



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

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Issue 0 (2011-12-01)

Status: **Current** Issue No: 1

Date of Issue: 2023-11-22

Applicant: **R. STAHL Schaltgeräte GmbH**  
Am Bahnhof 30  
74638 Waldenburg  
Germany

Equipment: **Isolating Repeater Loop Powered type 9167/\*\*-11-\*0**

Optional accessory:

Type of Protection: **Increased safety "e"; Intrinsic safety "i"**

Marking: For type 9167/\*\*-11-00: Ex ec [ia Ga] IIC T4 Gc  
[Ex ia Da] IIIC

For type 9167/\*\*-11-50: Ex ec IIC T4 Gc

Approved for issue on behalf of the IECEx  
Certification Body:

**Deniz Pezzutto**

Position:

**Certification Manager**

Signature:  
(for printed version)

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: **R. STAHL Schaltgeräte GmbH**  
Am Bahnhof 30  
74638 Waldenburg  
**Germany**

Manufacturing  
locations:

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 60079-7:2017](#) 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/ExTR11.0122/01](#)

Quality Assessment Report:

[DE/BVS/QAR10.0002/19](#)



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

### Subject and Type

See Annex

### Description

The Isolating Repeater Loop Powered type 9167 is an associated apparatus per IEC 60079-11.

The connection terminals are compliant to IEC 60079-7. The intrinsically safe circuits are galvanically separated from the non-I.S. signal circuits.

The Isolating Repeater Loop Powered is used for the intrinsically safe operation of control valves, IP transmitters, detectors and analog or digital indicators. Additionally a bidirectional transmission as per HART-protocol is possible, where a digital signal is modulated to the current signal, by means of frequency shift keying.

### Parameters

See Annex

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

- For installation in areas, where EPL Gc is required, the Isolating Repeater Loop Powered shall be installed in an enclosure that provides a minimum ingress protection of IP54 in accordance with IEC 60079-0.
- For installation in areas, where EPL Gc is required, the Isolating Repeater Loop Powered shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.



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## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Assessment of Resistance isolator in accordance with the current standard versions
- Modification of the marking
- Update of the documentation
- Change of  $L_0/C_0$  values
- The IEC 60079-15 is no longer applied, as the requirements for type of protection "nA" have been transferred to IEC 60079-7 type of protection "ec", therefore assessment for the IEC 60079-7 standard and changes in marking etc.
- The standard IEC 60079-26 is not listed in this supplement, because EPL Ga is ensured by intrinsic safety ia. The standard IEC 60079-26 does not impose additional requirements on the apparatus.

## Annex:

[BVS\\_11\\_0089X\\_Stahl\\_Annex1\\_1.pdf](#)



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**Annex**  
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## Subject and Type

Isolating Repeater Loop Powered type 9167/\*\*-11-\*0

Instead of the \*\*\* in the complete denomination numerals will be inserted which characterize the following modifications:

| Isolating Repeater Loop Powered type 9167/ |                              | * | * | - | 1 | 1 | - | * | 0 |
|--|------------------------------|---|---|---|---|---|---|---|---|
|  |                              | a | b |   | c | d |   | e | f |
| 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 |   |   |   |   |   |   |   |
| Version:                                   | Zone 2, Associated Apparatus | 0 |   |   |   |   |   |   |   |
|  | Zone 2                       | 5 |   |   |   |   |   |   |   |

## Parameters

- 1 Non-intrinsically safe input circuits  
 Input 1: terminal 1 (+), 2 (-);  
 Input 2: terminal 5 (+), 6 (-)  

|                 |       |             |    |
|-----------------|-------|-------------|----|
| Nominal current | $I_n$ | 0/4 - 20    | mA |
| Function range  | $I_n$ | 0 - 40      | mA |
| Nominal voltage | $U_n$ | $\leq 31.2$ | V  |
| Maximum voltage | $U_m$ | AC 253      | V  |
  
- 2 Intrinsically safe output circuits  
 Output 1: terminal 10 (+), 11 (-);  
 Output 2: terminal 14 (+), 15 (-)
  - 2.1 Type 9167/\*1-11-00  

|                               |       |      |    |
|-------------------------------|-------|------|----|
| Maximum output voltage        | $U_o$ | 15.7 | V  |
| Maximum output current        | $I_o$ | 60   | mA |
| Linear output characteristics |       |      |    |
| Maximum output power          | $P_o$ | 233  | mW |

Maximum external capacitance  $C_o$  or maximum external inductance  $L_o$ :

|       | IIB / IIIC | IIC    |
|-------|------------|--------|
| $L_o$ | 50 mH      | 11 mH  |
| $C_o$ | 2950 nF    | 487 nF |

- 2.2 Type 9167/\*3-11-00  

|                               |       |     |    |
|-------------------------------|-------|-----|----|
| Maximum output voltage        | $U_o$ | 25  | V  |
| Maximum output current        | $I_o$ | 99  | mA |
| Linear output characteristics |       |     |    |
| Maximum output power          | $P_o$ | 613 | mW |



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Maximum external capacitance  $C_o$  or maximum external inductance  $L_o$ :

|       | IIB / IIIC | IIC    |
|-------|------------|--------|
| $L_o$ | 14 mH      | 1.8 mH |
| $C_o$ | 840 nF     | 110 nF |

|     |                               |       |      |    |
|-----|-------------------------------|-------|------|----|
| 2.3 | Type 9167/*4-11-00            |       |      |    |
|     | Maximum output voltage        | $U_o$ | 18.8 | V  |
|     | Maximum output current        | $I_o$ | 107  | mA |
|     | Linear output characteristics |       |      |    |
|     | Maximum output power          | $P_o$ | 503  | mW |

Maximum external capacitance  $C_o$  or maximum external inductance  $L_o$ :

|       | IIB / IIIC | IIC    |
|-------|------------|--------|
| $L_o$ | 14 mH      | 2.8 mH |
| $C_o$ | 1620 nF    | 266 nF |

|     |  |       |          |   |
|-----|--|-------|----------|---|
| 3   | Non-intrinsically safe output circuits |       |          |   |
|     | Output 1: terminal 10 (+), 11 (-);     |       |          |   |
|     | Output 2: terminal 14 (+), 15 (-)      |       |          |   |
| 3.1 | Type 9167/*1-11-50                     |       |          |   |
|     | Maximum nominal voltage                | $U_n$ | 15.7     | V   |
|     | Nominal current                        | $I_n$ | 0/4 - 20 | mA  |
|     | Function range                         | $I_n$ | 0 - 40   | mA  |
| 3.2 | Type 9167/*3-11-50                     |       |          |   |
|     | Maximum nominal voltage                | $U_n$ | 25       | V   |
|     | Nominal current                        | $I_n$ | 0/4 - 20 | mA  |
|     | Function range                         | $I_n$ | 0 - 40   | mA  |
| 3.3 | Type 9167/*4-11-50                     |       |          |   |
|     | Maximum nominal voltage                | $U_n$ | 18.8     | V   |
|     | Nominal current                        | $I_n$ | 0/4 - 20 | mA  |
|     | Function range                         | $I_n$ | 0 - 40   | mA  |
| 4   | Ambient temperature range              |       |          | $-20\text{ °C} \leq T_a \leq +70\text{ °C}$ |