

# 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: **KEMA 02ATEX1318 X** Issue Number: **5**

(4) Product: **Profibus PA/Foundation Fieldbus Transmitter, Type 5350 A and Type 5350 B**

(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 219384400, issue 1.

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

**EN 60079-0 : 2012 + A11 : 2013**

**EN 60079-11 : 2012**

**EN 60079-15 : 2010**

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:



**Type 5350A:**

**II 3 G Ex nA [ic] T6 ... T4 Gc**

**II 3 G Ex ic IIC T6 ... T4 Gc**

**II 3 D Ex ic IIIC Dc**

**Type 5350B:**

**II 1 G Ex ia IIC T6 ... T4 Ga**

**II 2(1) G Ex ib [ia Ga] IIC T6 ... T4 Gb**

**II 1 D Ex ia IIIC Da**

**I M1 Ex ia I Ma**

Date of certification: 25 October 2019

DEKRA Certification B.V.

R. Schuller  
Certification Manager





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(15) **Description**

Profibus PA/Foundation Fieldbus Transmitter, Type 5350A and Type 5350B, suitable for mounting in an enclosure form B according to DIN 43729, is used to convert the temperature measurement signal of a temperature sensor into an electrical signal.

The transmitter is connected to a Profibus PA fieldbus or to a Foundation Fieldbus.

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

Refer to the electrical data for the relation between the maximum ambient temperature  $T_a$  and the temperature class.

**Electrical data**

For Transmitter, Type 5350B:

Fieldbus input circuit (terminals 1 and 2):

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

$U_i = 30 \text{ V}$ ;  $I_i = 120 \text{ mA}$ ;  $P_i = 0,84 \text{ W}$ .

$T_a \square 85 \text{ °C}$ : Temperature class T4, and also suitable for Group I and III.

$T_a \square 70 \text{ °C}$ : Temperature class T5

$T_a \square 60 \text{ °C}$ : Temperature class T6, or

$U_i = 30 \text{ V}$ ;  $I_i = 300 \text{ mA}$ ;  $P_i = 1,3 \text{ W}$ .

$T_a \square 75 \text{ °C}$ : Temperature class T4, and also suitable for Group I and III.

$T_a \square 65 \text{ °C}$ : Temperature class T5

$T_a \square 45 \text{ °C}$ : Temperature class T6, or

for connection to a certified intrinsically safe fieldbus in accordance with FISCO, with following maximum values:

$U_i = 17,5 \text{ V}$ ;  $I_i = 250 \text{ mA}$ ;  $P_i = 2,0 \text{ W}$ .

$T_a \square 85 \text{ °C}$ : Temperature class T4, and also suitable for Group I and III.

$T_a \square 60 \text{ °C}$ : Temperature class T5

$T_a \square 45 \text{ °C}$ : Temperature class T6, or

$U_i = 15 \text{ V}$ ;  $I_i = 900 \text{ mA}$ ;  $P_i = 5,32 \text{ W}$ .

$T_a \square 85 \text{ °C}$ : Temperature class T4, and also suitable for Group I and III.

$T_a \square 60 \text{ °C}$ : Temperature class T5

$T_a \square 45 \text{ °C}$ : Temperature class T6

or in type of protection intrinsic safety Ex ib IIC, Ex ib IIIC or Ex ib I, only for connection to a certified intrinsically safe fieldbus, with following maximum values:

$U_i = 30 \text{ V}$ ;  $I_i = 250 \text{ mA}$ ;  $P_i = 5,32 \text{ W}$ .

$T_a \square 85 \text{ °C}$ : Temperature class T4, and also suitable for Group I and III.

$T_a \square 75 \text{ °C}$ : Temperature class T5

$T_a \square 60 \text{ °C}$ : Temperature class T6, or



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for connection to a certified intrinsically safe fieldbus in accordance with FISCO, with following maximum values:

$U_i = 17,5 \text{ V}$ ;  $I_i = \text{any}$   $P_i = \text{any}$ .

$T_a \square 85 \text{ }^\circ\text{C}$ : Temperature class T4, and also suitable for Group I and III.

$T_a \square 75 \text{ }^\circ\text{C}$ : Temperature class T5

$T_a \square 60 \text{ }^\circ\text{C}$ : Temperature class T6

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

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

$U_o = 5,7 \text{ V}$ ;  $I_o = 8,4 \text{ mA}$ ;  $P_o = 12 \text{ mW}$ ;  $C_o = 40 \text{ } \mu\text{F}$ ;  $L_o = 200 \text{ mH}$ .

For Transmitter, Type 5350A:

Fieldbus input circuit (terminals 1 and 2) are:

in type of protection non sparking Ex nA, with the following maximum value:

$U = 32 \text{ Vdc}$ ,

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

$U_i = 32 \text{ V}$ ;  $I_i = \text{any}$ ;  $P_i = \text{any}$ .

$T_a \square 85 \text{ }^\circ\text{C}$ : Temperature class T4, and also suitable for Group III.

$T_a \square 75 \text{ }^\circ\text{C}$ : Temperature class T5

$T_a \square 60 \text{ }^\circ\text{C}$ : Temperature class T6, or

for connection to a certified intrinsically safe fieldbus in accordance with FISCO, with following maximum values:

$U_i = 17,5 \text{ V}$ ;  $I_i = \text{any}$   $P_i = \text{any}$ .

$T_a \square 85 \text{ }^\circ\text{C}$ : Temperature class T4

$T_a \square 75 \text{ }^\circ\text{C}$ : Temperature class T5

$T_a \square 60 \text{ }^\circ\text{C}$ : Temperature class T6.

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

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

$U_o = 5,7 \text{ V}$ ;  $I_o = 8,4 \text{ mA}$ ;  $P_o = 12 \text{ mW}$ ;  $C_o = 40 \text{ } \mu\text{F}$ ;  $L_o = 200 \text{ mH}$ .

For Transmitters, both Type 5350A and Type 5350B:

The effective internal capacitance and the effective internal inductance of the Fieldbus input circuit are:  $C_i = 2 \text{ nF}$ ;  $L_i = 1 \text{ } \mu\text{H}$ .

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

For group IIIC, the transmitter shall be mounted in a enclosure that provides a degree of protection of at least IP6X according to EN 60529, and that is suitable for the application and correctly installed.

The surface temperature of that enclosure, determined without a dust layer, is not more than the ambient temperature +20 K.



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**Installation instructions**

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

(16) **Report Number**

No. 219384400, issue 1.

(17) **Specific conditions of use**

In type of protection non sparking, Ex nA, the transmitter shall be mounted in an enclosure providing a degree of protection of at least IP54 in accordance with EN 60529, which is suitable for the application and correctly installed, e.g. in an enclosure that is in type of protection Ex n or Ex e.

If the enclosure is made of non-metallic materials, or of metal with a paint layer thicker than 0,2 mm (group IIC), or 2 mm (group IIB, IIA, I), or any thickness (group III), electrostatic charges shall be avoided.

For EPL Ga, if the enclosure is made of aluminum, it must be installed such that ignition sources due to impact and friction sparks are excluded.

For EPL Ma, the transmitter shall be mounted in a steel, or non-metallic, enclosure that provides a degree of protection of at least IP6X according to EN 60529, and that is suitable for the application and correctly installed.

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

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. 219384400, issue 1.

(20) **Certificate history**

Issue 1 -	202447200	initial certificate
Issue 2 -	212043500	revision change
Issue 3 -	212575000	Assessment to new edition of the standards
Issue 4 -	219384400	Assessment to new edition of the standards, and addition of type 5350A
Issue 5 -	223390900	Minor constructional changes