

## PTS10 Series (Double Axis)



Our PTS10 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. PTS10 series have been developed especially for accurate positioning of antennas and electro-optical sensors.

All PTS10 Series Positioners are equipped with stepper motors, precision gearboxes and bearings, high resolution encoders with positional feedback. They are also configurable with selectable options.

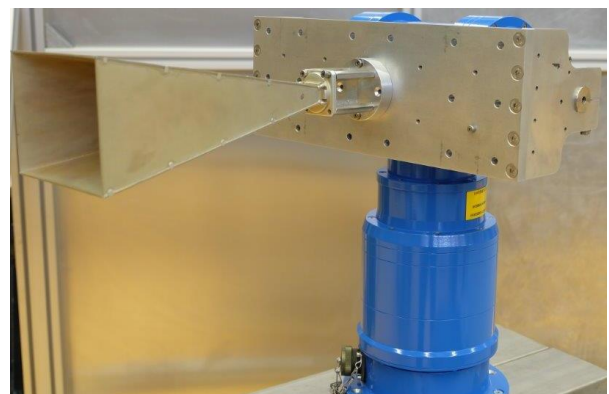
Complete series of the units are ruggedized and suitable for outdoor applications, ensuring trouble-free operation.

### APPLICATIONS

- Angular Positioning for General Purpose Applications
- Antenna / Electro-Optical Sensor Positioning
- Tracking
- Border Security and Surveillance
- Anechoic Chambers
- Far-Field & Near-Field Antenna Measurements

### KEY FEATURES

- Stepper 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



## PTS10 Series (Double Axis)

| TECHNICAL SPECIFICATIONS                   |   |                              |   |
|--|---|------------------------------|---|
| Model Designation                          | PTS10-N025  | PTS10-N050                   | PTS10-S025  |
| <b>Azimuth and Elevation</b>               |   |                              |   |
| Delivered Torque                           | 36 Nm   | 72 Nm                        | 104 Nm  |
| Max. Speed                                 | 32°/sec (AZ),<br>32°/sec (EL)   | 16°/sec (AZ)<br>16°/sec (EL) | 54°/sec (AZ)<br>54°/sec (EL)  |
| Accuracy                                   | < ±0.02°  |                              |   |
| Repeatability                              | < ±0.02°  |                              |   |
| Resolution                                 | 0.005°  |                              |   |
| Distance Between Hard Limits               | ± 190° (AZ) / ± 95° (EL)  |                              |   |
| <b>General</b>                             |   |                              |   |
| Major Dimensions                           | 442 mm (Height), 350 mm (Width), 186 mm (Depth)   |                              | 500 mm (Height), 390 mm (Width), 220 mm (Depth)                     |
| Tilt Table Dimensions                      | 350 mm x 130 mm   |                              | 390 mm x 130 mm   |
| Tilt Table Arm Length                      | 102 mm  |                              | 120 mm  |
| Weight                                     | < 22 kg   |                              | < 32 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)             |                              |   |
| <b>Electrical</b>                          |   |                              |   |
| 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                            | Optional  |                              |   |
| <b>Environmental</b>                       |   |                              |   |
| 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) |
| <b>Control</b>                             |   |                              |   |
| 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)   |                              |   |
| <b>Miscellaneous</b>                       |   |                              |   |
| 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.

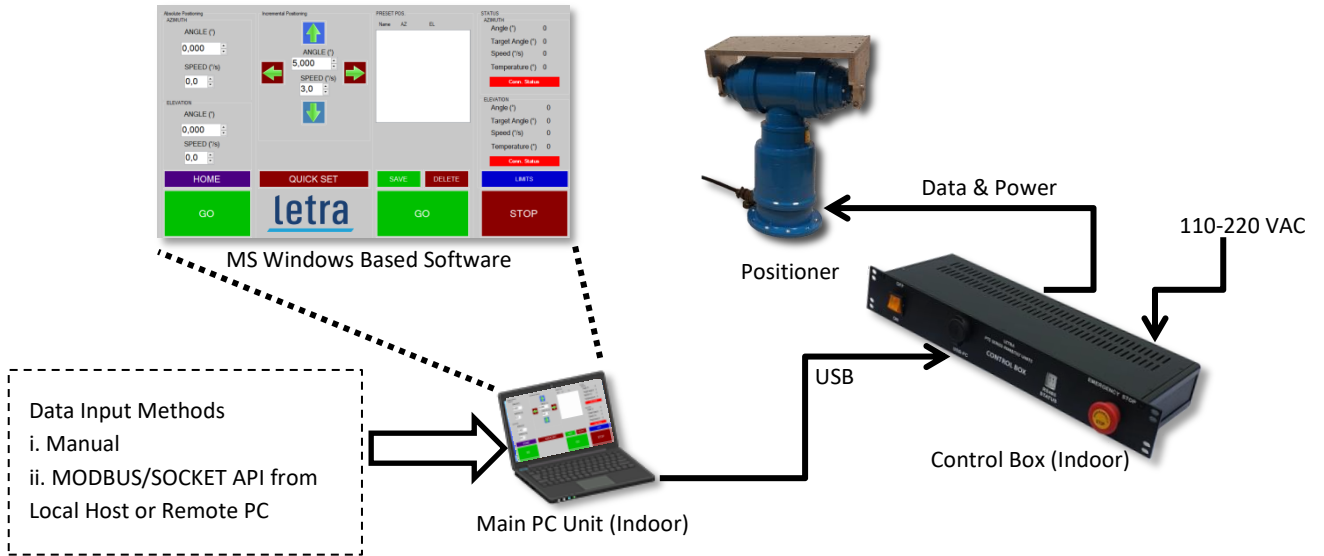
Optional items can change the dimension and weight values.

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

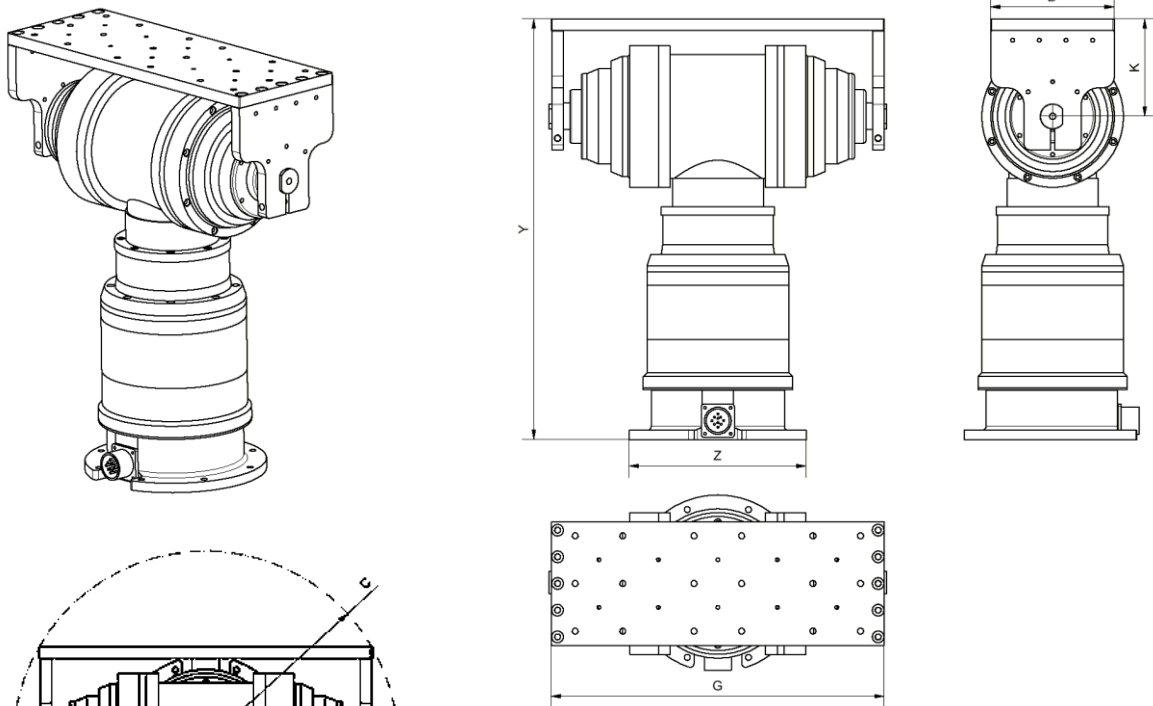
Accuracy and repeatability are measured for each individual axis, in no load condition. (Accuracy measurement is in one direction, repeatability is in reverse. Both are very close to each other due to backlash-free design.)

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### SYSTEM SCHEMATIC DIAGRAM



### DIMENSIONS



|                                     |        | PTS10-N | PTS10-S |
|-------------------------------------|--------|---------|---------|
| Height                              | Y (mm) | 442     | 500     |
| Width                               | G (mm) | 350     | 390     |
| Depth (Tilt Table)                  | D (mm) | 130     | 130     |
| Tilt Table Arm Length               | K (mm) | 102     | 120     |
| Base Flange Diameter (Base Depth)   | Z (mm) | 186     | 220     |
| Rotation Diameter (Tilt Table @90°) | C (mm) | 406     | 440     |