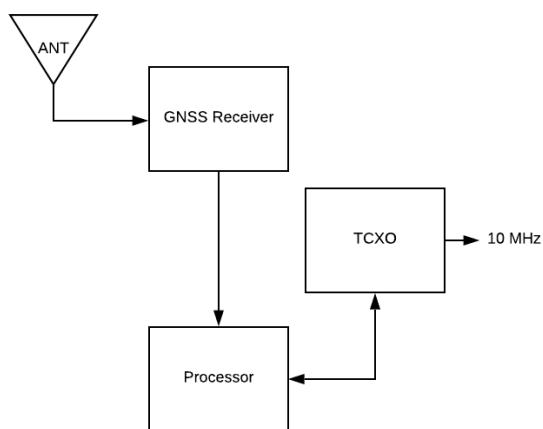


NR3700-TG- GPSDO

GPS Locked Reference TCXO Holdover/AutoCal

KEY FEATURES



NR3700-TG
GNSS Locked TCXO

The signal source is a GNSS driven, mixed-signal phase lock loop generating a 10 MHz sine output from a voltage-controlled crystal oscillator. The output is a 0.4 Vrms sine. The unit also features Auto Cal. There is extensive built-in test that drives an LED and relay contacts for system integration. 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 TCXO with unlock aging stability ± 1 ppm/year. OCXO option available. A low cost, high performance GPSDO.

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	-90
100	-115
1k	-130
10k	-130

Auto Cal

Multiple times a day, the unit stores the temperature/time performance of the holdover crystal. If GNSS 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	±1 ppm (long-term unlocked)
Temp Stability	±10 ppb (unlocked)
Yearly aging	±1 ppm unlocked
Receiver sensitivity	-155dBm antenna power 3.5 vdc < 40 ma
PPS (Option)	15ns(1σ) (@-130 dBm) 50ns(1σ) (@-150 dBm) 10ns RMS accuracy, 3.3 volt logic, output impedance CMOS (±20ma) Programmable pulse width to 500ms in 1 usec increments.
NMEA (optional)	NMEA-0183 at full rs232 levels.
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
GNSS receiver	
Channels	GPS L1 C/A, GLONASS L1OF, QZSS L1 C/A, SBAS L1 C/A (Ready): Galileo E1B/E1C, QZSS L1S
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

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Revision #:	E
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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
Connectors	SMA 10 MHz output
	SMA secondary output
	SMA PPS 3.3 Vdc CMOS
Power Requirements	Three ranges ± (10 to 18, 19 to 36, 37 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)
	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	3.5 inch (with flange)
Depth	4 inch
Height	1.2 in
Weight	~8 oz

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