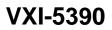


North Atlantic Instruments



VXI-5390 One 0.001° Synchro/Resolver Measurement and Two 0.001° Synchro/Resolver Simulators

- Two Independent Channels of Simulation
- Synchro/Resolver Simulation and Measurement down to 2 V_{L-L}
- 0.001° Simulation and Measurement resolution
- Simulators will drive loads of up to 6 VA
- Message Based



GENERAL

The NAI 5388/5390/5393 series Synchro/Resolver Processors are the highest performing and flexible combination of synchro/resolver simulation and angular position measurement currently available in the VXIbus format. They are available with one Synchro/Resolver measurement channel and up to three Synchro/Resolver simulation channels.

The superior performance of these products makes them the ideal VXIbus instruments for testing systems that receive several synchro signals simultaneously, such as fire control (azimuth and elevation), inertial navigation (roll, pitch and yaw) and in general-purpose avionics testing. To simulate a rotating device, a programmable Rate Mode is provided which includes CW or CCW rotation and slewing between two angles. The low line-to-line capability and a broad frequency range are unique in the market. This means no compromise in accuracy and no need for a custom designed product to meet your synchro/resolver ATE requirements.

MEASUREMENT CHANNEL SPECIFICATIONS

SYNCHRO MODE	
Input Voltage	11.8 to 90 V_{L-L} , programmable
Reference Voltage	2 to 115 V_{rms} , programmable
Frequency	360 Hz to 2.0 kHz
Accuracy	±±.004°

North Atlantic Industries, Inc., North Atlantic Instruments 170 Wilbur Place, Bohemia, NY 11716, USA 631.567.1100 / 631.567.1823 (fax) <u>www.naii.com</u> / e-mail: sales@naii.com VXI-5390 Code: OVGU1

RESOLVER MODE	
Input Voltage	2 to 26 V_{L-L} , programmable
Reference Voltage	2 to 115 V_{ms} , programmable
Frequency	360 Hz to 2.0 kHz
Accuracy	$\begin{array}{rl} 2 \text{ to } 11.7 \text{ V}_{\text{L-L}} & \pm 0.006^{\circ} & 360 \text{ Hz to } 1 \text{ kHz} \\ & \pm 0.0075^{\circ} & 1 \text{ kHz to } 2 \text{ kHz} \\ 11.8 \text{ to } 26 \text{ V}_{\text{L-L}} & \pm 0.004^{\circ} & 360 \text{ Hz to } 1 \text{ kHz} \\ & \pm 0.0052^{\circ} & 1 \text{ kHz to } 2 \text{ kHz} \end{array}$
COMMON SPECIFICATIONS	
Signal and Reference Input Impedance	200 kW
Resolution	0.001°
Angular Range	0 to 359.999°
Auto Phase Correction	Corrects for phase shifts of up to 80° between stator and rotor inputs.
Trigger Input	TTL
Data States	Track or Freeze
Tracking Rate	150°/sec
Settling Time	2 sec. for 180° step change

SIMULATION CHANNEL SPECIFICATIONS

The 5390 has two completely independent synchro/resolver simulation channels. Their frequency range is 360 Hz to 2.0 kHz. Angular resolution is 0.001° and the angle can be programmed in either 0 to 360° or ±180° format. Remote sense lines are provided on the output connector to preserve simulation accuracy driving heavy loads in remote locations.

SYNCHRO MODE			
Output Voltage	11.8 to 90 V _{L-L} , programmable		
Frequency	360 Hz to 2.0 kHz		
Accuracy	360Hz-1Hz	0.0075° No Load 0.0325° 5 VA 0.0375° 6 VA	
	4kHz-2kHz	0.015° No Load 0.060° 5 VA 0.070° 6 VA	
	(Loading spec. assumes balanced 70° inductive load.)		
RESOLVER MODE			
Output Voltage	2 to 26 V_{L-L} , programmable		
Frequency	360 Hz to 2.0 kHz		
Accuracy	360Hz-1Hz	0.006° No Load 0.031° 5 VA 0.036° 6 VA	
	4kHz-2kHz	0.010° No Load 0.040° 5 VA 0.045° 6 VA	
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(Loading spec. assumes balanced 70° inductive load. Below 11.8 V_{L-L} output current is limited to 0.5 A max.)

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COMMON SPECIFICATIONS

Resolution	0.001°		
Rate Mode	The 5390 can be programmed to simulate a constant CW or CCW rotation, or rotation between a programmed start and stop angle, at a velocity of 0.001 to 1000°/s. The velocity can be changed dynamically, the new rate starting at the current angular position.		
Ref. Input Voltage	2 to 115 V _{rms} , programmable		
Ref. Input Impedance	200 kW		
Output Impedance at 400 Hz	$\begin{array}{llllllllllllllllllllllllllllllllllll$		
Output Load	6 VA maximum		
GENERAL SPECIFICATIONS			
Interface	VXIbus Native		
Size	VXIbus C-size standard, single slot		
Device Type	Message based		
Protocol	Word serial		
Front Panel Connectors	D-type Simulator 2 x 15 pin female Angle Position Indicator 9 pin male Mating connectors are supplied.		
Cooling Requirements	6V-A load .19mm H ₂ 0 @ 4.1 liters/s No load 1.9 mm H ₂ 0 @ 1.4 liters/s		
EMC/RFI	Conforms to VXIbus standard		
Operating Temperature	0 to 55°C		
Storage Temperature	-40 to 75°C		
Humidity	95% maximum, non-condensing		
Weight	3.25 lb. (1.5 kg)		
Power Requirements	+5 Vdc 2.2A +12 Vdc 260 mA -12 Vdc 200 mA ±24 Vdc 80 mA no load 0 .7 A peak/350 mA at 6 VA load		

PART NUMBER DESIGNATION

The 5390 is available with non-standard combinations of line-to-line levels and frequencies. Contact the factory for details.

5390 - F_ 1 = VXI Native