



Innovative Measurement Solutions

Application Notes



Dewpoint in Utility Power Transmission

Instrument: Portable Dewpoint

Description:

Power utility transformers and circuit breakers require periodic testing and maintenance.

Transformers and some circuit breakers are filled with oil and blanketed with dry N₂. Prior to filling/refilling each must be purged to a specified dewpoint. N₂ bottles must also be checked prior to purging and blanketing. Newer high KVA circuit breakers must be charged with SF₆ (Sulfur- Hexafluoride) gas. This must be dry to retain its spark quenching capability.



Problems:

Sampling N₂ from transformers fueled with oil can lead to carry over. A coalescing filter may be required. SF₆ gas can (if arcing occurs) degrade into sulfur and free fluoride gas F₂ is highly corrosive and will attack a sensor. Since sample times are short and this occurrence is infrequent, we do not consider this a major problem

Points to Consider:

Coalescing filters may be necessary. Heavy duty transport cases should be considered if rough use is anticipated.

Sensor Range: XT-100 (-149- +68°F) or (-85- +68°F).

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