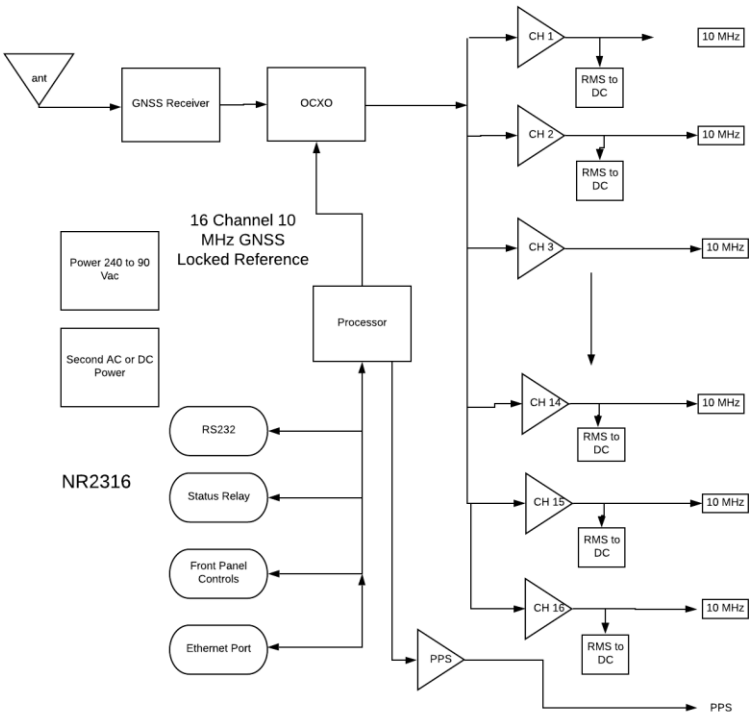
	Company Datasheet #	NR2316D-O-G
	Revision #:	C
	Date:	9/9/2020

NR2316D O-G

10 MHz 16 Channel GNSS Locked Reference



Crystal

Excellent aging is achieved by using a low jitter overtone SC cut crystal in a temperature-controlled oven.

High Sensitivity GPS

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

Low Phase Noise

16 channel reference offers GNSS locked stability. Sixteen channels meet the needs of most applications without requiring a distribution amplifier. Continuous channel monitoring available locally or via RS232/Ethernet/SNMP. Dual power source options for AC and DC power driven systems. Auto-calibration minimizes long-term drift.

Specifications:

10 MHz Sine	1.0 ±0.1 Vrms, 16 channel, 50 Ohm - BNC	
Locked Accuracy	<3E-11 @ 200 seconds	
Temp Stability	±10 ppb unlocked	
Daily Aging	±5 ppb unlocked	
Yearly Aging	±50 ppb (unlocked) typically < ±10 ppb after 30 days auto-calibration	
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	
Phase noise		
1 Hz	-95 dBc/Hz	
10 Hz	-120 dBc/Hz	
100 Hz	-145 dBc/Hz	
1 kHz	-150 dBc Hz	
PPS		
Amplitude for 1PPS	3.3 Vdc CMOS (5 Vdc option)	
Pulse width for 1PPS	Programmable 1 to 500ms in 1 ms steps	
Rise time for 1PPS	<10 ns (faster edge available)	
Jitter	GNSS-PPS < 10ns	
Connector	SMA	
Load Impedance	50 Ohm	
Location	rear	
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 Required		
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	
Power Input	90 to 250 VAC, 50/60hz, IEC 320-C14 or 24 VDC (contact factory for options)	
Phase Noise	-105 dBc/Hz@ 1 Hz, -135 dBc/Hz@ 10 Hz, -150dBc/Hz@ 100Hz	
RS232 Serial Status Port	Status-channel voltages	
Ethernet Port	RJ45-option	
SNMP		

Environmental and Mechanical

Operating Temperature	0 to 50C non-condensing	
Storage Temperature	-40 to 70C	
Height	1RU (~1.73)	
Width	19.0 inch	
Depth	13.0 inch	
AC input	90 to 250 VAC, 50/60Hz, less than 10 watts	
Weight	≈5.5lbs	