



Fig. 13/116 SNTP Master/Server 7SC80

Description

The hardware variant of the 7SC80 integrates an SNTP server and a GPS module.

With it the first substation hardened SNTP server with GPS receiver is available for precise time synchronization for all SIPROTEC 4/5 protective relays and all other SNTP-capable devices, e.g. SICAM T/Q80 or 3rd-party products. The few configuration settings (e.g. IP-address) will be done with DIGSI 4.

With additional 12 binary inputs and 8 binary outputs included.

The communication redundancy protocols RSTP/PRP/HSR and IEC 61850 are supported completely. With these features the SNTP Server with optical interfaces can be operated directly as part of SIPROTEC ring networks.

A GPS antenna kit with antenna, mounting and 25 m cable is available separately.

Features

- External GPS antenna kit with flat roof/wall mounting, 25 m cable RG59 and adapter cable BNC/SMB is available separately
- GPS-antenna interface (SMB-connector)
- USB-Port for configuration with DIGSI 4
- Default equipped with 2 electrical Ethernet ports RJ45
- Dual armed connection in Active-Standby configuration
- Equipped with 2 optical Ethernet interfaces (optional)
- Detached operation possible, with single-mode interfaces up to 24 km
- Complete support of redundant ring structures with RSTP/PRP/HSR Protocol

- Stainless steel housing
- Fulfills EMC requirements in substations
- Extended temperature range -50 °C - +85 °C
- Robust against heavy GOOSE load in IEC 61850 networks
- Can be used as central data concentrator, e.g. recording of GOOSE messages
- Supports IEC 61850 Edition1 and Edition 2
- Integration in IEC 61850 substation controller (with max. 6 Clients)
- Integration in DIGSI 4 IEC 61850 system configurator
- Additional deployment for automation (CFC)
- Remote Access
- Optimized for use together with SIPROTEC devices and EA-Products

Hardware Interfaces

12 Binary inputs

- 8 and 4 inputs with common ground

8 Binary outputs

- All relays freely configurable

1 Live contact

- Changeover

Power supply/Battery voltage

- Auxiliary voltage DC 24/48 V, DC 60–250 V and AC 110–230 V ± 20 %

Ethernet interface RJ45

- 2 x 100 Mbit/s

Optical interface (optional)

- LC-connector, 1300 nm multi-mode fiber 50/62.5 µm typ. distance up to 4 km

Optical interface (optional)

- LC- connector, 1300 nm single-mode fiber 9 µm typ. distance up to 24 km

USB-interface

- Configuration with DIGSI 4

SMB-connector

- To connect to an active GPS-antenna, 5 V supply, max. 50 mA

Housing

- Stainless steel, IP40 for surface mounting, access to battery without opening housing

EMC

- In accordance with SIPROTEC protective relays

Accessories/7SC80

SNTP Master/Server 7SC80

Applications

With the 7SC80 SNTP time server all Ethernet attached devices can be synchronized via SNTP protocol (Simple Network Time Protocol) at a millisecond accuracy base. The transmitted time is standardized UTC-time or local time. For this application all (protection) devices need a suitable Ethernet interface, e.g. in SIPROTEC 4 port B (EN100 module) is needed. The GPS antenna is mounted to an outside wall or flat roof with line of sight to the sky (order separately). The SNTP server will be mounted close to the antenna and will be typically supplied with the same auxiliary voltage as the protective relays. By using the optical interfaces, any EMC influence is excluded, even with long distances between SNTP Server and protective relays. By using the 7SC80 for time synchronization the typical accuracy is ± 1 ms. A dedicated network for time synchronization is not necessary. The deployment of 7SC80 in redundant SNTP time server scenarios is possible as well. The integration in DIGSI-projects can be done with the complete 7SC80 parameter set; the usage of SNTP.ICD files is no longer necessary. In the protective relays the time source has to be adjusted to „Ethernet NTP“. Local time settings, e.g. summer/winter time switchover or time offset, can be considered as well.

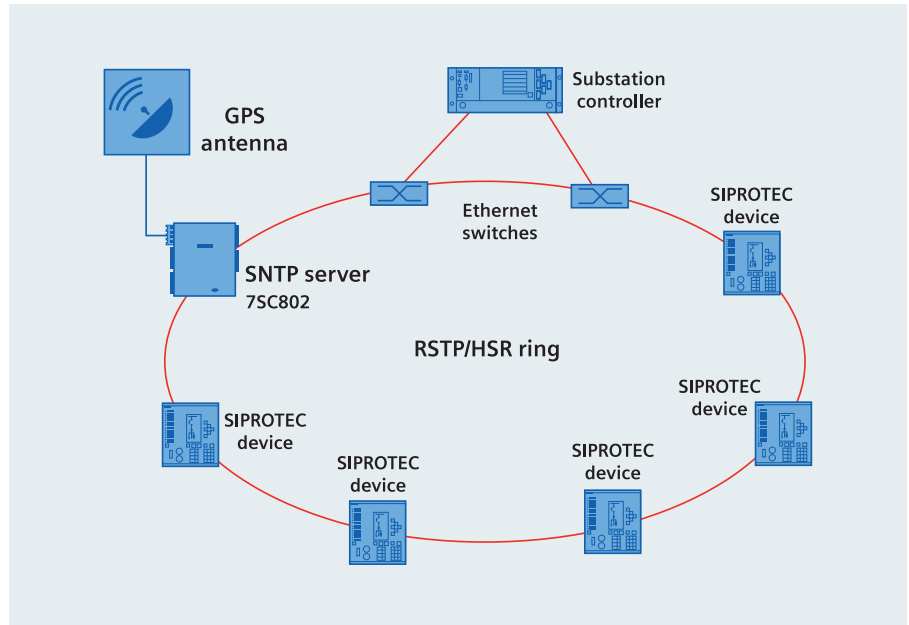


Fig. 13/117 Example of a redundant integration of a 7SC80 SNTP server in an optical SIPROTEC ring network

Selection and ordering data

Description	Order No.
SNTP Master/Server 7SC80	7SC8022- <input type="checkbox"/> AB97-3FNO-L0 <input type="checkbox"/>
Rated auxiliary voltage	
DC 60 V to 250 V; AC 115 V; AC 230 V	1
DC 24 V/48 V	2
System interface	
100 Mbit Ethernet, electrical, 2 x RJ45 connector	R
100 Mbit Ethernet, with integrated switch, optical, 2 x LC connector multi-mode	S
100 Mbit Ethernet, with integrated switch, optical, 2 x LC connector single-mode 24 km	T
GPS antenna kit	7XV5663-0AA00
Indirect lightning protection	7XV5664-0LA00