

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

3500 SYSTEM

134652-01

MONITORING CIRCUIT BOARD

Used with the applicable 3500 System configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Bently Nevada 134652-01 manufacturer documentation

TDXnet*

Bently Nevada* Asset Condition Monitoring



Description

The TDXnet Communications Processor provides the interface between our compatible (see note) machinery protection systems and our on-line machinery management software. It continuously collects both steady state and startup/shutdown data from all connected channels in parallel, and offers significant improvements in both data collection features and data transmission (Ethernet or serial) over previous communications processors such as TDIX, TDM, and DDM.

Improved Startup/Shutdown Data Collection:

New Ethernet Link to Data Manager* 2000 computers

View Transient Plots during machine SU/SD

SU/SD data acquisition based on Keyphasor* input

Improved SDI communications with the DCS

Additional Data Types - Data access now includes rpm values and status for all four TDXnet Keyphasor transducers as part of the available data

Use of RS485 with multi-drop functionality

New Register Allocation - Along with the traditional grouping data by channel, TDXnet now groups MODBUS register locations by proportional data values such as Direct, Gap, 1X Amplitude, 1X Phase, etc.

Maintaining same Data resolution of TDIX

Quick Connection into compatible 3300, 3500, or 2201 Monitoring Systems

High Resolution Static, Orbit, and Spectrum Data

Immediate Recovery from Power Loss

Note:

TDXnet is directly compatible with 3500, 2201, and newer 3300 systems. Through the use of TDXconnX* other monitoring systems can also be used with TDXnet. Consult Specifications and Ordering Information (p/n 141552-01) for TDXconnX or your local sales professional for more information



imagination at work

Specifications and Ordering Information
Part Number 141553-01
Rev. F (06/09)

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Specifications

Keyphasor Inputs

4 per unit, 60 to 60,000 rpm range.

Software configurable backup to real or simulated source.

Startup/ Coastdown Data

- ☐ SU/SD parameters changeable during program operation.
- ☐ Ability to view transient plots (e.g., Polar Plots, Bode Plots, Orbit, etc.) during a machine SU or SD without having to first upload the data.
- ☐ Initiation of SU/SD data collection based on detecting the Keyphasor sensor change in RPM eliminating the requirement for an externally wired contact closure.
- ☐ Two independent Startup/Shutdown buffers.
- ☐ One independent Delta-Time buffer.

Data

- ☐ Delta time and delta RPM buffers each contain 320 vector and 32 waveform records.
- ☐ Vector records typically include Direct, Gap, 1X Amplitude, 1X Phase, 2X Amplitude, 2X Phase, and Not 1X for each dynamic monitor channel.
- ☐ Waveform records include both synchronous and asynchronous data.
- ☐ Option of selecting the 1X, 2X, and Not 1X data to be generated either from the monitoring system when available, or the communication processor.

Waveform Sampling

- ☐ Waveforms are dc coupled to prevent low frequency roll off.
- ☐ Voltage inputs of ± 25 Volts with up to 25 Volts peak-to-peak ac signal.
- ☐ Simultaneous Synchronous and Asynchronous data sampled during both SU/SD and steady state conditions.
- ☐ User configurable Synchronous data:
- ☐ 128 samples/rev for 8 revolutions
- ☐ 64 samples/rev for 16 revolutions

- ☐ 32 samples/rev for 32 revolutions
- ☐ Asynchronous data sampled to support a 400-line Spectrum at 20 kHz frequency span.
- ☐ Asynchronous data is anti-alias filtered.
- ☐ Waveform data is pre-triggered.

Ethernet

- ☐ Host to TDXnet communication link is Ethernet, 10 Mbps, and conforms to IEEE802.3.
- ☐ TCP/IP protocol encapsulating our BN proprietary protocol.
- ☐ RJ-45 (telephone jack style) and AUI 15-pin connections.

SDI Data

- ☐ Supports both Allen-Bradley and MODBUS protocols.
- ☐ An RS485 communication link which supports multidrop functionality.
- ☐ SDI support including 1X, 2X, high-resolution gap, and NOT 1X static data.
- ☐ Data access now includes rpm values and their status for all four TDXnet Keyphasor Inputs.
- ☐ Registers organized both by channel and proportional value type configurations.

System

- ☐ Compatible with Data Manager 2000 Version 2.0 or later and Machine Condition Manager* 2000 version 1.0 or later.
- ☐ Support for 3500, 3300, and 2201 monitors.
- ☐ Support for TDXconnX to accommodate legacy monitoring systems.
- ☐ Support for Rackmate IX for multiple 3300 monitor racks to a single CP.
- ☐ Operates on +90 to +240 Vac, 50 to 60 Hz without any changes. It also accepts +24Vdc with modification; contact your local sales professional.
- ☐ Power Consumption: 89 Watts Maximum. Current draw: 0.75 Amps typical @ 110 Vac and 0.38 Amps typical at 220 Vac.