

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 03ATEX1012 X** Issue Number: **5**

(4) Product: **Profibus PA / Foundation Fieldbus Transmitter, Type 6350B2A, Type 6350B2B, Type 6350A2A and Type 6350A2B**

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

(6) Address: **Lerbakken 10, 8410 Rønne, 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/ExTR14.0078/02.

(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:



For Type 6350B2A and Type 6350B2B:

**II 1 G Ex ia IIC T6 ... T4 Ga or
II 1 D Ex ia IIIC Da or
II 2(1) G Ex ib [ia Ga] IIC T6 ... T4 Gb or
I M 1 Ex ia I Ma**

For Type 6350A2A and Type 6350A2B:

**II 3 G Ex nA [ic] IIC T6 ... T4 Gc or
II 3 G Ex ic IIC T6 ... T4 Gc or
II 3 D Ex ic IIIC Dc**

Date of certification: 28 October 2019

DEKRA Certification B.V.



R. Schuller
Certification Manager

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 03ATEX1012 X**

Issue No. 5

(15) **Description**

Profibus PA / Foundation Fieldbus Transmitter Type 6350, for rail mounting, with one or two independent channels, converts the measurement signals of temperature sensors, mV signals or mA signals into a Profibus PA fieldbus or to a Foundation Fieldbus

Electrical data

Refer to the attachment to this certificate

Installation instructions

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

(16) **Report Number**

No. NL/DEK/ExTR14.0078/02.

(17) **Specific conditions of use**

For electrical and thermal data, refer to Annex 1 to this certificate.

The transmitter shall only be used in an area of not more than pollution degree 2, as defined in IEC 60664-1.

If the transmitter is applied in type of protection "Ex nA", it shall be installed in an enclosure that is Ex nA certified according to EN-IEC 60079-15 or "Ex e" certified and suitable for the application and correctly installed.

Cable entry devices and blanking elements shall fulfill the same requirements.

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

Electrostatic charges on the transmitters enclosure shall be avoided.

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

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR14.0078/02.

(20) **Certificate history**

Issue 1 - 203661200: Initial assessment

Issue 2 - 212575000: Assessment to EN 60079-series standards.

Issue 3 - 217497000: Assessment to new edition of the standards

Issue 4 - 219392300: Minor technical change and EN 60079-26 removed

Issue 5 - 223390900: Minor constructional changes.

Annex 1 to Certificate of Conformity IECEx DEK 14.0071 X
Annex 1 to NL/DEK/ExTR/14.0078/02
Annex 1 to KEMA 03ATEX1012 X, issue 5

General product information:

Profibus PA / Foundation Fieldbus Transmitter Type 6350, for rail mounting, with one or two independent channels, converts the measurement signals of temperature sensors, mV signals or mA signals into a Profibus PA fieldbus or to a Foundation Fieldbus.

For marking Ex ia IIC T6 ... T4 Ga and Ex ic IIC T6 ... T4 Gc

The transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP20 according to EN/IEC 60529 and that is suitable for the application and correctly installed. Ambient temperature range is specified under chapter "Electrical and thermal data".

For marking Ex ia IIIC Da and Ex ic IIIC Dc

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

The surface temperature of the enclosure is equal to the ambient temperature +20 K for a dust layer with a maximum thickness of 5 mm.

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

For marking Ex ia I Ma

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

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

For marking Ex nA [ic] IIC T6 ... T4 Gc

If the transmitter is applied in type of protection "Ex nA", it shall be installed in an enclosure that is Ex nA certified according to IEC-EN 60079-15 or "Ex e" certified and suitable for the application and correctly installed.

Ambient temperature range: -40 °C to +85 °C for temperature class T4,
-40 °C to +75 °C for temperature class T5,
-40 °C to +60 °C for temperature class T6.

Electrical and thermal data

Fieldbus input circuit (terminals 11 and 12, respectively 21 and 22):

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

$U_i = 30 \text{ V}$; $I_i = 120 \text{ mA}$; $P_i = 0.84 \text{ W}$.
 $T_a \leq 85 \text{ °C}$: Temperature class T4
 $T_a \leq 70 \text{ °C}$: Temperature class T5
 $T_a \leq 60 \text{ °C}$: Temperature class T6 or

$U_i = 30 \text{ V}$; $I_i = 300 \text{ mA}$; $P_i = 1.3 \text{ W}$.
 $T_a \leq 75 \text{ °C}$: Temperature class T4
 $T_a \leq 65 \text{ °C}$: Temperature class T5
 $T_a \leq 45 \text{ °C}$: Temperature class T6

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

$U_i = 17.5 \text{ V}$; $I_i = 250 \text{ mA}$; $P_i = 2.0 \text{ W}$.
 $T_a \leq 85 \text{ }^\circ\text{C}$: Temperature class T4
 $T_a \leq 60 \text{ }^\circ\text{C}$: Temperature class T5
 $T_a \leq 45 \text{ }^\circ\text{C}$: Temperature class T6 or

$U_i = 15 \text{ V}$; $I_i = 900 \text{ mA}$; $P_i = 5.32 \text{ W}$.
 $T_a \leq 85 \text{ }^\circ\text{C}$: Temperature class T4
 $T_a \leq 60 \text{ }^\circ\text{C}$: Temperature class T5
 $T_a \leq 45 \text{ }^\circ\text{C}$: Temperature class T6

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

$U_i = 30 \text{ V}$; $I_i = 250 \text{ mA}$; $P_i = 5.32 \text{ W}$.
 $T_a \leq 85 \text{ }^\circ\text{C}$: Temperature class T4
 $T_a \leq 75 \text{ }^\circ\text{C}$: Temperature class T5
 $T_a \leq 60 \text{ }^\circ\text{C}$: Temperature class T6

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

$U_i = 17.5 \text{ V}$; $I_i = \text{any}$; $P_i = \text{any}$.
 $T_a \leq 85 \text{ }^\circ\text{C}$: Temperature class T4
 $T_a \leq 75 \text{ }^\circ\text{C}$: Temperature class T5
 $T_a \leq 60 \text{ }^\circ\text{C}$: Temperature class T6

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

Sensor Circuit (terminals 41...44, respectively 51...54):

in type of protection intrinsic safety Ex ia IIC, Ex ia IIIC or Ex ia I, with following maximum values:
 $U_o = 5.7 \text{ V}$; $I_o = 8.4 \text{ mA}$; $P_o = 12 \text{ mW}$; $C_o = 40 \text{ } \mu\text{F}$; $L_o = 200 \text{ mH}$.

Current Measurement Input Circuit (terminals 13 and 14, respectively 23 and 24):

in type of protection intrinsic safety Ex ia IIC, Ex ia IIIC or Ex ia I, only for connection to a certified intrinsically safe circuit, with the following maximum values (per circuit):
 $U_i = 30 \text{ V}$, $I_i = 140 \text{ mA}$, $P_i = 1 \text{ W}$, $C_i = 0 \text{ nF}$, $L_i = 0 \text{ mH}$

The Sensor Circuit and the Current Measurement Input Circuit are 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.

The Sensor Circuit is galvanically connected to the Current Measurement Input Circuit and only one circuit can be connected at a time.

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Types of protection Ex ic and Ex nA

Ambient temperature range: -40 °C to +85 °C for temperature class T4,
-40 °C to +75 °C for temperature class T5,
-40 °C to +60 °C for temperature class T6.

Fieldbus Input Circuits (terminals 11 and 12, respectively 21 and 22):

in type of protection non sparking Ex nA, with

$U_{max} \leq 32$ Vdc, or

in type of protection intrinsic safety Ex ic IIC or Ex ic IIIC, for connection to an intrinsically safe circuit, with the following maximum values (per circuit):

$U_i = 32$ V; $C_i = 2$ nF; $L_i = 1$ μ H;

or for connection to a intrinsically safe circuit in accordance with FISCO, with following maximum values:

$U_i = 17.5$ V; $C_i = 2$ nF; $L_i = 1$ μ H;

Sensor Circuit (terminals 41 ... 44, respectively 51 ... 54), in type of protection intrinsic safety Ex ic IIC or Ex ic IIIC, with the following maximum values (per circuit):

$U_o = 5.7$ V; $I_o = 8.4$ mA; $P_o = 12$ mW; $C_o = 40$ μ F; $L_o = 200$ mH.

Current Measurement Input Circuits (terminals 13 and 14 , respectively 23 and 24):

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

$I_i = -100$ mA to +100 mA;

The Sensor Circuit and the Current Measurement Input Circuit are 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.

The Sensor Circuit is galvanically connected to the Current Measurement Input Circuit and only one circuit can be connected at a time.