











Specifications

| RUBIDIUM FREQUENCY & TIME STANDARD | | | | | |
|--|---|---|---|---|---|
| Type / Specifications | CH1-1020 | CH1-93 | CH1-1015 | CH1-1016 | CH1-1011/01 |
| Electrical Specifications |  |  |  |  |  |
| Output/Frequency/Waveform/Quantity : | 10 MHz/sine wave/4 5 MHz/sine wave/3 1 pps/ pulse/1 | 10 MHz/sine wave/11 5 MHz/sine wave/5 1 pps/ pulse/ 5 | 10 MHz/sine wave/4 1 pps/pulse/ 2 | 10 MHz/sine wave/2 5 MHz/sine wave/1 1 pps/ pulse/1 | 10 MHz/sine wave/6 (5 MHz/sine wave/6) 1 pps/ pulse/ 10 |
| Output Impedance: | 50Ω @10 MHz | | 75Ω @10 MHz | 50Ω @10 MHz | |
| Phase Noise(SSB): | 100 Hz 1000 Hz 10 kHz | | -128 dBc/Hz -140 dBc/Hz -147 dBc/Hz | | |
| Spurs | | | | | |
| Harmonic: | 2nd | | <-35 dBc | | |
| Aging: | Monthly (after 1 month) | | <2E-11/month | | |
| Frequency Accuracy At Shipment: | | | ±2E-11(25°C) | | |
| Frequency Retrace: (after 4 hrs power on @ 25°C & up to 24 hrs power off) | | | ±2.0E-11 | | |
| Short Term Stability: | τ =1 sec τ =10 sec τ =100 sec | | <1.4E-11 <5.0E-12 <3.0E-12 | | |
| Frequency Control: | | | | | |
| Internal trim range(trimpot): | ≥±3E-9(0V 1.5E-9 | | - | ≥±3E-9(0V 1.5E-9 | |
| External trim range(electronic): | ≥±1.5E-9(0V to +5V) | | - | ≥±1.5E-9(0V to +5V) | |
| Digital via interface: range/resolution | ±1E-9/1E-12 | | ±1E-9/1E-12 | ±1E-9/1E-12 | |
| Warm up at +20°C: | | | <120 min | | |
| Additional Functions installed: | | | | | |
| Frequency Comparator | Yes | No | Yes | No | No |
| Time-Scale Counter | Yes | No | Yes (2) | No | No |
| Disciplined Rb | Yes | Yes | Yes | Yes | Yes |
| Digital Display | Yes | No | Yes | No | No |
| Outer PC connection via | USB | RS 485 | RS 232 USB Flash | RS 232 USB Flash | RS 232 |

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| Environmental Specifications |  |  |  |  |  |
| Operating Temperature: | 5°C to 50°C | | | | |
| Temperature Coefficient: | $ y(50^{\circ}\text{C}) - y(5^{\circ}\text{C}) $ <3E-10 | | | | |
| Storage Temperature: | -55°C to +85°C | | | | |
| Altitude: Operating Non-operating | -200 ft to 40,000 ft. -200 ft to 70,000 ft. | | | | |
| Magnetic Field Sensitivity, dc (2 Gauss Max): | $\pm 2\text{E-}11/\text{GAUSS}$ | | | | |
| Power Supply Requirements: | 220±22 VAC | | 27±3 VDC | | 220±22 VAC |
| Warm-up/ Quiescent (25°C) | 60W/40 W | 60W/40 W | 75W/30 W | 60W/40 W | 60W/50 W |
| Weight: | <5.5 kg | <6.5 kg | <7.0 kg | <10.5 kg | <6.5kg |
| Dimensions: | | | | | |
| Height | 135 mm | 101 mm | 265 mm | 180 mm | 132.5 mm |
| Width | 248 mm | 483 mm | 155 mm | 357 mm | 482.1 mm |
| Depth | 310 mm | 416 mm | 210 mm | 405 mm | 300 mm |
| Options: DC Power Supply 27±3VDC Specifications by Order | Yes Yes | Yes Yes | - No | - Yes | Yes Yes |