



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 11.0089X	issue No.:0	Certificate history:.....
Status:	Current		
Date of Issue:	2011-12-01	Page 1 of 3	
Applicant:	R. STAHL Schaltgeräte GmbH Am Bahnhof 30 74638 Waldenburg Germany		
Electrical Apparatus: Optional accessory:	Isolating Repeater Loop Powered type 9167/**-11-*0		
Type of Protection:	Equipment protection by intrinsic safety "i", Equipment protection by type of protection "n", Equipment with equipment protection level (EPL) Ga		
Marking:	Ex nA [ia Ga] IIC T4 Gc and [Ex ia Da] IIIC or Ex nAc [ia] IIC T4 and [Ex ia] IIIC (types 9167/**-11-00) Ex nA IIC T4 Gc or Ex nAc IIC T4 (types 9167/**-11-50)		
Approved for issue on behalf of the IECEx Certification Body:	H.-Ch. Simanski		
Position:	Head of Certification Body		
Signature: (for printed version)	_____		
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](http://www.iecex.com).

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany





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Manufacturer: **R. STAHL Schaltgeräte GmbH**
Am Bahnhof 30
74638 Waldenburg
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 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011-06 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
IEC 60079-26 : 2006 Edition: 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*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/ExTR11.0122/00](#)

Quality Assessment Report:
[DE/BVS/QAR10.0002/01](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Description

The Isolating Repeater Loop Powered type 9167 is an associated apparatus per IEC 60079-11 as well as a non-incendive apparatus per IEC 60079-15. Additional variants exist as non-incendive apparatus without intrinsically safe circuits.

The intrinsically safe circuits are galvanically separated from each other, as from the non I.S. signal circuits.

The isolating repeater is used for the intrinsically safe operation of control valves, i/p-transmitters, detectors and analogue or digital indicators. Additionally a bi-directional transmission as per HART-protocol is possible, where a digital signal is modulated to the current signal, by means of frequency shift keying.

Type Designation

See Annex

Parameters

See Annex

CONDITIONS OF CERTIFICATION: YES as shown below:

For use in Zone 2 the Isolating Repeater has to be mounted inside an enclosure which is in accordance with IEC 60079-15.



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Type Designation

Isolating Repeater Loop Powered	type 9167 /	*	*	-	1	1	-	*	0
Number of channels									
1	1								
2	2								
Output									
15.7 V; 60 mA	1								
25.0 V; 99 mA	3								
18.8 V; 107 mA	4								
Option									
24 V, associated apparatus	0								
24 V, non-incendive apparatus	5								

Electrical parameters

Non I.S. signal circuits

Maximum safety voltage: $U_m \leq 253 \text{ V AC}$

Analogue Input

(Input 1: Terminal 1 (+), 2 (-);

Input 2: Terminal 5 (+), 6 (-))

Nominal current: $0/4 - 20 \text{ mA}$

Intrinsically safe output circuits

The data are valid for channel 1 or channel 2.

Output 1: Terminal 10 (+), 11 (-); Output 2: Terminal 14 (+), 15 (-)

Type 9167/*1-11-00 Ex ia IIB/IIC

Voltage	U_o	15.7	V
Current	I_o	60.0	mA
Power	P_o	233	mW
Linear output characteristic			
Internal capacitance	C_i	negligible	
Internal inductance	L_i	negligible	



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

	IIB	IIC
Lo	40 mH	10 mH
Co	2950 nF	487 nF

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

Type 9167/*3-11-00 Ex ia IIB/IIC

Voltage	Uo	25.0	V
Current	Io	99	mA
Power	Po	613	mW
Linear output characteristic			
Internal capacitance	Ci	negligible	
Internal inductance	Li	negligible	

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

	IIB	IIC
Lo	11 mH	2.5 mH
Co	840 nF	110 nF

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

Type 9167/*4-11-00 Ex ia IIB/IIC

Voltage	Uo	18.8	V
Current	Io	107	mA
Power	Po	503	mW
Linear output characteristic			
Internal capacitance	Ci	negligible	
Internal inductance	Li	negligible	

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

	IIB	IIC
Lo	12 mH	3 mH
Co	1620 nF	266 nF

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



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Non intrinsically safe output circuits

The data is valid for channel 1 or channel 2

Output 1: Terminal 10 (+), 11 (-); Output 2: Terminal 14 (+), 15 (-)

Type 9167/*1-11-50

Voltage	U_{NL}	15.7 V
Current	I_{SC}	60.0 mA

Type 9167/*3-11-50

Voltage	U_{NL}	25.0 V
Current	I_{SC}	60.0 mA

Type 9167/*4-11-50

Voltage	U_{NL}	18.8 V
Current	I_{SC}	60.0 mA

Ambient temperature range

Any assembling position Ta -20 °C up to +70 °C