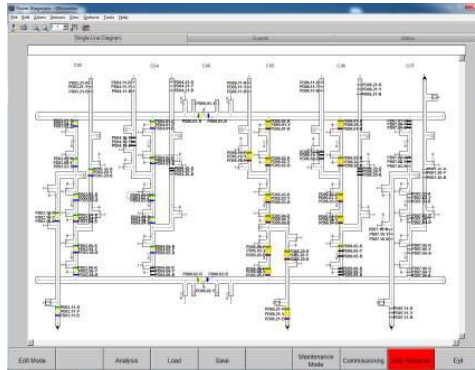


# GISmonitor



The GISmonitor builds on 20 years experience in online PD monitoring on rotating machines, transformers, cables, and especially GIS systems. It combines proven technology of the ICMmonitor with new processor technology and embedded hardware capabilities. The hardware core of the system has been optimized for parallel, real time PD acquisition on multiple channels. Any UHF signal can be detected and digitized within micro seconds. A separation of PD events from external disturbances or internal switching pulses is calculated in real time and therefore an effective PD and alarm detection is given.

Each 8-channel acquisition plug-in board operates fully stand alone, but can be combined with a virtually unlimited number of units, to monitor all PD sensors in one GIS PD monitoring system in parallel. A partial discharge monitoring acquisition rack (PDMAR) carries up to 15 plug-in boards – each with eight channels – providing up

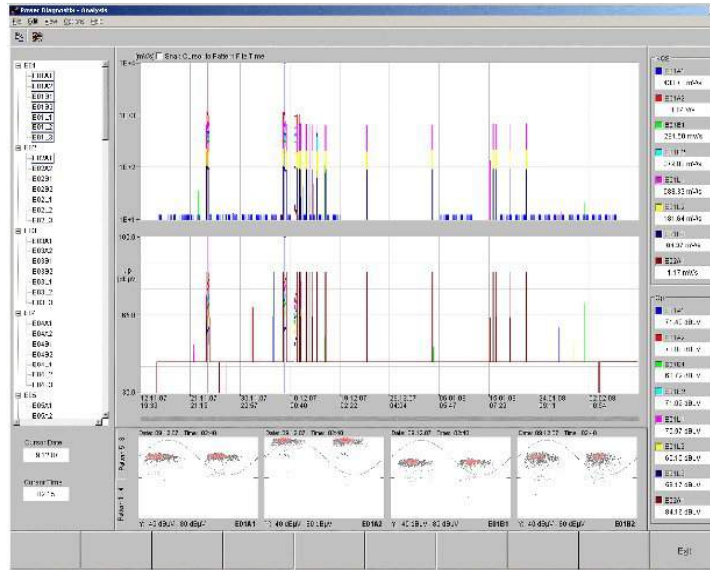
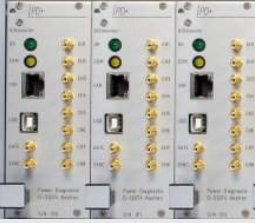
to 120 channels. Each cabinet comes with an uninterruptible power supply, a network switch and temperature controlled cooling. Cabinets for indoor applications feature a protection class of IP54, while cabinets for outdoor applications reach a protection class of IP65. All cables from external are feed through the bottom into the rack.

### *Real time parallel PD acquisition on multiple channels*

An industrial type PC installed in a partial discharge monitoring control rack (PDMCR) reads all data of the instruments via the high speed fiber optic LAN ring, providing communication redundancy. Storage redundancy is provided due to a RAID controller and data mirroring on multiple drives.

### **Features**

- Parallel UHF PD measurement on all channels
- Parallel reading of PD peak values, PD scope amplitudes, and PD patterns
- Separate gating input channel
- Automatic alarm detection system
- System redundancy
- Suitable for embedded and external retrofit UHF sensors
- Scalable system configuration
- Automatic noise suppression mode
- Network-based communication



GISmonitor software

The GISmonitor is designed to suit all currently available UHF sensors for GIS PD monitoring. This includes embedded and external retrofit UHF sensors. A special input protection unit (IPU2) blocks strong transients (VFT). The frequency converting unit FCU2 de-modulates pulse UHF signals into a lower frequency band. These lower frequency signals can be transmitted by coaxial cables and allow a compact and centralized design of the system.

The user interface software panel of the GISmonitor monitoring system is installed on the local industrial PC and can be installed additionally on any remote computer for data evaluation and diagnosis. The graphical user interface is customized for each system and provides a user friendly overview of the current system status

### Software Features

- User friendly software panel including a customized GIS overview diagram indicating all sensors and its current activities
- Additional analysis and trending panel displaying Qp, NQS, scope, and pattern information of each channel at every time stamp
- Alarm event list indicating peak levels, PD patterns and trend information
- PD trending and PD pattern information of the full history
- Typical PD failure database
- Automatic data storage
- Interface to third party control systems, such as SCADA, DNP 3.0, MODBUS, IEC61850, and others.

The GISmonitor is a scalable monitoring device for continuous monitoring of gas-insulated switchgear (GIS) using true parallel, real-time acquisition techniques.