GPSNTP – miniature SNTP Time Server with Integrated GPS

GPSNTP is a miniature stand-alone SNTP 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 SNTP Stratum 1 time server
- Allows to synchronize NTP and SNTP clients in local network
- Supported protocols: SNTP v4 (RFC 2030)
                          HTTP
                          Telnet
- Max. number of NTP/SNTP requests during 1 msec period: 16
- Supervision and configuration through Ethernet
- 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: < 2 msec (depending on network load)
- Input: BNC connector for active antenna
- Output: 1x RJ-45 Ethernet 10/100 MBit (automatic detection)
- Power supply: 6 - 30 VDC/1,5 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).

GPSNTP supports SNTP v4 protocol for time distribution, HTTP and Telnet 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 GPSNTP on DIN-rail and compact size helps to integrate it in small cabinets. Wide range of power supply and energy saving design allows the GPSNTP to be powered from an existing power supply unit or from a small dedicated power supply unit.
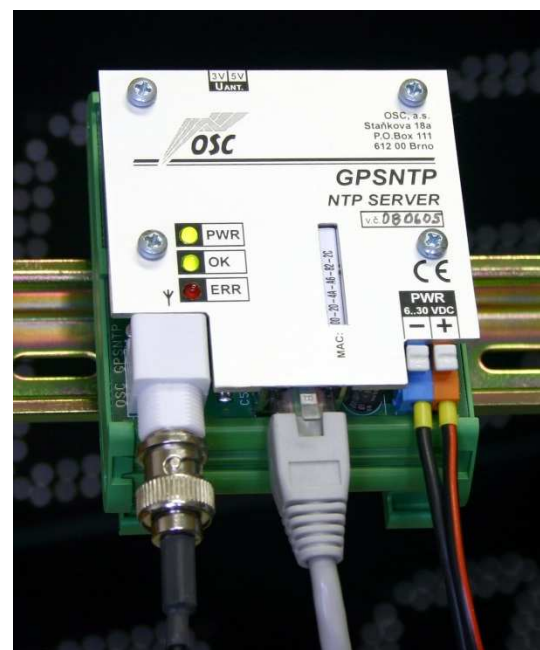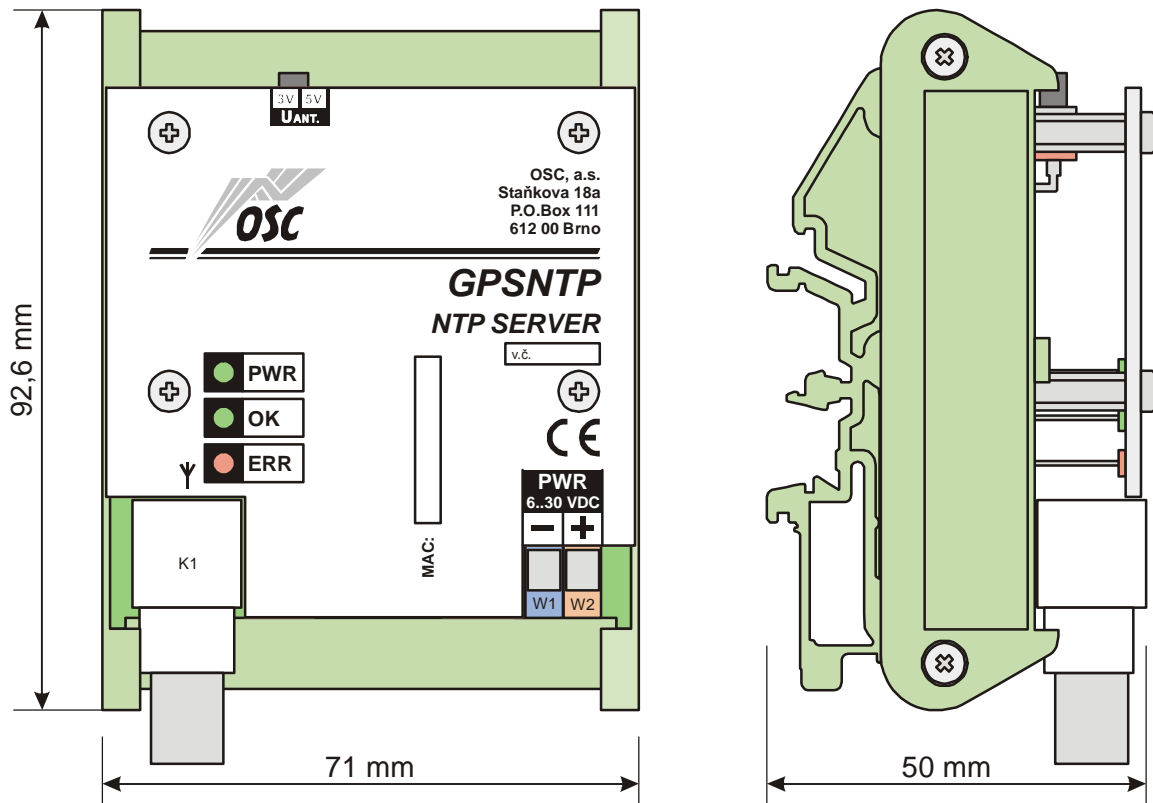

Figure 1: GPSNTP – front view

Figure 2: Drawing of GPSNTP

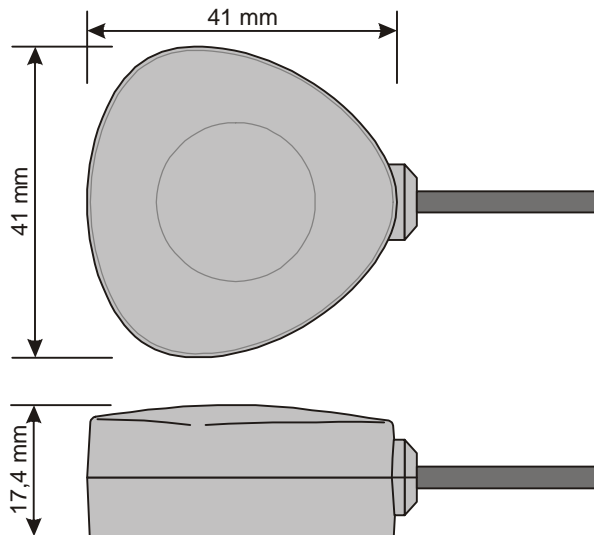The active antenna is plugged via the BNC connector, Ethernet cable via RJ-45. Power supply is connected to the WAGO terminals. The maximum diameter of the wires is 2.5 mm^2.

Figure 3: Standard antenna (2J410M)