

# (1) EU-TYPE EXAMINATION CERTIFICATE



- (2) Equipment and Protective Systems intended for use in Potentially Explosive Atmosphere - **Directive 2014/34/EU**
- (3) EU-Type Examination Certificate Number

## TÜV 23 ATEX 9059 X

Issue: 01

- (4) Equipment: **Media Converter FX/TX, Type 9723/12-11-\*4**
- (5) Manufacturer: **R. STAHL Schaltgeräte GmbH**
- (6) Address: **Am Bahnhof 30  
74638 Waldenburg, Germany**

- (7) This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The TÜV Rheinland Zertifizierungsstelle für Explosionsschutz of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 21 of the Council Directive 2014/34/EU of 26<sup>th</sup> February 2014, certifies this product which has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmosphere, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report 557/Ex 9059.01/23

- (9) Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

**EN IEC 60079-0:2018    EN IEC 60079-7:2015 / A1:2018    EN 60079-18:2015 / A1:2017**  
**EN 60079-11:2012    IEC 60079-11:2023**

- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EU-Type Examination Certificate relates only to the design and specification for construction of the equipment or protective system. It does not cover the process for actual manufacture or supply of the equipment or protective system, for which further requirements of the directive are applicable.
- (12) The marking of the equipment shall include the following:



**II 2 (1) G Ex eb ib mb [ia Ga] IIC T4 Gb**

**II (1) D [Ex ia Da] IIIC**

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

Cologne, 2025-03-18

Dipl.-Ing. Christian Mehrhoff



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This EU-Type Examination Certificate may be circulated only without alteration. Extracts or alterations are subject to approval by the  
TÜV Rheinland Industrie Service GmbH TÜV Rheinland Group Am Grauen Stein 51105 Köln  
Tel. +49 (0) 221 806-0 Fax. +49 (0) 221 806 114

(13)

Annex

(14)

## EU Type Examination Certificate

### TÜV 23 ATEX 9059 X

Issue: 01

(15) Description of equipment

#### 15.1 Equipment and type:

Media Converter FX/TX  
9723/12-11-\*4

#### Type designation:

| Media Converter FX/TX         | 9723 /                    | 1<br>a | 2<br>b | - | 1<br>c | 1<br>d | - | *<br>e | 4<br>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      |        |   |        |        |   |        |        |

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## 15.2 Description

### General product information:

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.

### Details of Change:

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

### 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 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)<br>e.g. 9442/32-10-** (PTB 21 ATEX 2004 X) |                           |
|----------------------------------|--------------------------------|--|---------------------------|
| 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:       | $C_i = 0 \text{ }\mu\text{F}$  |  |                           |

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

Cable Loop Resistance  $R_C$  (20 °C)  $\geq 99 \Omega/\text{km}$   
Cable Capacitance  $C_C$   $\leq 82 \text{ nF}/\text{km}$   
Cable Inductance  $L_C$   $\leq 800 \mu\text{H}/\text{km}$   
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  $C_C$   $\leq 82 \text{ nF}/\text{km}$   
 $L_C/R_C$   $\leq 10.61 \mu\text{H}/\Omega$   
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  $-40 \text{ °C} \dots +75 \text{ °C}$  and additionally depends on the temperature range of device 2.

(16) Test-Report No. 557/Ex9059.01/23

(17) Special Conditions for safe use

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

(18) Basic Safety and Health Requirements

Covered by afore mentioned standard

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

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