GNTP – miniature NTP Time Server with Integrated GPS

GNTP is a miniature stand-alone NTP time server. It is dedicated for time synchronization of client devices in local TCP/IP networks without any connection to Internet.

- Precise time source for computer networks
- Miniature NTP Stratum 1 time server
- Allows to synchronize NTP and SNTP clients in local network
- Supported protocols: NTP v4 (RFC 2030)
    HTTP
    Telnet
    FTP
- Supervision and configuration through Etherne
- Firmware upgrade over Ethernet
- Time synchronization: integrated GPS receiver with antenna
    GPS - L1, C/A code, frequency 1575.42 MHz $\pm$2 MHz
    Tracking capability: 12 satellites
- Timing accuracy: < 1 msec (depending on network load)
- Input: BNC connector for active antenna
- Output: 1x RJ-45 Ethernet 10/100 MBit (automatic detection)
- Power supply: PoE Class 1 (2.3 W $_{MAX}$) or 6 - 30 VDC/1.9 W $_{MAX}$
- Operating temperature: antenna: -40 °C to +100 °C
    server: -10 °C to +50 °C
- Protection: antenna IP64
    server IP30
- Housing: antenna - size 33,5 x 38 x 13 mm (magnetic/direct mount)
    server - plastic carrier, DIN-Rail mount (DIN EN 50022), width 71 mm

Time server receives precise time information from the satellite system GPS. The server provides the UTP time information permanently, also in the case when synchronization with the GPS system was aborted. Standard cable of active antenna (6 m length) can be extended up to 15 meters. It is possible to use a more sensitive antenna with up to 40 m long cable. Desired power supply level for active antenna can be selected by embedded switch (3 V or 5 V).

GNTP supports NTP v4 protocol for time distribution, HTTP, Telnet and FTP protocol for remote supervision and configuration.

Power supply and status of synchronization is indicated by three LEDs located in front panel. Ethernet activity is monitored by two LED indicators placed next to RJ-45 connector.

Installation of the GNTP on DIN-rail and compact size make it easy to integrate in small cabinets. The GNTP server can be supplied through ethernet cable (function PoE) or from a small external power source. Both sources can be used at the same time to provide an automatic backup.
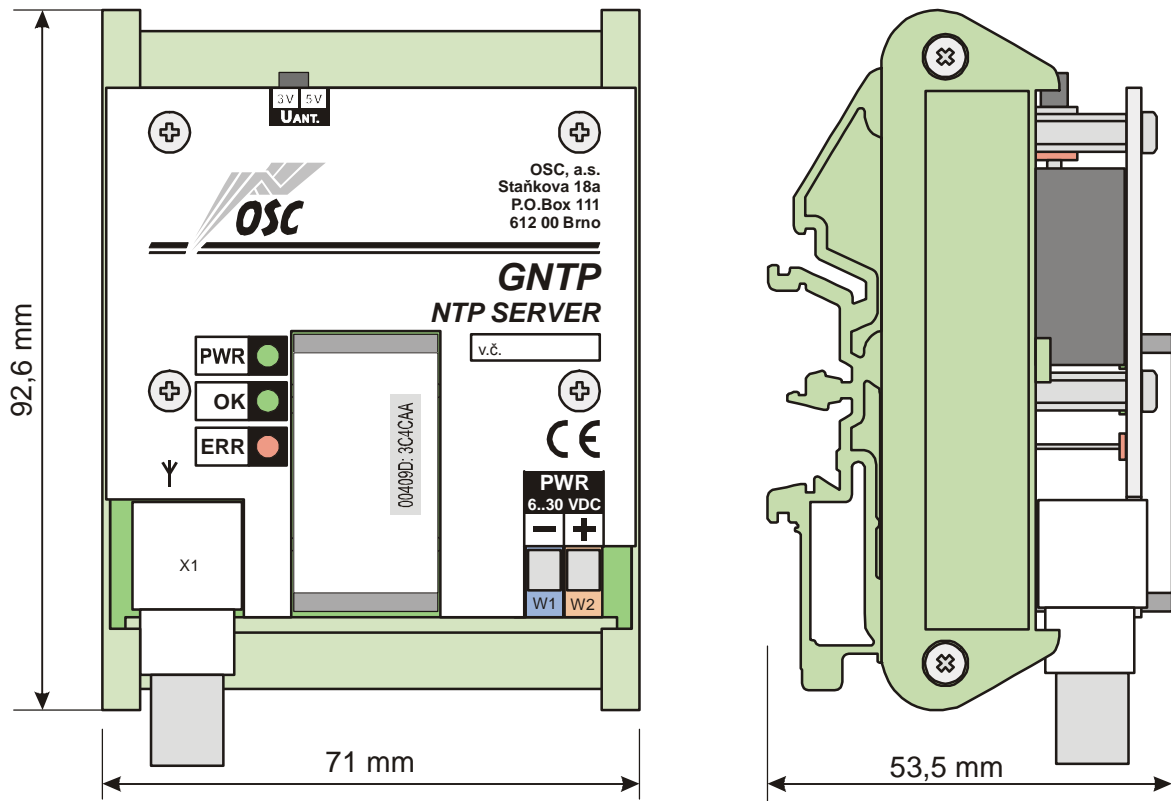

Figure 1: GNTP – front view

Figure 2: Drawing of GNTP

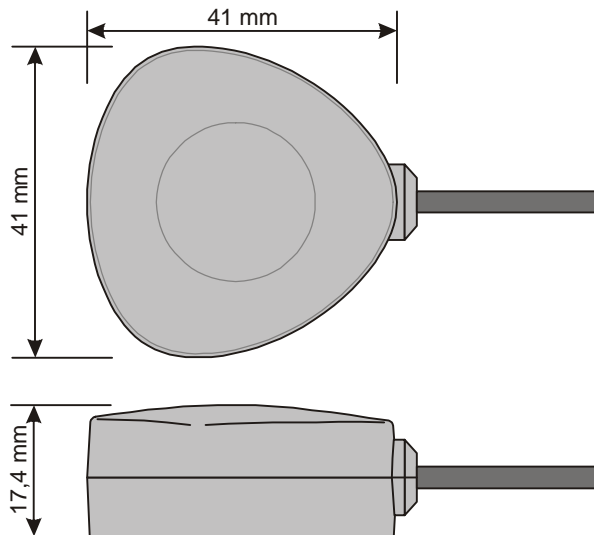The active antenna is plugged via the BNC connector, Ethernet cable via RJ-45. Power supply is connected to the WAGO terminals. The maximum diameter of the wires is 2.5 mm^2.

Figure 3: Standard antenna (2J410M)

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