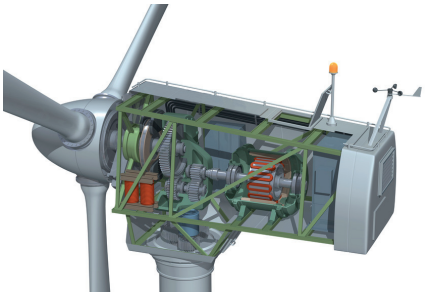
# OIL MONITORING FOR WIND TURBINES

**The warranty period of standard gear units for wind energy is usually 2 to 3 years. After the expiry of the warranty period, maintenance teams are responsible for the smooth running of the turbine for the remainder of its service life - which can be up to 20 years.**

The challenge to maintenance technicians is to maximise the operating time of the turbines while minimising maintenance costs.
Normally, maintenance teams have a very lean organisation and therefore they most work as efficiently as possible in order to comply with the specified maintenance intervals. A large number of studies have shown that water which is contained in the oil causes grey discolouration of the gear wheels and also reduces the viscosity of oils. This increases the speed of oxidation, which can lead to breakdowns.

All lubricants absorb water. Ester-based lubricants and mineral oils with wear prevention additives are particularly susceptible to this. The higher the water content of the oil, the lower the service life of the gear unit.



In order to prevent the water in the oil from damaging the gear unit, either the entire oil must be changed, or an off-loop filter which can absorb water is installed.

To ensure high operational reliability and to avoid expensive and complicated cleaning of the gear unit or analysis of the oil, an EE381 water-in-oil measurement transducer can be used.

The EE381 helps maintenance teams to prolong the service life of the wind turbine, reduces unscheduled repairs and simplifies the maintenance process.

## • Application conditions

| | |
|---|---|
| Measurement range: | -40...60 °C / 0..1 aw / 0...200 ppm |
| Operating temperature: | -40..0.60 □ |
| Accuracy: | ± 0.05 aw |

## • E+E Product

**EE381**
Compact measuring transducer for humidity in oil

The compact design is ideally suited for direct mounting on piping.

E+E Elektronik Ges.m.b.H. • Langwiesen 7 • A-4209 Engerwitzdorf • Austria
Tel: +43 (0)7235 605-0 • Fax: +43 (0)7235 605-8 • info@epluse.com • www.epluse.com
LG Linz Fn 165761 t • VAT-ID-No. ATU44043101 • place of jurisdiction: A-4020 Linz • DVR0962759