



# (1) EC-TYPE EXAMINATION CERTIFICATE

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

(3) EC-Type Examination Certificate Number: **KEMA 03ATEX1012** Issue Number: **2**

(4) Equipment: **Profibus PA/Foundation Fieldbus Transmitter Type 6350 B**

(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) KEMA Quality 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 212575000/7.

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

**EN 60079-0 : 2006**  
**EN 61241-0 : 2006**

**EN 60079-11 : 2007**  
**EN 61241-11 : 2006**

**EN 60079-26 : 2007**  
**EN 60079-27 : 2008**

(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:



**II 1 G**      **Ex ia IIC T4 ... T6 or**  
**II 2 (1) G**   **Ex ib [ia] IIC T4 ...T6**  
**II 1 D**      **Ex iaD**

This certificate is issued on October 6, 2009 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.

KEMA Quality B.V.

C.G. van Es  
Certification Manager



(13) **SCHEDULE**

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

Issue No. 2

(15) **Description**

Profibus PA/Foundation Fieldbus Transmitter Type 6350 B, for rail mounting, with one or two independent channels is used to convert the measurement signals of temperature sensors, mV signals or mA signals into a digital signal.

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

For use in an explosive atmosphere caused by the presence of combustible dust, the transmitter must be mounted in an additional enclosure. Refer to the installation instructions.

Ambient temperature range  $-40\text{ }^{\circ}\text{C}$  ...  $+85\text{ }^{\circ}\text{C}$ .

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

**Electrical data**

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

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

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

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

$T_a \leq 70\text{ }^{\circ}\text{C}$ : Temperature class T5

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

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

$T_a \leq 75\text{ }^{\circ}\text{C}$ : Temperature class T4

$T_a \leq 65\text{ }^{\circ}\text{C}$ : Temperature class T5

$T_a \leq 45\text{ }^{\circ}\text{C}$ : Temperature class T6

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

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

$T_a \leq 85\text{ }^{\circ}\text{C}$ : 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

$U_i = 15\text{ V}$ ;  $I_i = \text{any}$ ;  $P_i = \text{any}$ .

$T_a \leq 85\text{ }^{\circ}\text{C}$ : 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

(13) **SCHEDULE**

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

Issue No. 2

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:

$C_i = 2 \text{ nF}$ ;  $L_i = 1 \text{ } \mu\text{H}$ .

Current input circuit (terminals 13 and 14, respectively 23 and 24)

in type of protection intrinsic safety Ex ia IIC or Ex iaD, with following maximum values:

$U_i = 30 \text{ V}$ ,  $I_i = 140 \text{ mA}$ ,  $P_i = 1 \text{ W}$ ,  $C_i = 0 \text{ nF}$ ,  $L_i = 0 \text{ mH}$

Sensor circuit (terminals 41, 42, 43 and 44, respectively 51, 52, 53 and 54)

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

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

**Installation Instructions**

The sensor circuit is not infallibly galvanically isolated from the fieldbus input circuit.

However, the galvanic isolation between the circuits is capable of withstanding a test voltage of 500 Vac during 1 minute.

For installation in a potentially explosive dust atmosphere, the following instructions apply:

The Profibus PA/Foundation Fieldbus Transmitter may only be installed in a potentially explosive atmosphere caused by the presence of combustible dust if it is mounted in an enclosure that is providing a degree of protection of at least IP 6X according to EN 60529, that is suitable for the application and is correctly installed.

Cable entries and blanking elements shall be used that are suitable for the application and are correctly installed.

For an ambient temperature  $\geq 60 \text{ }^\circ\text{C}$ , heat resistant cables shall be used with a rating of at least 20 K above the ambient temperature.

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

(16) **Test Report**

KEMA No. 212575000/7.

(17) **Special conditions for safe use**

None.

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

Covered by the standards listed at (9).



(13) **SCHEDULE**

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

**Issue No. 2**

(19) **Test documentation**

As listed in Test Report No. 212575000/7.