Multiport NTP time server

# ATS 4100.timeserver

The ATS 4100.timeserver is a powerful time server optimized for multiple networks. It provides 4 network ports to synchronize different networks with NTP. With up to 8000 NTP requests per second, large networks with a lot of NTP clients can be supplied with time. Synchronized form GPS and with an internal OCXO oscillator, the ATS 4100 is a reliable time source for all network devices.

Your benefits when using the ATS 4100.timeserver:
- Up to 4 completely separated LAN ports:
  - provides NTP in different networks (more than 8000 requests/s per ATS 4100)
- 1 PPS output
- Precise time:
  - Time reception from GPS
  - OCXO oscillator for holdover

# ATS 4100 - Advantages

Nowadays, online NTP servers are often used for the time synchronization of a server or data center in the IT area. However, this kind of synchronization is not ideal in terms of reliability and operating safety, as a loss of internet connection leads to a loss of an accurate NTP time source.
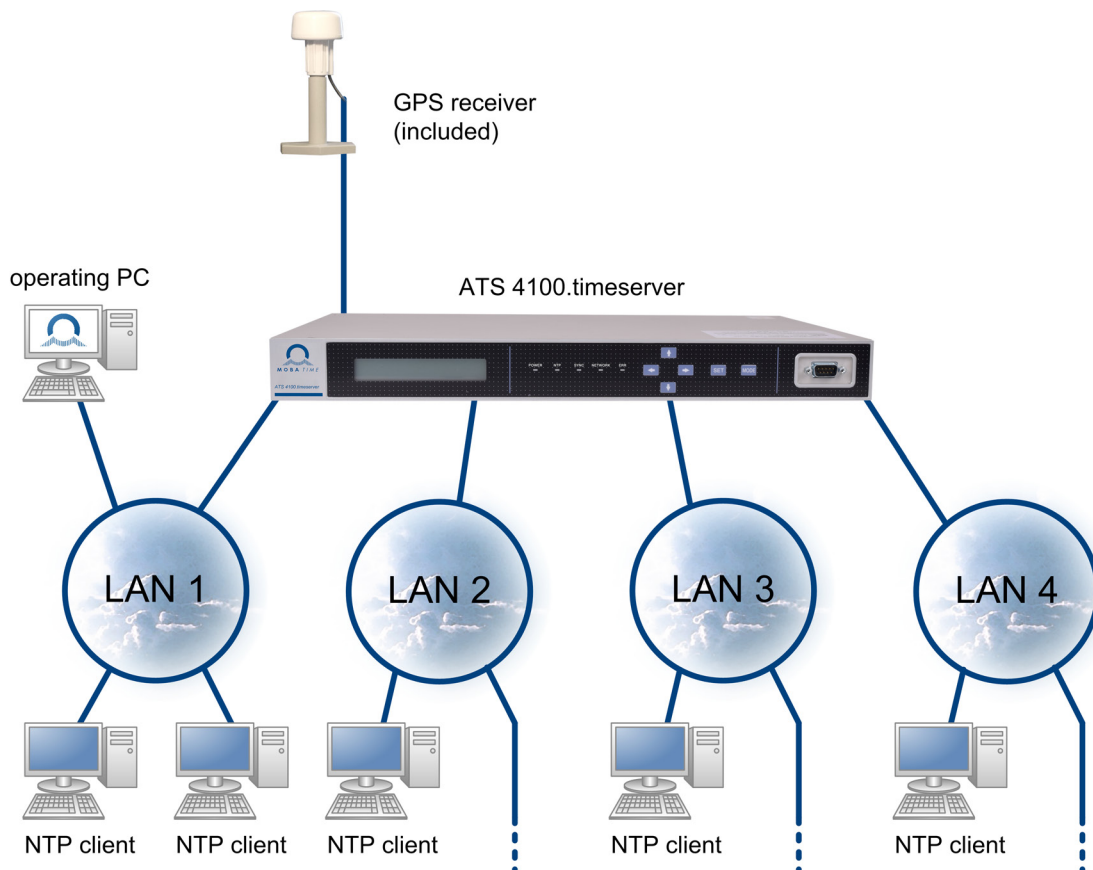
Because different NTP clients operate with a variety of time-keeping mechanisms, these disturbances cause time deviations between devices (device times drift apart). The time deviation increases the longer the loss of connection persists. This can endanger the operation of the system (e.g. data inconsistency).
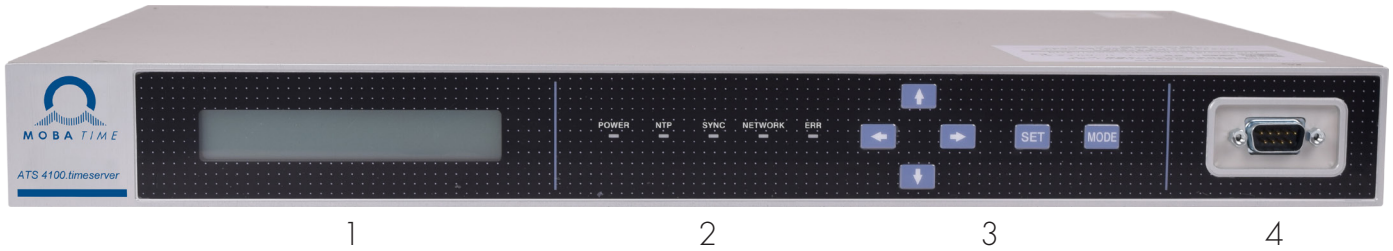
By using an ATS 4100 time server, this risk can be greatly reduced. As a local time server, the ATS 4100 guarantees additional operating safety by using GPS as timesource. The GPS delivers a time signal with the accuracy of an atomic clock and a high availability that is used by the ATS 4100 to create NTP packets.

In case of loss of the GPS signal, it carries on the time with its intern OCXO oscillator and is as such available as an accurate NTP time reference for all installed NTP clients.

# Example of use



GPS receiver
(included)

operating PC

ATS 4100.timeserver

LAN 1    LAN 2    LAN 3    LAN 4

NTP client    NTP client    NTP client    NTP client    NTP client

# ATS 4100 - Operation and mounting



| 1 | 2 | 3 | 4 |

**Front panel**

**Connectors:**
1) LCD panel with backlight
2) LEDS: POWER, NTP, SYNC, NETWORK, ERR

3) Control buttons: ⇧, ⇦, ⇨, ⇩, SET, MODE
4) COM port



| 1 | 2 | 3 | 4 | 5 6 | 7 | 8 |

**Rear panel**

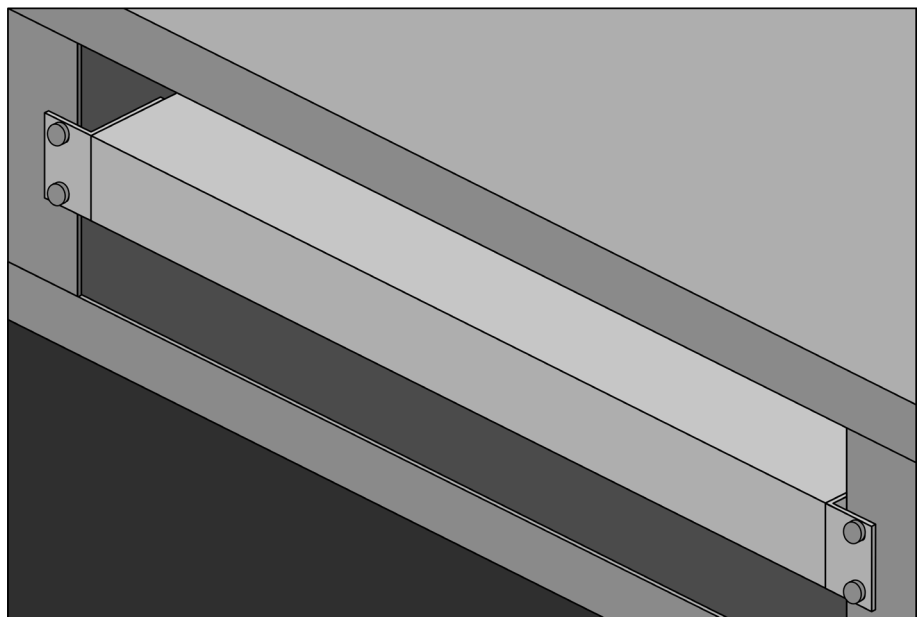**Connectors:**
1) Mains power connector
2) Power switch
3) BNC connector
4) COM connector (not used)

5) Contrast dial for display
6) Access LED
7) BNC connector
8) LAN connector

## Mounting

The ATS 4100 can either be placed on a table or mounted in a 19" server rack using the mounting brackets included in the delivery (see picture).

# ATS 4100 - Technical details

| Technical data | Art. no. 118464 | |
|---|---|---|
| Time server | NTP V4 (fully V3 compatible), RFC 1305 (port 123)<br>SNTP (UDP), RFC 2030 (port 123)<br>TIME (TCP/UDP, RFC 868 (port 37)<br>DAYTIME (TCP/UDP), RFC 867 (port 13)<br>Max. number of NTP and SNTP requests per second: typically 8000 over all 4 ports combined | |
| Network interface | 4x 10BaseT / 100BaseTX / 1000BaseT (IEEE 802.3)<br>Connector: RJ-45 | |
| IP configuration | IPv4: static IP; IPv6 | |
| Synchronization output | NTP, PPS | |
| Impulse output | PPS, BNC, TTL rising edge 50 Ω | |
| Synchronization input | GPS, antenna with 10m cable | |
| LED displays | brightness adjustable via dial located on rear side | |
| Power supply | 100 - 240 VAC / 50/60 Hz / 29 W | |
| Environment | Operating temperature: 0°C … 40°C<br>Relative humidity: 20% - 80% (non-condensing) | |
| Accuracy | Correction | typically < ± 1 ms |
| | Built-in quartz OCXO | typically < ± 10 ms/day (0,12 ppm) |
| Operation | Telnet or SSH, web interface, serial command line interface, front side buttons | |
| Mounting type | 19" rack | |
| Dimensions | W x D x H: 430 x 280 x 44 mm | |
| Weight | approx. 3.8 kg | |