

Translation

(1) **EC-TYPE EXAMINATION CERTIFICATE**

TÜV NORD

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres -
Directive 94/9/EC



- (3) EC-Type Examination Certificate Number

TÜV 05 ATEX 2719

- (4) **Equipment:** Signal conditioning instrument type VEGAMET MET381.C_
(5) **Manufacturer:** VEGA Grieshaber KG
(6) **Address:** Am Hohenstein 113
D-77761 Schiltach

- (7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

- (8) The TÜV NORD CERT GmbH & Co. KG, TÜV CERT-Certification Body, notified body number N° 0032 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential report N° 05YEX551795.

- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50 014:1997 + A1 + A2 EN 50 020:2002

- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

- (11) This EC-type examination certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

- (12) The marking of the equipment or protective system must include the following:

 **II (1) GD [EEx ia] IIC**

TÜV NORD CERT GmbH & Co. KG
Am TÜV 1
30519 Hannover
Tel.: 0511 986-1470
Fax: 0511 986-2555

Head of the
Certification Body

Hannover, 2005-02-01

(13) **SCHEDULE**

(14) **EC-TYPE EXAMINATION CERTIFICATE N° TÜV 05 ATEX 2719**

(15) Description of equipment

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 mA 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 formation of binary output signals is possible at potential-free relay contacts.

The maximum permissible ambient temperature is 60°C.

Electrical data

Supply voltage $U = 20 \dots 253 \text{ V a. c.}$
 (Connections KI5 and KI6) $U_m = 253 \text{ V a. c.}$

Signal circuit in type of protection „Intrinsic Safety“ EEx ia IIC/IIB
 (Connections KI1[+] and KI2[-]) **Sliding switch position Ia: 4 ... 20 mA aktive:**
 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

EEx 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	IIB
$U_o = 22,5 \text{ V}$	$U_o = 22,5 \text{ V}$
$I_o = 70 \text{ mA}$	$I_o = 200 \text{ mA}$

EEx 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.

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.

(16) The test documents are listed in the test report no. 05 YEX 551795.

(17) Special conditions for safe use

none

(18) Essential Health and Safety Requirements

no additional ones

Translation

1. SUPPLEMENT

to Certificate No. TÜV 05 ATEX 2719

Equipment: Signal conditioning instrument type VEGAMET MET381.C_

Manufacturer: VEGA Grieshaber KG

Address: Am Hohenstein 113
D-77761 Schiltach

Order number: 8000554744

Date of issue: 2009-01-19

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 mA 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.

Changes:

The changes refer to the marking of the apparatus and some changes at the supplementary pcb according to SB1035; there are no safety relevant components on this board.

Marking:

II (1) G [Ex ia] IIC
II (1) D [Ex iaD]
I (M1) [Ex ia] I

The electrical data are supplemented as follows:

Electrical data

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

in type of protection „Intrinsic Safety“ Ex ia IIC/IIB/I
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		I
max. permissible ext. inductance	0.2 mH	0.5 mH	0.5 mH	1.0 mH	5 mH
max. permissible ext. capacitance	130 nF	97 nF	640 nF	560 nF	1200 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	IIB	I
$U_o = 22.5 \text{ V}$	$U_o = 22.5 \text{ V}$	$U_o = 22.5 \text{ V}$
$I_o = 70 \text{ mA}$	$I_o = 200 \text{ mA}$	$I_o = 200 \text{ mA}$

Ex ia	IIC	IIB	I
max. permissible ext. inductance	0.2 mH	0.9 mH	2.8 mH
max. permissible ext. capacitance	110 nF	420 nF	1000 nF

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.

The electrical data L_o and C_o for IIC and for IIB do also apply for explosion hazardous areas caused by dust.

Then, the signal circuit may be executed in type of protection Intrinsic Safety Ex ia IIC or Ex ia IIB.

All other details remain unchanged.

The equipment according to this supplement meets the requirements of these standards:

EN 60079-0:2006 EN 60079-11:2007 EN 60079-26:2004 EN 61241-11:2006

(16) The test documents are listed in the test report No. 09 203 554744.

(17) Special conditions for safe use

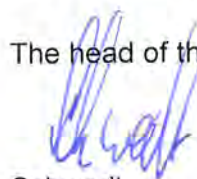
none

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, accredited by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the certification body



Schwedt