

Quartzlock E10-MRO

ACHIEVES 1x10⁻¹² IN 100s
1PPS
I/O FROM GPS

Miniature Rubidium Oscillators



APPLICATIONS

- Frequency Calibration
- Telecom Network Synchronisation
- Broadcast
- Cellular Wireless Base Stations
- HDTV
- Secure Communications
- Satellite Communications

FEATURES & BENEFITS

- Aging: 5x10⁻¹⁰/year
- Stability 6...8x10⁻¹³/100s with E10-Y
- 1PPS I/O Sync option
- 10MHz output (customer options)
- Very low cost, high performance reference
- Fits 1U case
- High reliability, 3-year warranty
- Simple integration into systems
- RS232 Interface
- Low Power 12V dc 8W

Very/Ultra Low Phase Noise Options

E10-Y See separate datasheet	• 10MHz	-115dBc/Hz @ 1Hz offset
	• 10MHz	-173dBc/Hz noise floor
	• 100MHz	-180dBc/Hz noise floor
	• 5MHz	-123dBc/Hz @ 1Hz offset

E10-MRO SPECIFICATIONS PROVISIONAL INFORMATION

Output	10MHz HCMOS or Sinewave 7...13dBm 50Ω 1PPS option with GPS sync input	
Optional outputs	Consult factory	
Accuracy	±5E-11 at shipment @25°C	
Harmonics	-40dBc	
Spurii	-80dBc	
Aging	E10-MRO 5x10 ⁻¹² /day 5x10 ⁻¹¹ /month	Low Noise Opt 5x10 ⁻¹³ /day
Retrace	≤±3E-11	
Short Term Stability	E10-MRO Std	E10-MRO LN Opt
1s	5E-11	5x10 ⁻¹²
10s	1.6E-11	2x10 ⁻¹²
100s	5E-12	4x10 ⁻¹³
Phase Noise	E10-MRO Std	E10-MRO LN Opt
1Hz		-90dBc typical
10Hz	-85dBc	-120dBc
100Hz	-125dBc	-140dBc
1kHz	-140dBc	-160dBc
Input Power	7.8W at 12V@25C, Max 1.75A@25C	
Input Voltage Range	11.4...18Vdc ± 0.5Vdc	
Warm Time	5 minutes to lock @ 25C	
Frequency Control		
Internal trim range (trimpot)	≥2E-9	
External trim range	≥2E-9 (0V~5V)	
Temperature		
Operating	-20C to +50C (-40C to +60C option)	
Temperature Coefficient (ambient)	2E-10 (-20C to 50C)	
Storage	-55C to +85C	
MTBF	100,000 hours	
Connector	DB-9 Connector, SMA	
Size	89x76x28 (mm3) (190cc)	
Weight	0.25kg max	
Warranty	3 years	



CONNECTOR INTERFACE

J1:	SMA, RF OUTPUT
J2:	DB-9
1:	lock monitor(bit)
2:	dc return/ground
3:	NC or RXD
4:	NC or TXD
5:	
6:	NC or 1PPS input
7:	+12V
8:	NC or 1PPS output
9:	Lock monitor

**1PPS I/O FROM GPS
ACHIEVES 1x10⁻¹² IN 100s
SEE A6-1PPS DATASHEET**

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DIMENSIONS

