



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.: issue No.: Certificate history:

Status:

Date of Issue: **2013-10-16** Page 1 of 3

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

Electrical Apparatus: **Fibre Optic Isolating Repeater type 9186/*5-12-11**
Optional accessory:

Type of Protection: **Equipment protection by type of protection "n", Protection of equipment and transmission systems using optical radiation**

Marking: Ex nA nC [op is T6 Ga] IIC T4 Gc
[Ex op is Da] IIIC

*Approved for issue on behalf of the IECEx
Certification Body:* Dr. F. Eickhoff

Position: Deputy 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

Additional 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 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
IEC 60079-28 : 2006-08 Edition: 1	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation

*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/ExTR13.0115/00](#)

Quality Assessment Report:

[DE/BVS/QAR10.0002/04](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

General product information:

The Fibre Optic Isolating Repeater Type 9186/*5-12-11 is a non incandive apparatus per IEC 60079-15. It has optical data interfaces which are designed in type of protection Ex op is IIC T6 Ga in accordance with IEC 60079-28. Depending on the variant, ring structures and point-to-point connections can be built-up.

Type Designation

See ANNEX

Electrical parameters

See ANNEX

General remarks:

The optical interfaces are designed to be intrinsically safe optical radiation sources with type of protection Ex op is IIC T6 according to IEC 60079-28 with a maximum radiation power of ≤ 15 mW under 2 fault conditions. The connected fibre optics can lead into Zone 0 with gas group IIC and temperature class T6 or into Zone 20.

CONDITIONS OF CERTIFICATION: YES as shown below:

For installation of the Fibre Optic Isolating Repeater type 9186/*5-12-11 in Zone 2, the module has to be mounted inside an enclosure which is in accordance with IEC 60079-15.



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Type Designation

Fibre Optic Isolating Repeater Type 9186 / * 5 - 1 2 - 1 1

Structure	ring	1
	point-to-point	2
Ex protection	Zone 2	5
Optical interface	850 nm	1
Electrical interface	RS 485	2

Electrical parameters

Auxiliary power input

(pluggable terminals No. 1 (+), 2 (-))

Nominal voltage: $U_n = 24$ V DC

Nominal current: $I_n = 130$ mA

Fault monitoring circuit

(pluggable terminals 3, 4)

The fault monitoring circuit is designed as a passive, galvanically separated circuit.

Nominal voltage: $U_n = 60$ V DC, 42 V AC

Nominal current: $I_n = 1$ A

RS 485 interface (Profibus FSM/DP)

(9-pole SUB-D socket X1, 3(B+), 8(A-), 6(U+), 5(U-))

Output voltage: $U_n = 5$ V DC (4.75 ... 5.25 V DC)

Output current: $I_n = 50$ mA

Optical data interfaces fibre optic connector

(fibre optical connectors TD-A and RD-A (channel A) or TD-B and RD-B (channel B, only at 9186/1*))

The optical interfaces are designed to be intrinsically safe optical radiation sources with type of protection Ex op is IIC T6 according to IEC 60079-28.

Radiation power: $P_o \leq 15$ mW

Ambient temperature range

Any assembling position T_a -20 °C up to +60 °C