Bently Nevada 128240-01

Prox/Seismic I/O Module with External Terminations

Bently Nevada 128240-01 is the external-termination Prox/Seismic I/O module for the 3500/42M machinery-protection monitor. It provides the rear-rack connection between field transducers and a four-channel vibration and position monitoring assembly. Seismoprobe is the designated transducer type for this I/O option; Prox/Accel and Velomitor signals are supported but not recommended for this selection. The associated monitor conditions the input signals, generates configured measurement values and compares them with programmable Alert and Danger alarm setpoints.



Technical Specifications

Product Identity	
Manufacturer	Bently Nevada
Complete part number	128240-01
Compatible monitor	3500/42M; monitor spare 176449-02
I/O ordering option	AA = 02
I/O dimensions	241.3 × 24.4 × 99.1 mm (H × W × D)
Rack space	One full-height rear I/O slot
Functional Configuration	
Termination	External; blocks and cables ordered separately
Transducer selection	Seismoprobe; Prox/Accel and Velomitor supported but not recommended
Performance & Power	
Monitor recorder outputs	4–20 mA; one proportional output per channel
Environment	
Operating temperature	–30 to +65 °C
Storage temperature	–40 to +85 °C

Selected original manufacturer pages follow on pages 3–5.

Compatibility & Selection Guide

System compatibility. The 3500/42M uses 3500 Rack Configuration Software for measurement functions and alarm settings. Channels 1/2 and 3/4 are programmed as pairs, supporting up to two functions at the same time. The general minimum software versions are 3500/01 v2.50, 3500/02 v2.20 and 3500/03 v1.21. Each channel has its own proportional recorder value; the selected sensor and channel function determine which vibration or position measurements are available.

Wiring & Installation Reference

Field connections

Connect through the correct Prox/Seismic external input block and matched cable.

Where recorder outputs are used, select the separate recorder termination block and recorder cable.

Installation and replacement

Identify transducers. Confirm the installed transducer types and the required 3500/42M measurement modes.

Match external hardware. Check the input and recorder block styles, cable part numbers and lengths.

Commission the channels. Follow the monitor user guide, then verify channel configuration and alarms.

Installation precautions. Use the applicable 3500 monitor user guide and the actual module markings for terminal assignments and service procedures. Match the complete I/O part number, monitor revision and transducer configuration before reconnecting field circuits.

View connection reference (PDF) · PDF page 5 | View module reference · PDF page 5

Manufacturer sources: 3500/42M Proximitor Seismic Monitor 143694 Rev. AE.

Filter Tracking / Stepping (Requires a valid speed signal)	
Switch from nominal to higher filter set	Current shaft speed ≥ 1.1 x (nominal shaft speed)
Switch from higher to nominal filter set	Current shaft speed ≤ 1.05 x (Nominal Shaft Speed)
Shaft speed error condition	Nominal filter set used

Environmental Limits

Operating Temperature	When used with Internal/External Termination I/O Module: -30°C to +65°C (-22°F to +150°F) When used with Internal Barrier I/O Module (Internal Termination): 0°C to +65°C (32°F to +150°F)
Storage Temperature	-40°C to +85°C (-40°F to +185°F).
Humidity	95%, noncondensing

Physical

Monitor Module (Main Board)	
Dimensions (Height x Width x Depth)	241.3 mm x 24.4 mm x 241.8 mm (9.50 in x 0.96 in x 9.52 in)
Weight	0.91 kg (2.0 lb)
I/O Modules (non-barrier)	
Dimensions (Height x Width x Depth)	241.3 mm x 24.4 mm x 99.1 mm (9.50 in x 0.96 in x 3.90 in)
Weight	0.20 kg (0.44 lb)
I/O Modules (barrier)	
Dimensions (Height x Width x Depth)	241.3 mm x 24.4 mm x 163.1 mm (9.50 in x 0.96 in x 6.42 in)
Weight	0.46 kg (1.01 lb)

Rack Space Requirements

Monitor	1 full-height front slot
I/O Modules	1 full-height rear slot

Barrier Parameters

The following parameters apply to CSA-NRTL/C and ATEX approvals.

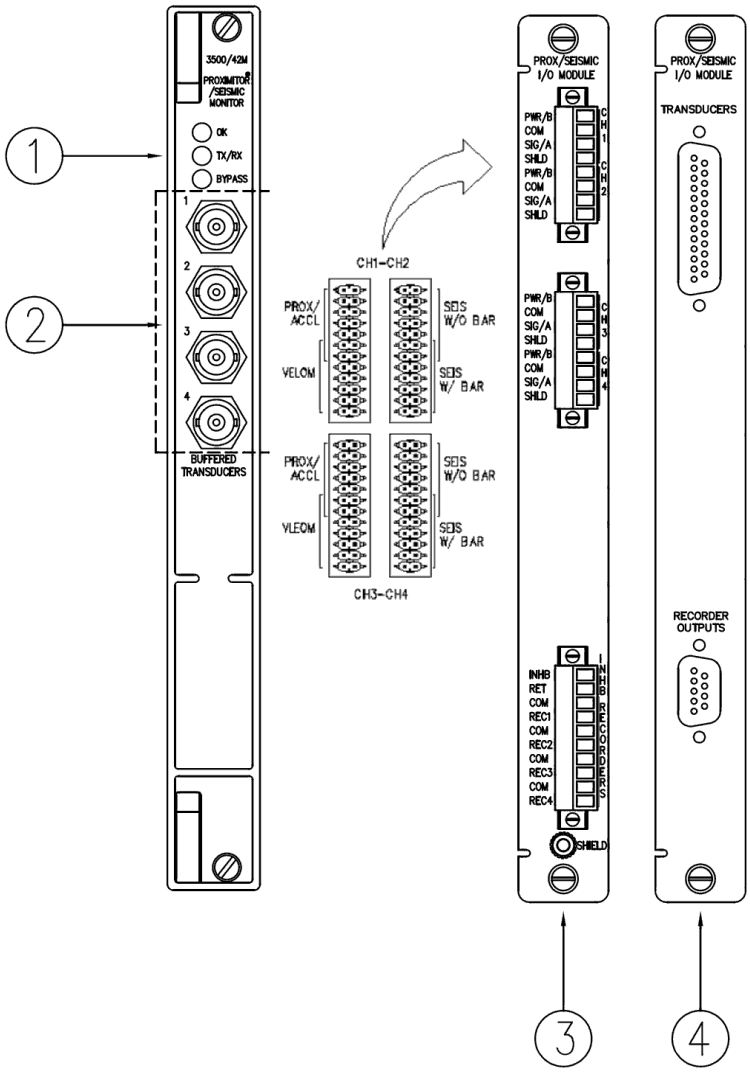
Proximitor Barrier	
Circuit Parameters	Vmax (PWR) = 26.80 V (SIG) = 14.05 V Imax (PWR) = 112.8 mA (SIG) = 2.82 mA Rmin (PWR) = 237.6 Ω (SIG) = 4985 Ω
Channel Parameters (entity)	Vmax = 28.0 V Imax = 115.62 mA Rmin (PWR) = 237.6 Ω (SIG) = 4985 Ω
Seismic Barrier	
Circuit Parameters	Vmax (PWR) = 27.25 V Imax (PWR) = 91.8 mA Rmin (PWR) = 297 Ω
Channel Parameters (entity)	Vmax = 27.25 V Imax = 91.8 mA Rmin (PWR) = 297 Ω

I/O Module Types

AA Ordering Option	I/O Part Number	I/O Description	Transducer Type
01	128229-01	Prox/Seismic I/O Module with internal terminations	Seismoprobe Prox/Accel and Velomitor are supported but are not recommended.
02	128240-01	Prox/Seismic I/O Module with external terminations	Seismoprobe Prox/Accel and Velomitor are supported but are not recommended.
04	135489-01	I/O Module with internal Barriers, internal terminations, 4 x Prox/Accel	Prox/Accel on channels 1 through 4
05	135489-02	I/O Module with internal barriers, internal terminations, 2 x Prox/Accel and 2 x Velomitor	Prox/Accel on channels 1 and 2 Velomitor on channels 3 and 4
06	135489-03	I/O Module with internal barriers, internal terminations, 4 x Velomitor	Velomitor on channels 1 through 4
07	138708-01	Shaft Absolute I/O Module with internal terminations	Prox/Accel or Velomitor or Seismorprobe
08	138700-01	Shaft Absolute I/O Modules with external terminations	Prox/Accel or Velomitor or Seismorprobe
09	140471-01	Prox/Velom I/O Module with internal terminations	Prox/Accel, Velomitor or HTVS
10	140482-01	Prox/Velom I/O Module with external terminations	Prox/Accel, Velomitor or HTVS

External termination blocks cannot be used with Internal Termination I/O Modules. When ordering I/O modules with external terminations, order the external termination blocks and cable separately for each I/O module.

Graphs and Figures



1. Status LEDs
2. Buffered Transducer Outputs
3. Prox/Seismic I/O Module with Internal Terminations
4. Prox/Seismic I/O Module with External Terminations

Figure 1: Front and Rear Views of 3500/42M Monitor