PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

g1200 Zirconia Oxygen Analyser
g1210 Zirconia Oxygen Probe & g1220 Control Unit

manufactured by:

Land Instruments International Ltd

Stubley Lane
Dronfield
Derbyshire
S18 1DJ
England

has been assessed by Sira Certification Service
and for the conditions stated on this certificate complies with:

MCERTS Performance Standards for Continuous Emission Monitoring Systems, Version 2, Revision 1 (April 2003)

Certification Range :

O_2 0 to 25% vol

Project No:	674/0198
Certificate No:	Sira MC 060085/00
Initial Certification:	14 November 2006
This Certificate Issued	14 November 2006
Renewal Date:	13 November 2011

Technical Director

MCERTS is operated on behalf of the Environment Agency by

Sira Certification Service
12 Acorn Industrial Park, Crayford Road, Crayford
Dartford, Kent, UK, DA1 4AL
Tel: 01322 520500 Fax: 01322 520501

Approved Site Application

On the basis of the assessment this instrument is considered suitable for use on waste incineration and large coal-fired combustion plant applications.

Any potential user should ensure, in consultation with the manufacturer, that the emission monitoring system is suitable for the process on which it will be installed. For general guidance on stack emission monitoring techniques refer to Environment Agency Technical Guidance Note M2: Monitoring of stack emissions to air. This is available on the Agency's website at www.mcerts.net

Basis of Certification

This certification is based on the following Test Report(s) and on Sira's assessment and ongoing surveillance of the product and the manufacturing process:

TÜV Rheinland	Report Number: 936/21205203/A dated 29/06/06
TÜV Rheinland	Report Number: 936/21205203/B dated 31/08/06

TÜV reports are accepted on the basis of the Environment Agency's document 'MCERTS – Guidance on the acceptance of German type approval test reports for CEMS' Version 2 (October 2003)

Product Certified

The g1200 measuring system consists of the following parts:

- G1200 stand alone temperature probe
- G1210 low temperature probe
- G1220 control unit
- Probes are available in the following lengths; 0.4m, 1.0m 1.5m and 2.0m. The evaluation was performed on 1.5 meter probe.

This certificate applies to all instruments fitted with software version 2.03 onwards (Probe serial number 0637 onwards & Electronics serial number 114491 onwards).

Certified Performance

The instrument was evaluated for use under the following conditions:
Ambient Temperature Range: -20^{0}C to +50^{0}C

Unless otherwise stated the evaluation was carried out on the certification range 0 to 25% vol.

Test	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<4		
Linearity	0.24					<0.3% vol
Cross-sensitivity (O_2, H_2O, CO, CO_2, CH_4, N_2O, NO, NO_2, NH_3, SO_2, HCl)	0.06					<4%
Temperature dependent zero shift	<0.01					<0.5%vol/^{o}C
Temperature dependent upper reference point shift	<0.01					<0.5%vol/^{o}C
Response time					7s	<200s
Detection Limit	0.04					<0.2vol%
Analysis function (field) Note 3					99.4%	>95%
Availability Note 3					99.9%	>95%
Zero drift during field trial Note 3	-0.01					0.2%vol/week
Upper reference point drift during field trial Note 3	0.05					0.2%vol/week
Vibration test (10 to 60Hz (±0.3mm), 60 to 150Hz at 19.6m/s^2)					No effect 1.5m probe tested	Not specified
Mains voltage (190V to 250V)	0.37					Not specified
Sample gas pressure					Note 1	To be reported
Sample gas temperature					Note 2	To be reported
Maintenance Interval Note 3					4 weeks	To be reported

Note 1: Test not applicable, as there is no influence on the measurement signal as it will follow partial pressure change.
Note 2: Test not applicable as no active detection parts are exposed to the flue gas temperature, the measuring cell is controlled at 600^{o}C.
Note 3: Field test: g1200 (g1210/g1220) was assessed on the basis of a three month field trial mounted on a waste incinerator.

Certificate No: Sira MC 060085/00
This Certificate Issued: 14 November 2006

Description:

The Genesis Oxygen analyser is intended for measuring the oxygen concentrations in the exhaust gases produced by combustion processes. The analyser measures the sample in situ using an yttrium-stabilised zirconia sensor. It can be used in flue temperatures up to 600^{o}C and ambient temperature up to 70^{o}C.

The electronics include all functions necessary to control the sensor plus analogue and RS485 Modbus outputs, status and concentration alarms. The electronics can be mounted on the probe (g1200) or remotely (g1210 and g1220).

The Genesis Oxygen analyser has the optional facility of either automatic or manual zero and reference gas calibration (the automatic facility was not tested as part of the evaluation).

General Notes

1. This certificate is based upon the equipment tested. The Manufacturer is responsible for ensuring that on-going production complies with the standard(s) and performance criteria defined in this Certificate. The Manufacturer is required to maintain an approved quality management system controlling the manufacture of the certified product. Both the product and the quality management system shall be subject to regular surveillance according to 'Regulations Applicable to the Holders of Sira Certificates'. The design of the product certified is defined in the Sira Design Schedule for certificate No. Sira MC 060085/00.

2. If certified product is found not to comply, Sira Certification Service should be notified immediately at the address shown on this certificate.

3. The Certification Marks that can be applied to the product or used in publicity material are defined in 'Regulations Applicable to the Holders of Sira Certificates'.

4. This document remains the property of Sira and shall be returned when requested by the company.