IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

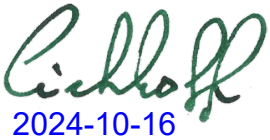
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx BVS 10.0050X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2012-04-12) Issue 0 (2010-05-31)
Date of Issue:	2024-10-16		
Applicant:	**R.STAHL Schaltgeräte GmbH** Am Bahnhof 30 74638 Waldenburg **Germany**		
Equipment:	**Digital Output type 9175/*0-1*-11**		
Optional accessory:			
Type of Protection:	**Increased safety "e"; Intrinsic safety "i", Protection "n" electrical apparatus**		
Marking:	Ex ec nC [ia Ga] IIC T4 Gc [Ex ia Da] IIIC		

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

Position: **Senior Lead Auditor, Certification Manager and officially recognised expert**

Signature: (for printed version)



Date: (for printed version) 2024-10-16

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Certificate issued by:

DEKRA Testing and Certification GmbH
Certification Body
Dinnendahlstrasse 9
44809 Bochum
Germany

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 10.0050X**

Date of issue: 2024-10-16 Issue No: 2

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 60079-15:2017 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

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/ExTR10.0070/02

Quality Assessment Report:

DE/BVS/QAR10.0002/20

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

General product information:

See Annex

Description

The Digital Output type 9175 is an associated apparatus per IEC 60079-11. The non-I.S. connection terminals are compliant to IEC 60079-7. The relays for line fault signalization are compliant to IEC 60079-15. The non-I.S. input circuits are galvanically isolated from each other and from the power supply. The intrinsically safe output circuits of the dual channel devices are connected internally to each other via the return conductor. The Digital Output serves the intrinsically safe operation of, e.g. solenoid valves and LED indicating lamps. The devices are available as single or dual channel equipment. To increase the output power, the intrinsically safe output circuits of the dual-channel devices can be connected in parallel.

Listing of all components used referring to older standards:

None

Type Designation:

See Annex

Electrical Data:

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:

- For installation in areas, where EPL Gc equipment is required, the equipment 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 equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Assessment of Digital Output in accordance with the current standard versions
- Modification of the marking
- Update of the documentation
- Type 9175/10-1*-12 was removed from the portfolio
- The standard IEC 60079-26 is not listed in this issue, because EPL Ga is ensured by level of protection “ia”. The standard IEC 60079-26 does not impose additional requirements on the apparatus.

Annex:

BVS_10_0050X_R.Stahl_Issue2_Annex.pdf

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 10.0050X, Issue No. 2**
Annex

General product information:

Digital Output Type 9175/*0-1*-11

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

Digital Output type 9175/			* a	0 b	-	1 c	* d	-	1 e	1 f
Channels	1	1								
	2	2								
Output	10.5 V / 45 mA	2								
	17.5 V / 45 mA	4								
	25.0 V / 35 mA	6								

Parameters

1. Power supply
Terminals 7 (+), 9 (-) and pac-bus connector 9194/50-01 / 1 (+), 2 (-)

Conductor Cross-Section				
single core; solid / flexible			0.2 … 2.5	mm²
single core; flexible with ferrule			0.25 … 2.5	mm²
two-core; solid			0.2 … 1.0	mm²
two-core; flexible			0.2 … 1.5	mm²
two-core; flexible with ferrule			0.25 … 1.0	mm²
Tightening Torque			0.5 … 0.6	Nm
Nominal voltage	U_n	DC	24 V (18-31.2 V)	
Nominal current				
one channel	I_n		80	mA
two channels	I_n		140	mA
Maximum voltage	U_m	AC	253	V

2. Non-intrinsically safe circuits

2.1. Signal input circuits

Input 1: terminals 1 (+) and 2 (-)
Input 2: terminals 5 (+) and 6 (-)

Conductor Cross-Section				
single core; solid / flexible			0.2 … 2.5	mm²
single core; flexible with ferrule			0.25 …2.5	mm²
two-core; solid			0.2 … 1.0	mm²
two-core; flexible			0.2 … 1.5	mm²
two-core; flexible with ferrule			0.25 …1.0	mm²
Tightening Torque			0.5 … 0.6	Nm
Each channel:				
Nominal voltage	U_n			
- Switching voltage ON		DC	15-31.2	V
- Switching voltage OFF		DC	5	V
Nominal current	I_n		5	mA
Maximum voltage	U_m	AC	253	V

2.2. Line-fault indicator circuit

Input 1: Terminal 8 (+) and 9 (-)
Input 2: pac-Bus connector 9194/50-01 and 3/4 and 2

Conductor Cross-Section			
single core; solid / flexible		0.2 … 2.5	mm²
single core; flexible with ferrule		0.25 …2.5	mm²
two-core; solid		0.2 … 1.0	mm²
two-core; flexible		0.2 … 1.5	mm²
two-core; flexible with ferrule		0.25 …1.0	mm²
Tightening Torque		0.5 … 0.6	Nm
Nominal voltage	U_n	AC/DC 30	V
Nominal current	I_n	100	mA
Maximum voltage	U_m	AC 253	V

3. Intrinsically safe output circuits

3.1. Type 9175/*0-12-11 level of protection “ia”

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

Each channel:

Maximum output voltage	U_o	11.3	V
Maximum output current	I_o	75	mA
Linear output characteristics			
Maximum output power	P_o	210	mW

If two channels are connected in parallel the following values apply to the resulting circuit:
(only 9175/20-12-11)

Maximum output voltage	U_o	11.3	V
Maximum output current	I_o	150	mA
Linear output characteristics			
Maximum output power	P_o	420	mW

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

		IIB / IIIC	IIC
Channel 1 or channel 2	L_o	25 mH	6.3 mH
	C_o	12.1 µF	1.79 µF
Channels 1 and 2 in parallel	L_o	6.0 mH	1.5 mH
	C_o	12.1 µF	1.79 µF

3.2. Type 9175/*0-14-11 level of protection “ia” or “ib”

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

Each channel:

Maximum output voltage	U_o	19.6	V
Maximum output current	I_o		
For “ia”		150	mA
For “ib”		60	mA
Linear output characteristics			
Maximum output power	P_o	732	mW

If two channels are connected in parallel the following values apply to the resulting circuit:
(only 9175/20-14-11)

Maximum output voltage	U_o	19.6	V
Maximum output current	I_o		
For “ia”		300	mA
For “ib”		120	mA
Linear output characteristics			
Maximum output power	P_o	1464	mW

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

		IIB / IIIC	IIC
Channel 1 or channel 2	L_o	6 mH	1.5 mH
	C_o	1470 nF	235 nF
Channels 1 and 2 in parallel	L_o	1.5 mH	0.3 mH
	C_o	1470 nF	235 nF

3.3. Type 9175/*0-16-11 level of protection “ia” or “ib”

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

Each channel:

Maximum output voltage	U_o	27.6	V
Maximum output current	I_o		
For “ia”		110	mA
For “ib”		50	mA
Linear output characteristics			
Maximum output power	P_o	760	mW

If two channels are connected in parallel the following values apply to the resulting circuit:
(only 9175/20-16-11)

Maximum output voltage	U_o	27.6	V
Maximum output current	I_o		
For “ia”		220	mA
For “ib”		100	mA
Linear output characteristics			
Maximum output power	P_o	1520	mW

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

		IIB / IIIC	IIC
Channel 1 or channel 2	L_o	9 mH	1.2 mH
	C_o	667 nF	85 nF
Channels 1 and 2 in parallel	L_o	1.8 mH	-
	C_o	665 nF	-

4. Ambient temperature range

mounting in any position -40 °C ≤ Ta ≤ +60 °C

mounting in vertical position -40 °C ≤ Ta ≤ +70 °C