



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 TUN 05.0001

issue No.: 1

Status:

Current

Certificate history:

Issue No. 1 (2009-1-20)

Issue No. 0 (2005-1-31)

Date of Issue:

2009-01-20

Page 1 of 6

Applicant:

VEGA Grieshaber KG
Am Hohenstein 113
77761 Schiltach
Germany

Electrical Apparatus:

VEGAMET MET381.CI*

Optional accessory:

--

Type of Protection:

Intrinsic Safety

Marking:

[Zone 0] [Ex ia] IIC
[Zone 20] [Ex iaD]

Approved for issue on behalf of the IECEx
Certification Body:

Karl-Heinz Schwedt

Position:

Head of IECExCB

Signature:
(for printed version)

Date:


2009-01-20

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

Certificate issued by:

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1
30519 Hannover
Germany





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Certificate No.: IECEx TUN 05.0001

Date of Issue: 2009-01-20

Issue No.: 1

Page 2 of 6

Manufacturer: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Manufacturing location(s):
VEGA Grieshaber KG
Am Hohenstein 113
77761 Schiltach
Germany

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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2004 Edition: 1	Electrical apparatus for explosive gas atmospheres - Part 26: Construction, test and marking of Group II Zone 0 electrical apparatus
IEC 61241-11 : 2005 Edition: 1	Electrical apparatus for use in the presence of combustible dusts - Part 11: Protection by intrinsic safety 'iD'

*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

IECEx ATR:
DE/TUN/09.0002/00

File Reference:
09 204 554744



IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0001

Date of Issue: 2009-01-20

Issue No.: 1

Page 3 of 6

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The signal conditioning instrument type VEGAMET MET381.C_ is an associated electrical apparatus and is used for the safe galvanic separation of the intrinsically safe circuit from all non-intrinsically safe circuits. The apparatus supplies passive, intrinsically safe 4-20 mA two wire measuring value transducers or processes 4-20 signal currents of active intrinsically safe sensors or apparatus. The measuring values are represented on a LCD display digitally or approx. analogously. The setting of limit values and the generation of binary output signals is possible at potential-free relay contacts. The maximum permissible ambient temperature is 60°C.

Electrical data

Supply voltage
(Connections KI5 and KI6)

$U = 20 \dots 253 \text{ V a. c.}$

$U_m = 253 \text{ V a. c.}$

CONDITIONS OF CERTIFICATION: NO



IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0001

Date of Issue: 2009-01-20

Issue No.: 1

Page 4 of 6

EQUIPMENT(continued):

Signal circuit
(Connections KI1[+] and KI2[-])

in type of protection „Intrinsic Safety“ Ex ia IIC/IIB

Sliding switch position Ia: 4 ... 20 mA active:

For connection to passive, intrinsically safe circuits;
max. values of the active signal circuit:

$$U_o = 22.5 \text{ V}$$

$$I_o = 104 \text{ mA}$$

$$P_o = 580 \text{ mW}$$

characteristic line: linear

Ex ia	IIC		IIB	
max. permissible ext. inductance	0.2 mH	0.5 mH	0.5 mH	1.0 mH
max. permissible ext. capacitance	130 nF	97 nF	640 nF	560 nF

Sliding switch position Ip 4 ... 20 mA passive:

For connection to active, intrinsically safe circuits with linear characteristic line;
max. values of the active intrinsically safe circuit to be connected to the terminals KI1 and KI2:

IIC

$$U_o = 22.5 \text{ V}$$

$$I_o = 70 \text{ mA}$$

IIB

$$U_o = 22.5 \text{ V}$$

$$I_o = 200 \text{ mA}$$

Ex ia	IIC	IIB
max. permissible ext. inductance	110 nF	420 nF
max. permissible ext. capacitance	0.2 mH	0.9 mH

The effective internal capacitances and inductances are negligibly small.

The maximum values of the tables are also allowed to be used up to the permissible limits as concentrated capacitances and as concentrated inductances.



IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0001

Date of Issue: 2009-01-20

Issue No.: 1

Page 5 of 6

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

see annexe



IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0001

Date of Issue: 2009-01-20

Issue No.: 1

Page 6 of 6

Additional information:

Relay circuits	maximum values per relay:
(Relay output 1:	a. c. current: 250 V, 3A, 500 VA
connections KI8, KI9 and KI10;	d. c. current: 250 V, 1A, 54 W
relay output 2:	
connections KI11, KI12 and KI13;	
relay output 3:	
connections KI14, KI15 and KI16;	
relay output 4	
connections KI17 and KI18)	

Current output	0/4 ... 20 mA
(Connections KI3 and KI4)	$U_m = 250 \text{ V a. c.}$

The intrinsically safe signal circuit is safe galvanically separated from the non-intrinsically safe circuits up to a peak crest value of the voltage of 375 V.