L3HARRIS®
FAST. FORWARD.

TRUTRAK-M HDA

M-Code GPS receiver for high dynamic applications

Introducing L3Harris' TruTrak-M High Dynamics Application (HDA) – the ultimate solution for high dynamic and high altitude environments, including aircraft, missiles, space launch vehicles and orbital platforms. This receiver excels at navigating and tracking GPS signals from Earth's surface to orbital altitudes at hypersonic speeds, delivering both a position, velocity and time solution and line-of-sight observables. The HDA has flown around the Earth, delivering exceptional accuracy and dependability. Engineered to meet the demands of the most challenging missions, the TruTrak-M HDA stands out as a reliable and accurate navigation solution.

PHYSICAL CHARACTERISTICS	SPECIFICATION
Size	2.45 L x 1.77 W x 0.374 H in
Weight	38 grams
Primary Voltage	3.3V +/-200 mV
Auxiliary Voltage	3.3V +/-200 mV
Temperature Operating Range	-40°C to +85°C
Digital Connector	Samtec SFM-140-L2-S-D-LC
RF Connector	Huber-Shuner 85-MMCX-50-0-1

SYSTEM CHARACTERISTICS	SPECIFICATION
Accuracy	
Position	< 20 m
Velocity	< 0.9 m/s
Pseudorange (PR)	< 2.59 m
Delta Range Rate (DRR)	< 0.03 m/s
Time (UTC)	< 52 ns
Sensitivity	
Cold Start	-140 dBm
Warm Start	-143 dBm
Tracking	-152 dBm
TTFF	
Cold Start	≤ 120 sec
Reacquisition	≤ 5 sec (30-sec outage)
Dynamics	
Maximum Velocity	> 10 km/s
Maximum Acceleration	> 100 m/s^2
Power Consumption	
Acquisition	< 3 W (average) < 6.5 W (peak)
Tracking (L1 + L2 continuous mode)	2.0 W

KEY FEATURES AND BENEFITS

> **Compact Design:** Utilizes the Type II form factor with specialized software tailored for space applications as well as high dynamic applications

> **MGUE Standard Connector:** Utilizes the 80-pin I/O connector in line with MGUE standards

> **Dual Frequency:** Tracks C/A, Y and M signals on both L1 and L2 frequencies for robust navigation

> **Super High-Altitude Navigation:** Accurate navigation at altitudes up to 8000 Km

> **Line-of-Sight (LOS) Observables:** Delivering line-of-sight (LOS) observables, including Pseudorange and Carrier Phase at 10 Hz

> **Position, Velocity and Time (PVT) Data:** Outputs PVT data at a frequency of 10 Hz for enhanced performance

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HARDWARE

Interface	Type	Specification
Available IO	Time events	1 pps in 1 pps or 10 pps out
Communication Ports	4 CMOS	Up to 460 KBps
	1 RS232	Up to 460 KBps
Additional Features	Keying	EKMS

KEY FEATURES AND BENEFITS

> **Direct Signal Acquisition:**
Enables the direct acquisition of Y and M signals

> **Field Reprogrammable:**
Incorporates a field reprogrammable design, allowing for future updates with minimal disruption to system operations

> **Security Certified:**
Fully security certified and approved, supporting unclassified when keyed operations

For direct inquiries:
NavSolutions@l3harris.com
L3Harris.com/m-code

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1025 W. NASA Boulevard
Melbourne, FL 32919
L3Harris.com