

PRECISION TIMING

XHTF1022C Ultra-thin Rubidium Atomic Clock

The XHTF1022C Ultra-thin Rubidium Atomic Clock offers precise timing, low power consumption, and compact design, making it ideal for critical applications in aerospace, navigation, and power systems.

Overview

The **XHTF1022C Ultra-thin Rubidium Atomic Clock** is a highly compact, efficient, and reliable timekeeping device, designed to meet the stringent requirements of critical systems. Its ultra-thin design and robust performance make it suitable for integration into various high-demand environments. For inquiries, please [contact us](#).

Features

- Ultra-thin design with a thickness of 22 mm.
- Operates at +12V DC with low power consumption.
- Equipped with RS-232C serial port communication.
- Supports 1PPS input synchronization and quick disciplining.
- Wide operating temperature range, suitable for demanding environments.

Main Specifications

Core Specifications

Specification		Details	
Short-term Stability	1s	<3E-11	
	10s	<9E-12	
	100s	<3E-12	

Specification		Details	
Phase Noise (SSB)	@10Hz	<-100 dBc/Hz	
	@100Hz	<-130 dBc/Hz	
	@1kHz	<-140 dBc/Hz	

Specification		Details	
1PPS Input Sync & Synchronization Function	1PPS synchronization accuracy	≤100 ns	
	Frequency accuracy	≤2E-12/day (after one day discipline)	

The compact size of **96 × 76 × 22 mm** and lightweight design (≤0.35 kg) enable seamless integration into space-constrained systems.

Pin Connection Details

Pin Number	Function	Pin Number	Function
1	Lock Status	6	1PPS Input
2	GND	7	+12V
3	RXD	8	1PPS Output
4	TXD	9	N/A

Pin Number	Function	Pin Number	Function
5	N/A	—	

Applications

- Widely utilized in **aviation** and **aerospace systems** for accurate onboard timing and synchronization.
- Integrated into **navigation and communication infrastructure**, ensuring reliable operation under extreme conditions.
- Critical for **power grid synchronization** and **industrial automation** requiring high-precision frequency standards.
- Supports **scientific research** and **military applications** where ultra-thin and efficient atomic clocks are essential.