



Single-Axis Series AC1120Si Inertial System Rate Table – Rotary Stage



AC1120Si V1.0, V2.0 and V3.0

Major Features

The drive assembly is mounted on a cast iron angle bracket for use in horizontal or vertical orientation. It is equipped with a direct drive brushless motor providing high torque and smooth rates over a wide operating range.

Table support points are precision-machined perpendicular or parallel to the table axis. For small payloads the table can be used freestanding. High dynamic applications and/or large payloads require the table to be bolted to a rigid support surface.

A 30-way slip ring connects the Unit Under Test (UUT) to the table base. The lines terminate in two D-SUB connectors on the table top and corresponding connectors on the table base.

The rate table is operated from a host computer via RS-232 or optional USB interface. Other interfaces installed are analog Inputs, digital Inputs/Outputs and CanBus. Other optional interfaces are available on request.

The Graphical User Interface (GUI) allows the user to select modes, command motion set points, monitor system variables, and query status. The GUI is used to customize the system configuration and to initiate tuning and calibration procedures.

Analog signals may be entered, scaled, and summed with the digital demands in position and rate mode of operation.

- Designed to test inertial components, instruments and MEMS sensors
- Used for development, production, in-process test, calibration and final inspection
- Simulates environmental conditions when used in combination with a thermal chamber
- Horizontal axis for accelerometer testing or roll-over sensor testing
- Precise positioning, smooth rate with zero drift and accurate instantaneous rate stability
- Easy customer software implementation
- Short, ex-stock delivery of 3 standard configurations



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Unit Under Test (UUT) Mechanical Interface	
Load Capacity nominal/maximal/option Inertia (nominal)	12 kg/ 20 kg up to 0.1 kgm ²
Table Top Diameter, including connectors	250mm (V1.0 & V2.0) or 350mm (V3.0) dia.

Specifications	
Angular Freedom	continuous
Position Range	0 to 359.999 deg
Slew profiling	Rate, Acceleration
Accuracy	< 15 arc sec peak
Rate Range standard/special US	± 3000 deg/sec ± 2000 deg/sec
Stability – over 360 deg	0.001 %
Command resolution	± 0.001 deg/sec
Maximum Acceleration**	40'000 deg/sec ²
Bandwidth** at -3dB	> 150 Hz for velocity loop
Mechanical Wobble	< 10 arc sec peak
Interfaces	
Host computer	RS232 (std) or USB (optional)
Analog inputs	2 analog inputs
Digital inputs	2 digital inputs
Digital outputs	2 digital outputs
Power supply standard	1/N/PE 230 VAC, +/-10%, 50 Hz
Power supply special (US):	1/N/PE 115 VAC, +/-10%, 60 Hz

** Values are UUT dependent and can be provided upon request if UUT characteristics are available.



AC1120Si V1.0 with optional stand



AC1120Si Controller

Slipring	Standard capsule All versions of AC1120Si	Optional capsule All versions with Power Slipring Option
Configuration		
Number of signal ways	30	24
Number of power ways	0	6
Total number of ways	30	30
Performance		
Signal ways, cont. current	1,7 Amp	1,0 Amp
Max. voltage	110VAC / 200 VDC	110 VAC / 200 VDC
Cable size	AWG 28	AWG 28
Connection type	2 x D-Sub, 15 pins	1 x D-sub, 26 pins, high density
Power ways, cont. current	-	3 Amp
Cable size	-	AWG 24
Max. voltage	-	110 VAC / 220 VDC
Connector type	-	1 x D-Sub, 15 pins

The specifications identified in this data sheet are representative of standard systems. To satisfy customer specific requirements ACUTRONIC is able to design systems with specifications that are increased or decreased relative to standard systems.