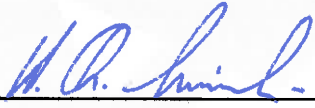




IECEx Certificate of Conformity

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 12.0063U	issue No.:0	Certificate history:
Status:	Current		
Date of Issue:	2012-09-05	Page 1 of 3	
Applicant:	WOELKE Industrieelektronik GmbH Im Löwental 66 45239 Essen Germany		
Electrical Apparatus: Optional accessory:	Audio-visual alarm generator, type AVS 3*		
Type of Protection:	Equipment protection by intrinsic safety "I"		
Marking:	Ex ia I Ma		
Approved for issue on behalf of the IECEx Certification Body:	H.-Ch. Simanski		
Position:	Head of Certification Body		
Signature: (for printed version)			
Date:	<u>5/9/2012</u>		

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](http://www.iecex.com).

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

 **DEKRA**
DEKRA EXAM GmbH



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Manufacturer: **WOELKE Industrieelektronik GmbH**
Im Löwental 66
45239 Essen
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 : 2011 Explosive atmospheres - Part 0: General requirements

Edition: 6.0

IEC 60079-11 : 2011-06 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

Edition: 6.0

*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/ExTR12.0060/00

Quality Assessment Report:

DE/BVS/QAR12.0006/01



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Description

Audio-visual alarm generator type AVS 4 and AVS 4.1 comprise a cylindrical flash-lamp enclosure made of plastics material (surface resistance $\leq 10^9 \Omega$).

Optical warning signal devices (light emitting diodes) are arranged below a calotte made of transparent plastics material (surface $\leq 100 \text{ cm}^2$).

This calotte is suitable for attachment to an intrinsically safe apparatus.

Intrinsically safe circuits of the Audio-visual alarm generator type AVS3* (supply and remote control circuits) are led out of the casting compound at the bottom side of the enclosure by means of single insulated wires.

Schedule of Limitations

Audio-visual alarm generator type AVS 3, 3.1, 3.2 and 3.3

1. Mounting of the signal device to the enclosure of an IS apparatus shall be carried out in such a way that degree of protection IP 54 is verified as a minimum.
2. Internal wiring in this enclosure shall comply with clauses 6.3.12 and 7.6.e of IEC 60079-11:2011.
3. Terminals or connectors of the intrinsically safe circuit shall be arranged according to clauses 6.2.1 or 6.2.2 of IEC 60079-11:2011 respectively.
4. Mounting shall be subjected to special assessment and certification procedure.

Parameters:

see Annex

CONDITIONS OF CERTIFICATION: NO



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Annex

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Parameters								
Audio-visual alarm generator								
Parameters	Supply circuit	Remote control circuits						
		type AVS 3 and AVS 3.1		type AVS 3.2		type AVS 3.3		
		OFF (Reset)	GW1, GW2	OFF (Reset)	GW1/Indicator GW2/Siren	OFF (Reset)	S-Mode 1 Hz/ 0,5 Hz	Flash light, audio alarm
Level of protection	Ex ia I Ma							
Voltage U_i	DC 16 V	$= U_o$		-				
Current I_i	2 A	$= I_o$		-				
Power P_i	N / A	$= P_o$		-				
effective internal capacitance C_i	110 nF	11 nF) ¹		242 nF				
effective internal inductance L_i	Negligible							
Voltage U_o	N / A	DC 6.6 V						
Current I_o	N / A	3.3 mA) ¹		3.3 mA				
Power P_o	N / A	5 mW) ¹		5 mW				
max. external capacitance C_o	N / A	1000 μ F) ¹		1000 μ F				
max. external inductance L_i	N / A	42.85 H) ¹		42.85 H				
max. inductance- / resistance ratio L_o/R_o	N / A	94.27 mH/ Ω) ¹		94.27 mH/ Ω				
Characteristics	N / A	linear						
Connection facilities	X101 (+), X102 (-)	X103 (+), X104 (-)	X103(+), X105 (-), X103(+), X106 (-)	X103 (+), X104 (-), X105 (-), X106 (-), X111 (-), X112 (-)		X103 (+), X104 (-), X105 (-), X106 (-), X111 (-), X112 (-)		