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 $<5\times10^{-10}$/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

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Specifications

Output	10MHz Sine, 10dBm, ±3dBm
Harmonics	<-40dBc
Accuracy	±5x10^{-11} at shipment @25°C
Short Term Stability (AVAR)	1s 8x10^{-11} 10s 3x10^{-11} 100s 8x10^{-12}
Drift	1 day 5x10^{-12} 1 month 5x10^{-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	≤±2x10^{-11}
Magnetic field sensitivity, dc (±2 GAUSS)	<±4x10^{-11}/Gauss
External Trim Range	≥5x10^{-9} (0V~5V) option
Size	103 x 55 x 122 mm
Weight	500gm approx
Warranty	24 months
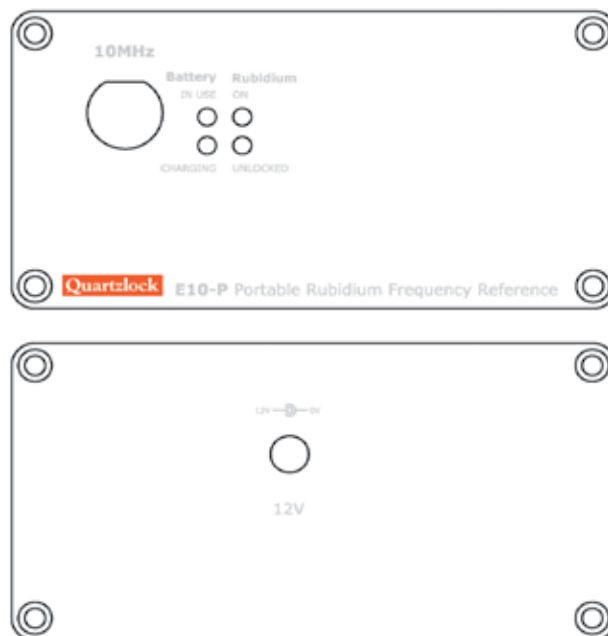
Environmental Specifications

Operating Temp Range	-20°C~+50°C Typical: -30~+65°C
Temperature Coefficient (ambient)	2x10^{-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