

GPS Tracking Unit

Joint Advanced Missile Instrumentation (JAMI) Program JTU-II

Model 6399-4

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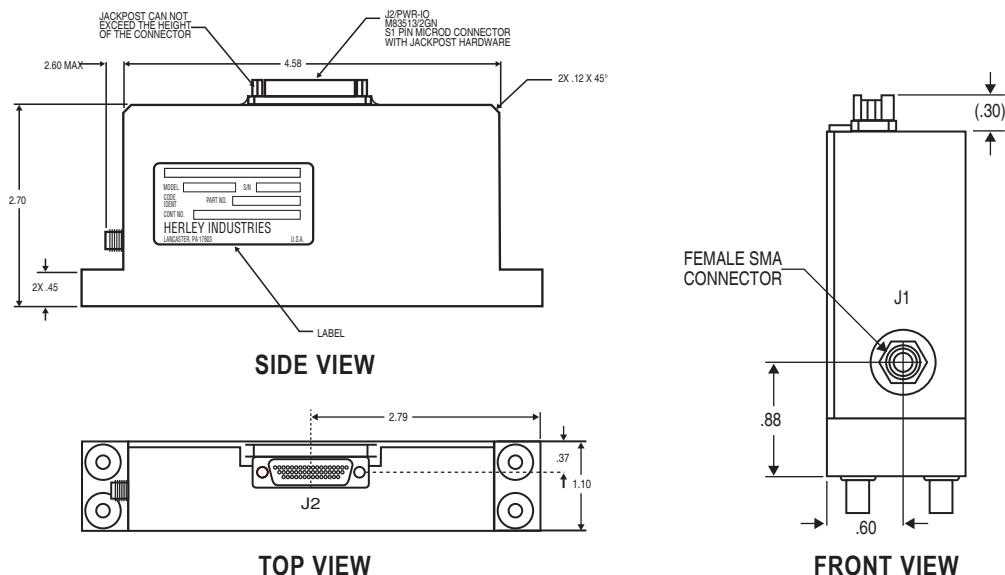


FEATURES:

- GPS based Time Space Position Indicator (TSPI) Processor Unit
- GPS Tracking for High Dynamic Missile Environments
- Able to compute position solutions under 25g dynamics
- Able to output raw measurements under 50g dynamics
- Integral triaxially mounted accelerometers and rate sensors
- Integral power conditioning
- Output compatible with Herley PCM encoders
- Serial and parallel data output

The Herley 6399-4 GPS Tracking Unit (GTU) is intended for installation into high-dynamic missiles, weapon systems, and targets. The GTU combines and processes GPS satellite coarse/acquisition (C/A) code and air dynamics from an integral Inertial Measurement Unit (IMU), and outputs the data in a standard format compatible with the host air vehicle telemetry system.

The Herley GTU is an integral part of a vehicle tracking, navigation, and/or scoring system, or other applications where accurate, high-dynamic Time-Space-Position-Information (TSPI) is required. The GTU employs a state of the art GPS receiver capable of maintaining GPS lock through the extreme dynamic environments required of today's missile and weapon systems.



Typical Outline - does not show all features - not to be used for generation of control drawings. For detailed outline drawing of a specific part number please contact Herley Industries, Inc.

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GPS Tracking Unit, Program JTU-II - Model 6399-4

Versions: This product is available in several versions. Call to discuss other variations, or your particular requirements.

Product Numbers:

P/N 5410496-1 Vertical mount (Model 6399-4)

P/N 5410500-1 Horizontal mount (Model 6399-5)

ELECTRICAL

GPS LATENCY: 125 ms, max
GPS ACCURACY (RMS PDOP<2): Position: <10 m
Velocity: <1 m/s
IMU ACCELERATION: ± 50g, each axis
IMU INPUT RATE: ± 500 degrees/second
TIME TO FIRST FIX (TTFF): < 90 sec Navigational Mode
< 3 sec Sensor Mode
INPUT VOLTAGE: +20 VDC to +34 VDC
INPUT CURRENT: 250 mA, max @ 20V
POWER CONSUMPTION: ≤ 5 W
Over/Under Voltage Protection
Short Circuit Protection
Polarity Protection

PHYSICAL

SIZE: 4.6 x 1.1 x 2.7 inches (excluding connectors)
WEIGHT: ≤ 13 ounces
ANTENNA CONNECTOR: SMA Jack (J1)
INTERFACE CONNECTOR: 51-pin female MDM connector (J2)
OUTPUTS: 1 Pulse-Per-Second Epoch (PPE)
Sample rate of IMU data
16-bit parallel TSPI data
NRZ-L Serial TSPI Data, 230 Kbps
RS232 Serial TSPI Data, 230 Kbaud
Status bits
INPUTS: Discrete Event Markers, RS232 Serial +28VDC

OPTIONS

GPS SENSOR UNIT MODE SELECTION: Navigation or Sensor
GPS DATA FORMAT: TUMS Type I or Type II

ENVIRONMENTAL

VELOCITY: ≤ 5000 ft/sec
ACCELERATION: ≤ 50g
JERK: ≤ 500g/sec, 0.1 sec duration
TEMPERATURE, OPERATING: -40°C to +85°C
TEMPERATURE, STORAGE: -54°C to +85°C
ALTITUDE: 100,000 ft
HUMIDITY: Up to 100%, MIL-STD-810F Method 507.3 Procedure 3
VIBRATION: Up to 20 grms
EMI/EMC: MIL-STD-461E, CE102, CE106, CS101, CS103, CS104, CS114, CS115, RE102, RS103
PYROTECHNIC SHOCK: 4750 g's peak

J2 Pin Connections

Connector Pin	Signal	Remarks
J2-01	Chassis GND	Connected to JTU Case
J2-02	+28 VDC RTN	Return line for System Power
J2-03	Chassis GND	Not for Use
J2-04	None	Spare
J2-05	Receive Data	RS-232
J2-06	EVENT1+	RS-422 input
J2-07	EVENT1-	RS-422 input
J2-08	Signal GND	
J2-09	VARF	TTL output
J2-10	NRZ-L Data Stream	TTL Serial data
J2-11	D00	Tri-state LVTTTL output (LSB)
J2-12	D01	Tri-state LVTTTL output
J2-13	D02	Tri-state LVTTTL output
J2-14	D03	Tri-state LVTTTL output
J2-15	D04	Tri-state LVTTTL output
J2-16	D05	Tri-state LVTTTL output
J2-17	D06	Tri-state LVTTTL output
J2-18	DAT_STB-	LVTTTL output
J2-19	+28 VDC	System Power
J2-20	+28 VDC	System Power
J2-21	Chassis GND	Not for Use
J2-22	Signal GND	Signal Ground for RS-232
J2-23	Transmit Data	RS-232
J2-24	EVENT2-	RS-422 input
J2-25	EVENT3-	RS-422 input
J2-26	1 PPE (EPS)	TTL output
J2-27	GPS BIT	Output to drive LED
J2-28	D07	Tri-state LVTTTL output
J2-29	Signal GND	
J2-30	D08	Tri-state LVTTTL output
J2-31	Signal GND	
J2-32	D09	Tri-state LVTTTL output
J2-33	Signal GND	
J2-34	CHIP_SEL-	LVTTTL input
J2-35	Signal GND	
J2-36	+28 VDC RTN	Return for System Power
J2-37	Chassis GND	Not for Use
J2-38	MODE_SEL	LVTTTL input
J2-39	None	Spare
J2-40	EVENT2+	RS-422 input
J2-41	EVENT3+	RS-422 input
J2-42	Static BIT	Output to drive LED
J2-43	Dynamic BIT	Output to drive LED
J2-44	FAIL BIT	Output to drive LED
J2-45	D10	Tri-state LVTTTL output
J2-46	D11	Tri-state LVTTTL output
J2-47	D12	Tri-state LVTTTL output
J2-48	D13	Tri-state LVTTTL output
J2-49	D14	Tri-state LVTTTL output
J2-50	D15	Tri-state LVTTTL output
J2-51	BLK_XFER-	LVTTTL output

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