

# 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: **4**

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

(5) Manufacturer: **PRElectronics A/S**

(6) Address: **Lerbakken 10, 8410 Rønede, 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/ExTR06.0039/05.

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

**EN 60079-0 : 2012 : A11**

**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:



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

Date of certification: 12 July 2016

DEKRA Certification B.V.

R. Schuller  
Certification Manager



(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 07ATEX0146 X**

Issue No. 4

(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):  $U = 19,2 \dots 31,2 \text{ Vdc}$ .

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

Transistor output,  $U \leq 30 \text{ Vdc}$ ,  $I \leq 80 \text{ mA}$  (Type 9202.1.)

Relay contacts,  $U \leq 30 \text{ Vdc}$  or  $32 \text{ Vac}$ ,  $I \leq 2 \text{ A}$  (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:  $U \leq 30 \text{ Vdc}$  or  $250 \text{ Vac}$ ,  $I \leq 2 \text{ Adc}$  or  $\text{Aac}$  respectively.

Status-Relay output (terminals 33, 34):

$U \leq 32 \text{ Vac}$  or  $32 \text{ Vdc}$ ,  $I \leq 0,5 \text{ Aac}$  or  $I \leq 1 \text{ Adc}$  respectively.

If the Pulse Isolator is installed outside the hazardous area, the following data for the relay contacts apply:  $U \leq 110 \text{ Vdc}$  or  $125 \text{ Vac}$ ,  $I \leq 0,3 \text{ Adc}$  or  $I \leq 0,5 \text{ Aac}$  respectively.

For all circuits above:  $U_m = 253 \text{ Vac}$  (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:

$U_o = 10,6 \text{ V}$ ;  $I_o = 12 \text{ mA}$ ;  $P_o = 32 \text{ mW}$ ;

$C_o = 2,0 \mu\text{F}$  (IIC) or  $6,0 \mu\text{F}$  (IIB) or  $18,0 \mu\text{F}$  (IIA) or  $90 \mu\text{F}$  (I);

$L_o = 260 \text{ mH}$  (IIC) or  $780 \text{ mH}$  (IIB) or  $1000 \text{ mH}$  (IIA) or  $1000 \text{ mH}$  (I);

$L_o/R_o = 1150 \mu\text{H}/\Omega$  (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/ExTR06.0039/05.

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 07ATEX0146 X**

Issue No. 4

(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 EN60664-1.

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 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 Isolator, 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/ExTR06.0039/05.

(20) **Certificate history**

Issue 1 - 209493300

- initial certificate

Issue 2 - 212508800:

- editorial change

Issue 3 - 215048700:

- IEC60079-0: 2006 and IEC60079-26:2006 are applied, to add EPL's to the marking.
- the electrical data for the status-relay is corrected.
- application of annex F of IEC 60079-11
- fuse change
- assessment for mines susceptible to firedamp
- upgrade to IEC60079-0: 2011 and IEC60079-11: 2011

Issue 4 - 219204500:

- update to IEC60079-15: 2010
- remove IEC60079-26
- addition of Ex nA version '9202A\*', having grey terminal-blocks
- minor hardware changes