

Two Axes High Speed Gimbaled Platform

Series iIPSC-HSG

Features

- Two-axes stabilized payload platform: azimuth and elevation axes for LOS (line-of-sight) control
- Adaptable to different and multiple sensors due to customized mounting tray; balanced payload up to 10 kg or tbd
- Direct torque drives for highest resolution, negligible hysteresis and superior dynamics ($> 1'000 \text{ }^\circ/\text{s}^2$)
- optical slipring as an option, gold plated sliprings standard
- Upper electronic compartment in customer specific design / geometry
- Available Control Features: iSCU Stabilization and Control Unit incl. iOET² Video Target Tracker, Image Fusion, iJP Joystick Panel, INS/GPS control and blind pointing feature, Geo-Referencing
- Designed to operate in harsh environment on trucks, aircrafts and under naval conditions in head-up or overhead configuration



iIPSC-HSG

Description

Direct drive brushless servo motors combined with direct drive high resolution encoders are ensuring the precise and smooth tracking of the iIPSC-HSG. All axes are sealed. The selected materials are corrosion resistant and surface treated to withstand harsh land based, airborne or shipboard environmental conditions. The basic instrument can be adapted to specific applications by the addition of optional equipment or features. iMAR Navigation GmbH, located in Germany, is manufacturer and system integrator of the iIPSC-HSG.

Options

- The inner payload platform can be replaced with a roll axis assembly enabling 3 DOF stabilization
- iOET² Opto Electronic Target Tracking for Auto Tracking, (with multi target capability and fast 50 measurements / second)
- Dynamic Inertial stabilization with integrated INS/GPS positioning
- Spring isolated base plate to filter high frequency disturbance from the instrument.

Specification Summary:

General Configuration

Payload:	customer specific or standard sensors (see separate datasheet "iIPSC Payload Selection")
Payload weight, nominal:	10 kg on centered platform (if proper balanced)
Payload Signals:	Slip rings for power supply and discrettes, fiber optic transmission as an option; can be adapted according to application requests
Power Consumption:	up to 3'000 W, 28 VDC (depends on acceleration)
Platform Total Size:	sphere diameter approx. 350 mm
Platform Weight:	approx. 40 kg

Performance

	Azimuth	Elevation
Angular freedom (deg)	continuous	-30 to +185 (or tbd)
Position		
• encoder resolution	better 20 bit	better 20 bit
• resolution shaft	1 arcsec	1 arcsec
• repeatability	±1.2 arcsec	±1.2 arcsec
Rate (deg/sec)	> ±300	> ±300
Acceleration (deg/sec ²)	> ±1'500	> ±1'500
Torque cont./peak (Nm)	25/50	9/17
Wobble (arcsec)	<±2	<±5
Perpendicularity (arcsec)	better than ±50 (to be calibrated)	

Environment

Operating Temperature -40 °C to +55 °C
 Altitude up to 4'000 m above sea level or tbd

Gyro Stabilization (option)

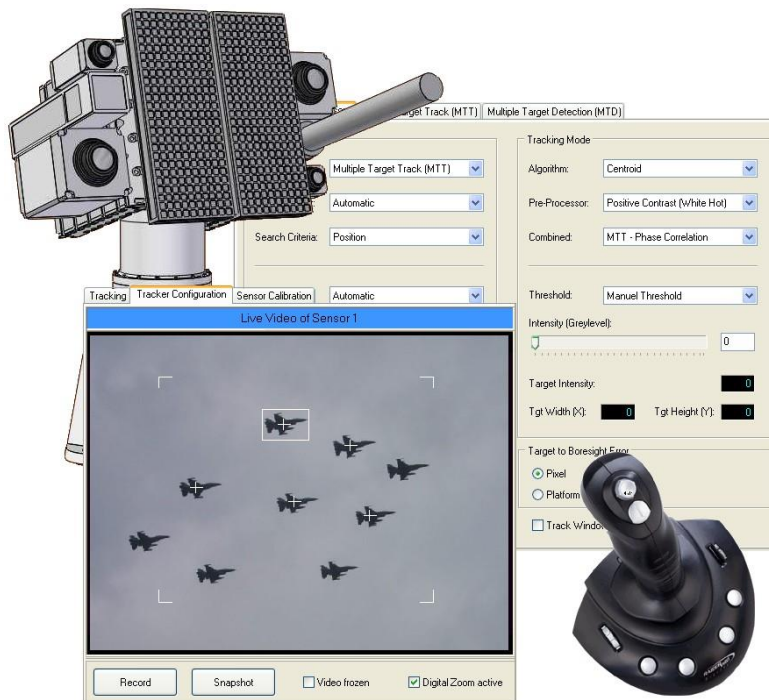
Stabilization Performance
 iNAT-RQH: < 0.2 mrad abs roll/pitch stabl.
 < 1 mrad abs heading stabl.
 < 10...200 µrad relative stabilization
 iNAT-CFM: < 0.2 mrad relative stabilization
 iOET²: 50 Hz, video target tracking image fusion

Image Target Tracker Command

Stabilization Feedback via CAN or RS232/422 or Ethernet or/and joystick (see iMAR's iSCU interface)

Payload

The system can be delivered with special adaptation to customer's payload. Payload to be provided by the customer.



Contact

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