



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 IBE 17.0045X** Page 1 of 4 [Certificate history:](#)
Issue 0 (2018-02-13)

Status: **Current** Issue No: 1

Date of Issue: 2022-10-14

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

Equipment: **Digital Output Loop Powered types 9276/10-21-25-00, 9276/10-21-40-00, 9276/10-24-48-00 and 9276/10-21-60-00**

Optional accessory:

Type of Protection: **Intrinsic safety "ia"; increased safety "ec"**

Marking: Types 9276/10-21-25-00, 9276/10-21-40-00 and 9276/10-24-48-00
[Ex ia Ma] I
[Ex ia Da] IIIC
Ex ec [ia Ga] IIC T4 Gc
-40 °C ≤ T_a ≤ +60 °C

Type 9276/10-21-60-00
[Ex ia Ma] I
[Ex ia Da] IIIC
Ex ec [ia IIB Ga] IIC T4 Gc
-40 °C ≤ T_a ≤ +60 °C

Approved for issue on behalf of the IECEx
Certification Body:

Dr.-Ing. Peter Cimalla

Position:

Deputy Head of department Certification Body

Signature:
(for printed version)

Date:
(for printed version)

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Certificate issued by:

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg
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 Reports:

[DE/IBE/ExTR18.0011/00](#)

[DE/IBE/ExTR18.0011/01](#)

Quality Assessment Report:

[DE/BVS/QAR10.0002/18](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Digital Outputs Loop Powered Type 9276/10-21-25-00, 9276/10-21-40-00, 9276/10-24-48-00 and 9276/10-21-60-00 are used for the intrinsically safe and galvanically isolated operation of solenoid valves, alarm transmitters, indicators, etc. The equipment offers the installation in zone 2 or in the safe area. The output signal can be connected to devices in zone 0 or zone 20 or in mines susceptible to firedamp. The Digital Outputs Loop Powered offer galvanic isolation between I.S. output and Non-I.S. input circuit. The voltage difference between input and output circuit or supply can reach values up to 375 V peak according to table 5 of IEC 60079-11. They are equipped with screw terminals or with spring clamps for the external connections.

The technical data are mentioned in the Annex.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The Digital Outputs Loop Powered have to be assembled in a separately certified housing fulfilling the requirements of IEC 60079-7 (at least IP54) or another recognized type of protection when installed in areas requiring equipment of EPL "Gc".
- Connecting and disconnecting of non-intrinsically safe circuits is not permitted in areas requiring equipment of EPL "Gc" (zone 2) when energized.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- The device complies with the requirements of an associated apparatus for group I and the current standards, thus the marking has been changed.
- The use of a new version of the spring pressure terminal is permitted.

Annex:

[Annex_IBE17.0045X_01.pdf](#)



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Module designation:

Module designation	nominal output voltage [V]	Output current [mA]*	input current [mA]**	Power [W]
9276/10-21-25-00	21.9	25	40	0.9
9276/10-21-40-00	21.9	40	60	1.2
9276/10-21-60-00	21.9	60	84	1.3
9276/10-24-48-00	24	48	79	1.4

* functional values

** typical values for the input current at 24 V DC

Technical data

Ambient temperature range	T _a	-40 °C to +60 °C
Degree of protection		≥ IP20 acc. to IEC 60529
Power supply circuit (non-intrinsically safe)		
rated voltage	U _N	19.2 ... 30 V DC
maximum DC voltage	U _m	125 V
maximum r.m.s. AC voltage	U _m	253 V

Intrinsically safe output circuit (linear characteristics)

(Terminals 10 and 11)

Type	9276/ 10-21-25-00	9276/ 10-21-40-00	9276/ 10-21-60-00	9276/ 10-24-48-00
Ex ia	IIC	IIC	IIB	IIC
U_o [V]		25.1		27.7
I_o [mA]	39	87	188	101
P_o [mW]	245	550	1180	697
C_i	negligible			
L_i	negligible			
R_i [Ω]	641.1	287	133.4	275.7



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For circuits including inductances and capacitances the following has to be observed:
The values for L_o and C_o , mentioned in this certificate are allowed for:

- distributed inductances and capacitances, e.g. as in a cable or
- if the total L_i of the external circuit (excluding the cable) is $< 1\%$ of the L_o value or
- if the total C_i of the external circuit (excluding the cable) is $< 1\%$ of the C_o value.

9276/ 10-21-25-00	Ex ia IIC	Ex ia IIB/IIIC	Ex ia IIA
C_o	0.108 μ F	0.83 μ F	2.93 μ F
L_o	22 mH	90 mH	170 mH
9276/ 10-21-40-00	Ex ia IIC	Ex ia IIB/IIIC	Ex ia IIA
C_o	0.108 μ F	0.83 μ F	2.93 μ F
L_o	5 mH	20 mH	45 mH
9276/ 10-21-60-00	Ex ia IIC	Ex ia IIB/IIIC	Ex ia IIA
C_o	-	0.83 μ F	2.93 μ F
L_o	-	4 mH	7.5 mH
9276/ 10-24-48-00	Ex ia IIC	Ex ia IIB/IIIC	Ex ia IIA
C_o	0.085 μ F	0.663 μ F	2.2 μ F
L_o	4 mH	17 mH	35 mH

The values of L_o and C_o , mentioned in this certificate shall be reduced to 50 % or taken from the following table if both of the following conditions are met:

- the total L_i of the external circuit (excluding the cable) is $\geq 1\%$ of the L_o value and
- the total C_i of the external circuit (excluding the cable) is $\geq 1\%$ of the C_o value.

9276/ 10-21-25-00	Ex ia IIC					Ex ia IIB, Ex ia IIIC				Ex ia IIA			
C_o [nF]	68	68	68	79	108	270	430	470	830	470	660	680	1000
L_o [mH]	20	10	5	1	0.1	100	5	1	0.1	100	5	1	0.1
9276/ 10-21-40-00	Ex ia IIC					Ex ia IIB, Ex ia IIIC				Ex ia IIA			
C_o [nF]	52	65	82	108	108	380	380	440	820	600	610	640	1000
L_o [mH]	2	1	0.5	0.2	0.1	10	5	1	0.1	20	5	1	0.1
9276/ 10-21-60-00	Ex ia IIC					Ex ia IIB, Ex ia IIIC				Ex ia IIA			
C_o [nF]	-	-	-	-	-	300	370	460	790	510	560	660	1000
L_o [mH]	-	-	-	-	-	2	1	0.5	0.1	5	1	0.5	0.1
9276/ 10-24-48-00	Ex ia IIC					Ex ia IIB, Ex ia IIIC				Ex ia IIA			
C_o [nF]	68	68	68	79	108	250	250	350	663	440	440	680	960
L_o [mH]	20	10	5	1	0.1	10	5	1	0.1	20	5	1	0.1



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The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μ F for Groups I, IIA and IIB and 600 nF for Group IIC.

When using the device in altitudes between 2000 m and 5000 m the advices in the instructions have to be observed.