

(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) Equipment or protective system intended for use in potentially explosive atmospheres – Directive 94/9/EC

(3) EC-Type Examination Certificate Number: **KEMA 04ATEX1001**

(4) Equipment or protective system: **Programmable f/I - f/f Converter Type 5223 B**

(5) Manufacturer: **PR Electronics A/S**

(6) Address: **Lerbakken 10, 8410 Rønne, Denmark**

(7) This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) KEMA Quality B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. 2061031.

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

EN 50014 : 1997

EN 50020 : 2002

EN 50284 : 1999

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment or protective system according to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

(12) The marking of the equipment or protective system shall include the following:



II (1) G D [EEx ia] IIC

Arnhem, 31 March 2004
KEMA Quality B.V.



T. Pijpker
Certification Manager

* This Certificate may only be reproduced in its entirety and without any change

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SCHEDULE

(14)

to EC-Type Examination Certificate KEMA 04ATEX1001

(15) **Description**

The Programmable f/l - f/f Converter Type 5223 B, for installation in a non-hazardous location, performs frequency to current or voltage conversion (f/l function) and pulse processing, like pulse division or multiplication (f/f function). The converter has two intrinsically safe inputs for connection of a contact or a Namur proximity sensor. For programming purposes, a Loop Link module may be connected temporarily under the condition, that the intrinsically safe input circuits are disconnected.

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

Electrical data

Supply 24 ... 250 Vdc ± 20 %
24 ... 230 Vac ± 10 %

Signal inputs/outputs $U_m = 250 \text{ V}$

Communications interface For connection to the associated Loop Link module
(front connector) $U_m = 250 \text{ V}$

The communications interface may only be connected temporarily, under the condition that the intrinsically safe circuits are disconnected.

Digital inputs in type of explosion protection intrinsic safety EEx ia IIC,
(terminals 42 and 43, with following maximum values:
respectively 52 and 53)

$U_o = 10,6 \text{ V}$
 $I_o = 13,8 \text{ mA}$
 $P_o = 38 \text{ mW}$
 $C_o = 1,9 \text{ } \mu\text{F}$
 $L_o = 160 \text{ mH}$

The intrinsically safe input circuits are infallibly galvanically isolated from the non intrinsically safe supply circuit and the signal input and output circuits up to a maximum peak voltage of 375 V. The circuits are galvanically connected with the communications interface.

Routine tests

Transformer TR1 must be subjected to a routine insulation test in accordance with clause 11.2 of EN 50020, with a test voltage of 2500 Vac between primary and secondary windings.

(16) **Report**

KEMA No. 2061031.

(17) **Special conditions for safe use**

None

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

Covered by the standards listed at (9).

(19) **Test documentation**

dated

Drawing List No. 5223G002-2004-01

26.01.2004