



Time Reference Systems

Made in Germany



Because every fraction of a second counts. ■

About us



hopf Elektronik GmbH was founded in 1972 and is your reliable and competent partner in the field of time synchronization. For more than 40 years **hopf** Elektronik GmbH has been developing, manufacturing and selling highly-precise time reference systems.

Our in-house development, production and sales as well as our lean organization and short lines of communication guarantee the consistent high quality of our products.

Our innovative products are used by well-known companies across the globe to implement highly-precise signals for the synchronization and time stamping of industrial applications, computer networks, industrial networks or to successfully run complex industrial projects.

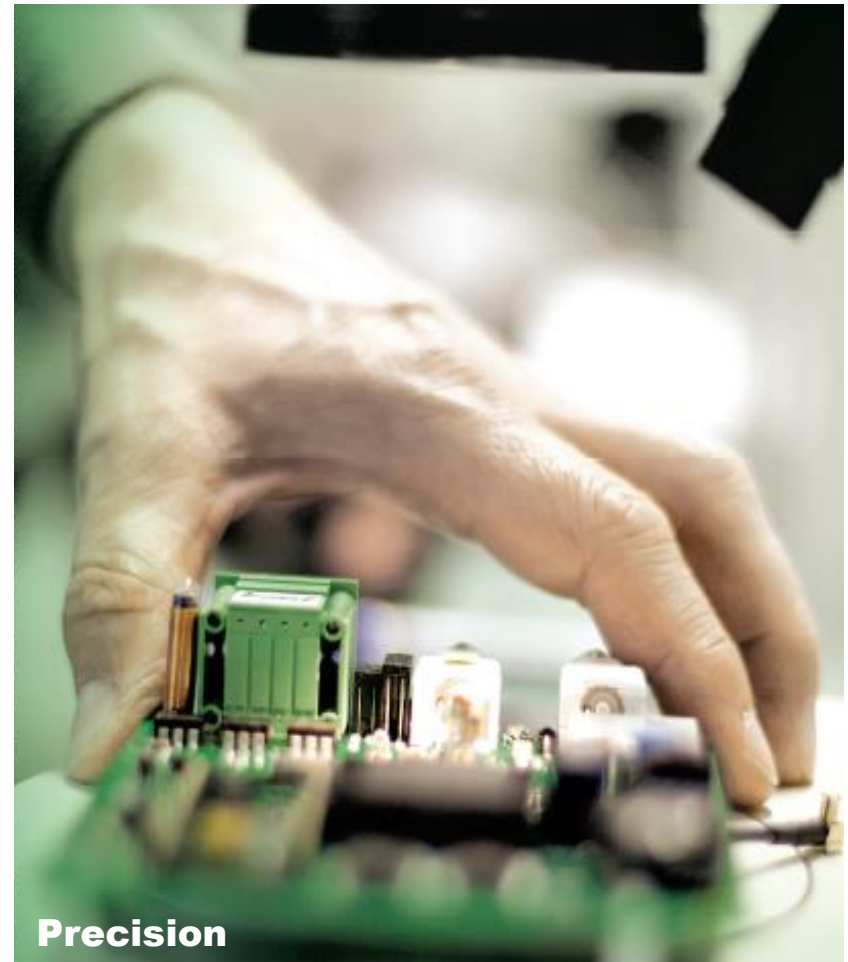
By constant communication with our customers, continuous cooperation and support in all matters and through a network of like-minded partners, we remain at the cutting edge of customer needs worldwide.

Whether we are talking about the Metro in Guangzhou or Bangkok or the pipeline in Ingolstadt, whether our business partner is ABB, Siemens, Honeywell or YOU:

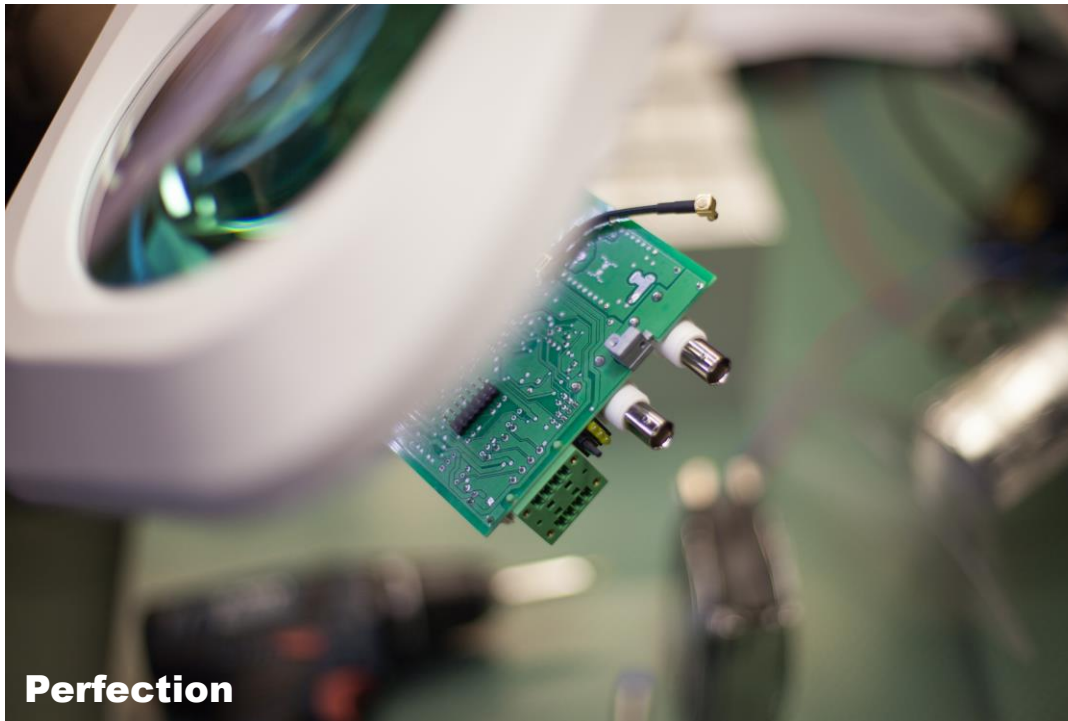
**Our customers are our partners –
whatever we can do for them – we do!**
And that's quite a lot after more than 40 years.

Key competences

- **Industrial time reference systems**
master and submaster clock systems for the output of highly-precise signals for synchronization and time stamping of industrial applications, protection relays, SCADA systems and networks
- **Network time server appliances**
for accurate synchronization of computer and automation networks (e.g. IEC 61850)
- **Signal and protocol converters**
for distribution and conversion of electrical and optical signals or time protocols
- **Antennas and accessories**
for receiving highly-precise time signals from terrestrial and GNSS-based signal sources
- **Analogue clocks and digital displays**
for displaying information about time and date



Our claim



- Maximum Quality
- High Reliability
- Well-balanced cost-benefit ratio
- Flexible and highly customizable solutions
- Excellent customer service and support based on more than 40 years of experience



Selected solutions

Because every fraction of a second counts.
The flexible way of time synchronization



8030HEPTA Network Time Server



Network time server with up to 5 isolated and mutually independent network time server modules

- **1 network time server module integrated into the base system by default:**

- 2 ethernet interfaces
10/100/1000 Mbit/s autosensing
- Network Time Protocol Version 4 (RFC5905)

- **2 extension slots for isolated and mutually independent modules for enhanced security:**

- Network time server 8030NTS/M
- IRIG-B modulated / AM
- IRIG-B demodulated / DCLS
- PPS / cyclic pulses
- DCF77 (77,5kHz / pulse)
- Serial time datagram

- **Integrated features:**

- System monitoring / Alarming
- Static Routing Table
- IEEE 802.1Q Tagged VLAN
- Network Interface Bonding / Teaming

- **Optional activations:**

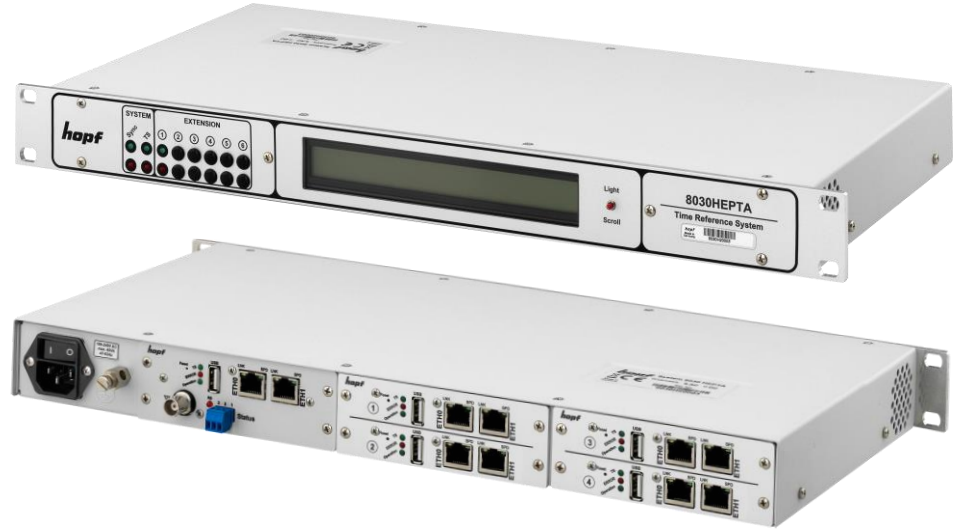
- IEC 62439-3 Parallel Redundancy Protocol (PRP)
- IEEE 1588 Precision Time Protocol (PTP)
- SIMATIC NET SINEC H1 time datagram

- **Time source options:**

- GPS
- GNSS
- IRIG-B
- NTP / PTP

- **Power supply options:**

- 100 – 240VAC
- 100 – 250VDC, redundant
- 18 – 36VDC, redundant
- 36 – 76VDC, redundant



8030NTS Network Time Server

Network time server with up to 2 isolated and mutually independent network time server modules

- **1 network time server module integrated into the base system by default:**

- 2 ethernet interfaces
10/100/1000 Mbit/s autosensing
- Network Time Protocol Version 4 (RFC5905)

- **1 extension slot for isolated and mutually independent modules for enhanced security:**

- Network time server 8030NTS/M
- IRIG-B modulated / AM
- IRIG-B demodulated / DCLS
- PPS / cyclic pulses
- DCF77 (77,5kHz / pulse)
- Serial time datagram

- **Integrated features:**

- System monitoring / Alarming
- Static Routing Table
- IEEE 802.1Q Tagged VLAN
- Network Interface Bonding / Teaming

- **Optional activations:**

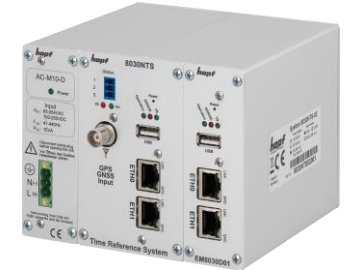
- IEC 62439-3 Parallel Redundancy Protocol (PRP)
- IEEE 1588 Precision Time Protocol (PTP)
- SIMATIC NET SINEC H1 time datagram

- **Time source options:**

- GPS
- GNSS
- IRIG-B
- NTP / PTP

- **Power supply options:**

- 100 – 240VAC
- 100 – 250VDC
- 18 – 36VDC
- 36 – 76VDC



8029HEPTA Network Time Server

GPS network time server with up to 5 isolated and mutually independent network time server modules

- **1 network time server module integrated into the base system by default:**

- 1 ethernet interface
10/100 Mbit/s autosensing
- Network Time Protocol Version 4 (RFC5905)

- **2 extension slots for isolated and mutually independent modules for enhanced security:**

- Network time server 8029NTS/M
- IRIG-B modulated / AM
- IRIG-B demodulated / DCLS
- PPS / cyclic pulses
- DCF77 (77,5kHz / pulse)
- Serial time datagram



- **Optional activations:**

- System monitoring / Alarming
- Static Routing Table
- IEEE 802.1Q Tagged VLAN
- SIMATIC NET SINEC H1 time datagram

- **Power supply options:**

- 100 – 240VAC
- 100 – 250VDC
- 18 – 36VDC
- 36 – 76VDC

8029NTS Network Time Server

GPS network time server with up to 2 isolated and mutually independent network time server modules

- **1 network time server module integrated into the base system by default:**

- 1 ethernet interface
10/100 Mbit/s autosensing
- Network Time Protocol Version 4 (RFC5905)

- **1 extension slot for isolated and mutually independent modules for enhanced security:**

- Network time server 8029NTS/M
- IRIG-B modulated / AM
- IRIG-B demodulated / DCLS
- PPS / cyclic pulses
- DCF77 (77,5kHz / pulse)
- Serial time datagram

- **Optional activations:**

- System monitoring / Alarming
- Static Routing Table
- IEEE 802.1Q Tagged VLAN
- SIMATIC NET SINEC H1 time datagram

- **Power supply options:**

- 100 – 240VAC
- 100 – 250VDC
- 18 – 36VDC
- 36 – 76VDC



6890 Network Time Server

Network time server with GNSS receiver for GPS, GLONASS, Galileo, and BeiDou with an unbeatable price / performance ratio

- **Network time server in compact housing for DIN rail mounting:**
 - 2 ethernet interfaces 10/100/1000 Mbit/s autosensing
 - Network Time Protocol Version 4 (RFC5905)
- **Integrated features:**
 - System monitoring / Alarming
 - Static Routing Table
 - IEEE 802.1Q Tagged VLAN
 - Network Interface Bonding / Teaming
- **Redundant power supply:**
 - PoE (Power over Ethernet)
 - 24VDC
- **Optional activation:**
 - IEC 62439-3 Parallel Redundancy Protocol (PRP)



8024 Clock System


Cost-effective clock system with GPS or GNSS receiver module and expansion slot for output modules

- **Serial time datagrams**
 - **hopf** Standard (6021)
 - **hopf** Master/Slave
 - **hopf** Binär
 - IEC-103 (ASDU Type 6)
 - Trimble Time String (TSIP)
 - SINEC H1 Extended (Meinberg Standard String)
 - SAT 1703 / SICAM RTU
 - ABB Melody
 - ABB Freelance
- **IRIG-B**
 - modulated / AM (B12x)
 - demodulated / DCLS (B00x)
 - IEEE 1344 / IEEE C37.118
 - AFNOR NF S87-500
- **DCF77** (77,5kHz / pulse)
- **PPS**, cyclic pulses
- **Power supply options:**
 - 100 – 240VAC
 - 100 – 250VDC
 - 18 – 36VDC
 - 36 – 76VDC
- **Time distribution over multimode fiber optic:**
 - FO Star Coupler 4811
 - Standard models available with 4 or 7 signal outputs
 - FO signal converter 4800
 - Standard models available with 2/4/6 signal outputs
 - 5V active / TTL or 24V active
 - BNC or screw terminal



FO multimode

Unparalleled flexibility

Q  Made
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U Germany
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Selected project references

- | | |
|--|---------------|
| ■ Seattle City Light | USA |
| ■ Cape Canaveral | USA |
| ■ Shenzhen Western Power Plant | China |
| ■ Metro Guangzhou | China |
| ■ Kowloon–Canton Railway Corporation (KCRC) | Hong Kong |
| ■ MRT Bangkok (รถไฟฟ้ามหานคร) | Thailand |
| ■ NTPC (राष्ट्रीय ताप विद्युत निगम लिमिटेड) | India |
| ■ National Air Traffic Control Services London | Great Britain |
| ■ European Space Operation Center (ESOC) | Germany |
| ■ Turów Power Plant | Poland |
| ■ TEIAS (Türkiye Elektrik İletim A.Ş.) | Turkey |
| ■ Australian and New Zealand Telecom | Australia |
| ■ ESKOM | South Africa |
| ■ Société Tunisienne de l'Electricité et du Gaz (STEG) | Tunesia |
| ■ KAHRAMAA (أكملت المؤسسة العامة القطرية للكهرباء والماء) | Qatar |
| ■ Oman Electricity Transmission Company SAOC (OETC) | Oman |
| ■ SOHAR Power (شركة صحار للطاقة) | Oman |
| ■ Rehab CCGT Power Plant | Jordan |
| ■ Dubai Electricity and Water Authority (هيئة كهرباء و مياه دبي) | UAE |
| ■ Ministry of Electricity and Water | Kuwait |
| ■ Ulubelu Geothermal Power Plant | Indonesia |



Global customer confidence



Certifications



CERTIFICATE

Quality Austria
has issued an IQNet recognized certificate that the organization:

hopf Elektronik GmbH
DE-58511 Lüdenscheid, Nottebohmstraße 41

for the following scope:
Time reference systems and electronic components
EAC: 29; 33; 35

has implemented and maintains a
QUALITY MANAGEMENT SYSTEM
which fulfils the requirements of the following standard

ISO 9001:2015

This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document

Issued on: 2019-12-09
Validity date: 2022-12-05
Quality Austria certified since: 2018-01-30

Registration Number: AT-20131/0

Signatures removed for security reasons



Alex Stoichitoiu
President of IQNet

Mag. Friedrich Khuen-Belasi
Authorised Representative
of Quality Austria



IQNet Partners*
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* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com



qualityaustria
Succeed with Quality

CERTIFICATE

Quality Austria - Trainings, Zertifizierungs und Begutachtungs GmbH awards this **qualityaustria** certificate to the following organisation:

This **qualityaustria** certificate confirms the application and further development of an effective



hopf Elektronik GmbH
DE-58511 Lüdenscheid, Nottebohmstraße 41

**OCCUPATIONAL HEALTH AND SAFETY
MANAGEMENT SYSTEMS -**
complying with the requirements of standard
ISO 45001:2018

Quality Austria - Trainings, Zertifizierungs und Begutachtungs GmbH is accredited according to the Austrian Accreditation Act by the BMWFV (Federal Ministry of Science, Research and Economy).

Quality Austria is accredited as an organisation for environmental verification by the BMLFUW (Federal Ministry of Agriculture, Forestry, Environment and Water Management).

Quality Austria is authorized by the VDA (Association of the Automotive Industry).

For accreditation registration details please refer to the applicable decisions or recognition documents.

Quality Austria is the Austrian member of IQNet (International Certification Network).

Dok. Nr. FO_24_008

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Time reference systems and electronic components

The validity of the **qualityaustria** certificate will be maintained by annual surveillance audits and one renewal audit after three years.

Registration No.: 00143/2

Date of initial issue: 24 January 2019

Valid until: 23 January 2022

Vienna, 24 January 2019

Quality Austria - Trainings, Zertifizierungs und Begutachtungs GmbH,
AT-1010 Vienna, Zelinkagasse 10/3

Signatures removed for security reasons

Konrad Scheiber
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Specialist representative



qualityaustria



Certifications



Get in touch!



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Xing: <http://www.xing.com/companies/hopfelektronikgmbh>

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