UNC 520 Series

Universal Network Controller

FEATURES

- Integral LonWorks and BACnet communications support.
- Embedded RISC Microprocessor platform provides high computing speeds.
- Distributes real-time control functions across an Ethernet LAN.
- Cost effective for any size commercial installation.
- Provides alarming, logging, scheduling, control, and custom HVAC applications.
- Multiple UNC 520 stations can be used in a large scale system configuration offering true peer-to-peer operation and full application sharing.
- Password protected access.
- Can be configured with Web User Interface services to support many simultaneous users over Intranet or Internet via standard Web browser using the UNC-520-WEB option.

The TAC I/A Series UNC 520 Universal Network Controller (UNC) is a compact, embedded-processor platform with flash memory for backup. The UNC 520 can integrate combinations of LON, Modbus, BACnet, or legacy 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, TAC NETWORK 8000®, or TAC DMS controllers for building control. When connected over an Ethernet network, the UNC 520 can communicate to BACnet devices or systems and share data between LonWorks, BACnet, and TAC systems. A complete set of Java®- based control, application, logging, and user interface "objects" are included in a library. Models with the UNC-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.

Specifically designed for mechanical room, factory floor, and other commercial environments, the UNC 520 can be 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 TAC devices that can be accessed directly over the Ethernet LAN, remotely over the Internet, or via dial-up modem.

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Table-1 Model Chart.

Model	Description	Voltage	Model	Description	Voltage
UNC 520-2	Controller, standard, includes: 10/100 Mbit Ethernet port 2 RS-232 ports, RJ-45 connectors 4 RS-485 ports with Wiemuller connectors (electrically isolated) 1 LonWorks port with driver LON Tunnel service BACnet driver Wind River VxWorks with Jeode Java VM Niagara "Control Engine" software	120 Vac 50/60 Hz	UNC-520-2-N	Controller, standard, includes: 10/100 Mbit Ethernet port 2 RS-232 ports, RJ-45 connectors 4 RS-485 ports with Wiemuller connectors (electrically isolated) 1 LonWorks port with driver LON Tunnel service BACnet driver Wind River VxWorks with Jeode Java VM Niagara "Control Engine" software	230 Vac 50/60 Hz
UNC-520-2 with UNC-520-WEB Option	Controller with Web browser support. Provides same functionality and features as standard UNC-520-2 controller, above, but includes browser support for operator interface		UNC-520-2-N with UNC-520-WEB Option	Controller with Web browser support. Provides same functionality and features as standard UNC 520-2-N controller, above, but includes browser support for operator interface	

SPECIFICATIONS

PLATFORM

Motorola RISC Processor at 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 port - RJ-45 connection.

Two RS-232 ports - RJ-45 connections.

Four RS-485 ports (up to 76.8 Kbaud) — electrically isolated.

One LonWorks port - 78.8 Kbaud FTT-10 with Weidmuller connector (electrically isolated).

OPERATING SYSTEM

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

Control Engine Software - with BACnet and LonWorks support.

RESOURCE CAPABILITIES

Java resource count maximum is 600,000

Maximum MS/TP devices per RS-485 port is 31 (depending on device); requires one MS/TP driver per port.

POWER SUPPLY

UNC-520-2

120 Vac, 50/60 Hz, 25 VA maximum–lead wires for hot/neutral (wire nut), stud for ground connection.

UNC-520-2-N

230 Vac, 50/60 Hz, 25 VA maximum–terminal block for hot/neutral, stud for ground connection.

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 provides for all on-board functions.

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 5 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

UL-916

C-UL Listed to Canadian Standards Association (CSA) C22.2, No. 205-M 1983, "Signaling Equipment"

CE

FCC Part 15 Class A.

Options

Optional UNC-410-MDM Internal Auto-Dial/Auto-Answer 56k modem; RJ-11 connector (uses one RS-232 port when installed), not available outside of North America.

Optional UNC-520-WEB Web User Interface Service.

Optional UNCC-405 RJ-45 to DB9 convertor.

Optional TAC Drivers

IA-DRV-ASD: ASD device driver for direct ASD Bus support; includes tunnel support for XPSI

IA-DRV-DMS-E: TAC DMS serial device driver; includes tunnel support for OPRIF

IA-DRV-MS31: TAC 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.

IA-DRV-MS62: TAC MicroSmart™ device driver; same as above but supports 62 controllers

IA-DRV-MS93: TAC MicroSmart™ device driver; same as above but supports 93 controllers

IA-DRV-MS124: TAC MicroSmart™ device driver; same as above but supports 124 controllers

IA-DRV-NW8-E: TAC NETWORK 8000 serial device driver; includes tunnel support for XPSI

Optional Open Device Drivers

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

IA-DRV-MOD: Modbus device driver; direct Modbus support

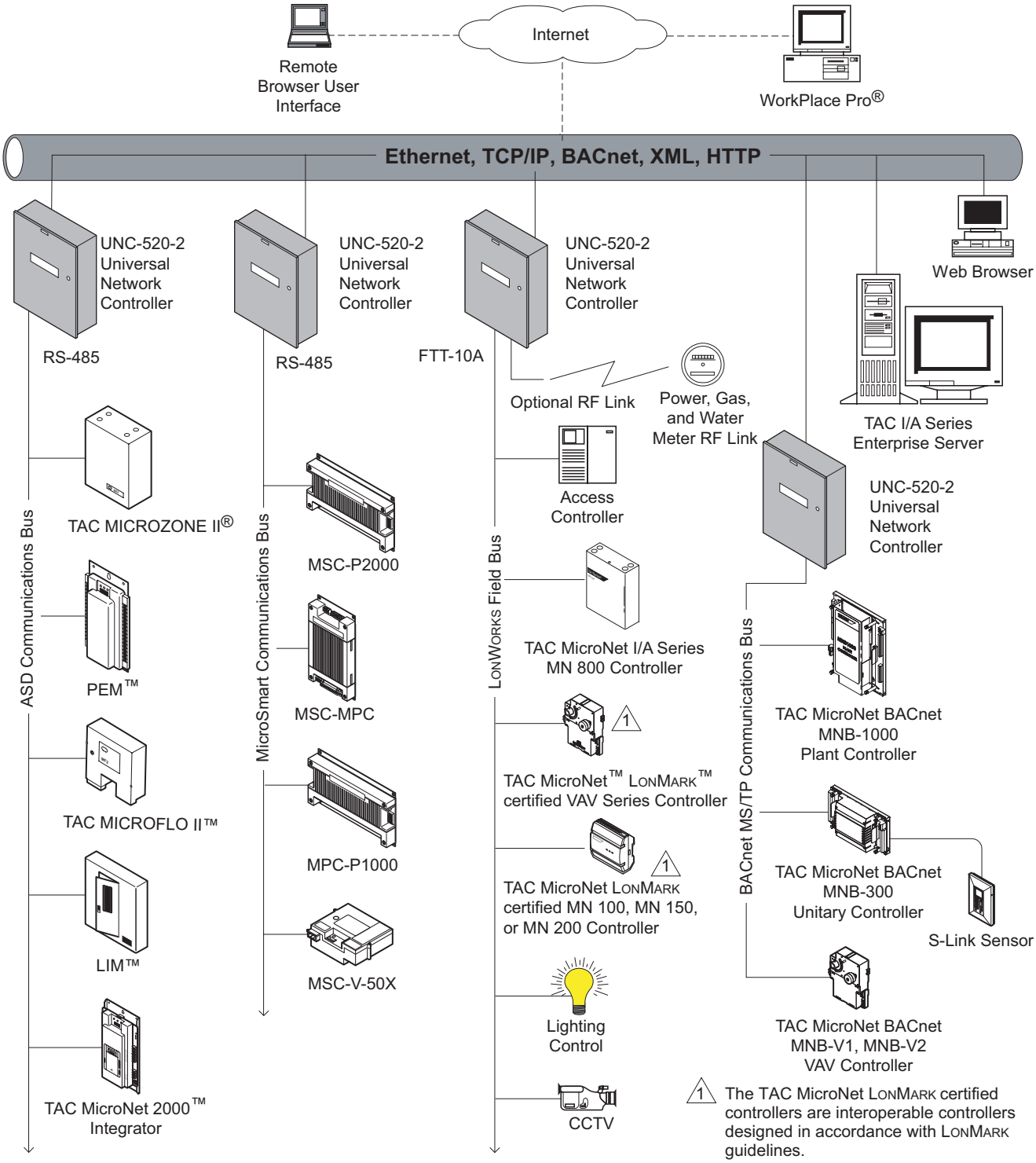
IA-DRV-MOD-R: Modbus slave device driver; Modbus TCP support; UNC-520 acts as Modbus slave using Ethernet TCP

IA-DRV-MOD-S: Modbus slave device driver; UNC-520 acts as Modbus slave using RTU protocol

IA-DRV-MOD-T: Modbus master device driver; Modbus TCP support; UNC-520 acts as Modbus master using Ethernet TCP

IA-DRV-MST-P: BACnet MS/TP device driver for direct BACnet MS/TP Bus support of 31 controllers on a single trunk

IA-DRV-SNM-P: Support for Simple Network Management Protocol (SNMP)



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TAC
1354 Clifford Avenue
PO Box 2940
Loves Park, IL 61132-2940

www.tac.com

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