



Synchronise every moment

For an accurate, reliable and secure time

Time server: Netsilon 7

Bodet

www.bodet-time.com

MADE IN FRANCE

DESCRIPTION

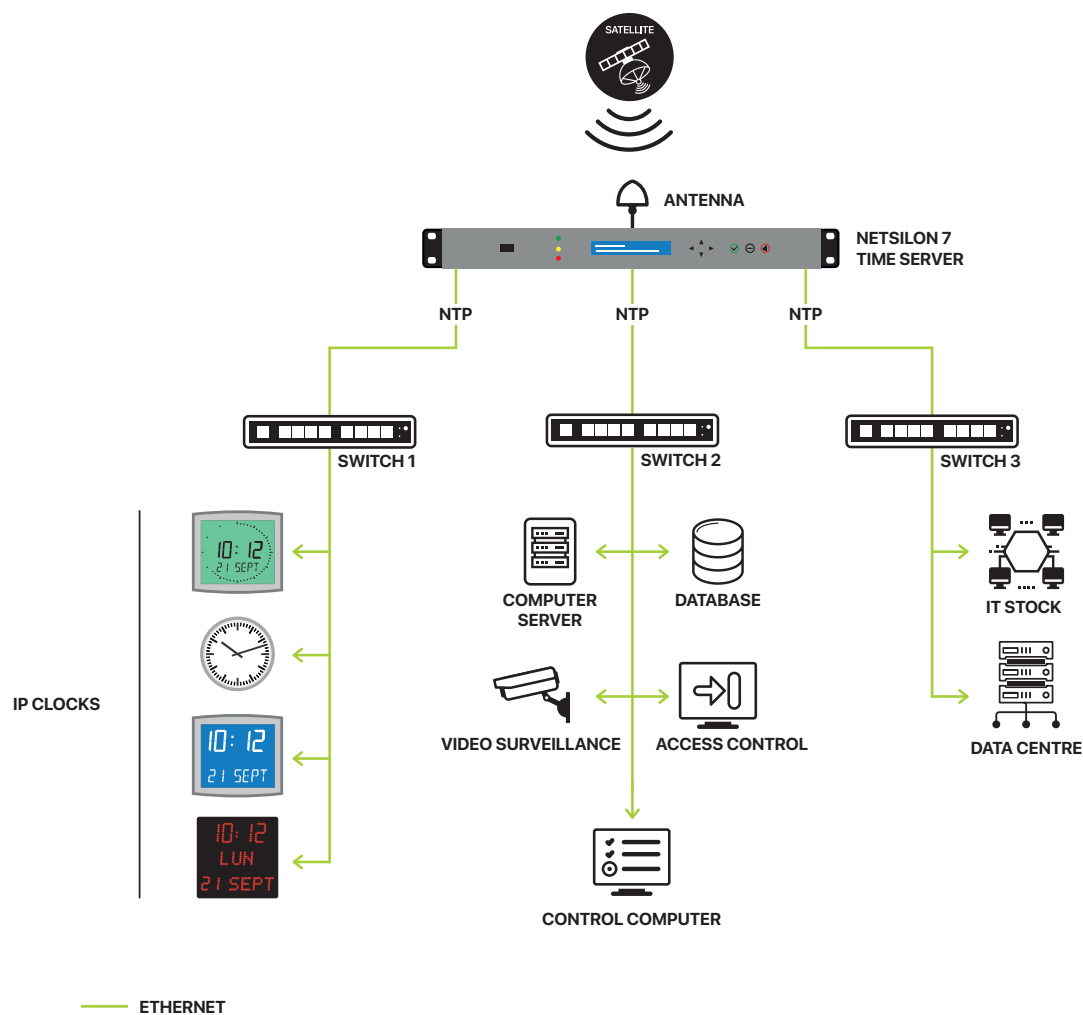
- Netsilon 7 is a compact and modular time server offering optimum accuracy and security for synchronising computer networks.
 - NTP time server with a built-in TCXO internal oscillator.
 - Configuration and supervision via an ergonomic and user-friendly web interface.
 - Modular design in a 19" 1U rack-mountable chassis offering a wide variety of input/output signals (up to 4 option cards).
 - Network security and performance: IPv4, IPv6, DHCP, HTTPS, SSH, SFTP, LDAP, RADIUS, 802.1X, 802.1Q, embedded firewall, Gigabit Ethernet port.
 - Alarm supervision in the form of Syslog, SNMP (v1/v2/v3) or email.
- Product guaranteed for 3 years.



COMPLIANCE

- Directives: LVD 2014/35/EU, EMC 2014/30/EU.

INSTALLATION EXAMPLE





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TECHNICAL FEATURES

Reference signals

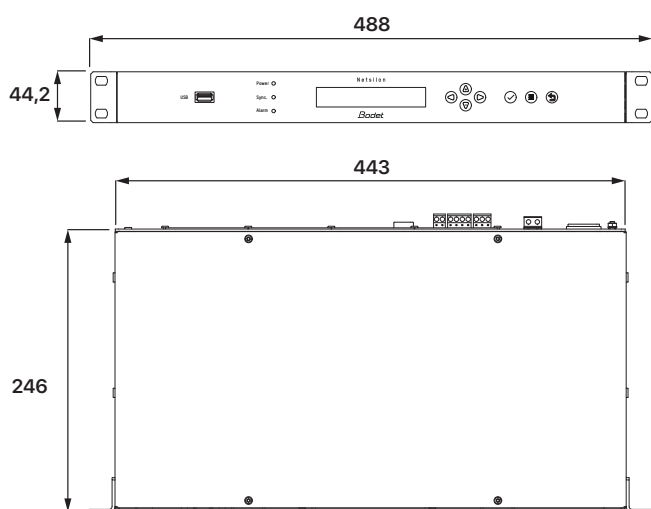
	Standard	Option
Inputs	GPS GLONASS NTP	ALS162 NTP
Outputs	NTP	NTP Coded time: AFNOR NFS 87-500, NMEA 0183,... 24V impulse DCF

Specifications

	Typical values of the TCXO quartz
Accuracy (average after 24h with GPS or GLONASS signal)	1×10^{-9}
Stability (average after 2 weeks with GPS or GLONASS signal)	1×10^{-7} /day
Holdover (after 2 weeks of GPS or GLONASS synchronisation at constant temperature)	5 ms (after 24 hours)

Mechanical features

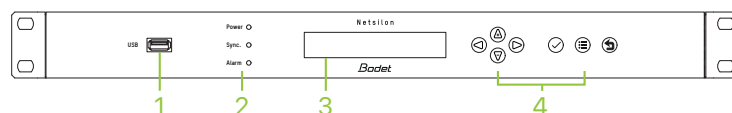
- Construction..... Metal casing – 1 U rack - 19".
- Operating temperature..... 0°C to +50°C (fanless cooling).
- Relative humidity level (at 40°C)..... 0 to 90 % non-condensing.
- Protection index..... IP20.
- Weight..... 2.5 kg.
- Dimensions..... See below.



Interface and connections

Front panel

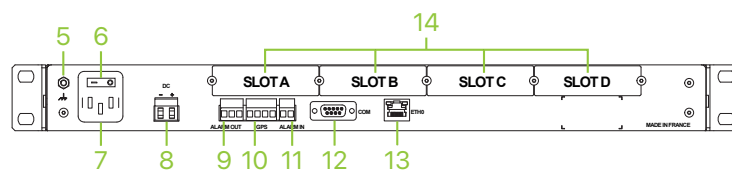
- 1 USB socket.
- 2 Status LEDs.
- 3 LCD screen.
- 4 Navigation and control keyboard.



Rear panel

- 5 Functional grounding.
- 6 ON/OFF switch.
- 7 AC IN mains connector.
- 8 DC IN power terminal block.
- 9 Alarm output.
- 10 Connection of mono-constellation antenna.
- 11 Alarm input.
- 12 Serial port.
- 13 ETH0 network port.
- 14 Slots for option cards :

Option card	Compatible slots	Max number of card(s)
Current loop	A/B/C/D	1
Network (RJ45)	A/B/C	2
Network fiber (SFP)	A/B/C	2
AFNOR	A/B/C/D	4
Impulse	A/B/C/D	4
ASCII	A/B/C/D	4



Power supply connectors on the rear panel depends on the model chosen (AC, DC, AC+DC, AC+AC).



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Electrical features

- Power supply..... AC only: 100-240V~ / 50-60Hz / 1.9-0.8A or DC only: 22-30V== / 3.2-1.9A or AC+DC | Redundant power supplies, or AC+AC | see features above. Fanless cooling.
- Consumption..... 20W (without option card).
- Alarm input..... Alarm IN. Input via potential-free dry contact. IIN ≤ 10 mA.
- Alarm output..... Alarm OUT. NC-NO-C relay. Maximum current: 1A/50V==, 1A/30V~.
- MTBF..... 100,000 hours.

Communication

- Network port..... RJ45, 10/100/1000 BASE-T.
- Serial interface (configuration)..... RS232, DB9 connector.
- Panel..... USB socket (can be disabled) for software backup and updates. Keyboard (can be locked) and LCD screen for network configuration.

Network features

Protocols

- NTP V2, V3, V4..... Compliant with RFC 1305 and 5905. Supports Unicast, broadcast, Multicast, Anycast, MD5 encryption, peering and Autokey.
- Maximum number of NTP requests per second. All Ethernet ports combined..... 7,000.
- Maximum number of NTP clients (typical)..... 32,000.
- SNTP V3, V4..... Compliant with RFC 1769, 2030, 4330 and 5905.
- TIME protocol..... Compliant with RFC 868.
- DAYTIME protocol..... Compliant with RFC 867.

Communication

- HTTP/HTTPS..... Compliant with RFC 2616 (management of signed certificates).
- SSH..... SSH v1.3, SSH v1.5, SSH v2 (OpenSSH) (password and/or authentication via certificates).

Management

- IP..... IPv4, IPv6: Dual stack.
- VLAN..... 802.1Q standard (single / multi).

Services

- DHCP..... DHCPv4, DHCPv6, Autoconf & Slaac.
- SMTP..... Mail forwarding.

Supervision

- Alarm..... SNMP traps, e-mail and relay contact.
- SNMP..... v1 (RFC 1157), v2c (RFC 1901-1908) and v3 (RFC 3411-3418).
- Syslog..... Event log services over UDP, TCP or TLS-secured protocol.
- Relay contact / external input..... Sending and reception of alarms.

Security features

- Enabling/disabling protocols.
- Authentication via 802.1x protocol.
- Redundancy via LACP protocol.
- Protection by single authentication (login + password) or authentication via LDAP / LDAPS (on SSL) / Radius.
- DES and AES encryption.
- SHA1, MD5 authentication.
- SSL/TLS: securing exchanges via computer network.
- SCP: secure copy of Netsilon files via a SSH session.
- SFTP: secure transfer of Netsilon files via a SSH session.



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OPTION CARDS

Card - Current loop

- Number of connections..... 1 DCF output.
1 ALS162 input.
- Type of signal..... Analogue.
- Connector..... Terminal block.
- Max number of cards..... 1.
- Typical power..... < 1W.

Card - Network (RJ45)

- Number of ports..... 2.
- Connector..... RJ45, 10/100/1000 BASE-T.
- NTP requests/sec (max)..... 7,000
(all Ethernet ports combined).
- Management..... IPv4, IPv6.
- Mode..... Anycast, Multicast, Unicast.
- Max number of cards..... 2, that is to say 5 ports max.
(1 on the server + 2 per card).

Card - Network (SFP)

- Number of ports..... 2.
- Connector..... SFP - Giga Ethernet.
- Standards..... SX/LX compatible.
- NTP requests/sec (max)..... 7,000
(all Ethernet ports combined).
- Management..... IPv4, IPv6.
- Mode..... Anycast, Multicast, Unicast.
- Max number of cards..... 2, that is to say 4 SFP ports max.

Card - AFNOR

- Number of connections..... 2 outputs (independent).
- Type of signal..... Amplitude modulation.
- Connector..... Terminal block.
- Max. number of cards..... 4.
- Typical power..... < 1W.

Card - Impulse

- Number of connections..... 1 output.
- Type of signal..... 24 V $\Rightarrow$ (Min or 1/2 Min //).
- Connector..... Terminal block.
- Max. number of cards..... 4.
- Typical power..... 30W during the impulse.
2W on average.

Card - ASCII

- Number of connections..... 2 outputs (dependent).
- Connector..... Terminal block.
- Type of signal..... RS232/RS422/RS485.
- Type of message..... Standard coded time, GPS ZDA
GGA or programmable.
- Max. number of cards..... 4.

REFERENCES

Netsilon time server

- 907 900..... Netsilon 7 AC.
- 907 901..... Netsilon 7 DC.
- 907 902..... Netsilon 7 AC+DC.
- 907 903..... Netsilon 7 AC+AC.

Option cards

- 907 920..... Network card (RJ45 - 2 ports).
- 907 921..... Network card (SFP - 2 ports).
- 907 926..... ASCII card (2 outputs).
- 907 940..... AFNOR card (2 outputs).
- 907 942..... Impulse card (1 output).
- 907 944..... Current loop card (1 input + 1 output).

ACCESSORIES

- 907 034..... Bodet GPS + GLONASS synchronisation antenna.
- 907 044..... Bodet GLONASS synchronisation antenna.
- 907 047..... Bodet GPS synchronisation antenna.
- 927 230..... DHF transmitter AFNOR receiver.
- 927 241..... Secondary DHF transmitter.