

Compact Solar Array Drive Assembly (SADA-10)

- Compact, In-Line Design with High Torque Output.
- High-Efficiency Slip Ring Design.
- Flight-Proven Design with 100% Successful Performance Heritage.
- Compact Hybrid Stepper Motor and Harmonic Drive.
- Dual Potentiometers for Position Sensing.
- Small Angle Permanent Magnet Stepper Provides High Holding and Running torque.
- Zero Backlash and High Output Flange Stiffness.
- Flexible Modular Slip Ring Design Can Accommodate Various Power Levels at Up to 120 Volts.
- Optimized for Low Power Consumption.
- Twist Capsule and Limited Output Shaft Rotation Available as Options.



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Parameters	Units	Basis	Values
Size, Unit Body excluding rotor harness (LxWxH)	Inches	Maximum	3.35 x 4.53 x 4.53
Total SADA Maximum Mass (Including all cables and connectors)	lb	Typical	4.40
	kg		2.00
Output Step Angle	Degree	Standard	0.015
Steps/Revolution		Standard	24000
Harmonic Drive Ratio		Standard	100:1
Motor Step Angle	Degrees	Standard	1.5
Max Output Step Rate	Step/Sec (Deg/Sec)	Maximum	66.67(1.0)
Torsional Stiffness	in-lb/rad	Typical	>44,000
	Nm/rad		>5,000
Shaft Load Capability Axial	lb	Maximum	800
	Nm		3500
Transverse Load Capability	lb	Maximum	400
	Nm		1780
Moment Load Capability	in-lb	Maximum	450
	Nm		50
Power	Watts	Typical	7
Inertial Capability	Kg-m ²	Typical	>10 kg-m ² @ 0.1 Deg/Sec.
Output Torque	in-lb	Typical	> 168 lb-in @ 0.1 deg/sec @ 22 VDC
	Nm		> 19.0 Nm @ 0.1 deg/sec @ 22 VDC
Holding Torque Powered	in-lb	Typical	439
	Nm		49.6
Holding Torque UnPowered	in-lb	Typical	12.5
	Nm		1.4
Thermal Limits			
Acceptance (External Environment)	Hot (°C)	Maximum	+65° -0°/+4°
	Cold (°C)		-30° -4°/+0°