digital reach pvt ltd

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DR- 5001

OTI-WTI CONTROLLER FOR TRANSFORMER MONITORING

INTRODUCTION:

It is highly essential to monitor & control its Oil & Winding temperatures. Closely monitoring & keeping a check on these temperatures also prevents accidental breakdowns of these transformers. Oil / winding temperature indicators indicate temperature proportional to input resistance. The temperature is indicated on a 7 segments LED display TEST' mode allows the display to be varied from 0 to 150 C by varying the Test Control Potentiometer. In the Normal mode, 3 wires coming from the potentiometer on the local OTI/WTI (Min, Wiper, Max) are connected to the ROTI/RWTI along with the Auxiliary Supply. 'Zero Adjust' and 'Full-Scale Adjust' Potentiometers on the front panel allow for calibrating the ROTI/RWTI in the field

MAIN FEATURES

- Single unit for Oil and Winding temperature monitoring
- Compact design, Digital sampling technology
- Facility for either of the inputs for sensing winding temperature – CT or RTD.
- Reliable operation even in wide variation in Auxiliary Supply Voltage.
- All solid-state design and no moving parts offer extremely high reliability
- Bright digital display offers accurate and unambiguous reading
- 4-20mA output for SCADA / PLC application or Rs485
- IP-52 Enclosure

DR-5001
SPECIFICATIONS

TECHNICAL SPECIFICATION

Input: RTD1 for OTI, CT for WTI
DC Output: 4–20mA. (Separate O/P for OT & WT each) for SCADA or RS485
Ambient Operating Conditions: 0 °C – 60 °C

TEMPERATURE INDICATION RANGE

Oil: -40 to 150° C
Winding: -40 to 200° C

DISPLAY

Separate Display for OTI & WTI
Power Consumption: Max 6VA

ACCURACY:

Oil Temperature: ± 2 ° C
Winding Temperature: ± 3 ° C

APPLICATION

Oil temperature indicators and winding temperature indicators are essential components in power transformers, providing crucial information about the operating conditions. Here are the applications for both types of indicators:

OIL TEMPERATURE INDICATOR

1. Overheating Detection: Monitors the temperature of the transformer's insulating oil. Sudden or sustained increases in oil temperature can indicate potential issues, such as overloading, faults, or inadequate cooling, allowing operators to take corrective action promptly.
2. Load Monitoring: The oil temperature indicator helps assess the transformer's load-carrying capacity. Elevated temperatures may suggest that the transformer is operating close to its rated capacity, prompting operators to redistribute loads or implement cooling measures.
3. Cooling System Optimization: Provides data to optimize the performance of cooling systems, such as fans or radiators. By monitoring oil temperature, operators can adjust cooling mechanisms to ensure effective heat dissipation and prevent excessive temperatures that could degrade the transformer's insulation.
4. Preventive Maintenance Planning: Continuous monitoring of oil temperature allows for the identification of trends or abnormalities. This information aids in planning preventive maintenance activities, reducing the risk of unexpected failures and extending the transformer's lifespan.

DR-5001
SPECIFICATIONS

WINDING TEMPERATURE INDICATOR

1. Hot Spot Detection: Monitors the temperature of the transformer windings. Hot spots within the windings can indicate localized issues, such as imbalances in the load distribution or insulation degradation. Early detection helps prevent further damage and ensures the transformer's reliability.
2. Overload Protection: Alerts operators to potential overloads on specific windings. By monitoring winding temperatures, operators can prevent overheating caused by excessive current flow, reducing the risk of insulation breakdown and subsequent transformer failure.
3. Cooling System Control: Enables control strategies for cooling systems based on the actual temperatures of the windings. This ensures that cooling mechanisms are activated or adjusted as needed, maintaining the transformer's temperature within safe operating limits.

ABOUT US

Digital Reach enables the IoT devices to interconnect the embedded systems to the internet. The IoT devices are fully programmable as per customer requirements and it can be deployed in nearly all the areas like Manufacturing, Energy & Utility, Health Care, Home Automation, Retail etc. With our expertise in embedded hardware development, embedded software development, system integration, and project execution, we bring in our experience, commitment and team work to exceed our customer expectation in every customer engagement.

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