

### 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 10,0068X**  Page 1 of 6

Certificate history:

Status: Current Issue No: 9

Issue 8 (2020-09-02) Issue 7 (2016-12-23) Issue 6 (2014-07-18)

Date of Issue: 2020-10-26 Issue 5 (2013-09-27) Issue 4 (2013-03-29)

Applicant: PR electronics A/S Lerbakken 10

Issue 3 (2012-07-05) Issue 2 (2011-06-30)

8410 Rønde Denmark

Issue 1 (2011-05-31) Issue 0 (2010-12-21)

Isolators and Converters of system 3000 Equipment:

Optional accessory:

Ex nA

Type of Protection:

Ex ec IIC T4 Gc or Ex ec nC T4 Gc Marking:

Approved for issue on behalf of the IECEx

Certification Body:

R. Schuller

Position:

Signature: (for printed version)

**Certification Manager** 

Date:

2020-10-26

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- This certificate is not transferable and remains the property of the issuing body.
- 3. The Status and authenticity of this certificate may be verified by visiting www.lecex.com or use of this QR Code.



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 **Denmark** 

Additional manufacturing locations:

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

Edition:5.0

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

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 Reports:

NL/KEM/ExTR10.0077/08 NL/KEM/ExTR10.0077/09

Quality Assessment Report:

NL/DEK/QAR13.0017/04



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#### **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

#### Description

Isolators and Converters of system 3000 Type 3 ... for conversion and galvanic isolation of analogue signals.

The type code, the ambient temperature range and the temperature class of the modules shall be taken from table 1.

#### Electrical data

The electrical data of the supply and the input and output circuits shall be taken from table 1.

#### SPECIFIC CONDITIONS OF USE: YES as shown below:

The equipment shall only be used in an area of not more than pollution degree 2, as defined in IEC 60664-1.

The equipment shall be installed in a suitable enclosure that provides a degree of protection of at least IP54 in accordance with IEC 60079-7.



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#### Equipment (continued):

#### Table 1

| Description                             | Type No.               | Temperature<br>Class | Ambient<br>Range | Supply Power/Current | Supply<br>Voltage | Relays |
|---|------------------------|----------------------|------------------|----------------------|-------------------|--------|
| Isolated<br>Repeater                    | 3103,<br>3103 <b>N</b> | T4                   | -25<br>+70°C     | 0.8 Watt             | 16.8<br>31.2 V    |        |
| Isolated<br>Converter                   | 3104,<br>3104N         | T4                   | -25<br>+70°C     | 1.2 Watt             | 16.8<br>31.2 V    |        |
| Isolated<br>Repeater/<br>Splitter       | 3108,<br>3108 <b>N</b> | T4                   | -25<br>+70°C     | 0.8 Watt             | 16.8<br>31.2 V    |        |
| Isolated<br>Converter/<br>Splitter      | 3109,<br>3109 <b>N</b> | T4                   | -25<br>+70°C     | 1.2 Watt             | 16.8<br>31.2 V    |        |
| Isolated<br>Universal/<br>Converter     | 3114,<br>3114N         | T4                   | -25<br>+70°C     | 1.2 Watt             | 16.8<br>31.2 V    |        |
| Power<br>Connector Unit                 | 3405                   | T4                   | -25<br>+70°C     | 2.5 A                | 16.8<br>31.2 V    |        |
| Loop-Powered<br>Isolator                | 3185A1                 | T4                   | -25<br>+70°C     | 20 mA                | -                 |        |
| 2 Ch Loop-<br>Powered<br>Isolator       | 3185A2                 | T4                   | -25<br>+70°C     | 2x20 mA              | -                 |        |
| 2-Wire<br>Transmitter<br>Isolator       | 3186A1                 | T4                   | -25<br>+70°C     | 20 mA                | 35 V              |        |
| 2 Ch 2-Wire<br>Transmitter<br>Isolator  | 3186A2                 | T4                   | -25<br>+70°C     | 2x20 mA              | 35 V              |        |
| 2-Wire Current<br>Isolator              | 3168B1                 | T4                   | -25<br>+70°C     | 20 mA                | 32.50 V           |        |
| 2 Ch 2-Wire<br>Current<br>Isolator      | 3168B2                 | T4                   | -25<br>+70°C     | 2x20 mA              | 16.25 V           |        |
| Isolated<br>Converter                   | 3117,<br>3117 <b>N</b> | T4                   | -25<br>+70°C     | 0.8 Watt             | 16.8<br>31.2 V    |        |
| Isolated<br>Converter/<br>Splitter      | 3118,<br>3118 <b>N</b> | T4                   | -25<br>+70°C     | 0.8 Watt             | 16.8<br>31.2 V    |        |
| TC<br>Temperature<br>Converter          | 3101                   | T4                   | -25<br>+70°C     | 0.7 Watt             | 16.8<br>31.2 V    |        |
| Pt100<br>Temperature<br>Converter       | 3102                   | T4                   | -25<br>+70°C     | 0.7 Watt             | 16.8<br>31.2 V    |        |
| Isolated TC<br>Temperature<br>Converter | 3111,<br>3111N         | T4                   | -25<br>+70°C     | 0.7 Watt             | 16.8<br>31.2 V    |        |



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| Isolated Pt100<br>Temperature<br>Converter           | 3112,<br>3112N    | T4 | -25<br>+70°C | 0.7 Watt      | 16.8<br>31.2 V |   |
|--|-------------------|----|--------------|---------------|----------------|---|
| HART<br>Temperature<br>Converter                     | 3113,<br>3113N    | T4 | -25<br>+70°C | 0.7 Watt      | 16.8<br>31.2 V |   |
| Loop Powered<br>HART<br>Temperature<br>Converter     | 3337              | T4 | -25<br>+70°C | 8-35V / 20 mA | -              |   |
| Loop Powered<br>Isolated<br>Temperature<br>Converter | 3331              | T4 | -25<br>+70°C | 8-35V / 20 mA | -              |   |
| Loop Powered<br>Pt100<br>Temperature<br>Converter    | 3333              | T4 | -25<br>+70°C | 8-35V / 20 mA | -              |   |
| Universal<br>Frequency<br>Converter                  | 3225A,<br>3225A-N | T4 | -25<br>+70°C | 1.2<br>Watt   | 16.8<br>31,2 V |   |
| Universal<br>Frequency<br>Converter                  | 3225B,<br>3225B-N | T4 | -25<br>+70°C | 1.2<br>Watt   | 16.8<br>31.2 V | х |



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**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**Update to IEC 60079-0 :2017 (Ed.7), IEC 60079-7 :2015 (Ed.5.1), IEC 60079-15 : 2017 (Ed. 5) and addition of modules 3225A, 3225A-N, 3225B, 3225B-N.