



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx DEK 13.0035X Issue No: 1 Certificate history:  
Issue No. 1 (2018-10-03)  
Issue No. 0 (2013-08-21)

Status: **Current** Page 1 of 4

Date of Issue: **2018-10-03**

Applicant: **PR Electronics A/S**  
Lerbakken 10, 8410 Rønde  
**Denmark**

Equipment: **2-wire Programmable Transmitter, Type 5331A, Type 5331D, Type 5332A, Type 5332D,  
Type 5334A and Type 5334B**

Optional accessory:

Type of Protection: **Ex ia, Ex ic, Ex nA**

Marking:  
Type 5331D, Type 5332D and Type 5334B:  
Ex ia IIC T4...T6 Ga  
Ex ia IIIC Da  
Ex ia I Ma  
Type 5331A, Type 5332A and Type 5334A:  
Ex nA [ic] IIC T4 ... T6 Gc  
Ex ic IIC T4...T6 Gc  
Ex ic IIIC Dc

Approved for issue on behalf of the IECEx  
Certification Body:

R. Schuller

Position:

Certification Manager

Signature:  
(for printed version)

Date:

2018-10-03

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**DEKRA Certification B.V.**  
Meander 1051,  
6825 MJ Arnhem  
The Netherlands





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Manufacturer: **PR Electronics**  
Lerbakken 10, 8410 Rønne  
**Denmark**

Additional Manufacturing location(s):

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 apparatus 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:

<b>IEC 60079-0 : 2011</b> Edition:6,0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-11 : 2011</b> Edition:6,0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-15 : 2010</b> Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
<b>IEC 60079-26 : 2006</b> Edition:2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*This Certificate **does not** indicate compliance with electrical 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/ExTR13.0037/01](#)

Quality Assessment Report:

[NL/DEK/QAR13.0017/03](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The 2-wire Programmable Transmitter, Type 5331A, Type 5331D, Type 5332A, Type 5332D, Type 5334A and Type 5334B, suitable for mounting in a metal enclosure form B according to DIN 43729, is used to convert the temperature measurement signal of a temperature sensor or a mV signal into a 4 ... 20 mA current signal.

For type 5331D, Type 5332D the relation between ambient temperature range and temperature class is as follows:

T4 (Ta: -40 to +85 °C),  
T5 (Ta: -40 to +60 °C),  
T6 (Ta: -40 to +45 °C).

For type 5331A, Type 5332A the relation between ambient temperature range and temperature class is as follows:

T4 (Ta -40 to +85 °C),  
T6 (Ta -40 to +60 °C).

For explosive dust atmospheres, the surface temperature of the outer enclosure is 20 K above the ambient temperature.

For electrical data, refer to Annex 1.

### SPECIFIC CONDITIONS OF USE: YES as shown below:

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Ga, Ma and Mb, and if the enclosure is made of aluminum, it must be installed such, that ignition sources due to impact and friction sparks are excluded.

For type of protection Ex nA, the transmitter shall be mounted in a metal enclosure providing a degree of protection of at least IP54 according to IEC 60529.



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**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):**

- Addition of type 5332A and 5332D
- Minor constructional changes.

**Annex:**

[223085900-Annex1.pdf](#)

**Annex 1 to: Certificate of Conformity IECEx DEK 13.0035X**  
**Report NL/DEK/ExTR13.0037/01**

**Description**

The 2-wire Programmable Transmitter, Type 5331A, Type 5331D, Type 5332A, Type 5332D, Type 5334A and Type 5334B, suitable for mounting in a metal enclosure form B according to DIN 43729, is used to convert the temperature measurement signal of a temperature sensor or a mV signal into a 4 ... 20 mA current signal.

Type 5331 is designed to convert thermocouple or a RTD sensor signals.

Type 5332 is designed to convert RTD sensors signals

Type 5334 is designed to convert thermocouples signals

**Thermal data**

For Type 5331D, Type 5332D and Type 5334B, the relation between ambient temperature range and temperature class is as follows:

Temperature class	Ambient temperature range
T4	-40 to +85 °C
T5	-40 to +60 °C
T6	-40 to +45 °C

For Type 5331A, Type 5332A and Type 5334A, the relation between ambient temperature range and temperature class is as follows:

Temperature class	Ambient temperature range
T4	-40 to +85 °C
T6	-40 to +60 °C

For explosive dust atmospheres, the surface temperature of the outer enclosure is 20 K above the ambient temperature.

**Electrical data**

For Type 5331D, Type 5332D and Type 5334B:

Supply / output circuit (terminals 1 and 2):

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

$U_i = 30 \text{ V}$ ;  $I_i = 120 \text{ mA}$ ;  $P_i = 0.84 \text{ W}$ ;  $C_i = 1 \text{ nF}$ ;  $L_i = 10 \text{ }\mu\text{H}$ .

Sensor circuit (terminals 3, 4, 5 and 6):

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

$U_o = 9.6 \text{ V}$ ;  $I_o = 25 \text{ mA}$ ;  $P_o = 60 \text{ mW}$ ;  $C_o = 2.4 \text{ }\mu\text{F}$ ;  $L_o = 33 \text{ mH}$ .

The sensor circuit is not infallibly galvanic isolated from the input circuit. However, the galvanic isolation between the circuits is capable of withstanding a test voltage of 500 Vac during 1 minute.

**Annex 1 to: Certificate of Conformity IECEx DEK 13.0035X  
Report NL/DEK/ExTR13.0037/01**

For Type 5331A, Type 5332A and Type 5334A:

Either:

supply / output circuit (terminals 1 and 2):

in type of protection Ex nA:  $U_{max} = 35 \text{ V}$ ,

sensor circuit (terminals 3, 4, 5 and 6):

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

$U_o = 9.6 \text{ V}$ ;  $I_o = 25 \text{ mA}$ ;  $P_o = 60 \text{ mW}$ ;  $C_o = 2.4 \text{ }\mu\text{F}$ ;  $L_o = 33 \text{ mH}$ ,

or,

supply / output circuit (terminals 1 and 2):

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

$U_i = 35 \text{ V}$ ;  $I_i = 110 \text{ mA}$ ;  $C_i = 1 \text{ nF}$ ;  $L_i = 10 \text{ }\mu\text{H}$ .

sensor circuit (terminals 3, 4, 5 and 6):

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

$U_o = 9.6 \text{ V}$ ;  $I_o = 25 \text{ mA}$ ;  $P_o = 60 \text{ mW}$ ;  $C_o = 2.4 \text{ }\mu\text{F}$ ;  $L_o = 33 \text{ mH}$ .