

SAR20 Series (Single Axis)



AZIMUTH POSITIONER

Our SAR20 Series Single Axis Positioners are designed and manufactured as providing high positioning accuracy, smooth operation, longevity and reliability. In addition, they manage to deliver high torque characteristics with low weight. SAR20 series have been developed especially for accurate positioning of antennas and electro-optical sensors.

All SAR20 Series Positioners are equipped with stepper motors, precision gearboxes and bearings, high resolution encoders with positional feedback. They are also configurable with selectable options.

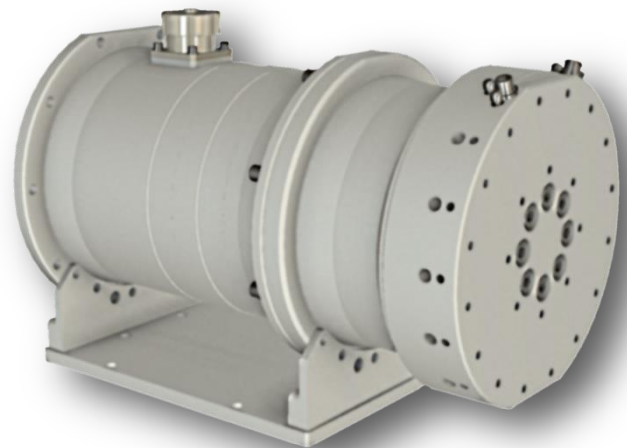
Complete series of the units are ruggedized and suitable for outdoor applications, ensuring trouble-free operation.

APPLICATIONS

- Antenna / Electro-Optical Sensor Positioning
- Anechoic Chamber Applications
- Far-Field & Near-Field Antenna Measurements
- General Purpose Angular Positioning

KEY FEATURES

- Step Motor Powered
- High Angular Positioning Accuracy
- Complies MIL-STD-810F Requirements
- Lightweight, Rugged Design
- Durable Marine-Grade Finish
- Wide Operating Temperature Range
- Positional Control Software
- RS485 Communication, Closed Loop Control



POLARIZATION POSITIONER

SAR20 Series (Single Axis)

TECHNICAL SPECIFICATIONS			
Model Designation	SAR20-N050	SAR20-N100	SAR20-S050
Azimuth / Polarization			
Delivered Torque	72 Nm	145 Nm	145 Nm
Max. Speed	16°/sec	8°/sec	27°/sec
Accuracy	< ±0,02°		
Repeatability	< ±0,02°		
Resolution	0.005°		
Distance Between Hard Limits	± 190°		
General			
Major Dimensions (Side Brackets Included)	291 mm (Length), 178 mm (Diameter), 203 mm (Depth)		321 mm (Length), 198 mm (Diameter), 223 mm (Depth)
Turn Table Dimensions	166 mm (Diameter) x 40 mm (Height)		166 mm (Diameter) x 40 mm (Height)
Weight (Side Brackets Included)	< 12,5 kg		< 20 kg
Operating Temperature	-30°C / +55°C		
Body	Machined Aluminum 6061		
Fasteners	Stainless Steel (A4)		
Exterior Finish	Chromate Coating (MIL-DTL-5541F, Type I, Class 1) and Double Layer of Paint (Primer & Exterior)		
Electrical			
Operating Voltage	24 VDC		48 VDC
Motor Power Consumption (Moving)	< 88 W		< 158 W
Motor Power Consumption (Holding State)	< 49 W		< 94 W
Heater Power Consumption	40W X 2 Heaters With Thermostatic Control [Between 0°C - 10°C]		
Incremental Encoder	Standard		
Absolute Encoder	N/A		
Slip Ring	N/A		
Power off Brake	Standard		
Environmental			
Operating Temperature	-30°C/+55°C (MIL-STD810F Method 501.4 and Method 502.4)		
Storage Temperature	-40°C/+60°C (MIL-STD810F Method 501.4 and Method 502.4)		
Humidity	Relative Humidity 90%, Non-condensing (MIL-STD810F, Method 507.4)		
Vibration	MIL-STD-810F, Method 514.5, Procedure I, Category 20, Table 514.5C-VII, Figure 514.5C-3 (in power off mode)		
Shock	MIL-STD-810F, Method 516.5, Procedure I, (20g, 11 ms) (in power off mode)		
Rain	MIL-STD810F, Method 506.4 Procedure II		
Icing & Freezing	-	MIL-STD810F, Method 521.2, Procedure I, (Ice thickness up to 10 mm)	
Control			
Software	Standard (MS Windows Compatible)		
Motor Drive Method	Microstepping		
Azimuth and Polarization Limits	Adjustable in Software		
Positioning Data Inputs	Absolute and Incremental Angles		
Preset Positions	Recordable Multiple Positions		
Controller Box	Included 19" 1,5U Rack Mount Chassis (Indoor Use Only)		
Communication	RS485 (Control Box and Positioner), USB (PC Unit and Control Box)		
Miscellaneous			
Turn Table Modification	Optional		
Base Flange Modification	Optional		
Positioner Connectors	Input (Data and Power)		
Positioner Connector Caps	Standard		
External Cables	Included (Data&Power 10 m, USB 3m, Power In 220VAC 1.5m)		
Turntable Brackets	Optional		
Turntable Counterweights	Optional		
Main PC Unit	N/A		
Side Brackets	Included (for Azimuth or Polarization Mounting)		

Delivered torques are specified at maximum speed and tested in room temperature.

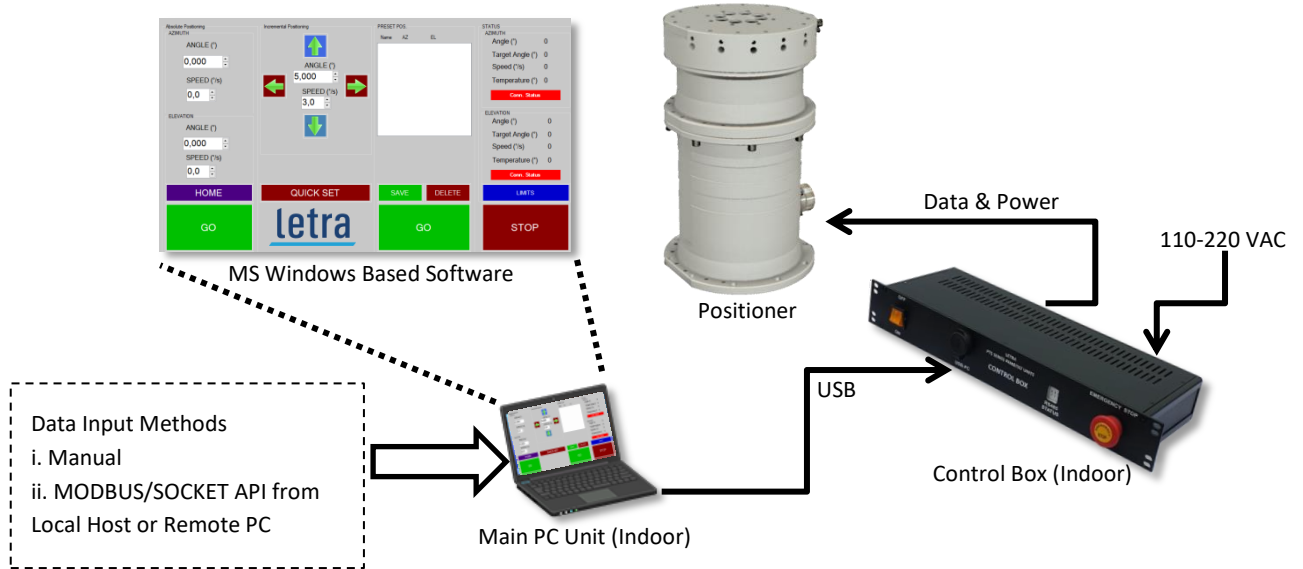
Optional items can change the dimension and weight values.

Motor power consumptions can be reduced by using power off brakes in holding state or in case of carrying lighter payloads.

Accuracy and repeatability are measured for each individual axis, in no load condition. (Accuracy measurement is in one direction, repeatability is in reverse. Both are very close to each other due to backlash-free design.)

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SYSTEM SCHEMATIC DIAGRAM



DIMENSIONS

