

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

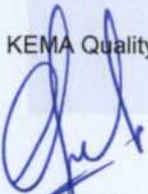
- (3) EC-Type Examination Certificate Number: **KEMA 07ATEX0146 X** Issue Number: 1
- (4) Equipment: **Pulse Isolator Series 9202B, Type 9202B1., Type 9202B2. and Type 9202B3.**
- (5) Manufacturer: **PR electronics A/S**
- (6) Address: **Lerbakken 10, 8410 Rønde, Denmark**
- (7) This equipment and any 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 209493300.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- | | | |
|--------------------------|---------------------------|---------------------------|
| EN 60079-0 :2006 | EN 60079-11 : 2007 | EN 60079-26 : 2007 |
| EN 61241-0 : 2006 | EN 61241-11 : 2006 | |
- (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/IIB/IIA and
II (1) D [Ex iaD]**

This certificate is issued on August 14, 2008 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 07ATEX0146 X** Issue No. 1

(15) **Description**

Pulse Isolators Type 9202B1., Type 9202B2. and Type 9202B3. for rail mounting are 24 V powered 1 channel (Type 9202B.A) or 2 channel (Type 9202B.B) isolating barriers, interfacing "Namur" sensors or contacts located in an explosive atmosphere.

Pulse Isolator Type 9202B.. is supplied via terminals at the front of the module, or via Power Rail Type 9400. Removable display module 4501 can be used for programming of the Pulse Isolator.

Ambient temperature range -20 °C to +60 °C.

Marking

The equipment marking may additionally include the code II 3 G Ex nA nC IIC T4.

Electrical data

Supply (terminals 31, 32 and rear contacts): $U = 19,2 \dots 31,2$ Vdc.

Digital outputs (terminals 11, 12 and 13, 14):

Transistor output, $U \leq 30$ Vdc, $I \leq 80$ mA (Type 9202B1.)

Relay contacts, $U \leq 30$ Vdc or 32 Vac, $I \leq 2$ A (Type 9202B2. and Type 9202B3.)

Status output (terminals 33, 34):

Relay contacts, $U \leq 30$ Vdc or 32 Vac, $I \leq 2$ A

If the Pulse Isolator is installed outside the hazardous area, the following data for the relay contacts apply:

$U \leq 30$ Vdc or 250 Vac, $I \leq 2$ A

For all circuits above: $U_m = 253$ Vac (max. frequency 400 Hz).

Sensor circuits (terminals 41 ... 44 and 51 ... 54):

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

$U_o = 10,6$ V; $I_o = 12$ mA; $P_o = 32$ mW; $C_o = 2,0$ μ F (IIC) or 6,0 μ F (IIB) or 18,0 μ F (IIA);

$L_o = 260$ mH (IIC) or 780 mH (IIB) or 1000 mH (IIA); $L_o/R_o = 1150$ μ H/ Ω (all groups);

for Ex iaD, the parameters of group IIB apply.

The intrinsically safe sensor circuits are infallibly galvanically isolated from each other and from the non-intrinsically safe circuits.

Installation instructions

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

Routine tests

Transformers TR1 and TR2 shall be subjected to a dielectric strength test in accordance with clause 10.10 of EN 60079-11: 2007 with a test voltage of 1500 V ac.



(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 07ATEX0146 X** Issue No. 1

(16) **Test Report**

KEMA No. 209493300.

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

If the Pulse Isolater is installed in an explosive atmosphere where the use of apparatus of equipment category 3 G is required, the following special conditions for safe use apply:

The Pulse Isolater 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 fulfil the same requirements.

Removable Display Module 4501, when connected to the Pulse Isolater, may not be damaged and shall be free of dust and moisture.

Supply via the mounting rail is only allowed if Power Rail Type 9400 with Power Control Unit Type 9410 (Type Examination Certificate KEMA 07ATEX0152 X) is used.

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

Covered by the standards listed at (9).

Compliance with the Essential Health and Safety requirements for Equipment Category 3 has been assured by compliance with EN 60079-0 : 2006 and EN 60079-15 : 2005, as recorded in Test Report No. 209493300.

(19) **Test documentation**

As listed in Test Report No. 209493300.