

# NP3001

## Portable PPS/Frequency Reference with NMEA Simulator



### KEY FEATURES

GPS Locked, low noise OCXO, 10 MHz frequency reference locked to a 26 channel multi-satellite system receiver provides fast TTFF. Unit produces 10 MHz, PPS, NMEA with a simulated NMEA and PPS when no GPS signal is available. A master NMEA and PPS input allow synchronization with an external source across multiple units. Auto calibration maintains output stability in an intermittent GPS environment. Battery provides in excess of 8 hours of use. Unit can be powered from an external 12 Vdc source.

### Typical Phase Noise - 10MHz Sine

Offset Frequency (Hz)	Typical (dBc / Hz)
10	-120
100	-130
1K	-140

### PRODUCT HIGHLIGHTS

#### NMEA/PPS Simulator

OCXO derived PPS maintains accuracy, while providing simulated or holdover NMEA data. Selects from three timing sources: Master In, GPS, or Simulator. Priority is selectable, with automatic switching based on priority.

#### Auto-Calibration

GPS derived compensation coefficients stored for application when GPS lost. Effectively eliminate long-term drift and mechanical shock offsets.

#### Multi-Satellite System Receiver

The 26 channel high-sensitivity, high-accuracy Timing Multi-GNSS receiver. Supports TRAIM and various position modes, allowing accurate and robust 1PPS synchronized to UTC time.

## Technical Specifications

10MHz Sine	1.0 Vrms, 50 Ohm - BNC
Harmonics	Less than -30 dBc
Locked Stability	<~E-11 after 100 seconds
First Year Frequency Stability	±50 ppb (long-term unlocked)
Temp Stability	±10 ppb
Yearly Aging	±30ppb
Receiver Sensitivity	-155dBm
PPS Locked	30ns RMS accuracy, 3.3 Volt logic, output impedance CMOS (±20ma)
PPS Simulated	100ns RMS accuracy, 3.3 Volt logic, output impedance CMOS (±20ma)
PPS Output	3.3 Volt CMOS (30 ma drive), Pulse width 400 usec, Rise-Fall < 10 ns
PPS Input	3.3 Volt CMOS ( Sync aligned to leading edge < 200ns )
NMEA Output	Full RS232 levels – NMEA-0183
NMEA Input	Full RS232 levels – NMEA-0183
2x16 OLED Display	UTC Time, Simulator Source, Priority
Battery	Lithium-Ion 4.7Ah
Power Requirements	9 to 15 VDC @ 1.0 amps max (<10 Watts)
Connectors - Front panel	BNC (2) - PPS input/output
	SMA – 10 MHz Sine
	DB9 Male – RS232 NMEA Input
	DB9 Female – RS232 NMEA Output
Power connector	Power Terminal (4 Pin) - OSTTJ0411530
Operating Temperature	0 to 50°C non-condensing (extended temperature range available)
Storage Temperature	-40 to 70°C
Width	4.6"
Depth	7.2" (exclusive of connectors)
Height	1.8"
Weight	~16 oz.

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