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Adherence to specific maximum water content in transformer oil is required of high voltage transformer stations to ensure long-lasting uninterrupted operation. The strict quality standards in high voltage transformers integrated into voltage nets and operations require non-stop monitoring of water concentration in the transformer oil with alert alarms.

The WIO Sensor is an in-situ sensor which measures the water content in transformer oil in ships, wind turbines, country side, or in other power net supply applications.

Water activity (aw) provides the relative availability of water in transformer oil where pure transformer oil has an activity of zero and saturated with distilled water has an activity of exactly one.

The transformer oil mixer must be installed before the WIO sensor.

The WIO sensor continuously supplies an output analogue signal of 4 to 20 mA corresponding to 0.01 to 1.00 aw or ppm.

Alarm indications with 0.01 aw hysteresis are provided for via 2 relays.



PAJ GROUP

DEVELOPMENT AND PRODUCTION FOR DEMANDING CUSTOMERS

WATER-IN-OIL SENSOR TRANSFORMER OIL

MONITORING OF WATER IN TRANSFORMER OIL

- Water in transformer oil is the cause of a range of problems, e.g. rust and corrosion, water etching, erosion, vaporous cavitation, oil oxidation, oil film strength loss, reduction of dielectric strength
- Water content in transformer oil is an issue in many applications leading to potentially dangerous situations
- Monitoring enables preventive maintenance and optimal performance

CUSTOMER BENEFITS

- World leading in terms of accuracy and useability
- Highest quality confirmed by GL approval (cert. no 75 956 – 09 HH)
- CE approval as required by EU
- Calibration certificates for all relevant parameters
- After-sales service

FUNCTIONAL DESCRIPTION

- Online measurement
- Measuring range: 0,01 to 1,00 aw or ppm water content
- Analogue output: 4 to 20 mA (galvanic isolated)
- Alarm indication via 2 x Alarm relays
- Protection class: IP66

OPTIONS

- Sensor for ball-valve mounting
- RS232/RS485/CANOpen interface
- Additional temperature measurement
- Adjustable alarm points
- Local display read-out
- Local alarm and reset
- Audible alarm

QUALITY MANAGEMENT SYSTEM

- ISO 9001
- ISO 14001
- ISO 13485
- IRIS
- ESD Protection System IEC 61340-5-1
- IPC-A-610-CLASS III (workmanship)

PAJ has 100% traceability within development, production and service. Products are tested in our own test facilities with monitored heat and cold tests and registration of the complete test course.