

SAR40 Series (Single Axis)



AZIMUTH POSITIONER

APPLICATIONS

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

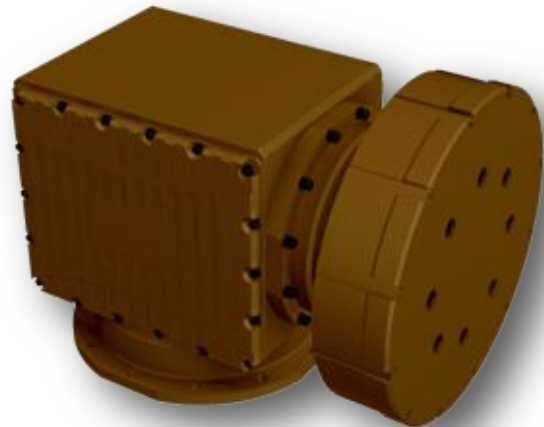
KEY FEATURES

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

Our SAR40 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. SAR40 series have been developed especially for accurate positioning of antennas and electro-optical sensors.

All SAR40 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.



POLARIZATION POSITIONER

SAR40 Series (Single Axis)

TECHNICAL SPECIFICATIONS					
Model Designation	SAR40A-N200 SAR40P-N200	SAR40A-N320 SAR40P-N320	SAR40A-S050 SAR40P-S050	SAR40A-S100 SAR40P-S100	SAR40A-M200 SAR40P-M200
Azimuth / Polarization					
Delivered Torque	290 Nm	464 Nm	207 Nm	414 Nm	828 Nm
Max. Speed	4°/sec	2.5°/sec	27°/sec	13.5°/sec	6.8°/sec
Accuracy	< ±0,02°				
Repeatability	< ±0,02°				
Resolution	0.005°				
Distance Between Hard Limits	± 190°				
General					
Major Dimensions	See dimension tables below				
Turn Table Dimensions	See dimension tables below				
Weight	< 23 kg		< 30 kg		< 42 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	Standard				
Slip Ring	Optional				
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				

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

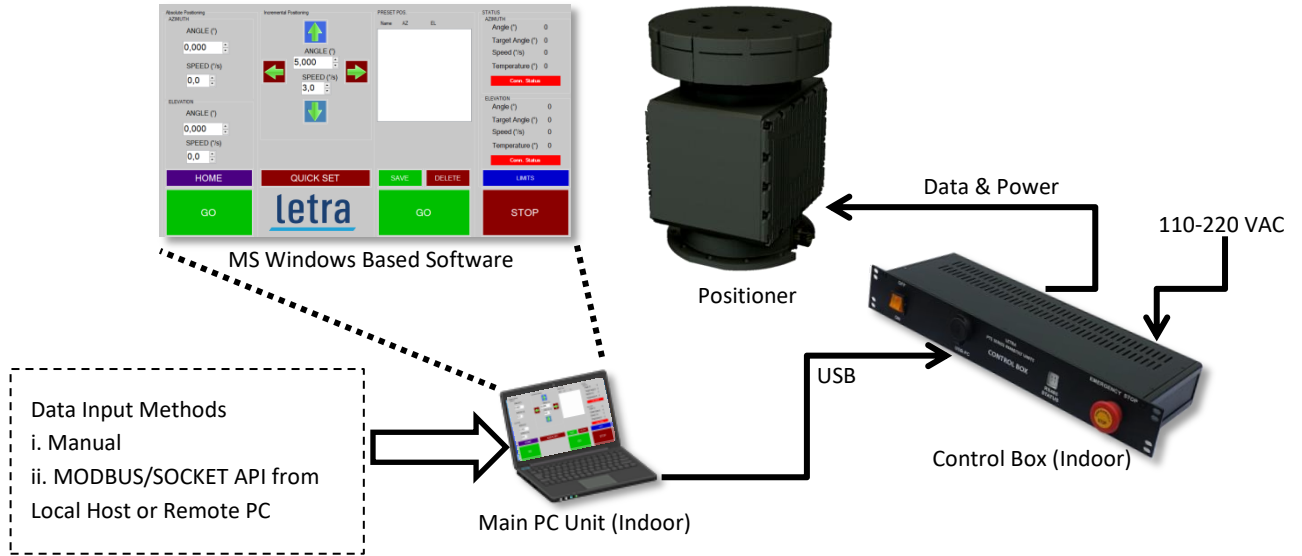
Optional items can change the dimension and weight values.

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

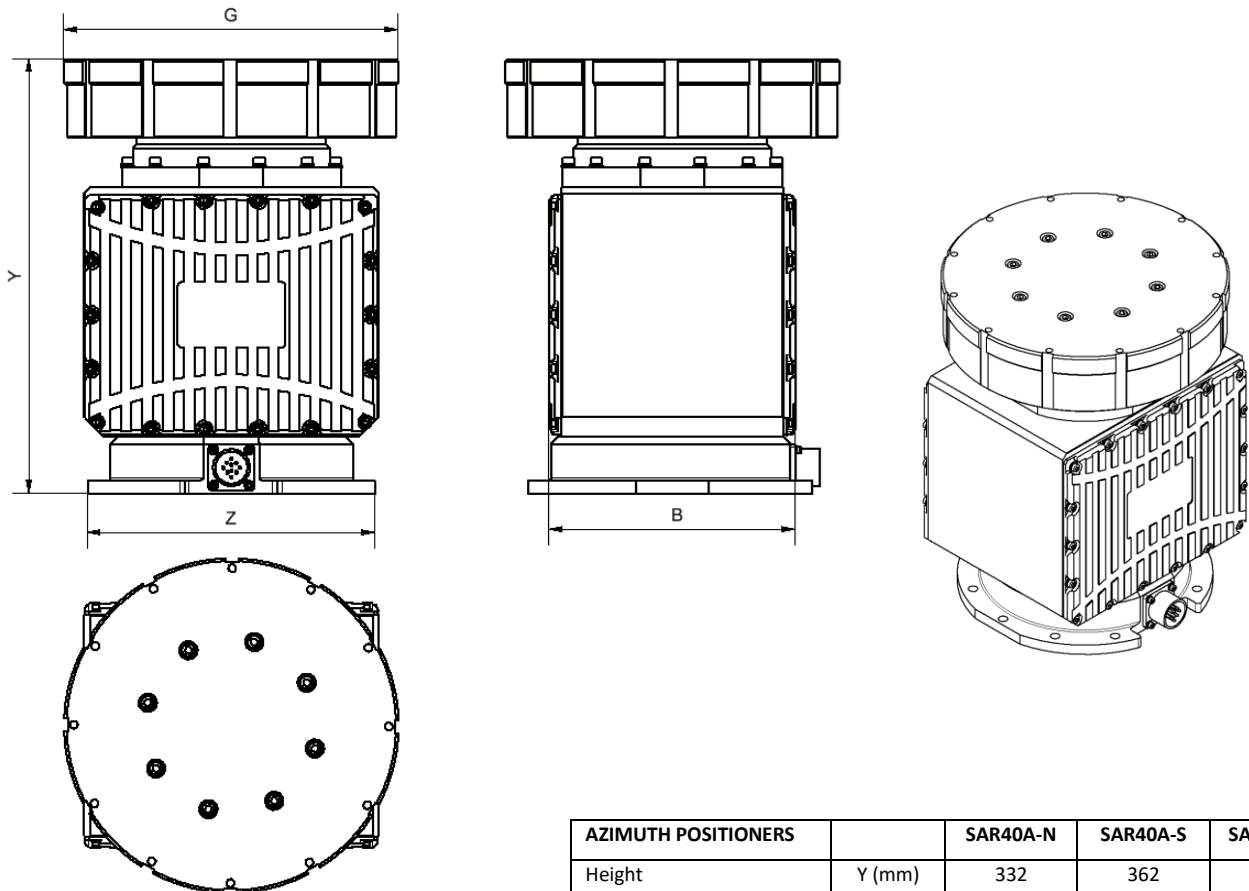
Accuracy and repeatability are measured for each individual axis, in no load condition. (Accuracy measurement is in one direction, repeatability is in reverse. Both are very close to each other due to backlash-free design.)

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SYSTEM SCHEMATIC DIAGRAM

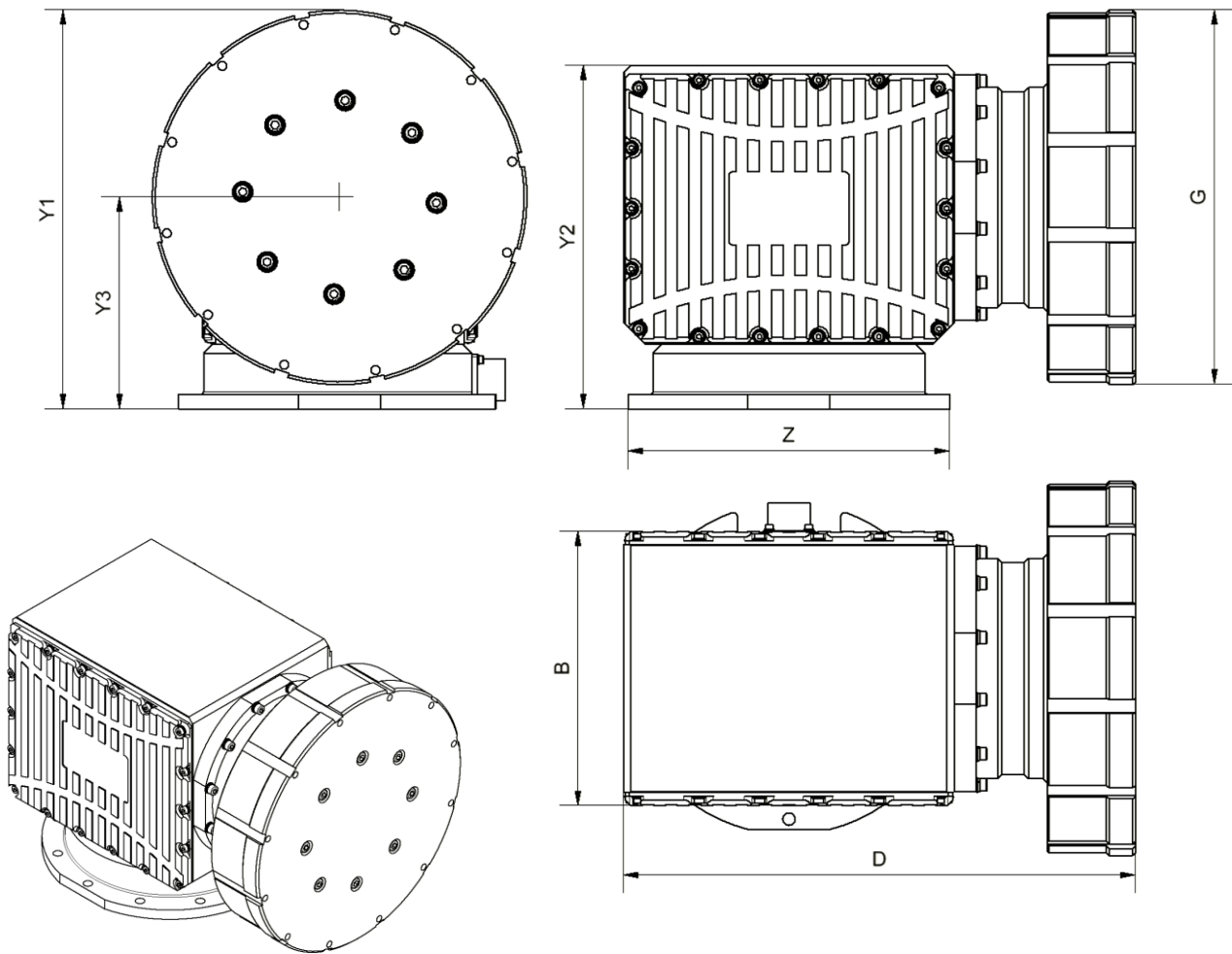


DIMENSIONS



AZIMUTH POSITIONERS		SAR40A-N	SAR40A-S	SAR40A-M
Height	Y (mm)	332	362	382
Turntable Diameter	G (mm)	255	255	255
Base Flange Diameter	Z (mm)	219	239	279
Body Width	B (mm)	187	207	240

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POLARIZATION POSITIONERS		SAR40P-N	SAR40P-S	SAR40P-M
Height (Max)	Y1 (mm)	272	302	332
Height (Stationary Body)	Y2 (mm)	234	274	304
Turntable Diameter	G (mm)	255	255	255
Depth	D (mm)	348	378	400
Body Width	B (mm)	187	207	240
Base Flange Diameter	Z (mm)	219	239	279
Rot. Axis Dist. from Mounting Surface	Y3 (mm)	144	174	204