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OSA-3230B Cesium Clock



Features

- Performances exceeding ITU-T G.811 / Stratum 1 PRC
- Accuracy better than $\pm 1 \times 10^{-12}$ during entire life
- Long life 10 years cesium tube
- Extremely compact size — 4U high (176mm) ETSI 240mm depth with front access connector, or 3U (132mm) 19" standards 400mm depth with rear access connectors
- 10 MHz and 5MHz low noise output
- 100kHz to 50MHz programmable sine wave analog output
- 3x Auxiliary outputs configurable between 1PPS / 1MHz / 5MHz / 10MHz TTL with the possibility to synchronize to an external reference
- PPS external synchronization input
- Optional Signal Expansion, providing 5 additional outputs: 4x configurable between 1PPS / 10MHz / 2MHz / 2Mbits/s E1 (G703) with SSM / T1, + 1x additional programmable sine wave 100kHz to 50MHz
- Redundant DC power supply inputs
- Control and monitoring via alarm contacts and RS232 communication (fully manageable locally and remotely using SyncView Plus management system).
- TCP/IP Remote management port for TL1 and/or SNMP management

The Oscilloquartz's 3230B Cesium Clock is specifically designed and produced with the latest technology to serve complex applications where an extremely accurate reference signal is needed in a minimum size.

The OSA 3230B Cesium Clock offers a unique set of operational features and performance, including greatly enhanced and easy integration into industrial, professional time and frequency host systems. With its long life cesium tube and its extremely high flexible output type capacity, the OSA 3230B is the most flexible and the most compact Primary Reference Clock Source available on the market, which will meet the most stringent requirements where any type of clock signal with G.811 performances is needed over a long period.

Typical Applications

- Primary Reference Source for PRC system requiring a signal conform to G.811 / Stratum 1
- Wireline / Wireless Operators
- Railways / Energy Companies
- Utilities

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OSA-3230B Specifications

Typical Characteristics

Cesium performances characteristics

Frequency accuracy	$\pm 1 \times 10^{-12}$
Reproducibility	$\pm 1 \times 10^{-12}$
Stability: Resolution	$< 1 \times 10^{-15}$
Range	$\pm 1 \times 10^{-9}$

Wander generation

MTIE	$0.05s \leq \tau < 33s$	10ns
	$33s \leq \tau < 1'000s$	$3 \times 10^{-10} \tau$
	$1'000s \leq \tau < 30'000s$	300ns
	$30'000s \leq \tau$	$1 \times 10^{-14} \tau$

TDEV	$0.1s \leq \tau < 1s$	3ns
	$1s \leq \tau < 2.5s$	$3.2 \times 10^{-9} \tau^{0.5}$
	$2.5s \leq \tau < 40s$	2ns
	$40s \leq \tau < 10'000s$	$3.2 \times 10^{-10} \tau^{0.5}$

Warm-up time 45 minutes @ 25°C

Outputs

Direct frequency outputs

Number	2
Frequency	1x 5MHz + 1x 10MHz
Output level & connectors	13dBm @ 50Ω, BNC

Output phase noise:	5 MHz	10 MHz
1 Hz	-95 dBc	-90 dBc
10 Hz	-125 dBc	-120 dBc
100 Hz	-140 dBc	-135 dBc
1 kHz	-150 dBc	-145 dBc
10 kHz	-154 dBc	-145 dBc
100 kHz	-154 dBc	-145 dBc

Distortion:	Harmonics	≤40 dBc
	Spurious	≤80 dBc

Auxiliary analog output 1x programmable 0.1 to 50 MHz sine wave output, BNC 50 ohms, +7dB

Auxiliary digital outputs

Number	3
Frequency	1PPS / 1 / 5 / 10 MHz
Output level	≥3V @ 50Ω
Output shape	square or pulse
Connector	BNC

Synchronization input

Input type and connector 1x 1PPS TTL (≥3V) — BNC (1x on rear side + 1x on front side in 19" version)

Power Supply

Voltage 48V DC nominal floating (24V to 60V)

Power feeds

Power consumption 50W @ 25°C (warm-up max. 60W)

Management / User interface

Management port RS-232C on DB-9 for local management and / or remotely using SyncView Plus™ (1x connector on rear side + 1x connector on front side in 19" version)

Alarms

LED Monitoring 3x relay contacts
3x LED's on front plate for monitoring power supply status, operation and alarms (3x LED's on front side + 3x LED's on rear side in 19" version)

Mechanical

ETSI: 4U 176 x 436 x 240 mm (H x W x D)

19":

Weight

Telecom Signal expansion (optional)

Number 4

Frequency

Output level

Connector

Analog output

Remote management port (optional)

Management Port

Environmental Conditions

Operating conditions

Transportation

Storage

Humidity

Altitude (operating)

DC magnetic field

Safety

EMC & ESD

with front access connectors, adapters for 19" rack standard 1

3U 132 x 436 x 400 mm (H x W x D)

with rear access connectors, adapters for 23" rack standard

<15kg (excluding packing)

4

Configurable: 2.048 MHz / E1 /

T1 / 1PPS / 10MHz

According to G703

BNC 75Ω or DB9 120Ω (T1: DB-9 100Ω)

1x programmable 0.1 to 50 MHz

sine wave output, BNC 50 ohms, +7dB

optional

Ethernet TCP/IP port on RJ45 for

management over TL1 and/or SNMP

class 3.2

(temperature range extended from

-5°C to +55°C)

EN 300 019-1-2, class 2.2

EN 300 019-1-1, class 1.1

Up to 95%

0 — 15'000m

±2 Gauss maximum

EN 61010-1

EN 50081-1, EN 50082-1

IEC 801 parts 2, 3, 4, 5 and 6

CE compliant

