

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 20ATEX0095 X** Issue Number: **0**

(4) Product: **2-wire Programmable Transmitter
Type 5331D**, 5332D, 5334B** and Type 6331B**, 6334B****

(5) Manufacturer: **PR electronics A/S**

(6) Address: **Lerbakken 10, 8410 Rønede, Denmark**

(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/ExTR20.0063/00.

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

EN IEC 60079-0 : 2018

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 1 G Ex ia IIC T6 ... T4 Ga
II 2 D Ex ia IIIC Db
I M 1 Ex ia I Ma**

Date of certification: 14 April 2021

DEKRA Certification B.V.

R. Schuller
Certification Manager

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(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 20ATEX0095 X**

Issue No. 0

(15) **Description**

The 2-wire Programmable Transmitter, head mounted Type 5331D**, 5332D, 5334B** and rail mounted Type 6331B**, 6334B**, 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.

The 5000 series transmitter is suitable for mounting in a metal enclosure form B according to DIN 43729 and consists of one channel.

The 6000 transmitter is suitable for rail mounting, with one or two independent channels.

Type designation

Following models numbers are applicable depending on the Equipment Protection Level (EPL), mounting type and number of channels:

EPL	Head mounted	Rail mounted	
	1 channel	1 channel	2 channels
Ga, Db, Ma	5331D** 5332D 5334B**	6331B*A 6334B*A	6331B*B 6334B*B

Thermal data

For EPL Ga (head mounted Types 5331D**, 5332D**, 5334B**):

The relation between ambient temperature range and temperature class:

Temperature class	$P_i = 0,84 \text{ W}$	$P_i = 0,75 \text{ W}$
	Ambient temperature range	Ambient temperature range
T6	-40 °C to +47 °C	-40 °C to +50 °C
T5	-40 °C to +62 °C	-40 °C to +65 °C
T4	-40 °C to +85 °C	-40 °C to +85 °C

For EPL Ga (rail mounted Types 6331B**, 6334B**):

The relation between ambient temperature range and temperature class:

Temperature class	$P_i = 0,84 \text{ W}$	$P_i = 0,75 \text{ W}$
	Ambient temperature range	Ambient temperature range
T6	-40 °C to +40 °C	-40 °C to +45 °C
T5	-40 °C to +55 °C	-40 °C to +60 °C
T4	-40 °C to +85 °C	-40 °C to +85 °C

For EPL Db:

The surface temperature of the outer enclosure is +20 K above the ambient temperature, determined without a dust layer.

Ambient temperature range: -40 °C to +85 °C

For EPL Ma:

Ambient temperature range: -40 °C to +85 °C

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Issue No. **0**

Electrical data

Supply / output circuit (terminals 1 and 2, for head mounted):

Supply and output circuit (terminals 11 - 13, respectively 21 – 23, for rail mounted):

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 (per circuit):

$U_i = 30 \text{ V}$; $I_i = 120 \text{ mA}$; $P_i = 0,84 \text{ W}$ or $P_i = 0,75 \text{ W}$; $C_i = 1 \text{ nF}$; $L_i = 10 \text{ }\mu\text{H}$.

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

Sensor circuit (terminals 41 ... 44, respectively 51 ... 54, for rail mounted):

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

$U_o = 9,6 \text{ V}$; $I_o = 25 \text{ mA}$; $P_o = 60 \text{ mW}$; $C_o = 2,4 \text{ }\mu\text{F}$; $L_o = 33 \text{ mH}$.

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

Installation instructions

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

(16) **Report Number**

No. NL/DEK/ExTR20.0063/00.

(17) **Specific conditions of use**

For ambient temperature range see (15).

If the enclosure is made of non-metallic plastic materials, electrostatic charges on the transmitter enclosure shall be avoided.

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

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Ga, the transmitter shall be mounted in a separately certified enclosure that provides a degree of protection of at least IP20 according to IEC 60529, and that is suitable for the application and correctly installed.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Db, the transmitter shall be mounted in a separately certified enclosure that provides a degree of protection of at least IP5X according to IEC 60079-0, and that is suitable for the application and correctly installed.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Ma, the transmitter shall be mounted in a separately certified enclosure that provides a degree of protection of at least IP54 according to IEC 60529, and that is suitable for the application and correctly installed.

(13) **SCHEDULE**

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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. NL/DEK/ExTR20.0063/00.

(20) **Certificate history**

Issue 0 - 224097400 initial certificate