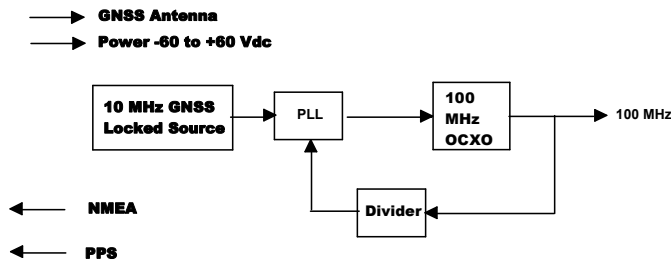


Company Datasheet #	NR3620-100
Revision #:	k
Date:	7/26/16

NR3620-100- GPSDO

100 MHz GPS Locked Reference

KEY FEATURES



The signal source is a GPS driven, mixed-signal phase lock loop generating a 10 MHz sine output from an intrinsically low jitter voltage-controlled crystal oscillator. This 10 MHz signal is used to discipline a 100 MHz low-noise OCXO with a Kalman filter. The output is a 0.5 Vrms sine. The unit also features Auto Cal. The unit continually monitors temperature and aging such that when the unit goes into holdover, the output frequency is at the last frequency ± 10 ppb. There is extensive built-in test that drives an LED and relay contacts for system integration. There is also a GPS lock status signal (and LED), PPS and a serial port to provide access to NMEA time stamp data. The unit can operate from DC power from -60 Vdc to +60 Vdc- in three ranges. An AC power adapter is available. Unit is available in a kit that includes the unit, antenna, power supply and cable to connect the antenna to the unit.

Product Highlights



High Sensitivity GPS Receiver

The 26 channel high-sensitivity, high-accuracy Multi-GNSS receiver. Supports TRAIM, GPS, GLONASS, QZSS, SBAS, Active Anti-Jamming and Advanced Multipath Mitigation Functions.

Typical Phase Noise- 100 MHz

Offset Frequency (Hz)	Typical (dBc / Hz)
10	-97
100	-120
1k	-140
10k	-150

Auto Cal

Multiple times a day, the unit stores the temperature/time performance of the holdover crystal. If GPS is lost, the unit uses the last best known compensation.

Technical specifications

100 Mhz Sine	7 ±2 dBm ,50 ohm- BNC
Harmonics	Less than -30 dBc
NMEA	Full RS232 levels – NMEA-0183
Frequency Band	1574 – 1607 MHz
Antenna Power	3.4 Vdc at 5 to 35 ma
First Year Frequency Stability	±50 ppb (long-term unlocked)
Temp Stability	±200 ppb (unlocked)
Holdover offset	±10ppb (frequency offset after loss of GPS)
Yearly aging	±100ppb (mitigated by Auto-Cal) (20 year projected ±1.25 ppm)
Receiver sensitivity	-155dBm
PPS	15ns(1σ) (@-130 dBm) 50ns(1σ) (@-150 dBm) RMS accuracy, 3.3 volt logic, output impedance CMOS (±20ma)
Power Requirements	Three ranges ± (9 to 18, 18 to 36, 36 to 65) Vdc (ac adapter available) Power converter can be configured to provide > 500 volts isolation)
Connectors	BNC-1 100 MHz output BNC-2 PPS 3.3 Vdc CMOS
	4 pin terminal block ((Digikey 277-2419-ND (ships with mate (Digikey 277-2418)-ND (reverse polarity operational)

Environmental and Mechanical

Operating temperature	0 to 50C non-condensing (extended temperature range available)
Storage temperature	-40 to 70C
Width	4 inch (exclusive of connectors)
Depth	5 inch
Height	1.5 in
Weight	~16 oz

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