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DUDP-2N

ACOUSTIC EMISSION PARTIAL DISCHARGE DETECTOR

(for **MONITRA** monitoring equipment)

Short presentation

The acoustic emission partial discharge (PD) detector type DUDP-2N is a constructive version of the ICMET well known DUDP detector intended to the continuous measurement of PD level in power transformers adapted to MONITRA monitoring equipment.

The equipment has 1 to 4 acoustic emission transducers (TU), their location on monitored transformer tank being established for each transformer type depending on its construction and on the area where higher PD level occurred on site.

Each TU transducer is connected to a narrow band preamplifier (PAmp) tuned at 60 kHz.

The transducers and preamplifiers are fixed on transformer tank by means of some embedded permanent magnets.

The connections between transducers and preamplifiers and from them to the main signal acquisition and processing unit (UP) are achieved by coaxial cable (see the enclosed block diagram).

UP task is to provide multiplexing, amplification, peak value detection, PD level local display, measuring system calibration and current loop remote transmission of the signal proportional to the PD level respectively the receipt of multiplexer control signal (supplied by MONITRA).

UP is placed inside transformer cabinet or inside another box having the same protection degree.

When putting the system into operation an optimum location of the transducers (TU) on the tank is established using the indication of the analogic instrument included in DUDP-2N detector. By means of the said instrument the calibration of the measuring chain is also checked.

It is possible to set the warning levels for an overshoot of the pre-set PD levels either locally for the local signalling or by MONITRA for the signalling from the control room.

Afterwards, the monitoring of the measuring process is made remotely by MONITRA.



Technical characteristics

- Measuring ranges: 100 mV (400 pC), 500 mV (2000pC), 2500 mV (10000 pC). The transformation mV to pC is made knowing the constructive elements of each transformer type from its technical specification.
- Detection frequency: 60 kHz \pm 5 kHz;
- Two level calibration circuit: 250 mV (1000 pC), 1500 mV (6000 pC);
- Supply: 220 V \pm 10%, 50 Hz;
- Absorbed power: 25 VA;
- Protection degree: TU and PAmp - IP 54; UP - IP 30;
- Overall dimensions (mm): TU - ϕ 65 x 40; PAmp - ϕ 65 x 60; UP - 290 x 110 x 220
- Functions:
 - Continuous PD level detection
 - PD localisation (optionally)
 - Signalling at an overshoot of PD pre-set levels
 - Calibration of the main unit and of monitoring equipment type MONITRA
 - Local and remote control of UP

BLOCK DIAGRAM

