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 01 ATEX 2059

(4) Equipment: Repeater power supply, type WG 21 A7 Opt. ...

(5) Manufacturer: Knick Elektronische Meßgeräte GmbH & Co.

(6) Address: Beuckestraße 22, 14163 Berlin, Deutschland

(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 01-21018.

(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 and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

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

Ⓔx II (1) G [EEx ia] IIC

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, July 19, 2001

Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

(13) # S C H E D U L E

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 2059

(15) Description of equipment

The repeater power supply, type WG 21 A7 Opt. ... is mainly used for the supply of intrinsically safe 2-wire measuring transducers and for the transmission of a measuring current into the electrically isolated output circuit.
Optionally data protocols for SMART-transmitters are transmitted bi-directionally between the supply measuring circuit and the output circuit.

The apparatus will be installed outside the hazardous area.

The maximum permissible ambient temperature is 60 °C.

Electrical data

Auxiliary power circuit (terminals 7, 8) ..... 90 ... 253 V AC, approx. 5 VA
24 V AC -15 % +10 %, approx. 3.5 VA
24 V DC -15 % +20 %, approx. 2.5 W
U_m = 253 V

Supply measuring circuit (terminals 1, 2) ..... type of protection Intrinsic Safety EEx ia IIC resp. EEx ib IIC

Maximum values:
U_o = 23.1 V
I_o = 82 mA
P_o = 643 mW
R_i = 386 Ω

trapezoidal characteristic

C_i negligibly low
L_i negligibly low

The correlation between type of protection and maximum permissible values for the external capacitances and inductances is shown in the following table:

	EEx ia IIC	EEx ia IIB	EEx ia IIB
C_0	87 nF	300 nF	200 nF
L_0	0.5 mH	1 mH	5 mH

Output circuit (terminals 5,6)	I	= 0 - 20	mA
	U	= 13	V
	U_m	= 250	V AC

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

(16) Test report PTB Ex 01-21018

(17) Special conditions for safe use

none

(18) Essential health and safety requirements

will be met by cited standards

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