

Industriefunkuhren



Technical Manual

4475LAN-7271
DIN Rail TimeServer
for NTP / SINEC H1

- with AC power supply with wide input range
- two independent serial interfaces
- DCF77 antenna simulation
- IRIG-B output - analogue and digital
- three programmable pulse outputs (optical coupler)

Optional: Output of pulses and serial data strings via fiber optic (ST)

ENGLISH

Version: 01.00 – 16.04.2010

Symbols and Characters



Operational Reliability

Disregard may cause damages to persons or material.



Functionality

Disregard may impact function of system/device.



Information

Notes and Information.



Safety regulations

The safety regulations and observance of the technical data serve to ensure trouble-free operation of the device and protection of persons and material. It is therefore of utmost importance to observe and compliance with these regulations.

If these are not complied with, then no claims may be made under the terms of the warranty. No liability will be assumed for any ensuing damage.



Safety of the device

This device has been manufactured in accordance with the latest technological standards and approved safety regulations

The device should only be put into operation by trained and qualified staff. Care must be taken that all cable connections are laid and fixed in position correctly. The device should only be operated with the voltage supply indicated on the identification label.

The device should only be operated by qualified staff or employees who have received specific instruction.

If a device must be opened for repair, this should only be carried out by employees with appropriate qualifications or by *hopf* Elektronik GmbH.

Before a device is opened or a fuse is changed all power supplies must be disconnected.

If there are reasons to believe that the operational safety can no longer be guaranteed the device must be taken out of service and labelled accordingly.

The safety may be impaired when the device does not operate properly or if it is obviously damaged.

CE-Conformity



This device fulfils the requirements of the EU directive 89/336/EWG "Electromagnetic compatibility" and 73/23/EWG "Low voltage equipment".

Therefore the device bears the CE identification marking (CE = Communautés Européennes = European communities)

The CE indicates to the controlling bodies that the product complies with the requirements of the EU directive - especially with regard to protection of health and safety for the operator and the user - and may be released for sale within the common markets.

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1 General

The DIN rail TimeServer for NTP / SINEC H1 consists of the following components:

1. AC wide range power supply unit
2. Subsystem Model 4475 (optionally available with FO output)
3. NTP / SINEC H1 LAN board 7271 DIN rail (Version for DIN rail)

There is an appropriate technical manual for each of those single components available (Version 16.04.2010):

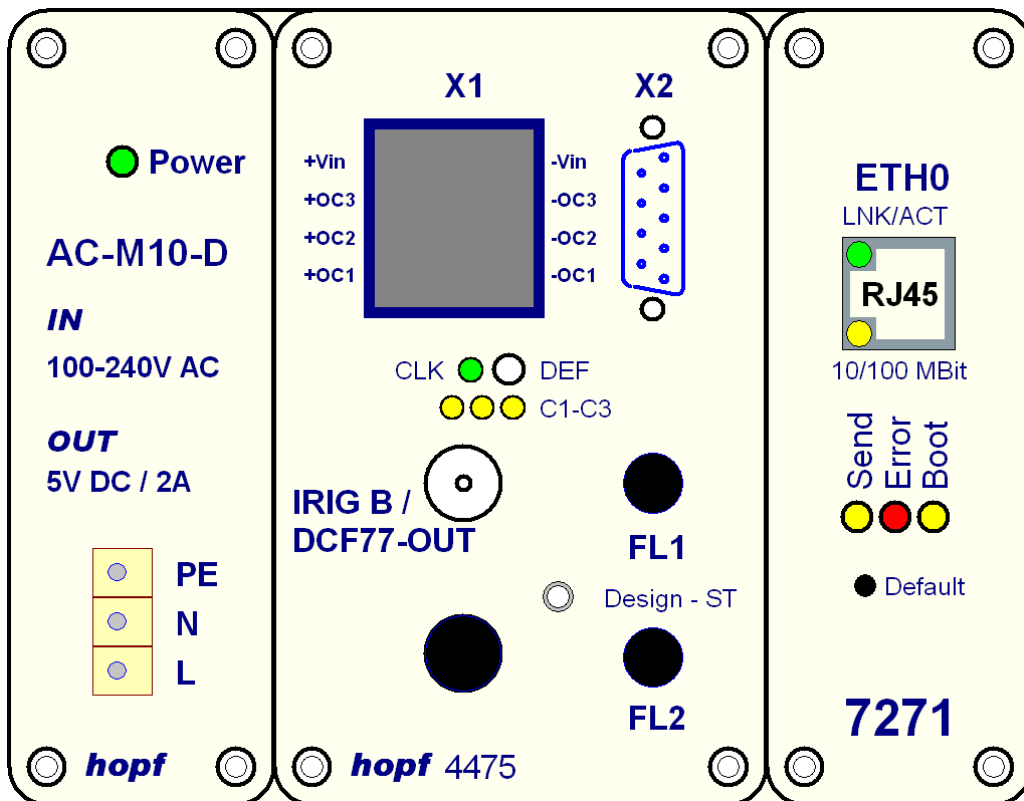
- Ref. 1) **Technical Manual 1:** Power Supply Unit
Description: AC Power Supply AC-M10-D
File name: e_4465AC_4475AC_4800AC_6870AC_6875AC_Netzteil_0102.pdf
Version: 01.02
- Ref. 2) **Technical Manual 2:** Subsystem Module 4475
Description: Subsystem Model 4475
File name: e4475_0500.pdf
Version: 05.00
- Ref. 3) **Technical Manual 3:** LAN Board 7271
Description: NTP/SINEC H1 LAN Board - DIN-Rail Module 7271
File name: e7271-7272_0503.pdf
Version: 05.03

2 Principle of Function

The integrated power supply unit AC-M10-D supplies the module 4475 and the NTP / SINEC H1 LAN board 7271 with the required operating voltage.

The necessary time information in form of serial data telegram and highly accurate PPS signal will be transmitted from the DIN Rail Module 4475 to the NTP / SINEC H1 LAN board 7271.

The cyclic data transmission between module 4475 and NTP / SINEC H1 LAN board can be controlled by the SEND-LED.



Type of Housing 6 (L = 175.0 mm; W = 135.0 mm; Clip = 80.0 mm)

3 Requirements for Commissioning of 4475LAN-7271

Configuring the **Subsystem Model 4475** for **NTP / SINEC H1 LAN Board 7271** it is necessary to:

- Activating the function by the *hopf* company
- Hardware/Firmware: All devices **FG4475xx** with **firmware version 05.00** and higher
- Remote Software: **HMC** version 01.06 and higher
HMC driver '*hopf4475_05xx_RS232_v01xx.drv*'
- Web Browser: Internet Explorer, Mozilla Firefox, Opera, etc.



If the required HMC driver '*hopf4475_v05xx_RS232v01xx.drv*' is not installed in the HMC, it can be installed separately
(**HMC** menu: Devices ⇒ Driver Management ⇒ Drivers Add ...)

4 Commissioning 4475LAN-7271

- Mounting of unit (see **Technical Manual 1: Power Supply Unit**)
- Connect synchronisation source with Module 4475
(see **Technical Manual 2:- Subsystem Model 4475**)
- Connect unit to mains voltage
(see **Technical Manual 1: Power Supply Unit**)
- Set basis parameters of Subsystem 4475
(see **Technical Manual 2: Subsystem Model 4475**)
- Check synchronisation of Module 4475
(see **Technical Manual 2: Subsystem Model 4475**)
- 4475LAN-7271 extended Configuration for NTP / SINEC H1 LAN Board 7271:
 - Enter LAN parameter (IP address, gateway and net mask) for **ETH0** interface of NTP / SINEC H1 LAN board 7271
- Configuring the NTP / SINEC H1 LAN Board 7271 (can be found in the **Technical Manual 3: LAN Board 7271**).



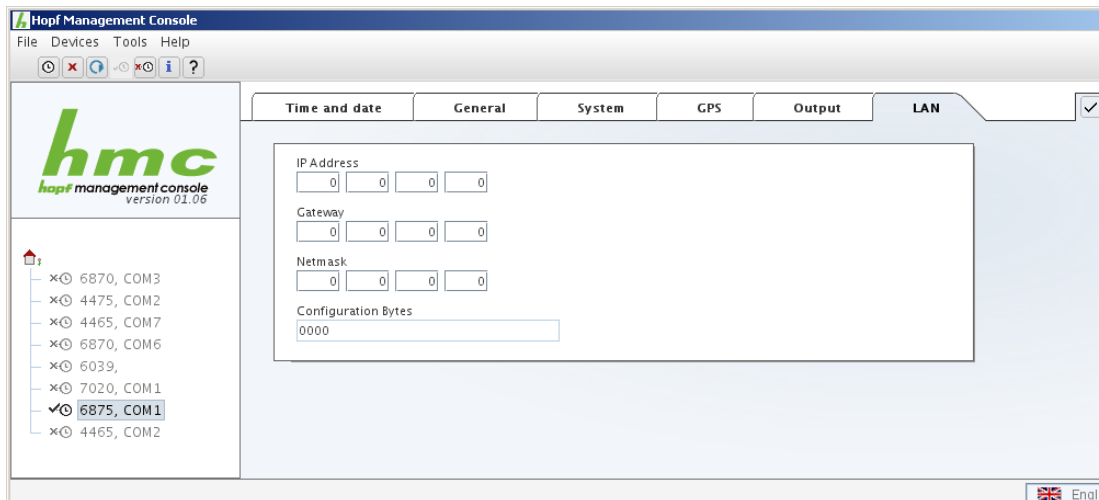
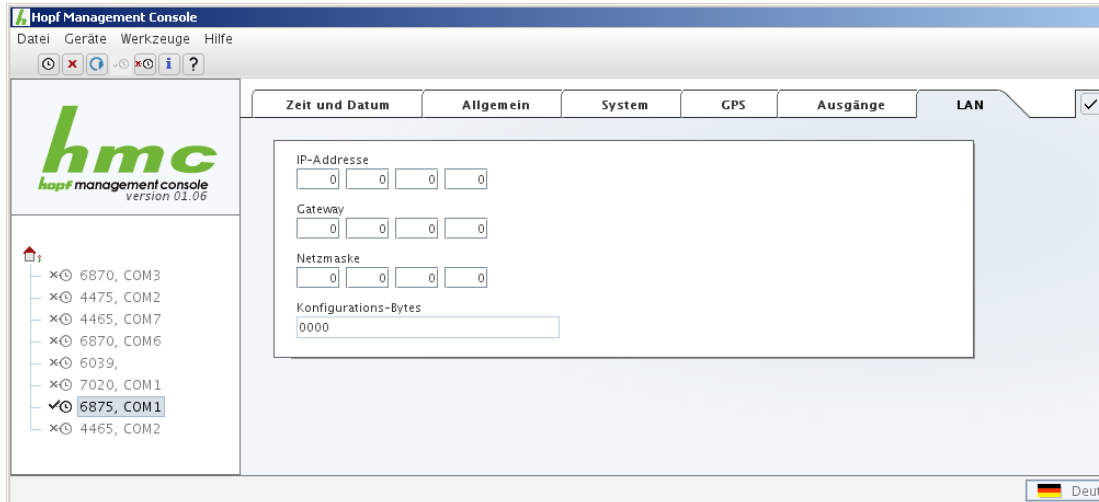
The DIP switch DS1 setting is fixed for NTP / SINEC H1 LAN Board 7271

- Set up NTP / SINEC H1 LAN Board as NTP server in the NTP Client/Server PCs or systems

5 Configuration the LAN Parameter of LAN Board 7271

5.1 Network Basis Parameterisation via Basis System

Setting and reading of LAN parameter (**IP-Address**, **Gateway-Address**, **Netmask** and **Configurations-Bytes**) for the **ETH0** interface of the NTP / SINEC H1 LAN board 7271 is processed via the **"LAN"**- menu of the HMC for Module 4475:



Activation of the DHCP modes of the NTP / SINEC H1 LAN board 7271 is selected by setting the IP-Address **>000.000.000.000<** (no valid IP-Address).

Static IPv4-Address

Input of the IPv4-Address is performed in four (4) digits adjustable from 000 to 255, separated by a point (.), three-digit input (eg: 2 ⇒ 002).

An implausible input (such as 265) processes INPUT ERROR and the complete input is cancelled.

DHCP / Static IP-Address Distribution

For using DHCP the IP-Address >000.000.000.000< (no valid IP-Address) should be set.

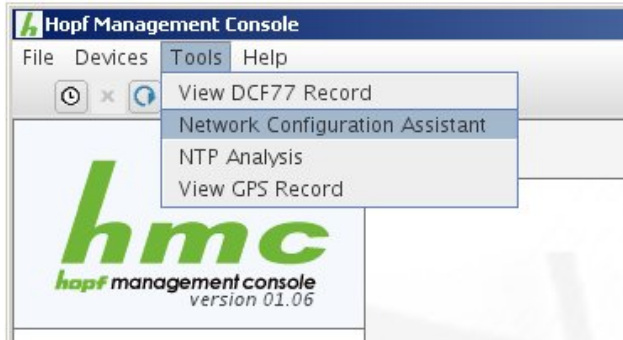
All other settings are interpreted as static IP-Address.

The **Configurations-Bytes** allow different settings. Currently no functions are included. Due to compatibility reasons the setting should be "0".

5.2 Network Parameter Configuration via HMC

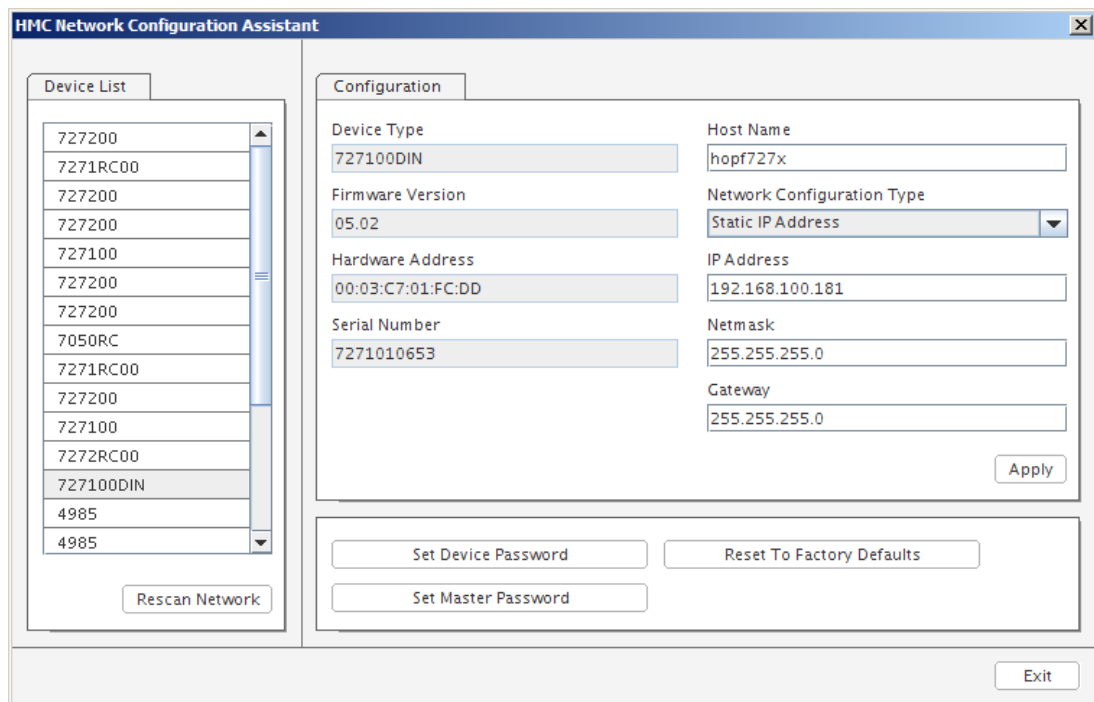
After connecting the system to the power supply and creating a network connection to the NTP / SINEC H1 LAN Board 7271, the base LAN parameter can be configured. The extended configuration (**WebGUI**) of the NTP / SINEC H1 LAN Board 7271 should be adjusted via a browser.

The basis LAN parameters are set via the **HMC** integrated **Network Configuration Assistant**.



After a successful start of the **HMC Network Configuration Assistant** and completed search of the *hopf* LAN Modules, the configuration of the base LAN parameters can be done.

The NTP / SINEC H1 LAN Board 7271 is listed in the **Device List** as **727100DIN** (**Device Type** in the **Configuration**). The determination of different *hopf* LAN Modules of the same type is made via **Hardware Address**.



For an extended configuration (**WebGUI**) of the NTP / SINEC H1 LAN Board 7271 via a browser the following base parameters are mandatory:

- **Host Name** ⇒ e.g. hopf727x
- **Network Configuration Type** ⇒ e.g. Static IP Address
- **IP Address** ⇒ e.g. 192.168.100.181
- **Netmask** ⇒ e.g. 255.255.255.0
- **Gateway** ⇒ e.g. 192.168.100.1



The **Host Name** should only consist of alphanumeric characters (letters and numbers). The first character should be a letter.



The network parameters for the NTP / SINEC H1 LAN Board 7271 should be pre-determined with the network administrator.

After entering the above mentioned LAN parameters they needed to be transferred to the NTP / SINEC H1 LAN Board 7271 ⇒ Button **Apply**. At the same time the entry of the **Password is requested**:



Default setting of the password of the NTP / SINEC H1 LAN board 7271 **<device>**. Confirm input by clicking on the button **OK**.

An acceptance of the inputs can be verified by releasing another scan of the network by pressing the button **Rescan Network**. After selecting the required *hopf* LAN Module the new parameter are displayed.