# PCS-986

## Disturbance Fault Recorder

The PCS-986 disturbance & fault recorders are designed to record electrical parameters of generator-transformer units and operation processes in the protection& control devices of power plants. The device adopts unit architecture so that hardware and software can be flexibly assembled and upgraded in the future.

## Functions

### Recording Functions

- Initiating recording based on AC voltage
  - Phase voltage sudden change
  - Positive-sequence voltage sudden change
  - Zero-sequence voltage sudden change
- Initiating recording based on AC current
  - Phases current sudden change
  - Positive-sequence current sudden change
  - Zero-sequence current sudden change
- Initiating recording based on AC voltage out-of-limit
- Initiating recording based on AC current out-of-limit
- Initiating recording based on positive-sequence and negative-sequence component out-of-limit
- Initiating recording based on DC sudden change or DC component out-of-limit
- Initiating recording based on frequency out-of-limit and sudden changes
- Initiating recording based on third harmonic out-of-limit
- Initiating recording based on over-excitation out-of-limit
- Initiating recording based on reverse power out-of-limit
- Initiating recording based on low-frequency overcurrent or zero-sequence voltage for startup/shutdown
- Initiating recording based on differential current of the main transformer, step-down transformer, generator or excitation transformer
- Initiating recording based on binary input
- Initiating recording based on system oscillation
- Initiating recording manually
- Initiating recording remotely
- Continuous recording (24hours of uninterrupted recording)

## Auxiliary Function

- Self diagnostic test
- Loss of DC power supply alarm
- Hardware circuit online detection
- Support IRIG-B time synchronization

## Communications

- 1 RJ45 Ethernet port which complies with IEC60870-5-103 andIEC61850 protocol
- 1 RS-485 serial port used for GPS time synchronization
- 1 RS-232 serial port used to test and configure device
- 1 Ethernet interface used for FTP service of continuous recording and real-time waveform display

# Features

- The robust hardware platform adopted for DFR is the same as NR Electric's protection and control system, which has been well proven in field.
- This device adopts a fully-closed chassis with a well designed structure, providing separate spaces for low and high voltage systems. The traditionally integrated circuit board mode is abandoned. Furthermore, anti-interference measures are integrated into the software, thus enhancing anti-interference capabilities.
- This device makes use of an advanced hardware platform, which includes 16 bits parallel A/D converter, 320*240 graphic dot matrix LCD, and real-time multi-task operating system. The advanced hardware platform can achieve the high-capacity, high-precision, high-speed, and real-time data processing. The high-precision parallel A/D converter can sample all the AC signals simultaneously in order to ensure the accuracy of these measurements.