CCN-to-Ethernet Converter

The CCN-to-Ethernet Converter is a device designed to enable connection of a CCN to an Ethernet-based Local Area Network (LAN). In addition, it can be used in a bridge function to interface CCN Communication Buses in order to extend a CCN within a campus or building. Because it enables use of existing LAN wiring, it is an ideal solution for integrating CCN into almost any building or facility.

Physically, the CCN-to-Ethernet Converter consists of a compact desktop unit equipped with specialized hardware and software. It also can be wall-mounted using the detachable mounting plate that is included as standard equipment along with the unit.

The Converter connects to the CCN Bus through a removable 3-position connector and to a building's Ethernet LAN through a 10Base-T connector. It functions by encapsulating CCN protocol messages into Ethernet packets for transmission to the LAN, and by extracting CCN protocol messages out of Ethernet packets received from the LAN. User Datagram Protocol/Internet Protocol (UDP/IP) is used for Ethernet communication.

FUNCTIONS

The Converter functions in one of the following two capacities, depending on configuration:

- Gateway – Provides access to the CCN Bus from a ComfortWORKS or ComfortVIEW server that is residing on the Ethernet. The converter is serving as the access node from the Ethernet to the CCN and is responsible for maintaining a routing table of CCN system elements.

  In this application the Converter is connected directly to the CCN's primary bus (Bus 0) and, like other CCN system elements, occupies a unique address on the CCN (Bus 0, Element 1-239.)

- Bridge – Acts as a CCN/Ethernet interface device in applications where the Ethernet is being used to connect separate CCN Buses. This application requires an additional Converter functioning as a Gateway.

In this application each converter occupies a unique bus and element address on the CCN. When configured as a bridge, it is addressed similarly to other CCN Bridges where the system element number on the primary bus identifies the secondary bus number.

Each Converter also has an Internet Protocol (IP) address, which can easily be set using a CCN Network Service Tool, or a tool such as Microsoft® Windows® HyperTerminal using an RS-232 null modem connection. In the bridge configuration the Converter supports either static or dynamic (DHCP) IP addressing (dynamic addressing requires a DHCP-ready Ethernet server.) In the gateway configuration the Ethernet address must be static.

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TYPICAL APPLICATION
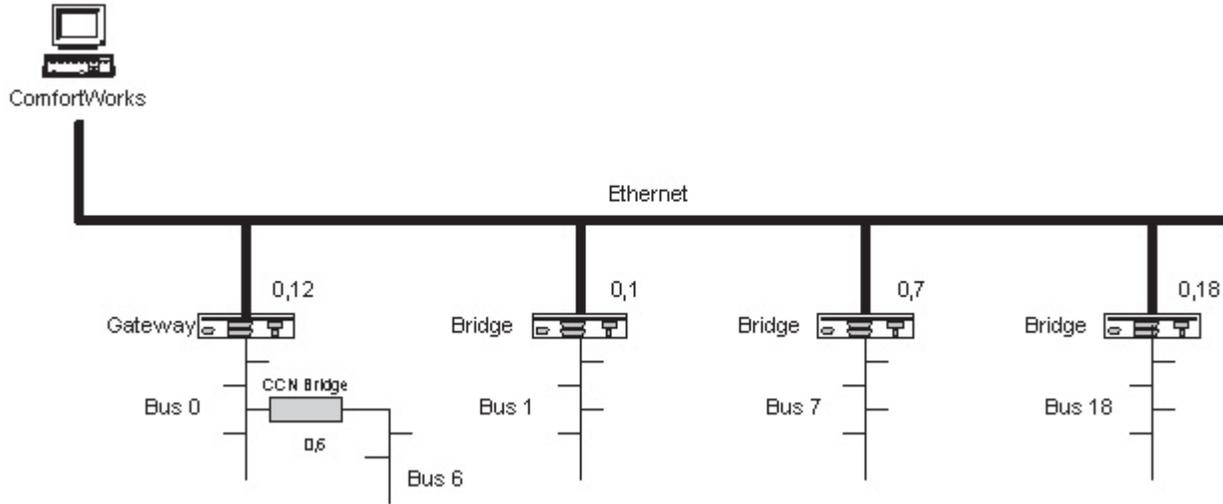
SPECIFICATIONS

Power Requirements .... 15 VA @ 24 Vac $\pm$ **15**%

Storage Temp .... -40°F to 185°F
(-40°C to 85°C)

Operating Temp .... 32°F to 140°F
(0°C to 60°C)

Operating Humidity .... 0% to 95%
RH, noncondensing

Storage Humidity .... 0% to 95%
RH, noncondensing

Dimensions .... 7.19 in (l) x 5.56 (w) x 1.56 (h)
(18.26 x 14.12 x 3.96 cm)

Communication Ports:
CCN Service Tool RJ-11, RS-485
COM 1 (CCN) .... 3-position removable, RS-485
COM 2 (IP Configuration) .... 3-position removable,
RS-485, 9 pin D, RS-574 (RS-232)
LAN RJ45 10Base-T

Conforms to guidelines for radiated and conducted emissions for a Class A device as stated in FCC Rules and Regulations Part 15, Subpart J and Part 68..

UL 1949/1950, ULC, and CE MARK (Light Industrial) listed.