



High accuracy time server,  
delivering multiple time codes  
Supporting NTP V4 / IPV6 / SNMP



## Internal Time Base

LEDI® NETWORK Time Server (TS) is equipped with internal time base allowing timekeeping in case of loss of synchronization.

- **TCXO:**  
Frequency stability:  $2.10^{-8}$  (0°C to 60°C)  
Ageing:  $1.5.10^{-9}$  / day

## Security and network protocols

- **Backup of configuration setting** in flash memory
- **Supervision via SNMP V3** or supervision software GT SCADA or Syslog
- **Remote configuration** via secured web page
- Configuration setting command prompt via **SSH**
- Firmware update via FTP or SCP
- **Compatible IP v4/v6** (compatible DHCP v4/v6)
- Configuration on Web interface via HTTP et HTTP(s)
- Secure access to web interface by identifier and password
- Authentication protocol and MD5 encryption
- Network communication ports can be disabled

## Specification

|   |   |
|---|---|
| <b>Power supply</b>                       | 110-250 VAC – 50/60Hz - type IEC 60320 defined C14                              |
| <b>Power cable</b>                        | IEC 60320 defined C13 / MALE SCHUKO 2 (EUROPE) & (Type F)*                      |
| <b>Certifications</b>                     | CE, EN62368(safety), EN 55032 (EMC transmission), EN 55035 (EMC immunity), ROHS |
| <b>Maximal consumption</b>                | 20 VA   |
| <b>IP</b>                                 | 31  |
| <b>MTBF</b>                               | 120 000 h   |
| <b>MTRR</b>                               | Mother board: 10 min<br>Display board: 5 min<br>Output board: 5 min             |
| <b>Weight</b>                             | 2,3 kg (standard configuration)   |
| <b>Dimensions</b>                         | Rack 19" 1U<br>482x44x266 mm (LxHxD)  |
| <b>Display</b>                            | 4 x 20 character LCD display with blue backlight                                |
| <b>Operating temperature / hygrometry</b> | -20 to 50°C / 0 to 90% HR (without condensing)                                  |
| <b>Storage temperature / hygrometry</b>   | -20 to 70°C / 10 to 85% HR  |

\*For other types of power cables, refer to the power cable reference table



## Key features

- **NTP/SNTP server output** included by default on RJ45
- **Plug and Play**
- **Multiple synchronization outputs** with different types of time codes
- **Independence and modularity of output boards**
- **Protection against time leap**
- **Alarm management via SNMP TRAP (V1, V2C and V3)**
- **Alarm management** via static relays and screw terminal for synchronization and power supply, as option
- **Time base and algorithm to ensure output accuracy**
- Time base and algorithm to ensure **output accuracy up to 100 ns in GPS synchronization**
- **Local or UTC time display on front panel**

## Configuration

- Remote Configuration and time setting via embedded web interface
- Automatic Time offset and DST on outputs
- IP Configuration by front panel keyboard
- Configuration file can be retrieved and uploaded via secured web interface
- Activating and deactivating configurations
- Auto-IP v4

## Synchronization inputs

- 1 synchronization input:**
- DCF 77kHz (Europe)
  - NTP Ethernet 10/100 base T
  - GPS (Accuracy < 100 ns)
  - GPS converter (3Gxx) (Accuracy < 1 µs)
  - AFNOR NFS 87-500 / IRIG B

## Synchronization outputs

- AFNOR NFS 87-500/IRIG B modulated (Accuracy < 20 µs)
- DCLS AFNOR NFS 87-500 and IRIG B (TTL/ RS 422) (Accuracy < 10µs)
- NTP/SNTP (V2, V3, V4) (Accuracy < 50 µs)
- ASCII RS485 + TOP
- ASCII RS232 + TOP
- Tops 1000 Hz
- Alarms (synchronization and power default)
- SMPTE/EBU
- Pulse or DCF24v

## Storage Conditions

| Conditions | Temperature  | Hygrometry   | maximum cumulated duration |
|------------|--------------|--------------|----------------------------|
| Extreme    | -20°C to 0°C | 10 to 85% HR | 48h                        |
| Extreme    | 40°C to 70°C | 10 to 85% HR | 48h                        |
| Normal     | 10°C to 40°C | 10 to 85% HR | 6 months                   |

The product must be lit for 4 hours every 3 months to keep its characteristics. see the user manual for more information

# LEDI® NETWORK TS

MASTER CLOCKS / TIME SERVERS / SOFTWARES / GNSS ELEMENTS

|   |   | ITEM CODE |   |   |   |  |   |
|---|---|-----------|---|---|---|--|---|
|   |   | 9220      |   | / |   |  |   |
| <b>SYNCHRONIZATION INPUT</b>  |   |           |   |   |   |  |   |
| (1) DCF 77 kHz – 2 points screw terminal block  | ■ | 8         | D |   |   |  |   |
| (1) GPS receiver (by GPS converter antenna) – 2 points screw terminal block   | ✱ | 8         | C |   |   |  |   |
| AFNOR NFS 87-500/IRIG B (Modulé 1kHz) – 2 points screw terminal block   | ■ | 8         | 8 |   |   |  |   |
| AFNOR NFS 87-500/IRIG B DCLS (TTL or RS 422) – 2 points screw terminal  | ■ | 8         | T |   |   |  |   |
| NTP 10/100 base T – RJ45 port   | ✱ | 8         | N |   |   |  |   |
| (1) GPS receiver – SMA connector  | ✱ | 9         | C |   |   |  |   |
| <i>(1) Antenna and cable to be ordered separately (see table below)</i>   |   |           |   |   |   |  |   |
| <b>POWER SUPPLY</b>   |   |           |   |   |   |  |   |
| 110-250 VAC – 50/60Hz   | ■ | 0         |   |   |   |  |   |
| <b>BACKUP BATTERY POWER</b>   |   |           |   |   |   |  |   |
| Backup battery power NiMh (2h max.)   | ■ |           |   |   | 1 |  |   |
| Extended Backup battery power NiMh (4h max.)  | ✱ |           |   |   | 2 |  |   |
| <b>(2) PULSE OUTPUT OPTION</b>  |   |           |   |   |   |  |   |
| Without   |   |           |   |   | 0 |  |   |
| 24V/1A Minute reversed parallel Pulse output – 2 points screw terminal block  | ✱ |           |   |   | 3 |  |   |
| 1/2 Minute reversed serie 48 volts Pulse output – 2 points screw terminal block   | ✱ |           |   |   | 5 |  |   |
| DCF24v (on request) – 2 points screw terminal block   |   |           |   |   | - |  |   |
| <b>(2) SYNCHRONIZATION OUTPUT OPTION</b>  |   |           |   |   |   |  |   |
| (3) 1 x NTP V4/SNTP – RJ45 port   | ■ |           |   |   |   |  | K |
| 1x ASCII RS232 output – DB9 port + 1x alarm contact output – 2 points screw terminal block (synchronization or power supply defect) | ■ |           |   |   |   |  | G |
| 4x Tops 1000 Hz outputs – 8 points screw terminal block   | ■ |           |   |   |   |  | H |
| 2x AFNOR NFS 87-500/IRIG B outputs (Modulated 1kHz) – 4 points screw terminal block – recommended cable telecom pair 9/10 SYT1      | ■ |           |   |   |   |  | B |
| 1x ASCII RS 485 – DB9 port + TOP – 4 points screw terminal block  | ■ |           |   |   |   |  | R |
| 1x ASCII RS 232 – DB9 port + TOP – 4 points screw terminal block  | ■ |           |   |   |   |  | A |
| 2x NFS 87-500/IRIG B DCLS (TTL / RS 422) – 4 points screw terminal block  | ■ |           |   |   |   |  | T |
| 1x SMPTE / EBU module output format SMPTE LTC12M –1999 and EBU/ UER LTC 3097 – 3 points XLR connector                               | ■ |           |   |   |   |  | S |
| Blackburst / Glenlock synchronization input – BNC Connector   | ■ |           |   |   |   |  | U |

(2) 1 pulse output max + 2 other outputs OR 3 synchronization outputs (maximum)  
 (3) 1 NTP output max.

| DCF ANTENNA for Server Ref. 92208/D            | ITEM CODE |
|--|-----------|
| DCF Radiosynchronization Antenna + 4m cable    | 3D6       |
| GPS Converter ANTENNA for Serveur Ref. 92208/C | ITEM CODE |
| GPS Antenna (converter) with 25m cable         | 3G25-V4   |
| GPS Antenna (converter) with 50m cable         | 3G50-V4   |
| GPS Antenna (converter) with 100m cable        | 3G100-V4  |

| GPS ANTENNA for Server Ref. 92209/C                      | 92225 | /  |    |  |  |  |   |
|--|-------|----|----|--|--|--|---|
| <b>Antenna Type</b>                                      |       |    |    |  |  |  |   |
| GPS (Hardmount) – to be used only with 25m and 50m cable | ■     | Q  |    |  |  |  |   |
| GPS  | ■     | G  |    |  |  |  |   |
| <b>Cable Type (LSZH*)</b>                                |       |    |    |  |  |  |   |
| LMR 240 cable (25 m and 50 m cable)                      | ■     | 3  |    |  |  |  |   |
| LMR 400 cable  | ■     | 4  |    |  |  |  |   |
| <i>* Low smoke, no halogen.</i>                          |       |    |    |  |  |  |   |
| <b>Number of Cable</b>                                   |       |    |    |  |  |  |   |
| 1 Cable  | ■     | 1  |    |  |  |  |   |
| <b>Cable length</b>                                      |       |    |    |  |  |  |   |
| 25 m   | ■     | 25 | 00 |  |  |  |   |
| 50 m   | ■     | 50 | 00 |  |  |  |   |
| 80 m   | ■     | 80 | 00 |  |  |  |   |
| <b>OPTIONS</b>   |       |    |    |  |  |  |   |
| Lightning Surge Arrestor (+ 10 meters cable)             | ■     |    |    |  |  |  | P |
| Inline Amplifier   | ■     |    |    |  |  |  | A |