

# iIPSC-ANTRAD-301D

## Dynamic Azimuth/Elevation/Roll Axes Antenna Stabilizer and Positioner

The [iIPSC-ANTRAD-301](#) is part of a family of single axis, two-axes and three axes stabilizers for antennas being used on naval and surface vessels. It is derived from our motion tables designed for gyro calibration.

- Open frame design for easy implementation of customer's antennas (e.g. phased-array)
- Three axes gyro stabilization
- high angular resolution
- high dynamic capability
- standard or customized RF and NF slip rings
- size and sliprings scaleable to operator's needs
- control via CAN or Ethernet or RS232/422



stabilization gyro or IMU (inertial measurement unit), integrated GPS, integrated iSCU stabilization & control unit and algorithms for stabilization and pointing to moving or static targets (satellites, vehicles), capability for conical scan and RF signal feedback for improved pointing performance. As an option the unit can also be delivered with external vibration absorbers.

All signals are fed via robust connectors of type MIL-C-38999-III and TNC to the user. RF signal connectors antenna specific.

The system is also available as single-axis or two-axes antenna stabilization for surface and naval vessels. The systems are also available as an option without gyro stabilization

The antenna is protected against the environment by a radom, which can be adapted by its transmission behavior to the antenna operating frequencies. The system can also be delivered without radom. The system is delivered with full integrated servo motor and electronics,

Standard designs as well as customized designs are provided.

The system is also available as single-axis or two-axes antenna stabilization for surface and naval vessels. The systems are also available as an option without gyro stabilization

### Technical Data iIPSC-ANTRAD-301D (customized versions on request [TBD]):

Angular Positioning Rate:	$\pm 400$ °/s
Angular Acceleration:	$> 500$ °/s <sup>2</sup> (depends on payload size and available power; up to 2'000 °/s <sup>2</sup> )
Positioning Resolution:	$< 1$ arcsec
Linearity / Scale factor error:	$< 0.003$ %
Accuracy in Position:	$< 5$ arcsec (0.001'4 °)
Size:	modulare architecture: designed for applied 600 / 900 / 1'200 mm antenna dish; diameter and height antenna specific
Antenna Payload Weight:	15 / 25 / 50 kg or TBD (customer's antenna and amplifier electronics)
Angular freedom:	azimuth rotation angle unlimited, elevation -60...+105 °, roll +/- 110° or TBD
Slip Rings:	RF sliprings, coax, 6 ways (DC to 2.2 GHz, 50 Ohm, insertion loss 2.5 dB max) or TBD NF / DC sliprings, 20 ways each 32 V / 2 A, option: 4 ways each 60 V / 5 A or TBD
Interfaces:	Ethernet / CAN / RS232/422 for command and read-out of stabilization and control
Inertial sensors / IMS:	standard: iVRU-FC; option iOLFOG-S-D or iMGYR-SN or TBD option: geo-referencing system of type iTraceRT-F400 or iNAV-FMS or iNAV-FJI as option to aid the IMS on surface vehicles
Odometer input:	as option to aid the IMS on surface vehicles
Connector:	MIL-C-38999-III, TNC; RF depending on antenna type
Temperature:	-20...+56 °C (operating) or TBD
Environment / MTBF/ MTTR:	IP66 at radom site / 30.000 hrs (estimated) / 10 minutes
Size, Weight:	35...180 kg (without payload), depending on antenna and required dynamics
Power:	24 V DC or 230 V AC / 115 V AC; up to 4 kW (depends on required dynamics)

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