

CERTIFICATE

(1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **KEMA 08ATEX0015 X** Issue Number: **4**

(4) Product: **Gas Volume Corrector Unigas 300 Model PTZ, Model TZ, Model PT and Model T**

(5) Manufacturer: **Wigersma en Sikkema B.V.**

(6) Address: **Leigraafseweg 4, 6983 BP Doesburg, The Netherlands**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., Notified Body number 0344 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential test report number 218090100, issue 4.

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

EN 60079-0 : 2006

EN 60079-11 : 2007

EN 60079-26 : 2007

EN 60079-28 : 2007

except in respect of those requirements listed at item 18 of the Schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:



**II 1 G Ex ia IIC T4 or
II (1) G [Ex ia] IIC**

Date of certification: 4 March 2022

DEKRA Certification B.V.

R. Schuller
Certification Manager



(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 08ATEX0015 X**

Issue No. 4

(15) **Description**

The Gas Volume Corrector Unigas 300 Model PTZ, Model TZ and Model PT and Model T is used for accurate gas volume measurement. The measurement signal from a gas flow meter, connected to the apparatus is corrected for gas temperature and gas pressure (optional).

Correctors Model PTZ and Model PT are equipped with an integrally mounted Pt500 temperature sensor and a certified integrally or externally mounted pressure transducer.

Correctors Model TZ and Model T are equipped with an integrally mounted Pt500 temperature sensor.

The unit is provided with a display and keys for control. The output is a pulse signal and the unit is provided with data communication via 3 infrared interfaces.

The Gas Volume Corrector is supplied by an internal non-rechargeable lithium battery and optionally by an external supply unit.

Ambient temperature range -40 °C to +55 °C.

Electrical data

Power supply (Connector 4 pins 11 and 12):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

$U_i = 10 \text{ V}$; $I_i = 600 \text{ mA}$; $P_i = \text{any}$; $C_i = 1,7 \text{ }\mu\text{F}$; $L_i = 0 \text{ mH}$.

Power supply (Connector 3 pins 1 and 3):

one Li-SOCL₂ Battery cell, nominal voltage 3,6 V, any of the following approved types:

- Saft LS33600C
- Tadiran TL-5937
- Tadiran TL2780
- EVE ER34615
- EVE ER341245

Input circuit LF1, LF2, LF3 (Connector 4 pins 4, 5, 6 and 3, 7):

in type of protection intrinsic safety Ex ia IIC, with the following maximum values, circuits combined:

$U_o = 5,0 \text{ V}$; $I_o = 32 \text{ mA}$; $P_o = 40 \text{ mW}$; $C_o = 1 \text{ }\mu\text{F}$; $L_o = 30 \text{ mH}$,

and

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

$U_i = 5,0 \text{ V}$; $I_i = 1 \text{ mA}$; $P_i = 1 \text{ mW}$; $C_i = 0 \text{ }\mu\text{F}$; $L_i = 0 \text{ }\mu\text{H}$.

Input circuit Alarm1, Alarm2 (Connector 4 pins 8 and 10 and 9):

in type of protection intrinsic safety Ex ia IIC, with the following maximum values, per circuit:

$U_o = 5,0 \text{ V}$; $I_o = 34 \text{ mA}$; $P_o = 43 \text{ mW}$; $C_o = 1 \text{ }\mu\text{F}$; $L_o = 30 \text{ mH}$.

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Input circuit Namur (Connector 4 pins 1, and 2):

in type of protection intrinsic safety Ex ia IIC, with the following maximum values:

$U_o = 9,6 \text{ V}$; $I_o = 11 \text{ mA}$; $P_o = 27 \text{ mW}$; $C_o = 3,6 \text{ }\mu\text{F}$; $L_o = 100 \text{ mH}$,

and

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

$U_i = 9,6 \text{ V}$; $I_i = 1 \text{ mA}$; $P_i = 1 \text{ mW}$; $C_i = 0 \text{ }\mu\text{F}$; $L_i = 0 \text{ }\mu\text{H}$.

Output circuit Alarm1, Alarm2, Pulse1, Pulse2 (Connector 11 pins 13, 15, 16, 18 and 14, 17):

in type of protection intrinsic safety Ex ia IIC, only for connection to certified intrinsically safe circuits, with the following maximum values, per circuit:

$U_i = 20 \text{ V}$; $I_i = 600 \text{ mA}$; $P_i = 480 \text{ mW}$; $C_i = 27 \text{ nF}$; $L_i = 0 \text{ mH}$.

The input circuits are used for connection to passive or active circuits.

All electrical data listed here are valid for equipment with a year of production 2014 or later.

Three optical interfaces (IRDA):

Inherently safe; optical power < 35 mW.

If the Corrector is installed outside the hazardous area, the following electrical data apply for Output circuit Alarm1, Alarm2, Pulse1, Pulse2 (Connector 11 pins 13, 15, 16, 18 and 14,17):

$U_n = 20 \text{ Vdc}$, $U_m = 250 \text{ Vac}$.

All other electrical parameters apply unchanged.

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

No. 218090100, issue 4.

(17) **Specific conditions of use**

1. Because the enclosure of the Gas Volume Corrector Unigas 300 is made of aluminium alloy, when used in a potentially explosive atmosphere requiring apparatus of equipment category 1 G, the Corrector must be installed so, that even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.
2. On application of the Corrector in an explosive gas atmosphere requiring the use of apparatus of equipment category 1 G, precaution shall be taken to avoid danger of ignition due to electrostatic charges on the enclosure.
3. When used with an external pressure transducer (Model PTZ and Model PT), it must be taken into account, that from a safety point of view, the circuit of the pressure transducer is connected to earth.

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(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

The compliance with the Essential Health and Safety Requirements of the intrinsically safe pressure transducers type PDCR IS-0068 and type PDCR IS-0069 has been assured by compliance with EN 50014 : 1997 + A1, A2, EN 50020 : 1994 and EN 50284 : 1999.

(19) **Test documentation**

As listed in Report No. 218090100, issue 4.

(20) **Certificate history**

Issue 1 - 210845200	initial certificate
Issue 2 - 218090100	manufacturer name change
Issue 3 - 223205500	several circuits now permit active sources, Namur values changed and minor constructional changes.
Issue 4 - 226344200	alternative batteries and other minor constructional changes