TÜVRheinland®
Precisely Right.

CONFIRMATION

of Product Conformity (QAL1)

AMS designation:	O2000N for oxygen
Manufacturer:	Opsis AB Skytteskogsvägen 16 24402 Furulund Sweden
Test Laboratory:	TÜV Rheinland Energy GmbH

This is to certify that the AMS has been tested according to the standards

EN 15267-1: 2009, EN 15267-2: 2009, EN 15267-3: 2007 and EN 14181: 2014

The AMS underwent independent expert testing and was accepted.
This confirmation is valid up to the publication of the certificate,
but no longer than 6 months from the date of issue
(this document contains 4 pages).

Expiry date: 23 October 2020

TÜV Rheinland Energy GmbH
Cologne, 24 April 2020

i. V. Dipl.-Ing. G. Baum

i. A. Dipl.-Ing. C. Röllig

www.umwelt-tuv.eu tre@umwelt-tuv.eu Phone. +49 221 806-5200	TÜV Rheinland Energy GmbH Am Grauen Stein 51105 Köln

Test institute accredited to EN ISO/IEC 17025:2005 by DAkkS (German Accreditation Body).
This accreditation is limited to the accreditation scope defined in the enclosure to certificate D-PL-11120-02-00.

Test Report:	936/21241138/B dated 31 May 2019
Initial certification:	26 March 2019
Expiry date:	23 October 2020

Approved application
The tested AMS is suitable for use at combustion plants according to Directive 2010/75/EU, chapter III (13th BImSchV), chapter IV (17th BImSchV), 30th BImSchV, plants in compliance with TA Luft and plants according to the 27th BImSchV. The measured range has been selected so as to ensure as broad a field of application as possible.

The suitability of the AMS for this application was assessed on the basis of a laboratory test and a three-months field test at a waste incineration plant.

The AMS is approved for an ambient temperature range of -20 °C to +50 °C.

The notification of suitability of the AMS, performance testing and the uncertainty calculation have been effected on the basis of the regulations applicable at the time of testing. As changes in legal provisions are possible, any potential user should ensure that this AMS is suitable for monitoring the oxygen concentrations relevant to the application.

Any potential user should ensure, in consultation with the manufacturer, that this AMS is suitable for the installation at which it will be installed.

Basis of the confirmation
This confirmation is based on:

- Test report no. 936/21241138/B dated 31 May 2019 issued by TÜV Rheinland Energy GmbH
- Suitability announced by the relevant body on 26 March 2019
- The ongoing surveillance of the product and the manufacturing process
- Expert testing and approval by an independent body

AMS designation:
O2000N for oxygen

Manufacturer:
Opsis AB, Furulund, Sweden

Field of application:
Measurements at plants requiring official approval and for plants according to the 27th BImSchV

Measuring range during performance testing:

Component	Certification range	supplementary measuring ranges	Unit
O_2	0–25	-	Vol.-%

Software version: Firmware 1.09

Restrictions:
None

Note:
1. The maintenance interval is six months.
2. The measuring system determines gas concentrations in wet stack gas.
3. Supplementary testing (extension of the maintenance interval) as regards Federal Environment Agency (UBA) notice of 27 February 2019 (BAnz AT 26.03.2019 B7, chapter II number 1.1)

Test Report:
TÜV Rheinland Energy GmbH, Cologne
Report no.: 936/21241138/B dated 31 May 2019

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Tested product

This confirmation applies to automated measurement systems conforming to the following description:

The O2000N is an oxygen analyser which uses zirconium dioxide as its measuring principle.

Since zirconium dioxide measurement cells are only conductible for oxygen ions for temperatures above 600 °C, the voltage generated between the electrodes (cell output) a function of the relationship between the oxygen partial pressure between the reference electrode and the measuring electrode. A change in oxygen partial pressure of the flue gas and the corresponding electrode according to the Nernst equation therefore result in change of the output voltage.
The O2000N measuring system certified here consists of two components. The analyser (O2000N) which processes measured signals and provides control and adjustment functions; and a measurement probe (model 502) c/w zirconium dioxide cell. This is where the signal is produced on the basis of the oxygen content.
The model 502 zirconium dioxide measurement probe is used to measure the oxygen content of flue gas in-situ without extracting sample gas. The oxygen content is measured in wet stack gas.

The model 502 measurement probe operates in combination with the O2000N analyser. The analyser comprises a metal box (degree of protection IP 66), which contains in OLED display, alarm functions, a micro controller for calculating signals and operation, a reference air pump as well as solenoid valves and connections for the purpose of automatic functional checks. An integrated pump supplies the reference air required for operation.