

## OVERVIEW

### INTRODUCTION

We provide a range of highly reliable and durable rotary positioners for customers in industries, such as communication, defense and marine. Our unique design products are validated by several test methods and long term experiences for continuous operation in extreme environmental conditions. We particularly, offer high quality, precision grade “Single and Double Axis Rotary Positioners” which can be used as antenna positioners, pan tilt units and other positioning equipment. These positioners having various options are also customizable according to request of clients.

Key features of our products are being high torque characteristics with low weight, having superior angular positioning accuracy, working in wide operating temperature range and providing outstanding performance across their entire lifetime.

All our positioners are equipped with stepper motors, precision gearboxes and bearings, high resolution encoders with positional feedback. Complete series of the units are ruggedized and suitable for outdoor applications, ensuring trouble-free operation.

### MODELS

Elevation over Azimuth Positioners (Pan Tilt Type)

Azimuth over Elevation Positioners

Azimuth Positioners

Polarization Positioners (Roll Positioners)

### KEY FEATURES

Step Motor Powered

High Angular Positioning Accuracy

Complies MIL-STD-810F Requirements

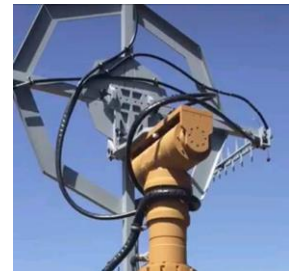
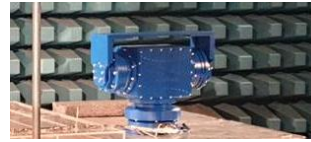
Lightweight, Rugged Design

Durable Marine-Grade Finish

Wide Operating Temperature Range

Positional Control Software

RS485 Communication, Closed Loop Control



### APPLICATIONS

Angular Positioning for General Purpose Applications

Antenna Positioning

Communication

Electro-Optical Sensor Positioning

Tracking

Border Security and Surveillance

Far-Field & Near-Field Antenna Measurements

Search Lights

R&D Applications

## OVERVIEW



**PTS06**

### ELEVATION OVER AZIMUTH POSITIONER (PAN TILT POSITIONER)

#### TECHNICAL SPECIFICATIONS

Product Designation	PTS06-N025/050	PTS06-N050/100
<b>Azimuth and Elevation</b>		
Delivered Torque	4,5 Nm (AZ) 9 Nm (EL)	9 Nm (AZ) 18 Nm (EL)
Max. Speed	60°/sec (AZ) - 30°/sec (EL)	30°/sec (AZ) - 15°/sec (EL)
Accuracy	< ±0,03°	
Repeatability	< ±0,03°	
Resolution	0.005°	
Distance Between Hard Limits	N x 360° (AZ) / ± 46° (EL)	
<b>General</b>		
Major Dimensions	279 mm (Height), 178 mm (Width), 173 mm (Depth),	
Tilt Table Dimensions	178 mm x 55 mm	
Weight	< 7 kg	
Operating Temperature	-30°C / +55°C	
<b>Electrical</b>		
Operating Voltage	24 VDC	
Motor Power Consumption (Both Axes Moving)	< 40 W	
Incremental Encoder	Standard	
Absolute Encoder	N/A	
Slip Ring	Standard (1 x Gigabit Ethernet, 4 x 10A, 12 x 5A), Customizable	
Power off Brake	Optional	



**PTS10**

### ELEVATION OVER AZIMUTH POSITIONER (PAN TILT POSITIONER)

#### 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), 32°/sec (EL)	16°/sec (AZ) 16°/sec (EL)	54°/sec (AZ) 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	
Weight	< 22 kg	< 32 kg	
Operating Temperature	-30°C / +55°C		
<b>Electrical</b>			
Operating Voltage	24 VDC	48 VDC	
Motor Power Consumption (Both Axes Moving)	< 88 W X 2	< 158 W X 2	
Incremental Encoder	Standard		
Absolute Encoder	N/A		
Slip Ring	N/A		
Power off Brake	Optional		

## OVERVIEW



**PTS20**

### ELEVATION OVER AZIMUTH POSITIONER (PAN TILT POSITIONER)

#### TECHNICAL SPECIFICATIONS

Model Designation	PTS20-N100	PTS20-N160	PTS20-S050
<b>Azimuth and Elevation</b>			
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)		
<b>General</b>			
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
Weight	< 38 kg		< 48 kg
Operating Temperature	-30°C / +55°C		
<b>Electrical</b>			
Operating Voltage	24 VDC		48 VDC
Motor Power Consumption (Both Axes Moving)	< 88 W X 2		< 158 W X 2
Incremental Encoder	Standard		
Absolute Encoder	N/A		
Slip Ring	N/A		
Power off Brake	Standard		



**PTS40**

### ELEVATION OVER AZIMUTH POSITIONER (PAN TILT POSITIONER)

#### TECHNICAL SPECIFICATIONS

Model Designation	PTS40-N100	PTS40-N200	PTS40-N320	PTS40-S050	PTS40-S100
<b>Azimuth and Elevation</b>					
Delivered Torque	145 Nm	290 Nm	464 Nm	207 Nm	414 Nm
Max. Speed	8°/sec (AZ) 8°/sec (EL)	4°/sec (AZ) 4°/sec (EL)	2,5°/sec (AZ) 2,5°/sec (EL)	27°/sec (AZ) 27°/sec (EL)	13,5°/sec (AZ) 13,5°/sec (EL)
Accuracy	< ±0.02°				
Repeatability	< ±0.02°				
Resolution	0.005°				
Distance Between Hard Limits	± 190° (AZ) / ± 95° (EL)				
<b>General</b>					
Major Dimensions	370 mm (Height), 464 mm (Width), 187 mm (Depth)			440 mm (Height), 484 mm (Width), 232 mm (Depth)	
Tilt Table Dimensions	464 mm x 130 mm			484 mm x 130 mm	
Weight	< 31 kg			< 42 kg	
Operating Temperature	-30°C / +55°C				
<b>Electrical</b>					
Operating Voltage	24 VDC			48 VDC	
Motor Power Consumption (Both Axes Moving)	< 88 W X 2			< 158 W X 2	
Incremental Encoder	Standard				
Absolute Encoder	Standard				
Slip Ring	Optional				
Power off Brake	Standard				

## OVERVIEW



**AZL100**

### AZIMUTH OVER ELEVATION POSITIONER

#### TECHNICAL SPECIFICATIONS

Model Designation	AZL100-S100	AZL100-M200
<b>Azimuth and Elevation</b>		
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)	
<b>General</b>		
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)
Weight	< 98 kg	< 142 kg
Operating Temperature	-30°C / +55°C	
<b>Electrical</b>		
Operating Voltage	48 VDC	
Motor Power Consumption (Both Axes Moving)	< 158 W X 2	
Incremental Encoder	Standard	
Absolute Encoder	Standard	
Slip Ring	Optional	
Power off Brake	Standard	




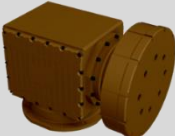
**SAR20**

### SINGLE AXIS POSITIONER (ROTATOR)

#### TECHNICAL SPECIFICATIONS

Model Designation	SAR20-N050	SAR20-N100	SAR20-S050
<b>Azimuth / Polarization</b>			
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°		
<b>General</b>			
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		
<b>Electrical</b>			
Operating Voltage	24 VDC	48 VDC	
Motor Power Consumption ( Moving)	< 88 W	< 158 W	
Incremental Encoder	Standard		
Absolute Encoder	N/A		
Slip Ring	N/A		
Power off Brake	Standard		

## OVERVIEW

 		SINGLE AXIS POSITIONER (ROTATOR)			
		TECHNICAL SPECIFICATIONS			
Model Designation	SAR40A-N200 SAR40P-N200	SAR40A-N320 SAR40P-N320	SAR40A-S050 SAR40P-S050	SAR40A-S100 SAR40P-S100	SAR40A-M200 SAR40P-M200
<b>Azimuth / Polarization</b>					
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°				
<b>General</b>					
Major Dimensions (SAR40A)	332 mm (Length), 255 mm (Diameter)		362 mm (Length), 255 mm (Diameter)		382 mm (Length), 255 mm (Diameter)
Major Dimensions (SAR40P)	272 mm (Height), 255 mm (Diameter), 348 (Depth)		302 mm (Height), 255 mm (Diameter), 378 (Depth)		332 mm (Height), 255 mm (Diameter), 400 (Depth)
Weight	< 23 kg		< 30 kg		< 42 kg
Operating Temperature	-30°C / +55°C				
<b>Electrical</b>					
Operating Voltage	24 VDC		48 VDC		
Motor Power Consumption ( Moving)	< 88 W		< 158 W		
Incremental Encoder	Standard				
Absolute Encoder	Standard				
Slip Ring	Optional				
Power off Brake	Standard				

- 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.

Related datasheets include more technical information.

Please visit our web site for further details.

[www.letra.com.tr](http://www.letra.com.tr)