IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.:	IECEx BVS 12.0098X	Issue No: 4	Certificate history:
			Issue No. 4 (2016-08-04)
Status:	**Current**	Page 1 of 5	Issue No. 3 (2015-07-01)
			Issue No. 2 (2014-12-19)
Date of Issue:	**2016-08-04**		Issue No. 1 (2013-12-06)
			Issue No. 0 (2012-12-19)

Applicant: **KEM Küppers Elektromechanik GmbH**
Liebigstraße 5
85757 Karlsfeld
Germany

Equipment: **Coriolis Flow Meter type C-Flow KCE80** / KCM**** and type Tricor TCE8*** / TCM**** / TCMH****

Optional accessory:

Type of Protection: **Flameproof enclosure "d", Equipment protection by intrinsic safety "i"**

Marking:

Ex d [ia] IIC T4 Gb	(Transmitter housing
Ex d [ia] IIB T4 Gb	with reference to model)
[Ex ia Gb] IIC	alternate Transmitter housing
[Ex ia Gb] IIB	with reference to model)
Ex ia IIC T4 Gb	(Transducer housing
Ex ia IIB T4 Gb	with reference to model)

Approved for issue on behalf of the IECEx Certification Body: G. Schumann

Position: Deputy Head of Certification Body

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

IECEx Certificate of Conformity

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA EXAM GmbH

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Manufacturer: **KEM Küppers Elektromechanik GmbH**
Liebigstraße 5
85757 Karlsfeld
Germany

Additional Manufacturing location(s):

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 electrical apparatus 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

*This Certificate **does not** indicate compliance with electrical 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:

DE/BVS/ExTR12.0103/04

Quality Assessment Report:

DE/TPS/QAR12.0003/03

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

General product information

See Annex

CONDITIONS OF CERTIFICATION: YES as shown below:

1. Transmitter Unit

type KCE80**-WE-*-*-Ex / type TCE8***-E-****-*-** /

type KCE80**-WG-*-*-Ex / type TCE8***-W-****-*-** /

type TCE8***-I-****-*-**

and Compact Version

type KCM****-'EF/EFH/EM/EMH/E*(H)'-**-*-*-*-*-Ex /

type KCM****-'CF/CFH/CM/CMH/C*(H)'-**-*-*-*-*-Ex /

type TCM****-**-****-C***-*-** / type TCMH****-**-****-C***-*-** /

type TCM****-**-****-K***-*-** / type TCMH****-**-****-K***-*-**/

type TCM****-**-****-E***-*-** / type TCMH****-**-****-E***-*-**/

type TCM****-**-****-M***-*-** / type TCMH****-**-****-M***-*-** /

type TCM****-**-****-O***-*-** / type TCMH****-**-****-O***-*-**

None

2. Transmitter Unit type KCE80**-SE-*-*-Ex / type TCE8***-L-****-*-**

2 . 1 The Transmitter Units shall be installed in the safe area only.

2.2 The installation of Transmitter Units shall be carried out in such a way that the clearances of bare conductive parts of intrinsically safe circuits to grounded metal parts of the enclosure are at least 3 mm, and bare conductive parts of non-intrinsically safe circuits of other apparatus are located in a distance of at least 50 mm away from terminals for external intrinsically safe circuits, or are separated from them by a partition wall according to clause 6.2.1 of IEC 60079-11:2011.

3. External Transducer Units type KCM****-0-**-*-*-*-*-Ex / type KCM****-1-**-*-*-*-*-Ex / type TCM****-**-****-AZZ*-*-** / type TCMH****-**-****-AZZ*-*-**

None

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

- Update of the used standards from IEC 60079-1:2003 to IEC 60079-1:2007
- Change of the type designation from type Tricor TCE80** to type Tricor TCE8***
- The Coriolis Flow Meter Type Tricor TCE8*** is optionally carried out with empty enclosure IECEx FTZU 15.0037U.

Annex:

BVS_12_0098X_KEM_Annex_issue4.pdf

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General product information:

Coriolis Flow Meter type C-Flow KCE80** / KCM****

Transmitter Unit type code and Transducer Unit type code: Not changed

Coriolis Flow Meter type Tricor TCE8*** / TCM****
or type Tricor TCE8*** / TCMH****, comprising:
- Transmitter Unit type TCE8***-*-****-*-**, respectively:
- and optionally one of the following Transducer Units:

Type TCM*0100-**-****-****-*-**, TCM*3100-**-****-****-*-**,
TCM*0325-**-****-****-*-**, TCM*5500-**-****-****-*-**,
TCM*0450-**-****-****-*-**, TCM*7900-**-****-****-*-**
TCM*0650-**-****-****-*-**, TCM*28K-**-****-****-*-**,
TCM*1550-**-****-****-*-**, TCM*65K-**-****-****-*-**,
TCM*230k-**-****-****-*-**.

Extended type code of Transducer Unit type TCM****-**-****-****-*-** /
type TCMH****-**-****-****-*-**

Type	Flow rate	Type	Flow rate
TCMz0100-ab-cdef-ghik-m-xx	≤ 100 kg / h	TCMz3100-ab-cdef-ghik-m-xx	≤ 3100 kg / h
TCMz0325-ab-cdef-ghik-m-xx	≤ 325 kg / h	TCMz5500-ab-cdef-ghik-m-xx	≤ 5500 kg / h
TCMz0450-ab-cdef-ghik-m-xx	≤ 450 kg / h	TCMz7900-ab-cdef-ghik-m-xx	≤ 7900 kg / h
TCMz0650-ab-cdef-ghik-m-xx	≤ 650 kg / h	TCMz28k-ab-cdef-ghik-m-xx	≤ 28000 kg / h
TCMz1550-ab-cdef-ghik-m-xx	≤ 1550 kg / h	TCMz65k-ab-cdef-ghik-m-xx	≤ 65000 kg / h
		TCMz230k-ab-cdef-ghik-m-xx	≤ 230000 kg / h

Remarks:
spacer ‘a’ to ‘f’: mechanical details, ‘g’ to ‘k’: electrical parameters
details dealing with all spacers: see table below

Spacer	Code	Feature
z =	(blanc)	Standard, specification based on liquids
	H	Specifications based on high pressure gas
ab =	AA-ZZ	Size and shape of process connection (extended to four digits, see line ‘a’, ‘b’ below)
a =	00-99	Size of process connection
b =	AA-ZZ	Standard and rating of process connection
c =	A-Z	Temperature range
d =	A-Z	Pressure range
e =	A-Z	Accuracy and mechanical design
f =	A-Z	Mounting length
g =	A	Terminal box aluminium (for IS connection to transmitter)
	C	Compact version aluminium
	K	Compact version aluminium
	M	Compact version stainless steel
	O	Compact version stainless steel
	E	Compact version, big housing
	H	Terminal box stainless steel (for IS connection to transmitter)
	P	Push pull connector (for IS connection to transmitter)
h =	A-Y	Non-IS interface
	Z	Not provided
i =	D	Power supply DC 24 V; non-IS
	M	Power supply AC 100 V... 240 V; non-IS
	Z	Not provided
k =	A-Z	Hardware- and Software-options not affecting Ex-relevant parameters
m =	Ex	ATEX and IECEx approval
	Ex3	ATEX and IECEx approval and other approvals
xx =	00 – 99	Special versions, due to application; not affecting Ex-relevant parameters (up to 3 options possible)

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Notes: (referring to position g, h, i)

1. Separate transducer: only option A, H or P possible at position 'g'; (position 'h' and 'i': power supply and interface not provided; marked therefore with Z)
2. Compact version: only option C or E possible at position 'g', position 'h' and 'i' all listed options available.

Extended type code of Transmitter Unit type TCE8***-*-****-*-**:

TCE8*0n-a-bcde-m-xx Reduced driver power electronics designed for Transducer type TCM0100-**-****-AZZS-*-** to type TCM7900-**-****-AZZS-*-**

TCE8*1n-a-bcde-m-xx Enhanced driver power electronics designed for Transducer type TCM28k-**-****- AZZS-*-** to type TCM230k-**-****- AZZS-*-**

TCE8*2n-a-bcde-m-xx Enhanced driver power electronics providing adjustable amplification factor designed for Transducer type TCM28k-**-****- AZZS-*-** to type TCM230k-**-****- AZZS-*-**

Spacer	Code	Feature
TCE80*		Housing in Aluminium (FTZU 04 ATEX 0332U / IECEx FTZU 10.0019U) (FTZU 08 ATEX 0182U / IECEx FTZU 09.0031U)
TCE81*		Housing in Stainless steel (FTZU 15 ATEX 0142U / IECEx FTZU 15.0037U)
n =	0… 9	Hardware and software options not affecting Ex-relevant parameters
a =	W	Wall-mountable flameproof enclosure
	E	Big wall-mountable flameproof enclosure
	I	Wall-mountable flameproof enclosure
	L	Panel-mountable housing (associated equipment for installation in the safe area only)
b =	A-Z	Interface (details see manual)
c =	B	Power supply DC 24 V and AC 100 V... 240 V
	D	Power supply DC 24 V
	M	Power supply AC 100 V ... 240 V
d =	A-Z	Hardware- and software-options not affecting Ex-relevant parameters
e =	A-Z	Length and type of sensor cable to TCM or connector type (for use with separate cable)
m =	Ex	ATEX and IECEx approval
	Ex3	ATEX and IECEx approval and other approvals
xx =	00 – 99	Special versions, due to application; not affecting Ex-relevant parameters (up to 3 options possible)