

Why Compromise?

TOTUS G5, the best and most economical solution for transformer monitoring guaranteeing fault detection and identification.

With the TOTUS G5 asset management no longer needs to be restricted to high value and risk critical assets. TOTUS G5 is cost-effective solution for asset managers, providing quick detection and identification of transformer faults. Designed to maximise operational efficiencies and maintenance budgets, the G5 enables asset managers to deploy asset monitoring fleet wide across a range of transformer types and sizes.

Using infrared technology to measure key gases including; methane, ethylene, acetylene, carbon monoxide, plus monitoring hydrogen and moisture in oil, the system features embedded web-based analytics, providing in-depth diagnostics on transformer condition via an intuitive, readily configurable dashboard.

Key Benefits



Reduce Risk: Detects all basic faults on the transformer (Cigre TB 783)



Ease of installation: No need for any software for I&C and no need to take the transformer offline



Low cost of ownership: no consumables or calibration gases



Operational efficiencies: Reduces the need for planned maintenance



Advanced Software: Fully compatible with TOTUSPRO Software Suite



Modular: Built in modules for through fault currents, bushing monitoring, partial discharges etc...



How does TOTUS G5 reduce risk?

- The critical combination of 5 key gases allows for the detection of all basic faults on the transformer, as defined by Cigre, IEC and IEEE standards
- Duval's analysis makes interpretation of the main 6 faults to be easily readable converting data into intuitive information
- Embedding integrated moisture in oil & paper analysis enables asset managers to identify critical operating conditions as well as estimate the remaining life of asset



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The Gases: Why monitor?

H₂ – Combined with Methane and Acetylene it provides early detection of PD and distinguishes if H₂ generation is due or not to stray gas.

C₂H₂ – Develops mainly due to arcing faults, key parameter to promptly react and prevent failures.

C₂H₄ – Generated at high temperature overheating, bad contacts and structures grounding faults.

CH₄ – Generated at low temperature overheating or at advanced PD stage, it improves failure identification at early stage

CO – At high levels it is a primary detector for paper in oil and insignificant degradation.

H₂O – Reliable marker for assessing critical levels of moisture in oil and paper.

TOTUS Prognostic Package: Are you safely operating your transformer?



Thermal models

- Able to calculate windings temperatures that cannot be directly measured if fiber optics are not in place
- Enables the assessment of overloading capabilities, accelerated ageing and remaining life
- Helps users to safely operate the transformer without exceeding critical temperatures or load



Moisture models

- Assessment of paper ageing and strength in both cellulose and barriers
- Shows safety margin for operations avoiding free water formation and bubbles
- Estimate oil breakdown voltage during real time operations highlighting possible critical moments after a rapid step load



Technical Details

| | |
|----------------------------------|---|
| NDIR based, stable and reliable | Minimal Cost of Ownership by design |
| No consumables, no carrier gases | Web-based no need for any additional software |
| No need for onsite calibration | Prognostic package comes as standard in each unit |



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