

Metrix SV6300 (Two-Wire) Velocity Sensor Connecting to BN 3500 Rack

Installation Manual

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1.0 PURPOSE

The purpose of this procedure is to configure the BN 3500 rack to be compatible with a Metrix SV6300 2-wire Velocity Sensor (Note: The SV6300 is not polarity sensitive).

2.0 REFERENCES

- SV6300 Datasheet-1058371
- SV6300 Manual-1058404
- BN 3500/42M Datasheet-143694
- BN 3500 Rack Configuration Manual

2.0 PROCEDURE

Prior to installation, one needs to have access to the BN software with password and username. This may require a purchase in order to make changes to the set-up and configuration. You will need an USB to RS232 communications cable. The USB plugs into the operator's laptop and the 9-way D-type connector into the BN 3500 rack.









From 3500 configuration software, click File > Connect > Direct.



5. Verify Rack Address and center Connect Password





Place arrow over 3500/42M module, right-click on Monitors > 42/42M Proximitor/Seismic Monitor > 3500/42M

3500 System Configuration		- ×	
File Edit Utilities Options Help			
	Rack Address: 1		
3500 1 2 3	5 6 7 8 9 10	11 12 13 14 15	
Slot Left Click a given slot 3500			
and choose	Monitors >	/40/40M Proximitor Monitor	>
place there.	Gateways >	/42/42M Proximitor/Seismic Monitor	> 3500/42M
non empty	Display Modules >	/44/44M Aeroderivative GT Monitor	> 3500/42
slot to get a	/25 Keyphasor Module >	/45 Position Monitor	
menu. 15 🕄 🔿	Relays >	/46M Hydro Monitor	
3500 -	Fathing I/O Madula	/50/50M Tachometer Monitor	>
3500	Earthing I/O Module	/53 Overspeed Detection Mon	>
Options	No Module	/60 Temperature Mon(NO Rec)	
Setpoints		/61 Temperature Mon w/Recs	
Point Names		/62 Process Variable Mon	
Rack Type: Standard Left button to replace: A	42M Proximitor/Seismic Mon, slot 4.	/63 Gas Detection Monitor	
		/64M Dynamic Pressure Mon	
		/65 16 Chan Temperature Mon	
		/70M Impulse/Velocity Mon	
		/72M Rod Position Monitor	
lictions: On 🛛 🎇 Accessibility: Investigate	(D) Focus	/77M Cylinder Pressure Mon	96
		/82 Motor Stator Insulation Monitor	

Make sure both chanels are set-up as Active

Four Channel /42M Proximitor/Seismic Mon		\times
Slot: Rack Type: Configuration ID 5 Standard	Slot Input/Output Module Type Prox/Seismic I/O Module (Internal Termination)]
Channel Pair 1 and 2 Channel Pair Type Radial Vibration	Channel Pair 3 and 4 Channel Pair Type Radial Vibration	-
Keyphasor Association No Keyphasor Primary Upper © Channel 1 © Channel 2 Lower © Channel 1 © Channel 2 Lower © Channel 1 © Channel 2 Lower © Channel 1 © Channel 2	Keyphasor Association Image: No Keyphasor Primary Upper Image: Channel 1 Image: Channel 2 Lower Image: Channel 1 Image: Channel 2 Lower Image: Channel 1 Image: Channel 2	
Channel 1 ✓ Active <u>①</u> ptions ∠===	Channel 3 Active <u>Options</u> Channel 4 Active <u>Options</u> Channel 4 Active <u>Options</u>	
OK Set Defaults Point Names Mode 5 Mode 5	Cancel Print Form Help 3500)





Click drop down box for Channel Pair Type and select Velocity. Channels come in pairs: 1 &2 and 3 & 4 which means if Channel 1 is set-up as velocity, then Channel 2 must have velocity inputs as well.

🛱 Four Channel /42M Proximitor/Seismic Mon		×
Slot: Rack Type: Configuration ID 5 Standard	Slot Input/Output Module Type Prox/Seismic I/O Module (Internal Termination)	•
Channel Pair 1 and 2 Channel Pair Type	Channel Pair 3 and 4 Channel Pair Type	
Acceleration Eccentricity Acceleration Velocity Acceleration 2 Velocity 2 Circular Acceptance Regions Shaft Absolute Radial Vibration REBAM V Circular Acceptance Regions V Lower Circular Circler Circular Circler Circ	Radial Vibration Keyphasor Association No Keyphasor Primary Upper © Channel 1 © Channel 2 Lower © Channel 1 © Channel 2 Lower © Channel 1 © Channel 2	
Channel 1 ===> Channel 2 Image: Channel 2 Image: Channel 2 Image: Options Image: Channel 2 Image: OK Image: Channel 2 Image: OK Set Defaults OK Set Defaults	Channel 3 Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: Channel 4 Image: C	š 3500
Mode S	Setup	

Click on options for Channel 1

Channel Pair 1 and 2 Channel Pair Type	
Velocity	
-Keyphasor Association -	
🔽 No Keyphasor	
- Primary	Backup
Upper	Upper
C Channel 1	C Channel 1
C Channel 2	C Channel 2
Lower	Lower
C Channel 1	C Channel 1
C Channel 2	C Channel 2
Channel 1 Active <u>Options</u>	<pre> Channel 2 Channel 2</pre>



Click on drop down box for Transducer Selection and Select Nonstandard

🔁 Velocity -		×
Channel: 1 (Active)	Slot: 5 Ra	ack Type: Standard
Channel Frequency Support 3 - 5,500 Hz Enable Full-scale Range Direct 0-0.5 in/s pk Integrate	Trip Multiply 1.00 🖨 1.00 Transducer Selection	to 3.00 (steps of 0.25)
Recorder Out None Two mA Clamp Corner Frequencies	Type Velomitor 9200 2-wire Seismoprob 47633 2-wire Seismoprob 86205 2-wire Seismoprol Nonstandard 2-wire Seis Alarm Velomitor	Customize e ition: be moprobe
C Low-pass Filter None ▼ 3 - 400 Hz None ▼ 40 - 5,500 Hz	Nonstandard Alert Image: Constant of the second	C Internal MTL 787(-) Zener Ext. K Mode
Delay Danger 3 ↓ 1.0 ↓ 100 ms 1 - 60 s 1.0 - 60.0 s 1.0 - 60.0 s 1.0 - 60.0 s	Danger C Latching Nonlatching C	 Nonlatching med OK Channel Defeat Enabled C Disabled
OK Set Defaults Cancel	CP Mod Print Form	<u>H</u> elp 3500

Select Scale Factor 100 mV/ips (inches per second or millimeters per second).

🛱 Nonstandard Transducer	Х
(None) 1 5 Rack File Channel Slot	
100.0	
OK Limits Upper Lower □-17.95	
Set <u>D</u> efaults <u>P</u> rint Form	
0 <u>K</u> Cancel <u>H</u> elp 350	00



Make selection for Full-scale Range (e.g. select 0-1 in/s pk, 0-25 mm/s, etc.).

	X
Channel: 1 (Active)	Slot: 5 Rack Type: Standard
Channel Frequency Support 3 - 5,500 Hz Enable Direct 0-0.5 in/s pk Integrate	Trip Multiply 1.00 🖨 1.00 to 3.00 (steps of 0.25)
Recorder Out None Two mA Clamp	Type Nonstandard Customize
Corner Frequencies High-pass Filter None 3 - 400 Hz	Alarm Mode Alert © Latching Alert C Internal © MTL 764(-) Zener Ext.
Delay Alert Danger	C Nonlatching Danger C Latching C
3 ▼ 1.0 ▼ 100 ms 1 - 60 s 1.0 - 60.0 s OK Set Defaults Cancel	C Nonlatching Imed of Channel Dereat Imed of Chann
Channel: 1 (Active)	X Slot: 5 Rack Type: Standard
Channel Frequency Support 3 - 5,500 Hz	
Enable Full-scale Range Direct 0-1 in/s pk 0-0.5 in/s pk 0-1 in/s pk 0-1 in/s pk	Trip Multiply 1.00 1.00 to 3.00 (steps of 0.25) Transducer Selection
Enable Full-scale Range Direct 0-1 in/s pk 0-0.5 in/s pk 0-1 in/s pk 0-2 in/s pk 0-2 in/s ms 0-1 in/s ms 0-1 in/s ms 0-1 in/s ms 0-2 in/s ms 0-1 in/s ms 0-2 in/s ms 0-2 in/s ms 0-2 in/s pk	Trip Multiply 1.00 (steps of 0.25) Transducer Selection Type Nonstandard I/O Module Attached - Jumper Position: N/A
Enable Full-scale Range Direct 0-1 in/s pk 0-0.5 in/s pk 0-1 in/s pk 0-2 in/s pk 0-2 in/s pk 0-2 in/s rms 0-1 in/s rms 0-1 in/s rms 0-1 in/s rms 0-1 in/s rms 0-2 in/s rms 0-1 in/s rms 0-2 in/s rms 0-1 in/s rms 0-2 in/s rms 0-2 in/s rms 0-2 in/s rms 0-2 in/s rms 0-1 in/s rms 0-2 in/s rms 0-2 in/s rms 0-2 in/s rms 0-2 in/s rms 0-3 in/s rms 0-40 mm/s pk Corner F 0-20 mm/s pk High-pass Filter None ▼ 3 - 400 Hz 40 - 5 500 Hz	Trip Multiply 1.00 (steps of 0.25) Transducer Selection Type Nonstandard I/O Module Attached - Jumper Position: N/A Alarm Mode Alart I Latching O Nonlatching
Enable Full-scale Range Clamp Value Direct 0-1 in/s pk 0.000 ♀ 0-0.5 in/s pk 0.000 ♀ 0-1 in/s pk 0.000 ♀ 0-2 in/s pk 0.000 ♀ 0-1 in/s pk 0.000 ♀ 0-2 in/s pk 0.000 ♀ 0-1 in/s pk 0.000 ♀ 0-2 in/s pk 0.000 ♀ 0-1 in/s pk 0.000 ♀ 0-2 in/s rms 0.1 in/s rms 0-1 in/s rms 0.1 in/s rms 0-2 in/s rms 0.10 mm/s pk Corner F 0-20 mm/s pk ✓ High-pass Filter None ▼ 3 400 Hz 1.0 ♀ Delay 1.0 ♀ 0 elay 1.0 ♀	Trip Multiply 1.00 (steps of 0.25) Transducer Selection Type Nonstandard I/O Module Attached - Jumper Position: I/O Module Attached - Jumper Position: N/A Alarm Mode Alert © Latching © Nonlatching OK Mode © Latching © Nonlatching Timed OK Channel Defeat © Enabled



If more than one input, then select Copy. This will duplicate Channel 1 set-up into Channel 2. If not duplicating, then set up Channel 2 to required configuration. Note: Both Channel 1 and Channel 2 must be Velocity.

🕏 Four Channel /42M Proximi	tor/Seismic Mon
Slot: Rack Type: 5 Standard	Configuration ID
Channel Pair 1 and 2 Channe Velocity Keyphasor Association	el Pair Type
🔽 No Keyphasor	
Primary	Backup
Upper	Upper
C Channel 1	C Channel 1
C Channel 2	C Channel 2
Lower	Lower
C Channel 1	C Channel 1
C Channel 2	C Channel 2
Channel 1 ✓ Active 	Channel 2 COPY COPY C== Channel 2
O <u>K</u> Se	et <u>D</u> efaults P <u>o</u> int Names

From the Options screens, Slot Input/Output Module Type, use the drop down box and select Prox/Seismic I/O Module (Internal Termination). This procedure assumes you are connecting the velocity sensor directly to the rack, if not use External Termination.

Slot: Rack Type: 5 Standard Channel Pair 1 and 2	Configuration IC		Slot Input/Out Prox/Seismic Prox/Seismic I Prox/Seismic I Prox/Velom I// Barrier Prox/S Barrier Prox/S Barrier Proxim Channe	put Module Type I/O Module (Internal /O Module (Internal /O Module (External O (Internal Terminat O (External Terminal cismic I/O (2 Prox// c) (/O (4 Velom) tor I/O (4 Prox/Acc I Pair 3 and 4	I Termination) I Termination) I Termination) ion) tion) Accel, 2 Velom) el) Pair Type	
Velocity		-	Badial	Abration	errair Type	-
Keyphasor Associatio	n		Keypha	asor Association — Keyphasor		
Primary	Backup		- Prima	10	Backup	
Upper C Channel 1 C Channel 2 Lower C Channel 1 C Channel 2	Upper C Chann C Chann Lower C Chann C Chann	el 1 el 2 el 1 el 2	upper upper copy Lower <=== C C	hannel 1 hannel 2 hannel 1 hannel 2	Upper Channel 1 Channel 2 Lower Channel 1 Channel 2	
Channel 1 ✓ Active <u>O</u> ptions	Chan	nel 2 .ctive Options	Channe I Ac	el 3 tive Iptions	Channel 4 Active Option	ns
0 <u>K</u>	Set <u>D</u> efaults	Point Names	Cancel	Print Form	Help	3500
		Mode S	Setup			



From the Transducer Selection box, Type "Nonstandard" select Customize. This will present the Nonstandard Transducer Jumper Selection box.

	×
Slot: 5	Rack Type: Standard
Trip Multiply 1.00 🖨	1.00 to 3.00 (steps of 0.25)
	N/A
Alarm Mode Alert C Latching Nonlatching	Barriers None C Internal MTL 796(-) Zener Ext. C Galvanic Isolator
Danger © Latching © Nonlatching	C Latching C Latching Nonlatching Timed OK Channel Defeat C Enabled C Disabled
CP Mod Print Form	<u>H</u> elp 3500

From the Nonstandard Transducer Jumper Selection box, select Velomitor, then click OK

Nonstandard Transducer Jumper Selection: SLOT 4		
Select Jumper Position Prox/Accel Velomitor	Please indicate where the Jumper will be positioned on the I/O module for the Nonstandard transducers on Channel Pair 1 and 2	
○ Seismic without Barriers		
C Seismic with Barriers	0 <u>K</u>	



Make sure jumpers are applied to the Prox/Seismic I/O module for the Velomitor jumpers for the associated 42M you are configuring.



Use only PWR/B and SIG/A for the wired connection for the 2-wire velocity sensor.



