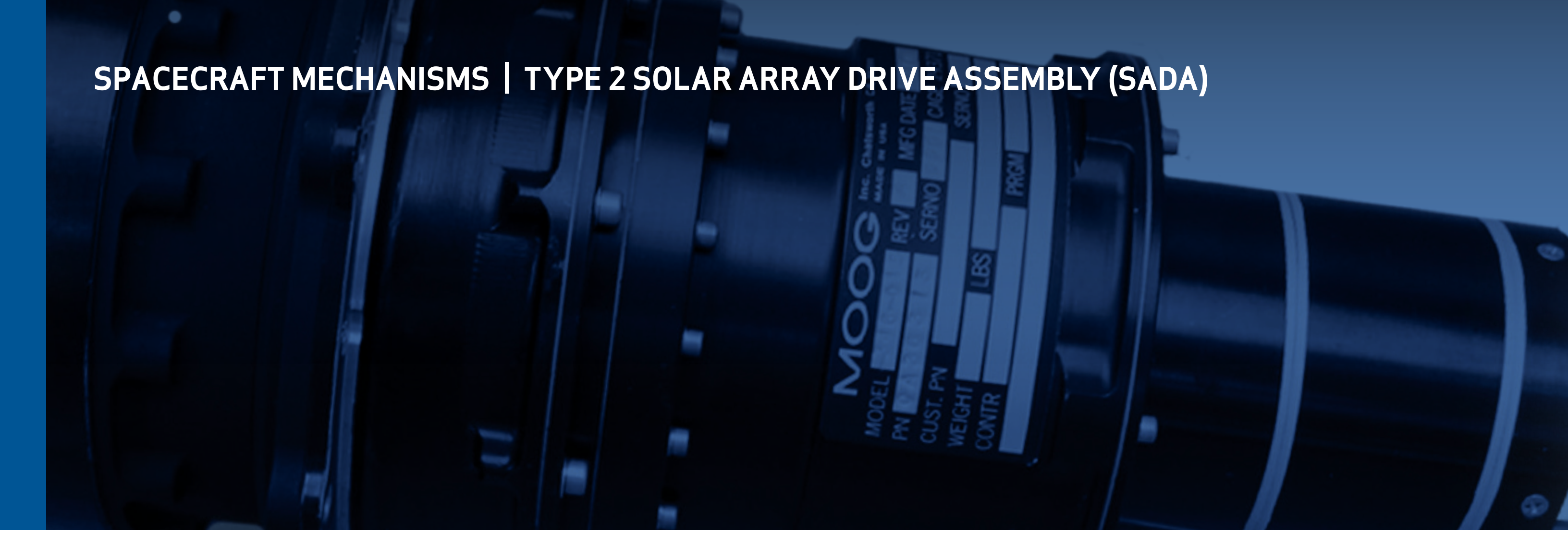
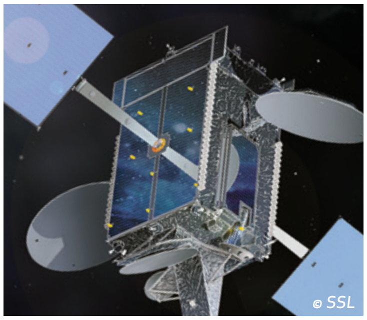
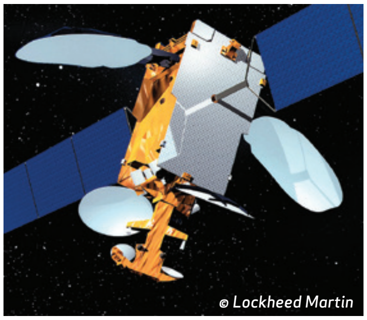


TYPE 2 SOLAR ARRAY DRIVE ASSEMBLY (SADA)

The single axis Type 2 Solar Array Drive Assembly (SADA) is based on the Type 2 Rotary Incremental Actuator. The standard actuator has varied over many applications to meet mission requirements. Generally, the items that tend to vary are interface parameters and power transfer requirements. All of the represented Type 2 SADA designs are configured with harmonic drive gear sets, potentiometers for position sensing and a slip ring assembly for power and signal transfer. As with all Moog mechanisms, a variety of design options are available. Custom power transfer requirements are easily accommodated upon request. The designs represented on this data sheet are qualified and provide an option that has cost and schedule benefits. The Type 2 SADA easily interfaces with the Moog 2 or 4 channel Electronic Control Unit for a complete system solution. Contact Moog engineering for assistance with your application.





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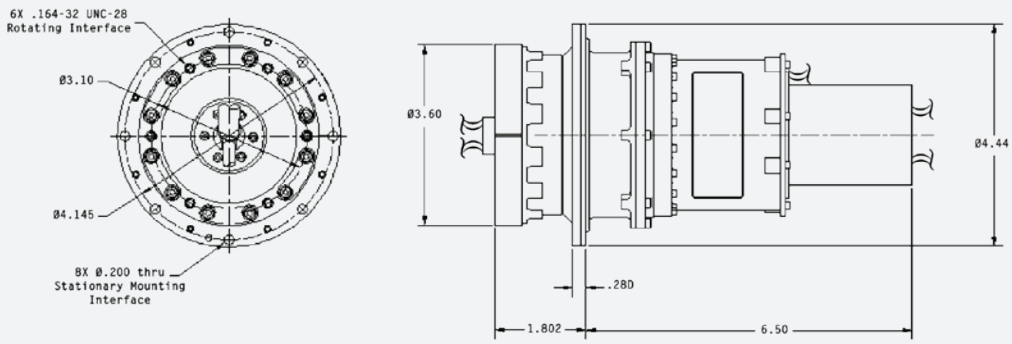
TYPE 2 SOLAR ARRAY DRIVE ASSEMBLY (SADA)

STANDARD PERFORMANCE

	Data
Output Step Size (degrees)	0.02
Output Torque (N-m)	11
Operating Temperature Range	-50C to 80C
Mass (Kg)	< 3.50 including harness
Holding Torque Powered (N)	9
Holding Torque Unpowered (N)	4.5
Inertia Capability (Kg.m2)	28
Slip-Ring Power	34 rings @ 3.2 A
Slip-Ring Signal	15 rings @ 1.0 A
Voltage	60
Position Sensor	Potentiometer ± 0.36 deg.

SADA DIMENSIONS



HERITAGE PROGRAMS

DEEP SPACE1, SSTI, INDOSTAR, KOMPSAT, ROCSAT, MSTI-3, GFO, DSPSE, GEOLITE, VCL, AMOS 2 & 3

Moog has experience with solar array drives, for both Earth orbit and planetary missions, stretching back to 1980. The solar power application is one of the most mature for Moog actuators and biaxial gimbals. Solar array drives have traditionally been very mission-specific in their configuration; a fact that will be well illustrated in the data sheets that follow. However a standard line is in place now as a result of our previous constellation work. Engineers can specify a previously qualified design for a new application, or a modified design having extensive heritage at the component level can be produced.

Cable handling is a major part of solar array drive design. On continuous rotation axes, the electrical connections to the solar panels are generally carried on slip rings. Limited rotation axes may also use slip rings, but more commonly use simple flex loops of cable. Slip rings of both composite construction (silver-graphite brushes on silver rings) and gold-on-gold (wire form brushes in "v"-grooves) have been used. Slip rings are typically integrated with their actuators in modular fashion, so that, for many applications, it will be possible to use a previously qualified unit.

For most applications, slip ring assemblies are mounted on the actuator as an accessory, on the rear face. Conductors enter the unit through the brush blocks, and exit via the rotating cable bundle from the rotor. The hollow shaft feature of the rotary actuator is used, to allow the cables to be passed through the actuator on the center line of rotation. This arrangement is used whether the continuous rotation axis is the outer axis, the inner axis, or both. For limited angle applications, twist capsules can be used.

MOOG
SPACE AND DEFENSE GROUP

21339 Nordhoff Street, Chatsworth, CA 91311
Sandra Browne – sbrowne@moog.com (International)
Scott Reynolds – sreynolds@moog.com (USA & Canada)
+1.818.734.6700 • www.moog.com

Moog Space and Defense   @MoogSDG   @MoogSDG   @MoogSDG

Form 500-601 0619