Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

(Non authorized translation)

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

(2) Equipment and protective systems intended for use in potential explosive Atmospheres – **Directive 94/9/EC**

(3) EC- type- examination Certificate number

PTB 99 ATEX 2085

(4) Equipment: Supply and interface module VI156

(5) Manufacturer: Gönnheimer Elektronic GmbH

(6) Address: D- 67433 Neustadt an der Weinstraße
Dr.-Julius-Leberstr. 2

(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 March 1994, certifies that 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 potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report No. PTB Ex 99-29044

(9) Compliance with to essential Health and Safety Requirements has been assured by compliance with:

EN 50 014:1997 General directives
EN 50 017:1998 Powder filling ‘q’
EN 50 019:1994 Increased Safety ‘e’
EN 50 020:1994 Intrinsically safety ‘i’

(10) If the sign “X” is places 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:

II 2 G EEx eq [ib] IIC T6

Zertifizierungsstelle Explosionsschutz
In behalf

Braunschweig, June 22 1999

Dr. Ing U. Johannsmeyer
Regierungsdirektor

(Non authorized translation)

(13) Annex to

(14)

EC- TYPE- EXAMINATION CERTIFICATE No.

PTB 99 ATEX 2085

(15) Description of equipment

The supply and interface module type VI156 serves as a power supply for intrinsically safe field devices and to separate intrinsically safe and non-intrinsically save electric circuits galvanically.

Electrical details

Mains (Terminals 1,2,3 to 4,5,6)	AC: 230 V, 220 V, 120 V, 110 V, 24 V AC; ca 5 VA DC: 24 V; ca 5W Um = 250 V	
Relay contacts (Terminals 7,8,9 and 10,11,12	Each contact Um = 250 V	AC: 250 V / 5 A, cos φ > 0,7 DC: 30 V / 5 A
Support output (Terminals 13, 14)	U = 24 V Um = 250 V	
Open collector output (Terminals 15, 16)	Um = 40 V	
OC- control outputs (Termials 17, 18 and 19, 20)	Um = 40 V	
RS232- Receiver loop (Terminals 21, 22)	Um = 250 V	
TTY- Receiver loop (Terminals 23, 24	Um = 250 V	
RS232- Transceiver loop (Terminals 25, 26)	Um = 250 V	
TTY- Transceiver loop (Terminals 27, 28	Um = 250 V	

Annex to EC- TYPE- EXAMINATION CERTIFICATE No. PTB 99 ATEX 2085

Power supply loop
(Terminals 29,30,31,32)

Ex- protection class intrinsically safety EEx ib IIC/IIB

Maximum ratings:
U_0 = 16,8 V
I_0 = 55 mA
P_0 = 924 mW
rectangle characteristic

	EEx ib IIC		EEx ib IIB		
L_o [mH]	1	0,5	10	5	2
C_o [nF]	100	130	290	360	570

OC- control output
(Terminals 32,33)

Ex- protection class intrinsically safety EEx ib IIC/IIB
Only to connect to certified intrinsically safe circuit

Maximum ratings:
Ui = 30 V
Ii = 160 mA
Li = 10 µH
Ci = 1 nF

Relay control inputs
(Terminals 32, 37, 38)

Ex- protection class intrinsically safety EEx ib IIC/IIB
Only to connect to certified intrinsically safe circuit

Maximum ratings:
Ui = 30 V
Ii = 160 mA
Li = 10 µH
Ci = 10 nF

OC control inputs
(Terminals 34, 35, 36)

Ex- protection class intrinsically safety EEx ib IIC/IIB
Only to connect to certified intrinsically safe circuit

Maximum ratings:
Ui = 30 V
Ii = 160 mA
Li = 20 µH
Ci is negligible

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TTY- output (Terminals 39, 40)	Ex- protection class intrinsically safety EEx ib IIC/IIB Maximum ratings: U_0 = 16,8 V I_0 = 74 mA P_0 = 311 mW; linear characteristic Li = 3 mH C_0 = 390 nF
TTY- input (Terminals 41, 42)	Ex- protection class intrinsically safety EEx ib IIC/IIB Only to connect to certified intrinsically safe circuit Maximum ratings: Ui = 30 V Ii = 160 mA Li = 20 µH Ci is negligible small

The intrinsically safe TTY- input and the intrinsically safe OC- outputs are to each other and to the residual connected intrinsically safe circuits galvanically separated.

All intrinsically safe circuits are separated to the non-intrinsic safe OC- output and the non-intrinsic safe OC- control outputs up to a voltage of 40 V. They are also safely galvanically separated to all other non-intrinsic safe circuits up to a voltage of 375 V.

(16) Test report PTB Ex 99-29045

(17) Special conditions

None

(18) Basic safety and health requests

Accomplished through the norms named above

Zertifizierungsstelle Explosionsschutz
In behalf

Braunschweig, June 22. 1999

Dr. Ing U. Johannsmeyer
Regierungsdirektor