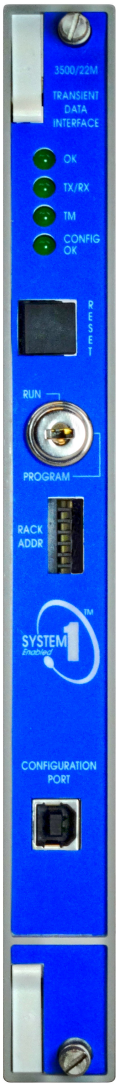
3500/22M Transient Data Interface Module

Datasheet

Cordant™

161581 Rev. AC



Description

The Bently Nevada™ 3500/22M Transient Data Interface (TDI) is the interface between the 3500 monitoring system and compatible software (System 1 Condition Monitoring and Diagnostic software and 3500 System Configuration software). The TDI combines the function of a 3500/20 Rack Interface Module (RIM) with the data collection capability of a communication processor such as TDXnet.

The TDI resides in the slot adjacent to the power supplies of a 3500 rack. It interfaces with M series monitors (3500/40M, 3500/42M, etc.) to continuously collect steady state and transient dynamic (waveform) data and pass this data through an Ethernet link to the host software. Refer to the Compatibility section at the end of this document for more information.

Static data capture capability is standard with the TDI. However, using an optional Channel Enabling Disk will allow the TDI to capture dynamic and high-resolution transient data as well. The TDI incorporates the communication processor function within the 3500 rack.

Although the TDI provides certain functions common to the entire rack, it is not part of the critical monitoring path and has no effect on the proper, normal operation of the overall monitor system for automatic machinery protection. Every 3500 rack requires one TDI or RIM, which always occupies Slot 1 (next to the power supplies).

Baker Hughes

Ordering Considerations

Compatibility

When upgrading your 3500 rack from a 3500/20 RIM to a 3500/22 TDI, there may be 3500 M modules (e.g. 3500/40M) that are not compatible with the 3500/22. Please check with **BNTechsupport.com** for additional details.

CAUTION

Upgrade advisory.

If the RIM I/O is left in the rack when installing a new TDI, it will damage the TDI.

Please perform the upgrade in this order:
1)Remove RIM
2)Remove RIM I/O
3) Insert TDI I/O
4) Insert TDI.

Network Requirements

For complete information on network requirements, refer to the *3500 Hardening Guide* [document 106M9733]. This document can be requested at **BNTechsupport.com**.

Ordering Information

For the detailed listing of country and product-specific approvals, refer to the *Approvals Quick Reference Guide (108M1756)*.

For additional technical documentation, please log in to bntechsupport.com and access the Bently Nevada Media Library.

3500/22M TDI Module and I/O

3500/22-AA-BB-CC

A: Transient Data Interface Type	
01	Standard (use for standard monitoring applications)
B: I/O Module Type	
01	10Base-T/100Base-TX Ethernet
02	100Base-FX (Fiber Optic) Ethernet
03	10Base-T/100Base-TX Ethernet with gold-plated OK Relay contacts
04	100Base-FX (fiber optic) Ethernet with gold-plated OK Relay contacts
C: Agency Approval	
00	None
01	CSA/NRTL/C (Class 1, Division 2)
02	Multi (CSA, ATEX, IECEx)

3500 22M Dynamic Data Enabling Disk

This disk enables the number of channels of dynamic data (i.e., the ability to collect waveforms) that the TDI will support. There are two levels of dynamic data. Steady-State points are channels that collect waveform data due either to a software command or to an alarm event, and therefore support current values, scheduled waveform capture, and alarm data capture. Transient points provide all the function of a Steady-State point with the additional capability of waveform collection due to parameter variations such as machine speed.

3500/09-AAA-BBB

A: Steady-State Points	
000 to 672	Steady-State Points
B: Transient Points	
002 to 672	Transient Points

The sum of the two fields must be equal to or less than 672. One disk can support multiple TDIs.

Ethernet Cables

Standard 10 Base-T/100 Base-TX Shielded Category 5 Cable with RJ-45 connectors (solid conductor)

138131-AAA

A: Cable Length	
006	6 feet (1.8 m)
010	10 feet (3.0 m)
025	25 feet (12.2 m)
040	40 feet (12.2 m)
050	50 feet (15.2 m)
075	75 feet (22.9 m)
085	85 feet (25.9 m)
100	100 feet (30.5 m)
120	120 feet (36.6 m)
150	150 feet (45.7 m)
200	200 feet (61.0 m)
250	250 feet (76.2 m)
320	320 feet (97.5 m)

Standard lengths for 10Base-T/100Base-TX cabling are shown above.

Fiber Optic Cable

100 Base-FX fiber optic cable with MT-RJ female connectors.

175M0075-AAAA

A: Cable Length in feet up to 1000 ft (300 m)	
0010	10 feet (3.0 m)
0100	100 feet (30.5 m)
0150	150 feet (45.7 m)
0330	330 feet (100.6 m)
0500	500 feet (152.4 m)
1000	1000 feet (304.8 m)

Spares

288055-01	Standard Transient Data Interface Module with USB cable
123M4610*	10 foot A to B USB cable
146031-01	10Base-T/100Base-TX I/O Module
146031-02	100Base-FX (Fiber Optic) I/O Module
161580	3500/22M TDI Operation and Maintenance User Guide
164466	Network Accessories Datasheet
00580441	Connector header, internal termination, 3-position, green
00580436	Connector header, internal termination, 6-position, green
111M5777	Connector header, internal termination, 2-position, green
166M2390	Connector header, push-in-spring type (alternative for PN 00580436)
166M4363	Connector header, push-in-spring type (alternative for PN 00580441)
146031-03	10Base-T/100Base-TX I/O Module GLD Plated

146031-04	100Base-FX (Fiber Optic) I/O Module GLD Plated

* The USB cable part number is 123M4610. This specific cable is required to maintain isolation between chassis and ground. It is also important that the computer being attached to the USB needs to be operating from batteries (i.e. NOT connected to ground) to avoid creating a ground loop.