

# 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 07ATEX0147 X** Issue Number: **6**

(4) Product: **Solenoid / alarm driver, Type 9203B1.., Type 9203B2.. and Type 9203A...**

(5) Manufacturer: **PR electronics 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 NL/KEM/ExTR09.0001/05.

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

**EN IEC 60079-0 : 2018**  
**EN IEC 60079-15 : 2019**

**EN 60079-11 : 2012**  
**EN 60079-7 : 2015 + A1 : 2018**

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:



<b>II (1) G</b>	<b>[Ex ia Ga] IIC/IIB/IIA</b>	(type 9203B...)
<b>II (1) D</b>	<b>[Ex ia Da] IIIC</b>	(type 9203B...)
<b>I (M1)</b>	<b>[Ex ia Ma] I</b>	(type 9203B...)
<b>II 3 G</b>	<b>Ex ec nC IIC T4 Gc</b>	(type 9203A... and type 9203B...)

Date of certification: 21 April 2022

DEKRA Certification B.V.

R. Schuller  
Certification Manager



(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 07ATEX0147 X**

Issue No. 6

(15) **Description**

Solenoid / Alarm drivers, Type Type 9203B1.., Type 9203B2.. and Type 9203A..., for rail mounting, are 24 V powered isolating barriers, converting digital signals from PLC's and other equipment into signals for driving valves, solenoids and light emitting diodes located in an explosive atmosphere.

Solenoid / Alarm driver Type 9203.... is supplied via terminals, or via Power Rail Type 9400. Removable display module 4501 can be used for programming of the Solenoid / Alarm driver.

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

**Electrical data**

See Annex 1 to EU-Type Examination Certificate KEMA 07ATEX0147 X, issue 6.

**Installation instructions**

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

(16) **Report Number**

No. NL/KEM/ExTR09.0001/05.

(17) **Specific conditions of use**

If the Solenoid / Alarm driver is installed in an explosive atmosphere where the use of apparatus of equipment category 3 G is required, the following specific conditions of use apply:

The Solenoid / Alarm driver shall be installed in an enclosure in type of protection Ex e, providing a degree of protection of at least IP54 in accordance with EN 60079-0, and providing a pollution degree 2 or better, as defined in EN 60664-1. Cable entry devices and blanking elements shall fulfil the same requirements.

Removable Display Module 4501, when connected to the Solenoid / Alarm driver, may not be damaged and shall be free of dust and moisture.

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

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/KEM/ExTR09.0001/05.

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 07ATEX0147 X**

Issue No. **6**

(20) **Certificate history**

- Issue 1 - 209639000 initial certificate.
- Issue 2 - 213132600 editorial changes  
electrical data extended with values  $C_o$ ,  $L_o$  and  $L_o/R_o$  for IIB and IIA
- Issue 3 - 213299200 minor constructional changes
- Issue 4 - 2135049700 assessed per EN 60079-0: 2012 and EN 60079-11: 2012  
assessment for mines susceptible to firedamp
- Issue 5 - 217988800 assessed per EN 60079-15: 2010  
removed EN 60079-26  
addition of Ex nA version '9203A\*'  
minor hardware changes
- Issue 6 - 225762000 assessed per EN IEC 60079-0: 2018, EN 60079-7: 2015 and  
EN IEC 60079-15: 2019

**Annex 1 to: Certificate of Conformity IECEX KEM 09.0001 X**  
**Report NL/KEM/ExTR09.0001/05**  
**EU-Type Examination Certificate KEMA 07ATEX0147 X**

**Electrical data**

Supply (terminals 31, 32 and rear contacts):  $U = 19.2 \dots 31.2$  Vdc.

Digital input (terminals 11, 12 and 13, 14):  $U \leq 28$  Vdc

Status-Relay output (terminals 33, 34):

$U \leq 32$  Vac or 32 Vdc,  $I \leq 0.5$  Aac or  $I \leq 1$  Adc respectively.

If the Pulse Isolator is installed outside the hazardous area, the following data for the relay contacts apply:

$U \leq 110$  Vdc or 125 Vac,  $I \leq 0.3$  Adc or  $I \leq 0.5$  Aac respectively.

For all circuits above:  $U_m = 253$  Vac (max. frequency 400 Hz).

Solenoid / Alarm driver, Type 9203A..., output circuits (terminals 41 ... 44 resp. 51 ... 54):  
in type of protection Ex ec, with  $U_{max} = 28$  V,  $I_{max} = 135$  mA and  $P_{max} = 0.95$  W.

Solenoid / Alarm driver, Type 9203B1.. and Type 9203B2.. output circuits (terminals 41 ... 44 and 51 ... 54):  
in type of protection intrinsic safety Ex ia IIC/IIB/IIA/IIIC/I, with following maximum values:

9203B1A, 9203B1B Terminal 41-42, resp. Terminal 51-52			C <sub>o</sub>	L <sub>o</sub>	L <sub>o</sub> /R <sub>o</sub>
U <sub>o</sub>	28 V	IIC	80 nF	4.2 mH	54 μH/Ω
I <sub>o</sub>	93 mA	IIB	640 nF	16.8 mH	218 μH/Ω
P <sub>o</sub>	0.65 W	IIA	2.1 μF	32.6 mH	436 μH/Ω
		I	3.76 μF	32.6 mH	436 μH/Ω

9203B2A Terminal 41-42			C <sub>o</sub>	L <sub>o</sub>	L <sub>o</sub> /R <sub>o</sub>
U <sub>o</sub>	28 V	IIC	80 nF	2.69 mH	44 μH/Ω
I <sub>o</sub>	115 mA	IIB	640 nF	10.8 mH	176 μH/Ω
P <sub>o</sub>	0.81 W	IIA	2.1 μF	20.8 mH	353 μH/Ω
		I	3.76 μF	20.8 mH	353 μH/Ω

9203B1A, 9203B1B Terminal 41-43 resp. Terminal 51-53			C <sub>o</sub>	L <sub>o</sub>	L <sub>o</sub> /R <sub>o</sub>
U <sub>o</sub>	28 V	IIC	80 nF	3.5 mH	54 μH/Ω
I <sub>o</sub>	100 mA	IIB	640 nF	14.2 mH	218 μH/Ω
P <sub>o</sub>	0.7 W	IIA	2.1 μF	27.6 mH	436 μH/Ω
		I	3.76 μF	27.6 mH	436 μH/Ω

9203B2A Terminal 41-43			C <sub>o</sub>	L <sub>o</sub>	L <sub>o</sub> /R <sub>o</sub>
U <sub>o</sub>	28 V	IIC			
I <sub>o</sub>	125 mA	IIB	640 nF	9.1 mH	163 μH/Ω
P <sub>o</sub>	0.88 W	IIA	2.1 μF	17.6 mH	327 μH/Ω
		I	3.76 μF	17.6 mH	327 μH/Ω

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9203B1A, 9203B1B Terminal 41-44 resp. Terminal 51-54			C <sub>o</sub>	L <sub>o</sub>	L <sub>o</sub> /R <sub>o</sub>
U <sub>o</sub>	28 V	IIC	80 nF	2.9 mH	46 μH/Ω
I <sub>o</sub>	110 mA	IIB	640 nF	11.8 mH	184 μH/Ω
P <sub>o</sub>	0.77 W	IIA	2.1 μF	22.8 mH	369 μH/Ω
		I	3.76 μF	22.8 mH	369 μH/Ω

9203B2A Terminal 41-44			C <sub>o</sub>	L <sub>o</sub>	L <sub>o</sub> /R <sub>o</sub>
U <sub>o</sub>	28 V	IIC			
I <sub>o</sub>	135 mA	IIB	640 nF	7.8 mH	150 μH/Ω
P <sub>o</sub>	0.95 W	IIA	2.1 μF	15.1 mH	301 μH/Ω
		I	3.76 μF	15.1 mH	301 μH/Ω

For group IIIC, the parameters of group IIB apply.

The intrinsically safe output circuits are infallibly galvanically isolated from the non-intrinsically safe circuits, and from each other.

**Type designation**

Detailed Nomenclature of the approved Solenoid / Alarm driver, Type 9203B1.., Type 9203B2.. and Type 9203A... is as follows:

Type	Installation	Current Output	Channels	Input
9203	Non Ex / Zone 2 :A	Low current :1	Single :A	Standard :-
			Double :B	PNP :1
	Ex-Barrier / Zone 2 :B	High current :2	Single :A	NPN :2