PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

Oxymitter 4000 Oxygen Analyser (with operator interface LOI)

Manufactured by:

Emerson Process Management, Rosemount Analytical Inc.

Ascotec Inc.
Circutio del Progreso 27
Parque Industrial Progreso
Mexicali B.C. 21190
Mexico

6565P Davis Industrial Parkway
Solon
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44139
USA

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 3.4 dated July 2012
EN15267-3:2007,
& QAL 1 as defined in EN 14181: 2004

Certification Ranges :

O_2 0 to 25%$^{vol.}$

Project No.	:	16A26653
Certificate No	:	Sira MC070087/03
Initial Certification	:	10 January 2007
This Certificate issued	:	16 April 2014
Renewal Date	:	9 January 2017

R Cooper I Eng MInst MC
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
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Certificate Contents

Approved Site Application

Any potential user should ensure, in consultation with the manufacturer, that the monitoring system is suitable for the intended application. For general guidance on monitoring techniques refer to the Environment Agency Monitoring Technical Guidance Notes available at www.mcerts.net

On the basis of the assessment and the ranges required for compliance with EU Directives this instrument is considered suitable for use on waste incineration and large coal-fired combustion plant applications. This CEM has been proven suitable for its measuring task (parameter and composition of the flue gas) by use of the QAL 1 procedure specified in EN14181, for LCPD and WID applications for the ranges specified. The lowest certified range for each determinand shall not be more than 1.5X the daily average emission limit value (ELV) for WID applications, and not more than 2.5X the ELV for LCPD and other types of application.

The field test was conducted for three months on the waste gas of a waste incinerator.

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:

TUV Rheinland Report Number 936/21203476/A dated 11 July 2005
TUV Rheinland Report Number 936/21203476/B dated 09 May 2006
TUV Rheinland Report Number 936/21224055/A dated 11 February 2014
Catalyst Environmental AST Report CSW-0965 dated 14-16 November 2012

Product Certified

The Oxymitter 4000 measuring system consists of the following parts:

- In-situ O_2 Transmitter Oxymitter 4000, consisting of heated sampling probe & evaluation and control unit, operator interface LOI (Local Operator Interface).

- Automatic calibration system IMPS 4000 (optional) - The device can be operated with or without the automatic calibration system IMPS 4000, which controls the feeding of test gases.

For instruments already installed, this certificate applies to all instruments fitted with software version 5.03 onwards (serial number F-07000001 onwards).

For EN 15267-3, this certificate applies to all instruments fitted with software version 5.05 serial number M-1301648 onwards).

Certified Performance

The instrument was evaluated for use under the following conditions:

Ambient Temperature Range: -20°C to +50°C
Instrument IP rating: IP66

Test	Results expressed as % volume fraction				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Response time					Note 1 Note 2	
O_2					<22s	<200s
Repeatability standard deviation at zero point						
O_2	0.0					<0.2%
Repeatability standard deviation at reference point						
O_2	0.02					<0.2%
Lack-of-fit						
O_2	0.10					<0.2%
Influence of ambient temperature zero point						
O_2	-0.07					<0.5%
Influence of ambient temperature reference point						
O_2	-0.43					<0.5%
Influence of sample gas pressure						
O_2	0.06					<0.2%
Influence of voltage variations 190 to 250V						
O_2	-0.07					<0.2%
Influence of vibration (60 to 150Hz at 1 octave at 19.6m/s^2)						
O_2	0.02					<0.2%

Test	Results expressed as % volume fraction				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Cross-sensitivity at zero with interferents: O_2, H_2O, CO, CO_2, CH_4, N_2O, NO, NO_2, NH_3, SO_2, HCl O_2	0.15					<0.4%
Cross-sensitivity at reference with interferents: O_2, H_2O, CO, CO_2, CH_4, N_2O, NO, NO_2, NH_3, SO_2, HCl O_2	0.05					<0.4%
Measurement uncertainty O_2 (No ELV for O_2)					Guidance - at least 25% below max permissible uncertainty 3.2%	<7.5% (10%)
Calibration function (field) O_2					>0.9964	>0.90
Response time (field) O_2					<10s	<200s
Lack of fit (field) O_2					1.98%	<0.2%
Maintenance interval (field)					Four weeks	>8 days
Zero and Span drift requirement	The CEMS is not fitted with an automatic drift corrector. Drift behaviour was assessed during the field test; the zero and span point drift was recorded via the analogue outputs.					Clause 6.13 & 10.13 Manufacturer shall provide a description of the technique to determine and compensate for zero and span drift.

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Test	Results expressed as % volume fraction				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Change in zero point over maintenance interval (field) O_2	0.10					<0.2%
Change in reference point over maintenance interval (field) O_2	0.20				Note 3	<0.2%
Availability (field) O_2					>99.9%	>98%
Reproducibility (field) O_2	0.14					<0.2%

Note 1: The oxygen content is measured under wet conditions.

Note 2: The system configuration with the operator interface LOI was tested.

Note 3: The instrument went out of specification after 8 weeks and was adjusted.

Description

The Oxymitter 4000 Oxygen Transmitter is an in-situ mounted device designed to measure the net concentration of remaining oxygen in an industrial combustion processes process after the fuels have been oxidized. The equipment measures oxygen percentage by reading the voltage developed across a heated yttria stabilized zirconia disc. The electronics within the transmitter controls probe temperature and provides an isolated 4-20 mA output proportional to the measured oxygen concentration along with HART digital communication. The Transmitter includes a Local Operator Interface (LOI) consisting of infrared keys and a vacuum fluorescent display for operation, monitoring and troubleshooting.

The IMPS 4000 Intelligent Multiprobe Sequencer is capable of calibrating up to four Oxymitter 4000 Transmitters. Communication between the IMPS and the Oxymitter is via a two wire handshake signal with a cable length of up to 1000 ft (303m). The IMPS utilizes a PLC to provide the necessary signals for controlling the internal gas solenoids and offers alarm contact output signal s to provide calibration status to the user's control system.

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 MC070087/02.

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.