

CERTIFICATE

(1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **DEKRA 12ATEX0173 X** Issue Number: **2**

(4) Product: **Analog Universal Module HART (AUMH) Type 9468/3*-08-1***

(5) Manufacturer: **R. STAHL Schaltgeräte GmbH**

(6) Address: **Am Bahnhof 30, 74638 Waldenburg, Germany**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., Notified Body number 0344 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential test report number NL/DEK/ExTR12.0054/01.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0 : 2018

EN 60079-7 : 2015 + A1 : 2018

EN 60079-11 : 2012

except in respect of those requirements listed at item 18 of the Schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:



II 2 (1) G

Ex ia [ia Ga] IIC T4 Gb and

II (1) D

[Ex ia Da] IIIC

(Type 9468/32-08-1*)

II 3 (1) G

Ex ec ia [ia Ga] IIC T4 Gc and

II (1) D

[Ex ia Da] IIIC

(Type 9468/33-08-1*)

Date of certification: 19 May 2020

DEKRA Certification B.V.

R. Schuller
Certification Manager



(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 12ATEX0173 X**

Issue No. 2

(15) **Description**

Analog Universal Module HART (AUMH) Type 9468/3*-08-1*, for operation in the Remote I/O Systems IS1 and IS1+.

The module is connected to the system via a Bus Rail and it provides up to eight intrinsically safe 0/4 to 20 mA (configurable) analog input and/or output signals. Each input channel can be used as input for galvanically isolated 2- 3- or 4-wire measurement transducers. In 3- or 4-wire connection only 4 measurement transducers are connectable.

Each channel can also be used as output channel for connection of actuators or display equipment.

The intrinsically safe input/output circuits are infallibly galvanically isolated from the IS1 and IS1+ bus supply and data circuits up to a peak voltage of 60 V.

Module type 9468/32-08-1* is intrinsically safe and may be installed in an explosive gas atmosphere requiring equipment of category 2 G.

Module type 9468/33-08-1* is in type of protection Ex ec and may be installed in an explosive gas atmosphere requiring equipment of category 3 G.

Both types of modules may be installed in an explosive dust atmosphere requiring equipment of category 2 D or 3 D if mounted in a suitable enclosure that meets the requirements of an appropriate, recognized type of protection in accordance with EN IEC 60079-0.

The enclosure of the module provides a degree of protection IP20 according to EN 60529.

The Analog Universal Module HART (AUMH) Type 9468/3*-08-1* may be disconnected or connected to the IS1 or IS1+ Bus Rail while in operation.

Ambient temperature range:

-40 °C to +75 °C;

-40 °C to +65 °C (upside down installation).

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Electrical data

Circuit connecting to the IS1 or IS1+ System:

Power supply (input); Plug to BusRail V101/ Pin 7, 8, 9, 10 (+), Pin 27, 28, 29, 30 (-):
in type of protection intrinsic safety Ex ia IIC, with the following maximum values:
 $U_i = 26,2 \text{ V}$.

The circuit is equipped with an internal current limitation that limits the current to 450 mA.

Address- and Databus (communication); Plug to BusRail V101/ Pin: 4 (Bus Red.); 5 (Bus Prim.);
14, 15, 16, 24 (Bank 1-4):

in type of protection intrinsic safety Ex ia IIC, only for connection to the internal Address- and
Databus of the IS1/IS1+ System with the following maximum values:

$U_o = 6,6 \text{ V}$; $I_o = 102 \text{ mA}$; $P_o = 168 \text{ mW}$

$U_i = 6,6 \text{ V}$; $C_i = 0 \text{ nF}$; $L_i = 0 \text{ mH}$

Electronic switch control (input); Plug to BusRail V101/ Pin: 18, 19:

in type of protection intrinsic safety Ex ia IIC, with the following maximum values:

$U_o = 26,2 \text{ V}$; $I_o = 5,4 \text{ mA}$.

1-Intrinsically safe field circuits:

The values of L_o and C_o in the following tables are the maximum values for combined inductance and capacitance (including cable inductance and capacitance). The values for L_o and C_o marked in grey are the values determined according to the curves and tables of EN 60079-11, Annex A. These grey marked values may be used for the assessment as per EN 60079-11, clause 10.1.5.2. for the following connections:

2-Wire input/output circuits:

Connector X1 – Channel 0 (1+/2-); Channel 1 (3+/4-); up to Channel 7 (15+/16-);

For connection of up to 8 passive, galvanically isolated and ungrounded circuits;

in type of protection intrinsic safety Ex ia IIB/IIC, Ex ia IIIC, with the following maximum values:

$U_o = 24,4 \text{ V}$; $I_o = 80 \text{ mA}$; $P_o = 488 \text{ mW}$; linear source; C_o and L_o per tables below:

Table for IIC, 2-Wire Input/Output circuits								
L_o [mH]	-	-	-	3,8	2	1	0,5	0,2
C_o [nF]	-	-	-	53	59	71	88	119

Table for IIB / IIIC, 2-Wire Input/Output circuits								
L_o [mH]	23	10	2	1	0.5	0.2	0.1	0.05
C_o [nF]	370	430	430	470	550	700	860	890

3-Wire input circuits:

Connector X1 – Channel 0 (supply 1(+), signal 2(+), common 4(-));

Channel 1 (supply 5(+), signal 6(+), common 8(-));

Channel 2 (supply 9(+), signal 10(+), common 12(-));

Channel 3 (supply 13(+), signal 14(+), common 16(-));

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for connection of up to 4 passive, galvanically isolated and ungrounded circuits;
in type of protection intrinsic safety Ex ia IIB/IIC, Ex ia IIIC, with the following maximum values:
 $U_o = 24,4 \text{ V}$; $I_o = 81,8 \text{ mA}$; $P_o = 499 \text{ mW}$; linear source; C_o and L_o per tables below:

Table for IIC, 3-Wire Input circuits								
L_o [mH]	-	-	-	3.6	2	1	0.5	0.2
C_o [nF]	-	-	-	53	58	70	87	119

Table for IIB / IIIC, 3-Wire Input circuits								
L_o [mH]	21	10	2	1	0.5	0.2	0.1	0.05
C_o [nF]	380	420	420	470	550	700	860	890

4-Wire input circuits:

Connector X1 – Channel 0 (2+/4-); Channel 2 (6+/8-); Channel 4 (10+/12-); Channel 6 (14+/16-);
for connection of up to 4 intrinsically safe active 0/4-20 mA measurement transducers;
with following maximum values:

$U_o =$ negligibly small; $I_o =$ negligibly small; $P_o =$ negligibly small;

$U_i = 28 \text{ V}$; $C_i =$ negligibly small; $L_i =$ negligibly small;

I_i depends on the maximum ambient temperature as listed in the following table:

T_{amb} [°C]	I_i [mA]
≤ 75	105
≤ 70	115
≤ 65	130
≤ 60	140
≤ 55	150

(reduced by 10K for upside down installation).

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

No. NL/DEK/ExTR12.0054/01.

(17) **Specific conditions of use**

When installed in an explosive gas atmosphere:

The Analog Universal Module HART (AUMH) Type 9468/3*-08-1* shall be placed in an enclosure or cabinet that meets the requirements of an appropriate, recognized type of protection in accordance with EN IEC 60079-0.

It shall be used in an area of not more than pollution degree 2, as defined in IEC 60664-1.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

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(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR12.0054/01.

(20) **Certificate history**

Issue 1 - 215589700 Initial certificate

Issue 2 - 224190000 Assessed per EN IEC 60079-0 : 2018 and EN 60079-7 : 2015 + A1