



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

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

(3) EC- type- examination Certificate number

TÜV 99 ATEX 1440X



(4) Equipment: Keyboard interface type KI 153...

(5) Manufacturer: Gönzheimer Elektronik GmbH

(6) Address: D-Neustadt an der Weinstraße

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

(8) The TÜV Hannover/Sachsen-Anhalt e.V., TÜV CERT-Zertifizierungsstelle, notified body No. 0032 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 test results are recorded in the confidential report No. 99/PX12590.

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

EN 50 014:1997

EN 50 020:1994

(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 [Ex ib] IIC**

TÜV Hannover/Sachsen-Anhalt e.V.
TÜV CERT-Zertifizierungsstelle
Am TÜV 1
D-30519 Hannover

Hannover, 17.06.1999

Schwed
Der Leiter





(13)

SCHEDULE

(14)

EC- TYPE-Examination CERTIFICATE No. TÜV 99 ATEX 1440 X

(15) Description of equipment

The keyboard interface KI 153 serves to connect intrinsically safe input devices, e.g. keyboard, PC- mouse and tracker ball to an non intrinsically safe PC (personal computer).

Electrical details

Non intrinsically safe side
(clamp 1, Pin 1 ..4 and
clamp 3, Pin 1 ..4)

$U_m = 253 \text{ V AC}$ for both channels

(Clamp 5)

Connection to potential equalization (PA)

Intrinsically safe side
(clamp 2, Pin1..4 and
clamp 4, Pin 1..4)

Exclusive connection to a certificated intrinsically
safe current circuit EEx ib IIC;
Highest values each channel:

$U_0 = 5,8 \text{ V}$

$I_0 = 204 \text{ mA}$

$P_0 = 392 \text{ mW}$

Maximum external capacity

46 μF

Maximum external inductivity

0,5 μH

(16) The test documents are listed in report No. 99/PX12590

(17) Special conditions for safe area

The clamp 5 must be connected to potential equalization (PA)

(18) Essential health and safety requirements

No additional



1. Amendment

to certification number: TÜV 99 ATEX 1440 X

Device: Keyboard interface type KI153...
Manufacturer: Gönzheimer Elektronik GmbH
Dr.-Julius Leber-Str.2
Address: D-67433 Neustadt/Weinstraße
Germany
Order Number: 8000553498
Date of issue: (15.06.2009)

Changes:

The keyboard interface has in future the additional types KI153.2.X, KI153.3.X and KI153.4.X. The additional types have one USB2.0- channel at least.

Secondary the internal built of the types KI153.0.X and KI153.1.X are changed.

The intrinsically safe circuit of all types is suitable in dust hazardous areas, of EX- category 1 or 2, if the connected device fulfills the EX- category 1D or 2D and is certified accordingly.

Technical details:

Allowable ambient temperature: - 20°C up to 40°C
(no changes)

Electrical details:

The electrical details changes as follows:

Keyboard interface type KI153.0.x up to KI153.4.x

Non intrinsically safe side Um = 50 VAC or 70VDC for both channels
(clamp 1, Pin 1 ..4 and
clamp 3, Pin 1 ..4)
2 channels dispatch

Keyboard interface type KI153.0.x up to KI153.1.x

Intrinsically safe side In protection type intrinsic Safety EEx ib IIC
(clamp 2, Pin 1 ..4 and
clamp 4, Pin 1 ..4
2 channels dispatch) Maximum ratings each channel:
U₀ = 5,4 V
I₀ = 202 mA
P₀ = 380 mW
Rect angle characteristic curve
max reactance L₀ = 3 µH
C₀ = 25 µF



1. Amendment to certification number: TÜV 99 ATEX 1440X

Keyboard interface type KI153.2.x up to KI153.4.x

Intrinsically safe side
(clamp 2, Pin 1 ..4 and
clamp 4, Pin 1 ..4
2 channels dispatch)

In protection type intrinsic Safety EEx ib IIC
Maximum ratings each channel:

$$U_0 = 5,4 \text{ V}$$

$$I_0 = 952 \text{ mA}$$

$$P_0 = 1,6 \text{ W}$$

Rect angle characteristic curve

max reactance

$$L_0 = 3 \mu\text{H}$$

$$C_0 = 25 \mu\text{F}$$

Keyboard interface type KI153.3.x

Intrinsically safe side
(clamp 2, Pin 1 ..4)

In protection type intrinsic Safety EEx ib IIC
Maximum ratings each channel:

$$U_0 = 5,4 \text{ V}$$

$$I_0 = 202 \text{ mA}$$

$$P_0 = 380 \text{ mW}$$

Rect angle characteristic curve

max reactance

$$L_0 = 3 \mu\text{H}$$

$$C_0 = 25 \mu\text{F}$$

Intrinsically safe side
(clamp 4, Pin 1 ..4)

In protection type intrinsic Safety EEx ib IIC
Maximum ratings each channel:

$$U_0 = 5,4 \text{ V}$$

$$I_0 = 952 \text{ mA}$$

$$P_0 = 1,6 \text{ W}$$

Rect angle characteristic curve

max reactance

$$L_0 = 3 \mu\text{H}$$

$$C_0 = 25 \mu\text{F}$$

The device and this amendment inclusive fulfils requests to the following standards:

EN 60079-0:2004

EN 50 020:2002

(16) The test documents are listed in report No. 07 203 553498

(17) Special conditions

The special conditions are changed:

The clamp 5 must be connected to potential equalization (PA). The intrinsically safe output is connected to the input and the PA. There is no separation.

The keyboard interface is build according to protection class IP40. The Installation in a dry, clean und good observed ambient is permitted (e.g. housings with IP54).



1. Amendment to certification number: TÜV 99 ATEX 1440 X

(18) Essential health and safety requirements

No additional

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, akkreditiert durch die Zentralstelle der Länder für Sicherheitstechnik (ZLS), Ident. Nr. 0044, Rechtsnachfolger der TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

Der Leiter der Zertifizierungstelle

Schwedt

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