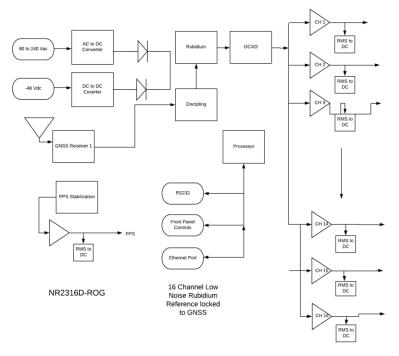


Company Datasheet #	NR2316D-ROG
Revision #:	Α
Date:	9/9/2020

NR2316D R-O-G

10 MHz, 16 Channel, Low Noise Rubidium, GNSS Locked Reference





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.

Rubidium

Holdover < 1 ppb/year

Crystal

Low phase noise OCXO dominate 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

Local and remote control options (RS232- SNMP)

Page #:	1 of 4	www.novuspower.com		
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Company Datasheet #	NR2316D-ROG
Revision #:	А
Date:	9/9/2020

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
SNMP (option)	
Remote monitoring & control	Internet
Parameters monitored	Output amplitude, all power supplies, GNSS lock status, number of
Locally – present on remote	satellites, Built-In test status,
interface for monitoring	
Transaction/decodable commands	English format
Single monitoring command	Updated every second
Connector	RJ-45
Rubidium Atomic	110 10
Trabialam / training	
Accuracy at shipment	+/-5.0E-11
Warm-up time	<15 minutes
Time of lock	<5 min -130 dBm
Time to achieve accuracy	<±1E-9<20 minutes
Aging - monthly	<±5E-11
Aging - yearly	<±1.0E-9
Stability: Allan Deviation	
1s	<3E-10
10s	<1E-10
100s	<3E-11
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ge #: 2 of 4	www.novuspower.com		
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Company Datasheet #	NR2316D-ROG
Revision #:	А
Date:	9/9/2020

Standard 10Hz	SSB Phase noise for 10Mhz	
10Hz		Standard
100Hz	10Hz	
1000Hz		
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)	1000Hz	<-155dBc
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)		
Pulse width for 1PPS Rise time for 1PPS Rise time for 1PPS All ons (faster edge available) Jitter GNSS-PPS < 10ns Connector SMA Load Impedance Location 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: -147 dBm Cold Start: -147 dBm Reacquisition: -161 dBm GLONASS Tracking: -157 dBm Hot Start: -157 dBm Hot Start: -143 dBm Cold Start: -143 dBm Avarm Start: -143 dBm Cold Start: -143 dBm Cold Start: -143 dBm Antenna with LNA Required Antenna power 1574-1607 MHz Nominal Gain Amplifier gain 26 dB Noise Figure QUut of Band rejection Fo±50MHz=60 dBc, Fo±60 MHz Courrent		
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Amplifier gain26 dBNoise Figure< 2.0 dB		2 dBic
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Out of Band rejection Fo±50MHz=60 dBc, Fo±60 MHz DC current <25 ma@3.5 Vdc		
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)	r	· ·
Phase Noise -105 dBc/Hz@ 1 Hz, -135 dBc/Hz@ 10 Hz, -150dBc/Hz@ 100Hz	Phase Noise	
		111 11 11 11 11 11 11 11 11 11 11 11 11
RS232 Serial Status Port Status-channel voltages	RS232 Serial Status Port	Status-channel voltages
Ethernet Port RJ45-option		
SNMP		1

Page #:	3 of 4	www.novuspower.com		
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Company Datasheet #	NR2316D-ROG
Revision #:	Α
Date:	9/9/2020

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 (DC power options)
Weight	≈5.5lbs

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Page #:	4 of 4	www.novuspower.com	
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