



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX DEK 22.0022** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2022-07-28
Applicant: **Knick Elektronische Messgeräte GmbH & Co. KG**
Beuckestrasse 22, 14163 Berlin
Germany
Equipment: **Retractable Probe Control Unit, Type Unical 9000-X... and Type Unclean 900-X...**
Optional accessory:
Type of Protection: **Ex ia**
Marking: Ex ia [ia Ga] IIC T4 Gb
Ex ia [ia Da] IIIC T130 °C Db

Approved for issue on behalf of the IECEx
Certification Body:

R. Schuller

Position:

Certification Manager

Signature:
(for printed version)

Date:
(for printed version)

2022-07-28

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2. This certificate is not transferable and remains the property of the issuing body.
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Meander 1051
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Netherlands





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Page 2 of 3

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Manufacturer: **Knick Elektronische Messgeräte GmbH & Co. KG**
Beuckestrasse 22, 14163 Berlin
Germany

Manufacturing locations: **Knick Elektronische Messgeräte GmbH & Co. KG**
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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 equipment 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 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with 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:

[NL/DEK/ExTR22.0021/00](#)

Quality Assessment Report:

[DE/TUN/QAR06.0016/10](#)



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Page 3 of 3

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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Retractable Probe Control Unit Type Unical 9000-X... and Type Unclean 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 Unclean 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.

Rated ambient temperature range (°C): -20 °C to +50 °C

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

For more information see attache Annex 1 to Report NL/DEK/ExTR22.0021/00.

SPECIFIC CONDITIONS OF USE: NO

Annex:

[225968300-Annex 1 to ExTR22.0021.00.pdf](#)

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 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 Types MSU 4400X-18*, PHU 3400 X - 11* or FIU 3400 X - 14* (IECEx DEK 11.0054).

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:

$U_o = 8.5 \text{ V}$; $I_o = 456 \text{ mA}$; $P_o = 883 \text{ mW}$; $C_o = 66 \text{ nF}$; $L_o = 1 \text{ mH}$.

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 Types MSU 4400X-18*, PHU 3400 X - 11* or FIU 3400 X - 14* (IECEx DEK 11.0054).

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:

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

Voltages and currents from one DCS output cannot be present on another DCS output. Only the internal ground of ML1, ML2 and ML3 is connected.

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:

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

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:

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