

TMG1410

GNSS disciplined IRIGB generator with optical outputs

The TMG1410 unit is a generator that provides an IRIG B TU time code compliant with B006 format (IRIG B AFNOR)

Three optical fiber outputs are available. The transmitters are compatible with multimode fiber optic OM3 50/125, the connectors are SC type.

Operating mode

The TMG1410 generator can operate in two modes:

- In master mode, it's synchronized via the integrated GNSS receiver. The receiver must be connected to a GNSS antenna.
- In redundant mode, it is synchronized with an IRIG B IEEE1344 signal received on an optical fiber input, the internal GNSS receiver is not used in this case.

IRIGB generator

The unit include an IRIG time code generator that allows to provide a signal on IRIGB006 2 optical outputs.

NTP

TMG 1410 provides NTP(Network Time Protocol) on 2 independent RJ45 outputs. That allows any computer or device connected to the network to synchronize. Client computers can be synchronized with a precision better than 10 ms. NTP client software must be installed on each client device for syncing with the server

Remote control

Remote monitoring of the equipment is made by the network connection using an embedded web server or SSH secure protocol.

Configuration

The entire equipment configuration is contained in a removable micro SDCARD memory.



Specifications

NTP/SNTP

(Network Time Protocol):
NTP (RFC 1305) SNTP (RFC 1361) UDP 123 port.
V3, V4 or automatic configuration V3/V4.
2xNTP independents servers, RJ45 sockets - Identification "NTP1" and "NTP2"
1x Network TG/NTP, RJ45 socket - Identification "LAN"

SSH

Port TCP 22

HTTP

Port TCP 80
The integrated web server allows to view the status of the equipment.

Connectors :

1 x BNC for 1PPS output local
1 x BNC for 10MHz frequency output
1 x SUB'D 9pins female for console serial link.
1 x RJ45 for network connection.
Port UDP 123, operating mode : Request/response (unicast)
2 x RJ45 for the independents NTP servers. Port UDP 123, operating mode : Request/response (unicast)
Connectors type SC for optical E/S.

Optical outputs

1x synchronization output:
IRIG B IEEE1344 Code to synchronize a second generator in redundant mode.
Emitter OF type SC - Identification "OUT_S"
2x IRIGB TU outputs:
IRIG B006 Code
Emitter OF type SC - Identification "OUT1" et "OUT2"
1x synchronization input:
IRIG B 1344 not modulated signal
Socket OF type SC - Identification "IN"

1 PPS accuracy :

TTL Level
BNC female socket - Identification "1PPS OUT"
Duration : 1ms, periode 1Hz
accuracy is an image of the difference between the generated PPS and PPS from the reference source.

IRIGB Code:

IRIGB006, not modulated signal, DCLS.

10 MHz output:

Level +13 dBm ± 1 dBm
Guaranteed Phase noise :
1Hz - 120 dBc/Hz
10Hz - 145 dBc/Hz
100Hz - 155 dBc/Hz
 ≥ 1 KHz - 162 dBc/Hz

Console :

Used for configuration and maintenance of the unit.

Internal reference:

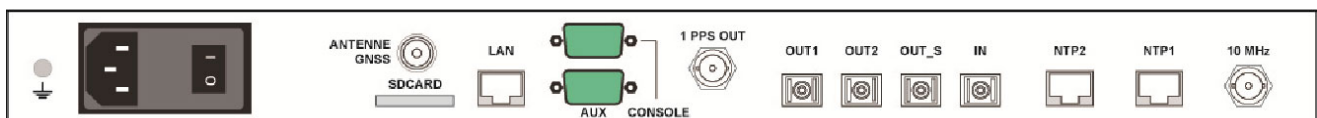
Oscillator 10 MHz 1 ppm
Short term Stability
1s: $< 1.10^{-12}$
long term stability in free run mode :
 $< 1.10^{-10}$ / jour
 $< 2.10^{-10}$ / month
 $< 1.10^{-8}$ / year
long term stability disciplined with GNSS
 $< 5.10^{-11}$

Dimensions :

Rack 1U, 19"
Weight : 2.7 kg
Consumption : 20 W

MTBF :

100 000 h



Ordering code:

TMG 1410: standard equipment