

PTS20 Series (Double Axis)



Our PTS20 Series Pan-Tilt Positioners (EL/AZ Type) 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. PTS20 series have been developed especially for accurate positioning of antennas and electro-optical sensors.

All PTS20 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

- Angular Positioning for General Purpose Applications
- Antenna / Electro-Optical Sensor Positioning
- Tracking
- Border Security and Surveillance
- 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



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TECHNICAL SPECIFICATIONS			
Model Designation	PTS20-N100	PTS20-N160	PTS20-S050
Azimuth and Elevation			
Delivered Torque	145 Nm	232 Nm	207 Nm
Max. Speed	8°/sec (AZ) 8°/sec (EL)	5°/sec (AZ) 5°/sec (EL)	27°/sec (AZ) 27°/sec (EL)
Accuracy	< ±0.02°		
Repeatability	< ±0.02°		
Resolution	0.005°		
Distance Between Hard Limits	± 190° (AZ) / ± 95° (EL)		
General			
Major Dimensions	563 mm (Height), 468 mm (Width), 199 mm (Depth)		623 mm (Height), 508 mm (Width), 219 mm (Depth)
Tilt Table Dimensions	468 mm x 130 mm		508 mm x 130 mm
Tilt Table Arm Length	110 mm		130 mm
Weight	< 38 kg		< 48 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 (Both Axes Moving)	< 88 W X 2		< 158 W X 2
Motor Power Consumption (Holding State)	< 49 W X 2		< 94 W X 2
Heater Power Consumption	40W X 4 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 10 and Higher)		
Motor Drive Method	Microstepping		
Azimuth and Elevation Limits	Adjustable in Software		
Positioning Data Inputs	Absolute and Incremental		
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			
Tilt Table Modification	Optional		
Base Flange Modification	Optional		
Positioner Connectors	Input (Data and Power)		
Positioner Connector Caps	Standard		
External Cables	Included (Data&Power 10m, USB 3m, Power In 220VAC 1.5m)		
Tilt Table Side Brackets	Optional		
Tilt Table Counterweights	Optional		
Main PC Unit	N/A		

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

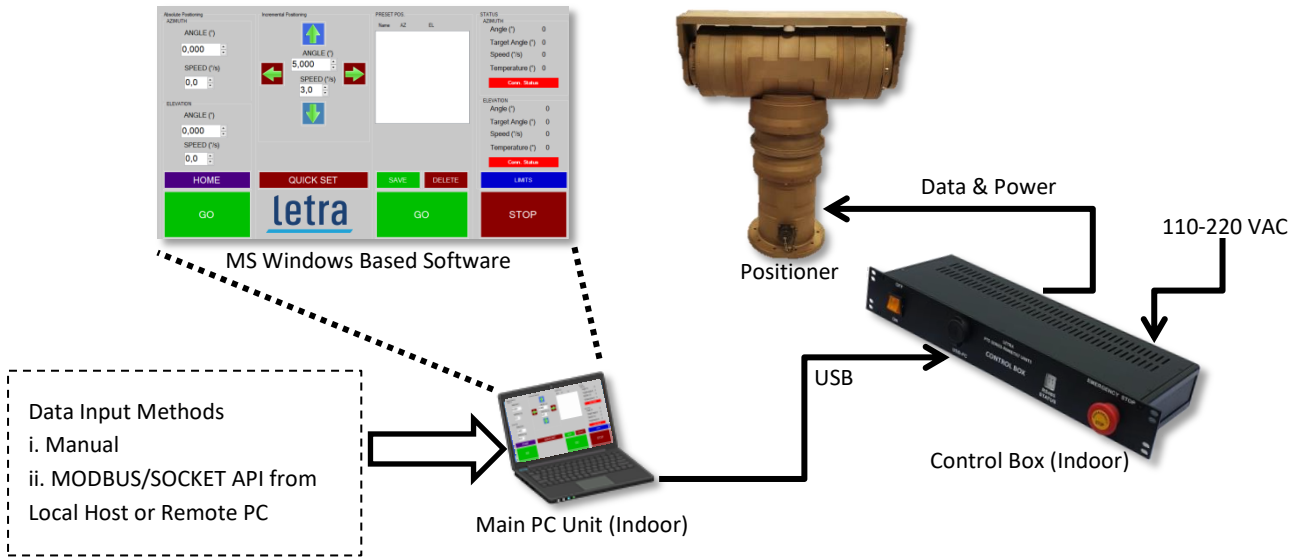
Optional items can change the dimension and weight values.

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

