(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 1488

(4) Equipment: Digital Indicator Type D122...

(5) Manufacturer: Gönnheimer Elektronic 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/Sachen-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 examination and test results are recorded in the confidential report No. 99/PX24090

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

EN 50 014:1997 EN 50 020:1994 EN 50 028:1988

(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 (1) G EEx ia IIC T6 bzw. EEx m [ib] IIC T6

TÜV Hannover/Sachen-Anhalt e.V.
TÜV CERT-Zertifizierungstelle
Am TÜV 1
D-30519 Hannover

Hannover, 02.11.1999

Der Leiter

(13)

SCHEDULE

(14) EC- TYPE-Examination CERTIFICATE No. TÜV 99 ATEX 1488

(15) Description of equipment

The digital indicator type D122 ... serves as direct indicator of measured values of intrinsically safe 4 ..20 mA current circuits in explosive endangered areas.

The maximum ambient temperature is 45°C in temperature class T6 and 60°C in the temperature class T5.

Electrical details

Supply and signal current circuit (Terminal 1,2)	Exclusive connection to a certificated intrinsically safe current circuit with the following highest values: U_i = 65 V I_i = 160 mA Effective internal inductivity 40 µH Effective internal capacity 10 nF

Only Type D122.T.x.x.x

Supply and signal current circuit (Terminal 1,2)	Exclusive connection to a certificated intrinsically safe current circuit with the following highest values: U_i = 30 V I_i = 160 mA P_i = 1,6 W Effective internal inductivity 40 µH effective internal capacity 10 nF
Terminals 3,4	Bridget

Only TYP 122.x.x.x.BM with additional protection type moulding and the sign EEx m [ib] IIC T6 bzw. EEx m [ib] IIC T5

Input current circuit (wire)	U_m = 250 V and to connect to ground

Any types

Alarm current circuits (Terminal 5,6; 7,8)	Exclusive connection to a certificated intrinsically current circuit with the following highest values each current circuit:
Outputs:	U_i = 30 V I_i = 160 mA P_i = 850 mW
Inputs:	U_i = 30 V Effective internal inductivity ≤ 40 µH the effective internal capacity is negligibly small

All current circuits are safe gavanically separated up to a nominal voltage of 90 V to each other. The input current circuit by the type D122.x.x.x.BM is internally connected to the supply and signal circuit.

(16) Report No. 99/PX24090

(17) Special conditions for safe area

None

(18) Essential health and safety requirements

No additional

1. Amendment
to
the Conformity Certificate Nr. TÜV 99 ATEX 1488

Manufacturer: Gönnheimer Elektronic GmbH
Dr.-Julius Leber-Str.2
D-67433 Neuststadt/Weinstraße

The digital indicator type D122 can also be manufactured according to the examination protocol, listed in the associated examination certificate.

The changes concern the enlargement around the type D122.x.7.x.x. and the application of type in explosion areas by dust up to ambient temperatures of 65°C. The marking for it is:

II 2 D IP 65 T70°C

Bases of the standards: EN 50281 1 1:1999

The electric data and all other information are valid consistently for this supplement.

The test documentation is listed in test report Nr. 04YEX551218

TÜV NORD CERT GmbH & Co. KG

TÜV CERT-Zertifizierungsstelle
Am TÜV 1
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Tel.: 0511 986-1470
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Hannover, 17.02.2004

Der Leiter

2. Amendment
to
the Conformity Certificate Nr. TÜV 99 ATEX 1488

Manufacturer: Gönnheimer Elektronic GmbH
Dr.-Julius Leber-Str.2
D-67433 Neuststadt/Weinstraße

The digital indicator type D122 can also be manufactured according to the examination protocol, listed in the associated examination certificate. The change concerns the enlargement around the types D122.PA.7.0.0 and D122.FF.7.0.0 for the binding to intrinsically safe field busses Profibus PA respectively FF.H1.

The application of the supplemental types can occur in explosion-threatened areas, Which requires devices of the category 2. By the application in areas of explosion-threatened by dust, the at most allowed ambient temperature is +65°C.

By the application in areas explosion-threatened by gas is the maximum ambient temperature depending on the temperature class according to the following table:

Temperature classe	Ta
T6	Up to 45°C
T5	Up to 60°C

Electrical data of the types D122.PA.7.0.0 and D122.FF.7.0.0

Signal and power supply circuit (terminal 1,3 and 2,4)

Ex- protection Intrinsically safe EEx ia IIC only to the connection in certified intrinsically safe circuits. Maximum ratings:

U_0 = 30 V
I_0 = 660 mA
P_0 = 1,6 W

max reactances L_0 = 0 µH
C_0 = 0 nF

The electrical data remains unchanged.

2. Amendment to the Conformity Certificate Nr. TÜV 99 ATEX 1488

The marking of the equipment:

II 2 (1) G EEx ia IIC T6 or T5; resp. II 2 D IP65 T70°C

The marking of the further types remain unchanged.

The digital indicator type D122... according to the EC-type certificate TÜV 99 ATEX 1488 incl. 1. and this 2nd supplement also fulfils the demands of

EN 50 014 :1997 + A1+A2	General directives
EN 50 020:2002	Intrinsically safe “i”
EN 50 281-1-1:1998+A1	Electrical devices with protection by case - construction and check

All remaining data remain unchanged for this 2. Amendment.

The test documentation is listed in test report Nr. 04YEX551692

TÜV NORD CERT GmbH & Co. KG

Hannover, 03.11.2004

TÜV CERT-Zertifizierungsstelle
Am TÜV 1
0-30519 Hannover
Tel.: 0511 986-1470
Fax: 0511 986-2555

Der Leiter

3. Amendment

to certification number: **TÜV 99 ATEX 1488**

Device:	Digital indicator type D122…
Manufacturer:	Gönnheimer Elektronic GmbH
	Dr.-Julius Leber-Str.2
Address:	D-67433 Neuststadt/Weinstraße
	Germany
Order Number:	8000553381
Date of issue:	10.10.2006

Changes:

The digital indicator type D122 can also be manufactured according to the examination protocol, listed in the associated examination certificate. The change concerns the enlargement around the types D122.PA.7.0.3K and D122.FF.7.0.3K for the binding to intrinsically safe field busses Profibus PA respectively FF.H1 as a three channel indicator.

The application of the supplemental types can occur in explosion-threatened areas, which requires devices of the category 2. By the application in areas of explosion-threatened by dust, the at most allowed ambient temperature is +65°C.

The information to the allowed ambient temperature is valid consistently accordingly of the second supplement also for the supplemental types.

The electric data of the second supplement are changed as follows or complemented:

Electric data of the types D122. PA.7.0.0, D122.FF 7.0.0, D122. PA.7.0.3K and D122.FF.7.0.3K:

Signal and power supply circuit (terminal 1,3 and 2,4)	By the application in by gas explosion-threatened areas in Ex protection Intrinsically safe EEx ia IIC. Field device FISCO to the connection with a device according to the FISCO model or Only to the connection in certified intrinsically safe circuits. Maximum ratings: U_0 = 30 V I_0 = 660 mA max reactances L_0 = 0 µH C_0 = 0 nF By the application in by dust explosion-threatened areas max. limit input power P_0 = 1,6 W

The electrical data remains unchanged.

3. Amendment to the Conformity Certificate Nr. TÜV 99 ATEX 1488

The marking of the equipment:

II 2 (1) G EEx ia IIC T6 or T5; resp. II 2 D IP65 T70°C

The marking of the further types remain unchanged.

The digital indicator type D122... according to the EC-type certificate TÜV 99 ATEX 1488 incl. 1. and this 2nd supplement also fulfils the demands of

EN 50 014 :1997 + A1+A2	General directives
EN 50 020:2002	Intrinsically safe “i”
EN 50 281-1-1:1998+A1	Electrical devices with protection by case - construction and check
DIN EN 60079-27:2006	Concept for intrinsically safe field bus systems (FISCO) and concept for non sparking field bus systems (FNICO)

The test documentation is listed in test report Nr. 06 YEX 553381.

(17) Special conditions for safe area

None

(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

Geschäftsstelle Hannover, Am TÜV 1, 30519 Hannover, Tel.: +49 (0) 511 986-1455, Fax: +49 (0) 511 986-1590

Translation

4. SUPPLEMENT

to Certificate No.	**TÜV 99 ATEX 1488**
Equipment:	Digital Indicator type D122.x.x.x.x
Manufacturer:	Gönnheimer Elektronic GmbH
Address:	Dr.-Julius-Leber-Str.2 67433 Neustadt/Weinstraße
Order number:	8000433653
Date of issue:	2015-01-13

In the future, the Digital Indicator type D122.x.x.x.x may be manufactured and operated according to the test documents listed in the test report.

The Digital Indicator D122.x.x.x.x indicates measured values of intrinsically safe current circuits from 4...20 mA in hazardous areas
The Digital Indicator D122.A.x.x.BM additionally includes an Ex-i-barrier to connect a non Ex-i 4...20 mA signal.
The Digital Counter D122.Z.x.x.x indicates the integral over time of intrinsically safe current circuits from 4...20 mA in hazardous areas.
The digital setpoint-transmitter D122.T.x.0.0 is used to arrange set-point adjustments, e. g. temperature, pressure or revolution and for transmission of the data via a 4...20 mA signal.
The Digital Indicator D122.PA.7.0.x resp. D122.FF.7.0.x operates as an indicator for process data in a Profibus PA or Field Bus Foundation H1 network.

The permissible ambient temperature ranges and the marking of the different types have to be taken from the following table:

Types	Ex - Marking		Ambient temperature
D122.a.7.0.d a = PA, FF d = 0, 3K	II 2 (1) G II 2 (1) G II 2 (1) D	Ex ib [ia Ga] IIC T6 Gb Ex ib [ia Ga] IIC T5 Gb Ex ib [ia Da] IIIC T135°C Db	-20 ... 45°C -20 ... 60°C -20 ... 60°C
D122.a.b.0.0 a = A, AS, Z, ZS, T b = 0, 3, 5, 6, 7	II 2 (1) G II 2 (1) G II 2 (1) D	Ex ib [ia Ga] IIC T6 Gb Ex ib [ia Ga] IIC T5 Gb Ex ib [ia Da] IIIC T135°C Db	-20 ... 45°C -20 ... 60°C -20 ... 60°C
D122.a.b.c.0 a = A, AS, Z, ZS b = 0, 3, 5, 6, 7 c = 2, 3, 4	II 2 (1) G	Ex ib [ia Ga] IIC T6 Gb Ex ib [ia Ga] IIC T5 Gb	-20 ... 45°C -20 ... 60°C
D122.a.b.c.BM a = A, AS, Z, ZS b = 3, 5, 6, 7 c = 0, 2, 3, 4	II 2 G	Ex [ib Gb] ib q IIC T4 Gb	-20 ... 60°C
D122.a.b.c.MU a = A, AS, Z, ZS b = 5, 6, 7 c = 0, 2, 3, 4	II 2 (1) G II 2 (1) G	Ex ib [ia Ga] IIC T6 Gb Ex ib [ia Ga] IIC T5 Gb	-20 ... 45°C -20 ... 60°C

Electrical data

Type D122.a.b.0.0
a=A, AS, Z, ZS
b = 0, 3, 5, 6, 7

Supply and signal circuit ..... (Connections 1, 2)	in type of protection intrinsic safety Ex ia IIC Only for connection to a certified intrinsically safe circuit Maximum values: U_i = 65 V I_i = 160 mA P_i = 10.4 W Effective internal capacitance: 10 nF Effective internal inductance: 40 µH

Type D122.a.b.c.0
a=A, AS, Z, ZS
b = 0, 3, 5, 6, 7
c = 2, 3, 4

Supply and signal circuit ..... (Connections 1, 2)	in type of protection intrinsic safety Ex ia IIC Only for connection to a certified intrinsically safe circuit Maximum values: U_i = 65 V I_i = 160 mA P_i = 10.4 W Effective internal capacitance: 10 nF Effective internal inductance: 40 µH
Switch output circuit ..... (Connections 5, 6) c=2 (Connections 7, 8) c=2,3	in type of protection intrinsic safety Ex ia IIC Only for connection to a certified intrinsically safe circuit Maximum values per circuit: U_i = 30 V I_i = 160 mA P_i = 0.85 W The effective internal capacitance is negligibly small Effective internal inductance: 40 µH
Input circuit ..... (Connections 5, 6) c=3,4 (Connections 7, 8) c=4	in type of protection intrinsic safety Ex ia IIC Only for connection to a certified intrinsically safe circuit Maximum values per circuit: U_i = 30 V R_i = 9 kΩ The effective internal capacitance is negligibly small Effective internal inductance: 40 µH

Type D122.T.b.0.0
b = 3, 5, 7

Supply and signal circuit ..... (Connections 1, 2)	in type of protection intrinsic safety Ex ia IIC Only for connection to a certified intrinsically safe circuit Maximum values: U_i = 30 V I_i = 160 mA P_i = 1.6 W Effective internal capacitance: 10 nF Effective internal inductance: 40 µH

Type D122.a.b.0.BM
a=A, AS, Z, ZS
b = 3, 5, 6, 7

Supply and signal circuit ..... (Connection wires brown [+], blue [-]; green/yellow PE)	4 ... 20 mA U_m = 250 V

Type D122.a.b.c.BM
a=A, AS, Z, ZS
b = 3, 5, 6, 7
c = 2, 3, 4

Supply and signal circuit ..... (Connection wires brown [+], blue [-]; green/yellow PE)	4 ... 20 mA U_m = 250 V
Switch output circuit ..... (Connections 5, 6) c=2 (Connections 7, 8) c=2,3	in type of protection intrinsic safety Ex ia IIC Only for connection to a certified intrinsically safe circuit Maximum values per circuit: U_i = 30 V I_i = 160 mA P_i = 0.85 W The effective internal capacitance is negligibly small Effective internal inductance: 40 µH
Input circuit ..... (Connections 5, 6) c=3,4 (Connections 7, 8) c=4	in type of protection intrinsic safety Ex ia IIC Only for connection to a certified intrinsically safe circuit Maximum values per circuit: U_i = 30 V R_i = 9 kΩ The effective internal capacitance is negligibly small Effective internal inductance: 40 µH

Type D122.a.b.c.MU
a=A, AS, Z, ZS
b = 5, 6, 7
c = 2, 3, 4

Supply and signal circuit ..... (Connections 1, 2)	in type of protection intrinsic safety The level of protection (ia, ib) and the gas group (IIC, IIB, IIA) have to be taken from the certificate of the installed measuring transmitter (See also "Conditions of use"). Maximum values: U_i = 65 V I_i = 160 mA P_i = 2.1 W The effective internal capacitance and inductance has to be taken from the certificate of the installed measuring transmitter (See label of the transmitter`s manufacturer.).
Signal circuit of the installed transmitter ..... (Connections according to the certificate of the transmitter)	in type of protection intrinsic safety The level of protection (ia, ib), the gas group (IIC, IIB, IIA) and the max. values regarding the intrinsic safety have to be taken from the certificate of the installed measuring transmitter (See also "Conditions of use").
Switch output circuit ..... (Connections 5, 6) c=2 (Connections 7, 8) c=2,3	in type of protection intrinsic safety Ex ia IIC Only for connection to a certified intrinsically safe circuit Maximum values per circuit: U_i = 30 V I_i = 160 mA P_i = 0.85 W The effective internal capacitance is negligibly small Effective internal inductance: 40 µH
Input circuit ..... (Connections 5, 6) c=3,4 (Connections 7, 8) c=4	in type of protection intrinsic safety Ex ia IIC Only for connection to a certified intrinsically safe circuit Maximum values per circuit: U_i = 30 V R_i = 9 kΩ The effective internal capacitance is negligibly small Effective internal inductance: 40 µH

Type D122.a.b.0.MU
a=A, AS, Z, ZS
b = 5, 6, 7

Supply and signal circuit ..... (Connections 1, 2)	in type of protection intrinsic safety The level of protection (ia, ib) and the gas group (IIC, IIB, IIA) have to be taken from the certificate of the installed measuring transmitter (See also "Conditions of use"). Maximum values: U_i = 65 V I_i = 160 mA P_i = 2.1 W The effective internal capacitance and inductance has to be taken from the certificate of the installed measuring transmitter (See label of the transmitter`s manufacturer.).
Signal circuit of the installed transmitter ..... (Connections according to the certificate of the transmitter)	in type of protection intrinsic safety The level of protection (ia, ib), the gas group (IIC, IIB, IIA) and the max. values regarding the intrinsic safety have to be taken from the certificate of the installed measuring transmitter (See also "Conditions of use").

Type D122.a.7.0.0
a=PA, FF

Supply and signal circuit ..... (Connections 1/3, 2/4)	in type of protection intrinsic safety Ex ia IIC Only for connection to a certified intrinsically safe circuit Maximum values: U_i = 30 V I_i = 660 mA P_i = 2.1 W The effective internal capacitance and inductance are negligibly small. or Maximum values according to a FISCO-Fielddevice: U_i = 17.5 V I_i = 380 mA P_i = 5.32 W The effective internal capacitance and inductance are negligibly small.

Marking of the test object:

⟨Ex⟩	II 2 (1) G	Ex ib [ia Ga] IIC T6/T5 Gb
	II 2 (1) D	Ex ib [ia Da] IIIC T135°C Db
	II 2 G	Ex [ib Gb] ib q IIC T4 Gb

The equipment incl. of this supplement meets the requirements of these standards:

EN 60079-0:2012 EN 60079-5:2007 EN 60079-11:2012

(16) The test documents are listed in the test report No. 14 203 140402.

(17) Special conditions for safe use

1. Version of the Digital Indicator D122 with installed barrier module: The wire for earth connection has to be connected with the potential equalization in the explosion hazardous area.
2. Version of the Digital Indicator D122 with installed barrier module: The wires for the non intrinsically safe supply and signal circuit have to be to be connected outside of the explosion hazardous area or in a suitable, certified terminal box.
3. Version of the Digital Indicator D122 with installed separately certified transmitter: The information regarding the explosion protection of the installed transmitter (Protection level, gas group, temperature class, ambient temperature range and electrical data of the intrinsically safe circuits) can restrict the explosion protection of the Digital Indicator D122. The information has to be taken from the transmitter`s certificate and the label of the manufacturer Gönnheimer Electronic GmbH.
   See also "Electrical data" for the D122 with installed separately certified transmitter

According to IEC 60079-0, 29.3 e), an advisory marking is available on the label.

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

Schwedt

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