TÜV NORD

Translation

(1) # EC-TYPE EXAMINATION CERTIFICATE

(2) Equipment or Protective System intended for use in potentially explosive atmospheres - **Directive 94/9/EC**

(3) EC-Type Examination Certificate Number

TÜV 98 ATEX 1290 X

(4)	Equipment or Protective System:	Electronic transmitter supply and isolating amplifier type E02002-103.... and E02002-203....
(5)	Manufacturer:	MTL Instruments GmbH
(6)	Address:	Bessemer Str. 80 D-44793 Bochum

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

(8) The TÜV Hannover/Sachsen-Anhalt e.V., TÜV Certification Body N° 0032 in accordance with Article 9 of the Council Directive 94/9/EC of March 23, 1994, certifies that this equipment or protective system 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 confidential report N° 98/PX0818.

(9) Compliance with the 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 placed after the certification number, it indicates that the equipment or protective system 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 or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

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

Ex II (1) G [EEx ia] IIC

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

Hannover, 1998-05-25 *(Original date)*

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 Hannover/Sachsen-Anhalt e.V Ident. Nr. 0032

Origin signatory: Stürwold

2013-08-29

Head of the Certification Body

Meyer
Head of the notified body

(13) **SCHEDULE**

(14) **EC-TYPE EXAMINATION CERTIFICATE N° TÜV 98 ATEX 1290 X**

(15) Description of equipment or protective system

The electronic transmitter supply and isolating amplifier
type E02002-103.... and E02002-203.... is used for the supply of passive 2- and n-terminal devices and for decoupling of the measuring signal.
The communication from the non intrinsically safe side with intelligent devices in the intrinsically safe supply circuit is possible.
The intrinsically safe supply- and measuring circuits are safe galvanically separated from the non intrinsically safe circuits.
The function of the devices has to be converted according to the documents of the manufacturer.
The max. permissible ambient temperature is 60°C.

Electrical data

Supply circuit ..... U = 20 ... 35 V d. c.; P ca. 3.5 W
(Contacts of type E02002-.03...1: U_m = 253 V a. c. resp. 125 V d. c.
d2, z2 [L+] and d4, z4 [L-];
Contacts of type E02002-.03...2:
d4, b4 [L+] and d2, b2 [L-])

Measuring circuit for current input ...in type of protection "Intrinsic Safety" EEx ia IIC/IIB
(Contacts of type E02002-.03..01: EEx ib IIC/IIB
d32, z32 [+] and d28, z28 [-]
Contacts of type E02002-.03..02:
d32, b32 [+] and d30, b30 [-]

Maximum values:
U_o < 1 V
I_o < 1 mA
P_o < 1 mW
Characteristic line: linear
The effective internal capacitances and inductances are negligibly small.

EEx ia/ib	IIC	IIB
max. permissible external inductance	1000 mH	1000 mH
max. permissible external capacitance	100 µF	1000 µF

for connection to a certified intrinsically safe circuit
Maximum values:
U_i = 40 V
I_i = 150 mA
At interconnection with a certified intrinsically safe circuit, a possible current- or voltage summation has to be observed. For this, the rules for interconnection of intrinsically safe circuits have to be observed.

Measuring circuit for voltage input .. in type of protection "Intrinsic Safety" EEx ia IIC/IIB
EEx ib IIC/IIB

(Contacts of type E02002-.03..11:
d32, z32 [+] and d28, z28 [-]
Contacts of type E02002-.03..12:
d32, b32 [+] and d30, b30 [-]

Maximum values:
U_o = 12.6 V
I_o < 1 mA
R = 90 kΩ
P_o = 6 mW
Characteristic line: trapezoidal
The effective internal capacitances and inductances are negligibly small.

EEx ia/ib	IIC	IIB
max. permissible external inductance	10 mH	50 mH
max. permissible external capacitance	300 nF	1530 nF

for connection to a certified intrinsically safe circuit
Maximum values:
U_i = 40 V
I_i = 150 mA
At interconnection with a certified intrinsically safe circuit, a possible current- or voltage summation has to be observed. For this, the rules for interconnection of intrinsically safe circuits have to be observed.

Transmitter supply type E02002-103..21 (transposable to type E02002-103..01 and to type E02002-103..11)

Supply circuit ..... in type of protection "Intrinsic Safety" EEx ia IIC/IIB
(Contacts of type E02002-103..21 EEx ib IIC/IIB
as transmitter supply:
d30, z30 [+] and d32, z32 [-])

Maximum values:
U_o = 24.7 V
I_o = 85 mA
P_o = 525 mW
Characteristic line: linear
The effective internal capacitances and inductances are negligibly small.

EEx ia/ib	IIC	IIB
max. permissible external inductance	4 mH	15 mH
max. permissible external capacitance	115 nF	870 nF

Transmitter supply type E02002-103..31 (transposable to type E02002-103..01 and to type E02002-103..11)

Supply circuit ..... in type of protection "Intrinsic Safety" EEx ia IIC/IIB
(Contacts of type E02002-103..31 EEx ib IIC/IIB
as transmitter supply:
d30, z30 [+] and d32, z32 [-])

Maximum values:
U_o = 27.8 V
I_o = 96 mA
P_o = 660 mW
Characteristic line: linear
The effective internal capacitances and inductances are negligibly small.

EEx ia/ib	IIC	IIB
max. permissible external inductance	2 mH	13.5 mH
max. permissible external capacitance	84 nF	659 nF

Transmitter supply type E02002-203..31 (transposable to type E02002-103..01 and to type E02002-103..11)

Supply circuit ..... in type of protection "Intrinsic Safety" EEx ia IIC/IIB
(Contacts of type E02002-103..31 EEx ib IIC/IIB
as transmitter supply:
d30, z30 [+] and d32, z32 [-])

Maximum values:
U_o = 27,8 V
I_o = 87 mA
P_o = 605 mW
Characteristic line: linear
The effective internal capacitances and inductances are negligibly small.

EEx ia/ib	IIC	IIB
max. permissible external inductance	2.4 mH	17 mH
max. permissible external capacitance	84 nF	659 nF

Transmitter supply type E02002-103..22 (transposable to type E02002-103..02 and to type E02002-103..12)

Supply circuit ..... in type of protection "Intrinsic Safety" EEx ia IIC/IIB
(Contacts of type E02002-103..22 EEx ib IIC/IIB
as transmitter supply:
d30, b30 [-] and d32, b32 [+])

Maximum values:
U_o = 24.7 V
I_o = 85 mA
P_o = 525 mW
Characteristic line: linear

The effective internal capacitances and inductances are negligibly small.

EEx ia/ib	IIC	IIB
max. permissible external inductance	4 mH	15 mH
max. permissible external capacitance	115 nF	870 nF

Transmitter supply type E02002-103..32 (transposable to type E02002-103..02 and to type E02002-103..12)

Supply circuit ..... in Zündschutzart Eigensicherheit EEx ia IIC/IIB
(Kontakte bei Typ E02002-103..32 EEx ib IIC/IIB
as transmitter supply:
d30, b30 [-] and d32, b32 [+])

Maximum values:
U_o = 27.8 V
I_o = 96 mA
P_o = 660 mW
Characteristic line: linear
The effective internal capacitances and inductances are negligibly small.

EEx ia/ib	IIC	IIB
max. permissible external inductance	2 mH	13.5 mH
max. permissible external capacitance	84 nF	659 nF

Transmitter supply type E02002-203..32 (transposable to type E02002-103..02 and to type E02002-103..12)

Supply circuit ..... in Zündschutzart Eigensicherheit EEx ia IIC/IIB
(Contacts of type E02002-103..32 EEx ib IIC/IIB
as transmitter supply:
d30, b30 [-] and d32, b32 [+])

Maximum values:
U_o = 27.8 V
I_o = 87 mA
P_o = 605 mW
Characteristic line: linear
The effective internal capacitances and inductances are negligibly small.

EEx ia/ib	IIC	IIB
max. permissible external inductance	2.4 mH	17 mH
max. permissible external capacitance	84 nF	659 nF

To the intrinsically safe supply circuits of the types mentioned above, also certified intrinsically safe apparatus may be connected. For this, the rules for interconnection of intrinsically safe circuits have to be observed.

	Maximum values of a connected active apparatus:
	U_o = 10 V
	I_o = 30 mA

Output circuits	Output Ia	(0/4...20mA): 20 V, 20 mA
(Contacts of type E02002-.03...1:	Output Ua	(0/2...10V): 20 V, 20 mA
d14 [+], d16 [-];	Um = 250 V	
Contacts of type E02002-.03...2:		
d10, b10 [+], d8, b8 [-])		

FSK interface circuit ..... only for short-time connection to floating apparatus
(Contacts of type E02002-.03...1: with nominal voltages below 10 V
z14 und z16;
Contacts of type E02002-.03...2:
b14, d14 und b16, d16;
optionally connected with the front-side test bushings (FSK))

Test bushings at the front plate ..... only for short-time connection to floating apparatus
(Connections marked with + and -) with nominal voltages below 10 V

The intrinsically safe measuring and supply circuits are safely galvanically separated from the non intrinsically safe circuits up to a peak value of the voltage of 375 V.

(16) Test documents consisting of 23 pages inclusive of 37 drawings are listen in the test report.

(17) Special condition for safe use

1. The electronic transmitter supply and isolating amplifier type E02002-103.... and E02002-203.... has to be erected in such a way, that a degree of protection of min. IP 20 according to IEC 529 is reached.
2. At erection of the apparatus, the drawing no. 095.0015 (code plan) has to be observed.
3. The potentiometers, reachable at the front plate, are only allowed to be operated for adjustment working.
4. The operating mode conversion of the electronic transmitter supply and isolating amplifier type E02002-103.... and E02002-203.... is only allowed to be carried out by the manufacturer or by an expert of the user.

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD

Translation

1. SUPPLEMENT to

EC Type-Examination CERTIFICATE no. TÜV 98 ATEX 1290 X

of the company: MTL Instruments GmbH
Bessemer Str. 80
D-44793 Bochum

In the future, the electronic transmitter supply and isolating amplifier type E02002-.03.... may be manufactured according to the documents listed in the test report. The changes refer to the internal construction as well as to the type designation of the apparatus.
For the changes described in this supplement, this reads E02002-.03....0 resp. E02002-.03....1 .

The electrical data as well as the „Special conditions for safe use" and all other details remain unchanged for this supplement.

Test documents signed on 1999-08-16

1. Description (2 pages)

2. Drawing no.:
2002S1N1
2002B022/01
2002K022/01
2002L022/01
2002V022
2002R022/01
2002i122/01
2002i22/01
125.0030/01
2002B021/01
2002K021/01
2002L021/01
2002V021
2002R021/01
20021i12/01
20021i22/01
125.0031/01

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

Origin signatory: Rosin

Hannover, 1999-08-20 *(Original date)*

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 Hannover/Sachsen-Anhalt e.V. Ident. Nr. 0032

2013-08-29

Head of the Certification Body

Meyer
Head of the notified body

TÜV NORD

Translation

2. SUPPLEMENT to

EC TYPE-EXAMINATION CERTIFICATE No. TÜV 98 ATEX 1290 X

of the company: MTL Instruments GmbH
Bessemer Str. 80
D-44793 Bochum

In the future, the electronic transmitter supplies and isolating amplifiers types E02002-.03...1 und E02002-.03...2 may be manufactured according to the documents listed in the test report. The changes refer to the construction of the apparatus.

The electronic transmitter supplies and isolating amplifiers types E02002-.03...3. are executed with a new connection diagram as well as with relay contact circuits.

Electrical data

Isolating amplifier type E02002-103..03.

Measuring circuit for current input (Contacts z32[+] and z30[-]) ...in type of protection "Intrinsic Safety" EEx ia IIC/IIB, EEx ib IIC/IIB

Maximum values:
U_o < 1 V
I_o < 1 mA
P_o < 1 mW
Characteristic line: linear
The effective internal capacitances and inductances are negligibly small.

EEx ia/ib	IIC	IIB
max. permissible external inductance	1000 mH	1000 mH
max. permissible external capacitance	100 µF	1000 µF

for connection to a certified intrinsically safe circuit
Maximum values:
U_i = 40 V
I_i = 150 mA
At interconnection with a certified intrinsically safe circuit, a possible current- or voltage summation has to be observed. For this, the rules for interconnection of intrinsically safe circuits have to be observed.

2. Supplement to EC Type-Examination Certificate No. TÜV 98 ATEX 1290 X

Isolating amplifier type E02002-103..13.

Measuring circuit for
voltage input ..... in type of protection "Intrinsic Safety" EEx ia IIC/IIB
(Contacts EEx ib IIC/IIB
z32 [+] and z30[-])

Maximum values:
U_o = 12.6 V
I_o < 1 mA
R = 90 kΩ
P_o = 6 mW
Characteristic line: trapezoidal
The effective internal capacitances and inductances are negligibly small.

EEx ia/ib	IIC	IIB
max. permissible external inductance	10 mH	50 mH
max. permissible external capacitance	300 nF	1530 nF

for connection to a certified intrinsically safe circuit
Maximum values:
U_i = 40 V
I_i = 150 mA
At interconnection with a certified intrinsically safe circuit, a possible current- or voltage summation has to be observed. For this, the rules for interconnection of intrinsically safe circuits have to be observed.

Transmitter supply type E02002-103..23. (transposable to type E02002-103..03. and to type E02002-103..13.)

Supply circuit ..... in type of protection "Intrinsic Safety" EEx ia IIC/IIB
(Contacts EEx ib IIC/IIB
d32[+] and d30[-])

Maximum values:
U_o = 24.7 V
I_o = 85 mA
P_o = 525 mW
Characteristic line: linear
The effective internal capacitances and inductances are negligibly small.

EEx ia/ib	IIC	IIB
max. permissible external inductance	4 mH	15 mH
max. permissible external capacitance	115 nF	870 nF

2. Supplement to EC Type-Examination Certificate No. TÜV 98 ATEX 1290 X

Transmitter supply type E02002-103..33. (transposable to type E02002-103..03. and to type E02002-103..13.)

Supply circuit ..... in type of protection "Intrinsic Safety" EEx ia IIC/IIB
(Contacts EEx ib IIC/IIB
d32[+] and d30[-])

Maximum values:
U_o = 27.8 V
I_o = 96 mA
P_o = 660 mW
Characteristic line: linear
The effective internal capacitances and inductances are negligibly small.

EEx ia/ib	IIC	IIB
max. permissible external inductance	2 mH	13,5 mH
max. permissible external capacitance	84 nF	659 nF

Transmitter supply E02002-203..33.

Supply circuit ..... in type of protection "Intrinsic Safety" EEx ia IIC/IIB
(Contacts EEx ib IIC/IIB
d32[+] and d30[-])

Maximum values:
U_o = 27,8 V
I_o = 87 mA
P_o = 605 mW
Characteristic line: linear
The effective internal capacitances and inductances are negligibly small.

EEx ia/ib	IIC	IIB
höchstzulässige äußere Induktivität	2.4 mH	17 mH
höchstzulässige äußere Kapazität	84 nF	659 nF

To the intrinsically safe supply circuits of the types mentioned above, also certified intrinsically safe apparatus may be connected. For this, the rules for interconnection of intrinsically safe circuits have to be observed.

Maximum values of a connected active apparatus:
U_o = 10 V
I_o = 30 mA

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2. Supplement to EC Type-Examination Certificate No. TÜV 98 ATEX 1290 X

Transmitter supply/isolating amplifier Typ E02002-103...3.
Contact circuits ..... 120 V a. c., 60VA, 1A resp. 60 V d. c., 24 W, 1A
(Contacts d6, b6 and z6)

Transmitter supply/isolating amplifier Typ E02002-103...3.
Output circuit ..... Output Ia (0/4...20mA): 20 V, 20 mA
(Contacts d8, b8 and z8) Output Ua (0/2...10V): 20 V, 20 mA
Um = 250 V

The "Special conditions for safe use" no. 1 and 2 read as follows for the apparatus according to this 2. supplement:

1. The electronic transmitter supplies and isolating amplifiers types E02002-103...3. and E02002-203...3. have to be erected in such a way, that a degree of protection of min. IP 20 according to IEC 529 is reached.
2. At erection of the apparatus, the drawing no. 095.0015E2 (code plan) has to be observed.

All other details remain unchanged for this 2. supplement.

The test documents are listed in the test report no. 02 YEX 185 043.

TÜV NORD CERT GmbH & Co. KG
TÜV CERT-Certification Body
Am TÜV 1
D-30519 Hannover
Tel.: 0511 986-1470
Fax: 0511 986-2555

Hannover, 2002-09-10 *(Original date)*

Origin signatory: Stürwold

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

2013-08-29

Head of the Certification Body

Meyer
Head of the notified body

TÜV NORD

Translation

3. S U P P L E M E N T

to Certificate No.	**TÜV 98 ATEX 1290 X**
Equipment:	Electronic transmitter supply and isolating amplifier type E02002-.03...1., E02002-.03...2. and E02002-.03...3.
Manufacturer:	MTL Instruments GmbH
Address:	Bessemer Str. 80 44793 Bochum Germany
Order number:	8000422789
Date of issue:	2013-08-29

For the electronic transmitter supply and isolating amplifier type E02002-.03...1., E02002-.03...2. and E02002-.03...3., the follwing changes were performed:
- Standard update
- Revision of the used transformers
- Changes at the pc boards
- Changes at the circuitries with retention of the safety protection concept
- Actualisation of the "Special conditions for safe use"
- In the future, the marking of the apparatus reads as follows:

II (1) G [Ex ia Ga] IIC

- The values for L_o and C_o were calculated with the program „ispark, version 6.1, 28.02.2011 *** for Win32 **** copyright @ PTB 2002".

The permissible ambient temperature range is at the point of installation is -20 °C ... 60 °C.

In the future, for the electronic transmitter supply and isolating amplifier type E02002-.03..... only the details mentioned below are valid:

Electrical data:

Type E02002-.03...1.

Supply circuit	U = 20 ... 35 V d. c.; P ca. 3.5 W
(Contacts d2, z2 [L+] and d4, z4 [L-])	U_m = 253 V a. c. resp. 250 V d. c.
Binary output	U = 20 ... 35 V d. c. for switching of loads
(Contacts d12, z12 [+])	connected with the supply circuit

Typ E02002-.03...2.

Supply circuit	U = 20 ... 35 V d. c.; P ca. 3.5 W
(Contacts d4, b4 [L+] and d2, b2 [L-])	U_m = 253 V a. c. resp. 250 V d. c.
Binary output	U = 20 ... 35 V d. c. for switching of loads
(Contacts d12, b12 [+])	connected with the supply circuit

Typ E02002-.03...3.

Supply circuit	U = 20 ... 35 V d. c.; P ca. 3.5 W
(Contacts d2, [L+] and z4 [L-])	U_m = 253 V a. c. resp. 250 V d. c.
Mains test circuit	connected with L-
(Contact z2)	
Relay output	120 V a. c., 60VA, 1A resp. 60 V d. c., 24 W, 1A
(Contacts z6 [NO], d6 [NC], b6 [CO])	

Type E02002-103..0.., isolating amplifier with current input (and measuring circuits of all other types at transposition to current input)

Measuring circuit for current input ..... in type of protection "Intrinsic Safety"Ex ia IIC/IIB
(Contacts at type E02002-103..01.:
d32, z32 [+] and d28, z28 [-]
Contacts at type E02002-103..02.:
d32, b32 [+] and d30, b30 [-]
Contacts at type E02002-103..03.:
z32 [+] and z30 [-])

Maximum values:
U_o <1 V
I_o <1 mA
P_o <1 mW
Characteristic line: linear
The effective internal capacitance is negligibly small.
L_i = 5 µH

Ex ia	IIC	IIB
max. permissible external inductance	10 mH	50 mH
max. permissible external capacitance	66 µF	270 µF

for connection to a certified intrinsically safe circuit
Maximum values:
U_i = 40 V
I_i = 150 mA
At interconnection with a certified intrinsically safe circuit, a possible current- or voltage summation has to be observed.
For this, the rules for interconnection of intrinsically safe circuits have to be observed.

Type E02002-103..1.., isolating amplifier with voltage input

Measuring circuit for voltage input ..... in type of protection "Intrinsic Safety" Ex ia IIC/IIB
(Contacts at type E02002-103..11.:
d32, z32 [+] and d28, z28 [-]
Contacts at type E02002-103..12.:
d32, b32 [+] und d30, b30 [-]
Contacts at type E02002-103..13.:
z32 [+] and z30 [-])

Maximum values:
U_o = 12.6 V
I_o < 1 mA
R = 90 kΩ
P_o = 6 mW
Characteristic line: trapezoidal
The effective internal capacitance is negligibly small.
L_i = 5 µH

Ex ia	IIC	IIB
max. permissible external inductance	10 mH	50 mH
max. permissible external capacitance	410 nF	1.7 µF

for connection to a certified intrinsically safe circuit
Maximum values:
U_i = 40 V
I_i = 150 mA
At interconnection with a certified intrinsically safe circuit, a possible current- or voltage summation has to be observed.
For this, the rules for interconnection of intrinsically safe circuits have to be observed.

E02002-103..2.., transmitter supply with current input, non communication capable (transposable to isolating amplifier with current input)

Supply circuit ..... in type of protection "Intrinsic Safety" Ex ia IIC/IIB
(Contacts at type E02002-103..21.:
d30, z30 [+] and d32, z32 [-]
Contacts at type E02002-103..22.:
d32, b32 [+] and d30, b30 [-]
Contacts at type E02002-103..23.:
d32 [+] and d30 [-])

Maximum values:
U_o = 24.7 V
I_o = 85 mA
P_o = 525 mW
Characteristic line: linear
The effective internal capacitance is negligibly small.
L_i = 5 µH

Ex ia	IIC	IIB
max. permissible external inductance	0.5 mH	10 mH
max. permissible external capacitance	85 nF	0.4 µF

E02002-103..3.., transmitter supply with current input, communication capable (transposable to isolating amplifier with current input)

Supply circuit ..... in type of protection "Intrinsic Safety" Ex ia IIC/IIB
(Contacts at type E02002-103..31.:
d30, z30 [+] and d32, z32 [-]
Contacts at type E02002-103..32.:
d32, b32 [+] and d30, b30 [-]
Contacts at type E02002-103..33.:
d32 [+] and d30 [-])

Maximum values:
U_o = 27.8 V
I_o = 96 mA
P_o = 667 mW
Characteristic line: linear
The effective internal capacitance is negligibly small.
L_i = 5 µH

Ex ia	IIC	IIB
max. permissible external inductance	0.5 mH	10 mH
max. permissible external capacitance	68 nF	0.25 µF

E02002-203..3.., transmitter supply with current input, communication capable (transposable to isolating amplifier with current input)

Supply circuit ..... in type of protection "Intrinsic Safety" Ex ia IIC/IIB
(Contacts at type E02002-203..31.:
d30, z30 [+] and d32, z32 [-]
Contacts at type E02002-203..32.:
d32, b32 [+] and d30, b30 [-]
Contacts at type E02002-203..33.:
d32 [+] and d30 [-])

Maximum values:
U_o = 27.8 V
I_o = 87 mA
P_o = 605 mW
Characteristic line: linear
The effective internal capacitance is negligibly small.
L_i = 5 µH

Ex ia	IIC	IIB
max. permissible external inductance	0.5 mH	10 mH
max. permissible external capacitance	69 nF	0.26 µF

To the intrinsically safe supply circuits of the types mentioned above, also certified intrinsically safe apparatus may be connected. For this, the rules for interconnection of intrinsically safe circuits have to be observed.
Maximum values of a connected active apparatus:
U_o = 10 V
I_o = 30 mA

E02002-.03.....

Output circuits ..... Output Ia (0/4...20mA): 20 V, 20 mA
(Contacts at type E02002-.03...1.: Output Ua (0/2...10V): 20 V, 20 mA
d14 [+], d16 [-]; U_m = 253 V a. c. resp. 250 V d. c.
Contacts at type E02002-.03...2.:
d10, b10 [+], d8, b8 [-])

Contacts at type E02002-.03...3.: Output Ia (0/4...20mA): 20 V, 20 mA
z8 [I+], b8 [I-/U+], d8 [U-]) Output Ua (0/1...5V): 20 V, 20 mA
U_m = 253 V a. c. resp. 250 V d. c.

FSK interface circuit ..... optionally connected with the front-side test bushings (FSK)
(Contacts at type E02002-.03..31.; only for short-time connection to floating apparatus
z14 and z16 with nominal voltages below 10 V
Contacts at type E02002-.03..32.;
b14, d14 and b16, d16
Contacts at type E02002-.03..33.:
b14, d14 and b16, d16)

E02002-103..... und E02002-203.....

Test bushings at the front plate ..... only for short-time connection to floating apparatus
(Connections marked with + and -) with nominal voltages below 10 V

The intrinsically safe measuring and supply circuits are safely galvanically separated from the non intrinsically safe circuits up to a peak value of the voltage of 375 V.

The equipment according to this supplement meets the requirements of these standards:

EN 60079-0:2009 EN 60079-11:2012

(16) The test documents are listed in the test report No. 13 203 124516.

(17) Special conditions for safe use

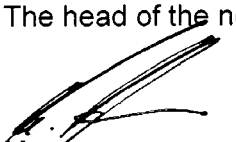
1. The electronic transmitter supplies and isolating amplifiers type E02002-.03...1., E02002-.03...2. and E02002-.03...3. have to be erected in such a way, that a degree of protection of min. IP 20 according to IEC 60529 is reached.
2. At erection of the apparatus, the code plans in the manual have to be observed.
3. The potentiometers, reachable at the front plate, are only allowed to be operated for adjustment working.
4. The operating mode conversion is only allowed to be carried out by the manufacturer or by an expert of the user.
5. The permissible ambient temperature range is -20 °C ... 60 °C

(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



Meyer

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