NOVA INDUSTRIAL SA

NOVA TRAFOMON 5

NOVA TRAFOMON 5 equipment is designed for the on-line monitoring of 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), power quality, 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; ethane (C2H6) - optional, ethylene (C2H4) - optional, carbon dioxide (CO2) - optional, oxygen (O2) - optional, nitrogen (N2) - 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, the condition of oil protection membrane against the direct contact with the environment (for conservators with membrane) - optional; 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 5 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.



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Over 25 years of experience

ISO 9001, ISO 14001, ISO 45001

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

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