

Reliable Power Starts with Precision Timing!

Time Sync Hub (TSH-100 / TSH-200)

Modern monitoring solutions rely on high-quality data to improve efficiency, reduce downtime and ensure business performance. The key to high-quality data is a common time baseline and precise time-stamped data. Accurate time-stamped data ensures updates or changes to the power system are based on solid and reliable data.

The Trystar® Time Sync Hub (TSH-100 / TSH-200) supplies accurate time synchronization for power system devices such as Sequence of Events Recorders (SERs), power meters, protective relays, transfer switches, UPSs, PLCs and other devices used across your power distribution system.

Both Time Sync Hub models receive time input over an Ethernet network using PTP (Precision Time Protocol) or NTP (Network Time Protocol) to provide accurate time and date information essential for time synchronization.

The Time Sync Hub outputs highly accurate time reference signals using standard time protocols (PTP, NTP, IRIG-B, DCF77, 1per10, PPS, ASCII) throughout a substation, campus or across an entire enterprise.

The TSH-200 adds the ability to receive time input from the Global Navigational Satellite System (GNSS) via a bullet style GPS antenna or time input from standard time protocols (IRIG-B, DCF77).

Applications

- Critical power installations such as data centers, hospitals, semiconductor fabs, utilities, refineries, remote monitoring sites, etc.
- Electrical power monitoring systems (EPMS).
- Supervisory control and data acquisition systems (SCADA).
- Emergency power supply systems (EPSS) and generator controls.
- Microgrid and alternative energy solutions.
- Sequence of events recording systems.
- Precision automation environments.



TIME SYNC HUB
TSH-200 (shown)

Key Features:

- Precise time synchronization
- GNSS (GPS) antenna input
- Time sync in via GPS, PTP, NTP, IRIG-B, DCF77
- Time sync out via PTP, NTP, IRIG-B, DCF77, 1per10 and ASCII
- Secure web interface
- Simple installation using PoE
- DIN rail mounted
- Global standards compliance

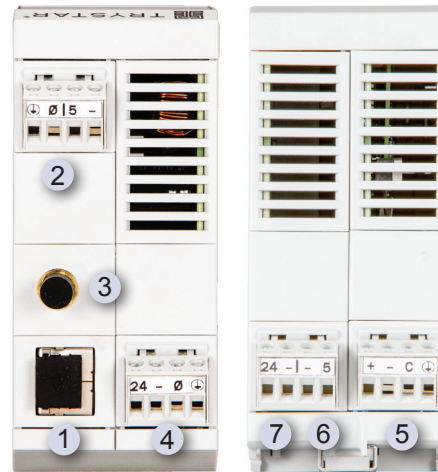
Time Sync Hub Benefits

- **Accurate time synchronization** – Through Ethernet (NTP, PTP), RS485 (IRIG-B, DCF77 and ASCII) and dedicated wiring (IRIG-B, DCF77, 1per10, PPS).
- **Flexible application** – accepts GPS antenna input, IRIG-B, DCF77, NTP or PTP input.
- **Reliable operation** – designed for harsh environments with extended temperature, and isolated inputs and outputs.
- **Easy setup** – simple configuration via web browser.
- **Troubleshooting aids** – LCD touchscreen display confirms proper operation and web diagnostics, and provides details on status and performance.
- **Convenient installation** - DIN rail mounting with 24 Vdc or PoE control power.
- **Regulatory approvals** - UL-listed, CE, FCC class A.

Product Specifications

Electrical	
Control Power	24Vdc, 20Va PoE (Power over Ethernet), Type 2 (30W)
Ride-Thru	> 15 seconds
Clock Accuracy	< 10 μ s (PTP, IRIG-B or DCF77) < = 100ns (GNSS)
Clock Holdover	< 0.5 ms over 24 hr. period
Regulatory	
Safety	cULus listed, CE mark (EN 61010-1, EN 61010-2-201)
Mechanical	
Mounting	Standard 35mm DIN rail
Dimensions	3.93" (H) x 4.33" (D) x 1.96" (W) 100 mm (H) x 110 mm (D) x 50 mm (W)
Weight	0.8 lbs. / 0.36 kg
Environmental	
Operating Temp.	-20 to 70 °C

Connections



Top View

Bottom View

1. Ethernet 10/100 BaseTX
2. 5V Time input*
3. GNSS antenna input*
4. Control power (24Vdc)
5. RS485 time input/output
6. 24V time output
7. 5V time output

*TSH-200 only

Ordering Information

Catalog no.	Description
TSH-100	Time Sync Hub
TSH-200	Time Sync Hub + GNSS