TMG9035

Time Code Generator

- STANAG 4372 / 4430
- ICD-GPS-060 HaveQuick
- IRIG-B00x
- 1PPS, NMEA ZDA
- 8 programmable Outputs

Synchronization source:
NMEA (ZDA) and PPS TTL

8 outputs
programmable in factory among:

- *1PPS*
- *IRIG-B00x*
- *ICD-GPS-060 HaveQuick*
- *STANAG 4430/4372*
- *NMEA ZDA*

Electrical interfaces
configurable in factory among:

- *RS422 (default)*
- *TTL*
- *ICD-GPS-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 outputs can be configured amongst IRIG-B00X, 1 PPS, ICD-GPS-060 HaveQuick, STANAG 4430/4372, NMEA ZDA.
The equipment is housed in 1U 19" standard rack.

NMEA or PPS Synchronization

This equipment is synchronized by an NMEA ZDA time code over RS422 and its TTL 1PPS.

TIME CODE / PPS generation

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

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

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

Configuration

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

Oscillator

An internal OCXO type oscillator provides a 10 MHz frequency used to maintain time. The stability of this oscillator is better than $1x10^{-9}$ per day in case of loss of external time sourcing.
When disciplined by the GNSS, the long term stability remains better than $5x10^{-11}$.

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 running on each client for its synchronization with the server.

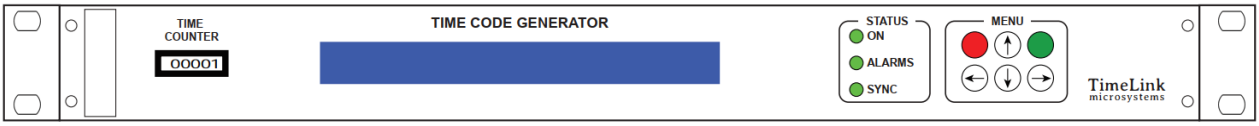
Remote monitoring

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

Options

- Single or 2 power supplies with different combinations
- Choice of possible OCXOs/Atomic clock
- Configurable number of LAN (min 1)



TMG9035 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 monitoring and controlling of the equipment.

TCP / UDP

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

Connectors

1 x SubD9 for the NMEA and PPS input
1 x SubD25 for the 8 time code outputs
1 x USB for serial console link
4 x RJ45 network connections
1 x for the SD card
1 x AC power

Network Interface

Ethernet IEEE 802.3. 10/100/1000

Configurable outputs:

- **1 PPS outputs**

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

- **IRIG-B outputs**

IRIG-B00x
Non modulated IRIG-B signal

- **STANAG time code**

The following time codes are available

- ICD-GPS-060 HaveQuick
- 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 < 1.10-9
1 month < 3.10-8
1 year < 2.10-7
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)

AC Power supplies

AC supply : 90-264VAC / 47-63Hz
With fuse
Power consumption: <20W

Certification:

Certified Hardware CE, ROHS, Reach, ITAR free & EAR 99

Dimensions:

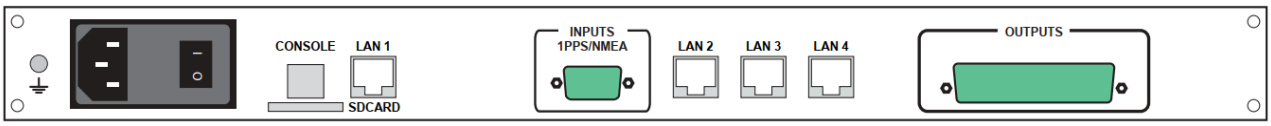
Standard 19" 1U with Depth of 350 mm
Rack 1U 19" L =483 x l =350 x H= 44 mm

Weight

< 4 kg

MTBF:

> 100 000 h



TMG9035 Back Panel

Order code : TMG9035

Please contact us for any further options needed

***THE 8 OUTPUTS ARE CONFIGURABLE:* Performed only in factory**

a 16 digits code is representing the configuration of the SUBD 25 output connector for each of the 8 outputs

It is composed of:

- a **Letter**, indicating the type of output signal
- a **Number**, indicating the electrical format of the output

Letter	Output signal
A	OFF, no signal
B	1PPS
C	IRIG-B002
D	IRIG-B006
E	NMEA ZDA
F	ICD-GPS-060 HQ
G	STANAG 4372 HQIIA
H	STANAG 4430 XHQ

Number	Electrical format
0	Not configured
1	RS485
2	TTL
3	ICD-GPS-060

Outputs code example: B2 H1 G1 A0 F3 B2 E1 E3

Output 1: 1PPS TTL

Output 2: STANAG 4430 RS485

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Output 8: NMEA ZDA ICD-GPS-060