

# 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 04ATEX1036** Issue Number: **3**

(4) Product: **Retractable Probe Control Unit Type Unical 9000-X... and Type Unclean 900-X...**

(5) Manufacturer: **Knick Elektronische Messgeräte GmbH & Co. KG**

(6) Address: **Beuckestrasse 22, 14163 Berlin, Germany**

(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 221668800, issue 0.

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

**EN 60079-0 : 2012 + A11 : 2013**

**EN 60079-11 : 2012**

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 2(1) G  
II 2(1) D

Ex ia [ia Ga] IIC T4 Gb  
Ex ia [ia Da] IIIC T130 °C Db

Date of certification: 21 October 2017

DEKRA Certification B.V.

R. Schuller  
Certification Manager



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(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 04ATEX1036**

Issue No. 3

(15) **Description**

The Retractable Probe Control Unit Type Unical 9000-X... and Type Uniclean 900-X... is mainly intended for control of Retractable Probe Type Ceramat WA 1\*\*-X... and is controlled by the Modular Analyzing System Protos Type 3400 X \*/\*\*\* or similar measuring system or by a DCS. The Retractable Probe Control Unit Type Uniclean 900-X... is identical to Type Unical 9000-X... but with simplified software and pneumatics, without the Service switch circuit, without valve and with only one position for the Media adapter. The Retractable Probe Control Unit consists of a control cabinet with built-in control electronics and the associated pneumatic/hydraulic circuits, the process connection for operation of the retractable probe, the external media adapter for a maximum of three dosing pumps with containers for the buffer and cleaning solutions and the external Service Switch for service and measurement.

Ambient temperature range: -20 °C to +50 °C.

The maximum surface temperature of the housing T130 °C is based on a maximum ambient temperature of +50 °C.

**Electrical data**

Auxiliary external power supply (terminals KL19 and KL21):

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

$U_i = 30 \text{ V}$ ;  $P_i = 1 \text{ W}$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$

or

Auxiliary external power supply (terminals KL19 and KL20):

in type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, only for connection to the certified Protos Module Type PHU 3400 X - 11\* or Type FIU 3400 X - 14\* (KEMA 03ATEX2530).

Emergency Shutdown circuit (terminals KL15 and KL16):

with Auxiliary external power supply; in type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:

$U_o = 30 \text{ V}$ ;  $I_o = 67 \text{ mA}$ ;  $P_o = 500 \text{ mW}$ ;  $C_o = 66 \text{ nF}$ ;  $L_o = 10 \text{ mH}$ ,

or with Auxiliary power supply; in type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:

$U_o = 7,5 \text{ V}$ ;  $I_o = 452 \text{ mA}$ ;  $P_o = 883 \text{ mW}$ , with a cable length Emergency shutdown circuit + Auxiliary power supply < 140 m.

Interface RS485 (terminals KL17, KL18 and KL19):

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

$U_i/U_o = 5 \text{ V}$ ;  $I_i/I_o = 257 \text{ mA}$ ;  $R_i = 19,5 \Omega$ ;  $C_i = 0 \text{ nF}$ ;  $L_i = 0 \text{ mH}$ ;  $C_o = 3,5 \mu\text{F}$ ;  $L_o = 1,2 \text{ mH}$ .

or

in type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, only for connection to the certified Protos Module Type PHU 3400 X - 11\* or Type FIU 3400 X - 14\* (KEMA 03ATEX2530).

DCS Outputs ML1, ML2, ML3 (terminals KL31, KL32, KL33 and KL34):

in type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, only for connection to a certified intrinsically safe

circuit, with the following maximum values per circuit:

$U_i = 30 \text{ V}$ ;  $I_i = 100 \text{ mA}$ ;  $P_i = 800 \text{ mW}$ ;  $C_i = 12 \text{ nF}$ ;  $L_i = 0 \text{ mH}$

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DCS Inputs:

PRG1, PRG2, PRG3 (terminals KL36, KL37, KL38 and KL39),

A/M (KL40 and KL41),

M/S (KL42 and KL43),

in type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, only for connection to a certified intrinsically safe

circuit, with the following maximum values per circuit:

$U_i = 30 \text{ V}$ ;  $I_i = \text{no limit}$ ;  $P_i = \text{no limit}$ ;  $R_i = 3 \text{ k}\Omega$ ;  $C_i = 0 \text{ }\mu\text{F}$ ;  $L_i = 0 \text{ mH}$

Peak voltage in case of voltage addition: 60 V. No current addition.

Input circuit (terminals KL1 and KL2):

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

$U_o = 5 \text{ V}$ ;  $I_o = 8 \text{ mA}$ ;  $P_o = 10 \text{ mW}$ ;  $C_o = 5 \text{ }\mu\text{F}$ ;  $L_o = 2 \text{ mH}$  (Linear characteristic).

Service Switch circuit (terminals KL8, KL9, KL10 and KL11):

in type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, only for connection to the Service Switch, which is part of the Retractable Probe Control Unit, with a cable length < 100 m.

Pump circuits (KL45, KL46, KL47, KL48, KL49, KL50, KL51):

in type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, only for connection to media adapter / metering pumps, which are part of the Retractable Probe Control Unit, with a cable length < 100 m.

Probe circuits (KL12, KL13, KL14):

in type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, only for connection to process connections, which are part of the Retractable Probe Control Unit, with a cable length < 100 m.

The external auxiliary power supply circuit, the emergency shutdown circuit, the interface RS485, the service switch circuit, the pump circuits and the probe circuits are connected with each other and to the potential equalization PE.

The DCS outputs ML1, ML2 and ML3 are connected with each other.

The DCS inputs PRG1, PRG2 and PRG3 are connected with each other.

The DCS inputs PRG1, PRG2 and PRG3 are functionally galvanically separated from the DCS input A/M and from the DCS input M/S, but are connected from an intrinsic safety point of view.

The DCS outputs and the DCS inputs and the Input circuit are infallibly galvanically isolated from each other and from all other circuits up to a peak voltage of 60 V.

### Installation instructions

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

(16) **Report Number**

No. 221668800, issue 0.

(17) **Specific conditions of use**

None.

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

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. 221668800, issue 0.

(20) **Certificate history**

Issue 1 - 207146300	initial certificate
Issue 2 - 210712800	Addition of Type Uniclean 900-X....
	Addition of connection to Protos Module Type FIU 3400 X - 14*
Issue 3 - 221668800	Standards upgrade and now based on 221668800, issue 0