

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: **KEMA 04ATEX1316 X** Issue Number: **3**

(4) Product: **Programmable Transmitter, Type 5116B**

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

(6) Address: **Lerbakken 10, 8410 Rønede, 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 222575700, Issue 1.

(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 Ga] IIC/IIB/IIA or
II (1) D [Ex ia Da] IIIC**

Date of certification: 10 February 2021

DEKRA Certification B.V.

R. Schuller
Certification Manager



(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 04ATEX1316 X**

Issue No. 3

(15) **Description**

The Programmable Transmitter, Type 5116B, converts signals from a temperature sensor or from a variable resistor or from a current sink (loop supply included) into an analogue output of 4-20 mA, or 0-1 V or 0-10 V.

The programmable transmitter is located outside the hazardous area; only the intrinsically safe circuits may extend into the hazardous area.

The Programmable Transmitter has a degree of protection of IP20 in accordance with EN 60529. The connections are provided with a mechanical key system.

Ambient temperature range -20 °C to +60 °C.

Electrical data

Supply (terminals 31, 33):

$U = 21,6 \dots 253 \text{ Vac}$ or $19,2 \dots 300 \text{ Vdc}$; $P_{\text{max}} = 3,0 \text{ W}$; $U_{\text{m}} = 253 \text{ Vac}$.

Analog output (terminal 11, 12, 13, 14):

$I = 0/4 \dots 20 \text{ mAdc}$; $U = 0 \dots 10 \text{ Vdc}$; $U_{\text{m}} = 253 \text{ Vac}$.

Relay outputs (terminals 21, 22 and terminals 23, 24):

$U_{\text{m}} = 253 \text{ Vac}$.

Communication interface circuit (connection J101 at the front): $U_{\text{m}} = 60 \text{ Vdc}$.

The communication interface circuit may only be applied, when the Programmable Transmitter, Type 5116B, is not connected to hazardous area.

Sensor circuit (terminals 41 ... 44):

in type of protection intrinsic safety Ex ia IIC/IIB/IIA/IIIC, with following maximum values:

$U_{\text{o}} = 7,5 \text{ V}$; $I_{\text{o}} = 2,2 \text{ mA}$; $P_{\text{o}} = 4,2 \text{ mW}$; $C_{\text{o}} = 6,0 \mu\text{F}$; $L_{\text{o}} = 1 \text{ H}$.

Sensor circuit (terminals 51 ... 53):

in type of protection intrinsic safety Ex ia IIC/IIB/IIA/IIIC, with following maximum values:

$U_{\text{o}} = 7,5 \text{ V}$; $I_{\text{o}} = 2,2 \text{ mA}$; $P_{\text{o}} = 4,2 \text{ mW}$; $C_{\text{o}} = 6,0 \mu\text{F}$; $L_{\text{o}} = 1 \text{ H}$.

Sensor circuit (terminals 51 ... 54):

in type of protection intrinsic safety Ex ia IIC/IIB/IIA/IIIC, with following maximum values:

$U_{\text{o}} = 28 \text{ V}$; $I_{\text{o}} = 93 \text{ mA}$; $P_{\text{o}} = 650 \text{ mW}$; $C_{\text{o}} = 75 \text{ nF}$ (IIC) or 645 nF (IIB) or $2 \mu\text{F}$ (IIA);

$L_{\text{o}} = 3 \text{ mH}$ (IIC) or 16 mH (IIB) or 31 mH (IIA).

For group IIIC, the parameters of group IIB apply.

The intrinsically safe circuits are infallibly galvanically isolated from the non-intrinsically safe supply and signal input/output circuits up to a maximum peak voltage of 375 V.

The intrinsically safe circuits are galvanically connected to the communication interface circuit.

Installation instructions

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

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 04ATEX1316 X**

Issue No. **3**

(16) **Report Number**

No. 222575700, Issue 1.

(17) **Specific conditions of use**

See chapter (15), for ambient temperature range.

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

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. 222575700, Issue 1.

(20) **Certificate history**

Issue 1 - 207774400	initial certificate
Issue 2 - 222575700	minor constructional changes evaluation per latest edition of standards
Issue 3 - 225360600	minor constructional changes assessed per EN IEC 60079-0 : 2018