

Metrix SA6200A (Two-Wire) Accelerometer Replacing 3-Wire Accelerometer on 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 SA6200A 2-wire Accelerometer (Note: The SA6200A is not polarity sensitive).

2.0 REFERENCES

- SA6200A Datasheet-1009516
- SA6200A Manual-M9313
- 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	n Configuration							-		×				
File Edit Ut	File Edit Utilities Options Help													
	# <u>* </u>	3 5 9	*	P 😰 F	Rack Addre	ess: 1				F				
3500	1	2 3	4 9	56	7 8	9	10	11 12	13 1	14 15				
Slot Left Click a given slot	3500		41	° °	° (¢	• •		• •				
and choose			0	Monitors			>	/40/4	OM Proxi	mitor Monito	r	>]		
place there.	C MONTEN		۲	Gateway	s		>	/42/4	2M Proxi	mitor/Seismi	c Monitor	>	3500/42M	
non empty	·			Display N	Aodules		>	/44/4	4M Aeroo	derivative GT	Monitor	>	3500/42	
slot to get a pop up	ria de la comunicación de la com		2	/25 Keyp	hasor Mo	dule	>	/45 Pc	osition M	lonitor				
menu.	15 🛒	CCC	2	Relays			>	/46M	Hydro M	Ionitor				
	3500			Farthing	I/O Mode	de		/50/5	0M Tacho	ometer Monit	or	>		
Onting			- 100	carting	i/O mode	JIC		/53 O	verspeed	Detection M	on	>		
Uptions	MEVADA U		744	No Mod	ule			/60 Te	mperatu	re Mon(NO R	lec)			
Setpoints					/61 Te	mperatu	ire Mon w/Re	cs						
Point Names /62 Process					ocess Va	riable Mon								
Rack Type: Sta	ndard Left butto	in to replace: 74	2M Proxin	ntor/Seismi	c Mon, slot	t 4.	_	/63 G	as Detect	tion Monitor				
								/64M	Dynamic	c Pressure Mo	n			
								/65 16	Chan Te	emperature M	lon			
								/70M	Impulse/	/Velocity Mor	1			
								/72M	Rod Posi	ition Monitor				
fictions: On 😵	tions: On 🕅 Accessibility: Investigate (D) Focus				cus	/77M	Cylinder	Pressure Mo	n	2	5			
								/82 M	otor Stat	tor Insulation	Monitor			

Make sure both chanels are set-up as Active

Four Channel /42M Pro	oximitor/Seismic Mon				×
Slot: Rack Type: 4 Standard	Configuration ID	Slot I	nput/Outp /Seismic I	out Module Type /O Module (Internal T	ermination)
Channel Pair 1 and 2 -	annel Pair Type		Channel	Pair 3 and 4 Channel I	Pair Type
Radial Vibration	•		Radial V	ibration	•
Keyphasor Associatio No Keyphasor	n		Keypha	sor Association Keyphasor	
Primary	Backup		- Primar	y	Backup
Upper	Upper		Upper Upper		
Channel 1	Channel 1	>	Channel 1 Channel 1		
C Channel 2	C Channel 2		ି ପ	C Channel 2	
Lower	Lower		Lower		Lower
		<===	C Ch	annel 1	
	Channel 2		C Ch	annel 2	Channel 2
Channel 1 ✓ Active <u>O</u> ptions		Channe	I 3 ive ptions	Channel 4 Active <u>Options</u>	
0 <u>K</u>	Set Defaults Point Names	Can	cel	Print Form	<u>Help</u> 3500
	Mode	Setup			



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

Four Channel /42M Proximitor/Seismic Mon	×
Slot: Rack Type: Configuration ID 4 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
Radial Vibration Radial Vibration Radial Vibration Radial Vibration Radial Vibration Radial Vibration Content of the second secon	Radial Vibration Keyphasor Association No Keyphasor Primary Upper © Channel 1 © Channel 2 Lower Channel 1 © Channel 1
Channel 1 Active Options Channel 2 Active Options Channel 2 Active Options OK Set Defaults Point Names	Channel 3 Channel 4 Qptions Channel 4 Channel 4 Qptions Channel 4 Qptions Channel 4 Solutions Channel 4 Solutions
Mode Se	tup

Click on options for Channel 1

Channel Pair 1 and 2 Channel Pair Type			
Acceleration	.		
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 Dptions	<pre> Channel 2 Channel 2 Active ①ptions</pre>		



Click on drop down box for Transducer Selection and Select Nonstandard

🛱 Acceleration -	×
Channel: 1 (Active)	Slot: 4 Rack Type: Standard
Channel Frequency Support 3 - 30,000 Hz Enable Direct 0-2 g pk Integrate	Trip Multiply 1.00 🖨 1.00 to 3.00 (steps of 0.25)
Recorder Output None Two mA Clamp Corner Frequencies High-pass Filter None 3 - 2,000 Hz	Type 23733-03 Std Acceleration ▼ Customize 23733-03 Std Acceleration > > > 24145-02 Hi Freq Acceleration 330400 Std Integral Acceleration > > Alarm 330425 Std Integral Acceleration > Alern 155023-01 Hi Freq Acceleration C Internal () 330450 HT Integral Acceleration C Internal () 330450 HT Integral Acceleration
Low-pass Filter None 20 - 8,000 Hz Delay Alert Danger 3 ♣ 1.0 ♣ 100 ms 1 - 60 s 1.0 - 60.0 s	C Nonlatching OK Mode C Latching C Latching C Nonlatching Timed OK Channel Defeat C Nonlatching C Enabled
0 <u>K</u> Set <u>D</u> efaults Cancel	CP Mod Print Form Help 3500

Select Scale Factor 100 mV/g.

🕄 Nonstandard Transducer	Х
(None) 1 4 Rack File Channel Slot	
Scale Factor 100 ♥ ^{(*} mV/g 5.0 to 115.0 ^(*) mV/m/s ²	
OK Limits Upper Lower -15.05	
Set Defaults Print Form	0
O <u>K</u> Cancel <u>H</u> elp	0





Make selection for Full-scale Range (e.g. select 0-10g's pk, 0-1 in/s pk, etc.).

C. Acceleration -	×
Channel: 1 (Active)	Slot: 4 Rack Type: Standard
Channel Frequency Support 10 - 9,155 Hz Enable Direct 0-1 in/s pk ▼ Integrate Recorder Output None ▼ Two mA Clamp Corner Frequencies ✓ High-pass Filter 10 ▼ 3 - 2,000 Hz Low-pass Filter None ▼ 40 - 8,000 Hz Delay Alert Danger 3 ◆ 1.0 ◆ 100 ms 1 - 60 s 1.0 - 60.0 s	Trip Multiply 1.00 (steps of 0.25) Transducer Selection Type Nonstandard I/O Module Attached - Jumper Position: N/A Alarm Mode Alert © Latching Onger © Latching Ok Mode Ok Mode Ok Mode © Latching © Nonlatching Ok Mode © Latching © Nonlatching Timed OK Channel Defeat © Enabled
0 <u>K</u> Set <u>D</u> efaults Cancel	CP Mod Print Form Help 3500



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 Acceleration.

Four Channel /42M Proxin	nitor/Seismic Mon	
Slot: Rack Type: 4 Standard	Configuration ID	
Channel Pair 1 and 2 Chan	nel Pair Type	
-Kevnhasor Association -		
V No Keyphasor		
Primary	Backun	
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 	Copy Copy Copy Copy Copy Copy Copy Copy Copy Copy Copy Copy	
O <u>K</u> Set <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 accelerometer directly to the rack, if not use External Termination.

Slot: Rack Type: 4 Standard Channel Pair 1 and 2- Ch	Configuration II		Slot Input/Outp Prox/Seismic I Prox/Seismic I Prox/Velom I/C Barrier Prox/Se Barrier Prox/Se Barrier Proximit Channe	Nut Module Type /O Module (Interna /O Module (Interna /O Module (Externa) (Internal Terminal Sismic I/O (2 Prox// I/O (4 Velom) or I/O (4 Prox/Acc Pair 3 and 4 Channe	el Termination) I Termination) sl Termination) tion) tion) Accel, 2 Velom) sel) el Pair Type	<u>-</u>
Acceleration		-	Radial V	Abration		-
Keyphasor Associatio	'n		Keypha	sor Association — Keyphasor		
Primary	Backup		- Prima	Primary		
C Channel 1 C Channel 2 Lower C Channel 1 C Channel 2	Upper C Chanr C Chanr Lower C Chanr C Chanr	nel 1 nel 2 nel 1 nel 2	COPY COPY COPY COPY COPY COPY COPY COPY	aannel 1 aannel 2 aannel 1 aannel 2	Upper © Channel 1 C Channel 2 Lower C Channel 1 C Channel 2	
Channel 1 Active <u>Options</u>	Char Char Char	nnel 2 Active Options	Channe V Act	el 3 live lptions	Channel 4	ons
<u>ok</u>	Set <u>D</u> efaults	Point Names	Cancel	Print Form	<u>H</u> elp	3500



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

	×
Slot: 4	Rack Type: Standard
Trip Multiply 1.00 Transducer Selection Type Nonstandard	1.00 to 3.00 (steps of 0.25)
	N/A
Alarm Mode Alert	Barriers None C Internal MTL 796(-) Zener Ext. Galvanic Isolator OK Mode C Latching Nonlatching Timed OK Channel Defeat Enabled C Disabled
CP Mod Print Form	<u>H</u> elp 3500

From the Nonstandard Transducer Jumper Selection box, select Prox/Accel, 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			
C 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 Prox/Accel jumpers for the associated 42M you are configuring.



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



