



L3HARRIS™
FAST. FORWARD.

TRUTRAK™-M

Assured GPS for Contested Environments

LATEST GENERATION ADVANCEMENTS

Provides Electronic Warfare Success:

Uses spectrally isolated signals for operation during Blue Force Electronic Attack (BFEA).

Mitigates Cyber Threats: Improves cryptography and enhances protection of critical technology.

Reduces Product Costs: Eliminates expensive tamper resistance coating. Unclassified manufacturing.

BACKWARDS COMPATIBLE

TruTrak-M is fully backwards compatible with legacy Selective Availability Anti-Spoofing Module (SAASM) receivers, providing the capability to obtain Precise Positioning Service (PPS) using:

- > Y-Code Only
- > M-Code Only
- > Mixed Y- & M-Code Operation

When supplied with M-code keys, the modernized receiver uses the 19 M-Code satellites in orbit today.

SECURITY CERTIFIED AND APPROVED

TruTrak-M is the only Modernized GPS receiver to be security certified and approved, a milestone achieved in October 2016. Units are available today for integration and testing. TruTrak-M satisfies the public law (reference PL 111-383) mandate to transition to Military code (M-Code) GPS after fiscal year 2017.

FEATURES

- > L1/L2 C/A, Y- and M-Code signal operation
- > GB-GRAM Type I form factor
- > Modernized anti-spoof, anti-tamper and jamming
- > Field re-programmable
- > Inputs for IMU and/or precision clock
- > Security certified and approved in 2016

BENEFITS

- > Backwards compatibility with upgrade path to M-Code
- > Assured solutions in advanced threat environments
- > Enables Blue Force Electronic Attack
- > Satisfies Public Law Mandate

APPLICATIONS

- > Assured PNT
- > Precision Guided Munitions
- > Launchers and guns
- > Unmanned Aircraft Systems (UAS)



L3Harris' TruTrak™-M Type I Modernized GPS receiver delivers assured position, velocity, and time solutions under current and emerging threat conditions.

PHYSICAL CHARACTERISTICS

Size	2.45"L x 1.76"W x 0.368"H
Weight	35 grams
Primary Voltage	3.3V ±200 mV
Auxiliary Voltage	3.3V ±200 mV
Digital Connector	Samtec SFM-*140-L2-S-D-LC
RF Connector	Huber-Shuner 85-MMCX-50-0-1

PERFORMANCE

Measurement Error

PR	< 2.59 m
DRR	< 0.03 m/s
CP (zero baseline)	< 3 mm
Time (UTC)	< 52 ns

Sensitivity (dBm)

Cold Start	-140 dBm
Warm Start	-140 dBm
Hot Start	-143 dBm (Y)
	-140 dBm (M)
Tracking	-154 dBm

TTFF (seconds)

Hot Start	< 10 seconds
Warm Start	< 15 seconds
Cold Start	< 60 seconds
Reacquisition (10s outage)	< 5 seconds
Reacquisition (15m outage)	< 15 seconds

ENVIRONMENTAL (MIL STD-461E)

Temperature	-40°C to +85°C
Altitude	-400 m to 24,000 km

POWER CONSUMPTION

Time Maintenance	8 mW
Standby	0.9 W
Track (L1-only Mode)	1.2 W
Track (L1/L2 Mode)	1.4 W
Acquisition	5 W

COMMUNICATION PORTS

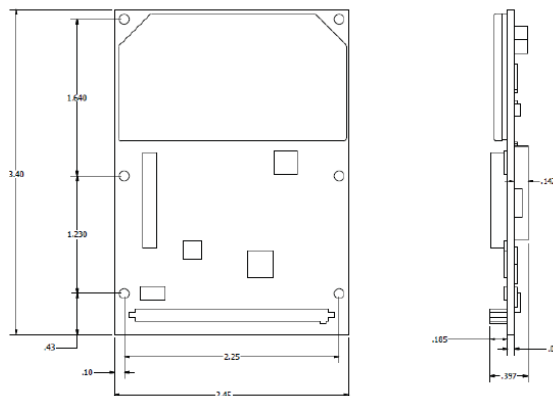
- > RS-232 (up to 230 KBps)
- > Keying (EKMS)
- > 80-Pin GB-GRAM Std.

SPECIFICATIONS

- > 153D/ MSID-001A
- > NMEA-0183 ver. 3.01
- > EKMS-308 ON481180 REVE
- > ICD-GPS 700D
- > ICD-GPS 200H
- > IS-GPS 250A (NAVSTAR GPS AVG)

ACCESSORIES

- > Antenna
- > Modernized Interface Card (CIC)



TruTrak™-M

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L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.



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1025 W. NASA Boulevard
Melbourne, FL 32919
t 714 758 3156
IEC.Info@L3Harris.com