

# Rubidium Oscillators



## FEATURES

- RSC22 2.5/3.0/7.5/15/30/60/120/240 ppm/1 Hz
- Low phase noise to  $-150\text{dBc}/\text{Hz}$
- 3 Year warranty
- Tuned Flozell
- A, Class B, HSRD stability variants
- $5 \times 10^{-11}$  to  $2 \times 10^{-13}$  AOCs stability
- Aging  $0.010$  to  $10$  year

## APPLICATIONS

- Frequency Calibration
- Telecom Network Synchronisation
- Broadcast
- Cellular Wireless Base Stations

## BENEFITS

- Low cost, high performance standard
- Fit all size
- Low phase noise
- Simple integration into systems

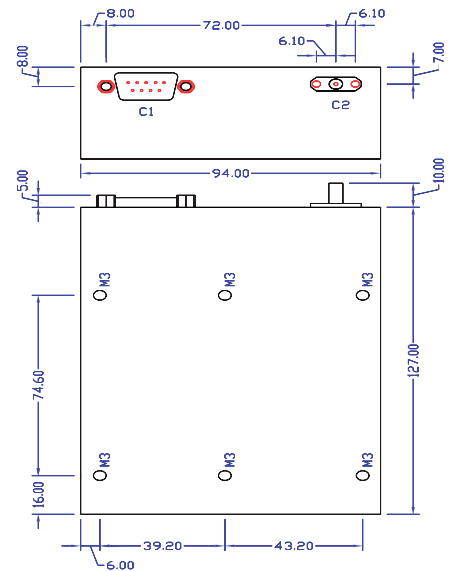
## STANDARD SPECIFICATIONS

<b>Output</b>	10MHz, +7dBm into 50Ω, 0.5V RMS		
<b>Adjustment</b> Mechanical Range Electrical Range Control Voltage Factory Setting	2x10 <sup>-9</sup> min 2x10 <sup>-9</sup> min 0 ~ 5V ±5x10 <sup>-11</sup>		
<b>Frequency Stability</b> 1s 10s 100s 1day	<b>Std</b> 3x10 <sup>-11</sup> 1x10 <sup>-11</sup> 3x10 <sup>-12</sup> 1x10 <sup>-11</sup>	<b>'B' Class</b> 1x10 <sup>-11</sup> 5x10 <sup>-12</sup> 1x10 <sup>-12</sup>	<b>'A' Class</b> 5x10 <sup>-12</sup> 2x10 <sup>-12</sup> 4x10 <sup>-13</sup>
<b>Aging</b> 1 day 1 month 1 year	3x10 <sup>-12</sup> 4x10 <sup>-11</sup> 5x10 <sup>-10</sup>	1x10 <sup>-12</sup>	5x10 <sup>-13</sup>
<b>Phase Noise</b> 1Hz 10Hz 100Hz 1000Hz 10000Hz	<b>Std</b> - 100dBc 120dBc 140dBc 145dBc	<b>LN</b> 110dBc 130dBc 145dBc 155dBc	<b>HSRO</b> to -120dBc  to -178dBc
<b>Harmonics</b>	<40dBc		
<b>Spurious</b>	<80dBc		
<b>Warm time to 1x10<sup>-9</sup></b>	5min		
<b>Retrace</b> after 24h off & 1h on, same temp	<3x10 <sup>-11</sup>		
<b>Power Supply</b> Power at steady state at 25°C Freq offset over output voltage range	13W @ 24V (22~30Vdc) @ 25°C, Max 2A <2x10 <sup>-11</sup>		
<b>Temperature</b> Operating Storage Freq offset over operating temperature range	-20°C ~ +50°C -40°C ~ +70°C  <3x10 <sup>-10</sup>		
<b>Magnetic Field</b> Sensitivity Atmospheric Pressure Approx MTBF, Stationary	<2x10 <sup>-11</sup> /Gauss -60m ~ 4000m <1x10 <sup>-13</sup> /mbar 100,000Hrs		
<b>Mechanical</b>	38(40 RS232 Version)x94x127mm, 650g max 1.5"(1.57" RS232 Version)x3.7"x5", 23oz max		

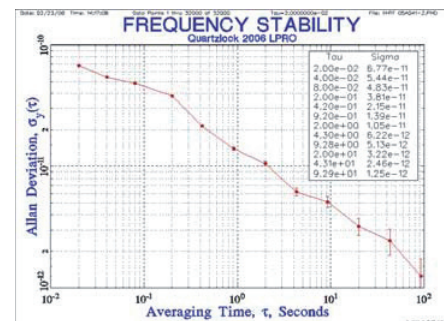
## PIN CONNECTIONS

- C1: 'D' 9 Pin Male  
C2: SMA RF Output
1. LOCK MONITOR (BIT)
  2. DC RETURN
  3. CASE
  4. N/C
  5. EXT 'C' FIELD VOLTAGE (0 - 5V)
  6. N/C
  7. DC POWER (+24V)
  8. VCXO CV MONITOR
  9. LAMP (LIGHT) MONITOR

## DIMENSIONS



## STS



**Status Monitor:** XTAL volts (1-17V)  
LOCK: 0V- lock, 5V- unlock (5V CMOS)  
LAMP: 0V- bright, 5V- dark (5V CMOS)

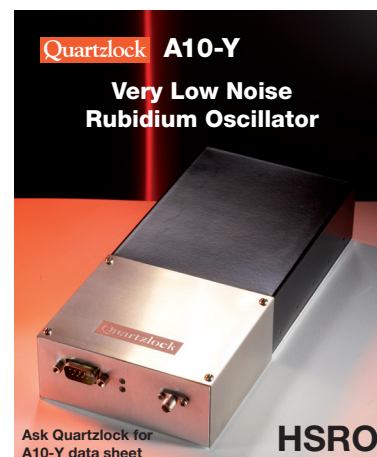
## Contact us:

**Telephone: +44(0)1803 862062**

**Fax: +44(0)1803 867962**

**e-mail: sales@quartzlock.com**

**Web: quartzlock.com**



A10-FRS  
High Performance  
Rb Oscillator  
Mil Spec



A10-HSRO  
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designs

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**HSRO**