Precise Time and Frequency Standards

RTFS Series - RTFS-10M-GPS-Opt

The RTFS-10M-GPS-X is a breakthrough in exceptionally low cost, miniature, traceable, calibration-free "off-air" frequency & time standards. These references maintain the high frequency & time accuracy required for demanding applications.

Features:

- ❖ Low distortion 10MHz Sine & 1PPS outputs.
- ❖ $1x10^{-12}$ accuracy
- ❖ No Drift
- ❖ 1 Year Warranty
- ❖ Very long production life & support
- ❖ High Stability
- ❖ Lowest Cost Available

Benefits:

- ❖ No Calibration Required
- ❖ Traceable Reference, nationally & internationally

Applications:

- ❖ Calibration of: Counters, Frequency Meters, Spectrum & Network Analyzers.
- ❖ Synthesizers & Communication Analyzers
- ❖ Reference for: VHF, UHF & PMR TX, CDMA, Tetra, DTV & DAB
- ❖ Production Test Frequency Standard
- ❖ Network Time Protocol use in Financial, Utilities, Security & Communications Timing
- ❖ OEM
- ❖ Standard for: Calibration Labs, Radio Workshops, Labs and Stations

Option Table:

Option No.	Option Description
-00	Standard no options
-01	Dual DPLL / GPS
-03	PCB Version
-04	OEM Option, for OCXO type case enclosure qty use for PCB mounting. 1 output
-05	MIL spec environmental Option in CNC machine housing
-06	Antenna & PSU (Standard)
-07	High gain Antenna & PSU
-08	Low Noise
-09	Very Low Noise
-1RU	1 RU Rack Mounting

Add: 170-422 RICHARDS STREET VANCOUVER BC V6B 2Z4, CANADA
Tel: 001-604-2826573 Fax:001-604-2826575
WEB: www.rockhill.ca Email: sales@rockhill.ca

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Specifications		Units
Output Frequency:	10	MHz
Outputs:		
♦Sinewave	10 @12dBm±2dBm	MHz
♦TTL	3.3VCMOS 1 pulse per second	 (4ns std dev)
	50	Ω
Output Level	12	dBm
1 PPS Output	1	MHz
Number of Outputs	1	
Frequency Accuracy	$1x10^{-12}$	Long Term
Short Term Stability	tau	Allan Variance
	1s	$<2x10^{-10}$
	10s	$<4x10^{-10}$
	100s	$<5x10^{-11}$
	1000s	$<2x10^{-11}$
	10000s	$<5x10^{-12}$
Phase Noise		
@1Hz	-60	dBc
@10Hz	-90	dBc
@100Hz	-115	dBc
@1kHz	-130	dBc
@10kHz	-140	dBc
Lock Indicator	On Off Short Flash (per sec)	Not Locked Locked, Low Phase Error Locked, High Phase Error
GPS Indicator:	Green Amber	●Number of satellites used in time solution ●Number of satellites tracked but not used in time solution
Warm-Up Time	<15	Min (to specified frequency)
Power Supply	6~12	Volts DC (AC Power Supply Unit and GPS Antenna Provided)
Current Consumption	250	mA (typical)
Dimensions: RTFS-10M-GPS-X RTFS-10M-GPS-X-PCB	 105 x 30 x 125 100 x 120	 mm mm

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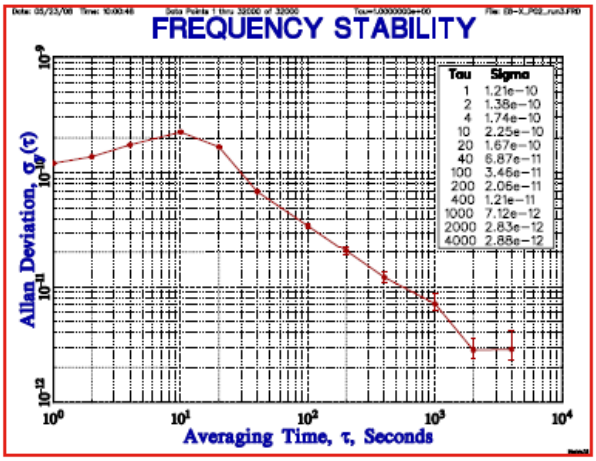
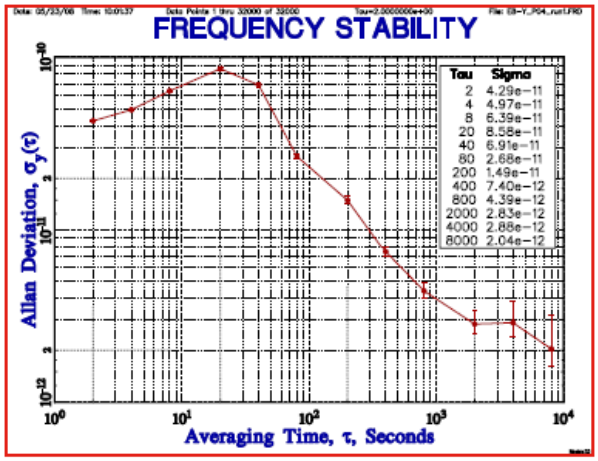


RTFS-10M-GPS (w/out Options)



RTFS-10M-GPS-08 w/Low Noise Option

♦Phase Noise Plots available upon request

The RTFS-10M-GPS-X is supplied with a wall plug power supplied with international connector fittings and a GPS antenna is also supplied.

Option: -01 (Dual DPLL / GPS

Interface	Shared between DPLL and GPS receiver
DPLL	9.6kbaud, RS232, PC compatible (8bits no parity, no handshake)
GPS	9.6kbaud, Motorola binary format (8bits no parity, no handshake)
DPLL	Tracking 5mHz to 500mHz typical in 8 binary Bandwidth increments default 20mHz

Option: -09 (Very Low Noise)

Phase Noise (typ -dBc/Hz)		
Options	**-08**	**-09**
1Hz	-69	-90
10Hz	-98	-120
100Hz	-120	-130
1kHz	-130	-145
10kHz	-140	-145
100kHz	-143	145

Short Term Stability	
tau	Allan Variance
1s	x10-11
10s	x10-11
100s	x10-12
1000s	x10-12
10000s	x10-12

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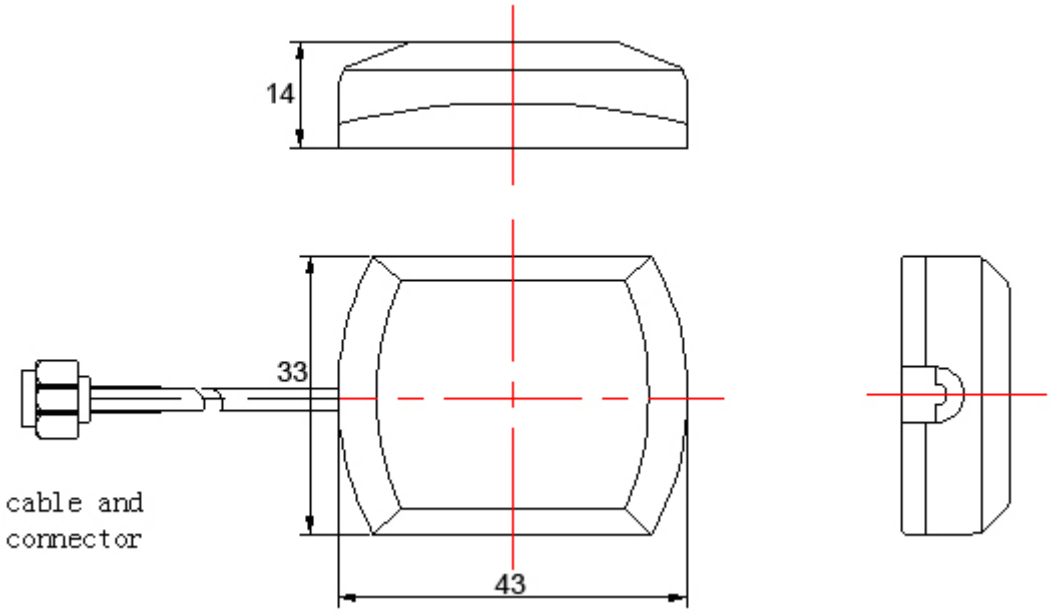
Antenna Drawing:



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