EC-TYPE EXAMINATION CERTIFICATE

(1)

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

(3) EC-Type Examination Certificate Number: **KEMA 03ATEX1219 X**

(4) Equipment or protective system: **Pressure Transmitter Type CER-8000 Series, 8000 Series, 8000-SAN Series, CER-8000-RANGE-G, HYDROBAR-EXTD, HYDROBAR-CABLE and HYDROBAR-FR.**

(5) Manufacturer: **Klay-Instruments B.V.**

(6) Address: **Nijverheidsweg 5, 7991 CZ Dwingeloo, The Netherlands**

(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. 2029204.

(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, 1 July 2003
KEMA Quality B.V.

T. Pijpker
Certification Manager

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ACCREDITED BY THE DUTCH COUNCIL FOR ACCREDITATION

(13) # SCHEDULE

(14) **to EC-Type Examination Certificate KEMA 03ATEX1219 X**

Description

The Pressure Transmitters Type CER-8000 Series, 8000 Series, 8000-SAN Series, CER-8000-RANGE-G, HYDROBAR-EXTD, HYDROBAR-CABLE and HYDROBAR-FR convert the pressure measured with a piezoresistive sensor (8000 series, 8000-SAN and HYDROBAR - ..) or at a ceramic pressure cell (CER-8000) into a 4 - 20 mA signal.
The Pressure Transmitters Type HYDROBAR-CABLE have an extension cable between sensor and amplifier. The Pressure Transmitters Type HYDROBAR-FR have a permanently connected cable.

Ambient temperature range -20 °C ... +70 °C.

Electrical data

Supply and output circuit ..... (terminals 3(-) and 4(+) and ground) in type of explosion protection intrinsic safety EEx ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

U_i	=	28	V
I_i	=	110	mA
P_i	=	0,9	W
L_i	=	73	µH

The effective internal capacitance C_i
between 3(-) and 4(+) = 0 nF
between 3(-), 4(+) and ground = 7,5 nF

The effective internal capacitance C_i of the Pressure Transmitters Type HYDROBAR-CABLE is dependent upon the length of the extension cable and is 37 nF + 0,45 nF per meter extension cable, with a maximum of 100 meter.
The effective internal capacitance C_i of the Pressure Transmitters Type HYDROBAR-FR is dependent upon the length of the permanently connected cable and is 0,21 nF per meter, with a maximum of 395 meter.

Installation instructions

Optionally a certified indicator may be connected to terminals 1 and 2.
Applicable entity parameters shall be taken into account.

(16) **Report**

KEMA No. 2029204

Special conditions for safe use

As Category 1 G equipment may be applied directly in the process, electrostatic discharge from the cable and protection cab of Models HYDROBAR-FR and HYDROBAR-CABLE by the flow of non-conductive media (e.g. in stirring vessels or pipes) shall be avoided.

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

Covered by the standards listed at (9).

(13) **SCHEDULE**

(14) **to EC-Type Examination Certificate KEMA 03ATEX1219 X**

(19) **Test documentation**

1. Certificate of Conformity KEMA No. Ex-92.C.7854

			signed
2. Drawing	7305	)	
	7306	)	04.06.2003
	7307	)	
(CER-8000 and CER-RANGE-G)			
Drawing	KL8000P1, rev.2	)	
	KL8000P2, rev.2	)	
	KL8000P3, rev.2	)	23.04.2003
Document	DC-54 rev.01/KL8000	)	
Partslist	KL8000 rev.b (2 sheets)	)	
PCB	Kli11b (4 sheets)		10.12.2002
(SERIES 8000, 8000-SAN and HYDROBAR-EXTD)			
Drawing	KL8000S1, rev.2	)	
	KL8000S2, rev.2	)	
	KL8000S3, rev.2	)	23.04.2003
Document	DC-54 rev.01/KL8000	)	
Partslist	KL8000 rev.b (2 sheets)	)	
	Kli11b (4 sheets)		10.12.2002
(Supply Unit)			
Drawing	GL81101B, rev.04-06-03	)	
Partslist	GL1101EX rev. GL1101b	)	04.06.2003
PCB	Kli6c.tc (9 sheets)		23.05.2003
(HYDROBAR-CABLE)			
Drawing	KL8000S1b, rev.2	)	
	KL8000S2b, rev.2	)	04.06.2003
	KL8000S3, rev.2	)	
Document	DC-54 rev.01/KL8000	)	23.04.2003
Partslist	KL8000b rev.b (2 sheets)		04.06.2003
	Kli11b (4 sheets)		10.12.2002
(HYDROBAR-FR)			
Document	DC-54 rev.01/C1343		23.04.2003