Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

(1) # EC-TYPE-EXAMINATION CERTIFICATE

(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 02 ATEX 2192

(4) Equipment: Analyzing unit, type SU501 VF13

(5) Manufacturer: Krohne S.A.

(6) Address: Usine des Ors, 26103 Romans, France

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

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment 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 the confidential report PTB Ex 02-22290 .

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

EN 50014:1997 + A1 + A2 **EN 50020:1994**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment 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 in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

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

II (1) G D [EEx ia] IIC

Zertifizierungsstelle Explosionsschutz
By order:

(signature)

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

Braunschweig, December 19, 2002

3 pages, correct and complete as regards content.
By order:

Dr.-Ing. Johannsmeyer
Direktor und Professor

Braunschweig, September 20, 2007

(13) # SCHEDULE

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 2192

(15) Description of equipment

The analyzing unit, type SU501 VF13 is used for the intrinsically safe supply of 2-wire measuring sensors, for the safe electrical isolation of the intrinsically safe signal circuit from the non-intrinsically safe circuits as well as for the analysis of the measured data transmitted by an analog mode.

The maximum permissible ambient temperature is 60 °C.

Electrical data

Supply voltage (terminals KI9 and KI10)

U = 20 ... 72 V DC or 20 ... 253 V AC
U_m = 253 V AC

Signal circuit (terminals KI1 and KI2)

type of protection Intrinsic Safety EEx ia IIC or EEx ia IIB
Maximum values:
U_o = 20 V
I_o = 125 mA
P_o = 624 mW
linear characteristic

For the permissible values for the external capacitances C_o and inductances L_o resulting from the combination of C_o and L_o, reference is made to the following table.

	EEx ia IIC		EEx ia IIB
maximum permissible inductance [mH]	0.6	1.7	5
maximum permissible capacitance [nF]	121	110	870

The effective internal inductances and capacitances are negligibly low.

Relay output (terminals KI14, KI12 and KI13)

Maximum values:

alternating current	direct current
U = 250 V	U = 250 V
I = 3 A	I = 1 A
P = 500 VA	P = 54 W

Transistor output (terminals KI5 and KI6)

up to 36 V, 60 mA
U_m = 253 V

The intrinsically safe signal circuit is safely electrically isolated from the non-intrinsically safe circuits up to a peak value of the nominal voltage of 375 V.

(16) Test report PTB Ex 02-22290

(17) Special conditions for safe use

none

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz
By order:

(signature)

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

Braunschweig, December 19, 2002