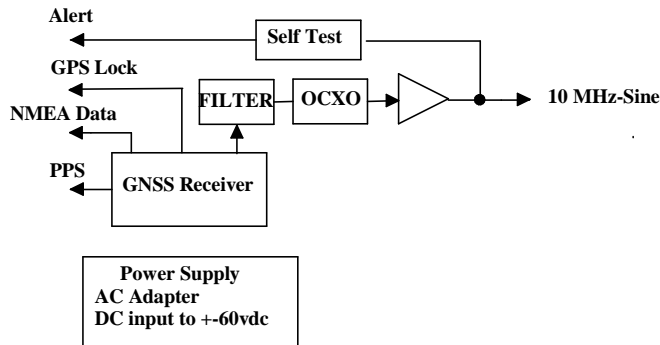


NR3700-CAL- GPSDO

GPS Locked Reference OCXO Holdover/AutoCal

KEY FEATURES



The signal source is a GNSS driven, mixed-signal phase lock loop generating a 10 MHz sine output from an intrinsically low jitter OCXO-controlled crystal oscillator. The output is a 0.4 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. The unit can operate from DC power from -60 Vdc to +60 Vdc- in three ranges. Power converter provides electrical isolation from the power source to the output (configuration option). Unit is available in a kit that includes the unit, antenna, power supply and cable to connect the antenna to the unit. Optional PPS and NMEA outputs. Low noise OCXO with unlock aging stability ± 50 ppb/year.

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- 10 MHz Sine

Offset Frequency (Hz)	Typical (dBc / Hz)
10	--85
100	-115
1k	-140
10k	-145

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

10 MHz Sine	5 ±1 dBm ,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 (unlocked)
GNSS receiver	
	GPS L1 C/A, GLONASS L1OF, QZSS L1 C/A, SBAS L1 C/A (Ready): Galileo E1B/E1C, QZSS L1S
Channels	26 channels (GPS, GLONASS, QZSS, SBAS)
Sensitivity	
GPS	Tracking: -161 dBm Hot Start: -161 dBm Warm Start: -147 dBm Cold Start: -147 dBm Reacquisition: -161 dBm
GLONASS	
	Tracking: -157 dBm Hot Start: -157 dBm Warm Start: -143 dBm Cold Start: -143 dBm Reacquisition: -157 dBm
	With Novus recommended antenna
Antenna with LNA	
Antenna power	3.5 Vdc, < 35 ma (on center conductor) (factory configurable to 5 Vdc)
Frequency	1574-1607 MHz
Nominal Gain	2 dBic
Amplifier gain	26 dB
Noise Figure	< 2.0 dB
Out of Band rejection	Fo±50MHz=60 dBc, Fo±60 MHz
DC current	<25 ma@3.5 Vdc
Remote interface & control	
Protocol	RS232 NMEA-0183
Connector	DB-9
Location	Rear panel
Protocol	Bit plus stop
Standard Baud Rates	Selectable 4800, 9600, 19200, 38400, 57600 or 115200 bps

PPS	25ns RMS accuracy, 3.3 volt logic, output impedance CMOS ($\pm 20\text{ma}$)	
Power Requirements	Three ranges \pm (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 10 MHz output	
	SMA PPS 3.3 Vdc CMOS (optional)	
	2 pin terminal block ((Digkey 277-2419-ND (ships with mate (Digkey 277-2418)-ND (reverse polarity operational)	
NMEA (optional)	NMEA-0183 at full rs232 levels.	

Environmental and Mechanical

Operating temperature	0 to 50C non-condensing (extended temperature range available)	
Storage temperature	-40 to 70C	
Width	3.5 inch (with flange)	
Depth	4 inch	
Height	1.2 in	
Weight	~8 oz	

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