

PD PROFILER

Partial discharge monitoring



Continuous insulation surveillance of transformers, switchgear and cables, without system shutdown

PD Profiler

Partial discharge monitor

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PD surveys on site or permanent integration: insulation condition monitoring for transformers, switchgear and cables.

Product overview



Acquisition unit with BNC inputs and daisy-chain ports



Chained units in a cabinet, installed without shutdown

Partial discharge monitoring without interruptions

The PD Profiler continuously assesses the insulation of transformers, switchgear and cable systems by measuring partial discharge activity. Maintenance teams can take it into the field for on-site surveys or leave it permanently connected as part of a monitoring scheme that covers the whole network. Early knowledge of insulation defects — frequent in ageing MV and HV cable accessories and in secondary substations that usually remain unwatched — reduces downtime and allows maintenance to be planned according to the real condition of each asset.

Main advantages

- **8 to 20 PD channels with PrPD.** phase-resolved analysis on every input to detect and classify discharge activity.
- **Advanced interference management.** configurable filters per channel and gating-based noise suppression for dependable readings.
- **Scalable daisy-chain architecture.** units link together for clean installations with minimal cabling and easy expansion.
- **Installation without shutdown.** strong magnets attach the unit to metallic cabinets; DIN-rail mounting is also available.
- **Local alarm and SCADA.** on PD activity an LED lights on the unit while the alarm status is sent to the control system.
- **Onboard memory.** several months of recordings are stored in the unit for long-term trend analysis.



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Sensors and applications



SonoTEV Pro sensor magnetically attached to a panel



HFCT-HD clamp on the ground return of a cable



Field case: PD located on a cable termination

SonoTEV Pro: acoustic and TEV in one sensor

The SonoTEV Pro combines ultrasonic acoustic detection with transient earth voltage (TEV) measurement in a compact, magnetically mounted housing. Versions for direct contact or airborne acoustic pick-up allow the sensor to be matched to each measuring point.

HFCT-HD: clamp for the ground return

HFCT-HD split-core clamp sensors monitor the cable ground return with high noise immunity and advanced filtering. Built in aluminium and weatherproof to IP66, they close with a spring latch and are supplied with 20 mm or 60 mm openings for quick installation.

Applications

- Distributed secondary MV substations, historically left out of monitoring programmes.
- Ageing MV and HV cable accessories, where partial discharge is most frequent.
- Transformers, switchgear and cable testing, in substations, field applications and remote sites.
- Occasional on-site surveys or permanent monitoring integrated into SCADA.



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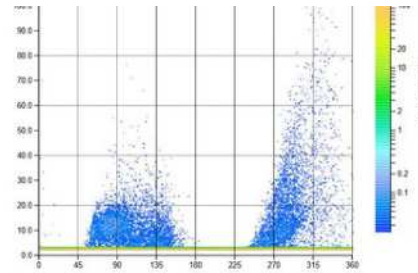
Software and monitoring

From measurement to diagnosis

Readings are presented as phase-resolved PrPD patterns, which reveal the nature of each discharge source, together with qualifying indicators and trend graphs that show how activity evolves over weeks or months. A geospatial view places every monitored asset on the map, and the recordings stored in the unit can be reviewed at any time, also from a mobile device.

Communications and integration

- Modbus IP, MQTT, REST API and USB interfaces for integration into existing systems.
- Configurable alarm contact output and alarm status reporting to SCADA.
- Daisy-chain communication between units for multi-cabinet coverage.



PrPD pattern with phase resolution



Trend of partial discharge activity



Geospatial view of monitored assets



Trend review from a mobile device



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PD PROFILER – TECHNICAL SPECIFICATIONS

PD channels	Up to 20 PD channels per unit
Configuration	Daisy chain, scalable
Acoustic bandwidth	20 kHz to 250 kHz
High-frequency bandwidth	3 MHz to 80 MHz
UHF bandwidth	100 MHz to 500 MHz
Dynamic range	Acoustic: 60 dB · High frequency: 80 dB
Phase-resolved analysis	PrPD (phase-resolved partial discharge), 45-505 Hz
PD detection	Discharge qualifying indicators
Filtering	Configurable filters per channel
Noise suppression	Gating (selective masking of interference)
Alarm output	Configurable alarm contact; local LED; status to SCADA
Communication interfaces	Modbus IP / MQTT / REST API / USB
Recording	Onboard memory with capacity for several months of recordings
Mounting	Magnetic attachment to metallic cabinets or DIN rail; installation without system shutdown
SonoTEV Pro sensor	Ultrasonic acoustic + transient earth voltage (TEV); direct contact or airborne pick-up; compact, magnetic mounting
HFCT-HD sensor	Split-core clamp for the ground return; aluminium; spring latch; 20 mm or 60 mm openings; IP66; noise immunity and advanced filtering

Available in several configurations, from 8 to 20 PD channels per unit.



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