

Compact Portable Rubidium Frequency Reference

- ❑ Greater than 2 hours battery operation
- ❑ Operates from car 12vdc output
- ❑ Less than 3 minute warm up
- ❑ Compact form factor 103x55x122mm <500g for a wide range of applications



Actual size

This portable Rubidium frequency standard will operate from an External 12Vdc Supply or its Internal Batteries.

For remote site operation i.e. cellular BTS the E10-P may run from the cigarette lighter socket to arrive fully charged and warm.

The E10-P Portable Rubidium frequency reference benefits from Quartzlock’s SMAC Rubidium Oscillator technology and state-of-the-art internal high capacity batteries.

Features

- 10MHz Output
- Ageing 5×10^{-10}/year
- -95dBc/Hz @10Hz
- 5×10^{-11} accuracy
- 8×10^{-12} /s @ 100s

Benefits

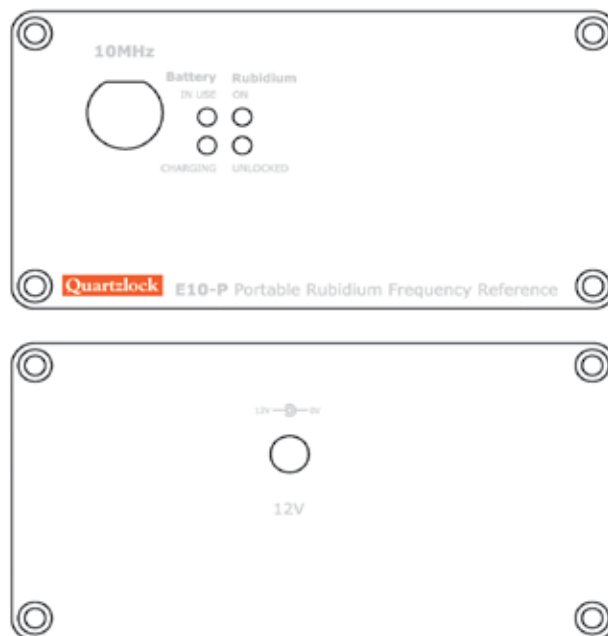
- Atomic accuracy
- No antenna
- Quick and simple use and installation
- Low drift
- Hand held

Applications

- Remote site frequency reference for cellular BTS & satellite communication ground stations
- Field service & production test frequency reference
- Frequency standard for counters, signal generators, spectrum and network analysers

Specifications

Output	10MHz Sine, 10dBm, ± 3 dBm	
Harmonics	<-40dBc	
Accuracy	$\pm 5 \times 10^{-11}$ at shipment @25°C	
Short Term Stability (AVAR)	1s	8×10^{-11}
	10s	3×10^{-11}
	100s	8×10^{-12}
Drift	1 day	5×10^{-12}
	1 month	5×10^{-11}
Phase to Noise (SSB)	10Hz	-95dBc
	100Hz	-125dBc
	1kHz	-135dBc
Input Power	6W at 12V @ 25°C, Max 1.2A	
Input Voltage Range	90...245V ac or +12V dc	
Run Time Battery	2 hours	
Charge Time Battery	4 hours	
Warm Up	5 minutes to lock @ 25°C	
Retrace	$\leq \pm 2 \times 10^{-11}$	
Magnetic field sensitivity, dc (± 2 GAUSS)	$< \pm 4 \times 10^{-11}$ /Gauss	
External Trim Range	$\geq 5 \times 10^{-9}$ (0V~5V) option	
Size	103 x 55 x 122 mm	
Weight	500gm approx	
Warranty	24 months	



Environmental Specifications

Operating Temp Range	-20°C~+50°C Typical: -30~+65°C
Temperature Coefficient (ambient)	2×10^{-10} (0~50°C)
Storage Temperature	-55°C~+85°C
MTBF	100,000 hours
Environmental health	RoHS
EMI	Compliant to FCC Part 15 Class B