INDIPARD® IDP 16

Evaluation Unit for Online Partial Discharge Monitoring

MAY-ELEKTRONIK

Brief description

- Online monitoring, surveillance and diagnosis of partial discharges
- Alerting in the case of limit violation
- Event-driven maintenance
- Can be retrofitted on old installations
- Search coils for coupling without physical contact
- Sensors with CapEye® interface connectable
- Can be expanded for up to eight monitoring points
- Designed as an operational measuring instrument and for constant duty
- Compact design and practically orientated installation system
- Adjustable limits and interference suppression per input
- Self monitoring and alerting in the event of device failure
- Can be configured by user on PC
- Optional: Data transfer via fixed-network or GSM modem
  Measured value acquisition with PC

Field of application and benefits

High-voltage and medium-voltage power supply installations are required to achieve a very high availability. After installation and commissioning, it must be ensured that the condition of the insulation does not worsen over time.
Ongoing surveillance (online monitoring) of partial discharge (PD) activities offers the opportunity for detecting a worsening or serious change in the condition of the insulation of the equipment at an early point, thus giving the user the opportunity to intervene in good time so as to prevent more serious damage.

Using Indipard makes it possible to

- **restrict sudden total failures,**
- **reduce the scope of regular inspections,**
- **adjust the cleaning intervals to the actual level of soiling and**
- **prolong the overall operating life of the installations.**

Indipard is a low-cost online PD monitoring system designed for continuous duty in medium-voltage and high-voltage installations.
Using INDIPARD permits event-driven maintenance with minimal risk and at less cost.

Mode of operation

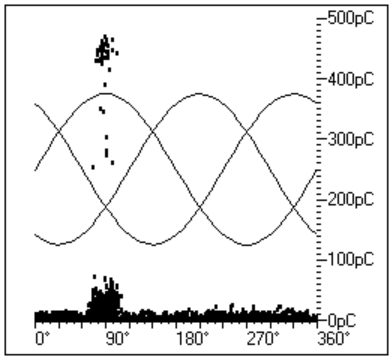
Active PD sensors are installed in the parts of a medium-voltage or high-voltage installation at risk. These sensors detect the high-frequency electric fields generated by the partial discharges and forward them to the IDP16 central evaluation unit via coaxial cable.

The sensors are powered via the coaxial cable. Up to eight sensors may be connected. Either search coils, capacitive coupling electrodes with CapEye® amplifier or devices with CapEye® interface can be used as PD sensors.

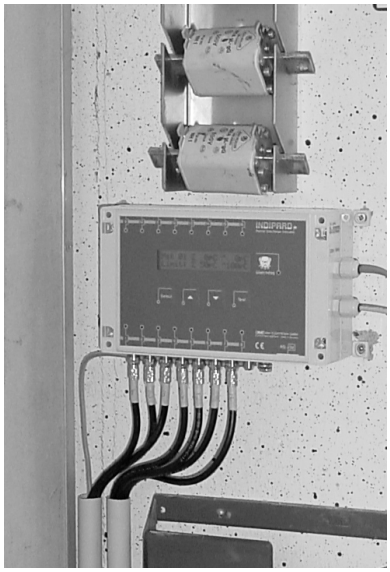
In the IDP16, a microcontroller monitors each individual measuring point for transgression of a limit value. If the limit value is exceeded, IDP16 indicates the measuring point, issues an alarm signal via a floating contact and thus calls the servicing staff. INDIPARD is self-monitoring so that a device failure also triggers an alarm signal. The sensors and cable connections are included in the self-monitoring system. Special training on the part of the operator is not required and the unit operates reliably and without the need for maintenance for years once programmed.
The current measurement data can be polled via the incorporated serial port using a PC or modem. This information allows the PD source to be located and localised better in the event of an alarm.
Several IDP16s can be cascaded for substations requiring more than eight monitoring points. Remote data readout in such cases may be performed via one single modem.

Installation

IDP16 is available as a wall mounting version or for mounting rail attachment.



Optional PC software
Phase diagram



IDP 16 evaluation unit
Wall mounting in a secondary substation

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Evaluation Unit for Online Partial Discharge Monitoring

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Technical data

Mechanical

- Housing design:
  Wall mounting
  Mounting rail attachment

- Dimensions and weight:
  Wall mounting
  Width: 200 mm
  Height: 120 mm
  Depth: 60 mm
  Weight: approx. 0.8 kg

  Mounting rail attachment
  Width: 200 mm
  Height: 120 mm
  Depth: 60 mm
  Weight: approx. 0.8 kg

  Ambient temperature:
  -20°C to 55°C in operation
  -25°C to 70°C for storage

Electrical

- Inputs:
  3, 4 or 8 inputs for PD sensors with short-circuit-proof remote power supply
  Monitoring for cable discontinuity and short-circuit
  Connection F socket

  Connectable PD sensors:
  IDPS-x-F search coils
  IDPS-GTU-E CapEye® amplifier
  Devices with CapEye® interface

- Outputs:
  1 contact output for PD alarm
  1 contact output for watchdog
  Load rating 110 V / 20 mA
  Electrical isolation by reed relay
  Connection 150 cm cable stub

- Indicators on front panel
  1 Status LED per input
  Watchdog LED

  Liquid crystal display
  2 x 20 characters alphanumeric for measured values and error messages

- Serial port:
  RS-232C (V24)
  19200, 38400 Baud
  Connection by 9-pin D connector

- Optional: Interface for cascading in the case of modem operation
  Connection by 9-pin D connector

- Optional: GSM modem control
  SMS text message with measurement data automatically in the event of alarm or can be polled at any time

- Mains connection:
  Power consumption max. 7 VA
  230 V / 50...60 Hz
  115 V / 50...60 Hz
  via 150 cm cable stub

- Device functions:
  Sampling: Peak value detection
  Pulse resolution time: < 40 µs

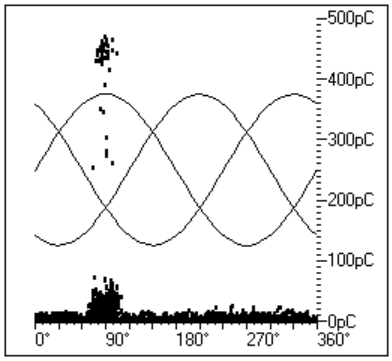
  Functions which can be called by buttons on front panel:
  General display 3 measuring points
  Single channel display
  Self-test with diagnosis

Internal messages generated by device:
PD alarm
Sensor cable discontinuity
Sensor short-circuit
Watchdog

- Functions of the configuration program:
  Limit value programming
  Measuring point labelling
  Self-test and error diagnosis
  General display of measured values

  included in scope of delivery for Win98/2000/XP

- Optional PC software:
  Phase diagram (IDP phase)
  In-phase recording of the PD pulses and evaluation on PC monitor for diagnostic purposes



Optional PC software
Phase diagram

Subject to technical modification and error.
(as per: 2007/09)

INDIPARD★

Indipard is a registered trademark of the May Elektronik company

CAP HOH EYE

CapEye is a joint trademark of the Kries-Energietechnik and May Elektronik companies

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