

3500/25 Enhanced Keyphasor Module

Datasheet

Cordant™

141532 Rev. Y



Description

The Bently Nevada™ 3500/25 Enhanced Keyphasor Module is a half-height, two-channel module used to provide Keyphasor signals to the monitor modules in a 3500 rack. The module receives input signals from proximity probes or magnetic pickups and converts the signals to digital Keyphasor signals that indicate when the Keyphasor mark on the shaft coincides with the Keyphasor transducer. The 3500 Machinery Protection System can accept up to four Keyphasor signals for normal configuration and up to eight Keyphasor signals in a paired configuration.



Keyphasor signal is a once-per-turn or multiple-event-per-turn pulse from a rotating shaft or gear used to provide a precise timing measurement. This allows 3500 monitor modules and external diagnostic equipment to measure shaft rotative speed and vector parameters such as 1X vibration amplitude and phase.

The Enhanced Keyphasor Module is an improved 3500 system module. It offers expanded Keyphasor signal processing capabilities over the previous design while maintaining complete downward-compatibility in terms of form, fit and function with existing Keyphasor modules for use in legacy systems. The Keyphasor module, PWA 125792-01, is completely replaced by the updated 149369-01 module.

When a system Keyphasor input is required for Triple Modular Redundant (TMR) applications, the 3500 system should employ two Keyphasor modules. In this configuration, the modules work in parallel to provide both a primary and secondary Keyphasor signal to the other modules in the rack.



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A system with more than four Keyphasor inputs may use a paired configuration provided there are no more than four primary Keyphasor input signals. A paired configuration requires two consecutive monitoring positions in either the upper/lower or both half-slot positions. Four Keyphasor modules will accept four primary and four backup input channels and provide four output channels (one per module). A configuration of two paired and one non-paired (three Keyphasor modules total) is also possible. In such a configuration, the user may configure the one non-paired Keyphasor (order either two 2-channel or one 1-channel and one 2-channel option)

The Isolated Keyphasor I/O module is designed for applications where the Keyphasor signals are tied in parallel to multiple devices and require isolation from other systems, such as a control system. The Isolated I/O module was created specifically for Magnetic Pickup applications but is compatible with and will provide isolation for Proximiton* applications as long as an external power supply is provided.

The intent of this I/O module was primarily to measure shaft speed and not phase. The module can provide phase measurements, but this I/O introduces a slightly higher phase shift than the Non-Isolated I/O version. Figure 1 shows the amount of phase shift that the Isolated I/O modules will add at different machine speeds.

Enhanced product features include generation of once-per-turn event signals from multi-event-per-turn inputs, field-upgradeable firmware, and asset management data reporting.

External Termination Blocks

128718-01	Keyphasor External Termination Block (Euro Style Connectors)
128726-01	Keyphasor External Termination Block (Terminal Strip Connectors)

Cables

3500 Keyphasor (KPH) Signal to External Termination (ET) Block Cable

129530-AAAA-BB

A:Cable Length

0005	5 feet (1.5 metres)
0007	7 feet (2.1 metres)
0010	10 feet (3 metres)
0025	25 feet (7.5 metres)
0050	50 feet (15 metres)
0100	100 feet (30.5 metres)

B: Assembly Instructions

01	Not assembled
02	Assembled

Spares

149369-01	Enhanced Keyphasor Module
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This module may be ordered as a direct plug-in replacement for Keyphasor Module 125792-01.

125800-01	Keyphasor I/O Module (Internal Terminations)
126648-01	Keyphasor I/O Module (External Terminations)

125800-02	Isolated Keyphasor I/O Module (Internal Terminations) (Designed for use with Magnetic Pickups)
126648-02	Isolated Keyphasor I/O Module (External Terminations) (Designed for use with Magnetic Pickups)
135473-01	Keyphasor I/O Module (Internal Barriers and Internal Terminations.)
04425545	Grounding Wrist Strap (single use)
00580438	Connector Header, Internal Termination, 4-Position, Green
166M2391	Connector Header, Push-in-Spring Type (alternative for PN 00580438)
00502133	Connector Header, Internal Termination, 12-Position, Blue
129770	Keyphasor Module User Guide
Half-height Blank Monitor Cover Kit	
131151-01	Half-height Blank Front Panel Cover (qty 1, includes screws)

Half-height Card Adapter

125388-01	Half-height Chassis
125565-01	Card Guide
04300111	Assembly Screws (Order Qty. 3)