

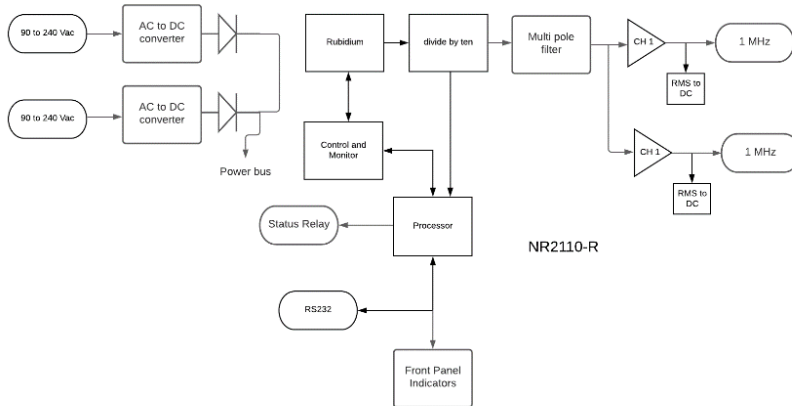
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| DATA SHEET | NR2110-R |
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NR2110-R

10 MHz Rubidium Frequency Reference, Dual Channel



1 MHz Dual Channel Rubidium Frequency Reference



Rubidium Stability

Monthly $\pm 5E-11$

Typical Phase Noise

| Offset (Hz) | dBc / Hz |
|-------------|----------|
| 10 | -86 |
| 100 | -120 |
| 1K | -135 |
| 10K | -140 |

High-performance Rubidium 1 MHz frequency reference. Dual channel, fault and transient-protected, dual power options . For lower phase noise consider the NR2110D-RO

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Technical Specifications

| | |
|---------------------------------------|--|
| Output 1 MHz Sine | 10 MHz, 1 Vrms \pm 0.1, into 50 Ohms, two channels, Sine |
| Harmonic Distortion | < -30 dBc |
| Connectors | BNC |
| Remote interface & control | |
| Protocol | RS232 NMEA-0183 |
| Connector | DB-9 |
| Location | Rear panel |
| Protocol | Bit plus stop |
| Standard Baud Rates | Selectable 4800, 9600, 19200, 38400, 57600 or 115200 bps |
| Rubidium Atomic | |
| Accuracy at shipment | \pm 5.0E-11 |
| Warm-up time | <15 minutes |
| Time of lock | <2 minutes |
| Time to achieve accuracy | < \pm 1E-9 < 20 minutes |
| Aging daily (after 30 days) | <1E-11 |
| Aging - monthly | < \pm 5E-11 |
| Retrace | <1E-10 after 1 hour |
| Temp Stability | < \pm 0.4 ppb -10 to 50°C |
| Stability: Allan Deviation | |
| 1s | <2E-10 |
| 10s | <4E-11 |
| 100s | <2E-11 |
| SSB phase noise for 10MHz | |
| | Standard |
| 1 Hz | <-85 dBc |
| 10Hz | <-120 dBc |
| 100Hz | <-120dBc |
| 1000Hz | <-135dBc |
| 10000Hz | <-140dBc |
| Indicator | three LEDs - Oven/Lock, Fault, Alert |

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|-------|----------------------------------|--|
| Relay | Solid State relay 50Volt , 50 mA | |
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Environmental and Mechanical

| | | |
|-----------------------|---|--|
| | | |
| Operating temperature | -10 to 50°C non-condensing | |
| Storage temperature | -40 to 70°C | |
| Height | 1RU (~1.73) | |
| Width | 19 inches | |
| Depth | 12 inches | |
| Weight | ≈5.5lbs. | |
| AC input | 90 to 250 VAC, 50/60hz, less than 10 watts (DC power options available) | |

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