



Description

Transmitter Series EE36 are specially designed for the measurement of water content in oil, it can be portable or online use. They are certified in accordance with the regulations of the "Germanischen Lloyd (GL)" and therefore can be utilized in the maritime field as well. EE36 is ideal for online monitoring of moisture in lubrication or insulation oil after installing on equipments, which is very important for the long-term performance and adaptive maintenance of plant and machinery. For instance, moisture affects dramatically

the insulation characteristics of electrical transformer oil and therefore continuous monitoring is extremely important. The modular housing enables a user-friendly operation and a quick replacement of the sensor unit for service purposes. The construction of the transmitter makes field and local loop calibration an easy task.

Humidity measurement in oil

Similar to the humidity in the air, the water content in oil can be described by the absolute value in ppm or by the relative value aw:

PPM (mass of water / mass of oil)

AW (actual water content as fraction of the water content in the saturated oil) $aw = 0$ corresponds to water-free oil, while $aw = 1$ describes fully saturated oil

aw measurement with EE36 transmitter series is based on the outstanding long term stability and resistance to pollution of the E+E capacitive sensor elements series HC.

Product Versions

The physical quantities measured are water activity aw and temperature T. With these quantities EE36 calculates the water content (ppm) in mineral transformer oils. Calculation of water content in non-mineral transformer oils and lubrication oils can be accomplished by downloading specific parameters of the oil.

The measured and the calculated values are available on two free scaleable and configurable analogue outputs. In addition, an optional relay output can be used for alarms and process control.

Installation

The sensing probe is designed for inline monitoring and can be placed directly in the oil, at pressures up to 10 bar. In addition to direct mounting of the sensing probe, a ball valve installation provides mounting and removal of the probe without interrupting the process.

Easy Calibration and Adjustment of EE36

The user can easily readjust or calibrate the transmitter by using either a simple procedure with two push buttons on the printed circuit board or the configuration software.

Technical Data

Power supply:	8-35V DC, 12-30AC. (Option: Built-in 100-240AV, 50/60HZ)
Output	0-5V, 0-10V, 4-20mA, 0-20mA
Measuring range	0...1 aw, 0~500 ppm (Option:0~ 1000/10000 ppm)
Temperature range	-40~ 180°C
Accuracy	± 0.013~± 0.015 aw, ± 0.005°C
Sensor Pressure Range	0.01~20bar