

iIPSC-ANTRAD-205G / -305G

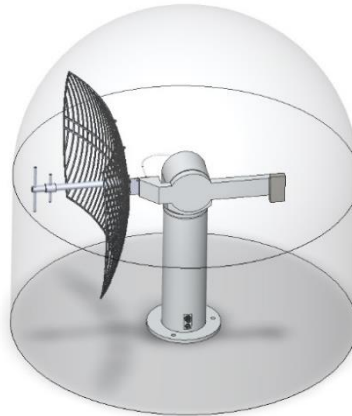
Azimuth/Elevation Axes (Pan/Tilt) Antenna Stabilizer and Positioner

The [iIPSC-ANTRAD-205G](#) is part of a family of single, two or three axes stabilizers for antennas, being used on naval and surface vessels. Applications of the modular system are inter-vessel communication, tracking of air-borne vehicles, missiles, ammunition etc.

- open frame design for easy implementation of customer's antennas,
- setup / size scaleable to operator's payload size / weight; polarization axis as option,
- dual or triple axes gyro stabilization; true north reference as option (by dual-antenna GNSS or gyro compassing),
- high angular resolution,
- dedicated, sturdy gearbox drives without significant backlash; no brakes required during power-off state,
- twisted cables or customized RF & NF slip rings,
- control via CAN or Ethernet or RS232 / RS422.

The antenna can be optionally protected against the environment by a radome, which can be adapted concerning its transmission behavior to the antenna operating frequencies. The system is delivered with full integrated gearbox motors, high resolution encoders, stabilization gyro or IMU (inertial measurement unit) / INS, integrated GNSS receiver, integrated iSCU stabilization & control unit and algorithms for stabilization,

pointing to and tracking of moving or static targets (satellites, vehicles), capability for conical scan and RF signal feedback for pointing support. 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.

The **modular system design** allows easy adaptation to a wide area of **customer specific**

requirements regarding:

- payload (antenna) weight & size,
- optional additional polarization axis,
- angular sectors on pan and tilt,
- selection of sliprings or twisted cables,
- max. angular speed and acceleration,
- max. wind load resp. antenna shape,
- delivery with or without radome.

Standard designs as well as customized designs are provided.

Technical Data iIPSC-ANTRAD-205G (2-axes) and iIPSC-ANTRAD-305G (3-axes):

Payload / Antenna Shape:	customized or standard (e.g. dish or grid antenna, 2.4 GHz)
Angular Positioning Rate / Accel:	± 60 °/s / 100 °/s ² on azimuth and elevation (other values TBD, e.g. 200 °/s, 200 °/s ²)
Stabilization / angular resolution:	< 0.5 deg (up to sea state 4 – other TBD) / < 0.005 ° (other TBD)
True North Determination:	by integrated GNSS compass, integrated gyro compassing or external command (options)
Gimbal Size:	depends on selected payload, desired motion sector on azimuth and elevation and radome
Antenna / Payload Weight:	depends on customer requests – from light-weight up to 50 kg (for > 50 kg see also our iIPSC-MSG series)
Angular freedom / sector:	customized, such as azimuth rotation angle ± 135 ° or unlimited; elevation $-20 \dots +90$ ° or tbd.; optional polarization axis (on iIPSC-ANTRAD-305G): ± 30 deg or tbd.
Slip Rings (if no twisted wires):	RF sliprings, coax, 6 ways (DC to 2.2 GHz, 50 Ohm, insertion loss 2.5 dB max (tbd.) NF / DC sliprings, 20 ways, 2 A / line
Interfaces:	Ethernet / CAN / RS232/422 for command and read-out of stabilization and control
Inertial sensors / IMS:	standard: iNAT-M200; option iNAT-MSLG , iNAT-FSLG, iNAT-CFM, iNAT-RQT or tbd. option: geo-referencing system of type iNAT-MSLG or iNAT-FSLG etc. as option to aid the IMS on surface vehicles with ground speed
Odometer input:	MIL-C-38999-III, TNC, other tbd. according to customer requirements
Connector:	$-20 \dots +56$ °C (operating) or tbd.
Temperature:	IP66 at radome site / 30.000 hrs (estimated) / 10 minutes
Environment / MTBF/ MTTR:	depends on payload constraints; approx. $8 \dots 35$ kg (without payload)
Size, Weight:	24 V DC or 235 V AC; < 500 W (depends on driven dynamics)
Power:	

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