



INVENTRA
SURVEILLANCE SYSTEMS

PES10 – Ultra Precision Electromechanical Rotator

Zero Backlash, High Torque Single Axis Rotator Units for,
Radar and Directional Antenna Applications



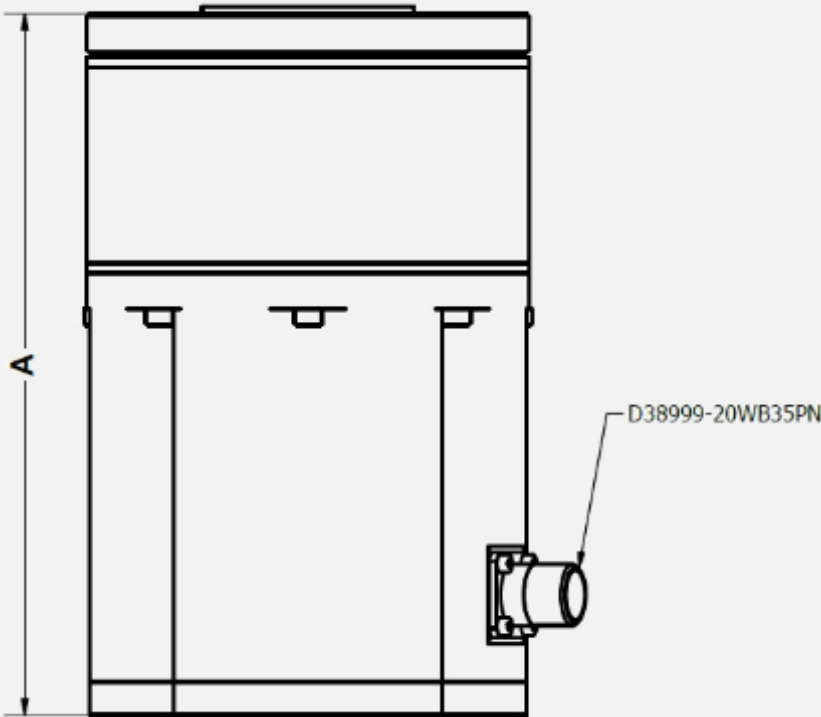
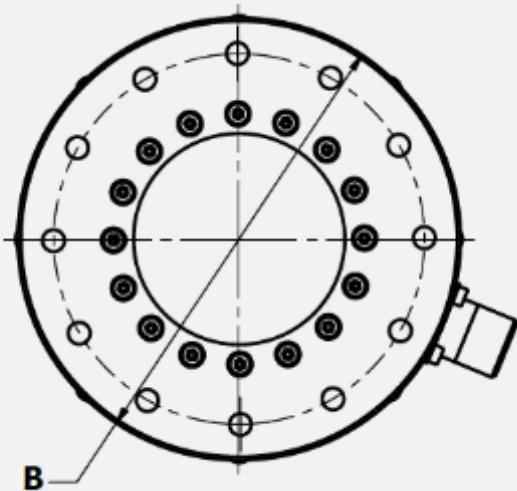
Distinctive Features

- ❖ Zero Backlash Design: Ensures precise, smooth positioning with no rotational play.
- ❖ Configurable Output Torque: Adjustable from 185 Nm to 1032 Nm for versatile applications.
- ❖ Brushless Drive Motors: Smooth, continuous motion control for demanding applications.
- ❖ 22-Bit Encoder Precision: Closed-loop encoder offers superior accuracy in control.
- ❖ High Durability Slipping: 30 million revolutions slipping supporting HD-SDI and 1 Gbit Ethernet transmission.
- ❖ MIL-STD-810G Compliance: Built to withstand severe environmental conditions.
- ❖ MIL-STD-461G Certification: Protected against electromagnetic interference for secure use.

Main Features

- ❖ The PES10 rotator delivers precision control with zero backlash, configurable torque options, and advanced closed-loop accuracy.
- ❖ Designed for military-grade reliability, it combines high-strength cross roller bearing support with a durable 36-line slipping, making it ideal for radar and antenna applications under MIL-STD-810G and MIL-STD-461G standards.

Configuration Breakdown	Positioner – Electromechanical – Single Axis – 10 (Product Class) – Pan Speed/Torque
Part Number	PES10-X (Check Available Options Below)
Available Customizations	Communication Protocol, Output Speed, Output Torque, Number of Slipping Lines, Mechanical Interfaces
Combinable Platforms	MEM10 – Ultra-Stable Electromechanical Mast Platform MES10 – Locked Electromechanical Mast Platform TMH10 – Heavy Duty Tripod



	Parameter	Unit	PES10-185	PES10-435	PES10-756	PES10-1032
GENERAL PARAMETERS	Pan – Nominal Torque	Nm	185	435	756	1032
	Pan – Max. Torque	Nm	250	514	900	1114
	Pan – Axis Speed	deg/s	25	10	6	4.5
	Accuracy	°	0.042	0.045	0.051	0.065
	Repeatability	°	0.031	0.038	0.042	0.056
INTERFACE	Communication to the Unit	-	Ethernet, RS-485, RS422 (Full Duplex), USB			
	Connector Type	-	MIL-DTL-38999			
	Operating Voltage	V	24-48			
DIMENSIONS	Height (A)	mm	215	240	240	250
	Diameter (B)	mm	135	167	195	240
	Weight	kg	9.5	11.5	15.5	18.1
	Material	-	Aluminum 6061-T6 / Stainless Steel AISI 316			
ENVIRONMENTAL QUALIFICATIONS	IP Rating	-	IP65			
	Temperature	°C	MIL-STD-810G, Method 502.5 Procedure II – Operational, -32°C			
			MIL-STD-810G, Method 501.5 Procedure II – Operational, +60°C			
			MIL-STD-810G, Method 501.5 Procedure I – Storage; +70°C			
			MIL-STD-810G, Method 502.5 Procedure I – Storage; -40°C			
	Vibration	-	MIL-STD-810G, Method 514.6 Procedure I Category 20, Figure 514.6C-3			
	Shock	-	MIL-STD-810G, Method 516.6 Procedure I – Functional Shock; 20g 11ms			
	Rain	-	MIL-STD-810G, Method 506.5 Procedure I – Rain and Blowing Rain, 1.7 mm/h			
	Humidity	-	MIL-STD-810G, Method 507.5 Procedure I; 90% Noncondensing			
	Salt Fog	-	MIL-STD-810G, Method 509.5, 2 Cycles of 24 Hours Salt Fog and 24 Hours Desiccation			
	Dust and Sand	-	MIL-STD-810G, Method 510.5 Procedure I – Blowing Dusts			
			MIL-STD-810G, Method 510.5 Procedure II – Blowing Sand			
	Low Pressure	-	MIL-STD-810G Method 500.5 Procedure II-Operational 5000 ft			
			MIL-STD-810G Method 500.5 Procedure I-Storage 15000 ft			



PES10 – Electromechanical Rotator Unit