

# 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: **DEKRA 15ATEX0020** Issue Number: **0**

(4) Product: **Process Indicators Loop Powered Type 830 X R Opt ..., Type 830 X S1 Opt ..., Type 830 X S2 Opt ...**

(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 NL/DEK/ExTR15.0011/00.

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

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

**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**

**Ex ia [ia Ga] IIC T6 ... T4 Gb**

Date of certification: 27 May 2016

DEKRA Certification B.V.

R.H.D. Pommé  
Certification Manager



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(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 15ATEX0020**

Issue No. 0

(15) **Description**

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.

The three Process-Indicator models are Type 830 X R Opt ..., Type 830 X S1 Opt ... and Type 830 X S2 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 48mm <sup>2</sup> front cover
S2	Mountable in panel or instrument with 144 x 72mm <sup>2</sup> front cover
Option 119	Additional cable gland for branching
Option 291	Two min/max outputs, 60 Vdc, 0.15 A, 0.7 W / 0.35 W

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 830 X R.	-25 °C to 40 °C	-25 °C to 55 °C	-25 °C to 65 °C
Ambient temperature range for Type 830 X S1 and 830 X S2	-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:

$U_i = 60 \text{ V}$ ;  $I_i = 150 \text{ mA}$ ;  $P_i = 0,7 \text{ W}$ ;  $C_i = 12 \text{ nF}$ ;  $L_i = 2,2 \text{ }\mu\text{H}$ .

or

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

$U_i = 60 \text{ V}$ ;  $I_i = 111,1 \text{ mA}$ ;  $P_i = 0,7 \text{ W}$ ;  $C_i = 12 \text{ nF}$ ;  $L_i = 2,2 \text{ }\mu\text{H}$ .

Switching Output circuits (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:

$U_i = 30 \text{ V}$ ;  $I_i = 150 \text{ mA}$ ;  $P_i = 0,7 \text{ W}$  (T4), 0,35 W (T5,T6);  $C_i = 12 \text{ nF}$ ;  $L_i = 0 \text{ }\mu\text{H}$ .

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.



(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 15ATEX0020**

Issue No. **0**

**Installation instructions**

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

(16) **Report Number**

No. NL/DEK/ExTR15.0011/00.

(17) **Specific conditions of use**

None.

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

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR15.0011/00.

(20) **Certificate history**

Issue 0 - 217129800      initial certificate