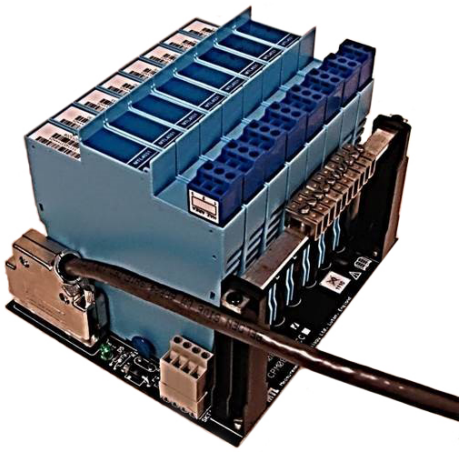
3500 Galvanic Isolators

Datasheet

Cordant™

141714 Rev. L



Description

The Bently Nevada™ 3500 Galvanic Isolator Interface is an intrinsically safe interface that can be located between a transducer system installed in a hazardous environment and a 3500 monitoring system installed in a safe environment (The isolator interface must be in the safe environment). It consists of vibration transducer interface modules, temperature converter modules and/or process variable modules, backplanes, interface cables, earth rails and installation hardware. Both MTL and Pepperl+Fuchs versions are available.

The Isolator Modules work in an intrinsically safe system to provide galvanic isolation for Proximity, Acceleration, Temperature and Current transducer systems. The Vibration Transducer Interface Module takes a Proximitor sensor, REBAM MicroPROX sensor, accelerometer, accelerometer interface module or aeroderivative interface module input to connect directly to a 3500 monitor depending on the backplane as described below. The Temperature Converter Module takes a thermocouple or RTD input and gives a proportional 4 to 20 mA output for use with a 3500/62 Process Variable Monitor. The 4 to 20 mA Process Variable Module takes a 4 to 20 mA input from a 2 or 3 wire transmitter and gives a proportional 4 to 20 mA output for use with a 3500/62 Process Variable Monitor.

Temperature Converter Modules can be easily programmed for different configurations using the 143324 MTL Configurator or the 103M7100 P+F Programming Adapter (See Ordering Information for specific instructions).

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There are three backplane types:

- The Vibration Backplane is an 8 position (8-channel) backplane for Vibration measurements. It can be connected to any two of the following monitor types: 3500/40, 3500/42, 3500/44, and 3500/50.
- The Keyphasor Backplane is a 4 position (4-channel) backplane for Keyphasor measurements using Proximitor sensor inputs. It can be connected to the 3500/25 monitor.
- The Temperature/PV Backplane is a 6 position (6-channel) backplane for Temperature or Process Variable measurements. It can be connected to the 3500/62 monitor.

The safe area signals between the backplane and the 3500 Monitoring System are connected using cable assemblies. The 3500 Monitor and 3500 Galvanic Isolator Interface backplane type determine the cable assembly type. See Graphs and Figures on page 13. This shows the 3500 Monitor, Cable, Backplane and Transducer combinations that should be used with the 3500 Galvanic Isolator Interface. The 3500 Field Wiring Package (document 130432, specifically drawings 141669 and 106M7817) shows how to connect transducers, power supplies and monitors to the 3500 Galvanic Isolator Interface.

Ordering Considerations

General

The MTL and P+F isolator Intrinsic Safety Electrical Parameters may not allow for interchangeability with existing installations. Ensure that all Approvals requirements are met.

The 3500 Galvanic Isolator Interface (Vibration) can receive inputs from the following approved Bently Nevada transducers:

- 3300 XL Proximitor
- 3300 5/8mm Proximitor
- 7200 5/8mm Proximitor
- 330400 Accelerometer
- Acceleration Interface Module (p/n 23733-03)
- Aeroderivative Interface Module (p/n 86517) (Velocity only)(MTL Backplane version only)
- 3300 REBAM MicroPROX
- 7200 REBAM MicroPROX

The 3500 Galvanic Isolator Interface (Temperature) can receive inputs from the following transducers selectable with the appropriate configurator:

- B Type Thermocouple
- E Type Thermocouple
- J Type Thermocouple
- K Type Thermocouple
- N Type Thermocouple
- R Type Thermocouple
- S Type Thermocouple
- T Type Thermocouple
- 2 Wire RTD
- 3 Wire RTD
- 4 Wire RTD

If thermocouples will be used, the 3500 Temperature Isolator comes with Cold Junction Compensation (CJC) Signal Connectors for the hazardous area inputs.

If using thermocouples with the P+F Temperature Backplane, be sure to select Option G when ordering 103M9110. This will include the user-installed CJC Terminal Blocks. (See Ordering Information)

The 3500 Galvanic Isolator Interface can be used with the following 3500 Monitors. Note the I/O module type must be External Termination unless cable assemblies with flying leads are used.

- 3500/25 Keyphasor Monitor
- 3500/40 Proximitor Monitor
- 3500/42 Proximitor/Seismic Monitor
- 3500/44 Aeroderivative Monitor
- 3500/50 Tachometer Monitor
- 3500/62 Process Variable Monitor
- 3500/72 Rod Position Monitor