



Ultra-High stability and low phase noise

Crystal Oscillators

Product profile

The CX910 is a 4-output dual thermostat high stability crystal oscillator with SC-cut high precision crystals as the core, a customised low noise oscillator circuit and a pure copper high precision temperature control system, with phase noise down to $-125\text{dBc/Hz}@1\text{Hz}$. The CX910 uses a fully independent regulated power supply, and separates the temperature control from the oscillator core circuitry, eliminating mutual interference. The multi-stage high-performance linear regulator design, with core supply voltage noise down to the nV level, brings this 10MHz native output crystal to a new level of phase noise and short-stabilisation performance.

Application area



Tactical communications system



Security communication system



Short-stability and phase-noise measurement criteria



High-demand earth station



Measurement test instrument

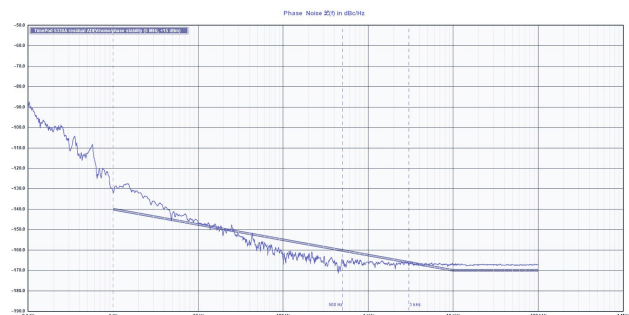


Hydrogen-caesium atomic clock principal oscillator

Product features

- Near-end phase noise down to $-125\text{dBc/Hz}@1\text{Hz}$
- Stability can be reached $1.2\text{E}-13/1\text{s}$, $3\text{E}-13/100\text{s}$
- 4 low noise high isolation output

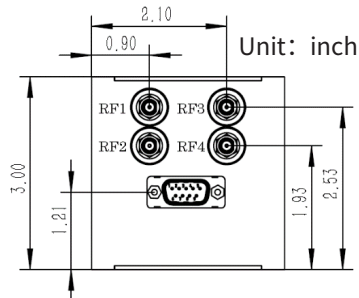
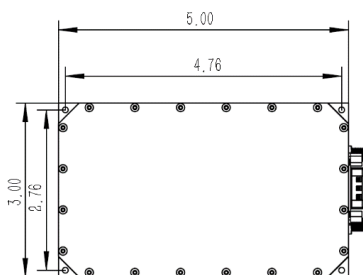
Typical curve



PM Spur Offset(Hz)	0.1Hz: -98.6dBc/Hz	0.5Hz: -112.2dBc/Hz
	50Hz: -126.7dBc/Hz	100Hz: -153.6dBc/Hz
	690kHz: -156.8dBc/Hz	

Test Item		Technical Indicators			
Output frequency	Standard layout	10MHz			
Frequency stability	1s@10MHz	Standard	Option A1	Option A2	Option A3
		$\leq 5 \times 10^{-13}$	$\leq 2 \times 10^{-13}$	$\leq 1.2 \times 10^{-13}$	$\leq 1.1 \times 10^{-13}$
	10s@10MHz	$\leq 5 \times 10^{-13}$	$\leq 3 \times 10^{-13}$	$\leq 2 \times 10^{-13}$	$\leq 2 \times 10^{-13}$
	100s@10MHz	$\leq 5 \times 10^{-13}$	$\leq 5 \times 10^{-13}$	$\leq 5 \times 10^{-13}$	$\leq 5 \times 10^{-13}$
Phase noise dBc/Hz		Standard	Option B1	Option B2	Option B3
	1Hz	≤ -120	≤ -123	-125*	-126*
	10Hz	≤ -143	≤ -145	≤ -147	≤ -148
	100Hz	≤ -155	≤ -155	≤ -155	≤ -155
	1kHz	≤ -160	≤ -160	≤ -160	≤ -160
	10kHz	≤ -163	≤ -163	≤ -163	≤ -163
	100kHz	≤ -163	≤ -163	≤ -163	≤ -163
Aging rate (Measured after 30day of continuous aging)		Standard		OptionC1	
	1day	$\leq 3 \times 10^{-10}$		$\leq 1 \times 10^{-10}$	
	1 month	$\leq 3 \times 10^{-9}$			
	The first year	$\leq 3 \times 10^{-8}$			
	Ten years	$\leq 2.5 \times 10^{-7}$			
Frequency control	Pressure control voltage range	0~5V, Positive slope			
	Frequency regulation range	$\geq \pm 1 \times 10^{-7}$			
Wave shape		Sine wave			
Output power		$\geq 7\text{dBm}$			
Output impedance		50Ω			
Harmonic		$\leq -40\text{dBc}$			
Clutter		$\leq -80\text{dBc}$			
Working temperature		0°C ~+40°C			
Storage temperature		-55°C ~+125°C			
Power supply		+14~18VDC, The current $\leq 1.5\text{A}$			
Electric current		$\leq 1.6\text{A}$			
External Dimension		5inch×3inch×3inch			

External Dimension



DSUB9 Interface Definition:

- 1, 8: The Ground
- 6: +15V power supply
- 7: +5V Reference Voltage Output
- 9: Frequency pressure control
- Other: NC