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 15.0015**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 1	Issue 0 (2016-05-27)
Date of Issue:	2021-07-04		
Applicant:	**Knick Elektronische Messgeräte GmbH & Co. KG** Beuckestraße 22, 14163 Berlin **Germany**		
Equipment:	**Process Indicators Loop Powered Type 830XR Opt …, Type 830XS1 Opt …, Type 830XS2 Opt …**		
Optional accessory:			
Type of Protection:	**Ex ia**		
Marking:	Ex ia [ia Ga] IIC T6 … T4 Gb		

Approved for issue on behalf of the IECEx Certification Body: **R. Schuller**

Position: **Certification Manager**

Signature: (for printed version)

Date: 2021-07-04

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 www.iecex.com or use of this QR Code.

Certificate issued by:

DEKRA Certification B.V.
Meander 1051
6825 MJ Arnhem
Netherlands

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Certificate No.: **IECEx DEK 15.0015**

Date of issue: 2021-07-04 Issue No: 1

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

Additional manufacturing locations:

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/ExTR15.0011/01

Quality Assessment Report:

DE/TUN/QAR06.0016/10

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The Process Indicators Loop Powered are operating as indicating measurement devices in 0(4) … 20mA circuits. The required auxiliary power necessary to operate the respective devices is taken from the measurement current loop.

For additional information on model codes, and options, thermal and electrical data see attached Annex 1 to Report No. NL/DEK/ExTR15.0011/01.

SPECIFIC CONDITIONS OF USE: NO

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
1. Assessed per 60079-0 Ed. 7

Annex:

225491200-Annex1 to ExTR15.0011.01.pdf

Description

The Process Indicators Loop Powered are operating as indicating measurement devices in 0(4) … 20 mA circuits. The required auxiliary power necessary to operate the respective devices is taken from the measurement current loop.

The three Process-Indicator models are Type 830XR Opt …, Type 830XS1 Opt … and Type 830XS2 Opt … . The three models differ in their housing and in optional switching outputs.

Model codes and Options	Description
X	Intrinsically safe
R	Rugged modular case with IP65 protection
S1	Mountable in panel or instrument with 96 x 48 mm² front cover
S2	Mountable in panel or instrument with 144 x 72 mm² front cover
Option 119	Additional cable gland for branching
Option 291	Two min/max outputs, 60 V DC, 0.15 A, 0.7 W / 0.35 W

Thermal data

The relation between ambient temperature range and temperature class is as shown in the table below.

Temperature class	T6	T5	T4
Ambient temperature range for Type 830XR.	-25 °C to 40 °C	-25 °C to 55 °C	-25 °C to 65 °C
Ambient temperature range for Type 830XS1 and 830XS2	-10 °C to 40 °C	-10 °C to 55 °C	-10 °C to 55 °C

Electrical data

Input measurement circuit (terminals KL1-, KL2+ or KL1-, KL3+):
in type of protection intrinsic safety Ex ia IIC, for connection to a certified intrinsically safe circuit, with linear characteristic and the following maximum values:
U_i = 60 V; I_i = 150 mA; P_i = 0.7 W; C_i = 12 nF; L_i = 2.2 µH.
or
in type of protection intrinsic safety Ex ia IIC, for connection to an intrinsically safe circuit with non-linear characteristic and the following maximum values:
Ui = 60 V; Ii = 111,1 mA; Pi = 0.7 W; Ci = 12 nF; Li = 2.2 µH.

Switching Output circuit (for option 291 only) (terminals KL5-, KL6+ and KL7-, KL8+):
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 = 60 V; I_i = 150 mA; P_i = 0.7 W (T4), 0.35 W (T5,T6); C_i = 12 nF; L_i = 0 µH.

The switching output circuits are from each other and against the input measurement circuits galvanically isolated up to a peak value of a nominal difference voltage of 60V.

The sum of the voltages of the connected intrinsically safe circuits shall not exceed 60 V.
A voltage may be ignored if it is less than 20 % of the other voltage.