

AZL100 Series (Double Axis)



AZ/EL POSITIONER

Our AZL100 Series are “Azimuth over Elevation Positioners” (AZ/EL Type) which 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. AZL100 series have been developed especially for accurate positioning of antennas and several devices.

All AZL100 Series Positioners are equipped with stepper motors, precision gearboxes and bearings, high resolution encoders with positional feedback. They are also configurable with selectable options.

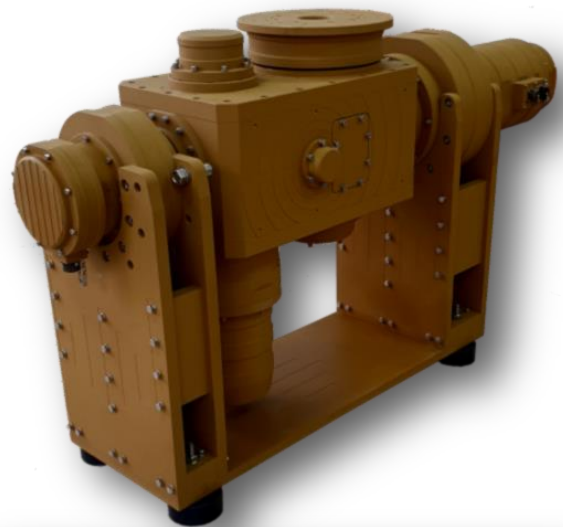
Complete series of the units are ruggedized and suitable for outdoor applications, ensuring trouble-free operation.

APPLICATIONS

Antenna / Electro-Optical Sensor Positioning
Tracking
Scientific and R&D Applications
Anechoic Chamber Applications
Far-Field & Near-Field Antenna Measurements

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



AZ/EL POSITIONER WITH OPTIONAL THRU HOLE

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TECHNICAL SPECIFICATIONS		
Model Designation	AZL100-S100	AZL100-M200
Azimuth and Elevation		
Delivered Torque	414 Nm	828 Nm
Max. Speed	13.5°/sec (AZ) 13.5°/sec (EL)	6.8°/sec (AZ) 6.8°/sec (EL)
Accuracy	< ±0.02°	
Repeatability	< ±0.02°	
Resolution	0.005°	
Distance Between Hard Limits	± 190° (AZ) / ± 95° (EL)	
General		
Major Dimensions	636 mm (Height), 955 mm (Width), 316 mm (Depth)	636 mm (Height), 1017 mm (Width), 340 mm (Depth)
Turn Table (Azimuth) Dimensions	276 mm (Diameter) x 74 mm (Height)	300 mm (Diameter) x 74 mm (Height)
Torque Distance for Elevation	197 mm	197 mm
Weight	< 98 kg	< 142 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	48 VDC	
Motor Power Consumption (Both Axes Moving)	< 158 W X 2	
Motor Power Consumption (Holding State)	< 94 W X 2	
Heater Power Consumption	40W X 4 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)	
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 10 and Higher)	
Motor Drive Method	Microstepping	
Azimuth and Elevation 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 (Azimuth) Modification	Optional	
Base Mounting Plate 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)	
Turn Table Brackets	Optional	
Counterweights for Both Axes	Optional	
Main PC Unit	N/A	
Thru Hole	Optional (Only Available for Azimuth Axis)	

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

Optional items can change the dimension and weight values.

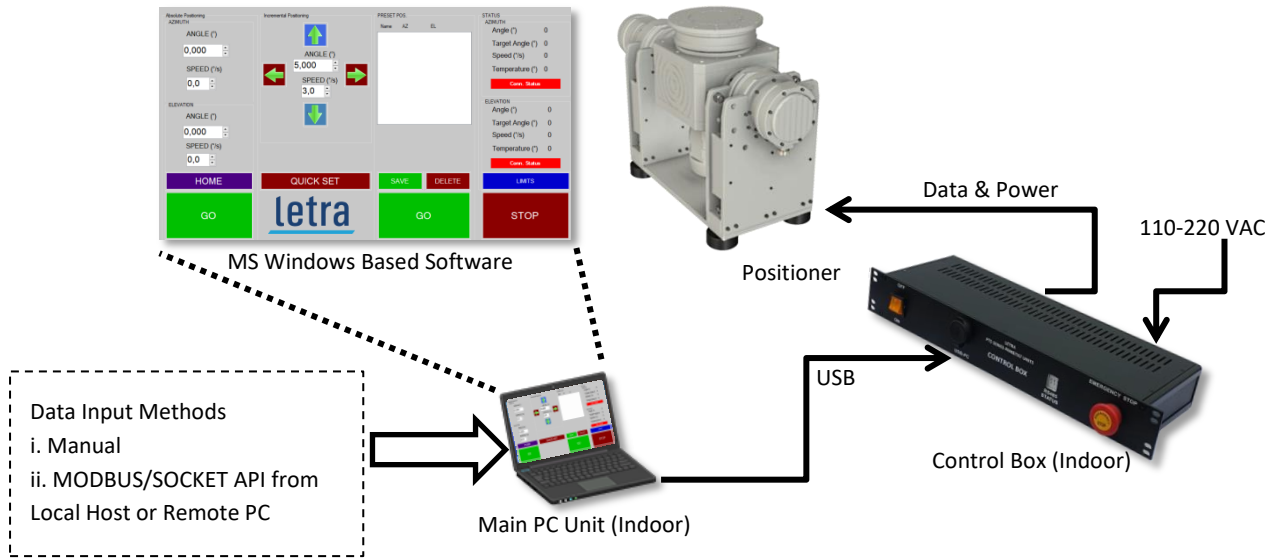
Motor power consumptions can be reduced by using power off brakes in holding state or in case of carrying lighter payloads.

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.)

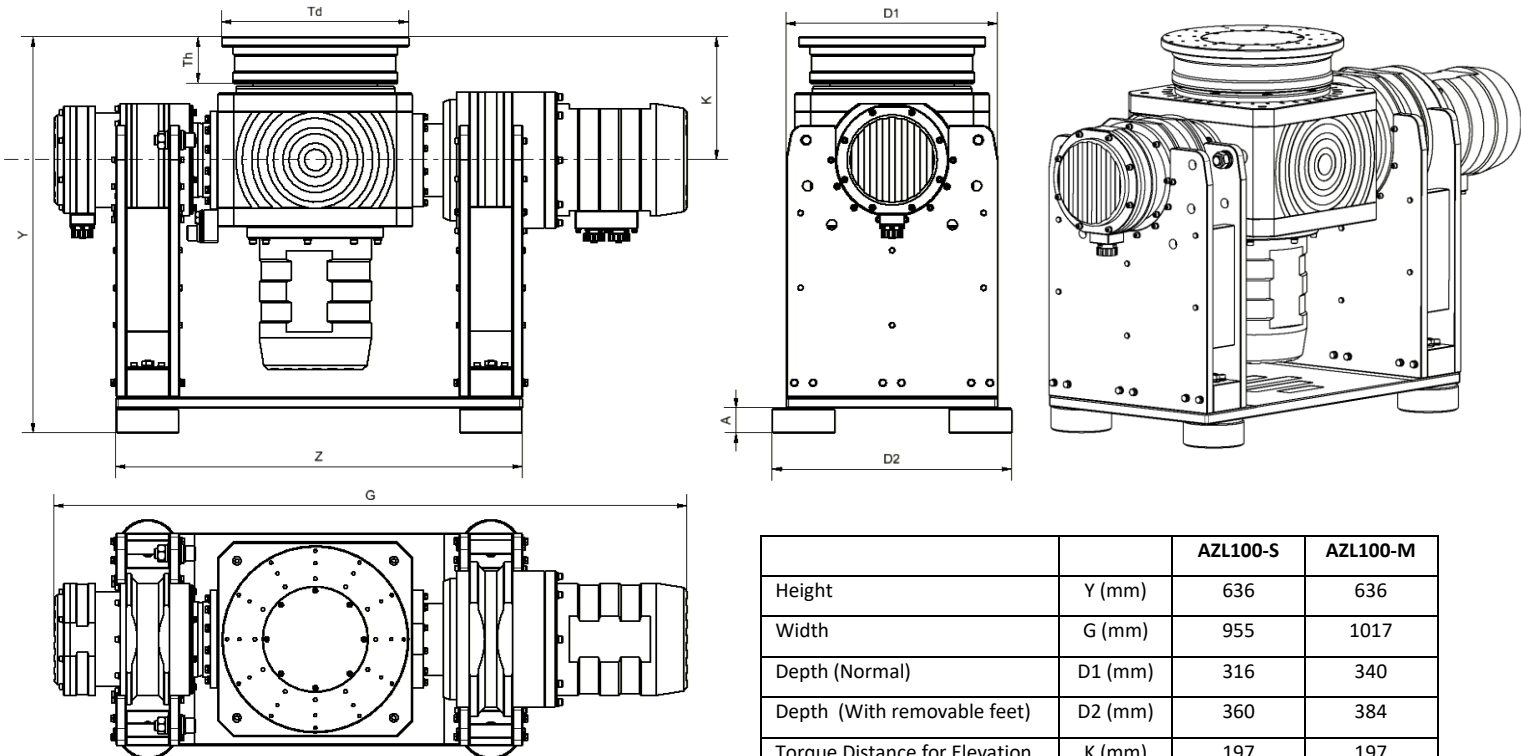
Absolute encoder is used only in the beginning of power on state.

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SYSTEM SCHEMATIC DIAGRAM



DIMENSIONS



		AZL100-S	AZL100-M
Height	Y (mm)	636	636
Width	G (mm)	955	1017
Depth (Normal)	D1 (mm)	316	340
Depth (With removable feet)	D2 (mm)	360	384
Torque Distance for Elevation	K (mm)	197	197
Base Mounting Plate Length	Z (mm)	591	653
Turn Table Diameter	Td (mm)	276	300
Turn Table Height	Th (mm)	74	74
Height of removable feet	A (mm)	40	40