

OptiCloc™ Independent Stratum 1.0 source



Features

- 10MHz and 1pps output
- 110-240V AC input
- Stand alone Stratum 1 source
- Does not rely on GPS Disciplining
- Standard 19" rack mounted configuration
- User programmable outputs
- Accuracy 2.1×10^{-12} (1s in 30,000 years)

Optional Features

- User configurable outputs
- Optional outputs: E1 / T1 / Composite clock / 1 MHz / 2.048 MHz / 5MHz / / 13MHz and 1 PPS)

Overview

With this product OptiSynx Ltd are providing a new innovation in time standards. The patent-pending solid-state technology provides the user with a truly independent time source.

Low cost of ownership, high level of integration and standalone Stratum 1 performance.

The OptiCloc™ is Stratum 1 source that does not rely on any 3rd party time or synchronization providers such as GLONASS or GPS satellites

Coupled to a competitive price, a lower cost of ownership is achieved by not relying on external synchronisation as expected with commercially available Rubidium frequency Standards.

The standard outputs are easily configurable to suite a range of required clock frequencies.

Technology

The OptiCloc™ derives its inherent stability and accuracy from quantum mechanical particle properties. The reference is derived from a hyperfine primary gas transition in the THz region from which a unique solid state frequency converter derives the user 10MHz and 1pps reference signals.

The unique design ensures excellent short and long term stability. The product is capable of meeting the requirements of a Stratum 1 source without the need for any external reference. This plus the solid state technology used leads to higher levels of integration that will be exploited in future product offerings.



OptiCloc™ Stratum 1 Source

Specification

ELECTRICAL SPECIFICATIONS	Min	Typical	Max	Units
Frequency Outputs				
Format		10		MHz
Amplitude	1	Square wave		V _{peak}
Pulse width		50		% Duty cycle
Connector		BNC		
Impedance		50		ohm
Location		Rear panel		
Timing Outputs				
Format		1		PPS
Amplitude	3			V
Pulse Width		400		
Rise Time			20	ns
Jitter			10	ps RMS
Connector		BNC		
Impedance		50		ohm
Location		Rear panel		
Performance				
Accuracy		2.1 x 10 ⁻¹²		
Setability range		±9.0E-12		
Setability resolution		1.0E-15		
Warm up time			5	mins
Stability				
Allan Deviation				
1			9.0E-12	
10			6.3E-12	
100			2.0E-12	
1,000			3.7E-13	
10,000			2.5E-13	
100,000			1.2E-14	

ENVIRONMENTAL	Min	Typical	Max	Units
Operating				
Temperature	0		50	degC
Storage	-40		70	degC
Humidity		95		%
Altitude			21,000	m
AC power				
Voltage	90		250	Vac
Frequency	47		63	Hz
Warm up power		100		W
Operational power		50		W
Regulatory				
EMC		EN 61326-1:1997		
		EN55022:1998		
		EN55024:1998		
Optical		Tellcordia GR468		
Safety		EN60950-1:2001		
		EN61010-1:1993		
Physical Specification				
Size - width		19 (48.0)		inch (cm)
height		5.25 (13.3)		inch (cm)
depth		12 (30.48)		inch (cm)
Weight		10 (4.5)		lb (kg)
Warranty		1		year

OptiSynx limited
 23 Cambridge Science Park
 Milton road
 Cambridge
 CB4 0EY

Tel: +44 (0) 1223 437034
 Fax: +44 (0) 1223 437019
sales08@optisynx.com
www.optisynx.com