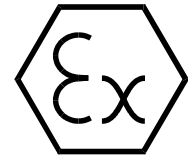


(1) **EC- TYPE- EXAMINATION CERTIFICATE**
(Translation)

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

(3) EC- type- examination Certificate number



TÜV 01 ATEX 1693

(4) Equipment: Ex-i power supply SG 160...

(5) Manufacturer: Gönnheimer Elektronik GmbH

(6) Address: D-Neustadt/Weinstraße, Dr. Julius Leber-Str. 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 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 examination and test results are recorded in the confidential report No. 01 PX 07210

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

EN 50 014:1997 EN 50 019 : 1994 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 G EEx e m [ib] IIC T5

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

Hannover, 12.03.2001



Der Leiter

(13)

SCHEDULE

(14)

EC- TYPE-Examination CERTIFICATE No. TÜV 01 ATEX 1693

(15) Description of equipment

The Ex-i power supply SG 160 ... serves inside hazardous areas as a power supply of intrinsically safe current circuits in explosive endangered areas for equipment of category 2 respectively 3.

The maximum ambient temperature is 40°C in temperature class T5 and 65°C in the temperature class T4.

Electrical details

All non intrinsically safe terminals have the explosion protection “increased safety”.

Supply circuit (Terminal 1 to 3) $U = 230/220/120/110/24 \text{ V AC}$, bzw. $U = 24 \text{ V DC}$
 $U_M = 253 \text{ V AC}$

Control port (Terminal 4, 5) $U_M = 40 \text{ V AC}$

Output current (Terminal 6,7) approved for intrinsic safety EEx ib IIC
 the maximum capacity and inductance are listed on the following table

Type	SG160.x.0.x	SG160.x.1.x	SG160.x.2.x	SG160.x.3.x	SG160.x.4.x	SG160.x.5.x	SG160.x.6.x
U_0	16,8V	16,8V	12,6V	12,6V	20V	16,8V	12,6V
I_0	80mA	58mA	80mA	58mA	27mA	27mA	27mA
P_0	1340mW	974mW	1000mW	731mW	540mW	454mW	341mW

group	Type SG160.x.0.x		Type SG160.x.1.x		Type SG160.x.2.x		Type SG160.x.3.x		Type SG160.x.4.x		Type SG160.x.5.x		Type SG160.x.6.x	
	L_0 [mH]	C_0 [nF]	L_0 [mH]	C_0 [nF]	L_0 [mH]	C_0 [nF]	L_0 [mH]	C_0 [nF]	L_0 [mH]	C_0 [nF]	L_0 [mH]	C_0 [nF]	L_0 [mH]	C_0 [nF]
IIC	0,26	140	0,5	130	0,15	700	0,15	480	0,15	150	2	200	1	500
			1	100	0,5	240	0,5	270	1	100	5	150	2	300
					1	190	1	240	2	70			5	200
IIB	1	590	2	560	1	1200	1	1300	0,15	1000	0,5	2000	0,15	5000
	2	490	5	340	2	960	2	1100	5	500	5	1000	5	2000
	5	250	10	270	5	520	5	690						

All types have a rectangular characteristic

The intrinsically safe output current is safe galvanically separated up to a nominal voltage of 375 V to every remaining current circuit.

Schedule EC- Type- Examination Certificate No. TÜV 01 ATEX 1693

- (16) Report No. 01 PX 07210

- (17) Special conditions for safe area
None

- (18) Essential health and safety requirements
No additional



Translation

1. Amendment to

EC- TYPE-Examination CERTIFICATE No. TÜV 01 ATEX 1693

Of company Gönzheimer Elektronik GmbH
Dr. Julius Leberstr. 2
D- 67433 Neustadt an der Weinstraße

The Ex-i power supply type SG 160... may be manufactured and operated in the future according to the documents listed in the test report.

The changes concern the extension of the SG160 series by the type SG160.x.7.x and the employment of the product in areas with combustible dust.

The marking shall include the following:

II 2 D Ex tD [ibD] A21 IP 66 T135°C

with the test docs **prEN 61241-0:2002, prEN61241-1:2002 and IEC 31H/130/CD:2001**

Electrical data:

All not intrinsically safe connections are in the protection type "increased safety" respectively „protection by housing" implemented.

Supply circuit $U = 230/220/120/110/24$ V AC, resp. $U=24$ V
(Terminals 1 up to 3) $U_m = 253$ V AC

Control input $U_m = 40$ V
(Terminals 4 and 5)

Outputs circuit protection type "intrinsic safe" EEx ib IIC / Ex ibD
(Terminals 6 und 7) the maximum values and to maximum permissible capacity expresses resp. Inductance are to be taken from the table:

SG	160.x.0.x		160.x.1.x		160.x.2.x		160.x.3.x		160.x.4.x		160.x.5.x		160.x.6.x		160.x.7.x	
U_o	16,8 V		16,8 V		12,6 V		12,6 V		20 V		16,8 V		12,6 V		10,5 V	
I_o	80 mA		58 mA		80 mA		58 mA		27 mA		27 mA		27 mA		110 mA	
P_o	1340 mW		947 mW		1000 mW		731 mW		540 mW		454 mW		341 mW		1155 mW	
Schutzart	L_o [mH]	C_o [nF]	L_o [mH]	C_o [nF]	L_o [mH]	C_o [nF]	L_o [mH]	C_o [nF]	L_o [mH]	C_o [nF]	L_o [mH]	C_o [nF]	L_o [mH]	C_o [nF]	L_o [mH]	C_o [nF]
EEx ib IIC	0,17	140	0,5	130	0,15	700	0,15	480	0,15	110	2	200	1	360	0,2	1200
			0,9	100	0,5	240	0,5	270	1	100	5	150	2	300	0,5	750
					1	190	1	240	2	70			5	200	1	480
EEx ib IIB	1	590	2	560	1	1200	1	1300	0,15	1000	0,5	2000	0,15	5000	0,5	5400
	2	490	5	340	2	960	2	1100	5	500	5	1000	5	2000	2	2900
	5	250	10	270	5	520	5	690							5	1600
Ex ibD	2	1150	4	1120	2	2400	2	2600	0,5	1500	1	4000	0,5	7500	1	9000
	4	980	10	680	4	1920	4	2200	10	1000	10	2000	10	4000	4	5800
	10	500	20	540	10	1040	10	1380							10	3200

Characteristics of all types: rectangular

1. Amendment to EC- TYPE-Examination CERTIFICATE No. TÜV 01 ATEX 1693



The output current circuit is surely electrically isolated from all remaining electric circuits to a peak value of the rated voltage of 375 V.

All remaining data remain unchanged.

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

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

Hannover, 03.02.2004

A handwritten signature in blue ink, appearing to read 'G. K. W. K. W. K.', written in a cursive style.

Der Leiter