

Features

- Hardened for harsh environments
- Meets IEEE 1613 / IEC 61850-3 requirements for power utility substations
- Five networking functions integrated in one product
 - Terminal server
 - Ethernet switch
 - IP router
 - Frame Relay Access Device
 - DSU/CSU
- Up to 16 serial ports, 300 bps to 230.4 kbps multimode fiber, ST connector
- Up to 32 ports copper, RS232
- Multi-Protocol support
 - Async, SCADA bit-oriented protocols
 - Ethernet, TCP/IP
- Cyber security protection
 - Data encryption
 - Virtual Private Networks
 - IP firewall
- Menu-driven and SNMP management
- Powerful built-in protocol analyzer
- No fans or moving parts
- Non-vented sealed steel enclosure
- AC & DC power options



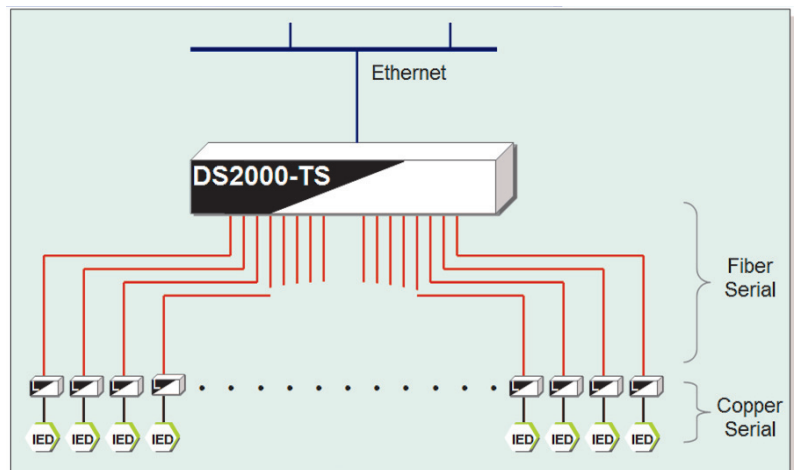
DS2000-TS Fiber Optic Terminal Server

The DS2000-TS family of utility-hardened serial-to-IP terminal servers enhances network reliability and reduces costs by integrating fiber optic interfaces on serial data connections. Serial-over-fiber interfaces provide optical signal isolation required for reliable data connectivity in harsh electromagnetic environments such as power utility substations. Fiber optic integration in the DS2000-TS eliminates the typical alternative of collocating multiple external media conversion devices, thus reducing space, eliminating redundant power feeds and simplifying field installation.

The DS2000-TS solves a wide range of industrial connectivity challenges such as Supervisory Control and Data Acquisition (SCADA) with support for many serial device protocol options, including legacy bit-oriented protocols common with established SCADA systems. Cyber-security protections extend to the edge of critical infrastructure networks using DS2000-TS advanced encryption, Virtual Private Networking (VPN) and IP Firewall features.

The DS2000-IFR consolidates data from multiple devices on to a common platform, then on to a wide area network connection. The primary WAN interface is based on frame relay over private or carrier services. The platform can also function locally as both an Ethernet switch and an Async-TCP/IP terminal server.

The DS2000-TS optionally integrates Fiber Link technology into serial



ports, consolidating the function of up to sixteen Dymec 5843/5344-HRT series serial Links into a single integrated device.

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FIBER OPTIC SERIAL INTERFACE

Physical Interface:

- Up to 16 ports, ST connector
- Serial data rates from 300 bps to 230.4 kbps
- Multi-mode 62.5µ/125 cable up to 5km

Protocols/Features:

- Asynchronous simplex, half or full duplex

COPPER SERIAL INTERFACE

Physical Interface:

- Up to 32 ports, RS232
- Serial data rates from 300 bps to 230.4 kbps
- Data length: 1-32 bits support

Protocols/Features:

- Async to TCP/IP
- TCP/IP to serial terminal server, reverse terminal server
- SCADA bit-oriented protocols

ETHERNET INTERFACE

Physical Interface:

- 1 RJ-45 modular connector port
- 10/100 Base TX, auto-sensing or fixed speed
- Full Duplex, Half Duplex

Protocols/Features:

- Ethernet, TCP/IP

IP ROUTING FUNCTIONS & FEATURES

- IP Routing, RIP, RIP II, RIP RX OSPF, Static Routes
- DHCP & BootP Services
- Block / Allow MAC / IP or PORT addresses
- IP to multicast for SCADA polling
- DiffServ, traffic prioritization

SECURITY

- Multilevel passwords with enforcement and aging
- Firewall with TCP/IP filtering
- IP VPN using IPSec with DES/3DES encryption
- Static MAC address
- Management activity logging and alarms

MANAGEMENT & DIAGNOSTICS

- Local console port to Menu-driven system
- Remote access via TELNET from WAN or Ethernet connection
- SNMP MIB and SNMP TRAPS
- PING and TELNET diagnostic functions
- Powerful Built-In DATACOM analyzer to monitor traffic on any port
- Comprehensive Layer 1 through 3 statistics
- Event Logging

ENVIRONMENTAL

Operating Temperature:

- -40C to +60C, no fans

Storage Temperature:

- -40C to +85C

Humidity:

- 95% non-condensing

Industrial:

- IEEE1613
- IEC 61850-3

Emissions:

- EN55022A, FCC Part 15A
- VCCI, AS/NZ-3548

Safety:

- UL60950-1
- EN60950-1
- CSA

Immunity:

- EN55024
- EN61000-6-2
- EN61000-4-2 (ESD)
- EN61000-4-3 (RF)
- EN61000-4-4 (EFT)
- EN61000-4-5 (SURGE)
- EN61000-4-6 (CRF)
- EN61000-4-11 (VDI)

Telecom:

- ACTA TIA/EIA IS-968A (FCC part 68)
- IC CS03
- EN55022:1998 Telco Port Emissions

POWER OPTIONS

High Voltage (H)

- 90-250 Vac or Vdc, 50-60Hz
- 1A, 85 watts

Low Voltage DC (L)

- 18-60 Vdc
- 4.5A, 81 watts

MECHANICAL

Dimensions:

19 inch Rack Mount, 2U
17.5" W x 10" D x 3.5" H
(44.5cm x 25.4cm x 8.89cm)

Weight:

11 lbs (5 kg)

Mounting:

- Front rack mount, Mid-mount, or Panel mount options



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