

Precise Time and Frequency Standards RRO Series: Rubidium Oscillators

code-c5

APPLICATIONS

- Frequency Calibration
- Telecom Network Synchronization
- Broadcast
- Cellular Wireless Base Stations

FEATURES

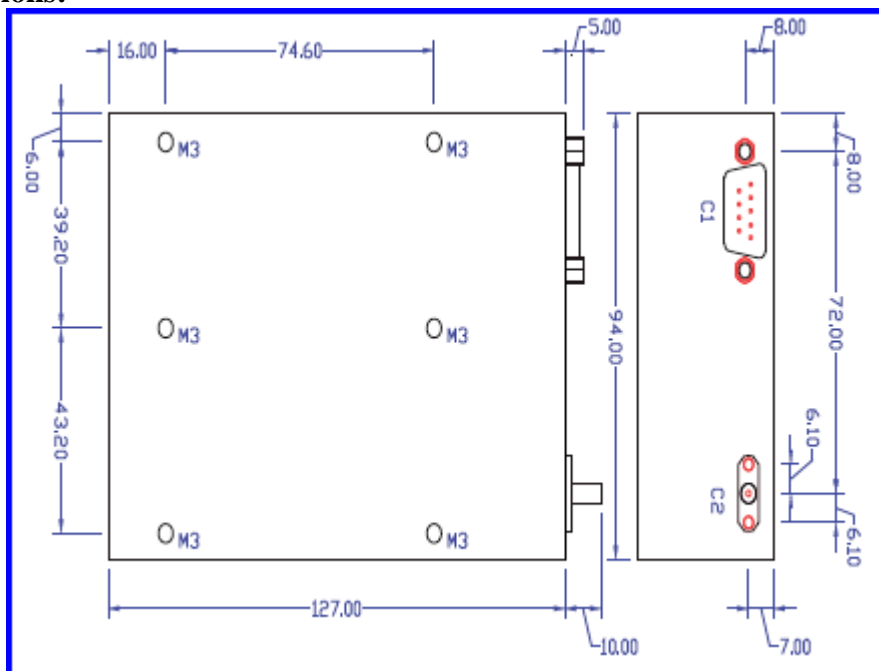
- RS232 & GPS Interface Options
- Low phase noise to -160dBc/Hz
- 3 Year Warranty
- Tuned Rb Cell
- 'A' Class & HSRO stability variants
- $5 \times 10^{-12}/1s$, $4 \times 10^{-13}/100s$ stability
- Aging: 5×10^{-10} / year



BENEFITS

- Low cost, high performance standard
- Fits 1U case
- Low failure risk
- Simple integration into systems

Dimensions:



PIN CONNECTIONS	
C1:	'D' 9 Pin Male
C2:	SMA RF Output
1.	LOCK MONITOR (BIT)
2.	DC RETURN
3.	CASE
4.	N/C
5.	EXT 'C' FIELD VOLTAGE (0 - 5V)
6.	N/C
7.	DC POWER (+24V)
8.	VCXO CV MONITOR
9.	LAMP (LIGHT) MONITOR

RRO-10M-S(f)-c5

Specifications may be subject to change

06/17/09

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STANDARD SPECIFICATIONS			
Output	10MHz, +7dBm into 50Ω, 0.5V RMS		
Adjustment	2x10 ⁻⁹ min		
Mechanical Range	2x10 ⁻⁹ min		
Electrical Range	0 ~ 5V		
Control Voltage	±5x10 ⁻¹¹		
Factory Setting			
Frequency Stability	Std	'B' Class	'A' Class
1s	3x10 ⁻¹¹	1x10 ⁻¹¹	5x10 ⁻¹²
10s	1x10 ⁻¹¹	5x10 ⁻¹²	2x10 ⁻¹²
100s	3x10 ⁻¹²	1x10 ⁻¹²	4x10 ⁻¹³
1day	1x10 ⁻¹¹		
Aging			
1 day	3x10 ⁻¹²	1x10 ⁻¹²	5x10 ⁻¹³
1 month	4x10 ⁻¹¹		
1 year	5x10 ⁻¹⁰		
Phase Noise	Std	LN	HSRO
1Hz	-		to -120dBc
10Hz	100dBc	110dBc	
100Hz	120dBc	130dBc	
1000Hz	140dBc	145dBc	
10000Hz	145dBc	155dBc	to -178dBc
Harmonics	<40dBc		
Spurious	<80dBc		
Warm time to 1x10⁻⁹	5min		
Retrace	<3x10 ⁻¹¹		
after 24h off & 1h on, same temp			
Power Supply	13W @ 24V (22~30Vdc) @ 25°C, Max 2A		
Power at steady state at 25°C	<2x10 ⁻¹¹		
Freq offset over output voltage range			
Temperature			
Operating	-20°C ~ +50°C		
Storage	-40°C ~ +70°C		
Freq offset over operating temperature range	<3x10 ⁻¹⁰		
Magnetic Field			
Sensitivity	<2x10 ⁻¹¹ /Gauss		
Atmospheric Pressure	-60m ~ 4000m <1x10 ⁻¹³ /mbar		
Approx MTBF, Stationary	100,000Hrs		
Mechanical	38(40 R8232 Version)x94x127mm, 650g max		
	1.5"(1.57" R8232 Version)x3.7"x5", 23oz max		

