

(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 03ATEX1364 X**

(4) Equipment or protective system: **Process Refractometer Series PR-01-...**

(5) Manufacturer: **K-Patents OY**

(6) Address: **Elannontie 5, FIN-01510 Vantaa, Finland**

(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. 2030655.

(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 EEx ia IIC T4

Arnhem, 16 July 2003
KEMA Quality B.V.



C.G. van Es
Certification Manager

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SCHEDULE

(13)

(14)

to EC-Type Examination Certificate KEMA 03ATEX1364 X

(15) **Description**

The Process Refractometer Series PR-01-... is designed to monitor the refractive index of a process fluid and to provide either a digital or a 4-20 mA output signal.

Ambient temperature range -20 to +45 °C.

Electrical data

Supply circuit Image Detector Board (connector pins 5 and 6):

in type of explosion protection intrinsic safety EEx ia IIC, only to be connected to an intrinsically safe circuit, with the following maximum values:

U_i	=	15	V
I_i	=	153	mA
P_i	=	580	mW
C_i	=	0	nF
L_i	=	0	mH

Supply circuit Image Digitiser Board (connector pins 8 and 9):

in type of explosion protection intrinsic safety EEx ia IIC, only to be connected to an intrinsically safe circuit, with the following maximum values:

U_i	=	28	V
I_i	=	93	mA
P_i	=	650	mW
C_i	=	0	nF
L_i	=	0	mH

Data communication circuit (connector pins 1 and 2):

in type of explosion protection intrinsic safety EEx ia IIC, only to be connected to an optically isolated signal barrier, with the following maximum values:

U_i	=	0	V
I_i	=	0	mA
P_i	=	0	mW

(16) **Report**

KEMA No. 2030655

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

The intrinsically safe parameters of the circuits are to be taken from the electrical data listed above.

The enclosure is made of light metal. For applications requiring the use of Category 1 equipment, the instructions and specifications about the risks of impact and friction as provided by the manufacturer shall be followed in detail.

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

Covered by the standards listed at (9).

SCHEDULE

(13)

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to EC-Type Examination Certificate KEMA 03ATEX1364 X**(19) Test documentation**

1. Certificate of Conformity BAS No. Ex 92C2539 with Amendments and belonging test documentation

dated

2. Drawing No. 682/A

30.06.2003

SCHEDULE

to Production Quality Assurance Notification KEMA 03ATEXQ3124
Issue 2

Manufacturer : K-Patents Oy, Elannontie 5, 01510 Vantaa, Finland.

Production site : As manufacturer.

Equipment / Components Group	Types of Explosion Protection	EC-Type Examination Certificates
Process Control Instruments	Intrinsic safety "i"	KEMA 03ATEX1364 X

Arnhem, 16 July 2003
KEMA Quality B.V.



C.G. van Es
Certification Manager

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