

# Dynetics Modular Instrumentation System

## High-Sensitivity GPS Module

This module provides the MIS with a high-sensitivity GPS capability at nominal dynamic levels. Available outputs include NEMA GPS position data and IRIG-B formatted time code.

### Receiver

#### Receiver Type

- ◆ C/A L1 (1575.42 MHz)
- ◆ 12 parallel channels

#### RF Reception Sensitivity

- ◆ -180 dBW

#### Signal Acquisition

- ◆ Hot: < 1 sec
- ◆ Cold: < 45 sec

#### Real-time Clock

- ◆ 12-hour capacitor backup

#### Time To First Fix

- ◆ Hot: < 1 sec
- ◆ Warm: < 38 sec
- ◆ Cold: < 45 sec
- ◆ Reacquisition: < 0.5 sec

### RF Front-End

#### Low-Noise Amplifier (LNA)

- ◆ Gain: variable up to 26 dB
- ◆ Noise figure: 0.9 dB

#### Surface Acoustic Wave (SAW) Filter

- ◆ Absolute attenuation  
L1 - 40 MHz: 38.9 dB  
L1 + 40 MHz: 58.8 dB
- ◆ Bias for active antenna  
+3.3 or +5 V available
- ◆ Low-loss notch filter in TM band eliminates EMI susceptibility

#### Max Velocity

- ◆ 515 m/sec

#### Max Altitude

- ◆ 18,000 m

#### Max Acceleration

- ◆ 4 g

#### Max Jerk

- ◆ 1 g/sec

#### Protocols

- ◆ NMEA 0183

#### Update Rate

- ◆ 1 Hz

### Interface

- ◆ Compatible with MIS architecture

### Physical

- ◆ Diameter 2.375" min
- ◆ Height 0.33" min
- ◆ Weight 35 g min



### High-Sensitivity GPS Module Highlights:

- ◆ Onboard real-time GPS positioning
- ◆ GPS-based IRIG timing
- ◆ Acquisition and tracking in low signal-level environments
- ◆ Real-time clock with super capacitor backup and nonvolatile memory provides fast time to first fix
- ◆ RF-compatible with S-band telemetry

This module is ideally suited for low dynamic applications requiring maximum sensitivity.

#### For More Information:

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