

# 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: **DEKRA 15ATEX0058 X** Issue Number: **4**

(4) Product: **Field mounted HART Temperature Transmitter, Type 7501A.....2. and Type 7501B.....2.**

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

(6) Address: **Lerbakken 10, 8410 Rønne, 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/DEK/ExTR15.0050/05.

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

**EN 60079-0 : 2012 + A11 : 2013      EN 60079-1 : 2007      EN 60079-11 : 2012**  
**EN 60079-15 : 2010                      EN 60079-31 : 2014**

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 2 G Ex d IIC T6...T4 Gb or**  
**II 2 D Ex tb IIIC T85...T100 °C Db or**  
**II 3 G Ex nA IIC T6...T4 Gc or**  
**II 1 G Ex ia IIC T6..T4 Ga or**  
**II 1 D Ex ia IIIC T60...T100 °C Da or**  
**I M1 Ex ia I Ma (7501B.....2. only) or**  
**II 3 G Ex ic IIC T6..T4 Gc or**  
**II 3 D Ex ic IIIC T85...T100 °C Dc**

Date of certification: 12 February 2020

DEKRA Certification B.V.

R. Schuller  
 Certification Manager



(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 15ATEX0058 X**

Issue No. 4

(15) **Description**

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

The transmitter, Type 7501A.....2., consists of an aluminium enclosure and Type 7501B.....2. consists out of a stainless steel enclosure, both with 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.

The transmitter is optionally supplied with an associated blanking element, Type 8550-... (M20) or Type 8551-... (1/2 NPT).

Optionally the transmitter has a glass window, a display and optical buttons to enable local interfacing.

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

For type of protection flameproof 'd', and dust ignition protection by enclosure 'tb', only ATEX equipment certified sensors, suitable for the application and correctly installed, may be mounted directly onto the Transmitter without additional certification of the combination.

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.

**Electrical data**

See Annex 1 to this certificate.

**Installation instructions**

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

No. NL/DEK/ExTR15.0050/05.

(17) **Specific conditions of use**

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

For installation of Transmitter, Type 7501A.....2., as EPL Ga equipment, the transmitter must be installed such, that even in the event of rare incidents, ignition sources due to impact and friction, sparks are excluded.

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

Covered by the standards listed at item (9).

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 15ATEX0058 X**

**Issue No. 4**

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR15.0050/05.

(20) **Certificate history**

Issue 1 - 218299900	initial certificate
Issue 2 - 510004900	addition of type of protection Ex ia I Ma and stainless steel enclosure
Issue 3 - 218828100	minor changes to electronics
Issue 4 - 223963500	minor changes to components and PCB layout

**Annex 1 to IECEx test report NL/DEK/ExTR15.0050/05**  
**Annex 1 to Certificate of Conformity IECEx DEK 15.0039X, issue 3**  
**Annex 1 to EU Type Examination Certificate DEKRA 15ATEX0058 X, issue 4**

**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.

Ambient temperature range 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.

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

Ambient temperature range 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.

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**Nomenclature**

