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 16ATEX0047X** Issue Number: **7**

(4) Product: **2-wire TC Temperature Transmitter, type 5434D... , 2-wire universal Temperature Transmitter, type 5431D... and 6431D... , 2-wire HART Temperature Transmitter, type 5435D..., 5437D..., 5437B... and type 6437D....**

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

(6) Address: **Lerbakken 10, 8410 Rønde, 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 reports mentioned in item (16).

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

EN IEC 60079-0 : 2018 **EN 60079-11 : 2012**

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 1 G Ex ia IIC T6 ...T4 Ga
II 2(1) G Ex ib [ia Ga] IIC T6...T4 Gb
II 2 D Ex ia IIIC Db
I M1 Ex ia I Ma

Date of certification: 12 December 2025

DEKRA Certification B.V.

R. Schuller
Certification Manager

PRODUCTS RvA C 001

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(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 16ATEX0047X** Issue No. **7**

(15) **Description**

Temperature Transmitters type 543D…., type 5437B... and type 643D…., are used to convert temperature measurement signals from one or two temperature sensors or mV signals, into a 4 ... 20 mA current signal with digital communication (HART).

Model 5437B... is identical to 5437D... but with ATEX marking only.

An extra connection 'TEST' enables connection of an external intrinsically safe current meter, to measure the 4..20 mA supply current signal.

The dedicated extension port (8-pin-header hidden under a small plastic lid on the 543D..... and the front connectors on the 643D.....) is meant to connect future extension modules of PRelectronics A/S in series with the 4..20mA loop supply.

The transmitters, type 543....., are suitable for mounting in an enclosure form B according to DIN 43729 or equivalent.
The transmitters, type 643D....., are suitable for rail mounting.

Nomenclature

5434abd - 2-wire TC temperature transmitter
5431abd - 2-wire universal temperature transmitter
5435abcd - 2-wire HART® temperature transmitter
5437abcd - 2-wire HART® temperature transmitter
6431abcd - 2-wire universal temperature transmitter
6437abcd - 2-wire HART® temperature transmitter

a: A = Zone 2 / Zone 22 approved
B, D = Zone 0 / Zone 20 approved

b: 1 = single input (4 wire)
2 = dual input (7 wire)
3 = two channel (4 wire, each channel)

c: S = SIL approved
“ “ = Not SIL approval

d: M = Marine approved
“ “ = Not marine approved

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 16ATEX0047X** Issue No. **7**

Thermal and electrical data

Supply / output circuit (for type 543.....: terminals 1 and 2, inclusive the 'Test' connection, for type 643D.....: terminals 11...14):
in type of protection intrinsic safety Ex ia IIC, Ex ib IIC, Ex ia IIIC and Ex ia I, only for connection to a certified intrinsically safe circuit, with the following maximum values:
U_i = 30 V; I_i = 120 mA; C_i = 1 nF; L_i = 0 µH. For P_i, see the below table.

Sensor circuit, dual input (for type 543.....: terminals 3…9):
in type of protection intrinsic safety Ex ia IIC, Ex ia IIIC and Ex ia I, with the following maximum values:
U_o = 7,2 V; I_o = 12,9 mA; P_o = 23,3 mW; C_o = 13,5 µF; L_o = 200 mH.
or
Sensor circuit, single input (terminals 3,4,5,6 or terminals 3,7,8,9) for 543… in type of protection intrinsic safety Ex ia IIC, Ex ia IIIC and Ex ia I, with the following maximum values:
U_o = 7,2 V; I_o = 7,3 mA; P_o = 13,2 mW; C_o = 13,5 µF; L_o = 667 mH.

Sensor circuit, dual input (type 643.....: terminals 41...44,51...54):
in type of protection intrinsic safety Ex ia IIC, Ex ia IIIC and Ex ia I, with the following maximum values:
U_o = 7,2 V; I_o = 12,9 mA; P_o = 23,3 mW; C_o = 13,5 µF; L_o = 200 mH.
or
Sensor circuit, single input (terminals 41…44 or terminals 51…54) for 643… and two channel (terminals 41…44 and/or 51…54) for 643D3… in type of protection intrinsic safety Ex ia IIC, Ex ia IIIC and Ex ia I, with the following maximum values:
U_o = 7,2 V; I_o = 7,3 mA; P_o = 13,2 mW; C_o = 13,5 µF; L_o = 667 mH.

The relation between P_i, temperature class, model type and maximum ambient temperature is as follows:

P_i per channel	Temperature class	Maximum ambient temperature	
		Single and dual input	Two channel
900 mW	T6	+50 °C	+45 °C
	T5	+65 °C	+60 °C
	T4	+85 °C	+85 °C
750 mW	T6	+55 °C	+50 °C
	T5	+70 °C	+65 °C
	T4	+85 °C	+85 °C
610 mW	T6	+60 °C	+55 °C
	T5	+75 °C	+70 °C
	T4	+85 °C	+85 °C

The minimum ambient temperature is -50 °C.

For EPL Db:
The surface temperature of the outer enclosure is +20 K above the ambient temperature, determined without a dust layer.

The sensor circuit is infallibly isolated from the supply / output circuit.
The two channels of model type 643D3.. are infallibly isolated from each other.

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate DEKRA 16ATEX0047X** Issue No. **7**

(16) **Report Number**

NL/DEK/ExTR16.0035/07 and NL/DEK/ExTR25.0061/00.

(17) **Specific conditions of use**

For ambient temperature range see (15).

If the enclosure is made of non-metallic plastic materials, electrostatic charges on the transmitter enclosure shall be avoided.

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

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Ga, the transmitter shall be mounted in enclosure that provides a degree of protection of at least IP20 according to IEC 60529, and that is suitable for the application and correctly installed.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Db, the transmitter shall be mounted in enclosure that provides a degree of protection of at least IP5X according to IEC 60079-0, and that is suitable for the application and correctly installed.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Ma, the transmitter shall be mounted in enclosure that provides a degree of protection of at least IP54 according to IEC 60529, and that is suitable for the application and correctly installed.

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

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in reports mentioned in item (16).