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**TÜV IMMISSIONSSCHUTZ  
UND ENERGIESYSTEME GMBH**

Report on the testing of the LANCOM III portable flue gas analyser measuring CO, NO, NO<sub>2</sub>, SO<sub>2</sub> and O<sub>2</sub> manufactured by LAND Instruments International, Dronfield, England

**TÜV-Bericht: 936/21201475/A**  
Köln, 30.04.2004

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- Eignungsprüfung von Messeinrichtungen zur kontinuierlichen Überwachung der Emissionen und Immissionen sowie von elektronischen Systemen zur Datenauswertung und Emissionsfernüberwachung

**nach DIN EN ISO/IEC 17025 sowie DIN EN ISO 9002 akkreditiert.**

Die Akkreditierung ist gültig bis 04-12-2005.  
DAR-Registriernummer: DAP-PL-2544.04.

## SHORT SUMMARY

Land Instruments International asked TÜV Immissionsschutz und Energiesysteme GmbH to test the portable flue gas analyser LANCOM III to establish important performance characteristics of the instrument.

The portable flue gas analyser LANCOM III is a multi component gas monitor working with electrochemical cells for the measurement of the pollutants O<sub>2</sub>, CO, NO, NO<sub>2</sub> and SO<sub>2</sub>. Also it is able to measure gas conditions like temperature.

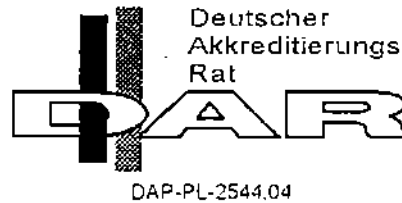
The tests have been performed in the laboratories of TÜV Rheinland Group in Köln, Germany. The following measuring ranges have been tested:

CO:	0 to 2000 ppm	SO <sub>2</sub> :	0 to 2000 ppm
	2000 to 10000 ppm		
NO:	0 to 1000 ppm	O <sub>2</sub> :	0 to 21 Vol.-%
NO <sub>2</sub> :	0 to 100 ppm		

Test parameter have been Linearity, Accuracy, Response time, Detection Limit, Short time drift and Temperature drift.

Performing the Linearity checks deviations of max 2.5 % of the measuring range have been found, most of the values have been < 1% of the particular measuring range. For the detection limit and the accuracy results < 1% of the measuring range have been determined. A maximum response time (90%) of 71 s was found out. Concerning the short time drift (5 h without recalibration) a maximum value of 5 % of the measuring range at span reading was determined and for the zero reading the maximum short time drift was < 1% of the measuring range.

During the tests the analyser showed good results and it demonstrated its performed in the upper class of portable flue gas analysers.



### Akkreditiertes Prüfinstitut

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Tested Equipment:	LANCOM III
Manufacturer:	LAND Instruments International Dronfield, S18 1DJ England
Testing Period:	15.12.2003 to 18.02.2004
Date of Report:	30.04.2004
Number of Report:	936/21201475/A
Size of Report:	14 Pages report