Cs4000

Cesium Frequency

Front view of Cs4000

Key Features

- Multiple RF outputs
- CsIII technology
- AC & DC inputs
- Internal battery back-up
- CE compliant

Key Benefits

- Configurable 3U rack mount chassis allows for flexibility
- High stability, low noise RF and 1PPS reference makes it perfect for high precision timing and frequency applications
- Custom output signals available
- Standard 1 year electronics and 8-year tube warranty

The Microsemi® Cs4000 is a cesium frequency standard platform that provides exceptional performance in a configurable 3U rack mount chassis. The Cs4000 is designed for high precision timing and frequency applications requiring high stability, low noise RF and 1PPS reference signals. Microsemi's advanced Cesium III digital technology is the engine that drives this exceptional performance.

The Cs4000 is designed to provide standard and custom output signal formats simultaneously. Standard outputs include, 100 kHz, 1, 5, 10 MHz and 1 PPS. Custom output formats are supported via a configurable custom output area capable of supporting most custom signaling requirements.

The Cs4000 meets the challenges of laboratory standards, satcom terminals, mobile communications systems and a wide variety of test and measurement applications.

Cs4000

Specifications

ELECTRICAL SPECIFICATIONS

- Frequency outputs

Frequency:	1 ea 100 kHz & 1 MHz Sine
Amplitude:	1 Vrms
Harmonic:	<–40 dBc
Non harmonic:	<–80 dBc
Connector:	BNC
Load impedance:	50 Ω
Location:	rear panel
Frequency:	2 ea 5 &10 MHz Sine
Amplitude:	1 Vrms
Harmonic:	<–40 dBc
Non harmonic	<–80 dBc
Connector:	Type N
Load impedance:	50 Ω
Location:	rear panel

- Timing outputs

Format:	Three 1 PPS
Amplitude:	>3.0 V into 50 Ω
Pulse width:	20 µs positive pulse
Rise time:	<5 ns
Jitter:	<1 ns rms
Connector:	BNC
Load impedance:	50 Ω
Location:	rear panel (2) front panel (1)

- Timing inputs

Sync input:	Two 1 PPS
Connector:	BNC
Load impedance:	50 Ω
Location:	rear panel (1) front panel (1)

REMOTE SYSTEM INTERFACE, CONTROL AND ALARM

• RS-232-C (DTE Configuration)	Complete remote control and interrogation of all instrument functions and parameters
Connector:	9-Pin male rectangular D subminiature type
Location:	Front panel [1] Rear panel [1]
• Alarm (TTL)	High, Normal Low, Alarm Circuit is TTL open collector with internal pull-up resistor. Circuit can sync up to 10mA
Connector:	BNC
Location:	Rear panel

PERFORMANCE SPECIFICATIONS

- Performance

Accuracy:	±1.0E-12
Warm-up time:	30 Min (typical)
Reproducibility:	±2.0E-13
Settability	
Range:	±1.0E-9
Resolution:	1.0E-15

- Stability

AvgTime (s)	Allan Deviation
1	≤1.2E-11
10	≤8.5E-12
100	≤2.7E-12
1,000	≤8.5E-13
10,000	≤2.7E-13
100,000	≤8.5E-14
Floor	≤5.0E-14

- SSB Phase noise

Offset (Hz)	5 MHz Output
1	≤-95 dBc
10	≤-130 dBc
100	≤-145dBc
1,000	≤-155 dBc
10,000	≤-155 dBc
100,000	≤-160 dBc

ENVIRONMENTAL & PHYSICAL SPECIFICATIONS

- General environment

Operating	
Temperature:	0°C to 50°C
Humidity:	95% up to 50°C (non-condensing)
Non-operating (transport)	
Temperature (storage):	–30°C to 70°C
Temperature (short term):	–40°C to 75°C
Magnetic field:	0 to 2 gauss
Altitude (operating):	0 to 50,000'

- AC Power requirements

Operating voltage (±10%):	100 to 240 VAC
Frequency:	47 to 63 Hz
Power	
Operating:	<65 W
Warm-up:	<80 W

- DC Power requirements

36 - 75 VDC	
Operating:	60 W
Warm Up:	70 W
22 - 36 VDC*	*24 VDC Power Supply Option

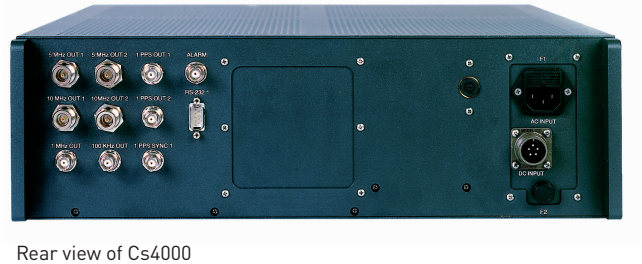
- Dimensions: 17.22" W x 5.22" H x 20.63" D (43.73 cm x 13.25 cm x 52.40 cm)

- Internal standby battery

Capacity:	45 minutes @ 25°C from full charge (without front panel display) 20 minutes @ 25°C from full charge (with front panel display)
Charge time:	16 hours maximum from fully discharged state
Charge source:	AC or DC

- Weight: 45 lbs. (20.4 Kg)
- MTBF: >145,000 hrs.

ORDERING INFORMATION	Part No.
• 48 VDC	14645-105
• 24 VDC	14645-106



Rear view of Cs4000

Microsemi

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Microsemi Corporation (Nasdaq: MSCC) offers a comprehensive portfolio of semiconductor solutions for aerospace, defense and security; enterprise and communications; and industrial and alternative energy markets. Products include high-performance, high-reliability analog and RF devices, mixed signals and RF integrated circuits, customizable SoCs, FPGAs, and complete subsystems. Microsemi is headquartered in Aliso Viejo, Calif. Learn more at **www.microsemi.com**