

EC-TEP400 Series

Traffic Ethernet Port Module - Industry Standards-Based, Copper, Managed, Secure

KEY FEATURES:

- Industrial Ethernet Port for IP upgrade of unmanaged 170 Controller
- Auto-negotiates for 10/100 Mbps and full/half duplex
- Available DTE/DCE Selectable
- Standard mounting configuration: 170 Controller Slot

DESCRIPTION:

The Extreme Copper TEP400 Series Ethernet Port Module is designed with the demands of the Traffic and ITS markets firmly in mind. Based on Digi, the Extreme Copper Ethernet Port is designed to be installed in a Standard 170 Controller located on the corner of an intersection or beside the highway.

The Extreme Copper Ethernet Port is temperature hardened to operate from -34°C to +74°C, making it ideal for operation in harsh environments while not sacrificing any features. All components are protected from physical damage by a metal cover. The TEP400 Series Ethernet Port Module is dimensionally and electrically designed to fit in a single slot of a standard 170 Controller.

The Extreme Copper TEP400 Series Ethernet Port Module provides an EIA-232 Asynchronous communications channel. The TEP400 Series Ethernet Port Module is a 170 plug-in module with EIA-232 activity LEDs on the front edge, which communicates over industry standard IEEE 802.3 networks using both TCP (point-to-point) and UDP (point-to-multipoint) protocols. All EIA-232 LED Indicators are on the Front Panel.

The TEP400 Series Ethernet Port Module has LED indicators for 10/100 and Half/Full Duplex Network Communications.

The Main Data Port is available on the 170 Controller's male 44 pin edge connector (PCB 22/44); located at the rear is a DB9 Female connector accessible from the Front Panel of the module. The Network port is a standard RJ45 modular jack connector accessible from the Front Panel. DIP switches are externally accessible. The TEP400 Series Ethernet Port Module is powered directly from the Model 170 Controller's Edge Connector (PCB 22/44) and from an auxiliary connector.

FUNCTIONAL REQUIREMENTS:

The TEP400 Series Ethernet Port Module interfaces to the 170 Controller using the Controller's Main Port EIA-232. The Main and User Serial Ports are EIA-232 Asynchronous communications and support data rates of 1.2, 2.4, 9.6, 19.2, 38.4, 57.5, and 115.2Kbps. The TEP400 Series Ethernet Port Module Interface meets IEEE 802.3 and ANSI 8802-3 Standards, and supports 10/100 Mbps. The Auxiliary Port is available and, as an option, configurable to operate as a DCE or DTE. The TEP400 Series Ethernet Port Module has an option to enable or disable Dynamic DCD.

FORM FACTOR & ENVIRONMENTAL:

Size	0.7H x 6.25W x 9.375D Max. (Component height above PCB)
Weight	1 lb.
Panel Material	Aluminum, black anodized
Mounting	170 card edge
Temperature	TS-2 1998, Section 2, paragraphs 2.2.7.3, 2.2.7.4, 2.2.7.5, 2.2.7.6 (no fans)
Humidity	95% non-condensing Optional: Conformal Coating
Vibration	TS-2 1998, Section 2, paragraphs 2.2.8.4
Mechanical Shock	TS-2 1998, Section 2, paragraphs 2.1.10
Electrical Transients	TS-2 1998, Section 2, paragraphs 2.1.6.1, 2.1.6.2, 2.1.7, 2.1.8 The Model TEP400 Series Ethernet Port Module operates within the specification listed in TEES 2009, Chapter 1 Section 1.8.4.
Form Factor	The Model TEP400 Series Ethernet Port Module Ethernet Module is dimensionally and electrically designed to fit in a single slot of a standard 170 Controller, mounted vertically in their corresponding host assembly.

POWER REQUIREMENTS:

Input Voltage	+12 VDC from 170 Module (-40°C to +75°C)
Power Consumption	3W TEES March 12, 2009 Page 46

PORT CONFIGURATION:

Copper Port	1 - 10/100 BaseTX port
Local Config. Port	DB9 RS232, HTTP web-based Ethernet Graphical User Interface (GUI)

DATA INTERFACES:

- Main Data Port Model 170 male 44 pin Edge Connector
- User Serial Port EIA-232 (DB9 Female)
- Ethernet Data Port RJ45 EIA 568B Pin Out

NETWORK CONFIGURATION:

- The TEP400 Series Ethernet Port Module supports the following features:
TCP and UDP over IP protocols
- Subnet masks for Class A, B, and C networks (see table below):
NETWORK
CLASS
HOST
BITS
- Subnet Mask Example IP Address:
A 24 255.0.0.0 10.0.0.100
B 16 255.255.0.0 172.31.0.100 (per TEES March 12, 2009)
C 8 255.255.255.0 192.168.0.100
- Manual or Automatic TCP/IP socket connections configuration
- Telnet access for both configuration and communications
- Dumb Terminal access using a User Serial port for configuring network parameters
- The Ability to adjust packet size and packing algorithm
- The TEP400 Series Ethernet Port Module shall be provided with a Web-Based-Interface (WBI – The WBI allows the user to set Network Configuration Parameters and Serial Settings using a Web Browser).

SWITCH SELECTIONS:

- User Serial Port Directionality DTE/DCE
- Main Port Operation Enabled/Disabled
- DCD Constant/Switched
- RXD Data Flow Control Constant/Switched

LED INDICATORS:

- RTS Green or Red: DTE Request to Send
- CTS Green or Red: Network Clear to Send
- TXD Green or Red: DTE Transmit EIA-232 Data
- RXD Green or Red: DTE Receive EIA-232 Data
- CD Green or Red: Network Data

IEEE COMPLIANCE:

- 802.3-10BaseT
- 802.3u-100BaseTX
- 802.3x-Flow Control

DESIGNED FOR FOLLOWING APPROVALS:

- ISO: Designed and manufactured using an ISO9001:2000 quality program
- Emissions: FCC Part 15 Class A
- Safety: UL 60950

WARRANTY:

2 Years – applicable to design or manufacturing related product defects.

Specifications are subject to change without notice.

eXtreme copper

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