PCS-9785

Satellite-Synchronized Clock

The PCS-9785 satellite-synchronized clock is usually used in Substation Automation System (SAS) to satisfy the time unifying requirements of protection relay, disturbance fault recorder and other IEDs. Two kinds of PCS-9785 can be adopted to build a higher reliable and accuracy clock synchronization system in substation. The source clock can receive timing signals from its own GPS/BDS antenna (Master Mode), while the extension clock receives IRIG-B signals from other clock source (Slave Mode).

Features

- Remote supervision
  This device supports local SCADA and remote control centre communication in using of protocols such as IEC 61850 to realize the device running status supervision.
- Time service
  This device supports GPS (Global Positioning System) and

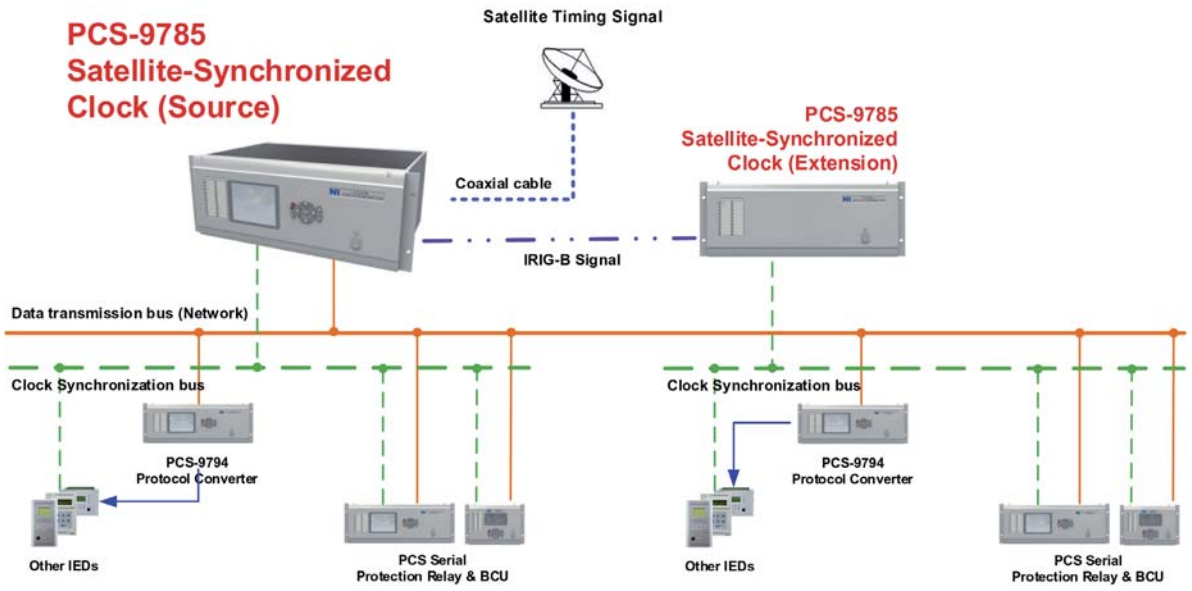

Figure 1 Typical application

BDS (BeiDou Navigation Satellite System). In addition, it supports antenna transmission time delay compensation.

- Signal reception
  This device provides several reception channels for IRIG-B signal via its optical port or RS-485/422 port. In addition, it supports link-based reception time delay compensation.
- High accuracy
  The device accuracy is high in long term. The punctual error is less than 1μs per hour.
- IEEE 1588 protocol
  This device supports the IEEE 1588 protocol (BC mode and OC mode) for clock synchronization in SNTP or PRP network.
- SNTP/NTP protocol
  This device supports the SNTP/NTP protocol and can work as a network time server.
- PRP/HSR
  This device supports the Parallel Redundancy Protocol (PRP) and High-availability Seamless Redundancy (HSR).
- Recording
  Automatically, this device stores all the self-diagnostic record, binary status change and service log in its internal storage.
- Output clock synchronization signal
  The kinds of output clock synchronization signal is rich, including PPS (Pulse Per Second), PPM (Pulse Per Minute), PPH (Pulse Per Hour), IRIG-B signal, timing message (serial), SNTP/NTP timing message (network), IEEE 1588 signal, etc.
- Output interface
  Various kinds of output interfaces are provided, including RS-484, RS-232, TTL, dry contact, AC modulation, optic fiber, RJ45, etc.
- Dual power supplies redundancy
  Dual power supply module is an option. The extra power supply module will be placed at the other side of the device rack and works independently.
- Double devices redundancy strategy
  With a interconnection in using of IRIG-B signal, a set of two PCS-9785 can form the "dual device dual network" redundancy strategy to provide a higher reliable and accuracy clock synchronization system.
- Output interface extension
  The output interface extension is very flexible. In addition, the enormous interfaces are isolated to each other.
- Easy synchronization bus extension
  It is simple to extend the time synchronization bus by adding a new PCS-9785 extension device.
- Human machine interface
  The friendly HMI provides large scale LCD and navigation keypad for the display of real time, satellite tracking status, IRIG-B inputting status, current clock source, etc.