

TMG512x

X= 1 to 3

Time Code Generator:

**STANAG 4430, 4372,
ICD-060, 1PPS, IRIG-B 00X,
NMEA ZDA**

8 outputs

Choice of synchronization source:

**TMG5121: GNSS
TMG5122: ICD-060
TMG5123: NMEA (ZDA)**

8 programmable outputs:

**- 1PPS
- IRIGB 00X
- ICD-060
- STANAG 4430/4372
- NMEA ZDA**

Factory choice of electrical interface:

**- RS422 (default)
- TTL
- ICD-060**

Monitoring through HTTP/HTTPS using a web interface or via SNMP V2c/V3

Easy software update through embedded SDCard

NTP V4

Services

- SYSLOG
- SSH

The equipment is a time and frequency generator disciplined by an external reference and based on a high stability pilot to guarantee hold over performance when losing its external reference.

Its 8 programmable outputs can be selected amongst IRIG B00X, 1 PPS, ICD-060, STANAG 4430/4372, NMEA ZDA. The equipment is housed in 1U 19" standard rack

GNSS Synchronization

The internal GNSS receiver is a specific receiver dedicated to time application. It is a multi-constellation (GALILEO GPS, GLONASS, BEIDOU) receiver. It delivers a very high precision UTC second reference pulse.

ICD-060 Synchronization

The TMG5122 is synchronized by an ICD-060 time code over RS422 and its ICD-060 PPS.

TIME CODE / PPS generation

The equipment can generate 8 independent outputs digital time signals over RS422 within the following formats:

- 1 PPS
- Havequick ICD-GPS-060 Message
- IRIG B00X Message
- STANAG 4430 (XHQ) Message
- STANAG 4372 / iii Message
- NMEA ZDA

The electrical format can be adjusted at factory on-demand amongst: RS422, ICD-060, TTL.

Each output message can be programmed amongst: 1PPS, IRIG B00X, ICD-060, STANAG 4430/4372.

Oscillator

An internal OCXO type oscillator provides a 10 MHz frequency used to maintain time. The stability of this oscillator is better than 1×10^{-9} per day in case of loss of external time sourcing.

When disciplined by the GNSS, the long term stability remains better than 5×10^{-11} .

NTP Service

This equipment includes a time service implementing standard NTP protocol (Network Time Protocol) allowing any computer or equipment linked to the network to synchronize.

NTP client software must be installed on each client for its synchronization with the server.

Remote monitoring

The remote monitoring of the equipment is done via the network, using:

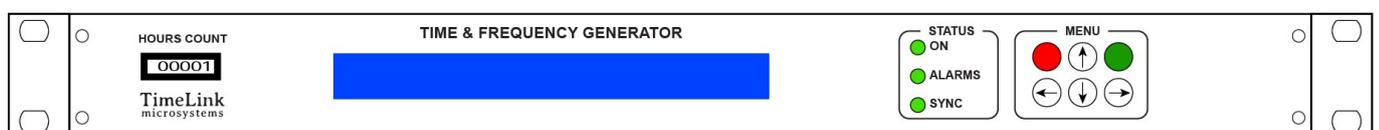
- The SNMP standard protocol (MIB provided)
- A web interface using HTTP or HTTPS
- A proprietary UDP or TCP protocol adding control features

Configuration

The overall configuration of the unit is stored on a removable SDCARD memory which allows remote software update easily.

Options

- 2nd power supply AC / DC
- Internal pilot
- Independent LAN outputs (max4)
- 10 MHz outputs



Front Panel)

Specifications

NTP

(Network Time Protocol)
NTP (RFC 1305) SNTP (RFC 1361) using UDP
123 port.

SNMP

(Simple Network Management)
(RFC 1155, 1157, 1213) V2c or V3
SNMP provides to the network
administrator the equipment status.

HTTP/HTTPS

The integrated web server allows viewing
the status of the equipment.

TCP / UDP

Remote in "push" mode (UDP / TCP) or
"request / response" mode (TCP)

Connectors

1xTNC for the GNSS antenna input
or
1xSubD9 for the ICD-060 or NMEA input
1x SubD25 for the time code outputs
1 x USB for serial console link
1 x RJ45 network connection

Network Interface

Ethernet IEEE 802.3. 10/100/1000

1 PPS output

Accuracy of ± 100 ns relative to UTC when
locked to GNSS

Programmable outputs

- **IRIGB outputs**

IRIG B00x
Not modulated (B00x)

- **STANAG TIME CODE**

The following time codes are available

- ICD-GPS-060
- STANAG 4372 / iii Message
- STANAG 4430 (XHQ) Message
- NMEA ZDA

Internal reference

OCXO type Oscillator, 10 MHz

Free running mode:

Short term stability:
1s < 2.10-11
10s - 100s < 2.10-11
Long term stability:
1 day < 2.10-10
1 month < 5.10-9
1 year < 3.10-8

Locked running mode:

Long term stability: < 5.10-11

Console

USB compliant
Console for configuration & maintenance

Temperature

Temperature: 0 ° to 60 ° C
Storage temperature: -20 ° to 70 ° C
Relative Humidity range: 10% to 90% (non-
condensing)
Storage Relative Humidity: 5% to 95% (non-
condensing)

Power supply:

230V AC mains supply:
EEC socket 2P + with filter & On / Off switch
voltage: 90-264VAC / 47-63Hz
Power consumption: <20W 230VAC 50Hz

Certification:

Certified Hardware CE, ROHS and ITAR free

Dimensions:

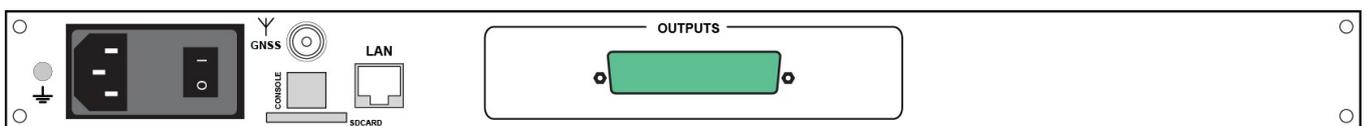
Standard 19" 1U with Depth of 350 mm
Rack 1U 19" L=483 x I=350 x H= 44 mm

Weight

< 3 kg

MTBF:

> 100 000 h



Back Panel (Example: TMG5121)

Commande code:

TMG5121: GNSS synchronisation

TMG5122: ICD-060 synchronisation

TMG5123 : NMEA synchronisation

Please contact us for any further options needed