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 07ATEX0146 X** Issue Number: **5**

(4) Product: **Pulse Isolator Series 9202, Type 9202A1., Type 9202A2., Type 9202A3., Type 9202B1., Type 9202B2. and Type 9202B3.**

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

(6) Address: **Lerbakken 10, 8410 Rønde, 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/KEM/ExTR06.0039/06.

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

EN IEC 60079-0 : 2018
EN IEC 60079-15 : 2019
EN 60079-11 : 2012
EN 60079-7 : 2015 + A1 : 2018

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:

II (1) G	**[Ex ia Ga] IIC/IIB/IIA**	(type 9202B...)
II (1) D	**[Ex ia Da] IIIC**	(type 9202B...)
I (M1)	**[Ex ia Ma] I**	(type 9202B...)
II 3 G	**Ex ec nC IIC T4 Gc**	(type 9202A... and type 9202B...)

Date of certification: 21 April 2022

DEKRA Certification B.V.

R. Schuller
Certification Manager

PRODUCTS RvA C 001

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(13) # SCHEDULE

(14) **to EU-Type Examination Certificate KEMA 07ATEX0146 X** Issue No. **5**

(15) **Description**

Pulse Isolators Type 9202A1., Type 9202A2., Type 9202A3., Type 9202B1., Type 9202B2. and Type 9202B3. for rail mounting, are 24 V powered 1 channel (Type 9202..A) or 2 channel (Type 9202..B) isolating barriers, interfacing “Namur” sensors or contacts located in an explosive atmosphere.

The Pulse Isolator 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.

Electrical data

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

Digital outputs (terminals 11, 12 and 13, 14):
Transistor output, U ≤ 30 Vdc, I ≤ 80 mA (Type 9202.1.)
Relay contacts, U ≤ 30 Vdc or 32 Vac, I ≤ 2 A (Type 9202.2. and Type 9202.3.).
If the Pulse Isolator is installed outside the hazardous area, the following data for the relay contacts apply: U ≤ 30 Vdc or 250 Vac, I ≤ 2 Adc or ac respectively.

Status-Relay output (terminals 33, 34):
U ≤ 32 Vac or 32 Vdc, I ≤ 0,5 Aac or I ≤ 1 Adc respectively.
If the Pulse Isolator is installed outside the hazardous area, the following data for the relay contacts apply: U ≤ 110 Vdc or 125 Vac, I ≤ 0,3 Adc or I ≤ 0,5 Aac respectively.

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/IIIC/I, with following maximum values:
U_o = 10,6 V; I_o = 12 mA; P_o = 32 mW;
C_o = 2,0 µF (IIC) or 6,0 µF (IIB) or 18,0 µF (IIA) or 90 µF (I);
L_o = 260 mH (IIC) or 780 mH (IIB) or 1000 mH (IIA) or 1000 mH (I);
L_o/R_o = 1150 µH/Ω (all groups).
For group IIIC, 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 product shall be followed in detail to assure safe operation.

(16) **Report Number**

No. NL/KEM/ExTR06.0039/06.

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate KEMA 07ATEX0146 X** Issue No. **5**

(17) **Specific conditions of use**

The Pulse Isolator shall be installed in a controlled environment with suitably reduced pollution, limited to pollution degree 2 or better.

The non-intrinsically safe circuits may only be connected to an overvoltage category I or II power source, as defined in EN 60664-1.

If the Pulse Isolator is installed in an explosive atmosphere where the use of apparatus of equipment category 3 G is required, the following specific conditions of use apply:

The Pulse Isolator shall be installed in an enclosure in type of protection Ex e, providing a degree of protection of at least IP54 according to EN 60079-0. Cable entry devices and blanking elements shall fulfill the same requirements.

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

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

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/KEM/ExTR06.0039/06.

(20) **Certificate history**

Issue 1	-	209493300	initial certificate.
Issue 2	-	212508800	editotial changes
Issue 3	-	215048700	assesed per EN 60079-0: 2012 and EN 60079-11: 2012 assessment for mines susceptible to firedamp
Issue 4	-	219204500	assesed per EN 60079-15: 2010 removed EN 60079-26 addition of Ex nA version '9202A*' minor hardware changes
Issue 5	-	225761900	assesed per EN IEC 60079-0: 2018, EN 60079-7: 2015 and EN IEC 60079-15: 2019.