



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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

Certificate No.:	IECEX BVS 10.0088X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 2	Issue 1 (2019-02-21) Issue 0 (2010-11-24)
Date of Issue:	2024-01-17		
Applicant:	RECHNER Industrie-Elektronik GmbH Gaußstrasse 6-10 68623 Lampertheim Germany		
Equipment:	Isolating Switching Amplifier type N-132/*-***		
Optional accessory:			
Type of Protection:	Intrinsic Safety "i", Type of Protection "n", Increased Safety "e"		
Marking:	Code	Type	
	[Ex ia Ga] IIC [Ex ia Da] IIIC	N-132/2-01 N-132/2-10	
	Ex ec nC [ia Ga] IIC T4 Gc [Ex ia Da] IIIC	N-132/2-E-10	

Approved for issue on behalf of the IECEx
Certification Body:

Dr Franz Eickhoff

Position:

**Senior Lead Auditor, Certification Manager and officially
recognised expert**

Signature:
(for printed version)


2024-01-17

Date:
(for printed version)

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Certificate issued by:

DEKRA Testing and Certification GmbH
Certification Body
Dinnendahlstrasse 9
44809 Bochum
Germany





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Manufacturer: **RECHNER Industrie-Elektronik GmbH**
Gaußstrasse 6-10
68623 Lampertheim
Germany

Manufacturing locations: **RECHNER Industrie-Elektronik GmbH**
Gaußstrasse 6-10
68623 Lampertheim
Germany

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 equipment 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 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

[IEC 60079-15:2017](#) Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with 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/ExTR10.0117/02](#)

Quality Assessment Report:

[DE/BVS/QAR07.0008/14](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Description of the product:

The isolating switching amplifier type N-132/*-*** is an associated apparatus according IEC 60079-11. It is used for converting the intrinsically safe input signals into non-intrinsically safe output signals. The connection terminals are compliant to EN IEC 60079-7. The signal relays are compliant to EN IEC 60079-15.

Listing of all components used referring to older standards
None

Type designation

See Annex

Parameters

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:

- 1 For installation of the isolating switching amplifier type N-132/2-E-10 in areas, where EPL Gc is required, these modules shall be mounted inside an enclosure which is in accordance with IP54 according IEC 60079-0.
- 2 For installation in areas, where EPL Gc is required, the equipment shall only be used in an area of at least pollution degree 2 or better, as defined in IEC 60664-1.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Assessment of Switching repeater in accordance with the current standard versions
- The 1 channel versions are not any more part of the IECEx CoC
- Modification of the marking
- The parameters were updated
- Update of the documentation

Annex:

[BVS_10_0088X_Rechner_Annex_issue2_.pdf](#)



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General product information:

Isolating Switching Amplifier type N-132/*-***

Instead of the *** in the complete denomination letters and numerals will be inserted which characterize the following modifications

		N-132/	*	-	*	**
No. of channels	two	2				
Output	1 Power relay per Channel	Left blank				
	Electronic output	E-				
Power supply	24 V DC	10				
	120 / 230 V AC	01				

Parameters

1 Power supply circuit

1.1 Types N-132/2-10 and N-132/2-E-10
 terminals 7 (L+), 9 (L-) and pac-bus connector V007/1, V007/2

Nominal voltage	U_n	24 V DC (18 ... 31.2 V DC)
Nominal current	I_n	50 mA
Maximum voltage	U_m	AC 253 V

1.2 Types N-132/2-01
 terminals 7 (L), 9 (N)

Nominal voltage	U_n	120/230 V AC (96 ... 253 V AC)
Nominal current	I_n	13 mA
Maximum voltage	U_m	AC 253 V

1.2 Non-intrinsically safe output signals

1.2.1 Types N-132/2-10, N-132/2-01 and N-132/1(2)-01
 Output 1: terminals 1, 2 and 3
 Output 2: terminals 4, 5 and 6

Nominal voltage	U_n	AC/DC 250 V
Maximum voltage	U_m	AC 253 V
Nominal current	I_n	DC 2 resp. AC 4 A

1.2.2 Type N-132/2-E-10

Output 1: terminals 1 and 2
 Output 2: terminals 5 and 6

Nominal voltage	U_n	DC 35 V
Maximum voltage	U_m	AC 253 V
Nominal current	I_n	50 mA



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1.3. Line fault monitoring circuits
 Types N-132/2-10 and N-132/2-E-10
 Loop 1 terminals 8 and 9,
 Loop 2 pac-bus connector V007/3 and V007/4, potentially free contact

Nominal voltage	U_n	24 V DC (18 ... 31.2 V DC)
Maximum voltage	U_m	AC 253 V
Nominal current	I_n	100 mA

1.4. Intrinsically safe input circuits
 Types N-132/2-10, N-132/2-01 and N-132/2-E-10
 Input 1: terminals 10 (+) and 11 (-),
 Input 2: terminals 14 (+) and 15 (-)

Maximum output voltage	U_o	DC 9.6 V
Maximum output current	I_o	10 mA
Maximum output power	P_o	24 mW
Linear output characteristic		

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

	IIB	IIC
L_o	1000 mH	350 mH
C_o	26 μ F	3.6 μ F

If both input circuits are connected in parallel (terminals 10 and 14 (+); 11 and 15 (-)) the following values apply for the resulting circuit:

Maximum output voltage	U_o	DC 9.6 V
Maximum output current	I_o	20 mA
Maximum output power	P_o	48 mW
Linear output characteristic		

The maximum values for the external capacitance and inductance are shown in the table below:

	IIB	IIC
L_o	340 mH	90 mH
C_o	26 μ F	3.6 μ F

1.5 Ambient temperature range T_a -20 °C up to +70 °C