



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx DEK 15.0039X Issue No: 1 Certificate history:  
Status: Current Page 1 of 4 Issue No. 1 (2015-09-29)  
Date of Issue: 2015-09-29 Issue No. 0 (2015-07-30)  
Applicant: PR electronics A/S  
Lerbakken 10  
8410 Rønne  
Denmark  
Electrical Apparatus: Field mounted HART Temperature Transmitter, Type 7501.....2.  
*Optional accessory:*  
Type of Protection: Ex d, tb, ia, ic, nA  
Marking:  
Ex d IIC T6...T4 Gb  
Ex tb IIIC T85 °C...T100 °C Db  
Ex nA IIC T6...T4 Gc  
Ex ia IIC T6...T4 Ga  
Ex ia IIIC T60 °C...T100 °C Da  
Ex ia I Ma (Stainless Steel version only)  
Ex ic IIC T6...T4 Gc  
Ex ic IIIC T85 °C...T100 °C Dc

Approved for issue on behalf of the IECEx  
Certification Body:

R. Schuller

Position:

Certification Manager

Signature:

(for printed version)

  
2015-09-29

Date:

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.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

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





# IECEX Certificate of Conformity

Certificate No: IECEX DEK 15.0039X

Issue No: 1

Date of Issue: 2015-09-29

Page 2 of 4

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

Additional Manufacturing  
location(s):

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 electrical apparatus 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:

<b>IEC 60079-0 : 2011</b> Edition:6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2007-04</b> Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-11 : 2011</b> Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-15 : 2010</b> Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
<b>IEC 60079-31 : 2013</b> Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

*This Certificate does not indicate compliance with electrical 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/DEK/ExTR15.0050/00

NL/DEK/ExTR15.0050/01

Quality Assessment Report:

NL/DEK/QAR13.0017/01



# IECEX Certificate of Conformity

Certificate No: IECEx DEK 15.0039X

Issue No: 1

Date of Issue: 2015-09-29

Page 3 of 4

## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The Field mounted HART Temperature Transmitter, Type 7501.....2, converts a temperature measurement signal into a 4 to 20 mA current signal, with digital communication (HART).

The transmitter consists of an aluminium enclosure and an internal temperature transmitter. When delivered as a connection kit, the installer can build in his own transmitter, that is predefined by PR Electronics A/S. Optionally the transmitter has a glass window, a display and optical buttons to enable local interfacing.

The transmitter is intended to, either be connected via a cable, or mounted directly, to a temperature sensing probe that is suitable for the application and correctly installed.

If the transmitter is physically connected to a possible source of heating or cooling, e.g. by mounting to a process pipe or a temperature sensor, the temperature at the point of connection shall be within the ambient temperature range as given in this certificate.

For nomenclature, thermal and electrical data, see the Annex 1 to this certificate.

### CONDITIONS OF CERTIFICATION: YES as shown below:

For group III (dust), electrostatic charging of the paint layer shall be avoided.

If the transmitter with the aluminium enclosure is installed in an explosive atmosphere requiring the use of equipment protection level Ga, it must be installed such, that ignition sources due to impact and friction sparks are excluded.



# IECEX Certificate of Conformity

Certificate No: IECEX DEK 15.0039X

Issue No: 1

Date of Issue: 2015-09-29

Page 4 of 4

**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):**

- Addition of type of protection "Ex ia I Ma"
- Addition of the stainless steel enclosure

**Annex:**

[510004900-Annex1.pdf](#)

Annex 1 to IECEx test report NL/DEK/ExTR15.0050/01  
 Annex 1 to Certificate of Conformity IECEx DEK 15.0039X, issue 1  
 Annex 1 to EC Type Examination Certificate DEKRA 15ATEX0058 X, issue 2

**Nomenclature**

<b>7501</b>	-	-	-	-	-	-	-	-								
Type																
<b>Housing</b> A: Low copper Aluminum B: Stainless Steel																
<table border="1"> <tr> <td><b>Keypad</b></td> <td><b>Display</b></td> </tr> <tr> <td>1: no</td> <td>no (window)</td> </tr> <tr> <td>2: no</td> <td>yes</td> </tr> <tr> <td>3: yes</td> <td>yes</td> </tr> </table>									<b>Keypad</b>	<b>Display</b>	1: no	no (window)	2: no	yes	3: yes	yes
<b>Keypad</b>	<b>Display</b>															
1: no	no (window)															
2: no	yes															
3: yes	yes															
<b>Sealing</b> A: -40 °C - +85 °C silicone rubber B: -20 °C - +85 °C FMK rubber																
<b>Conduit Threads</b> 1: M20x1.5 6H 2: 1/2NPT mod																
<b>Paint</b> A: Epoxy B: Epoxy+polyurethane N: None																
<b>Transmitter</b> 1: Yes 2: None (comes with a connection kit)																
<b>Approvals</b> 1: General purpose 2: Hazardous area																
<b>Xtra</b> None: standard X: Special edition The color of the front is normally Signal-Red but may be changed to any other color																

**Annex 1 to IECEx test report NL/DEK/ExTR15.0050/01**  
**Annex 1 to Certificate of Conformity IECEx DEK 15.0039X, issue 1**  
**Annex 1 to EC Type Examination Certificate DEKRA 15ATEX0058 X, issue 2**

**Thermal and Electrical data**

Type of protection Ex d:

U<sub>max</sub> = 35 V.

Ambient temperature range:

- 40 °C to +70 °C for temperature class T6;
- 40 °C to +80 °C for temperature class T4 and T5 for Type 7501 B;
- 40 °C to +85 °C for temperature class T4 and T5 for Type 7501 A.

Type of protection Ex tb:

U<sub>max</sub> = 35 V.

Ambient temperature range:

For Silicone rubber sealing-rings:

- 40 °C to +70 °C for maximum surface temperature T85 °C;
- 40 °C to +80 °C for maximum surface temperature T100 °C for Type 7501 B;
- 40 °C to +85 °C for maximum surface temperature T100 °C for Type 7501 A.

For FKM rubber sealing-rings:

- 20 °C to +70 °C for maximum surface temperature T85 °C;
- 20 °C to +80 °C for maximum surface temperature T100 °C for Type 7501 B;
- 20 °C to +85 °C for maximum surface temperature T100 °C for Type 7501 A.

Type of protection Ex ia and Ex ic:

Supply and output circuit (terminals 1, 2):

in type of protection intrinsic safety Ex ia I, Ex ia IIC, Ex ia IIIC, or Ex ic IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

U<sub>i</sub> = 30 V; I<sub>i</sub> = 120 mA; P<sub>i</sub> = 0.84 W; C<sub>i</sub> = 2 nF; L<sub>i</sub> = 0 μH.

Sensor circuit (terminals 3...6):

in type of protection intrinsic safety Ex ia I, Ex ia IIC, Ex ia IIIC, or Ex ic IIC, with following maximum values:

U<sub>o</sub> = 9.6 V; I<sub>o</sub> = 28 mA; P<sub>o</sub> = 67.2 mW; C<sub>o</sub> = 3.5 μF; L<sub>o</sub> = 35 mH.

Although the sensor circuit is not infallibly galvanic isolated from the supply / output circuit, the galvanic isolation between the circuits is capable of withstanding a test voltage of 500 Vac during 1 minute.

Ambient temperature range for Ex ia:

- 40 °C to +45 °C for temperature class T6 or maximum surface temperature T60 °C;
- 40 °C to +60 °C for temperature class T5 or maximum surface temperature T75 °C;
- 40 °C to +80 °C for temperature class T4, maximum surface temperature T100 °C, and Group I for Type 7501 B;
- 40 °C to +85 °C for temperature class T4, maximum surface temperature T100 °C, and Group I for Type 7501 A.

**Annex 1 to IECEx test report NL/DEK/ExTR15.0050/01**

**Annex 1 to Certificate of Conformity IECEx DEK 15.0039X, issue 1**

**Annex 1 to EC Type Examination Certificate DEKRA 15ATEX0058 X, issue 2**

Ambient temperature range for Ex ic:

-40 °C to +60 °C for temperature class T6 or maximum surface temperature T85 °C;

-40 °C to +80 °C for temperature class T4, maximum surface temperature T100 °C for Type 7501 B;

-40 °C to +85 °C for temperature class T4, maximum surface temperature T100 °C for Type 7501 A.

Type of protection Ex nA:

U<sub>max</sub> = 35 V.

Ambient temperature range:

For Silicone rubber sealing-rings:

-40 °C to +60 °C for temperature class T6;

-40 °C to +80 °C for temperature class T4 for Type 7501 B;

-40 °C to +85 °C for temperature class T4 for Type 7501 A.

For FKM rubber sealing-rings:

-20 °C to +60 °C for temperature class T6;

-20 °C to +80 °C for temperature class T4 for Type 7501 B;

-20 °C to +85 °C for temperature class T4 for Type 7501 A.