

# 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 11ATEX0131 X** Issue Number: **4**

(4) Product: **HART-Transparent Repeater,**  
**Type ACT20X-HAI-SAO-S, Type ACT20X-HAI-SAO-P**  
**Type ACT20X-2HAI-2SAO-S, Type ACT20X-2HAI-2SAO-P**

(5) Manufacturer: **Weidmüller Interface GmbH**

(6) Address: **Klingenbergsstraße 16, 32758 Detmold, 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/ExTR11.0079/03.

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

**EN IEC 60079-0 : 2018**  
**EN IEC 60079-15 : 2019**

**EN 60079-11 : 2012**  
**EN 60079-7 : 2015 + A1 : 2018**

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 (1) G [Ex ia Ga] IIC/IIB/IIA**  
**II (1) D [Ex ia Da] IIIC**  
**I (M1) [Ex ia Ma] I**

Date of certification: 28 October 2022

DEKRA Certification B.V.



R. Schuller  
Certification Manager



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**(13) SCHE**

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**(15) Description**

The HART-Transparent Repeaters, Type ACT20X-HAI-SAO-S, Type ACT20X-HAI-SAO-P and Type ACT20X-2HAI-2SAO-S, Type ACT20X-2HAI-2SAO-P, for rail mounting, are 24 V powered isolating barriers that serve as a repeater for 4 - 20 mA signals with HART communication.

Type ACT20X-HAI-SAO-S and Type ACT20X-HAI-SAO-P are the one channel versions.  
Type ACT20X-2HAI-2SAO-S and Type ACT20X-2HAI-2SAO-P are the two channel versions.

The repeater transfers the intrinsically safe 4 - 20 mA current signal (with HART communication) of either a loop powered transmitter or an active current source to a non-intrinsically safe 4 - 20 mA output signal (with HART communication).

The repeater provides a potential free contact for status indication.

Ambient temperature range -20 °C to +60 °C.

**Marking**

The equipment marking may additionally include the code II 3 G Ex ec nC IIC T4 Gc.

**Electrical data**

Supply (terminals 51, 52):  $U = 19,2 \dots 31,2 \text{ Vdc}$ .

Status-Relay output (terminals 53, 54):

$U \leq 32 \text{ Vac}$  or  $32 \text{ Vdc}$ ,  $I \leq 0,5 \text{ Aac}$  or  $I \leq 1 \text{ Adc}$  respectively.

If the Repeater is installed outside the hazardous area, the following data for the relay contacts apply:  $U \leq 110 \text{ Vdc}$  or  $125 \text{ Vac}$ ,  $I \leq 0,3 \text{ Adc}$  or  $I \leq 0,5 \text{ Aac}$  respectively.

Outputs (terminals 41, 42 resp. 43, 44):  $I = 4 - 20 \text{ mA}$ .

For all circuits above:  $U_m = 253 \text{ Vac}$  (max. frequency 400 Hz).

Loop current input (terminals 13, 14 resp. terminals 23, 24):

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

$U_o = 28 \text{ V}$ ;  $I_o = 93 \text{ mA}$ ;  $P_o = 0,65 \text{ W}$ ;

$C_o = 0,08 \mu\text{F}$  (IIC) or  $0,6 \mu\text{F}$  (IIB) or  $2,15 \mu\text{F}$  (IIA) or  $3,76 \mu\text{F}$  (I);

$L_o = 3 \text{ mH}$  (IIC) or  $12 \text{ mH}$  (IIB) or  $25 \text{ mH}$  (IIA) or  $30 \text{ mH}$  (I);

For group IIIC, the parameters of group IIB apply.

Current input (terminals 11, 12 resp. terminals 21, 22):

in type of protection intrinsic safety Ex ia IIC/IIB/IIA/IIIC/I, for connection to a certified intrinsically safe circuit, with following maximum values:

$U_i = 30 \text{ V}$ ;  $I_i = 120 \text{ mA}$ ;  $P_i = 0,85 \text{ W}$ ;  $C_i = 2 \text{ nF}$ ;  $L_i = 0 \mu\text{H}$ ;

$U_o = 0 \text{ V}$ ;  $I_o = 0 \text{ mA}$ ;  $P_o = 0 \text{ mW}$ .

The input circuits of both channels are infallibly galvanically isolated from each other and from the non-intrinsically safe supply and output circuits.

Both circuits of one channel are not used simultaneously.

## (13) **SCHEDULE**

### (14) **to EU-Type Examination Certificate DEKRA 11ATEX0131 X**

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Combination of current loop input of channel 1 and current input of channel 2, where terminal 13 is connected to terminal 21:

Current loop circuit (terminals 14 and 22) is in type of protection intrinsic safety Ex ia IIC/IIB/IIA/IIIC/I, with following maximum values:

$U_o = 28 \text{ V}$ ;  $I_o = 93 \text{ mA}$ ;  $P_o = 0,65 \text{ W}$ ;

$C_o = 0,08 \mu\text{F}$  (IIC) or  $0,6 \mu\text{F}$  (IIB) or  $2,15 \mu\text{F}$  (IIA) or  $3,76 \mu\text{F}$  (I);

$L_o = 3 \text{ mH}$  (IIC) or  $12 \text{ mH}$  (IIB) or  $25 \text{ mH}$  (IIA) or  $30 \text{ mH}$  (I).

For group IIIC, the parameters of group IIB apply.

Combination of current inputs of both channels in series, where terminal 11 is connected to terminal 22:

Current input (terminals 12 and 21) is in type of protection intrinsic safety Ex ia IIC/IIB/IIA/IIIC/I, for connection to a certified intrinsically safe circuit, with following maximum values:

$U_i = 30 \text{ V}$ ;  $I_i = 120 \text{ mA}$ ;  $P_i = 0,85 \text{ W}$ ;  $C_i = 4 \text{ nF}$ ;  $L_i = 0 \mu\text{H}$ ;

$U_o = 0 \text{ V}$ ;  $I_o = 0 \text{ mA}$ ;  $P_o = 0 \text{ mW}$

### **Installation instructions**

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

### (16) **Report Number**

No. NL/DEK/ExTR11.0079/03.

### (17) **Specific conditions of use**

The HART-Transparent Repeater shall be installed in a controlled environment with suitable reduced pollution, limited to pollution degree 2 or better.

The non-intrinsically safe circuits may only be connected to an overvoltage category I or II power source, as defined in EN 60664-1.

If the HART-Transparent Repeater is installed in an explosive atmosphere where equipment protection level Gc is required, it shall be installed in a suitable enclosure, providing a degree of protection of at least IP54 according to EN IEC 60079-0.

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

Covered by the standards listed at item (9).

### (19) **Test documentation**

As listed in Report No. NL/DEK/ExTR11.0079/03.

### (20) **Certificate history**

Issue 1 - 214493500 Initial certificate

Issue 2 - 216740400 Update to latest standards

Issue 3 - 223250800 Addition of \*-P models and removal of EN 60079-26

Issue 4 - 226311500 Assessment per latest standard editions