



# 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](http://www.iecex.com)

Certificate No.: IECEx BVS 12.0098X issue No.: 0 Certificate history: .....

Status: Current

Date of Issue: 2012-12-19 Page 1 of 4

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

Electrical Apparatus: Coriolis Flow Meter, type C-Flow KCE80\*\* / KCM\*\*\*\* and Tricor TCE80\*\* / TCM\*\*\*\*  
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)

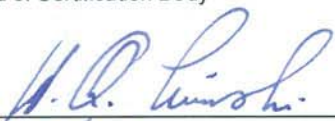
Approved for issue on behalf of the IECEx  
Certification Body:

H.-Ch. Simanski

Position:

Head of Certification Body

Signature:  
(for printed version)

  
19/12/2012

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:

DEKRA EXAM GmbH  
Dinnendahlstrasse 9  
44809 Bochum  
Germany

 **DEKRA**  
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:

<b>IEC 60079-0 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2003</b> Edition: 5	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure 'd'
<b>IEC 60079-11 : 2011-06</b> 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/ExTR12.0103/00](#)

Quality Assessment Report:  
[DE/TPS/QAR12.0003/00](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

#### Description

The Coriolis Flow Meter type C-Flow KCE8\*\* / KCM\*\*\*\* or type Tricor TCE8\*\* / TCM\*\*\*\* respectively, comprises either:  
- a flameproof transmitter housing and an IS-transducer, directly flanged (compact version), or separately mounted;  
or,  
- a transmitter housing made of plastics material (panel mountable housing) intended for installation in the safe area combined with separately mounted IS transducer.

The measuring electronic assemblies type KCE800n / TCE800n, Typ KCE801n / TCE801n or Typ KCE802n / TCE802n inside the flameproof transmitter housing or inside the panel mountable housing provide IS power supply of the transducer and data transfer between the multi-wire IS transducer circuit to non-IS signal circuits and are designed as current limiting and safety shunt assembly modules.

The measuring electronic assemblies type \*CE800n and \*CE801n or \*CE802n provide different IS driver-coil power, KCE80\*n and TCE80\*n are identical.

### CONDITIONS OF CERTIFICATION: YES as shown below:

1. Transmitter Unit type KCE80\*\*-WE-\*-Ex / type TCE80\*\*-E-\*\*\*\*-Ex-\*\* and  
Compact Version type KCM\*\*\*\*-EF/EFH/EM/EMH/E\*(H)-\*\*-\*-Ex / type TCM\*\*\*\*-\*\*-\*\*\*\*-E\*\*\*\*-Ex-\*\*  
None

2. Transmitter Unit type KCE80\*\*-SE-\*-Ex / type TCE80\*\*-L-\*\*\*\*-Ex-\*\*

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\*-Ex-\*\*

None





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## EQUIPMENT(continued):

Transmitter Housing (models type KCE80\*\*-WE-\*\*-Ex / type TCE80\*\*-E-\*\*\*\*-Ex-\*\*):

The transmitter housing consists of a flameproof enclosure closed with threaded covers.

The enclosure provides two separated compartments of different size, used as flameproof terminal compartment, or as flameproof electronics compartment, respectively.

The terminal compartment contains a terminal board, an LCD-display and buttons, located below the inspection glass of the threaded cover.

Cable entries certified for this purpose are used to lead the non-IS circuits into the terminal compartment.

The electronics compartment contains the printed circuit boards of the measuring electronic assemblies type KCE800n / TCE800n, type KCE801n / TCE801n or type KCE802n / TCE802n, respectively. For mounting purposes of an associated IS-transducer, the enclosure is fitted with an adapter or terminal box. The IS-transducer may be combined directly with the flameproof enclosure or installed separately.

The intrinsically safe multicore transducer circuit is led out of the electronics compartment into the adapter or the terminal box by means of an IECEx approved threaded conductor bushing.

Compliance of the flameproof transmitter housing with IEC 60079-1 in context with IEC 60079-0 is verified in COC IECEx FTZU09.0031U.

Panel mountable housing (models type KCE80\*\*-SE-\*\*-Ex / type TCE80\*\*-L-\*\*\*\*-Ex-\*\*):

The panel mountable housing comprises a plastics enclosure of cubical size, containing the printed circuit boards of the measuring electronic assemblies type KCE800n / TCE800n, type KCE801n / TCE801n or type KCE802n / TCE802n, respectively.

Display and keyboard assemblies are integral part of the front side.

Terminals for the non-IS circuits and a 9-pole Sub-D connector for the multicore IS transducer circuit are located on the rear side of the enclosure.

Transducer type KCM\*\*\*\*-\*\*-\*\*-Ex / type TCM\*\*\*\*-\*\*-\*\*\*\*-Ex-\*\*:

the transducers comprise a metallic enclosure containing a Coriolis Measuring Chamber or a tubular measuring unit and electronic components (driver- / sensor coils and temperature sensor) designed for interconnection to an multicore IS circuit.

The enclosure of the tubular measuring unit may be filled with inert gas, used as a corrosion protection manner. The inert gas is not used for any ex-relevant purposes.

The transducers differ with regard to size and shape, measuring range and pressure range of media to be measured.

### Type code

see Annex

### Rating

see Annex