

CERTIFICATE

(1) EC-Type Examination

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 03ATEX1012 X** Issue Number: **3**

(4) Equipment: **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 equipment 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 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems 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/ExTR14.0078/00.

(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

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment 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 [ja 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

This certificate is issued on 12 January 2015 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

DEKRA Certification B.V.



R. Schuller
 Certification Manager

(13) **SCHEDULE**

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

Issue No. **3**

(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 and thermal data

Refer to Annex 1 to this certificate.

Installation instructions

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

(16) **Test Report**

No. NL/DEK/ExTR14.0078/00.

(17) **Special conditions for safe 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 in type of protection Ex n or Ex e, providing a degree of protection of at least IP54.
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 (9).

(19) **Test documentation**

As listed in Test Report No. NL/DEK/ExTR14.0078/00.

Annex 1 to Certificate of Conformity IECEx DEK 14.0071 X, issue 1
Annex 1 to NL/DEK/ExTR/14.0078/01
Annex 1 to KEMA 03ATEX1012 X, issue 4

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:

$U_i = 17,5 \text{ V}$; $I_i = 250 \text{ mA}$; $P_i = 2,0 \text{ W}$.
 $T_a \leq 85 \text{ °C}$: Temperature class T4
 $T_a \leq 60 \text{ °C}$: Temperature class T5
 $T_a \leq 45 \text{ °C}$: Temperature class T6 or

$U_i = 15 \text{ V}$; $I_i = 900 \text{ mA}$; $P_i = 5,32 \text{ W}$.
 $T_a \leq 85 \text{ °C}$: Temperature class T4
 $T_a \leq 60 \text{ °C}$: Temperature class T5
 $T_a \leq 45 \text{ °C}$: 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:

$U_i = 30 \text{ V}$; $I_i = 250 \text{ mA}$; $P_i = 5,32 \text{ W}$.
 $T_a \leq 85 \text{ °C}$: Temperature class T4
 $T_a \leq 75 \text{ °C}$: Temperature class T5
 $T_a \leq 60 \text{ °C}$: Temperature class T6

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

$U_i = 17,5 \text{ V}$; $I_i = \text{any}$ $P_i = \text{any}$.
 $T_a \leq 85 \text{ °C}$: Temperature class T4
 $T_a \leq 75 \text{ °C}$: Temperature class T5
 $T_a \leq 60 \text{ °C}$: 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.