IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx KEM 06.0039X**

Status: **Current**

Issue No: 6

Date of Issue: 2022-04-21

Applicant: **PR electronics A/S**
Lerbakken 10
8410 Rønde
Denmark

Equipment: **Pulse Isolator Series 9202, Type 9202A.. and Type 9202B..**

Optional accessory: Display module, Type 4501

Type of Protection: **Ex ec nC, [Ex ia]**

Marking: Ex ec nC IIC T4 Gc (Type 9202A.. and 9202B..)
[Ex ia Ga] IIC/IIB/IIA (Type 9202B..)
[Ex ia Da] IIIC (Type 9202B..)
[Ex ia Ma] I (Type 9202B..)

Certificate history:
Issue 5 (2016-07-13)
Issue 4 (2012-01-30)
Issue 3 (2010-01-26)
Issue 2 (2009-05-04)
Issue 1 (2008-11-04)
Issue 0 (2008-08-15)

Approved for issue on behalf of the IECEx Certification Body: **R. Schuller**

Position: **Certification Manager**

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
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Certificate issued by:

DEKRA Certification B.V.
Meander 1051
6825 MJ Arnhem
Netherlands

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Manufacturer: **PR electronics A/S**
Lerbakken 10
8410 Rønde
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Manufacturing locations: **PR electronics A/S**
Lerbakken 10
8410 Rønde
Denmark

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-15:2017 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

NL/KEM/ExTR06.0039/06

Quality Assessment Report:

NL/DEK/QAR13.0017/04

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Pulse Isolators Type 9202A1., Type 9202A2. Type 9202A3, Type 9202B1., Type 9202B2. and Type 9202B3. for rail mounting, are 24V powered 1 channel (Type 9202B.A) or 2 channel (type 9202B.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.

Refer to Annex 1 for futher details.

SPECIFIC CONDITIONS OF USE: YES as shown below:
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 IEC 60664-1.

If the Pulse Isolator is installed in an explosive atmosphere where equipment protection level Gc is required, the following conditions of certification additionally 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 IEC 60079-0. 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.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
assessed per 60079-0 Ed. 7.0
assessed per 60079-7 Ed. 5.1
assessed per 60079-15 Ed. 5.0

Annex:

225761900-ExTR06.0039.06-Annex1_1.pdf

Annex 1 to: Certificate of Conformity IECEx KEM 07.0146 X
Report NL/KEM/ExTR06.0039/06

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 Aac 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.

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