

PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

K-BAR 2000B Measuring System

Manufactured by:

Kurz Instruments Inc.

2411 Garden Road
Monterey
CA 93940
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
EN15267-1:2009, EN15267-2:2009, EN15267-3:2007, EN ISO 16911-2
& QAL 1 as defined in EN 14181: 2015**

Certification Range :

Velocity 0 to 30m/s

Project No. : 70026257
Certificate No : Sira MC150275/00
Initial Certification : 17th June 2015
This Certificate issued : 17th June 2015
Renewal Date : 16th June 2020

Joe Prince MSc MInstMC
Deputy Certification Manager

MCERTS is operated on behalf of the Environment Agency by

Sira Certification Service

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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/IED Chapter III and IED Chapter IV 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 IED Chapter IV applications, and not more than 2.5X the ELV for IED Chapter III and other types of application.

Field test was conducted on a municipal waste incinerator for 3 months.

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 report number 936/2121960/A dated 10th October 2013

Product Certified

The K-BAR 2000B measuring system consists of the following parts:

- K-BAR 2000B multipoint insertion flow element(s) for duct under measurement.
- Adam 155 flow computer to support all flow elements of the K-BAR.
- Kurz AMS-PLC to provide data quality status.

This certificate applies to all instruments fitted with software version MFT-B v2.08 or higher (Kurz serial number 1294A onwards).

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Certified Performance

The instrument was evaluated for use under the following conditions:

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

Note: If the instrument is supplied with an enclosure, then the ambient temperature shall be monitored inside the enclosure to ensure that it stays within the above ambient temperature range.

Results are expressed as error % certification range, unless otherwise stated.

Test	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Response time Velocity					2s	<60s
Repeatability standard deviation at zero point Velocity	0.1					<2.0%
Repeatability standard deviation at reference point Velocity	0.3					<2.0%
Lack-of-fit Velocity			-1.3			<3.0%
Influence of ambient temperature zero point Velocity	-0.2					<5.0%
Influence of ambient temperature reference point Velocity		-0.7				<5.0%
Influence of voltage variations 190 to 250V Velocity	0.1					<2.0%
Measurement uncertainty Velocity					2.7	<7.5% (10%)
Calibration function (field) Velocity					Note 1	>0.90
Response time (field) Velocity					2s	<200s

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Test	Results expressed as % of the certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Maintenance interval					Note 2 4 Weeks	>8 days
Zero and Span drift requirement	<p>A voltage is substituted at a zero, mid and span values to validate the signal from the sensor control board in the K-BAR, thru the 155 flow computer to the 4-20 mA output monitored by the customer. This is an "Electronic Zero-Mid-Span" test.</p> <p>Actual flow testing must be done with a standard traverse method or relative accuracy test on a periodic basis to confirm the sensor stability and suitability of the periodic maintenance cleaning of the sensor.</p> <p>Deviations from the proper reading are corrected by repair or change to the meter's correction factor in the 155 flow computer.</p>					<p>Clause 6.13 & 10.13</p> <p>Manufacturer shall provide a description of the technique to determine and compensate for zero and span drift.</p>
Change in zero point over maintenance interval Velocity	0.2					<2.0%
Change in reference point over maintenance interval Velocity	0.3					<4.0%
Availability					99.9%	>95%
Reproducibility Velocity			1.4			<3.3%

Note 1: Variation of readings <15% of certification range. Therefore R2 calculation is not necessary. The instrument passed variability testing.

Note 2: The K-BAR 2000B measuring system has a maintenance interval of 4 weeks. The work detailed below has to be carried out at regular intervals, depending on local conditions:

- Regular visual inspection.
- Reference point control using the control cycle.
- Ensure manufacturer instructions are always followed.

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Description

K-BAR 2000B measuring system uses up to four sensors for measurement redundancy and to ensure accuracy. The instrument is designed to withstand the stress and vibrations found in large industrial stacks and ducts that commonly have wide-ranging velocity and temperature profiles. The K-BAR 2000B is designed for process temperatures from the dew point up to 260°C or up to 500°C.

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 V00 for certificate No. Sira MC150275/00.
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.

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