (on UI) 20 Hz max. frequency with a 50% duty cycle. 3 V open circuit, 300 mA short-circuit current.

Digital Outputs

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

LED status indication.

POWER SUPPLY

Input Power Supply

120 Vac, 50/60 Hz, 25 VA max. (UNC-410-1) – lead wires for hot/neutral (wire nut), stud for ground connection.

240 Vac, 50/60 Hz, 25 VA max. (UNC-410-1-N) – terminal block for hot/neutral, stud for ground connection.

Output Power Supply

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

CHASSIS

Intended for indoor wall mounting only

Construction

Steel chassis.

Cooling

Internal air convection.

Dimensions

11 W x 14 H x 2-1/2 D in (279 x 356 x 64 mm)

Weight

Net 4 lbs. (1.8 kg) / Gross 5 lbs. (2.3 kg).

BATTERY BACKUP

Battery Backup provided for all onboard functions, including I/O.

Battery is monitored and trickle charged.

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 five years.

ENVIRONMENT

Operating temperature range

32 to 122 °F (0 to 50 °C).

Storage Temperature range

32 to 158 °F (0 to 70 °C).

Relative humidity range

5 to 95%, non-condensing.

AGENCY LISTINGS

US

UL 916, File E9429
FCC Part 15, Class A

Canadian

UL Listed to Canadian Safety Standards (CAN/CSA 22.2)

European Community

EMC Directive 89/336/EEC

OPTIONS

Optional UNC-410-MDM Internal Auto-dial /Auto-Answer 56k modem; RJ-11 connector for North American applications.

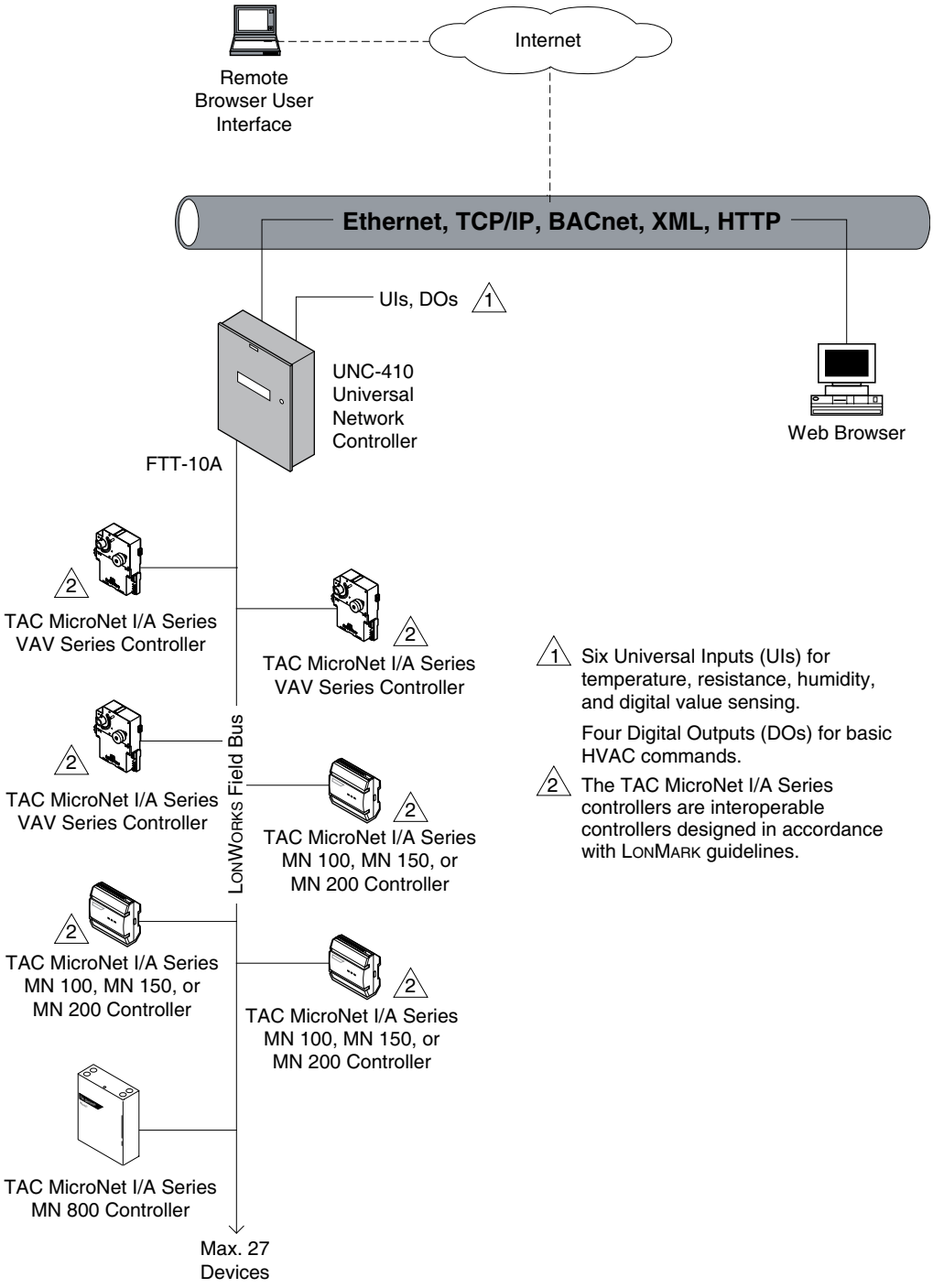

Figure-1 Typical UNC 410 Small Systems Architecture.

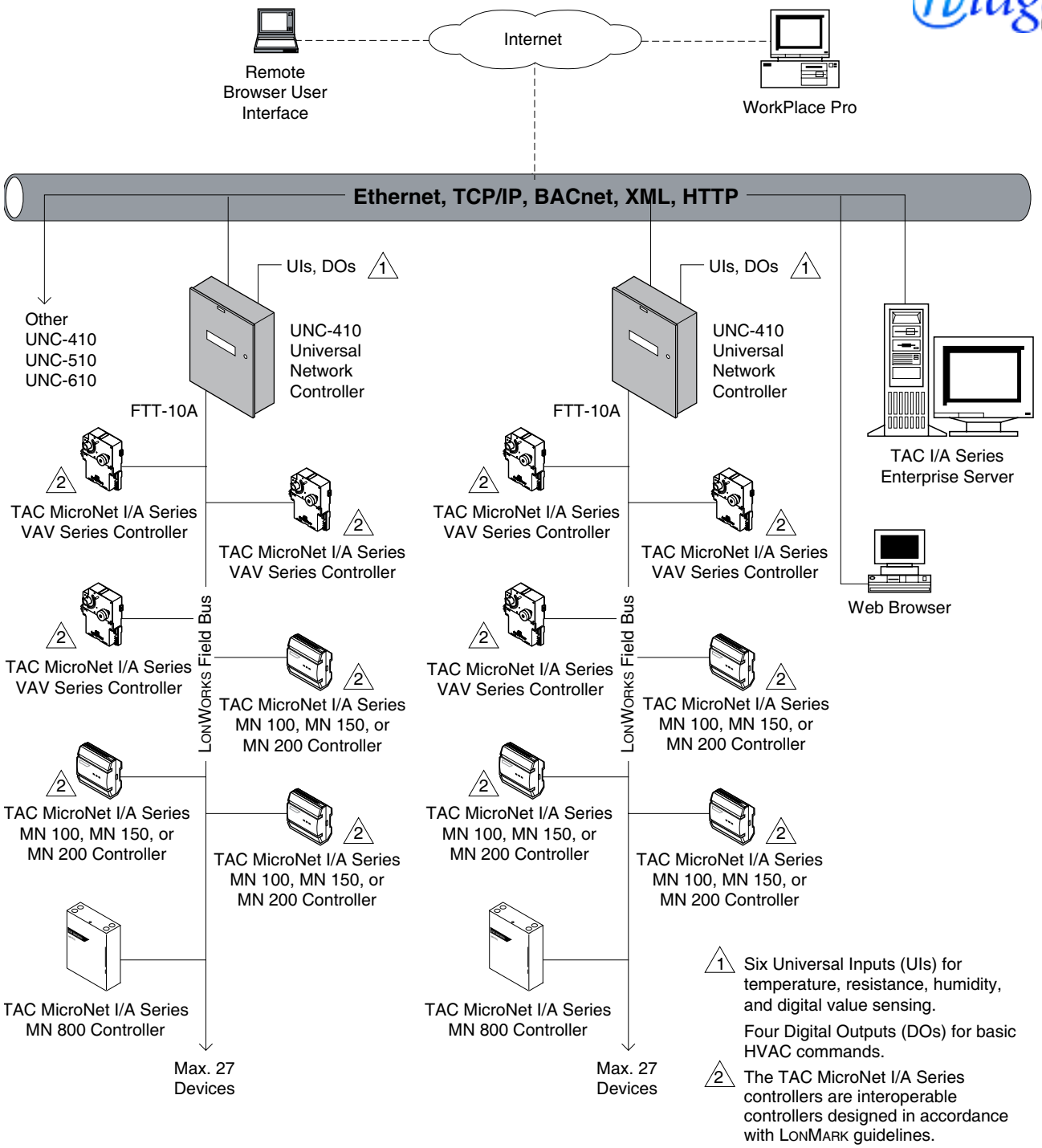

Figure-2 Typical UNC 410 Larger System Architecture.

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