



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 TUR 23.0049X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 1	Issue 0 (2024-10-29)
Date of Issue:	2025-03-18		
Applicant:	R. STAHL Schaltgeräte GmbH Am Bahnhof 30 74638 Waldenburg Germany		
Equipment:	Media Converter FX/TX, Type 9723/12-11-*4		
Optional accessory:			
Type of Protection:	Ex eb, mb, ib, [ia]		
Marking:	Ex eb ib mb [ia Ga] IIC T4 Gb [Ex ia Da] IIIC		

Approved for issue on behalf of the IECEx
Certification Body:

Christian Mehrhoff

Position:

Assigned certifier

Signature:
(for printed version)

Date:
(for printed version)

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 www.iecex.com or use of this QR Code.



Certificate issued by:

TUV Rheinland Industrie Service GmbH
Am Grauen Stein
51105 Cologne
Germany





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Date of issue: 2025-03-18

Issue No: 1

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 60079-11:2023](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:7.0

[IEC 60079-18:2017](#) Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

[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/TUR/ExTR23.0049/01](#)

Quality Assessment Report:

[DE/BVS/QAR10.0002/20](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Media Converter FX/TX is an accessory for the remote I/O system "IS1+" and serves to convert 100BASE-TX-IS networks (intrinsically Safe 10/100BASE-T Ethernet) into 100BASE-FX (optical fibre) networks. The optical interface is a Class 1 laser acc. to IEC 60825-1 and can be connected to an op is certified interface as well.

Since the Zone 1 CPU 9442/32 does not contain an optical fibre interface, the Media Converter FX/TX 9723/12-11-*4 is used to convert the Ethernet network (e.g. PROFINET, EtherNet/IP, Modbus TCP) into an optical medium.

In addition, the Media Converter can also be used in other applications. Thus, fibre optic media converters offer the possibility to enlarge the range of an already existing network by converting signals between standard copper cable based Ethernet and fibre optic cables.

The Media Converter 9723/12-11-24 is built with a multimode and 9723/12-11-64 with a singlemode optical fibre transceiver. Both types are designed for use in Zone 1, Zone 2 or outside the hazardous area.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- When installed in hazardous areas, the device shall be installed within an enclosure, which has a minimum rating of IP54 in accordance with IEC 60079-0, with a pollution degree of 1 or 2.
- The device shall be installed in an environment with an overvoltage category of I, II or III.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

The description of interface X2 has been changed to provide a better overview of the devices to be connected.

Annex:

[IECEx TUR 23.0049X _Attachment rev 01.pdf](#)



Device: Media Converter FX/TX

Type: 9723/12-11-*4

Manufacturer: R. STAHL Schaltgeräte GmbH

Address: Am Bahnhof 30, 74638 Waldenburg, Germany

Type designation:

Media Converter FX/TX	9723 /	1 a	2 b	-	1 c	1 d	-	* e	4 f
Hardware-Version:									
1	1								
Hazardous area:									
Zone 1 / category 2	2								
Number of optical fibre ports									
1 port	1								
Number of Cu ports									
1 port	1								
Design of optical fibre ports									
100BASE-FX multimode, LC	2								
100BASE-FX singlemode, LC	6								
Design of Cu ports									
RJ45 (Ex i)	4								



Electrical data:

X1: 100BASE-FX (optical fibre)

Laser Class 1 approved according to IEC 60825-1.

The optical cables may lead either into or through areas requiring equipment of EPL Gb, Gc, Db or Dc. 9723/12-11-24 with multimode optical fibre.

9723/12-11-64 with singlemode optical fibre.

X2: 100BASE-TX-IS

The intrinsically safe Ethernet (100BASE-TX-IS) in protection level ia can be connected to interfaces via a 2-point connection and a four-wire Ethernet cable. The circuit is suitable for gas group IIC/IIB and temperature class T4. The parameters of the devices are:

Device 1 (Media Converter FX/TX)	Device 2 (with 100BASE-TX-IS) e.g. 9442/32-10-** (IECEX PTB 22.0001X)
Max. continuous current: $I_{cont} \leq 408 \text{ mA}$	Max. output voltage: $U_o \leq 5 \text{ V}$
Max. output voltage: $U_o = 3.75 \text{ V}$	Max. output current: $I_o \leq 666 \text{ mA}$
Max. output current: $I_o = 2 \text{ A}$	Max. input voltage: $U_i \leq 5 \text{ V}$
Max. input voltage: $U_i = 5 \text{ V}$	Max. internal inductance: $L_i \leq 200 \text{ nH}$
Max. internal inductance: $L_i = 200 \text{ nH}$	Max. internal capacitance: $C_i \leq 10 \text{ pF}$
Max. internal capacitance: $C_i = 0 \text{ }\mu\text{F}$	

Parameters of the interconnecting four-wire **Ethernet cable** are:

Cable Loop Resistance R_c (20 °C) $\geq 99 \text{ }\Omega/\text{km}$
Cable Capacitance C_c $\leq 82 \text{ nF/km}$
Cable Inductance L_c $\leq 800 \text{ }\mu\text{H/km}$
Length of cable: $\leq 200 \text{ m}$

Or with considering the maximum L_o/R_o of the Media Converter FX/TX at minimum ambient temperature:

Cable Capacitance C_c $\leq 82 \text{ nF/km}$
 L_c/R_c $\leq 10.61 \text{ }\mu\text{H}/\Omega$
Length of cable: $\leq 200 \text{ m}$

The **cables and connectors** must be suitable to carry a current of at least 1A.

X3: PWR

Maximum safety voltage: $U_m = 60 \text{ V}$

DC operation

Nominal voltage

$U_N = 24 \text{ V DC}$

Voltage Range

19.2 ... 32 V DC

Input current (approx.).

$I_N < 120 \text{ mA}$ (at 24 V DC)

The max. **ambient temperature range** for the system is -40 °C ... +75 °C and additionally depends on the temperature range of device 2.