



EASYREF is an high stability Time & Frequency generator. The high stability is obtained by disciplining algorithms controlled by GPS receiver.

EASYREF in the standard version provide 10 MHz frequency reference and 1PPS time reference as well as Ethernet interface for LAN synchronization by NTP protocol.

EASYREF is very flexible for all applications where high stability Time & frequency reference are needed in very small size.

The unit is extremely compact and can be mounted on Omega DIN rail Equipment can be interfaced using proprietary software, with a normal PC both in local or remote way by RS232/RS485 serial connection as well in remote way by Ethernet interface using SNMP (Simple Management Network protocol).

- 10 MHz Sine wave outputs with digitally level adjustment from -2 dBm to +16 dBm.
- 1PPS output on TTL level terminated @ 50 Ohms.
- Ethernet interface for synchronization using NTP protocol and for remote management using SNMP protocol.
- Internal High Stability oscillator OCXO type having +/-1E-10/day aging.
- 12 channel GPS receiver with auto tracking and timing error management system.
- Serial connection standard RS232/RS485.
- 12 Vdc - 48 Vdc Power supplier.
- Mechanical format BALL-EFRATOM type adaptable for DIN rail mounting.
- 2 years warranty.

GPS Section

Receiver	1.575,42 MHz – 12 channel
Tracking	12 satellites correlation
PPS accuracy	< 50 nsec
Antenna Connector	TNC
Acquisition time	4 minutes
Local Oscillator	OCXO
Stability when locked	To GPS: $1 \cdot 10^{-12}$ (after 24 hours) – Ageing in holdover $\pm 1 \cdot 10^{-10}$ day

PTP Section	Protocol: IEEE1588-2008 (PTPv2) Role: Grandmaster Clock Source (with GPS) or slave
-------------	---

NTP Section	Protocol: NTPv4 Role: Master Clock Stratum 1 (with GPS)
-------------	--

Low Noise Output	10 MHz sine wave (-130 dBc/Hz @ 1 kHz)
------------------	--

PPS Output	1 PPS signal – 100 μ sec duty, - 5Vpp
------------	---

Serial Connection	1 x RS232 over DB9 connector User defined as controller or time telegram provider
-------------------	--

Network Interface	1 x 10/100 BaseT Ethernet
Supported Protocols	IPv4, PTP/IEEE 1588-2008, NTP, SNTP, HTTP, SYSLOG , SNMP , TIME , TELNET

Status Info	4 status leds RS232 SNMP (Simple Network management Protocol) Web Interface
-------------	--

Power Supply	10 - 30 VDC
--------------	-------------

Power Consumption	<50W
-------------------	------

Size	50 x 120 x 200 mm
------	-------------------