Power cable diagnosis

onsite HIGH VOLTAGE

Partial Discharge online Condition Monitoring System for Distribution and Transmission Power Cable Systems

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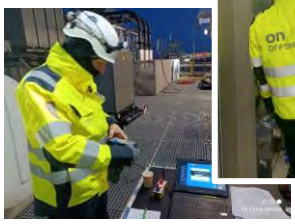
About Our Team

- Over 30 years of experience in the development and application of technical solutions across various industries working in the field of the electric power delivery, combined with deep practitioner's insights.
- Broad experience in developing and delivering industrial solutions and services tailored to individual client needs.
- Internationally recognized scientific and applied knowledge in the field of testing and diagnosis of on- and offshore power cables.

Experts in testing and diagnosing of onshore / offshore power cables

- Onsite HV is a global firm based in Switzerland that has been providing products and services in the field of onshore and offshore power cable systems since 1999.
- Our team consists of world-leading experts who help national and international companies solve their most complex problems related to the design, installation testing and life cycle management of onshore and offshore power cable systems.
- In the field of power cables, we supply products and services with advanced online and offline non-destructive testing and diagnostic technologies to support modern power cable management.



Total Quality Assurance for Power Cable Systems

- **After Installation:** dedicated, non-destructive after-laying testing by partial discharge monitored voltage withstand testing e.g. using damped AC voltages conform IEEE 400, IEEE 400.3 and IEEE 400.4 guidelines.
  → **initial fingerprint**
- **During Network Operation:** on-line PD condition monitoring and alarming in case of unexpected PD events.
  → **operational fingerprint**
- **Condition Based Maintenance:** interpreting the **operational finger print** and if necessary off-line diagnostic testing by partial discharge monitored voltage withstand testing e.g. using damped AC voltages conform IEEE 400, IEEE 400.3 and IEEE 400.
  → **maintenance fingerprint**

* after maintenance, the reliability of the cable can be considered like that of a new cable

WHY perform dedicated on-line PD condition assessment of power cable networks during service life?

- To be informed about the actual condition of the cable circuits.
- To reduce the risk of unexpected failures during operation.
- To provide information for condition-based maintenance (CBM) → **OpEx reduction**
- To improve the reliability of the cable networks → **CapEx improvement**

ONSITE HV advanced PD on-line monitoring system for distribution and transmission power cable networks:

- Advanced and cost-effective PD monitoring solution for installed power cable systems.
- Intelligent identification and suppression of external disturbances.
- Applicable for continuous monitoring, logging and alarming.
- Suitable for harsh environmental conditions.

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Total Quality Assurance for: Distribution Power Cable Systems

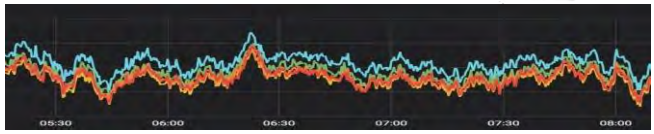
After-laying testing → **PD condition monitoring** → **Maintenance testing**

Total Quality Assurance for: Transmission Power Cable Systems

Features of PD-Pod PD Cloud customized PD monitoring system

Based on the newest technological standards and developments our PD-Pod©, PD-Cloud© systems are characterized by the following applications and features.

- Accurate on-line PD monitoring at MV and (E) HV cable installations.
- Operates with both HF and VHF capacitive and inductive sensors.
- Highest level of Safety: no electrical connection between the local PD-Pod and the analysing / visualizing system (PD-SigView).
- Potential-free data communication for low EM noise impact in harsh conditions.
- Extendable with multiple installations supervised by one centralized data processing & management point.
- SCADA interface.



Components	Description
PD-Pod, PD-PodHD	3-channel PD monitoring system, Switchable analogue filters, Fiber cable data output, Power supply.
PD-SigView	Windows Server, Web Server, dedicated optical switch for each PD-Pod, AC fuses for the feed of the PD-Pod's, UPS, Communication. All according to customers request.
Visualization and alarming GUI	Customisable visualisation; continuous monitoring, logging and alarming; Individual PD-Pod signal level display; Individual signal plot over time; all signal plot over time; Intelligent identification and suppression of external disturbances; automatic trend recognition & severity classification; Alarm level and counter settings; Potential free alarm relays.

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