



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx BVS 10.0087X issue No.:0 Certificate history:

Status: Current

Date of Issue: 2010-11-24 Page 1 of 3

Applicant: RECHNER Industrie-Elektronik GmbH
Gaußstraße 8 – 10
68623 Lampertheim
Germany

Electrical Apparatus: Transmitter Supply Unit type N-132*/4-20-IL
Optional accessory:

Type of Protection: Equipment protection by intrinsic safety "I", Construction, test and Marking of Type of Protection "n" electrical apparatus, Equipment with equipment protection level (EPL) Ga, Protection by intrinsic safety 'ID'

Marking: Ex nA nC [ia Ga] IIC T4 Gc
[Ex ia Da] IIC


Approved for issue on behalf of the IECEx
Certification Body:

H.-Ch. Simanski

Position:

Head of Certification Body

Signature:
(for printed version)


24/11/2010

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

 **DEKRA**
DEKRA EXAM GmbH



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Manufacturer: **RECHNER Industrie-Elektronik GmbH**
Gaußstraße 8 – 10
68623 Lampertheim
Germany

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2007-10 Edition: 5	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2005-03 Edition: 3	Electrical apparatus for explosive gas atmospheres Part 15: Construction, test and Marking of Type of Protection "n" electrical apparatus
IEC 60079-26 : 2006 Edition: 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga
IEC 61241-11 : 2005 Edition: 1	Electrical apparatus for use in the presence of combustible dusts - Part 11: Protection by intrinsic safety 'iD'

This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

DE/BVS/ExTR10.0116/00

Quality Assessment Report:

DE/BVS/QAR07.0008/03



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Description

The Transmitter Supply Unit type N-132/*4-20-IL is an associated apparatus per IEC 60079-11 and has to be installed outside the hazardous area or in an enclosure which is in accordance with IEC 60079-15. It serves as 24 V power supply and signal evaluation of 2- and 3-wire transmitters and has to be used for signal evaluation of active current sources. Additionally the bi-directional transmission of a superimposed frequency-shift-keying signal as per HART protocol is possible.

Type designation

See Annex

Parameters

See Annex

CONDITIONS OF CERTIFICATION: YES as shown below:

For installation of the Transmitter Supply Unit in zone 2 areas, the module has to be mounted in an enclosure which is in accordance with IEC 60079-15.



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Type Designation

Transmitter Supply Unit Type N-132/ * / 4 - 20 IL

Channels 1
 2

Parameters

1.	Power supply circuit (terminals 7 - 9 and pac-bus connector V007/1 – V007/2)				
	Nominal voltage	DC	24	V	
	Maximum voltage	Um	AC	253	V
	Nominal current			140	mA
2	Non-intrinsically safe signal circuits				
	Maximum voltage	Um	AC	253	V
2.1	Analog output circuits active				
	Output 1: terminals 1 or 3 and 2				
	Output 2: terminals 5 or 4 and 6				
	Nominal current			0/4 - 20	mA
2.2	Analog output circuits passive				
	Output 1: terminals 1 and 2				
	Output 2: terminals 5 and 6				
	Nominal current			0/4 - 20	mA
2.3	Fault monitoring circuits				
	Loop 1 terminals 8 – 9				
	Loop 2 pac-bus connector V007/3 – V007/4, floating contact				
	Nominal voltage	AC/DC	30	V	
	Nominal current		100	mA	
3	Input circuits level of protection Ex ia and Ex iaD				
3.1	Connection of 2-wire transmitters				
	Terminals channel 1: 12 (+) and 10 (-)				
	Terminals channel 2: 13 (+) and 14 (-)				
	Connection of 3-wire transmitters				
	Terminals channel 1: 12 (+), 10 (signal) and 11 (-)				
	Terminals channel 2: 13 (+), 14 (signal) and 15 (-)				
	Maximum output voltage	Uo	DC	27	V
	Maximum output current	Io		88	mA
	Maximum output power	Po		576	mW
	Linear output characteristic				
	Effective internal capacitance	Ci	negligible		
	Effective internal inductance	Li	negligible		



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The values for the external capacitances C_o and external inductances L_o are shown in the following table:

	IIB	IIC
L_o	14 mH	2.3 mH
C_o	705 nF	90 nF

As values for the external inductance and external capacitance for dust application the values of Group IIB are valid.

3.2 Connection of active current sources

Terminals channel 1: 10 (signal) and 11 (-)

Terminals channel 2: 14 (signal) and 15 (-)

Maximum output voltage

U_o DC 4.1 V

Linear output characteristic

Effective internal capacitance

C_i negligible

Effective internal inductance

L_i negligible

Each channel is designed for the connection of an intrinsically safe circuit:

Maximum input voltage

U_i DC 30 V

Maximum input current

I_i 100 mA

4 Ambient temperature range

T_a

Any assembling position

-20 °C up to +60 °C

For vertical assembling position

-20 °C up to +70 °C