

TS900 Series

1-port Hardened Serial Device Server



Overview

A member of the growing family of ruggedized solutions from EtherWAN Systems, the TS900 series addresses a demand for connecting serial interface based equipment to the user friendly Ethernet-based local area network. The TS900 connects serial interface based equipment to Fast Ethernet networks in a rugged environment for industrial and transportation applications.

Managed Protocol Converter:

The TS900 series is a device that converts between the serial RS232/422/485 communications interfaces to Fast Ethernet interface. The TS900 is managed through its web-based Graphic User Interface (GUI). The IP addressable interface provides user friendly functions and menus for easy configuration.

Cost Effective:

The TS900 allows users to continue to use the original software for serial-port-based equipment. By eliminating the need to write new software, existing equipment can be connected to a TCP/IP Ethernet network with minimal implementation cost. The TS900 functions at temperatures ranging from -40°C to 75°C (-40°F to 167°F) and is tested for functional operation @ -40°C to 85°C (-40°F to 185°F), the TS900 is the converter of choice for harsh environments and easy migration.

Features

- Complies with NEMA TS1 & TS2 Environmental requirements for Traffic control equipment
- Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- Provides one port 10/100Base-T/TX auto-negotiation/Auto MDIX with RJ45 connector, or one port Multi Mode with SC/ST/MT-RJ/VF-45/LC fiber connector, or Single Mode SC/ST fiber connector
- Provides one serial port 4 wire full-duplex asynchronous (RS-422/485) or 2 wire half-duplex asynchronous (RS-485)
- Provides 3-in-1 RS-232/422/485 serial interfaces
- Complies with IEEE802.3 10Base-T and IEEE 802.3u 100Base-TX, 100Base-FX standards
- Complies with EIA/TIA RS-232E, EIA/TIA-574
- Extended distances up to 1.2Km (0.74mile) (24AWG) using RS-422/485
- LED Indication: PWR, LINK/ACT, FDX, STATUS (ON - idle, BLINK - Running)
- -40°C to 75°C (-40°F to 167°F) operating temperature range

Ordering Information

DC Jack power input:

TS900RJ	Hardened 1-port RS-232/422/485 to 10/100Base-TX Serial Device Server
TS900C	Hardened 1-port RS-232/422/485 to 100Base-FX Multi Mode (SC) Serial Device Server
TS900T	Hardened 1-port RS-232/422/485 to 100Base-FX Multi Mode (ST) Serial Device Server

Terminal Block power input:

TS930RJ	Hardened 1-port RS-232/422/485 to 10/100Base-TX Serial Device Server
TS930C	Hardened 1-port RS-232/422/485 to 100Base-FX Multi Mode (SC) Serial Device Server
TS930T	Hardened 1-port RS-232/422/485 to 100Base-FX Multi Mode (ST) Serial Device Server

*TS901/TS931 DB25 version series are also available.

*ST fiber also available in Single Mode, 20Km.

*SC fiber also available in Single Mode, 20/40/75/100/120Km.

*SC fiber also available in WDM

Power Supply: (Optional)

*Option A - The Terminal Block type external power supply are not included. Please order the following part numbers, as required:

41-136046-X X=1,2,3,4,5

**Option B - The external power adapter and power cord are not included. Please order the following part numbers, as required:

41-136044-X X=1,2,3,4,5

*See page 5-8 to 5-14 for more detailed information about optional accessories (Din-Rail Power supply, Power adapter)

Specifications

Technology

Serial Port:

- Interface: RS-232/422/485 (software selectable)
- Connector: DB9 for RS-232/422/485

Serial Communication Parameters:

- Parity: None, Even, Odd
- Data Bits: 5, 6, 7, 8
- Stop Bit: 1, 2
- Flow Control: None, RTS/CTS, Xon/Xoff
- Speed: 600 bps to 230.4 Kbps

Ethernet Port:

- Interface: 10/100Base-TX; 100Base-FX
- Connector: R-J45 (10/100Base-TX); SC,ST type (100Base-FX)

Protocols:

- TCP, IP, UDP, Telnet, DHCP, ICMP, HTTP

Operation mode:

- TCP Mode, UDP Mode

Management:

- Serial Console, Telnet Console, Web Management, Firmware Upgradeable

Power

Input:

- Input Voltage: 12VDC

Power Consumption:

- 2.64W Max. 0.22A@12VDC

Connector:

- Terminal Block or DC Jack

Mechanical

Casing:

- Aluminum case

Dimensions:

- 80.3mm (W) x 109.2mm (D) x 23.8mm (H)
(3.16" (W) x 4.3" (D) x 0.94" (H))

Weight:

- 0.8kg (1.76 lb)

Installation:

- DIN Rail, Wall Mounting

Environment

Operating Temperature:

- -40°C to 75°C (-40°F to 167°F)
Tested @ -40°C to 85°C (-40°F to 185°F)

Storage Temperature:

- -40°C to 85°C (-40°F to 185°F)

Ambient Relative Humidity:

- 5% to 95% non-condensing

Regulatory Approvals

ISO:

- Manufactured in an ISO9001 facility

Safety:

- UL60950-1, EN60950-1, IEC60950-1

EMI:

- FCC Part 15, Class A
- EN61000-6-3
 - EN55022
 - EN61000-3-2
 - EN61000-3-3

EMS:

- EN61000-6-2
 - EN61000-4-2 (ESD Standards)
Contact: + / - 4KV; Criteria B
Air: + / - 8KV; Criteria B
 - EN61000-4-3 (Radiated RFI Standards)
10V/m, 80 to 1000MHz; 80% AM Criteria A
 - EN61000-4-4 (Burst Standards)
Signal Ports: + / - 4KV; Criteria B
D.C. Power Ports: + / - 4KV; Criteria B
 - EN61000-4-5 (Surge Standards)
Signal Ports: + / - 1KV; Line-to-Line; Criteria B
D.C. Power Ports: + / - 0.5KV; Line-to-earth; Criteria B
 - EN61000-4-6 (Induced RFI Standards)
Signal Ports: 10Vrms @ 0.15~80MHz; 80% AM Criteria A
D.C. Power Ports: 10Vrms @ 0.15~80MHz; 80% AM Criteria A
 - EN61000-4-8 (Magnetic Field Standards)
30A/m @ 50, 60Hz; Criteria A

Environmental Test Compliance:

- IEC60068-2-6 Fc (Vibration Resistance)
5g @ 10~150KHz, Amplitude 0.35mm (Operation/Storage/Transport)
- IEC60068-2-27 Ea (Shock)
25g @ 11ms (Half-Sine Shock Pulse; Operation)
50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport)
- IEC60068-2-32 Ed (Free Fall)
1M (3.281ft.)

NEMA TS1/2 Environmental requirements for Traffic control equipment

Diagrams

