

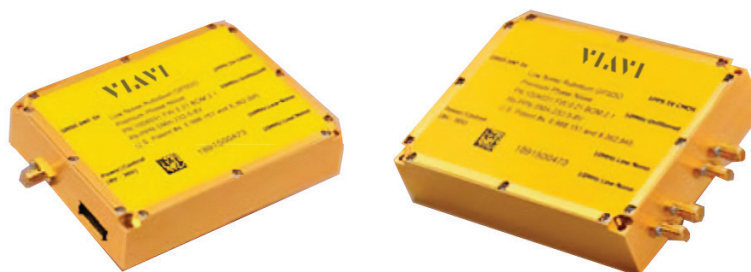
VIAVI

LN Rubidium GPSDO

Low Noise Rubidium GNSS-Disciplined Frequency Standard

Typical Electrical Specifications

Module Specifications	
Long-Term Oscillator Aging	<0.1 ppb (ultimate and premium options), <0.3 ppb (standard) per month without GNSS Zero aging with GNSS
Frequency Stability Over Temperature (0°C to +70°C)	<0.07 ppb (ultimate), <0.1 ppb (premium), <0.7 ppb (standard)
1 PPS Stability	±10 ns to UTC RMS (1-Sigma) GPS Locked in Position Hold mode after 72 hours
Holdover Stability*	<±0.6 µs over 24 Hour Period @+25°C (Ult and Prem, after 48 hours with GPS lock)
ADEV (Ultimate OCXO option, 96+ hours GPS-locked, +25°C, no airflow, no vibration, no tilt)	
0.1 s	<4E-13
1 s	<5E-13
10 s	<8E-13
100 s	<2.5E-12
1K s	2E-12
10K s	<5E-13
100K s	<8E-14
1 PPS Outputs (Rubidium or OCXO steered)	Two 5 V CMOS outputs, one internal RS-422
10 MHz Outputs	One buffered 10 MHz Sine Wave +13 dBm (±2 dBm), two un-buffered low-noise direct OCXO sine wave outputs (+5 dBm to +10 dBm), one internal +13 dBm



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Module Specifications continued

Options accessible internally to enclosure only	RS-422 (10 MHz out, 1 PPS out, 1 PPS in, serial output), LCD port, 10 MHz +13 dBm Sine Wave, 5 MHz CMOS, USB			
RS-232/USB Control	SCPI-99 Control at 9.6 K, 19.2 K, 38.4 K, 57.6 K, 115.2 K			
RS-232/RS-422/USB NMEA Output Sentences	NMEA 0183 rev. 2.3, Sentences: GGA, RMC, ZDA, GSV, PASHR, and others			
GNSS Frequency, Antenna	L1 GPS and/or Glonass, Active Antenna 5 V			
GNSS Receiver	72 Channels, GPS, Glonass, BeiDou, QZSS, SBAS: WAAS/EGNOS/MSAS/GAGAN			
GNSS Sensitivity				
Acquisition	-148 dBm			
Tracking	-167 dBm (GPS and Glonass)			
GPS Receiver Motion Adaptive Filter Settings	Optimized depending on vehicle velocity (Auto-sensing, Auto-switching option)			
TTL Alarm Output	GNSS Unlock and Hardware Failure indicator			
Warm Up Time/Stabilization Time Without GPS	+25°C to <2E-010 accuracy typical: Rubidium: <8 min, Filter: <15 min			
Supply Voltage (Vdd)	+8 V to +36 V max, +12 V nominal			
Power Consumption	<5.6 W at +25°C steady-state, <17.5 W warmup			
Temperature				
Operating Temperature	-20°C to +70°C baseplate temperature			
Storage Temperature	-55°C to +100°C			
g-sensitivity	Rubidium: <0.2 ppb/g/axis, Filter OXCO: <1 ppb/g/axis			
Phase Noise Ordering Options	Offset	Ultimate PN* (1004031)	Premium PN* (1004030)	Standard PN (1004029)
	1 Hz	<-114 dBc/Hz	-108 dBc/Hz	-70 dBc/Hz
	10 Hz	<-145 dBc/Hz	-141 dBc/Hz	-98 dBc/Hz
	100 Hz	<-155 dBc/Hz	-152 dBc/Hz	-125 dBc/Hz
	1 kHz	<-162 dBc/Hz	-160 dBc/Hz	-145 dBc/Hz
	10 kHz	<-165 dBc/Hz	-163 dBc/Hz	-153 dBc/Hz
	100 kHz	<-167 dBc/Hz	-165 dBc/Hz	-154dBc/Hz

* It is assumed that the test is performed under static conditions (no vibration), in still air (unit shielded from airflow), and after a minimum of 48-hour warmup. Low Noise outputs are measured.

NOTE: Specifications subject to change without notice.



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