Bently Nevada 128229-01

Prox/Seismic I/O Module with Internal Terminations



Bently Nevada 128229-01 is the internal-termination Prox/Seismic I/O module for a 3500/42M machinery-monitoring assembly. It provides the rear interface between the selected transducers and the front monitor, which performs signal conditioning, vibration or position measurement, and alarm comparison. The current I/O selection table associates this module with Seismoprobe applications; Prox/Accel and Velomitor inputs are supported but are not recommended for this I/O choice. This distinction helps identify the correct spare for an existing measurement channel, while keeping the 128229-01 rear I/O separate from the front processing monitor.

Technical Specifications

Product Identity	
Brand	Bently Nevada
Part number	128229-01
Product type	Prox/Seismic I/O module
Rack space	One full-height rear I/O slot
Dimensions (H x W x D)	241.3 x 24.4 x 99.1 mm (non-barrier I/O module)
Weight	0.20 kg (0.44 lb; non-barrier I/O module)
Functional Configuration	
System / monitor	3500 system / 3500/42M
Termination	Internal
I/O ordering option	AA 01 in 3500/42-AA-BB
Transducer selection	Seismoprobe; Prox/Accel and Velomitor are supported but not recommended
Replacement connector headers	00580434 (8-pin); 00580432 (10-pin)
Performance & Power	
Transducer supply parameters	Prox/Accel or Velomitor configuration: 23.9 V, 45.5 mA, 1.09 W. Seismoprobe configuration: 6.82 V, 2.75 mA, 0.02 W.
Environment	
Operating temperature	-30 to +65 °C (3500/42M with internal/external termination I/O)
Storage temperature	-40 to +85 °C
Relative humidity	95%, noncondensing

Selected original manufacturer material follows on pages 3–7.

Compatibility & Selection Guide

Configuration checks. The host 3500 rack provides the system mounting and module interconnection. When planning a replacement or system expansion, match the sensor arrangement, available rear slot, associated monitor and channel configuration. The manufacturer identifies Seismoprobe for this I/O option and cautions that Prox/Accel and Velomitor, although supported, are not recommended.

Wiring & Installation Reference

Internal I/O connections

CH1-CH2 / CH3-CH4 · PWR/B, COM, SIG/A, SHLD · Sensor terminal groups shown in the manufacturer layout

Lower connector · INHB, RET, COM, REC1-REC4 · Labels shown in the lower connector group

Channel-pair jumpers · Configuration groups · Use the matching transducer configuration shown in the manufacturer figure

Rack placement and selection

1. Identify the I/O type Match the complete label to 128229-01. It is the Prox/Seismic I/O with internal terminations; an external-termination I/O uses a different connection arrangement.

2. Confirm the rack position Reserve one full-height rear I/O slot. Rack and panel configurations provide rear wiring access; the bulkhead rack provides front access.

3. Check the transducer configuration The official selection table lists Seismoprobe. Prox/Accel and Velomitor are supported but not recommended for this I/O option. Match the installed channel-pair configuration before replacement.

Installation precautions

The drawings identify connector labels and I/O variants; they do not replace the matching 3500/42M installation instructions. Do not infer pin assignments from physical appearance.

For hazardous locations, confirm the complete assembly approval and installation drawing. The manufacturer specifies different hazardous-area ambient limits and requires drawing 149243 or 149244 for non-barrier I/O configurations.

View I/O layout (PDF) — page 7 · View I/O dimensions (PDF) — page 3

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

Hazardous Area Approvals

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.

cNRTLus

When used with I/O module ordering options without internal barriers	Class I, Zone 2: AEx/Ex nA nC ic IIC T4 Gc; Class I, Zone 2: AEx/Ex ec nC ic IIC T4 Gc; Class I, Division 2, Groups A, B, C, and D; T4 @ Ta= -20˚C to +65˚C (-4˚F to +149˚F) When installed per drawing 149243 or 149244.
When used with I/O module ordering options with internal barriers	Class I, Zone 2: AEx/Ex nA nC ic [ia Ga] IIC T4 Gc; Class I, Zone 2: AEx/Ex ec nC ic [ia Ga] IIC T4 Gc; Class I, Division 2, Groups A, B, C, and D (W/ IS Output for Division 1) T4 @ Ta= -20˚C to +65˚C (-4˚F to +149˚F) When installed per drawing 138547.

ATEX/IECEx

When used with I/O module ordering options without internal barriers	II 3 G Ex nA nC ic IIC T4 Gc; Ex ec nC ic IIC T4 Gc; T4 @ Ta= -20˚C to +65˚C (-4˚F to +149˚F) When installed per drawing 149243 or 149244.
When used with I/O module ordering options with internal barriers	II 3(1) G Ex nA nC ic [ia Ga] IIC T4 Gc; Ex ec nC ic [ia Ga] IIC T4 Gc; T4 @ Ta= -20˚C to +65˚C (-4˚F to +149˚F) When installed per drawing 138547.

Output Supply Parameters

The following values are accurate regardless of external barrier connections.

I/O Part and Order Options	Description	Configuration	Supply Parameters		
			U (V)	I (mA)	P (W)
128229-01 A 01	Prox/Seismic I/O Module with Internal Terminations	Prox/Accel	23.9	45.5	1.09
		Velomitor	23.9	45.5	1.09
		Seismoprobe	6.82	2.75	0.02
128240-01 A 02	Prox/Seismic I/O Module with External Terminations	Prox/Accel	23.9	45.5	1.09
		Velomitor	23.9	45.5	1.09
		Seismoprobe	6.82	2.75	0.02
138708-01 A 07	Shaft Absolute I/O Module with Internal Terminations	Prox & Velomitor	23.9	45.5	1.09
		Prox & Seismoprobe	6.82	45.5	0.31
138700-01 A 08	Shaft Absolute I/O Modules with External Terminations	Prox & Velomitor	23.9	45.5	1.09
		Prox & Seismoprobe	6.82	45.5	0.31
140471-01 A 09	Prox/Velom I/O Module with Internal Terminations	Prox/Accel	23.9	45.5	1.09
		Velomitor	23.9	45.5	1.09
140482-01 A 10	Prox/Velom I/O Module with External Terminations	Prox/Accel	23.9	45.5	1.09
		Velomitor	23.9	45.5	1.09

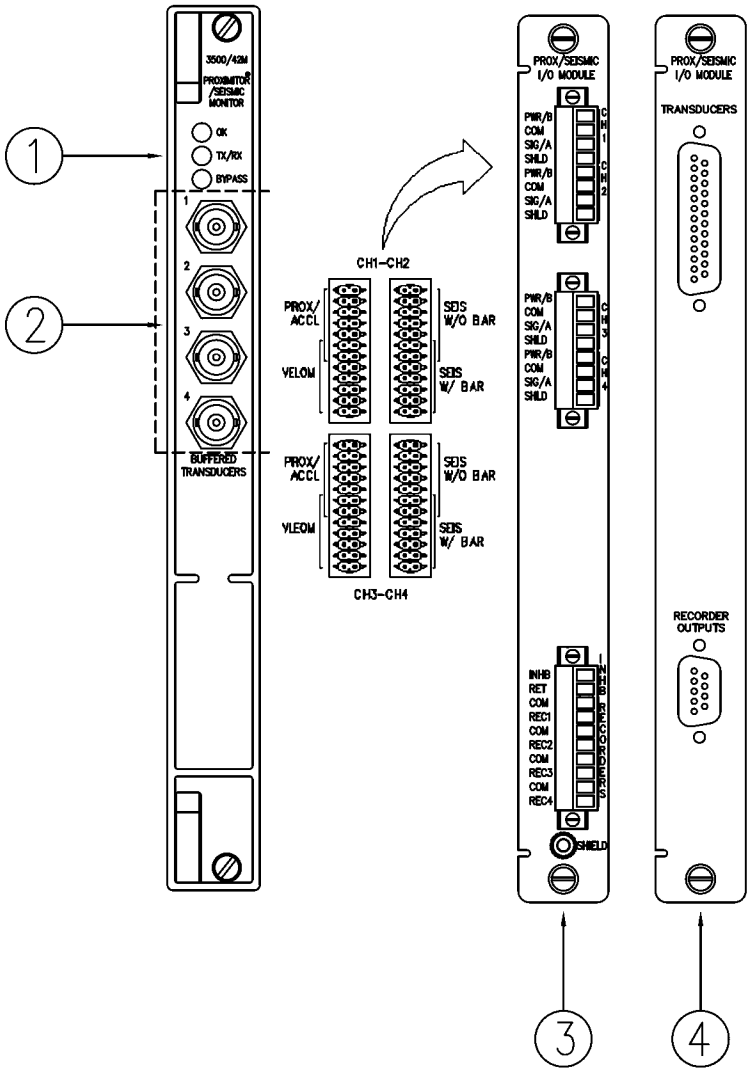
I/O Module Types

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