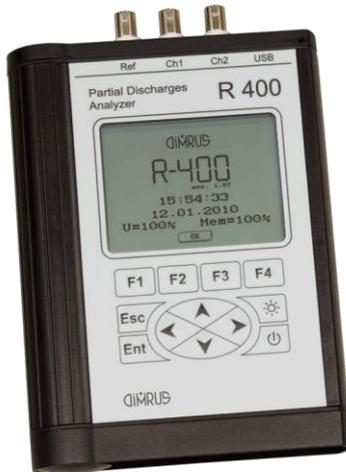


R400

Portable device for measuring and analyzing partial discharges in high voltage insulation



Dual-channels portable device «R400» is designed for simple and fast registration of partial discharges in the insulation of high voltage equipment. It can be used for a single measurement of partial discharges, for periodical monitoring of the insulation condition and for the repair work quality assessment.

To register partial discharges there are high-frequency transformer partial discharge sensors in the device «R400». These sensors measure the pulses induced in the ground circuit of equipment. For this reason, «R400» is universal and can be used for the technical condition monitoring of various equipment, such as:

- High voltage insulation of windings and bushings (of various designs) in power transformers and autotransformers.
- Insulation of high-voltage current measuring transformers.
- Insulation of generator stator windings and electric motors.
- Insulation in high-voltage cable lines of various types and voltage.
- Defects in the insulation of gas-insulated circuit breakers and substations.



Device «R400» is easy to use. It can be used by the personnel with minimal diagnostic knowledge in the standard, the most common situations.

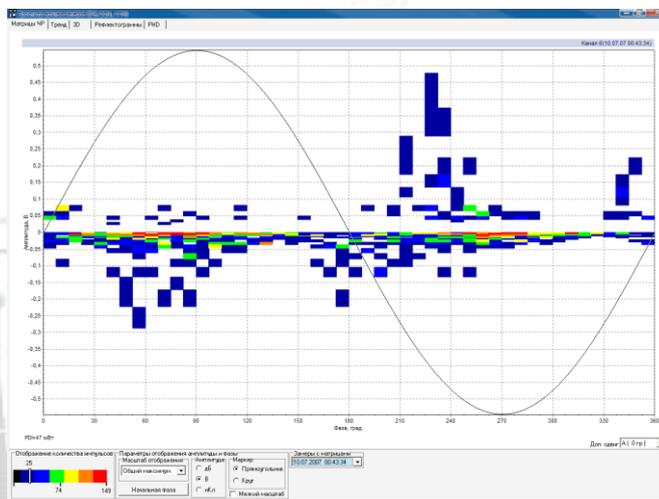
«R400» has three input channels with different input functions:

- The first channel of the device, high frequency channel, is the basic one. It is used to register partial discharges in insulation of the monitored equipment.
- The second high frequency channel is the reference channel. This function is rejection from the noise. Noise signal has two basic attributes. First, the amplitude of the noise signal is more than amplitude of the information signal. The second is the time shift of the signals in channels relative to each other for 2 or more nanoseconds. If the pulse in reference signal is ahead or behind the pulse in the information signal (it depends on what type of the measuring system is used), then the registered pulse is also marked as interference.
- The third channel of the device (low frequency) is used to connect the industrial frequency synchronization signal. It's necessary to connect this signal if you need to detect the phase of partial discharge appearance which is very important for the expert identification of the type and the power of the defect.

The primary sensors in the device «R400» are the high-frequency pulse transformers «RFCT-5». They allow to measure the pulses of partial discharges in the frequency bandwidth 1,0 ÷ 15,0 MHz. It doesn't matter if they are produced by our company or other manufacturers, but they must be designed to work with the load of 50 Ohms.

All measured information about the level and distribution of partial discharges can be viewed by the user on-site on the LCD screen, and, if necessary, stored in internal memory of the device.

Deeper analysis of the registered partial discharges can be performed on a computer with the help of the software that is included in the standard set of the delivery. This software allows storing and handling all information received during the measurement. With this software you can analyze the time change of the partial discharge intensity, identify the trends that characterize the defect development in the insulation of the monitored equipment.



The complete set of delivery of the device includes:

- Two sensors «RFCT-5".
- Sensor «RFCT-6".
- Software IHM.
- Power supply charger.

Specifications

The number of PD channels	2
Input impedance measurement channel, Ohms	50
PD frequency bandwidth, MHz	1,0 ÷ 15,0
PC interface	USB
Operating temperature range, °C	-20 to +70
Relative humidity range:	not more then 95%, non-condensing
Device dimensions, mm	197x138x37
Weight of device, kg	1,0