

APD-ANNUNCIATOR

Partial discharge detection



Continuous partial discharge monitoring across multiple cabinets at once

APD-ANNUNCIATOR

Partial discharge alarm system for switchgear cabinets

amperis

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Description and advantages



APD-ANNUNCIATOR module with remote communication antenna



Combined TEV and acoustic sensor attached to the module

The APD-ANNUNCIATOR remotely detects partial discharge activity inside energised cabinets, combining transient earth voltage (TEV), acoustic and high-frequency current sensors with an analysis module that raises a local and remote alarm before an insulation fault damages the switchgear equipment.

Simultaneous detection with several sensor technologies

The module combines TEV detection with contact or airborne acoustic detection, and also accepts high-frequency current sensors to compare technologies and reduce false positives.

Simple installation without interrupting service

Sensors are held magnetically on the cabinet surface or mounted on a DIN rail, with no need to disconnect the installation or drill the enclosure, with no supply outage.

Cascaded monitoring of several cabinets

Several modules can be daisy-chained using standard Ethernet cable, carrying data and power together, monitoring numerous distribution cabinets with minimal cabling.

Configurable local and remote alarm

Each channel accepts a user-defined threshold, with a led indicator and remote alerting via SCADA, web interface, SMS or e-mail.

Applications and operation

Applications

- Continuous partial discharge monitoring in medium-voltage cells and in-service switchgear cabinets.
- Early detection of insulation faults in dry-type transformers and ring main units (RMUs).
- Integration with SCADA systems for trend monitoring and remote alarm generation.
- Substation installations, field applications and remote sites with limited access.

Operation

Alarm levels and zones

Each acoustic and high-frequency channel accepts an independent alarm threshold, set by the user according to the monitored zone of the cabinet, so the sensitivity level can be adjusted to the type of installation and to the ambient noise of each site.

Visual and audible signalling

Detection of a partial discharge immediately activates a local led indicator and a dedicated hardware output; the alert is also sent remotely via SCADA, web interface, SMS or e-mail, according to each channel's configuration.

Installation in cells or outdoors

The module is mounted on a DIN rail inside the cell or held with magnets on any metallic surface, including outdoor installation in substations, thanks to IP65 protection with the dust boots fitted.

Power supply and cabling

Power and data transmission between modules are carried over standard Ethernet cable, allowing several units to be daisy-chained with minimal cabling and bringing monitoring to numerous distribution cabinets at the same time.



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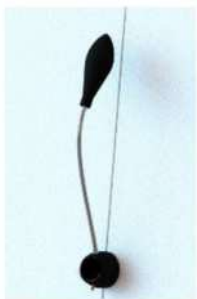
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Accessories and options



Combined TEV and acoustic sensor, two views



Adjustable flexible-arm acoustic sensor

Combined TEV and contact acoustic sensor

Held directly on the metallic surface of the cabinet by magnets; combines transient earth voltage detection and contact acoustic detection in a single probe, with an SMA connector.

Combined TEV and airborne acoustic sensor

Same TEV detection technology, with airborne acoustic pick-up through an adjustable flexible arm; also available in a version designed for installation inside the metallic cabinet.

High-frequency current clamps (20 mm and 60 mm)

Clamp-type sensors with a quick-latch system and IP66 protection, for detecting partial discharge activity through the earth conductor, in two opening sizes depending on cable diameter.

Portable partial discharge tester

Battery-operated functional test unit that verifies the integrity and response of the installed sensors before or during maintenance.

Cloud-based remote access solution

Centralised alarm management, data analysis and record export from a web interface, with cellular communication for installations without a fixed network available.



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APD-ANNUNCIATOR – TECHNICAL SPECIFICATIONS

Installation	DIN rail or magnetic mounting
Power supply	9 to 24 VDC; 1.2 W max.
Acoustic channels	3
Acoustic bandwidth	30 kHz to 88 kHz
Acoustic dynamic range	40 dB
High-frequency channels (TEV/HF)	3
High-frequency bandwidth	10 MHz to 1.0 GHz
High-frequency dynamic range	40 dB
Operating temperature	-30°C to 50°C
Alarm threshold	Independently configurable per channel
Alarm reporting	Local led and hardware output; SCADA, web interface, SMS and e-mail
Noise mitigation	Algorithm based on amplitude and pulse repetition rate
Connectivity	Modbus RTU (remote access) and USB (PC connection)
Protection rating	IP65 with dust boots installed
Dimensions	201 x 87 x 53 mm
Weight	0.51 kg
Approval	CE

Specifications subject to change without notice.

The cellular modem for remote alerting is an optional accessory.



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