NOVA INDUSTRIAL SA

NOVA TRAFOMON 5M

NOVA TRAFOMON 5M equipment is designed for the **on-line monitoring of medium power transformers and high voltage shunt reactors**, ensuring on-line data acquisition regarding:

a) Operating condition: transformer **meets / does not meet the standards of operation**; it is connected / disconnected to / from the grid;

b) Operating parameters: currents, overloads, voltages, voltage increase, frequency, power factor; powers (active, reactive, apparent); temperatures (winding temperatures, oil temperature, hot spot temperature), etc.;

c) Operating condition for the active part (core + windings + inner connections) through on-line monitoring of:

- Dissolved gas-in-oil concentrations: hydrogen (H2), acetylene (C2H2) - optional, carbon monoxide (CO) - optional, methane (CH4) - optional;
- Partial discharges : acoustic signals produced by partial discharges - optional; or acoustic and electric signals produced by partial discharges - optional;

d) The moisture level of insulation by: on-line measurement of water-in-oil content and determination of the water content in the solid insulation;

e) Operating condition of the cooling system, by:

- Displaying the number of the coolers (cooling batteries) in operation;
- Highlighting the operating oil pumps and fans, evaluating the efficiency of the coolers activity, evaluating the total operating time or between overhauls / repairs of oil pumps and / or electric fans;
- Displaying the proper or inadequate state of the cooling system;

f) The insulation condition of high voltage bushings equipped with tap for measuring the power / dissipation factor, by :

- Measuring of the current through C1 dielectric (bushing tap current), assessing the unbalance current resulted from the phase sum of the currents through the C1 dielectric of the bushings mounted on R, S, T phases of the same three-phase windings;
- Measuring the capacity of the C1 dielectric on each high voltage bushing;
- Measuring the tangent of the phase angle between the bushing insulation currents for each pair of bushings of the same three-phase winding;
- Displaying the proper or inadequate state of the high voltage bushings;



g) The operating condition of the on-load tap changer (OLTC), by :

- Monitoring the operation position of the tap changer;
- Measuring the load current of the drive mechanism motor and its stamp;
- Counting the cumulated number of OLTC operation;
- Measuring the temperature difference between the temperature of oil in the diverter switch compartment and the temperature of oil in the transformer tank - optional;
- Measuring the vibrations during OLTC operation - optional;
- Displaying the proper or inadequate state of the tap changer.

h) The condition of the oil conservator associated to the transformer tank: oil level in the tank, signalization of the moment when the conservator oil reaches the maximum or minimum level;

i) The condition of the oil conservator associated to the tap changer compartment : signalization of the moment when the oil reaches the maximum or minimum level;

j) The operating condition of the Buchholz relay: the signaling level and the tripping level;

k)The operating condition of the pressure relay related to the OLTC diverter switch compartment;

l) The operating condition of overpressure protection device related to the main tank of the transformer.

NOVA TRAFOMON 5M equipment can be used stand-alone or within **an integrated system for on-line monitoring of primary equipment from electric power stations and substations - Smart Grids**.

100% created & made in ROMANIA

Over 25 years of experience

ISO 9001, ISO 14001, ISO 45001

QUALITAS CERTIFICAT SMC NR. QC/1105 SR EN ISO 9001 : 2015

QUALITAS CERTIFICAT SMM NR. QM/1034 SR EN ISO 14001 : 2015

QUALITAS CERTIFICAT SMSSM NR. QSM 38 SR EN ISO 45001 : 2023

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