



4210A RUBIDIUM FREQUENCY STANDARD

10MHz Rubidium Frequency Reference
100kHz Capability (with MOPS option)
1PPS Disciplining Input (standard)
Ultra Low Phase Noise (-130dBc at 10Hz)
RS 232 Monitor/Control
Convenient 2U bench or 19" rack mount



The **ptf** 4210A Rubidium Frequency Standard is a unique solution for providing a highly stable, low phase noise, frequency reference for applications requiring atomic reference stability performance.

The instrument contains a high performance rubidium module, with an extended life design, and very low aging rate, with high quality OCXO o/p for low phase noise.

For even better long term stability the unit will accept a 1PPS input that can be derived from a reference such as caesium or GPS.

An ideal laboratory or system frequency reference, which includes a range of options are available to enhance the functionality of the unit.

Specifications subject to change without notice

www.ptf-llc.com

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SPECIFICATIONS

ELECTRICAL

Output Level (standard)

10MHz 0.5 vrms into 50Ω
1PPS 5 v CMOS ±20 mA sink/source

Output Level (w/MOPS Option)

1MHz 1.0 vrms into 50Ω +13dBm ±1dBm
5MHz 1.0 vrms into 50Ω +13dBm ±1dBm
10MHz 1.0 vrms into 50Ω +13dBm ±1dBm
1PPS 4.2 v CMOS into 50Ω

Stability

Short-term: 1s 2E-11
10s 1E-11
100s 2E-12

Aging <5 E-11/month (after 30 days)

<5 E-10/year

Accuracy 5E-11 (at shipment)

Phase Noise, 1Hz b/w,

| Offset from carrier | Phase Noise (dBc) |
|---------------------|-------------------|
| 10Hz | -130 |
| 100Hz | -140 |

Spurious -130 dBc (100kHz bw)

ENVIRONMENTAL & PHYSICAL

Power Requirements

AC Input (±15%) 90 - 264 VAC, <10W
DC Input (optional)

Dimensions

(HxWxD) 2U x 19" x 16"

Configuration Options

| Option # | Description |
|----------|------------------------------------|
| PPSI | External 1 PPS |
| EXP4 | 4 ch. Expansion Module |
| MOPS | Multiple RF Outputs (1, 5 & 10MHz) |
| RF01 | 1MHz Sinewave out (x4) |
| RF05 | 5MHz Sinewave out (x4) |
| RF10 | 10MHz Sinewave out (x4) |
| PULS | Pulse Distribution (x4) |
| OCXO | High Performance OCXO |
| ULNO | Ultra Low Noise Output |
| FPOC | Front Panel Outputs |
| DCPS | DC Power Supply |
| RSLD | Mounted Rackslides |



ptf 4210A rear view (w/MOPS option)