8029NTS

Standard

Because every fraction of a second counts ▪

The compact way of network synchronization

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Unbeatably compact in precision and performance

▶ The **completely maintenance-free and highly-precise** network time server for DIN Rail mounting is the ideal synchronization solution of networks and industrial applications.

▶ 1 independent NTP time server is integrated by default; on request your system can be equipped with 1 additional independent NTP time server **or** with the following signal output modules

      * IRIG-B (analogue / digital)
      * DCF77 pulse
      * cyclic pulses

▶ **simple, complete and safe operation and parameterisation** (password protection and activatable https protocol) via a **password-protected WebGUI** (optional SSH/Telnet)

▶ **current status bar** easily available **via WebGUI**

▶ important information for implementing and about operating status available via **status-LEDs** at the front panel (if WebGUI-access is not available)

▶ improved security ensured by

      * symmetric keys   * access restriction
      * autokey   * deactivation of non-used network protocols

▶ **SyncOFF Timer** (reception failure bypassing) for accurate operation even based on difficult reception conditions

▶ **synchronization status output** via optical coupler

▶ **GPS antenna circuit** with **potential isolation** and **antenna circuit control** (supervision if antenna input is open or short-circuited)

▶ By GPS time synchronization and the worldwide used time protocol NTP the time server 8029NTS turns into a **highly accurate NTP Stratum 1 time server**

▶ synchronization of **IEC 61850** compatible devices via NTP/SNTP

▶ closed aluminium profile housing for easy and horizontal **DIN Rail mounting** according to DIN EN 60715 TH35

▶ **automatic switch-over of summer/winter time**

▶ **high freewheel accuracy** provided by GPS supported regulation of the internal quartz basis

▶ **redundant multiple validation** of the synchronization signal for an error-free and leap-free signal evaluation

▶ maintenance-free, **buffered backup clock** for at least three days

▶ **automatic handling of the leap second**

The highly-precise network time server 8029NTS is the perfect convenient solution regarding time synchronization. Companies working in these fields trust our space-saving and at time of purchase expandable solution:

▶ Energy supply
▶ Industry
▶ Transportation and Infrastructure
▶ Automation
▶ Building technology
▶ Data center
▶ Public sector

compact and flexible

The network time server 8029NTS combines two positive attributes in one compact aluminium profile housing:

▶ extensive options of configuration   (see page 4)
▶ scores of functions   (see page 5)

Due to these two attributes you can specify the functions of your 8029NTS time server in your order.

Please let us know your requirements – we would be glad to forward an individual offer to you!

front view 8029NTS with 2 mutually independent NTP time server, 2 USB-ports and status-LEDs

The modular 8029NTS will enable you to assemble an individual time synchronization solution based on your specific requirements.

On purchase you decide on,

which external time source you want to work with:

▶ GPS as time source applicable worldwide (immediately available)

▶ IRIG-B as a group of time codes converting time into a continuous binary data stream (on demand)

which power supply should be configured for you:

▶ 100 – 240V AC

▶ 110 – 250V DC

▶ 24V DC

▶ 48V DC

which type of crystal should be integrated in your system:

▶ standard crystal

▶ VCTCXO crystal

which antenna set you need for using the 8029NTS as a GPS time server

▶ no antenna set necessary

▶ GPS antenna set consisting of

* 25 m cable without indirect lightning protection (set 01)
* 25 m cable with indirect lightning protection   (set 02)
* 100 m cable with indirect lightning protection   (set 03)
* 50 m cable with indirect lightning protection   (set 04)
* 200 m cable with indirect lightning protection   (set 05)
* 5 m cable without indirect lightning protection
  + GPS mini-antenna   (set 06)

which additional signal output modules (incl. physical signal output and plug-in connection) you optionally want to have integrated in your system. 1 independent NTP time server is integrated in your system by default – you can specify on purchase if you need an extension slot to be equipped with the following optional signal output modules:

extension slot (optional)

option 1:
You can additionally integrate 1 independent NTP time server in your system.

option 2:
You can use the extension slot to be equipped with the following additional signal output modules:

* IRIG-B (analogue / digital)
* DCF77 pulse
* cyclic pulses

configure your
individual 8029NTS @

www.hopf.com/en/8029nts.html

Regarding option 2 you can also specify the kind of physical signal output

      * electrical, signal level TTL
      * electrical, signal level 5V active
      * electrical, signal level 24V active
      * electrical, signal level RS422
      * optical, multimode fiber optic $\lambda = 820$nm

as well as the suitable kind of plug-in connection

      * BNC connector
      * plug-in screw terminal
      * F-ST (bayonet nut coupling)

Please note: If you choose to equip your system with 1 additional independent NTP time server / with additional signal output modules mentioned above, the application will be delivered with an extended mounting rail:
W135mm x H105mm x D130mm

The network time server 8029NTS is ideal for everyone searching compact solutions with scores of functions.

The functions of your time server 8029NTS:

interfaces:

- ▶ 1 x Ethernet 10/100 Mbit autosensing via RJ45
- ▶ 1x USB-Port for update and recovery function
- ▶ 1 x optical coupler for synchronization status output
- ▶ **optional**: additional signal output modules

  * 1 additional independent NTP time server can be integrated
  * IRIG-B (analogue / digital)
  * DCF77 pulse
  * cyclic pulses

time protocols:

- ▶ RFC5905 NTP / SNTP server version 4

  * Broadcast / Multimode
  * client for additional NTP server (redundancy)
  * symmetric key / autokey
  * access restriction

- ▶ RFC-868 TIME server
- ▶ RFC-867 DAYTIME server

configuration channels:

- ▶ http / https WebGUI (Browser Based)
- ▶ Telnet
- ▶ SSH
- ▶ **hmc** (**hopf** Management Console / network configuration)

network protocols:

- ▶ http / https
- ▶ DHCP
- ▶ Telnet
- ▶ SSH
- ▶ NTP / SNTP

front view 8029NTS with 1 NTP time server integrated by default, 2 x IRIG-B digital (plug-in screw terminal) and 2 x IRIG-B analogue (BNC connector), power supply: 18-36V DC

additional features:

- ▶ http / https with easy-to-handle web-interface and configurable security banner
- ▶ update function via TCP/IP

- ▶ Fail-safe
- ▶ Watchdog function
- ▶ management of the system

Expand your system

with activatable functions in arrears:

▶ Alarming for supervising the system

　　* SNMP (MIB II, Private Enterprise MIB)
　　* e-mail-notification
　　* syslog

▶ Routing for entering static routes based on special network requirements

▶ SINEC H1 time datagram for output via the LAN-interface

front view 8029NTS with 1 NTP time server integrated by default, 1 USB-port, 2 x signal output (IRIG-B, DCF77 or cyclic pulses) via fiber optic, power supply: 36-76V DC

We would be glad to forward an individual offer to you!
Please let us know your requirements via **info@hopf.com**.

You can easily and quickly provide us with all the necessary information by using the 8029NTS-configurator (www.hopf.com/en/8029nts.html)

We are looking forward to receiving your inquiry!