IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx ETL 23.0034X**

Certificate history:

Status: **Current**

Issue No: 0

Date of Issue: 2023-11-30

Applicant: **Kurz Instruments Inc.**
2411 Garden Rd.
Monterey, CA 93940 USA
United States of America

Equipment: **Multi-sensor gas flow velocity and temperature monitor probe**

Optional accessory:

Type of Protection: **Ex ec**

Marking: **Marking Relating to Electronics Housing**

Ex ec IIC T4 Gc

-40°C ≤ Tamb ≤ +65°C

Marking Relating to Probe

Ex ec IIC T4…T1 Gc

Temperature code determined per process temp see certificate description below.

IECEx ETL 23.0034

Approved for issue on behalf of the IECEx Certification Body: **Todd L. Relyea**

Position: **Certification Officer**

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
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3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Intertek
3933 US Route 11 South
Cortland NY 13045-2995
United States of America

IECEx Certificate of Conformity

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Date of issue: 2023-11-30 Issue No: 0

Manufacturer: **Kurz Instruments, Inc.**
2411 Garden Road
Monterey, CA 93940
USA
United States of America

Manufacturing locations: **Kurz Instruments, Inc.**
2411 Garden Road
Monterey, CA 93940
USA
United States of America

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

US/ETL/ExTR23.0025/00

Quality Assessment Report:

US/FMG/QAR09.0003/08

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The K-BAR 2000B is an insertion flow meter that measures velocity and temperature of a process gas using one to four sensors installed along a mast-type probe. Its primary application is for flow measurements in large ducts/stack having a wide range of spatial and time varying velocity and temperature profiles. Each sensor has a transmitter that are housed in an enclosure that is mounted at the end of the probe, referred to as transmitter attached. Optionally, a junction box is mounted at the end of the probe and then cabled to the remote transmitter(s) housed in a separate enclosure, referred to as transmitter separate.

The K-BAR 2000B is an insertion Mass Flow Meter that measures velocity and temperature of a process gas using one (1) to four (4) sensor elements installed along a probe. Its primary application is for flow measurements in large ducts/stacks having a wide range of spatial and time varying velocity and temperature profiles. The K-BAR is part of the Kurz Instruments MFT B-Series Mass Flow Meter product line and uses the same transmitter electronics and sensor types certified under 103942484DAL. The K-BAR Model Numbers are listed in Table 1 along with the standard process flow and temperature ratings for each model. The differences between the K-BAR models are the sensor(s) used in each model. The abbreviations appended to the model numbers denote the sensor type used in the K-BAR model and relative temperature range – HT denotes “high temperature”, HHT denotes “high, high temperature”, WGF denotes “wet gas flow”.

For a detailed construction drawing of each sensor type, see sheets 8 and 9 in Dwg 280220.

Equipment electronics enclosure has been assessed for an ambient range of -40°C to 65°C. The Temperature Classification in which the equipment may be used is dependent upon the process temperature to which the probe is exposed. The table below provides a summary of the maximum process temperature limitations for each respective temperature classification.

T4 process temp -40°C to 50°C

T3 process temp -40°C to 115°C

T2 process temp -40°C to 215°C

T1 process temp -40°C to 367°C

Due to the variability in installations the end user ensure the ambient temperature of the transmitter housing, a maximum of 65°C, is maintained. Where the equipment is exposed to elevated processes the transmitter housing shall be mounted in a remote configuration.

Additionally the manufacturer has specified that the probe may be used in ambient temperatures of up to 500°C when exposed to a non-hazardous process. This assessment has not considered this application, and the equipment may not be used within a hazardous area following exposure to process temperatures above 367°C.

SPECIFIC CONDITIONS OF USE: YES as shown below:
- End user to provide the transient protection device to be set at a level not exceeding 140% of the peak rated voltage value of the peak rated voltage
- Equipment is intended for installation in an area providing at least pollution degree 2
- Cable entry devices and sealing devices shall be rated for use in 100°C

Annex:

104722347DAL-001 - Annex for IECEx Certificate of Conformity - Fi.pdf

Annex to IECEx Certificate of Conformity

Certificate No:	US/ETL/ExTR23.0025/00	Issue No. 0
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Technical Documents			
Title:	Drawing No.:	Rev. Level:	Date:
SERIES K-BAR 2000B-HT, -HHT, -WGF DESCRIPTION FOR SAFETY APPROVAL	280222	A	11/15/22
SAFETY APPROVAL DRAWING SERIES K-BAR 2000B-HT, -HHT, -WGF	280220	A	11/08/22
K-BAR 2000B TECHNICAL SPECIFICATION	367542	O	08/08/22
K-BAR 2000B-WGF TECHNICAL SPECIFICATION	367540	F	08/08/22
B-SERIES HARDWARE GUIDE	368041	P	06/29/23
K-BAR 2000B FIELD WIRING TRANSMITTER ATTACHED	342040	B	11/9/22
K-BAR 2000B FIELD WIRING TRANSMITTER SEPARATE	342041	B	11/9/22
SCHEMATIC SC BOARD STANDARD	300167	U	8/24/22
SC BOARD ASSEMBLY -STD	420348	W	9/6/22
SCHEMATIC SC BOARD HART	300182	P	8/24/22
SC BOARD ASSEMBLY -HART	420380	N	9/6/22
I/O & DC POWER DISTRIBUTION	300175	A	5/26/06
I/O & POWER DISTR ASSEMBLY	420366	A	9/8/06
TRANSMITTER SEPARATE (TS) SENSOR JUNCTION BOARD	300169	D	3/12/07
TS JUNCTION BOARD ASSEMBLY	420352	E	3/12/07
SAFETY LABEL K-BAR 2000B HAZARDOUS LOCATION	170417	A	11/15/22
SAFETY LABEL K-BAR 2000B ORDINARY INDUSTRIAL	170418	A	11/15/22
CAUTION LABEL-HAZARD	170373	D	06/30/23
K-BAR 2000B ENCLOSURE (ORDINARY LOCATIONS) DETAIL	110534	A	2/28/07
K-BAR 2000B UNIVERSAL MOUNTING BASEPLATE	110696	A	11/9/22
K-BAR 2000B ADAPTER MOUNTING PLATE	110697	A	11/9/22
K-BAR 2000B STAINLESS STEEL ENCLOSURE FOR HAZARDOUS LOCATIONS	110699	A	11/9/22
K-BAR 2000B POLYESTER ENCLOSURE FOR HAZARDOUS LOCATIONS	110701	A	11/9/22

Annex to IECEx Certificate of Conformity

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Annex No. 1		

IECEx Certified Components on Which Conformance Depends					
Item	Description	Manufacturer	Type	Certificate No. / Standards*	Coding / Ratings
1	Enclosure	ABTECH	SX10.08.06.N GP.WAP	IECEx CML 15.0039U	Ex eb IIB/IIC Gb
			BPGC-12	IECEx SIR 06.0086U	Ex e IIC Gb
2	Conduit Fitting	R.Stahl	8166/11-03-NE	IECEx PTB 06.0095U	Ex e IIC Gb and Ex tb IIIC Db
		Myers/Eaton Crouse-Hinds	STGK3	IECEx ETL 12.0009X	Ex eb IIC Gb
3	Probe Sensors	Kurz Instruments	130375 FD2-HT (sensor used in sample #1)	IECEx ETL 19.0065X	Ex db IIB + H2 T5...T3 Gb or Ex ec IIC T5...T3 Gc
			130374 FD2-HHT		
			130439 FD2-WGF		

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Required Manufacturer Routine Testing		
Test	Title/Description of Test	Standard and Clause
1	A dielectric strength test shall be carried out in accordance with 6.1. A dielectric strength test shall be carried out at 500 V r.m.s maintained for at least 1 min without dielectric breakdown occurring. Alternatively, a test shall be carried out at 1,2 times the test voltage, but maintained for at least 100 ms. Per the requirements of IEC 60079-7:2017, Edition 5.1.	Standard: IEC 60079-7:2015 Clause: 7.1

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Model Reference:
Model K-BAR 2000B-HT with Part Number 753731-abcdefghijkl
Model K-BAR 2000B-HHT with Part Number 753732-abcdefghijkl
Model K-BAR 2000B-WGF with Part Number 753410-abcdefghijkl
The abcdefghijkl refers to options as follows:
a = Installation category: Options A thru H
b = Process duct dimension in inches: 4 digits to the nearest 0.1 inch
c = Electronics Enclosure Material
3 alpha characters as follows:
1st character
A: Directly attached electronics enclosure-transmitter electronics attached to probe
B: Remotely attached electronics enclosure-transmitter electronics remotely mounted separately
from probe
2nd character
B: Polyester enclosure mounted at end of probe
C: Stainless steel enclosure mounted at end of probe
3rd character
X: Not applicable if directly attached electronics
B: Polyester enclosure remotely mounted with electronics
C: Stainless steel enclosure remotely mounted with electronics
d = K-BAR construction type determines structural build of probe: 1, 2, 3
e = I/O capability and Industrial Protocal of transmitter: C, E, H, K
f = Flange to Inside Wall (FTIW) Length: 3 digits to the nearest 0.1 inch
g = Calibration temperature compensation: A, B, C, D
h = 2 digits, first digit is number of sensors: 1 to 4, second digit is sensor material and coating: 3 or 7
i = Mounting flange size: H, J, L, N, Q, S, U
j = Mounting flange material: 2 or 3
k = Calibration Range: A thru M
l = Probe material 4 digits – 0, 2, 3, 6 for each digit

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Equipment Ratings:
Equipment electronics enclosure has been assessed for an ambient range of -40°C to 65°C. The Temperature Classification
in which the equipment may be used is dependent upon the process temperature to which the probe is exposed. The table
below provides a summary of the maximum process temperature limitations for each respective temperature classification.

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maximum of 65°C, is maintained. Where the equipment is exposed to elevated temperatures the transmitter housing
shall be mounted in a remote configuration.
Additionally, the manufacturer has specified that the probe may be used in ambient temperatures of up to 500°C when
exposed to a non- hazardous process. This assessment has not considered this application, and the equipment may not
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