Four Axes Gimballed Platform Series iIPSC-LSG
for VIS/IR/LRF EO/IR and High Stabilization Performance

Features

- Full four-axes stabilized EO/IR payload platform
- Adaptable to different and multiple sensors due to available standard and customized mounting trays (cooled IR camera or micro-bolometer, daylight VIS camera or µLight camera, LRF, laser designator, laser illuminator)
- Direct torque drives for highest resolution and smoothest motion
- gold plated sliprings standard and optical sliprings as an option
- Available Features:
  - iSCU Stabilization and Control Unit incl. iOET² Automatic Video Target Tracker
  - Image Blending/Fusion (EO/IR)
  - Geo-Referencing INS/GPS
  - Joystick Control, Remote Control
- Designed to operate in harsh environment according to MIL-STD 810F / MIL-STD 416E on trucks, aircrafts and under naval conditions in head-up or over-head configuration.

Description

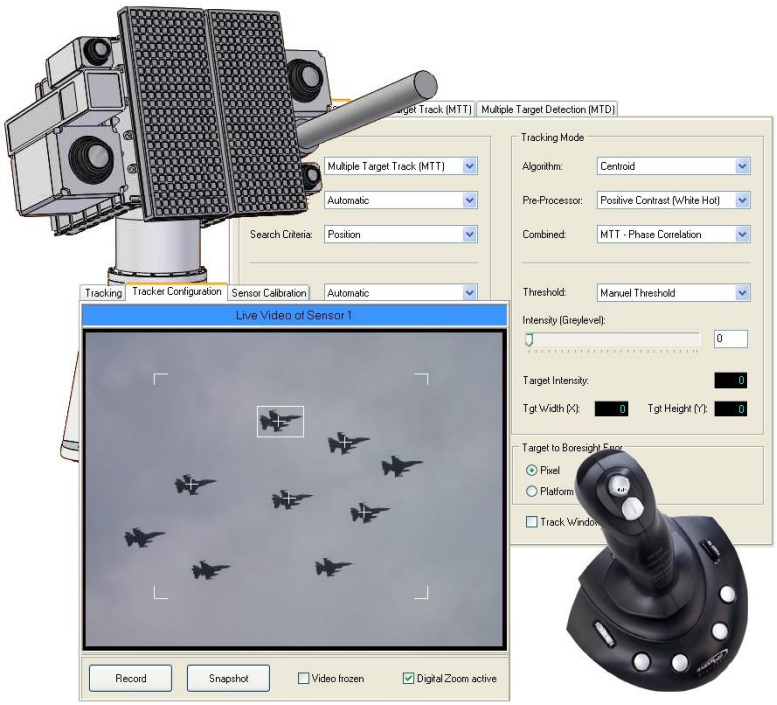
Direct drive brushless servo motors combined with direct drive high resolution encoders are ensuring the precise and smooth tracking of the iIPSC-LSG. The 4-axes design ensures best stabilization performance even under harsh environmental conditions. All axes are sealed, the selected materials are corrosion resistant and surface is 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 GmbH, located in Germany, is designer, manufacturer and system integrator of the iIPSC-LSG. Customer specific adaptations can be provided on request.

Options

- iOET² Opto Electronic Target Tracking for Auto Video Tracking, (with multi target capability and fast 50 measurements / second) and Joystick Panel for ground station
- Image blending, video fusion (IR / EO)
- Dynamic Inertial Stabilization with integrated tightly coupled INS/GPS positioning including true north referencing for geo-referencing and blind pointing
- Spring isolated base plate to prevent high frequency disturbance from the instrument.
- Window cleaning utility

Specification Summary (draft - all data depend on customized payload):

General Configuration	Payload:	customer specific or standard sensors (see separate datasheet "iIPSC Payload Selection"	
	Payload weight nominal:	up to 8 kg on centered platform	
	Payload Signals:	Slip rings for power supply, video and discrets, fiber optic transmission as an option; can be adapted according to application requests	
	Power Consumption:	up to 600 W, nom. < 250 W, 20…34 V DC (can be limited by software settings)	
	Platform Weight:	22…35 kg (depends on payload)	
	Platform Total Size:	Sphere D = 300…350 mm, H = 480…600 mm (dep. on payload)	
Performance		**Azimuth**	**Elevation**
	Angular freedom (deg)	continuous	-30 to +120° (other TBD)
	Position		
	• encoder resolution	better 20 bit	better 20 bit
	• resolution shaft	< 5 arcsec	< 5 arcsec
	• repeatability	5 arcsec	5 arcsec
	Rate nom./max. (deg/sec)	> ±60 / 200	> ±60 / 200
	Acceleration (deg/sec^2)	> ±200	> ±200
	Torque cont./peak (Nm)	5.4/18	1.2/4
	Wobble (arcsec)	<±2	<±5
	Perpendicularity (arcsec)	better than ±100 (calibrated)	
Environment	Operating Temperature	-40 °C to +55 °C (other on request)	
	Altitude	up to 5'000 m above sea level or tbd	
Gyro Stabilization	Stabilization Performance	< 25 µrad rms	
Geo Referencing	Position	< 10 cm hor. / < 30 cm vert. (GPS-RTK) < 1 m hor. / < 3 m vert. (DGPS) < 10 m hor. / < 30 m vert.(GPS, S/A off)	
	Roll/Pitch/Heading	0.01 deg / 0.01 deg / 0.02 deg	
Video Target Tracker	Stabilization Feedback	iOET²: 50 Hz, video target tracking, video fusion	
Command	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 factory integrated or provided by customer.		



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