

TNP-400

Telemetry Network Processor



- Telemetry Transmission Over IP Infrastructures
- Two (2) User Configurable Traffic Ports
- Supports Balanced ECL Data Signals to 400 Mb/Sec
- Standards Compliant, Low Latency Operation

High performance, low latency leader

VITEC specialises in facilitating high performance, low latency services over IP networks. VITEC provides reliable, high quality products for low latency video and telemetry services. These products enable customers to transport high speed telemetry signals over IP networks.

High speed Telemetry transmission

The TNP-400 is a telemetry over IP (TMoIP) compliant multiplexer/de-multiplexer system enabling transparent, low latency transfer of very high speed digital telemetry over IP networks.

The TNP-400 packetizes PCM telemetry data and transfers the packets across an IP network. Another TNP-400 is used to reconstruct the telemetry and PCM data to its original state. The TNP-400 provides IP Network Processing for up to two 400 Mb/s ECL digital telemetry signals (clock and data). Each Telemetry data interface may be programmed as an input or output enabling dual channel or full duplex data transmission.

Network Interface

The TNP-400 is equipped with one optical (1/10Gb/s) and two electrical network interfaces, supporting BT-10/100/1000Mbps. Multiple switched Ethernet interfaces provide flexible installation and interconnectivity options.

Diagnostics Tools

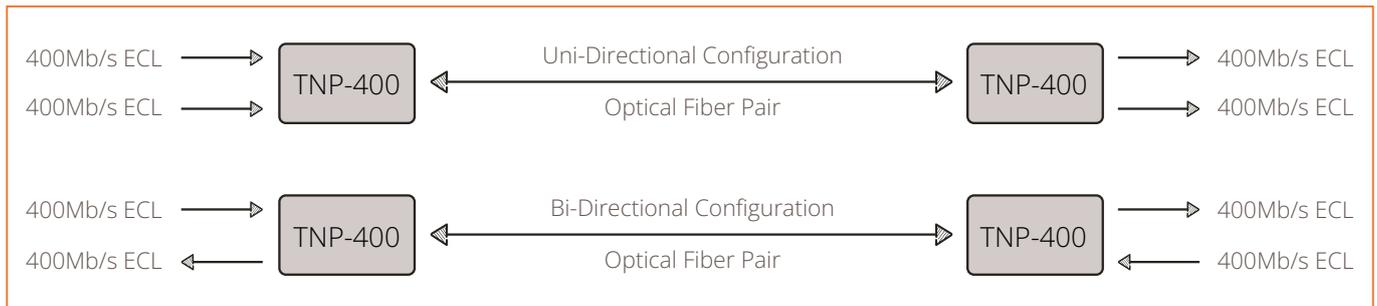
The TNP-400 provides statistics data and diagnostics tools for network installation and troubleshooting. The tools include test pattern generation and Bit Error Rate Testing (BERT).

Superior Performance

The TNP-400 supports individual port timing recovery, using adaptive clock techniques to regenerate source timing information. The user may optimise operation for different networks and applications by configuration. An optional rate independent, flat line equal latency response feature guarantees fixed delay on all ports.

Powerful Management

The TNP-400 can be remotely managed via its built-in GUI or the SNMP protocol. SNMP v3 enables secure management, and RADIUS provides secure authentication. The TNP-400 supports extensive monitoring, statistics gathering and alarm reporting capabilities enabling rapid fault isolation and troubleshooting.



Standards Based Design

The TNP-400 provides PCM telemetry IP access compliant to all applicable network standards. Packet generation is supported via RCC standards RCC218-10 and RCC218-20. UDP packet generation is also available to support legacy installations. Additionally, the TNP-400 is compliant with all relevant Layer 2 and Layer 3 standards, including native support for multicast signalling. The use of a standards-based platform ensures reliable and stable operation in a wide range of network installations.

Flexible and Expandable Platform

The TNP-400 provides a flexible solution for high speed Telemetry transmission. The system is user configurable to support one-way transmission as well as full duplex operation.

The TNP-400 is a COTS solution that enables transmission over optical fiber infrastructures as well as standard Ethernet Networks with SFP support for single mode, multimode, and CWDM wavelength optical transceivers. Diverse optical network configurations from Short Haul to Long Haul to CWDM can be supported by fitting the SFP+ port with the appropriate transceiver.

The system supports (one-way) single fiber operation and (two-way) two fiber operation. The built-in Ethernet Switch enables additional aggregation multiplex capabilities by daisy-chaining of multiple TNP-400 units, allowing for higher fiber utilization. The TNP-400 provides LAN extension for two 1Gbps services between local and remote sites. The TNP-400 is packaged in a 1RU, ½ width 19" chassis, by using an optional rackmount kit, two TNP-400 units can be combined to support four service ports in a system that consumes 1RU of rack space.

Technical Specifications

Telemetry Stream Interface

- 2 Ports, Input / Output, user configurable
- Connector: BNC, 4 per port (+/- CK, Data)
- Signal Format: Balanced ECL
- Data rate: 1Mb/s - 400Mb/s per port

Signal Processing

- Processing Latency < 2 ms
- Network Jitter Compensation: 2 ms to 4 sec
- Packet Size: up to 1463 bytes

Remote Management

- Built-in Web-based GUI
- SNMPv2 and v3 signaling
- RADIUS authentication

Ethernet Network Interface

- One SFP module: 1000 / 10 000Base-X
- Two RJ45: 10/100/1000Base-T

Maintenance

- Onboard BERT (Bit Error Rate Test)

Timing Source

- NTP
- Precision Time Protocol (PTP): IEEE1588

Physical Dimensions

- 1RU, ½-width 19":
1.75 x 8.50 x 1.00 in / 4,5 x 22,0 x 30,5cm

Environmental Conditions

- Operating Temperature: 0 to 40°C
- Storage Temperature: -40 to 70°C
- Relative Humidity: 5% to 90% NC

Power

- 90 – 264 VAC (47 – 63 Hz) < 30W